

Set No. \_\_\_\_\_

Specifications, Proposal,  
and Contract Documents for:

132nd Ave NE & Slater Ave Crossing  
NE 124th Street Slater Ave Crossing  
Improvements

CIP No. NMC1360000 & NMC1350000  
Job No. 06-24-PW  
Contract No. HLP-2059(002)

December 2024



City of Kirkland  
Department of Public Works  
123 Fifth Avenue  
Kirkland, Washington 98033

**CITY OF KIRKLAND**

**DEPARTMENT OF PUBLIC WORKS**

**132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000  
NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000  
JOB NO. 06-24-PW**

*Certificate of Engineer:*

The Special Provisions and drawings contained herein have been prepared by or under the direction of the undersigned, whose seal as a Professional Engineer licensed to practice in the State of Washington, is affixed below.



12/20/2024

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Chunshui Liu, P.E.

Approved for Construction:

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George Minassian, P.E.  
Interim Capital Projects Manager





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**City of Kirkland**

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# INVITATION TO BID



**City of Kirkland**

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## **INVITATION TO BID**

Notice is hereby given that the City of Kirkland will receive sealed Bids in the office of the Purchasing Agent, City Hall, 123 Fifth Avenue, Kirkland, Washington, at 2:00 p.m. local time on January 23, 2025 for the project hereinafter referred to as:

**132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000**  
**NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000**  
**JOB NO. 06-24-PW**

At said time all Bids will be opened and publicly read aloud. Each Bid shall be accompanied by a Bid Proposal deposit in the form of a cashier's check or a bond issued on a form acceptable to your Suretymade payable to the City of Kirkland for a sum of not less than five percent (5%) of the total Bid amount. No Bid shall be considered unless accompanied by such Bid Proposal deposit. Incomplete proposals and proposals received after the time stated above will not be considered. Faxed or emailed responses are not acceptable.

The Work to be performed under these Specifications consists of furnishing all labor, tools, materials, and equipment necessary for construction of the **132nd Ave NE & Slater Ave Crossing, NE 124th Street Slater Ave Crossing Improvements** (project. Specific Work includes, but is not limited to the improvement of the intersection of NE 124<sup>th</sup> St and 132<sup>nd</sup> Ave NE and the midblock crossing on 132<sup>nd</sup> Ave NE including clearing and grubbing, traffic control and maintenance of traffic, temporary erosion and sedimentation control, construction of curbs, asphalt concrete paving, reconstruction of driveways, traffic signal and APS upgrades, roadway illumination, channelization, signing, and property restoration and other work. The estimated cost for this project is in a range of \$1,350,000 to \$1,550,000. (For contractor's note, this is not a federally-funded project and therefore Buy America does not apply.)

The time limit for completion of the Work is a total of 70 working days, in accordance with Special Provision Section 1-08.5.

The City will not sell Bid packages. Plans, Specifications, and Addenda may be viewed and obtained online at [www.bxwa.com](http://www.bxwa.com). Click on: "Posted Projects"; "Public Works"; "City of Kirkland". The BiddersList is maintained by the Builder's Exchange of Washington, Inc. Registration for the Bidder's list maybe made online, by phoning (425) 258-1303, or at Builder's Exchange of Washington located at 2607Wetmore Ave, Everett, WA.

The City of Kirkland, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. 200d to 200d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Questions regarding this project shall be submitted in writing to the Project Engineer, Kimberly Coraza, Project Engineer, via email at [kcoraza@kirklandwa.gov](mailto:kcoraza@kirklandwa.gov). Questions via phone will not be accepted. Bidders shall submit questions no later than 4:00 p.m. January 17, 2025.

The City reserves the right to reject any and all Bids, and to waive any informalities in the Bidding, and to make the Award to the lowest responsive Bid offered by a responsible Bidder as best serves the interests of the City.

No Bids may be withdrawn within forty-five (45) days after the actual date of the Bid opening.

Published: Daily Journal of Commerce – December 31, 2024 and January 7, 2025

**GENERAL INFORMATION,  
PROPOSAL,  
& CONTRACT**



**City of Kirkland**

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# CITY OF KIRKLAND

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**CITY OF KIRKLAND  
INFORMATION FOR BIDDERS**

Bidders must bid on all items contained in the proposal.

The omission or deletion of any bid item will be considered non-responsive and shall be cause for rejection of the bid.

Submit your proposal on the Bid Proposal and other forms which are enclosed, or make a copy of therequired forms and submit these documents.

**The following forms must be executed in full *with* submittal of the bid:**

1. BIDDER RESPONSIBILITY CRITERIA CHECKLIST
2. SUBCONTRACTOR RESPONSIBILITY CRITERIA CHECKLIST
3. PROPOSAL  
The lump sum or unit prices must be shown in the spaces provided on the bid schedule.  
Show total bid price in both words and figures on the Proposal.  
The Proposal form must be completed in full, signed and dated.
4. BID BOND  
A surety issued bid bond must be executed by the bidder and its surety company. The amount of the bid bond shall be not less than five percent (5%) of the total amount bid and may be shown in dollars or on a percentage basis. (A cashier's check payable to the City of Kirkland and issued for an amount not less than 5% of the total bid may be submitted in lieu of a bid bond.)
5. NONCOLLUSION AFFIDAVIT - Notarized
6. STATEMENT OF BIDDER'S QUALIFICATIONS  
This form must be filled in and signed. The owner reserves the right to check all statements and to judge the adequacy of the bidder's qualifications.
7. SUBCONTRACTOR IDENTIFICATION LIST  
This form must be completed in compliance with RCW 39.30.060 if the estimate exceeds \$1,000,000.

**The following forms are to be executed *after* the contract is awarded:**

1. CONTRACT  
This agreement is to be executed by the successful bidder.
2. PERFORMANCE AND PAYMENT BOND  
To be executed by the successful bidder and its surety company.
3. CONTRACTOR'S DECLARATION OF OPTION FOR MANAGEMENT OF STATUTORY RETAINED PERCENTAGE; RETAINED PERCENTAGE ESCROW AGREEMENT  
To be executed by the successful bidder based on bidder's selection of option.
4. CERTIFICATES OF INSURANCE  
To be executed by the successful bidder and by an acceptable insurance company. The City of Kirkland must be named as an additional insured.
5. STATEMENT(S) OF INTENT TO PAY PREVAILING WAGES  
Affidavit certifying all employees of Contractor and Subcontractor shall be paid no less than the Prevailing Wage Rate(s) as determined by the Industrial Statistician of the Washington State Department of Labor and Industries.

**SPECIAL NOTE: Prior to commencing work, the contractor and all subcontractors must have applied and paid for a City of Kirkland business license**

**CITY OF KIRKLAND  
BIDDER RESPONSIBILITY CRITERIA**

It is the intent of City to award a contract to the low responsible bidder. Before award, the bidder must meet the following bidder responsibility criteria to be considered a responsible bidder. The bidder may be required by the City to submit documentation demonstrating compliance with the criteria. The bidder must:

- 1. Have a current certificate of registration as a contractor in compliance with chapter 18.27 RCW, which must have been in effect at the time of bid submittal;
- 2. Have a current Washington Unified Business Identifier (UBI) number;
- 3. Have:
  - a. Industrial Insurance (workers' compensation) coverage for the bidder's employees working in Washington, as required in Title 51 RCW;
  - b. A Washington Employment Security Department number, as required in Title 50 RCW;
  - c. A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
- 4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3). **Meet responsibility criteria in RCW 39.04.350**
- 5. Until December 31, 2024, not have violated more than one time the off-site, prefabricated, non-standard, project specific items reporting requirements of RCW 39.04.370.
- 6. For public works projects subject to the apprenticeship utilization requirements of RCW 39.04.320, not have been found out of compliance by the Washington state apprenticeship and training council for working apprentices out of ratio, without appropriate supervision, or outside their approved work processes as outlined in their standards of apprenticeship under chapter 49.04 RCW for the one-year period immediately preceding the first date of advertising for the project.

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**CITY OF KIRKLAND**  
**SUBCONTRACTOR RESPONSIBILITY CRITERIA**

- A. The Contractor shall include the language of this section in each of its first tier subcontracts, and shall require each of its subcontractors to include the same language of this section in each of their subcontracts, adjusting only as necessary the terms used for the contracting parties. Upon request of the Owner, the Contractor shall promptly provide documentation to the Owner demonstrating that the subcontractor meets the subcontractor responsibility criteria below. The requirements of this section apply to all subcontractors regardless of tier.
- B. At the time of subcontract execution, the Contractor shall verify that each of its first tier subcontractors meets the following bidder responsibility criteria:
1. Have a current certificate of registration in compliance with chapter 18.27 RCW, which must have been in effect at the time of subcontract bid submittal;
2. Have a current Washington Unified Business Identifier (UBI) number;
3. Have:
- Industrial Insurance (workers' compensation) coverage for the subcontractor's employees working in Washington, as required in Title 51 RC
  - A Washington Employment Security Department number, as required in Title 50 RCW;
  - A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
  - An electrical contractor license, if required by Chapter 19.28 RCW;
  - An elevator contractor license, if required by Chapter 70.87 RCW.
4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065 (3). **Meet responsibility criteria in RCW 39.04.350**
5. Until December 31, 2017, not have violated more than one time the off-site, prefabricated, non-standard, project specific items reporting requirements of RCW 39.04.370.
6. For public works projects subject to the apprenticeship utilization requirements of RCW 39.04.320, not have been found out of compliance by the Washington state apprenticeship and training council for working apprentices out of ratio, without appropriate supervision, or outside their approved work processes as outlined in their standards of apprenticeship under chapter 49.04 RCW for the one-year period immediately preceding the first date of advertising for the project.



**CITY OF KIRKLAND  
BID PROPOSAL**



**132ND AVE NE & SLATER AVE CROSSING CIP NO. NMC1360000  
NE 124TH STREET SLATER AVE CROSSING IMPROVEMENTS CIP NO. NMC1350000  
JOB NO. 06-24-PW**

**To:** Director of Finance  
City of Kirkland 123 Fifth Avenue  
Kirkland, Washington 98033

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this proposal are those named herein; that this proposal is in all respects fair and without fraud; that it is made without collusion with any official or employee of the City of Kirkland, hereinafter called the Owner; and that the proposal is made without any connection or collusion with any person making another proposal on this contract.

The bidder further declares that it has carefully examined the contract documents for the construction of the project; that it has personally inspected the site; that it has satisfied itself as to the quantities involved, including materials and equipment and conditions of work involved, including the fact that the description of the quantities of work materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the contract documents; and that this proposal is made according to the provisions and under the terms of the contract documents, which documents are hereby made a part of this proposal.

The bidder further agrees that it has exercised its own judgment regarding the interpretation of subsurface information and has utilized all data which it believes pertinent from the engineer- architect, owner, and other sources in arriving at its conclusions.

The bidder agrees to hold its bid proposal open for 45 days after the actual date of bid opening and to accept the provisions of the Instructions to Bidders regarding disposition of bid bond.

The bidder agrees that if this proposal is accepted, it will, within ten (10) calendar days after notification of acceptance, execute the contract with the Owner in the form of contract included in the contract documents, and will, at the time of execution of the contract, deliver to the Owner the Performance and Payment Bond and all Certificates of Insurance required therein, and will, to the extent of its proposals, furnish all machinery, tools, apparatus, and other means of construction and do the work in the manner, in the time, and according to the methods as specified in the contract documents and required by the engineer or other project manager designated thereunder.

The bidder further agrees, if awarded the contract, to begin work within ten (10) calendar days after the date of the execution of the contract and to complete the construction within the time specified in Section 1-08.5 of the Special Provisions.

In the event the bidder is awarded the contract and shall fail to complete the work within the time limit or extended time limit agreed upon as more particularly set forth in the contract documents, liquidated damages shall be paid to the Owner per the specifications contained in the contract documents.

**MUST BE SUBMITTED WITH PROPOSAL**

The bidder further proposes to accept as full payment for the work proposed herein, the amounts computed under the provisions of the contract documents and based upon the lump sum and unit price amounts entered by the bidder for the various bid items included in the Bid Schedule. The bidder further agrees the lump sum and unit prices entered for the various bid items included in the Bid Schedule include all use taxes, overhead, profit, bond premiums, insurance premiums and all other miscellaneous and incidental expenses as well as all costs of materials, labor, tools and equipment required to perform and complete the work.

Within the three-year period immediately preceding the date of the bid solicitation for this Project, bidder has not been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.

The undersigned bids and agrees to complete all construction of **132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000; NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000** **JOB NO. 06-24-PW** for the following:

Total Computed Price (*in figures*): \$ \_\_\_\_\_

Washington State Sales Tax per WAC 458-20-171 **10.3%** (*in figures*): \$ \_\_\_\_\_

Total Bid (*in figures*): \$ \_\_\_\_\_

Total Bid (*in words*): \_\_\_\_\_

\_\_\_\_\_

Receipt of Addenda No(s), \_\_\_\_\_ is hereby acknowledged.

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct:

\_\_\_\_\_  
CONTRACTOR (Firm Name)

\_\_\_\_\_  
Location or Place Executed: (City, State)

\_\_\_\_\_  
By

\_\_\_\_\_  
Name and title of person signing

\_\_\_\_\_  
(Indicate whether Contractor is Partnership, Corporation, or Sole Proprietorship)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Washington State Contractor's Registration Number

\_\_\_\_\_  
Contractor's Industrial Insurance Account Number

***MUST BE SUBMITTED WITH PROPOSAL***

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Employment Security Identification  
Number

---

Uniform Business Identification  
(UBI) Number

Contractor's Address:

---

Telephone Number

---

Fax Number

---

EMAIL

\*\* Bid proposal to be submitted in a sealed envelope marked "Bid Enclosed" for  
132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000;  
NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000  
JOB NO. 06-24-PW

**CITY OF KIRKLAND  
BID SCHEDULE**

132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000  
NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000  
JOB NO. 06-24-PW

Note: Unit prices for all items, all extensions, and the total amount of the bid must be shown.  
All entries must be typed or entered in ink.

ITEM NO.	SPEC. SECTION	ITEM DESCRIPTION	UNIT	Est. Qty	UNIT PRICE	AMOUNT
1	1-04	MINOR CHANGE	EST	1	\$30,000	\$30,000
2	1-05	ROADWAY SURVEYING	LS	1		
3	1-05	RECORD DRAWINGS (MINIMUM BID \$2,000)	LS	1		
4	1-07	SPCC PLAN	LS	1		
5	1-09	MOBILIZATION	LS	1		
6	1-10	PROJECT TEMPORARY TRAFFIC CONTROL, MIN. Bid \$60,000	LS	1		
7	1-10	OFF-DUTY UNIFORMED POLICE OFFICER	HR	80		
8	2-01	CLEARING AND GRUBBING	LS	1		
9	2-02	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1		
10	2-02	ASPHALT CONC. PAVEMENT REMOVAL	SY	1,180		
11	2-02	CEMENT CONC. SIDEWALK REMOVAL	SY	230		
12	2-02	CEMENT CONC. CURB REMOVAL	LF	490		
13	2-02	ADJUST WATER VALVE TO GRADE	EA	1		
14	2-03	ROADWAY EXCAVATION INCL. HAUL	LS	1		
15	4-04	CRUSHED SURFACING TOP COURSE	TN	460		
16	5-04	PLANING BITUMINOUS PAVEMENT	SY	200		
17	5-04	HMA CL. 1/2 IN. PG 58H-22	TN	310		
18	5-04	HMA CL. 3/8 IN. PG 58H-22	TN	8		
19	5-05	STAMPED CEMENT CONC. PAVEMENT	SF	1,010		
20	7-05	SOLID LOCKING LID	EA	7		
21	7-05	OPEN CURB FACE FRAME AND GRATE	EA	4		
22	7-05	CONVERSION RISER	EA	1		
23	8-01	EROSION CONTROL AND WATER POLLUTION PREVENTION	LS	1		
24	8-01	INLET PROTECTION	EA	14		
25	8-01	HIGH VISIBILITY SILT FENCE	LF	230		
26	8-02	PROPERTY RESTORATION	LS	1		
27	8-04	CEMENT CONC. TRAFFIC CURB AND GUTTER	LF	560		
28	8-04	CEMENT CONC. PEDESTRIAN CURB	LF	220		
29	8-04	ROUNDBOUT CEMENT CONC. CURB AND GUTTER	LF	280		
30	8-07	MOUNTABLE MEDIAN CURB	LF	260		

ITEM NO.	SPEC. SECTION	ITEM DESCRIPTION	UNIT	Est. Qty	UNIT PRICE	AMOUNT
31	8-09	RAISED PAVEMENT MARKER TYPE 2	HUND	0.50		
32	8-13	MONUMENT CASE AND COVER	EA	1		
33	8-14	CEMENT CONC. SIDEWALK	SY	340		
34	8-14	CEMENT CONC. CURB RAMP	SY	70		
35	8-14	PRECAST TACTILE PAVER	SF	70		
36	8-14	DETECTABLE WARNING SURFACE	SF	140		
37	8-20	TRAFFIC SIGNAL AND ELECTRICAL SYSTEM, MODIFICATION (NE 124TH ST AND SLATER AVE NE)	LS	1		
38	8-20	TRAFFIC SIGNAL AND ELECTRICAL SYSTEM, COMPLETE (132ND AVE NE & SLATER AVE CROSSING)	LS	1		
39	8-20	TRAFFIC SIGNAL INTERCONNECT COMPLETE	LS	1		
40	8-20	BICYCLIST LEANING RAIL	LF	20		
41	8-21	PERMANENT SIGNING	LS	1		
42	8-22	REMOVING PAINT LINE	LF	4,027		
43	8-22	REMOVING PLASTIC TRAFFIC MARKING	EA	14		
44	8-22	REMOVING BICYCLE LANE SYMBOL	EA	5		
45	8-22	REMOVING PLASTIC STOP LINE	LF	42		
46	8-22	REMOVING PLASTIC CROSSWALK LINE	SF	60		
47	8-22	PAINT LINE	LF	1,287		
48	8-22	PAINTED WIDE LINE	LF	2,815		
49	8-22	PLASTIC STOP LINE	LF	96		
50	8-22	PLASTIC CROSSWALK LINE	SF	542		
51	8-22	PAINTED TRAFFIC ARROW	EA	1		
52	8-22	THERMOPLASTIC TRAFFIC ARROW	EA	12		
53	8-22	PLASTIC BICYCLE LANE SYMBOL	EA	12		
54	8-22	GREEN MMA PAVEMENT MARKING	SF	1,344		
55	8-27	WOOD RAIL FENCE	LF	130		

***MUST BE SUBMITTED WITH PROPOSAL***

**TOTAL COMPUTED PRICE: \$ \_\_\_\_\_**

WAC 458-20-171 tax is included in bid items.



**BID DEPOSIT**

Herewith find deposit in the form of a cashier's check or certified check in the amount of \$ \_\_\_\_\_ which amount is not less than five percent (5%) of the total bid.

SIGN HERE \_\_\_\_\_

**BID BOND**

KNOW ALL PERSONS BY THESE PRESENTS:

That we, \_\_\_\_\_, as Principal, and

\_\_\_\_\_, as Surety, are

held and firmly bound unto the City of Kirkland, as Obligee, in the penal sum of \_\_\_\_\_

\_\_\_\_\_ dollars, for the payment of which the Principal

and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally,

by these presents.

The condition of this obligation is such that if the Obligee shall make any award to the Principal for

\_\_\_\_\_ Project Name

\_\_\_\_\_ Job Number

according to the terms of the proposal or bid made by the Principal therefor, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and award and shall give bond for faithful performance thereof, with Surety or Sureties approved by the Obligee; or if the Principal shall, in case of failure to do so, pay and forfeit to the Obligee the penal amount of the deposit specified in the call for bids, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect and the Surety shall forthwith pay and forfeit to the Obligee, as penalty and liquidated damages, the amount of this bond.

SIGNED, SEALED AND DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

PRINCIPAL:

SURETY:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Note: If a Bid Bond is provided, it must be accompanied by a power of attorney which appoints the Surety's true and lawful attorney-in-fact to make, execute, seal and deliver this Bid Bond.

**CITY OF KIRKLAND**

**NONCOLLUSION AFFIDAVIT**

**132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000**

**NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000**

**JOB NO. 06-24-PW**

STATE OF WASHINGTON                    )  
  ) SS  
COUNTY OF KING                        )

The undersigned, being duly sworn, on oath deposes and says that the person(s), firm, association, partnership or corporation herein named has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project for which this proposal is submitted.

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Type Name

\_\_\_\_\_  
Title

Sworn to before me, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public in and for the State of Washington  
Residing at \_\_\_\_\_  
My Commission Expires \_\_\_\_\_

NOTICE TO ALL BIDDERS

To report bid rigging activities call: 1-800-424-9071

The U.S. Department of Transportation (USDOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., ET. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of USDOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the USDOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

**CITY OF KIRKLAND  
STATEMENT OF BIDDER'S QUALIFICATIONS**

Contractor Name: \_\_\_\_\_ Contact: \_\_\_\_\_

Business Address: \_\_\_\_\_

Business phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Number of years the Contractor has been engaged in the construction business under the present firm name:  
\_\_\_\_\_

Describe the general character of work performed by your company: \_\_\_\_\_  
\_\_\_\_\_

List five projects of a similar nature which Contractor has completed within the last 10 years. Include contract amount and contact information for references:

Project Name	Amount	Owner/Agency	Contact	Phone	Year Completed

List major equipment anticipated to be used on this project; indicate whether Contractor-owned or to be leased from others: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Bank reference(s): \_\_\_\_\_

Washington State Contractor Registration No.: \_\_\_\_\_

Uniform Business Identification No.: \_\_\_\_\_

I certify that other contracts now in progress or hereafter obtained will not interfere with timely performance of the City of Kirkland project should I become the successful bidder.

Authorized Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_ Title: \_\_\_\_\_



**CITY OF KIRKLAND  
SUBCONTRACTOR IDENTIFICATION FOR CONTRACTS ESTIMATED TO  
BE IN EXCESS OF ONE MILLION DOLLARS (\$1,000,000.00)**

RCW 39.30.060 requires the following:

“(1) Every invitation to bid on a prime contract that is expected to cost one million dollars or more for the construction, alteration, or repair of any public building or public work of the state or a state agency or municipality as defined under RCW 39.04.010 ... shall require each prime contract bidder to submit:

(a) Within one hour after the published bid submittal time, the names of the subcontractors with whom the bidder, if awarded the contract, will subcontract for performance of the work of: HVAC (heating, ventilation, and air conditioning); plumbing as described in chapter 18.106 RCW; and electrical as described in chapter 19.28 RCW, or to name itself for the work; or

(b) Within forty-eight hours after the published bid submittal time, the names of the subcontractors with whom the bidder, if awarded the contract, will subcontract for performance of the work of structural steel installation and rebar installation.

The prime contract bidder shall not list more than one subcontractor for each category of work identified, unless subcontractors vary with bid alternates, in which case the prime contract bidder must indicate which subcontractor will be used for which alternate. Failure of the prime contract bidder to submit as part of the bid the names of such subcontractors or to name itself to perform such work or the naming of two or more subcontractors to perform the same work shall render the prime contract bidder's bid non-responsive and, therefore, void."

Each bidder shall submit a list of:

1. HVAC, plumbing, electrical, structural steel installation, and rebar installation subcontractors; and
2. The specific items of work those subcontractors will perform on the contract; and
3. The specific items of work that will be performed by the bidder on the contract relating to work described in RCW 39.30.060.

**CITY OF KIRKLAND  
SUBCONTRACTOR IDENTIFICATION LIST**

\*REQUIRED IF ESTIMATE AMOUNT EXCEEDS \$1,000,000 (*Reference RCW 39.30.060RCW*)

**Proposed Subcontractors and items of work to be performed:**

**Subcontractor Name:** \_\_\_\_\_

**Item Numbers:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

**Item Numbers:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

**Item Numbers:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

**Item Numbers:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

**Item Numbers:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*- make additional pages if necessary -*

**Work to be performed by Prime Contractor:**

**Item Numbers:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

WAGE LAW COMPLIANCE FORM



Contractor Certification
Wage Law Compliance - Responsibility Criteria
Washington State Public Works Contracts

FAILURE TO RETURN THIS CERTIFICATION AS PART OF THE BID PROPOSAL PACKAGE WILL MAKE THIS BID NONRESPONSIVE AND INELIGIBLE FOR AWARD

I hereby certify, under penalty of perjury under the laws of the State of Washington, on behalf of the firm identified below that, to the best of my knowledge and belief, this firm has NOT been determined by a final and binding citation and notice of assessment issued by the Washington State Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of RCW chapters 49.46, 49.48, or 49.52 within three (3) years prior to the date of the Call for Bids.

Bidder Name: \_\_\_\_\_
Name of Contractor/Bidder - Print full legal entity name of firm

By: \_\_\_\_\_
Signature of authorized person Print Name of person making certifications for firm

Title: \_\_\_\_\_ Place: \_\_\_\_\_
Title of person signing certificate Print city and state where signed

Date: \_\_\_\_\_

**CITY OF KIRKLAND  
BIDDER'S CHECKLIST**

1. Have you reviewed the Bidder Responsibility and Subcontractor Responsibility Criteria?
2. Have you enclosed a bid bond or certified check with your bid? (Must be at least 5% of the total amount bid)
3. Have you entered a bid amount for all items and all schedules?
4. Do the written amounts of the proposal agree with the amounts shown in the figures?
5. Have you acknowledged receipt of addenda?
6. Has the proposal been properly completed and signed?
7. Have you completed the Statement of Bidder's Qualifications?
8. Have you completed the City of Kirkland Non-collusion Affidavit?
9. Have you completed the Subcontractor Identification List? (This is to be completed if the estimate amount exceeds \$1,000,000.)
10. Have you completed the Contractor Certification Wage Law Compliance?
11. Bid proposal to be submitted in a sealed envelope marked "Bid Enclosed" for:

# CONTRACT

## INFORMATION ONLY

The following forms must be executed and submitted by the successful bidder within ten (10) calendar days following Notice of Award.





CITY OF KIRKLAND  
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**CITY OF KIRKLAND  
PUBLIC WORKS AGREEMENT  
132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000  
NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000  
JOB NO. 06-24-PW**

This agreement is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, by and between **CONTRACTOR NAME**, hereinafter called the "Contractor" and the City of Kirkland, hereinafter called the "City."  
W I T N E S S E T H:

Whereas, pursuant to the invitation of the City extended through an officially published "Invitation to Bid," the Contractor did, in accordance therewith, file with the City a proposal containing an offer which was invited by said notice, and

Whereas, the City has heretofore determined that said offer was the lowest responsible bid submitted; now, therefore, it is agreed:

Section 1. That Contractor shall comply in every way with the requirements of those certain specifications entitled: "132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000; NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000; JOB NO. 06-24-PW"

The further terms, conditions and covenants of the contract are set forth in the following contract documents which are hereby made a part of this agreement by actual attachment or by this reference thereto as follows:

- A. Invitation to Bid, as published by the City.
- B. Specifications prepared for this project by the City and named above by title.
- C. Detailed Plans listed and described in said Specifications, together with those which may be issued as supplements thereof.
- D. The bid proposals submitted by the Contractor as to those items and/or alternatives accepted by the City.
- E. Any written change orders, additions or deletions, if any, issued by the City, pursuant to this agreement.
- F. Indemnification and insurance provisions included in the project documents shall apply to this agreement.

Section 2. In consideration of faithful compliance with the terms and conditions of this agreement, whether set forth herein or incorporated by reference, the Owner shall pay to the Contractor, at the times and in the manner provided in said specifications, the total sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_) which sum is subject, however, to increase or decrease in such proportion as the quantities named in said proposal are so changed, all as in said specifications and proposal provided.

In witness whereof, said Contractor and said City have caused this agreement to be executed on the day and year first written above.

\_\_\_\_\_  
CONTRACTOR (Firm Name)

\_\_\_\_\_  
Signature of authorized officer

\_\_\_\_\_  
Name and title of officer (print or type)

\_\_\_\_\_  
WA Contractor's Registration Number

\_\_\_\_\_  
Industrial Insurance Account Number

\_\_\_\_\_  
Uniform Business Identification (UBI) Number

\_\_\_\_\_  
Phone Number

(For corporations, LLC's and other legal entities)

STATE OF WASHINGTON )  
 ) SS  
COUNTY OF KING )

On this day before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared \_\_\_\_\_, to me known to be the \_\_\_\_\_ of \_\_\_\_\_, the legal entity that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said legal entity, for the uses and purposes therein set forth, and on oath stated that he/she was authorized to sign said instrument.

Given under my hand and official seal this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_.

\_\_\_\_\_  
Print Name: \_\_\_\_\_  
NOTARY PUBLIC in and for the State of  
Washington, residing \_\_\_\_\_  
Commission expires: \_\_\_\_\_

(For individuals and d/b/a's)

STATE OF WASHINGTON )  
 ) SS  
COUNTY OF KING )

On this day before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared \_\_\_\_\_ and \_\_\_\_\_ to me known to be the individual(s) described herein and who executed the foregoing instrument, and acknowledged that he/she/they signed the same as his/her/their free and voluntary act and deed, for the uses and purposes therein mentioned.

Given under my hand and official seal this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_.

\_\_\_\_\_  
Print Name: \_\_\_\_\_  
NOTARY PUBLIC in and for the State of  
Washington, residing \_\_\_\_\_  
Commission expires: \_\_\_\_\_

CITY OF KIRKLAND

BY: \_\_\_\_\_  
Julie Underwood, Deputy City Manager





**PERFORMANCE BOND**

**Surety to have an A.M. Best rating of A:VII or better.**

Bond No. \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that **CONTRACTOR NAME**, as Principal, and \_\_\_\_\_, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of \_\_\_\_\_, (insert Surety's state of incorporation), and authorized to do business as a surety in the State of Washington, are held and firmly bound unto the City of Kirkland (City) in the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_), lawful money of the United States of America, plus the total amount of extra orders issued by the City to the Principal pursuant to the terms of the Contract referred to in the next succeeding paragraph hereof, for the payment whereof Principal and Surety bind ourselves, and our heirs, executors, administrators, representatives, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has been awarded, and is about to enter into, a written Contract with the City for **132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000; NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000; JOB NO. 06-24-PW**, which is hereby made a part of this bond as if fully set forth herein;

NOW, THEREFORE, the condition of this bond is such that:

1. If the Principal shall completely and faithfully perform all of its obligations under the Contract, including any warranties required thereunder, and all modifications, amendments, additions, and alterations thereto, including modifications which increase the contract price or time for completion, with or without notice to the surety; and
2. If the Principal shall indemnify and hold the City harmless from any and all losses, liability, damages, claims, judgments, liens, costs, and fees of any type that the City may be subject to because of the failure or default of the Principal in the performance of any of the terms, conditions, or obligations of the Contract, including all modifications, amendments, additions, and alterations thereto, and any warranties required thereunder;

THEN THIS obligation shall be null and void; otherwise to remain in full force and effect. If the City shall declare Principal to be in default of the Contract, and shall so notify Surety, Surety shall, within a reasonable time which shall not exceed 14 days, except for good cause shown, notify the City in writing of the manner in which surety will satisfy its obligations under this Bond.

Nonpayment of the Bond premium will not invalidate this Bond nor shall the City be obligated for the payment thereof. The Surety hereby waives notice of any modification of the Contract or extension of time made by the City.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_.

Principal: \_\_\_\_\_ Surety: \_\_\_\_\_

By: \_\_\_\_\_ By: \_\_\_\_\_

Title: \_\_\_\_\_ Title: \_\_\_\_\_

Address: \_\_\_\_\_ Address: \_\_\_\_\_

City/Zip: \_\_\_\_\_ City/Zip: \_\_\_\_\_

Telephone: ( ) \_\_\_\_\_ Telephone: ( ) \_\_\_\_\_

Note: A power of attorney must be provided which appoints the Surety's true and lawful attorney-in-fact to make, execute, seal and deliver this performance bond.



**LABOR, MATERIAL AND TAXES PAYMENT BOND**

**Surety to have an A.M. Best rating of A-:VII or better.**

**Bond No.** \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that, **CONTRACTOR NAME**, as Principal, and \_\_\_\_\_, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of \_\_\_\_\_ (insert Surety's state of incorporation), and authorized to do business as a surety in the State of Washington, are held and firmly bound unto the City of Kirkland (City) for the use and benefit of claimants as hereinafter defined, in the sum of \_\_\_\_\_ **Dollars** (\$ \_\_\_\_\_), lawful money of the United States of America, plus the total amount of any extra orders issued by the City, for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, representatives, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has been awarded, and is about to enter into, a Contract with City of Kirkland for **132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000; NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000; JOB NO. 06-24-PW**, which contract is by this reference made a part hereof;

WHEREAS, the contract is a public works contract, subject to the provisions of RCW Titles 39 and 60;

NOW, THEREFORE, the conditions of this obligation are such that, if the Principal shall promptly make payment to all claimants as hereinafter defined, for (a) all labor and material used or reasonably required for use in the performance of the contract and (b) all taxes, increases, and penalties incurred on the above-referenced contract under Titles 50, 51, and 82 RCW which may be due, then this obligation shall be void; otherwise, it shall remain in full force and effect, subject, however, to the following conditions: A claimant is defined as and includes (a) a person claiming to have supplied labor or materials for the prosecution of the work provided for in the contract, including any person having direct contractual relationship with the contractor furnishing the bond or direct contractual relationship with any subcontractor, or an assignee of such person, (b) the state with respect to taxes incurred on the above-referenced contract under Titles 50, 51, and 82 RCW which may be due and (c) any other person or entity as allowed or required by law.

3. The Principal and Surety hereby jointly and severally agree with the City that every claimant as herein defined, who has not been paid in full prior to Final Acceptance of the project, or materials were furnished by such claimant, has an action on this bond for such sum or sums as may be justly due claimant, and may have execution thereon. The City shall not be liable for the payment of any costs or expenses of any such suit or action.

(Form continues on next page)

4. No suit or action shall be commenced hereunder by any claimant (except the state with respect to taxes, increases, and penalties incurred on the above-referenced contract under Titles 50, 51, and 82 RCW which may be due) unless the claimant has sent the written notice required under RCW Title 39 to the Principal and to the City's Purchasing Agent by registered or certified mail, or by hand delivery, no later than 30 days after Final Acceptance of the Project.

The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against the improvement, whether or not claim for the amount of such lien be presented under and against this bond.

The Surety hereby waives notice of any modification of the contract or extension of time made by the City.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_

Principal: \_\_\_\_\_ Surety: \_\_\_\_\_

By: \_\_\_\_\_ By: \_\_\_\_\_

Title: \_\_\_\_\_ Title: \_\_\_\_\_

Address: \_\_\_\_\_ Address: \_\_\_\_\_

City/Zip: \_\_\_\_\_ City/Zip: \_\_\_\_\_

Telephone: ( ) \_\_\_\_\_ Telephone: ( ) \_\_\_\_\_

Note: A power of attorney must be provided which appoints the Surety's true and lawful attorney-in-fact to make, execute, seal and deliver this performance bond.

**END OF LABOR, MATERIAL AND TAXES PAYMENT BOND FORM**

**CITY OF KIRKLAND  
CONTRACTOR'S DECLARATION OF OPTION FOR  
MANAGEMENT OF STATUTORY RETAINED PERCENTAGE**

132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000;  
NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000;  
JOB NO. 06-24-PW

Monies reserved under provisions of Chapter 60.28 RCW, at the option of the Contractor, shall be:

*Select  
One*

- (1) Retained in a fund by the City. No interest will be earned on the retained percentage amount under this election.
  
- (2) Retainage Bond
  
- (3) Placed in escrow with a bank or trust company by the City. When the monies reserved are to be placed in escrow, the City will issue a check representing the sum of the monies reserved payable to the bank or trust company and the Contractor jointly. Such check shall be converted into bonds and securities chosen by the Contractor and approved by the City and the bonds and securities held in escrow. (For the convenience of those Contractors choosing option (3) a City approved Form of Escrow Agreement is included on the next page and should be completed and submitted with the executed contract.)

*The Contractor in choosing option (3) agrees to assume full responsibility to pay all costs which may accrue from escrow services, brokerage charges or both, and further agrees to assume all risks in connection with the investment of the retained percentages in securities.*

- (4) Deposited by the City in an interest-bearing account at the FDIC insured bank currently providing contracted banking services to the City of Kirkland. Interest on such account shall be paid to the contractor. Any fees incurred shall be the responsibility of the contractor.

CONTRACTOR:

Signature: \_\_\_\_\_

Print or Type Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**RETAINAGE BOND**  
**RETURN THIS FORM IF RETAINAGE BOND OPTION IS SELECTED**

Contract Title	_____
Contract Number	_____
Contractor Name	_____

The Undersigned, \_\_\_\_\_, existing under and by virtue of the laws of the State of Washington and authorized to do business in the State of Washington as Principal, and \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ and authorized to transact business in the State of Washington as Surety, are jointly and severally held and bound unto \_\_\_\_\_, hereinafter called Obligee, and are similarly held and bound unto the beneficiaries of the trust fund created by RCW 60.28, in the penal sum of \_\_\_\_\_ (\$ \_\_\_\_\_), Which is 5% of the principal's price on Contract ID \_\_\_\_\_.

WHEREAS, on the \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_, the said principal herein executed a contract with the Obligee, for the Contract specified above, Contract ID Number \_\_\_\_\_.

WHEREAS, said contract and RCW 60.28 require the Obligee to withhold from the Principal the sum of \_\_\_\_\_% from monies earned on estimates during the progress of the construction, herein after referred to as earned retained funds.

NOW WHEREAS, Principal has requested that the Obligee not retain any earned retained funds as allowed under RCW 60.28.

NOW THEREFORE, the condition of the obligation is such that the Principal and Surety are held and bound unto the beneficiaries of the trust fund created by RCW 60.28 in the penal sum of \_\_\_\_\_ percent (\_\_\_\_%) of the final contract cost which shall include any increases due to change orders, increases in quantities of work or the addition of any new item of work. If the Principal shall use the earned retained funds, which will not be retained, for the trust fund purposes of RCW 60.28, then this obligation shall be null and void; otherwise, it shall remain in full force and effect until release is authorized in writing by the Obligee. This bond and any proceeds therefrom shall be made subject to all claims and liens and in the same manner and priority as set forth for retained percentages in RCW 60.28.

PROVIDED HOWEVER, that:

1. The liability of the surety under this bond shall not exceed 5% or 50% of the total amount earned by the Principal if no monies are retained by the Obligee on estimates during the progress of construction.
2. Any suit under this bond must be instituted within the time provided by applicable law.

Witness our hands this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_.

**SURETY**

**PRINICIPAL**

By: \_\_\_\_\_  
Name/Title

By: \_\_\_\_\_  
Name/Title

OF: \_\_\_\_\_

OF: \_\_\_\_\_

Surety Name and Local Office of Agent: \_\_\_\_\_

Surety Address and Phone of Local Office and Agent: \_\_\_\_\_

\_\_\_\_\_

**CITY OF KIRKLAND  
RETAINED PERCENTAGE ESCROW AGREEMENT**

132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000;  
NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000;  
JOB NO. 06-24-PW,

Escrow No. \_\_\_\_\_

City of Kirkland 123 Fifth Avenue  
Kirkland, Washington 98033

Contractor: \_\_\_\_\_

Address: \_\_\_\_\_

Project Description: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

TO: Escrow Bank or Trust Company:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_  
Attention: \_\_\_\_\_

The undersigned, \_\_\_\_\_, herein referred to as the Contractor, has directed the City of Kirkland to deliver to you its warrants, which shall be payable to you and the Contractor jointly. Such warrants are to be held and disposed of by you in accordance with the following instructions and upon the terms and conditions hereinafter set forth.

INSTRUCTIONS

1. Warrants or checks made payable to you and the Contractor jointly upon delivery to you shall be endorsed by you and forwarded for collection. The moneys will then be used by you to purchase, as directed by the Contractor, bonds or other securities chosen by the Contractor and approved by the City of Kirkland. Attached is a list of such bonds, or other securities approved by the City of Kirkland. Other bonds or securities, except stocks, may be selected by the Contractor, subject to the express written approval of the City of Kirkland. Purchase of such bonds or other securities shall be in a form which shall allow you alone to reconvert such bonds or other securities into money if you are required to do so at the direction of the City of Kirkland and Contractor.
2. When and as interest on the securities held by you pursuant to this agreement accrues and is paid, you shall collect such interest and forward it to the Contractor at its address designated below unless otherwise directed by the Contractor.
3. You are not authorized to deliver to the Contractor all or any part of the securities held by you pursuant to this agreement (or any moneys derived from the sale of such securities, or the

negotiation of the City of Kirkland's warrants) except in accordance with written instructions from the City of Kirkland. Compliance with such instructions shall relieve you of any further liability related thereto. The estimated completion date on the contract underlying this Escrow Agreement is.

4. The Contractor agrees to pay you as compensation for your services hereunder as follows:

Payment of all fees shall be the sole responsibility of the Contractor and shall not be deducted from any property placed with you pursuant to this agreement until and unless the City of Kirkland directs the release to the Contractor of the securities and moneys held hereunder whereupon you shall be granted a first lien upon such property released and shall be entitled to reimburse yourself from such property for the entire amount of your fees as provided for hereinabove. In the event that you are made a party to any litigation with respect to the property held by you hereunder, or in the event that the conditions of this escrow are not promptly fulfilled or that you are required to render any service not provided for in these instructions, or that there is any assignment of the interests of this escrow or any modification hereof, you shall be entitled to reasonable compensation for such extraordinary services from the Contractor and reimbursement from the Contractor for all costs and expenses, including attorneys fees occasioned by such default, delay, controversy, or litigation.

5. This agreement shall not be binding until executed by the Contractor and the City of Kirkland and accepted by you.
6. This instrument contains the entire agreement between you, the Contractor and the City of Kirkland, with respect to this escrow and you are not a part nor bound by any instrument or agreement other than this; you shall not be required to take notice of any default or any other matter nor be bound by nor required to give notice or demand, nor required to take any action whatever, except as herein expressly provided; you shall not be liable for any loss or damage not caused by your own negligence or willful misconduct.
7. The foregoing provisions shall be binding upon the assigns, successors, personal representatives, and heirs of the parties hereto.
8. The Contractor's Federal Income Tax Identification number is

\_\_\_\_\_.

- \*\* Please note: Written release will be issued by the Director of Finance & Administration. For further information, contact the Purchasing Agent at (425) 587-3123.

The undersigned have read and hereby approve the instructions as given above governing the administration of this escrow and do hereby execute this agreement on this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_.

CONTRACTOR:

CITY OF KIRKLAND:

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Print or Type Name

\_\_\_\_\_  
Print or Type Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

Address: \_\_\_\_\_  
\_\_\_\_\_

123 Fifth Avenue  
Kirkland, Washington 98033

The above escrow instructions received and accepted this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_.

ESCROW BANK OR TRUST CO:

\_\_\_\_\_

By: \_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Print or Type Name

\_\_\_\_\_

Title

Securities Authorized by City of Kirkland (select one):

1. Bills, certificates, notes or bonds of the United States;
2. Other obligations of the United States or its agencies;
3. Obligations of any corporation wholly-owned by the government of the United States;
4. Indebtedness of the Federal National Mortgage Association; and
5. Time deposits in commercial banks.

**RETURN THIS SIGNED AGREEMENT TO**

City of Kirkland  
Attn: Purchasing Agent  
123 Fifth Avenue  
Kirkland, Washington 98033





## **CITY OF KIRKLAND RETAINAGE RELEASE REQUIREMENTS**

### DOCUMENTS REQUIRED TO BE ON FILE PRIOR TO RELEASE OF RETAINAGE

1. Intent to Pay Prevailing Wage (Contractor must generation including for subcontractors)  
  
Department of Labor/Industries  
Employment Standards Division General  
Administration Building Olympia,  
Washington 98504  
(360) 956-5335
2. Notice of Completion of Public Works Contract (City generates)  
  
Department of Revenue  
Excise Tax Division  
Olympia, Washington 98504
3. Affidavit of Wages Paid (Contractor must generate including for subcontractors) Department of  
  
Labor/Industries
4. Certificate of Release - State Excise Tax by Public Works Contractor (Letter from State to City)  
  
Department of Revenue Department of Labor and  
Industries Employment Security Department
5. Receipt for Payment in full or Release of Lien signed by Lien Claimant and filed with  
City (Responsibility of Contractor to obtain)  
  
Claims against retainage or Payment Bond filed with City by  
any such subcontractor, workman, or material supplier.
6. Current insurance certificate through retainage release (Contractor generates)
7. Produce final invoice for retainage if bond is not selected (Contractor generates)

# SPECIAL PROVISIONS

*Supplement to*

2024

WSDOT Standard  
Specifications



**City of Kirkland**

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# SPECIAL PROVISIONS

*Supplement to*

2024

WSDOT Standard  
Specifications

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City of Kirkland

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# City of Kirkland Special Provisions

## INTRODUCTION

The work on this project shall be accomplished in accordance with the Standard Specifications for Road, Bridge and Municipal Construction, 2024 edition, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA), Washington State Chapter (hereafter “Standard Specifications”). The Standard Specifications, as modified or supplemented by these Special Provisions, all of which are made a part of the Contract Documents, shall govern all of the Work.

These Special Provisions supersede any conflicting provisions of the Standard Specifications.

The accompanying Plans and these Specifications and any Addenda thereto, show and describe the location and type of work to be performed under the **132nd Ave NE & Slater Ave Crossing CIP NO. NMC1360000; NE 124th Street Slater Ave Crossing Improvements CIP NO. NMC1350000; JOB NO. 06-24-PW.**

These Special Provisions are made up of both General Special Provisions (GSPs) from various sources, which may have project-specific fill-ins; and project-specific Special Provisions. Each Provision supplements, modifies, or replaces the comparable Standard Specification, or is a new Provision. The deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply.

The titles of headings of the Sections and subsections herein are intended for convenience or reference and shall not be considered as having any bearing on their interpretation.

Several types of Special Provisions are included in this contract and are differentiated as follows:

- **General Special Provisions (GSPs)** are similar to Standard Specifications in that they typically apply to many public works projects. These can include:
- **Local Agency/APWA Approved GSPs** are modifications to the Standard Specifications prepared by the APWA Division 1 subcommittee, which is comprised of representatives of local agencies throughout the State of Washington. These GSPs are generally used throughout the state. APWA GSPs replace what was formerly referred to as "Division 1-99 APWA Supplement" in previous editions of the Standard Specifications for Road, Bridge and Municipal Construction. Denoted as: **(2024 APWA GSP)**
- **City of Kirkland GSPs** are modifications to the Standard Specifications prepared by the City of Kirkland Public Works Department, and commonly applicable to City of Kirkland projects. Denoted as: **(2024 COK GSP)**

**Project-Specific Special Provisions** normally appear only in the contract for which they were developed. Denoted as: **(\*\*\*\*\*)**

Also incorporated into the Contract Documents by reference are:

- Manual on Uniform Traffic Control Devices for Streets and Highways, currently adopted edition, with Washington State modifications, if any
- Standard Plans for Road, Bridge and Municipal Construction, WSDOT/APWA, 2024
- City of Kirkland Public Works Department Pre-Approved Plans and Policies, 2024.

Contractor shall obtain copies of these publications, at Contractor’s own expense.

**DIVISION 1  
GENERAL REQUIREMENTS**

**1-01 DESCRIPTION OF WORK**

This contract provides for installation of a pedestrian signal across Slater Ave NE/132nd Ave NE at the Cross Kirkland Corridor (CKC) to Eastrail regional trail crossing, removing existing railroad track and equipment, installing new median islands, curb ramps, bike ramps, sidewalk, re-channelization 132nd Ave/Slater Ave, signage, and installing new traffic signal cabinets and foundations, signal poles and foundations, modifying NE 124th St and 132nd Ave signal with a pedestrian signal control at the traffic island, new fiber optic signal interconnect system, new mast arm poles, LED luminaires, junction-box and conduit system, and all related Work, all in accordance with the Contract Plans, these Contract Special Provisions, and the Standard Specifications.

**DEFINITIONS AND TERMS**

**1-01.3 Definitions**

*(January 19, 2022 APWA GSP)*

*Delete the heading Completion Dates and the three paragraphs that follow it, and replace them with the following:*

**Dates**

**Bid Opening Date**

The date on which the Contracting Agency publicly opens and reads the Bids.

**Award Date**

The date of the formal decision of the Contracting Agency to accept the lowest responsible and responsive Bidder for the Work.

**Contract Execution Date**

The date the Contracting Agency officially binds the Agency to the Contract.

**Notice to Proceed Date**

The date stated in the Notice to Proceed on which the Contract time begins.

**Substantial Completion Date**

The day the Engineer determines the Contracting Agency has full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint, any remaining traffic disruptions will be rare and brief, and only minor incidental work, replacement of temporary substitute facilities, plant establishment periods, or correction or repair remains for the Physical Completion of the total Contract.

**Physical Completion Date**

The day all of the Work is physically completed on the project. All documentation required by the Contract and required by law does not necessarily need to be furnished by the Contractor by this date.

**Completion Date**

The day all the Work specified in the Contract is completed and all the obligations of the Contractor under the contract are fulfilled by the Contractor. All documentation required by the Contract and required by law must be furnished by the Contractor before establishment of this date.

1           **Final Acceptance Date**

2           The date on which the Contracting Agency accepts the Work as complete.

3  
4           *Supplement this Section with the following:*

5  
6           All references in the Standard Specifications or WSDOT General Special Provisions, to the terms  
7           “Department of Transportation”, “Washington State Transportation Commission”, “Commission”,  
8           “Secretary of Transportation”, “Secretary”, “Headquarters”, and “State Treasurer” shall be revised to  
9           read “Contracting Agency”.

10  
11           All references to the terms “State” or “state” shall be revised to read “Contracting Agency” unless the  
12           reference is to an administrative agency of the State of Washington, a State statute or regulation, or  
13           the context reasonably indicates otherwise.

14  
15           All references to “State Materials Laboratory” shall be revised to read “Contracting Agency  
16           designated location”.

17  
18           All references to “final contract voucher certification” shall be interpreted to mean the Contracting  
19           Agency form(s) by which final payment is authorized, and final completion and acceptance granted.

20  
21           **Additive**

22           A supplemental unit of work or group of bid items, identified separately in the Bid Proposal, which  
23           may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.

24  
25           **Alternate**

26           One of two or more units of work or groups of bid items, identified separately in the Bid Proposal,  
27           from which the Contracting Agency may make a choice between different methods or material of  
28           construction for performing the same work.

29  
30           **Business Day**

31           A business day is any day from Monday through Friday except holidays as listed in Section 1-08.5.

32  
33           **Contract Bond**

34           The definition in the Standard Specifications for “Contract Bond” applies to whatever bond form(s)  
35           are required by the Contract Documents, which may be a combination of a Payment Bond and a  
36           Performance Bond.

37  
38           **Contract Documents**

39           See definition for “Contract” in Standard Specifications

40  
41           **Contract Time**

42           The period of time established by the terms and conditions of the Contract within which the Work  
43           must be physically completed.

44  
45           **Notice of Award**

46           The written notice from the Contracting Agency to the successful Bidder signifying the Contracting  
47           Agency’s acceptance of the Bid Proposal.

48  
49           **Notice to Proceed**

50           The written notice from the Contracting Agency or Engineer to the Contractor authorizing and  
51           directing the Contractor to proceed with the Work and establishing the date on which the Contract  
52           time begins.

1  
2 **Traffic**

3 Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and equestrian  
4 traffic.

5  
6 **1-02 BID PROCEDURES AND CONDITIONS**

7  
8 **1-02.1 Prequalification of Bidders**

9  
10 *Delete this Section and replace it with the following:*

11  
12 **1-02.1 Qualifications of Bidder**

13 *(January 24, 2011 APWA GSP)*

14  
15 Before award of a public works contract, a bidder must meet at least the minimum qualifications of  
16 RCW 39.04.350(1) to be considered a responsible bidder and qualified to be awarded a public works  
17 project.

18  
19 *Add the following new section:*

20  
21 **1-02.1(1) Supplemental Qualifications Criteria**

22 *(July 31, 2017 APWA GSP)*

23  
24 In addition, the Contracting Agency has established Contracting Agency-specific and/or project-  
25 specific supplemental criteria, in accordance with RCW 39.04.350(3), for determining Bidder  
26 responsibility, including the basis for evaluation and the deadline for appealing a determination that a  
27 Bidder is not responsible. These criteria are contained in Section 1-02.14 Option C of these Special  
28 Provisions.

29  
30 *(January 1, 2016 COK GSP)*

31  
32 Bidders shall complete and sign the Statement of Bidder's Qualification contained in the Proposal.  
33 Said form must be submitted with the bid proposal.

34  
35 After bids are opened, Contracting Agency may request that a bidder or all bidders provide  
36 supplemental information concerning responsibility in accordance with RCW 39.04.350(2). Such  
37 supplemental information shall be provided to Contracting Agency in writing within two (2) business  
38 days of the request. Whether bidder supplies this supplemental information within the time and  
39 manner specified or not, in addition to consideration of this additional information, Contracting  
40 Agency may also base its determination of responsibility on any available information related to the  
41 supplemental criteria.

42  
43 If Contracting Agency determines that a bidder is not responsible, Contracting Agency will provide,  
44 in writing, the reasons for such determination at which point the contractor will be deemed  
45 disqualified in accordance with WSDOT Standard Specification 1-02.14(10) and the proposal  
46 rejected. The bidder may appeal the determination within two (2) business days after receipt of the  
47 determination by presenting additional information to Contracting Agency. Contracting Agency will  
48 consider the additional information before issuing its final decision. If Contracting Agency's final  
49 decision affirms that the bidder is not responsible, Contracting Agency will not execute a contract  
50 with any other bidder until two (2) business days after the bidder determined to be not responsible has  
51 received Contracting Agency's final determination. The failure or omission of a bidder to receive or  
52 examine any form, instrument, addendum or other document shall in no way relieve any bidder from  
53 obligations with respect to the bid or to the contract.

1  
2 Any bidder may, within five (5) business days before the bid submittal deadline, request that  
3 Contracting Agency modify the supplemental criteria. Contracting Agency will evaluate the  
4 information submitted by the bidder and respond before the submittal deadline. If the evaluation  
5 results in a change of the criteria, the Contracting Agency will issue an Addendum to the bidding  
6 documents identifying the new criteria.  
7

8 Supplemental Criteria. Contracting Agency acknowledges that Change Orders (changes, extra work,  
9 requests for equitable adjustment and claims (defined as including demands for money or time in  
10 excess of the contract amount or contract time)) are ubiquitous on public works construction projects.  
11 The expeditious resolution of Change Orders is critical to the on budget and on time successful  
12 completion of a public works project. Thus, the City has established the following relevant  
13 supplemental bidder responsibility criteria applicable for the project:  
14

- 15 1. Criterion. The bidder must demonstrate a record of successful and timely resolution of Change  
16 Orders including compliance with public contract Change Order resolution procedures (e.g.  
17 timely notice of event giving rise to the Change Order, timely submission of a statement of the  
18 cost and/or impact of the Change Order unless the bidder is able to show extenuating  
19 circumstances that explain bidder's failure to timely provide such information to the satisfaction  
20 of Contracting Agency.  
21
- 22 2. Documentation. As evidence that the bidder meets the supplemental responsibility criteria, after  
23 bids are opened and within two (2) business days of the public notice of Contracting Agency's  
24 tabulation of bids, the lowest responsive bidder must submit the following documentation of  
25 public works projects completed within the previous three (3) years and include for each project  
26 the following:  
27
  - 28 a. The Owner and contact information for the Owner;
  - 29
  - 30 b. A listing of Change Orders and a signed statement from the bidder that the project  
31 timelines concerning resolution of Change Orders was complied with, and if not, provide  
32 a written explanation of what the bidder believes to be the extenuating circumstances  
33 excusing compliance with the Contract Change Order notice and claim provisions.  
34

35 Contracting Agency may contact owners listed by the bidders to validate the information provided by  
36 a bidder.  
37

### 38 **1-02.2 Plans and Specifications**

39 *(June 27, 2011 APWA GSP)*

40  
41 *Delete this section and replace it with the following:*  
42

43 Information as to where Bid Documents can be obtained or reviewed can be found in the Call for Bids  
44 (Advertisement for Bids) for the work.  
45

46 After award of the contract, plans and specifications will be issued to the Contractor at no cost as detailed  
47 below:  
48

To Prime Contractor	No. of Sets	Basis of Distribution
Reduced plans (11" x 17")	<b>3</b>	Furnished automatically upon award.



Contract Special Provisions	<b>3</b>	Furnished automatically upon award.
Large plans (e.g., 22" x 34")	<b>2</b>	Furnished only upon request.

Additional plans and Contract Provisions may be obtained by the Contractor from the source stated in the Call for Bids, at the Contractor's own expense.

**1-02.4. Examination of Plans, Specs, Site of Work**

**1-02.4(1) General**

*This section is supplemented with the following:*

Prospective Bidders are advised that the Contracting Agency may include a partially completed Washington State Department of Ecology (Ecology) Transfer of Coverage (Ecology Form ECY 020-87a) for the Construction Stormwater General Permit (CSWGP) as part of the Bid Documents. When the Contracting Agency requires the transfer of coverage of the CSWGP to the Contractor, an informational copy of the Transfer of Coverage and the associated CSWGP will be included in the appendices. As a condition of Section 1-03.3, the Contractor is required to complete sections I, III, and VIII of the Transfer of Coverage and return the form to the Contracting Agency.

The Contracting Agency is responsible for compliance with the CSWGP until the end of day that the Contract is executed. Beginning on the day after the Contract is executed, the Contractor shall assume complete legal responsibility for compliance with the CSWGP and full implementation of all conditions of the CSWGP as they apply to the Contract Work.

*(December 30, 2022 APWA GSP Option A)*

*The first sentence of the ninth paragraph, beginning with "Prospective Bidder desiring...", is revised to read:*

Prospective Bidders desiring an explanation or interpretation of the Bid Documents, shall request the explanation or interpretation in writing soon enough to allow a written reply to reach all prospective Bidders before the submission of their Bids.

**1-02.4(2) Subsurface Information**

*(March 8, 2013 APWA GSP)*

*The second sentence in the first paragraph is revised to read:*

The Summary of Geotechnical Conditions and the boring logs, if and when included as an appendix to the Special Provisions, shall be considered as part of the Contract.

(\*\*\*\*\*)

The Geotechnical Information is included in Appendix A.

**1-02.5 Proposal Forms**

*(July 31, 2017 APWA GSP)*

*Delete this section and replace it with the following:*

The Proposal Form will identify the project and its location and describe the work. It will also list estimated quantities, units of measurement, the items of work, and the materials to be furnished at

1 the unit bid prices. The bidder shall complete spaces on the proposal form that call for, but are not  
2 limited to, unit prices; extensions; summations; the total bid amount; signatures; date; and, where  
3 applicable, retail sales taxes and acknowledgment of addenda; the bidder's name, address,  
4 telephone number, and signature; the bidder's UDBE/DBE/M/WBE commitment, if applicable; a  
5 State of Washington Contractor's Registration Number; and a Business License Number, if  
6 applicable. Bids shall be completed by typing or shall be printed in ink by hand, preferably in  
7 black ink. The required certifications are included as part of the Proposal Form.

8  
9 The Contracting Agency reserves the right to arrange the proposal forms with alternates and  
10 additives, if such be to the advantage of the Contracting Agency. The bidder shall bid on all alternates  
11 and additives set forth in the Proposal Form unless otherwise specified.

#### 14 **1-02.6 Preparation of Proposal**

15 *(January 4, 2024 APWA GSP 1-02.6, Option B)*

16  
17 *Supplement the second paragraph with the following:*

18  
19 4. If a minimum bid amount has been established for any item, the unit or lump sum price must  
20 equal or exceed the minimum amount stated.

21 5. Any correction to a bid made by interlineation, alteration, or erasure, shall be initialed by the  
22 signer of the bid.

23  
24 *Delete the last two paragraphs, and replace them with the following:*

25  
26 The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance  
27 form, provided by the Contracting Agency. Failure to return this certification as part of the Bid  
28 Proposal package will make this Bid Nonresponsive and ineligible for Award. A Contractor  
29 Certification of Wage Law Compliance form is included in the Proposal Forms.

30  
31 The Bidder shall make no stipulation on the Bid Form, nor qualify the bid in any manner.

32  
33 A bid by a corporation shall be executed in the corporate name, by the president or a vice president  
34 (or other corporate officer accompanied by evidence of authority to sign).

35  
36 A bid by a partnership shall be executed in the partnership name, and signed by a partner. A copy of  
37 the partnership agreement shall be submitted with the Bid Form if any DBE requirements are to be  
38 satisfied through such an agreement.

39  
40 A bid by a joint venture shall be executed in the joint venture name and signed by a member of the  
41 joint venture. A copy of the joint venture agreement shall be submitted with the Bid Form if any DBE  
42 requirements are to be satisfied through such an agreement.

43  
44  
45  
46 *Add the following new section:*

#### 48 **1-02.6(1) Recycled Materials Proposal**

49 *(January 4, 2016 APWA GSP)*

50  
51 The bidder shall submit with the Bid, its proposal for incorporating recycled materials into the  
52 project, using the form provided in the Contract Provisions.

1 (\*\*\*\*\*)

2 Recycled aggregate shall not be permitted to be placed as backfill for Northshore Utility trenches.  
3 Specifically recycled aggregate shall not be permitted to be placed around water main or water  
4 service piping.  
5

6 **1-02.7 Bid Deposit**

7 *(March 8, 2013 APWA GSP)*

8  
9 *Supplement this section with the following:*

10 Bid bonds shall contain the following:

- 11 1. Contracting Agency-assigned number for the project;
- 12 2. Name of the project;
- 13 3. The Contracting Agency named as obligee;
- 14 4. The amount of the bid bond stated either as a dollar figure or as a percentage which represents  
15 five percent of the maximum bid amount that could be awarded;
- 16 5. Signature of the bidder's officer empowered to sign official statements. The signature of the  
17 person authorized to submit the bid should agree with the signature on the bond, and the title  
18 of the person must accompany the said signature;
- 19 6. The signature of the surety's officer empowered to sign the bond and the power of attorney.  
20  
21

22  
23 If so stated in the Contract Provisions, bidder must use the bond form included in the Contract  
24 Provisions.  
25

26 If so stated in the Contract Provisions, cash will not be accepted for a bid deposit.  
27

28 **1-02.8 Noncollusion Declaration and Lobbying Certification**

29 *(January 1, 2016 COK GSP)*

30  
31 *The following new paragraph is inserted at the end of Section 1-02.8:*

32 (\*\*\*\*\*)

33  
34  
35 **Conflict of Interest**

36 The bidder affirms that it presently has no interest and shall not acquire any interest, direct or indirect,  
37 which would conflict in any manner or degree with the performance of its services hereunder. The  
38 Contractor further covenants that in the performance of this contract, no person having any conflicting  
39 interest shall be employed. Any interest on the part of the Contractor or its employees must be disclosed  
40 forthwith to the City of Kirkland. If this contract is within the scope of a Federal Housing and  
41 Community Development Block Grant program, the Contractor further covenants that no person who  
42 presently exercises any functions or responsibilities in connection with the block grant program has any  
43 personal financial interest, direct or indirect, in this contract.  
44

45 **1-02.10 Withdrawing, Revising, or Supplementing Proposal**

46 *(July 23, 2015 APWA GSP)*

47  
48 *Delete this section, and replace it with the following:*

49  
50 After submitting a physical Bid Proposal to the Contracting Agency, the Bidder may withdraw,  
51 revise, or supplement it if:

- 1
- 2 1. The Bidder submits a written request signed by an authorized person and physically delivers
- 3 it to the place designated for receipt of Bid Proposals, and
- 4 2. The Contracting Agency receives the request before the time set for receipt of Bid
- 5 Proposals, and
- 6 3. The revised or supplemented Bid Proposal (if any) is received by the Contracting Agency
- 7 before the time set for receipt of Bid Proposals.
- 8

9 If the Bidder's request to withdraw, revise, or supplement its Bid Proposal is received before the  
10 time set for receipt of Bid Proposals, the Contracting Agency will return the unopened Proposal  
11 package to the Bidder. The Bidder must then submit the revised or supplemented package in its  
12 entirety. If the Bidder does not submit a revised or supplemented package, then its bid shall be  
13 considered withdrawn.

14  
15 Late revised or supplemented Bid Proposals or late withdrawal requests will be date recorded by  
16 the Contracting Agency and returned unopened. Mailed, emailed, or faxed requests to withdraw,  
17 revise, or supplement a Bid Proposal are not acceptable.

### 18 19 **1-02.12 Public Opening of Proposal**

20 *(July 19, 2022 COK SP )*

21  
22 *Section 1-02.12 is supplemented with the following:*

#### 23 24 **Date of Opening Bids**

25 Sealed Bids are to be received at the following location prior to the time specified:

26 At the City of Kirkland in the office of the City of Kirkland Council Chambers, City Hall, 123 Fifth  
27 Avenue, Kirkland, Washington 98033 until 2:00 P.M. of the Bid opening date.

28  
29 The Bid opening date for this project is January 23<sup>rd</sup>, 2025. Bids received will be publicly opened  
30 and read after 2:00 P. M. on this date. Bids will not be received after this date and time.

### 31 32 **1-02.13 Irregular Proposals**

33 *(December 30, 2022 APWA GSP)*

34  
35 *Delete this section and replace it with the following:*

- 36
- 37 1. A Proposal will be considered irregular and will be rejected if:
  - 38 a. The Bidder is not prequalified when so required;
  - 39 b. The authorized Proposal form furnished by the Contracting Agency is not used or is
  - 40 altered;
  - 41 c. The completed Proposal form contains any unauthorized additions, deletions, alternate
  - 42 Bids, or conditions;
  - 43 d. The Bidder adds provisions reserving the right to reject or accept the award, or enter into
  - 44 the Contract;
  - 45 e. A price per unit cannot be determined from the Bid Proposal;
  - 46 f. The Proposal form is not properly executed;
  - 47 g. The Bidder fails to submit or properly complete a subcontractor list (WSDOT Form 271-
  - 48 015), if applicable, as required in Section 1-02.6;
  - 49 h. The Bidder fails to submit or properly complete a Disadvantaged Business Enterprise
  - 50 Certification (WSDOT Form 272-056), if applicable, as required in Section 1-02.6;
  - 51 i. The Bidder fails to submit Written Confirmations (WSDOT Form 422-031) from each
  - 52 DBE firm listed on the Bidder's completed DBE Utilization Certification that they are in

- 1 agreement with the bidder's DBE participation commitment, if applicable, as required in  
2 Section 1-02.6, or if the written confirmation that is submitted fails to meet the  
3 requirements of the Special Provisions;
- 4 j. The Bidder fails to submit DBE Good Faith Effort documentation, if applicable, as  
5 required in Section 1-02.6, or if the documentation that is submitted fails to demonstrate  
6 that a Good Faith Effort to meet the Condition of Award was made;
  - 7 k. The Bidder fails to submit a DBE Bid Item Breakdown (WSDOT Form 272-054), if  
8 applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to  
9 meet the requirements of the Special Provisions;
  - 10 l. The Bidder fails to submit DBE Trucking Credit Forms (WSDOT Form 272-058), if  
11 applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to  
12 meet the requirements of the Special Provisions;
  - 13 m. The Bid Proposal does not constitute a definite and unqualified offer to meet the material  
14 terms of the Bid invitation; or
  - 15 n. More than one Proposal is submitted for the same project from a Bidder under the same  
16 or different names.
- 17
- 18 2. A Proposal may be considered irregular and may be rejected if:
- 19 a. The Proposal does not include a unit price for every Bid item;
  - 20 b. Any of the unit prices are excessively unbalanced (either above or below the amount of a  
21 reasonable Bid) to the potential detriment of the Contracting Agency;
  - 22 c. Receipt of Addenda is not acknowledged;
  - 23 d. A member of a joint venture or partnership and the joint venture or partnership submit  
24 Proposals for the same project (in such an instance, both Bids may be rejected); or
  - 25 e. If Proposal form entries are not made in ink.
- 26

27 **1-02.14 Disqualification of Bidders**

28 *(May 17, 2018 APWA GSP, Option A)*

29  
30 *Delete this section and replace it with the following:*

31  
32 A Bidder will be deemed not responsible if the Bidder does not meet the mandatory bidder  
33 responsibility criteria in RCW 39.04.350(1), as amended.

34  
35 The Contracting Agency will verify that the Bidder meets the mandatory bidder responsibility criteria  
36 in RCW 39.04.350(1). To assess bidder responsibility, the Contracting Agency reserves the right to  
37 request documentation as needed from the Bidder and third parties concerning the Bidder's  
38 compliance with the mandatory bidder responsibility criteria.

39  
40 If the Contracting Agency determines the Bidder does not meet the mandatory bidder responsibility  
41 criteria in RCW 39.04.350(1) and is therefore not a responsible Bidder, the Contracting Agency shall  
42 notify the Bidder in writing, with the reasons for its determination. If the Bidder disagrees with this  
43 determination, it may appeal the determination within two (2) business days of the Contracting  
44 Agency's determination by presenting its appeal and any additional information to the Contracting  
45 Agency. The Contracting Agency will consider the appeal and any additional information before  
46 issuing its final determination. If the final determination affirms that the Bidder is not responsible,  
47 the Contracting Agency will not execute a contract with any other Bidder until at least two business  
48 days after the Bidder determined to be not responsible has received the Contracting Agency's final  
49 determination.

50

1 **1-02.15 Pre Award Information**

2 *(December 30, 2022 APWA GSP)*

3  
4 *Revise this section to read:*

5  
6 Before awarding any contract, the Contracting Agency may require one or more of these items or  
7 actions of the apparent lowest responsible bidder:

- 8
- 9 1. A complete statement of the origin, composition, and manufacture of any or all materials to
- 10 be used,
- 11 2. Samples of these materials for quality and fitness tests,
- 12 3. A progress schedule (in a form the Contracting Agency requires) showing the order of and
- 13 time required for the various phases of the work,
- 14 4. A breakdown of costs assigned to any bid item,
- 15 5. Attendance at a conference with the Engineer or representatives of the Engineer,
- 16 6. Obtain, and furnish a copy of, a business license to do business in the city or county where
- 17 the work is located.
- 18 7. Any other information or action taken that is deemed necessary to ensure that the bidder is
- 19 the lowest responsible bidder.
- 20

21 **1-03 AWARD AND EXECUTION OF CONTRACT**

22  
23 **1-03.1 Consideration of Bids**

24 *(December 30, 2022 APWA GSP)*

25  
26 *Revise the first paragraph to read:*

27  
28 After opening and reading proposals, the Contracting Agency will check them for correctness of  
29 extensions of the prices per unit and the total price. If a discrepancy exists between the price per  
30 unit and the extended amount of any bid item, the price per unit will control. If a minimum bid  
31 amount has been established for any item and the bidder’s unit or lump sum price is less than the  
32 minimum specified amount, the Contracting Agency will unilaterally revise the unit or lump sum  
33 price, to the minimum specified amount and recalculate the extension. The total of extensions,  
34 corrected where necessary, including sales taxes where applicable and such additives and/or  
35 alternates as selected by the Contracting Agency, will be used by the Contracting Agency for award  
36 purposes and to fix the Awarded Contract Price amount and the amount of the contract bond.

37  
38 **1-03.1(1) Identical Bid Totals**

39 *(December 30, 2022 APWA GSP)*

40  
41 *Revise this section to read:*

42  
43 After opening Bids, if two or more lowest responsive Bid totals are exactly equal, then the tie-breaker  
44 will be the Bidder with an equal lowest bid, that proposed to use the highest percentage of recycled  
45 materials in the Project, per the form submitted with the Bid Proposal. If those percentages are also  
46 exactly equal, then the tie-breaker will be determined by drawing as follows: Two or more slips of  
47 paper will be marked as follows: one marked “Winner” and the other(s) marked “unsuccessful”. The  
48 slips will be folded to make the marking unseen. The slips will be placed inside a box. One authorized  
49 representative of each Bidder shall draw a slip from the box. Bidders shall draw in alphabetic order  
50 by the name of the firm as registered with the Washington State Department of Licensing. The slips  
51 shall be unfolded and the firm with the slip marked “Winner” will be determined to be the successful  
52 Bidder and eligible for Award of the Contract. Only those Bidders who submitted a Bid total that is

1 exactly equal to the lowest responsive Bid, and with a proposed recycled materials percentage that is  
2 exactly equal to the highest proposed recycled materials amount, are eligible to draw.  
3

4 **1-03.3 Execution of Contract**  
5 *(July 8, 2024 APWA GSP Option A)*  
6

7 *Revise this section to read:*  
8

9 Within 3 calendar days of Award date (not including Saturdays, Sundays and Holidays), the  
10 successful Bidder shall provide the information necessary to execute the Contract to the Contracting  
11 Agency. The Bidder shall send the contact information, including the full name, email address, and  
12 phone number, for the authorized signer and bonding agent to the Contracting Agency.  
13

14 Copies of the Contract Provisions, including the unsigned Form of Contract, will be available for  
15 signature by the successful bidder on the first business day following award. The number of copies to  
16 be executed by the Contractor will be determined by the Contracting Agency.  
17

18 Within 10 calendar days after the award date, the successful bidder shall return the signed Contracting  
19 Agency-prepared contract, an insurance certification as required by Section 1-07.18, a satisfactory  
20 bond as required by law and Section 1-03.4, the Transfer of Coverage form for the Construction  
21 Stormwater General Permit with sections I, III, and VIII completed when provided. Before execution  
22 of the contract by the Contracting Agency, the successful bidder shall provide any pre-award  
23 information the Contracting Agency may require under Section 1-02.15.  
24

25 Until the Contracting Agency executes a contract, no proposal shall bind the Contracting Agency nor  
26 shall any work begin within the project limits or within Contracting Agency-furnished sites. The  
27 Contractor shall bear all risks for any work begun outside such areas and for any materials ordered  
28 before the contract is executed by the Contracting Agency.  
29

30 If the bidder experiences circumstances beyond their control that prevents return of the contract  
31 documents within the calendar days after the award date stated above, the Contracting Agency may  
32 grant up to a maximum of 10 additional calendar days for return of the documents, provided the  
33 Contracting Agency deems the circumstances warrant it.  
34

35 **1-03.4 Contract Bond**  
36 *(January 1, 2016 COK GSP)*  
37

38 *Revise the first paragraph to read:*  
39

40 The successful bidder shall provide executed payment and performance bond(s) for the full contract  
41 amount. Separate payment and performance bonds are required and each shall be for the full contract  
42 amount. The bond(s) shall:

- 43 1. Be on Contracting Agency-furnished form(s);
- 44 2. Be signed by an approved surety (or sureties) that:
  - 45 a. Is registered with the Washington State Insurance Commissioner, and
  - 46 b. Appears on the current Authorized Insurance List in the State of Washington published  
47 by the Office of the Insurance Commissioner, and
  - 48 c. Have an A.M. best rating of A:VII or better.
- 49 3. Guarantee that the Contractor will perform and comply with all obligations, duties, and  
50 conditions under the Contract, including but not limited to the duty and obligation to indemnify,  
51 defend, and protect the Contracting Agency against all losses and claims related directly or  
52 indirectly from any failure:

- a. Of the Contractor (or any of the employees, subcontractors, or lower tier subcontractors of the Contractor) to faithfully perform and comply with all contract obligations, conditions, and duties, or
  - b. Of the Contractor (or the subcontractors or lower tier subcontractors of the Contractor) to pay all laborers, mechanics, subcontractors, lower tier subcontractors, material person, or any other person who provides supplies or provisions for carrying out the work;
4. Be conditioned upon the payment of taxes, increases, and penalties incurred on the project under titles 50, 51, and 82 RCW; and
  5. Be accompanied by a power of attorney for the Surety's officer empowered to sign the bond; and
  6. Be signed by an officer of the Contractor empowered to sign official statements (sole proprietor or partner). If the Contractor is a corporation, the bond(s) must be signed by the president or vice president, unless accompanied by written proof of the authority of the individual signing the bond(s) to bind the corporation (i.e., corporate resolution, power of attorney, or a letter to such effect signed by the president or vice president).

**1-03.7 Judicial Review**  
*(December 30, 2022 APWA GSP)*

*Revise this section to read:*

All decisions made by the Contracting Agency regarding the Award and execution of the Contract or Bid rejection shall be conclusive subject to the scope of judicial review permitted under Washington Law. Such review, if any, shall be timely filed in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction.

Add new Section 1-03.8.

**1-03.8 Escrow Bid Document Preservation**  
*(April 25, 2019 COK GSP)*

**Scope and Purpose**

The purpose of this specification is to preserve the Contractor's Bid documents for use by the Contracting Agency in any litigation between the Contracting Agency and Contractor arising out of this Contract.

The Contractor shall submit a legible copy of all documentation used to prepare the Bid for this Contract to a banking institution designated by the Contracting Agency. Such documentation shall be placed in escrow with the banking institution and preserved by that institution as specified in the following sections of this specification.

**Definition: Bid Documentation**

The term "Bid documentation" as used in this specification means any writings, working papers, computer printouts, charts, and any other data compilations which contain or reflect all information, data, and calculations used by the Contractor to determine the Bid in bidding for this project. The term "Bid documentation" includes but is not limited to Contractor equipment rates, Contractor overhead rates, labor rates, efficiency or productivity factors, arithmetic extensions, and quotations from Subcontractors and materialmen to the extent that such rates and quotations were used by the Contractor in formulating and determining the amount of the Bid. The term "Bid documentation" also includes any manuals which are standard to the industry used by the Contractor in determining the Bid for this project. Such manuals may be included in the Bid documentation by reference. The term does not include Bid documents provided by the Contracting Agency for use by the Contractor



1 in bidding on this project.

2  
3 **Submittal of Bid Documentation**

4 The Contractor shall submit the Bid documentation, as defined in this section, to the banking  
5 institution. The Bid documentation shall be submitted to the banking institution within seven  
6 calendar days after the Contract for this project has been executed by the Contracting Agency. The  
7 Bid documentation shall be submitted in a sealed container. The container shall be clearly marked  
8 "Bid Documentation" and shall also show on the face of the container the Contractor's name, the date  
9 of submittal, the project title, and the Contract number.

10  
11 **Affidavit**

12 The sealed container shall contain, in addition to the Bid documentation, an affidavit signed under  
13 oath by an individual authorized by the Contractor to execute bidding Proposals. The affidavit shall  
14 list each Bid document with sufficient specificity so a comparison can be made between the list and  
15 the Bid documentation to ensure that all of the Bid documentation listed in the affidavit has been  
16 enclosed in the sealed container. The affidavit shall show that the affiant has personally examined the  
17 Bid documentation and that the affidavit lists all of the documents used by the Contractor to  
18 determine the Bid for this project and that all such Bid documentation has been enclosed in the sealed  
19 container.

20  
21 **Verification**

22 The banking institution upon receipt of the sealed container shall place the container in a safety  
23 deposit box, vault, or other secure place, and immediately notify the Contracting Agency in writing  
24 that the container has been received. Upon receipt of such notice, the Contracting Agency will  
25 promptly notify the Contractor in writing that the Contracting Agency will open the sealed container  
26 to verify that the affidavit has been enclosed and to compare the Bid documents listed in the affidavit  
27 with the Bid documents enclosed in the container to ensure that all of the Bid documentation has been  
28 submitted and that the copies are legible. The notification will advise the Contractor of the date and  
29 time the container will be opened and the name of the Contracting Agency employee who will verify  
30 the contents of the container.

31  
32 The employee verifying the contents of the escrow container will not be involved or connected with  
33 the review, evaluation, or resolution of any claim by the Contractor made to the Contracting Agency  
34 in connection with the Contract for which the verification was made. The Contractor may have  
35 representatives present at the opening.

36  
37 **Supplementation**

38 Documents listed in the affidavit but not enclosed in the sealed container through error or oversight  
39 shall be submitted in a sealed container within five calendar days after the opening of the original  
40 container. Also, any Bid documentation that is illegible shall be replaced with legible copies and  
41 furnished within five calendar days after the opening of the original container. The face of the  
42 container shall show the same information as the original container except the container shall be  
43 marked "Supplemental Bid Documentation". The same procedure used in verifying the contents of  
44 the original container shall be used in verifying the contents of the supplemental submittal.

45  
46 **Duration and Use**

47 The Bid documentation and affidavit shall remain in escrow during the life of the Contract and will be  
48 returned to the Contractor by the banking institution, provided that the Contractor has signed the final  
49 Contract voucher certification and has not reserved any claims on the final Contract voucher  
50 certification against the Contracting Agency arising out of the Contract. In the event that claims  
51 against the Contracting Agency are reserved on the final Contract voucher certification, the Bid  
52 documentation and affidavit shall remain in escrow.

1  
2 If the claims are not resolved and litigation ensues, the Contracting Agency may serve a request upon  
3 the Contractor to authorize the banking institution, in writing, to release the Bid documentation and  
4 affidavit in escrow to the Contracting Agency. The Contractor shall respond to the request within 20  
5 days after service of the request. If the Contractor objects or does not respond to the request within  
6 20 days after service of the request, the Contracting Agency may file a motion under the Civil Rules  
7 requesting the court to enter an order directing the banking institution to deliver the Bid  
8 documentation and affidavit in escrow to the Contracting Agency.  
9

10 The Contractor shall respond to the request within the time required by the then applicable Civil  
11 Court Rules for the Superior Court of the Contracting Agency of Washington. If the Contractor  
12 objects or does not respond to the request within the time required by the then applicable Civil Rules,  
13 the Contracting Agency may file a motion pursuant to such rules requesting the court to enter an order  
14 directing the banking institution to deliver the Bid documentation and affidavit in escrow to the  
15 Contracting Agency.  
16

17 The banking institution shall release the Bid documentation and affidavit as follows:

- 18 1. To the Contracting Agency upon receipt of a letter from the Contractor authorizing the release;
- 19 2. To the Contracting Agency upon receipt of a certified copy of a court order directing the release of the  
20 documents;
- 21 3. To the court for an in camera examination pursuant to a certified copy of a court order;
- 22 4. The Bid documentation and affidavit shall be returned to the Contractor if litigation is not commenced  
23 within the time period prescribed by law.  
24

25 The Contractor agrees that the sealed container placed in escrow and any supplemental sealed  
26 container placed in escrow contain all of the Bid documentation used to determine the Bid and that no  
27 other Bid documentation shall be utilized by the Contractor in litigation over claims brought by the  
28 Contractor arising out of this Contract unless otherwise ordered by the court.  
29

### 30 **Remedies for Refusal or Failure to Provide Bid Documentation**

31 Failure or refusal to provide Bid documentation shall be deemed a material breach of this Contract.  
32 The Contracting Agency may at its option refuse to make payment for progress estimates under  
33 Section 1-09.9 until the Contractor has submitted the Bid documentation required by this  
34 specification. The Contracting Agency may at its option terminate the Contract for default under  
35 Section 1-08.10. These remedies are not exclusive and the Contracting Agency may take such other  
36 action as is available to it under the law.  
37

### 38 **Confidentiality of Bid Documentation**

39 The Bid documentation and affidavit in escrow are and will remain the property of the Contractor.  
40 The Contracting Agency has no interest in or right to the Bid documentation and affidavit other than  
41 to verify the contents and legibility of the Bid documentation unless litigation ensues between the  
42 Contracting Agency and Contractor over claims brought by the Contractor arising out of this  
43 Contract. In the event of such litigation, the Bid documentation and affidavit may become the  
44 property of the Contracting Agency for use in the litigation as may be appropriate subject to the  
45 provisions of any court order limiting or restricting the use or dissemination of the Bid documentation  
46 and affidavit as provided in the preceding section entitled Duration and Use.  
47

### 48 **Cost and Escrow Instructions**

49 The cost of the escrow will be borne by the Contracting Agency. The Contracting Agency will  
50 provide escrow instructions to the banking institution consistent with this specification.  
51  
52

1 **1-04 SCOPE OF THE WORK**

2  
3 **1-04.1 Intent of the Contract**

4 *(January 1, 2016 COK GSP)*

5  
6 *Section 1-04.1 is supplemented with the following:*

7  
8 All materials, tools, labor, and guarantees thereof of required to complete the work shall be  
9 furnished and supplied in accordance with the Plans, these Special Provisions, the Standard  
10 Specifications, and City of Kirkland Pre-Approved (Standard) Plans and Policies. The Contractor  
11 shall include all costs of doing this work within the contract bid item prices.

12  
13 **1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda**

14 *(December 30, 2022 APWA GSP)*

15  
16 *Revise the second paragraph to read:*

17  
18 Any inconsistency in the parts of the contract shall be resolved by following this order of  
19 precedence (e.g., 1 presiding over 2, 2 over 3, 3 over 4, and so forth):

- 20 1. Addenda,
- 21 2. Proposal Form,
- 22 3. Special Provisions,
- 23 4. Contract Plans,
- 24 5. Standard Specifications,
- 25 6. Contracting Agency’s Standard Plans or Details (if any), and
- 26 7. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.

27  
28 **1-04.4 Changes**

29 *(January 19, 2022 APWA GSP)*

30  
31 *The first two sentences of the last paragraph of Section 1-04.4 are deleted.*

32  
33 **1-04.4(1) Minor Changes**

34 *(May 30, 2019 APWA GSP)*

35  
36 *Delete the first paragraph and replace it with the following:*

37  
38 Payments or credits for changes amounting to \$30,000 or less may be made under the Bid item  
39 “Minor Change”. At the discretion of the Contracting Agency, this procedure for Minor Changes  
40 may be used in lieu of the more formal procedure as outlined in Section 1-04.4, Changes. All  
41 “Minor Change” work will be within the scope of the Contract Work and will not change Contract  
42 Time.

43  
44  
45 **1-04.6 Variation in Estimated Quantities**

46  
47 *Supplement this Section with the following:*

48  
49 The quantities for \$30,000 have been entered into the Proposal only to provide a common proposal  
50 for bidders. Actual quantities will be determined in the field as the work progresses, and will be  
51 paid at the original bid unit price, regardless of final quantity. These bid items shall not be subject  
52 to the provisions of 1-04.6 of the Standard Specifications.

1 (December 30, 2022 APWA GSP, Option B)

2  
3 *Revise the first paragraph to read:*

4  
5 Payment to the Contractor will be made only for the actual quantities of Work performed and  
6 accepted in conformance with the Contract. When the accepted quantity of Work performed under  
7 a unit item varies from the original Proposal quantity, payment will be at the unit Contract price  
8 for all Work unless the total accepted quantity of the Contract item, adjusted to exclude added or  
9 deleted amounts included in change orders accepted by both parties, increases or decreases by more  
10 than 25 percent from the original Proposal quantity, and if the total extended bid price for that item  
11 at time of award is equal to or greater than 10 percent of the total contract price at time of award.  
12 In that case, payment for contract work may be adjusted as described herein.

13  
14 **1-04.11 Final Cleanup**  
15 *(January 1, 2016 COK GSP)*

16  
17 *Section 1-04.11 is deleted in its entirety and replaced with the following:*

18  
19 The Contractor shall perform final cleanup as provided in this Section. The Engineer will not  
20 establish the Physical Completion Date until this is done. All public and private property the  
21 Contractor occupied to do the Work, including but not limited to the Street Right of Way, material  
22 sites, borrow and waste sites, and construction staging area shall be left neat and presentable.

23  
24 Immediately after completion of the Work, the Contractor shall cleanup and remove all refuse and  
25 unused materials of any kind resulting from the Work. Failure to do the final cleanup may result in  
26 the final cleanup being done by the Owner and the cost thereof charged to the Contractor and  
27 deducted from the Contractor's final progress estimate.

28  
29 The Contractor shall:

- 30 1. Remove all rubbish, surplus materials, discarded materials, falsework, piling, camp buildings,  
31 temporary structures, equipment, and debris;
- 32 2. Remove from the Project, all unneeded, oversized rock left from grading, surfacing, or paving  
33 unless the Contract specifies otherwise or the Engineer approves otherwise;
- 34 3. On all concrete and asphalt pavement work, flush the pavement clean and remove the wash  
35 water and debris;
- 36 4. Sweep and flush structure decks and remove wash water and debris;
- 37 5. Clean out from all open culverts and drains, inlets, catch basins, manholes and water main  
38 valve chambers, within the limits of the Project Site, all dirt and debris of any kind that is the  
39 result of the Contractor's operations;
- 40 6. Level and fine grade all excavated material not used for backfill where the Contract requires;
- 41 7. Fine grade all slopes;
- 42 8. Upon completion of grading and cleanup operations at any privately-owned site for which a  
43 written agreement between the Contractor and property owner is required, the Contractor shall  
44 obtain and furnish to the Engineer a written release from all damages, duly executed by the  
45 property owner, stating that the restoration of the property has been satisfactorily  
46 accomplished.;

47  
48 All costs associated with cleanup shall be incidental to the Work and shall be included in the various  
49 Bid items in the Bid, and shall be at no additional cost to the Owner.

1  
2 *Add new Section 1-04.12.*

3  
4 **1-04.12 Water, Electrical Power, Telecommunications, and Sanitary Sewer Requirements**  
5 *(January 27, 2021 COK GSP)*

6  
7 Except where specifically indicated otherwise in the Contract Documents, the Contractor shall  
8 make all necessary arrangements and bear all costs as incidental to the Contract for permits,  
9 temporary hook-ups, usage fees, and decommissioning of temporary services for all water,  
10 electrical power, telecommunications, and/or sanitary sewer services necessary for performance  
11 of the Work.

12  
13 **1-05 CONTROL OF WORK**

14  
15 **1-05.1 Authority of the Engineer**  
16 *(January 27, 2021 COK GSP)*

17  
18 *Section 1-05.1 is supplemented with the following:*

19  
20 When directed by the Engineer for purposes such as (but not limited to) maintaining unrestricted  
21 public access and use outside the Work area, maintaining an appropriate construction site  
22 appearance, and/or allowing full access to the Work by the Engineer or other City personnel, the  
23 Contractor shall cleanup and remove debris, refuse, and discarded materials of any kind resulting  
24 from the Work to meet those purposes. These activities shall be incidental to the bid items  
25 associated with the Work that generated the debris, refuse, and discarded materials. Failure to do  
26 so may result in cleanup done by the Owner and the cost thereof charged to the Contractor by either  
27 deducting from the next Progress Payment to the Contractor or direct billing from the City.

28  
29 **1-05.4 Conformity with and Deviations from Plans and Stakes**  
30 *(January 1, 2020 COK GSP)*

31  
32 *Section 1-05.4 is supplemented with the following:*

33  
34 Unless otherwise identified on Plans or in the Special Provisions, Unit Bid prices shall cover all  
35 costs for all surveying labor, equipment, materials, and supervision required to perform the Work.  
36 This shall include any resurveying, checking, correction of errors, replacement of missing or  
37 damaged stakes, and coordination efforts.

38  
39 *(January 1, 2016 COK GSP)*

40  
41 *Add new Section 1-05.4(1)*

42  
43 **1-05.4(1) Roadway and Utility**

44  
45 The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope  
46 stakes, and grades necessary for the construction of the improvements under this contract. Except for  
47 the survey control data furnished by the Owner, calculations, surveying, and measuring required for  
48 setting and maintaining the necessary lines and grades shall be the Contractor's responsibility.

49  
50 The Owner may spot-check the Contractor's surveying. These spot-checks will not change the  
51 requirements for normal checking by the Contractor.

1 To facilitate the establishment of lines and elevations, the Owner will provide the Contractor with  
2 primary survey control information consisting of descriptions of two primary control points used for  
3 the horizontal and vertical control. Primary control points will be described and shown on the right-  
4 of-way Plans. The Contractor shall check all control points for horizontal and vertical locations prior  
5 to use and report any discrepancy to the Engineer. Errors resulting from using control points which  
6 have not been verified, shall be the Contractors responsibility.  
7

8 At a minimum the Contractor shall provide following survey staking shall be required:

- 9 1. Construction centerline or an offset to construction centerline shall be staked at all angle points  
10 and 100-foot intervals on tangents.
- 11 2. Offset stakes of JUT Centerline at all angle points and at 50-foot intervals on tangents
  - 12 a. Cut/fill shall reference the elevations of the lowest conduit.
  - 13 b. Offset shall reference the location of the center of trench and list the width of the trench section.
- 14 3. Offset stakes of all structure control/location points shown on the undergrounding Plans.
  - 15 a. Each vault, handhold, and junction box shall have a sets of off-set points provided each location  
16 point shown in the location tables Cut/Fill shall reference elevations of the finish grade of the  
17 top lid of the structure.
  - 18 b. Each pole riser and stub up, shall have at least one set of off-set hubs provided with cut/fills to  
19 finish ground elevations.
  - 20 c. Finish grade elevations of all structures shall be determined by the Contractor based on the  
21 typical sections and details provide on the Contract Drawings.
- 22 4. Offset stakes at face or walls.
- 23 5. Offset staking of all drainage structures and drainage pipes at 50-foot intervals.
- 24 6. Location of all right-of-way and easements adjacent to the work area as shown on the right-of-  
25 way Plans.
- 26 7. Offset of all permanent concrete sidewalks, curb ramps, and driveways.  
27

28 Each stake shall have the following information: Hub elevation, offset distance to items being staked,  
29 cut/fill to proposed elevations, design elevation of items being staked.  
30

31 The above information shall also be shown on a written Cut Sheet and provided to the City inspector 48-  
32 hours prior to installation of the items being staked.  
33

34 The Contractor shall establish all secondary survey controls, both horizontal and vertical, as necessary  
35 to assure proper placement of all project elements based on the primary control points provided by the  
36 Engineer.  
37

38 Survey work shall be within the following tolerances:

39 Stationing	+ .01 foot
40 Alignment	+ .01 foot (between successive points)
41 Superstructure Elevations	+ .01 foot (from plan elevations)
42 Substructure Elevations	+ .05 foot (from plan elevations)
43 Sidewalk and Curb Ramp Elevations	+ .01 foot (from plan elevations)
44	

45 During the progress of the work, the Contractor shall make available to the Engineer all field books  
46 including survey information, footing elevations, cross sections and quantities.  
47

48 The Contractor shall be fully responsible for the close coordination of field locations and measurements  
49 with appropriate dimensions of structural members being fabricated.

## 50 **Payment**

51 Payment will be made for the following bid item when included in the proposal:

1 "Roadway Surveying", lump sum.

2 The lump sum contract price for "Roadway Surveying" shall be full pay for all labor, equipment,  
3 materials, and supervision utilized to perform the Work specified, including any resurveying, checking,  
4 correction of errors, replacement of missing or damaged stakes, and coordination efforts.

5  
6 **1-05.7 Removal of Defective and Unauthorized Work**

7 *(October 1, 2005 APWA GSP)*

8  
9 *Supplement this section with the following:*

10  
11 If the Contractor fails to remedy defective or unauthorized work within the time specified in a written  
12 notice from the Engineer, or fails to perform any part of the work required by the Contract  
13 Documents, the Engineer may correct and remedy such work as may be identified in the written  
14 notice, with Contracting Agency forces or by such other means as the Contracting Agency may deem  
15 necessary.

16  
17 If the Contractor fails to comply with a written order to remedy what the Engineer determines to be  
18 an emergency situation, the Engineer may have the defective and unauthorized work corrected  
19 immediately, have the rejected work removed and replaced, or have work the Contractor refuses to  
20 perform completed by using Contracting Agency or other forces. An emergency situation is any  
21 situation when, in the opinion of the Engineer, a delay in its remedy could be potentially unsafe, or  
22 might cause serious risk of loss or damage to the public.

23  
24 Direct or indirect costs incurred by the Contracting Agency attributable to correcting and remedying  
25 defective or unauthorized work, or work the Contractor failed or refused to perform, shall be paid by  
26 the Contractor. Payment will be deducted by the Engineer from monies due, or to become due, the  
27 Contractor. Such direct and indirect costs shall include in particular, but without limitation,  
28 compensation for additional professional services  
29 required, and costs for repair and replacement of work of others destroyed or damaged by correction,  
30 removal, or replacement of the Contractor's unauthorized work.

31  
32 No adjustment in contract time or compensation will be allowed because of the delay in the  
33 performance of the work attributable to the exercise of the Contracting Agency's rights provided by  
34 this Section.

35  
36 The rights exercised under the provisions of this section shall not diminish the Contracting Agency's  
37 right to pursue any other avenue for additional remedy or damages with respect to the Contractor's  
38 failure to perform the work as required.

39  
40 **1-05.9 Equipment**

41 *(January 1, 2016 COK GSP)*

42  
43 *The following new paragraph is inserted between the second and third paragraphs:*

44  
45 Use of equipment with metal tracks will not be permitted on concrete or asphalt surfaces unless  
46 otherwise authorized by the Engineer.

47  
48 **1-05.10 Guarantees**

49 *(January 1, 2016 COK GSP)*

50  
51 *Section 1-05.10 is supplemented as follows:*

1  
2 Guarantees and maintenance bonds shall be in accordance with City of Kirkland, State of  
3 Washington, Public Works Performance and Payment Bond forms and requirements. The  
4 performance bond shall be in the full amount of contract. The Contractor guarantees all items of  
5 material, equipment, and workmanship against mechanical, structural, or other defects for which the  
6 Contractor is responsible that may develop or become evident within a period of one year from and  
7 after acceptance of the work by the Owner. This guarantee shall be understood to require prompt  
8 remedy of defects upon written notification to the Contractor. If the Owner determines the defect  
9 requires immediate repair, the Owner may, without further notice to the Contractor, make the  
10 necessary corrections, the cost of which shall be borne by the Contractor. To support the above  
11 guarantee, the Contractor's performance bond shall remain in full force and effect for one year  
12 following the acceptance of the project by the Owner.

13  
14 **1-05.11 Final Inspection**  
15 *(October 1, 2005 APWA GSP)*

16  
17 *Delete this section and replace it with the following:*

18  
19 **1-05.11 Final Inspections and Operational Testing**

20  
21 **1-05.11(1) Substantial Completion Date**

22  
23 When the Contractor considers the work to be substantially complete, the Contractor shall so notify  
24 the Engineer and request the Engineer establish the Substantial Completion Date. The Contractor's  
25 request shall list the specific items of work that remain to be completed in order to reach physical  
26 completion. The Engineer will schedule an inspection of the work with the Contractor to determine  
27 the status of completion. The Engineer may also establish the Substantial Completion Date  
28 unilaterally.

29  
30 If, after this inspection, the Engineer concurs with the Contractor that the work is substantially  
31 complete and ready for its intended use, the Engineer, by written notice to the Contractor, will set the  
32 Substantial Completion Date. If, after this inspection the Engineer does not consider the work  
33 substantially complete and ready for its intended use, the Engineer will, by written notice, so notify  
34 the Contractor giving the reasons therefor.

35  
36 Upon receipt of written notice concurring in or denying substantial completion, whichever is  
37 applicable, the Contractor shall pursue vigorously, diligently and without unauthorized interruption,  
38 the work necessary to reach Substantial and Physical Completion. The Contractor shall provide the  
39 Engineer with a revised schedule indicating when the Contractor expects to reach substantial and  
40 physical completion of the work.

41  
42 The above process shall be repeated until the Engineer establishes the Substantial Completion Date  
43 and the Contractor considers the work physically complete and ready for final inspection.

44  
45 **1-05.11(2) Final Inspection and Physical Completion Date**

46  
47 When the Contractor considers the work physically complete and ready for final inspection, the  
48 Contractor by written notice, shall request the Engineer to schedule a final inspection.

49  
50 The Engineer will set a date for final inspection. The Engineer and the Contractor will then make  
51 a final inspection and the Engineer will notify the Contractor in writing of all particulars in which  
52 the final inspection reveals the work incomplete or unacceptable. The Contractor shall immediately



1 take such corrective measures as are necessary to remedy the listed deficiencies. Corrective work  
2 shall be pursued vigorously, diligently, and without interruption until physical completion of the  
3 listed deficiencies. This process will continue until the Engineer is satisfied the listed deficiencies  
4 have been corrected.

5  
6 If action to correct the listed deficiencies is not initiated within 7 days after receipt of the written  
7 notice listing the deficiencies, the Engineer may, upon written notice to the Contractor, take  
8 whatever steps are necessary to correct those deficiencies pursuant to Section 1-05.7.

9  
10 The Contractor will not be allowed an extension of contract time because of a delay in the  
11 performance of the work attributable to the exercise of the Engineer's right hereunder.

12  
13 Upon correction of all deficiencies, the Engineer will notify the Contractor and the Contracting  
14 Agency, in writing, of the date upon which the work was considered physically complete. That date  
15 shall constitute the Physical Completion Date of the Contract, but shall not imply acceptance of the  
16 work or that all the obligations of the Contractor under the contract have been fulfilled.

17  
18 **1-05.11(3) Operational Testing**

19  
20 It is the intent of the Contracting Agency to have at the Physical Completion Date a complete and  
21 operable system. Therefore when the work involves the installation of machinery or other  
22 mechanical equipment; street lighting, electrical distribution or signal systems; irrigation systems;  
23 buildings; or other similar work it may be desirable for the Engineer to have the Contractor operate  
24 and test the work for a period of time after final inspection but prior to the physical completion  
25 date. Whenever items of work are listed in the Contract Provisions for operational testing they shall  
26 be fully tested under operating conditions for the time period specified to ensure their acceptability  
27 prior to the Physical Completion Date. During and following the test period, the Contractor shall  
28 correct any items of workmanship, materials, or equipment which prove faulty, or that are not in  
29 first class operating condition. Equipment, electrical controls, meters, or other devices and  
30 equipment to be tested during this period shall be tested under the observation of the Engineer, so  
31 that the Engineer may determine their suitability for the purpose for which they were installed. The  
32 Physical Completion Date cannot be established until testing and corrections have been completed  
33 to the satisfaction of the Engineer.

34  
35 The costs for power, gas, labor, material, supplies, and everything else needed to successfully  
36 complete operational testing, shall be included in the unit contract prices related to the system being  
37 tested, unless specifically set forth otherwise in the proposal.

38  
39 Operational and test periods, when required by the Engineer, shall not affect a manufacturer's  
40 guaranties or warranties furnished under the terms of the contract.

41  
42 **1-05.12 Final Acceptance**

43  
44 *Add new Section 1-05.12(1).*

45  
46 **1-05.12(1) One-Year Guarantee Period**  
47 *(March 8, 2013 APWA GSP)*

48  
49 The Contractor shall return to the project and repair or replace all defects in workmanship and  
50 material discovered within one year after Final Acceptance of the Work. The Contractor shall start  
51 work to remedy any such defects within 7 calendar days of receiving Contracting Agency's written  
52 notice of a defect, and shall complete such work within the time stated in the Contracting Agency's

1 notice. In case of an emergency, where damage may result from delay or where loss of services may  
2 result, such corrections may be made by the Contracting Agency's own forces or another contractor,  
3 in which case the cost of corrections shall be paid by the Contractor. In the event the Contractor  
4 does not accomplish corrections within the time specified, the work will be otherwise accomplished  
5 and the cost of same shall be paid by the Contractor.  
6

7 When corrections of defects are made, the Contractor shall then be responsible for correcting all  
8 defects in workmanship and materials in the corrected work for one year after acceptance of the  
9 corrections by Contracting Agency.  
10

11 This guarantee is supplemental to and does not limit or affect the requirements that the Contractor's  
12 work comply with the requirements of the Contract or any other legal rights or remedies of the  
13 Contracting Agency.  
14

15 **1-05.13 Superintendents, Labor and Equipment of Contractor**

16 *(August 14, 2013 APWA GSP)*

17  
18 *Delete the sixth and seventh paragraph of this section.*  
19  
20

21 **1-05.15 Method of Serving Notices**

22 *(January 4, 2024 APWA GSP)*

23  
24 *Revise the second paragraph to read:*  
25

26 All correspondence from the Contractor shall be served and directed to the Engineer. All  
27 correspondence from the Contractor constituting any notification, notice of protest, notice of dispute,  
28 or other correspondence constituting notification required to be furnished under the Contract, must be  
29 written in paper format, hand delivered or sent via certified mail delivery service with return receipt  
30 requested to the Engineer's office. Electronic copies such as e-mails or electronically delivered copies  
31 of correspondence will not constitute such notice and will not comply with the requirements of the  
32 Contract.  
33

34 *Add the following new section:*  
35

36 **1-05.16 Water and Power**

37 *(October 1, 2005 APWA GSP)*

38  
39 The Contractor shall make necessary arrangements, and shall bear the costs for power and water  
40 necessary for the performance of the work, unless the contract includes power and water as a pay  
41 item.  
42

43 **1-05.17 Oral Agreements**

44  
45 *(\*\*\*\*\*)*  
46

47 *No oral agreement or conversation with any officer, agent, or employee of the Contracting Agency, either*  
48 *before or after execution of the contract, shall affect or modify any of the terms or obligations contained in any*  
49 *of the documents comprising the contract. Such oral agreement or conversation shall be considered as*  
50 *unofficial information and in no way binding upon the Contracting Agency, unless subsequently put in writing*  
51 *and signed by the Contracting Agency.*  
52

1 Add the following new section:  
2

3 **1-05.18 Record Drawings**

4 (March 8, 2013 APWA GSP)  
5

6 The Contractor shall maintain one set of full size plans for Record Drawings, updated with clear and  
7 accurate red-lined field revisions on a daily basis, and within 2 business days after receipt of  
8 information that a change in Work has occurred. The Contractor shall not conceal any work until the  
9 required information is recorded.

10  
11 This Record Drawing set shall be used for this purpose alone, shall be kept separate from other Plan  
12 sheets, and shall be clearly marked as Record Drawings. These Record Drawings shall be kept on site  
13 at the Contractor's field office, and shall be available for review by the Contracting Agency at all  
14 times. The Contractor shall bring the Record Drawings to each progress meeting for review.

15  
16 The preparation and upkeep of the Record Drawings is to be the assigned responsibility of a single,  
17 experienced, and qualified individual. The quality of the Record Drawings, in terms of accuracy,  
18 clarity, and completeness, is to be adequate to allow the Contracting Agency to modify the computer-  
19 aided drafting (CAD) Contract Drawings to produce a complete set of Record Drawings for the  
20 Contracting Agency without further investigative effort by the Contracting Agency. The Record  
21 Drawing markups shall document all changes in the Work, both concealed and visible. Items that  
22 must be shown on the markups include but are not limited to:

- 23
- 24 • Actual dimensions, arrangement, and materials used when different than shown in the Plans.
- 25 • Changes made by Change Order or Field Order.
- 26 • Changes made by the Contractor.
- 27 • Accurate locations of storm sewer, sanitary sewer, water mains and other water  
28 appurtenances, structures, conduits, light standards, vaults, width of roadways, sidewalks,  
29 landscaping areas, building footprints, channelization and pavement markings, etc. Include  
30 pipe invert elevations, top of castings (manholes, inlets, etc.).

31  
32 If the Contract calls for the Contracting Agency to do all surveying and staking, the Contracting  
33 Agency will provide the elevations at the tolerances the Contracting Agency requires for the Record  
34 Drawings.

35  
36 When the Contract calls for the Contractor to do the surveying/staking, the applicable tolerance limits  
37 include, but are not limited to the following:

	<u>Vertical</u>	<u>Horizontal</u>
As-built sanitary & storm invert and grate elevations	± 0.01 foot	± 0.01 foot
As-built monumentation	± 0.001 foot	± 0.001 foot
As-built waterlines, inverts, valves, hydrants	± 0.10 foot	± 0.10 foot
As-built ponds/swales/water features	± 0.10 foot	± 0.10 foot
As-built buildings (fin. Floor elev.)	± 0.01 foot	± 0.10 foot
As-built gas lines, power, TV, Tel, Com	± 0.10 foot	± 0.10 foot
As-built signs, signals, etc.	N/A	± 0.10 foot

38  
39 Making Entries on the Record Drawings:

- 40
- 41 • Use erasable colored pencil (not ink) for all markings on the Record Drawings, conforming to  
42 the following color code:

- 1                   ▪ Additions     -     Red
- 2                   ▪ Deletions     -     Green
- 3                   ▪ Comments     -     Blue
- 4                   ▪ Dimensions   -     Graphite
- 5           • Provide the applicable reference for all entries, such as the change order number, the request
- 6           for information (RFI) number, or the approved shop drawing number.
- 7           • Date all entries.
- 8           • Clearly identify all items in the entry with notes similar to those in the Contract Drawings
- 9           (such as pipe symbols, centerline elevations, materials, pipe joint abbreviations, etc.).

10  
11           The Contractor shall certify on the Record Drawings that said drawings are an accurate depiction of  
12           built conditions, and in conformance with the requirements detailed above. The Contractor shall  
13           submit final Record Drawings to the Contracting Agency. Contracting Agency acceptance of the  
14           Record Drawings is one of the requirements for achieving Physical Completion. Payment will be  
15           made for the following bid item:

Record Drawings (Minimum Bid \$ <b>2,000</b> )	Lump Sum
---	----------

17  
18           Payment for this item will be made on a prorated monthly basis for work completed in accordance  
19           with this section up to 75% of the lump sum bid. The final 25% of the lump sum item will be paid  
20           upon submittal and approval of the completed Record Drawings set prepared in conformance with  
21           these Special Provisions.

22  
23           A minimum bid amount has been entered in the Bid Proposal for this item. The Contractor must bid  
24           at least that amount.

25  
26           *Add new Section 1-05.19.*

27  
28           **1-05.19     Daily Construction Report**  
29           *(November 19, 2019 COK GSP)*

30  
31           The Contractor and Subcontractors shall maintain daily, a Daily Construction Report of the Work.  
32           The Diary must be kept and maintained by Contractor's designated project superintendent(s).  
33           Entries must be made on a daily basis and must accurately represent all of the project activities on  
34           each day. Contractor shall provide signed copies of diary sheets from the previous week to  
35           Engineer at each Weekly Coordination Meeting.

- 36  
37           Every single diary sheet/page must have:
- 38           • Project name & number;
  - 39           • Consecutive numbering of pages, and
  - 40           • Typed or printed name, signature, and date of the person making the entry.

41  
42           At a minimum the diary shall, for each day, have a separate entry detailing each of the following:

- 43           1. Day and date.
- 44           2. Weather conditions, including changes throughout the day.
- 45           3. Complete description of work accomplished during the day, with adequate references to the
- 46           Plans and Contract Provisions so the reader can easily and accurately identify said work on the
- 47           Plans. Identify location/description of photographs or videos taken that day.
- 48           4. Each and every changed condition, dispute or potential dispute, incident, accident, or occurrence
- 49           of any nature whatsoever which might affect Contractor, Contracting Agency, or any third party
- 50           in any manner. This shall be provided on a separate page for other information.

5. List all materials received and stored on- or off-site by Contractor that day for future installation, including the manner of storage and protection of the same.
6. List materials installed that day.
7. List all Subcontractors working on-site that day.
8. List the number of Contractor's employees working during each day, by category of employment.
9. List Contractor's equipment on the site that day; showing which were in use, and which idle.
10. Notations to explain inspections, testing, stake-out, and all other services furnished by Contracting Agency or other party during the day.
11. Verify the daily (including non-work days) inspection and maintenance of traffic control devices and condition of the traveled roadway surfaces.
12. Any other information that serves to give an accurate and complete record of the nature, quantity, and quality of Contractor's progress on each day.
13. Add; Officials and visitors onsite
14. Change Orders
15. Occurrence of testing, staking or special inspections

It is expressly agreed between Contractor and Contracting Agency that the Daily Diary maintained by Contractor shall be the "Contractor's Book of Original Entry" for the documentation of any potential claims or disputes that might arise during this Contract. Failure of Contractor to maintain this Diary in the manner described above will constitute a waiver of any such claims or disputes by Contractor.

Preparation of the Daily Diary by the contractor shall be incidental to the unit prices for applicable bid items. No separate payment shall be made for preparation and maintaining the Daily Diary.

Engineer or the Engineer's representative on the job site will also complete a Daily Construction Report.

## **1-06 CONTROL OF MATERIAL**

### **1-06.1 Approval of Materials Prior to Use** *(January 1, 2016 COK GSP)*

*Section 1-06.1 is supplemented as follows:*

Approval of a Material source shall not mean acceptance of the Material. The Material shall meet the requirements of the Contract.

### **1-06.1(2) Request for Approval of Materials (RAM)** *(February 17, 2022 COK GSP)*

*Revise the first paragraph to read:*

The RAM shall be used for all submittals unless directed otherwise by the Engineer. The RAM shall be prepared by the Contractor in accordance with the instructions on Form 350-071 and submitted to the Engineer for approval before the material is incorporated into the Work.

### **1-06.1(4) Fabrication Inspection Expense** *(June 27, 2011 AWPA GSP)*

*Delete this section in its entirety.*

1 **1-06.6 Recycled Materials**

2 *(January 4, 2016 APWA GSP)*

3  
4 *Delete this section, including its subsections, and replace it with the following:*

5  
6 The Contractor shall make their best effort to utilize recycled materials in the construction of the  
7 project. Approval of such material use shall be as detailed elsewhere in the Standard Specifications.

8  
9 Prior to Physical Completion the Contractor shall report the quantity of recycled materials that were  
10 utilized in the construction of the project for each of the items listed in Table 9-03.21(1)E in Section  
11 9-03.21. The report shall include hot mix asphalt, recycled concrete aggregate, recycled glass, steel  
12 furnace slag and other recycled materials (e.g. utilization of on-site material and aggregates from  
13 concrete returned to the supplier). The Contractor’s report shall be provided on DOT form 350-075  
14 Recycled Materials Reporting.

15  
16 **1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC**

17  
18 **1-07.1 Laws to Be Observed**

19 *(January 1, 2021 COK GSP)*

20  
21 *Section 1-07.1 is supplemented with the following:*

22  
23 The Contractor shall at all times eliminate noise to the maximum practicable extent. Air compressing  
24 plants shall be equipped with silencers, and the exhaust of all gasoline motors or other power  
25 equipment shall be provided with mufflers. Special care shall be used to avoid noise or other  
26 nuisances, and the Contractor shall strictly observe all federal, state, and local regulations concerning  
27 noise.

28  
29 The Contractor shall make an effort to reduce carbon emissions by turning off engines on construction  
30 equipment not in active use, and on trucks that are idling while waiting to load or unload material for  
31 five minutes or more.

32  
33 **Compliance with Laws**

34 The Contractor shall comply with the requirements of all other City ordinances, state statutes, laws,  
35 and regulations, whether or not stated herein, which are specifically applicable to the public  
36 improvements and work to be performed.

37  
38 The Contractor shall be subject to City of Kirkland Code enforcement, as required by Kirkland  
39 Municipal Code (KMC) Chapter 1.12. The Contractor shall fully comply with and satisfy all fines  
40 and costs assessed by code enforcement(s) prior to the Completion Date, unless otherwise authorized  
41 by the City of Kirkland in writing.

42  
43 *(October 1, 2005 APWA GSP)*

44  
45 *Supplement this section with the following:*

46  
47 In cases of conflict between different safety regulations, the more stringent regulation shall apply.  
48 The Washington State Department of Labor and Industries shall be the sole and paramount  
49 administrative agency responsible for the administration of the provisions of the Washington  
50 Industrial Safety and Health Act of 1973 (WISHA).

51  
52 The Contractor shall maintain at the project site office, or other well known place at the project site,  
53 all articles necessary for providing first aid to the injured. The Contractor shall establish, publish,

1 and make known to all employees, procedures for ensuring immediate removal to a hospital, or  
2 doctor's care, persons, including employees, who may have been injured on the project site.  
3 Employees should not be permitted to work on the project site before the Contractor has established  
4 and made known procedures for removal of injured persons to a hospital or a doctor's care.  
5

6 The Contractor shall have sole responsibility for the safety, efficiency, and adequacy of the  
7 Contractor's plant, appliances, and methods, and for any damage or injury resulting from their failure,  
8 or improper maintenance, use, or operation. The Contractor shall be solely and completely  
9 responsible for the conditions of the project site, including safety for all persons and property in the  
10 performance of the work. This requirement shall apply continuously, and not be limited to normal  
11 working hours. The required or implied duty of the Engineer to conduct construction review of the  
12 Contractor's performance does not, and shall not, be intended to include review and adequacy of the  
13 Contractor's safety measures in, on, or near the project site.  
14

15 *(January 1, 2016 COK GSP)*

16  
17 *Supplement this section with the following:*

18  
19 **Contractor's Safety Responsibilities**

20 These construction documents and the joint and several phases of construction hereby contemplated  
21 are to be governed at all times by applicable provisions of the federal law(s), including but not limited  
22 to the latest amendments of the following:  
23

24 Williams-Steiger Occupational Safety and Health Act of 1980, Public Law 91-596.  
25

26 Part 1910 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal  
27 Regulations.  
28

29 This project, the Contractor and its subcontractors, shall, at all times, be governed by Chapter XIII of  
30 Title 29, Code of Federal Regulations, Part 1518 - Safety and Health Regulations for Construction  
31 (35 CFR 75), as amended to date.  
32

33 To implement the program, and to provide safe and healthful working conditions for all persons, the  
34 construction superintendent or his/her designated safety officer shall conduct general project safety  
35 meetings at the site at least once each month during the course of construction.  
36

37 The Contractor and all subcontractors shall immediately report all accidents, injuries, and health  
38 hazards to the Owner, in writing. This shall not obviate any mandatory reporting under the provisions  
39 of the Occupational Safety and Health Act of 1970. This program shall become a part of the contract  
40 documents and the contract between the Owner and the Contractor, and all subcontractors, as though  
41 fully written therein.  
42

43 Where the location of the work is in proximity to overhead wires and power lines, the Contractor  
44 shall coordinate all work with the utility and shall provide for such measures as may be necessary for  
45 the protection of the workers.  
46

47 *(May 13, 2020 COK GSP)*

48  
49 *Supplement this section with the following:*

50  
51 In response to the COVID-19 pandemic and the workplace requirements implemented by the State  
52 of Washington for construction projects during the pandemic, the Contractor shall prepare a project-

1 specific COVID-19 health and safety plan (CHSP) in conformance with Section 1-07.4(2) as  
2 amended by this Contract’s Special Provisions.  
3

4 **1-07.2 State Taxes**  
5 *(June 27, 2011 APWA GSP)*  
6

7 *Delete this section, including its sub-sections, in its entirety and replace it with the following:*  
8

9 **1-07.2 State Sales Tax**  
10

11 The Washington State Department of Revenue has issued special rules on the State sales tax.  
12 Sections 1-07.2(1) through 1-07.2(3) are meant to clarify those rules. The Contractor should contact  
13 the Washington State Department of Revenue for answers to questions in this area. The Contracting  
14 Agency will not adjust its payment if the Contractor bases a bid on a misunderstood tax liability.  
15

16 The Contractor shall include all Contractor-paid taxes in the unit bid prices or other contract amounts.  
17 In some cases, however, state retail sales tax will not be included. Section 1-07.2(2) describes this  
18 exception.  
19

20 The Contracting Agency will pay the retained percentage (or release the Contract Bond if a FHWA-  
21 funded Project) only if the Contractor has obtained from the Washington State Department of  
22 Revenue a certificate showing that all contract-related taxes have been paid (RCW 60.28.051). The  
23 Contracting Agency may deduct from its payments to the Contractor any amount the Contractor may  
24 owe the Washington State Department of Revenue, whether the amount owed relates to this contract  
25 or not. Any amount so deducted will be paid into the proper State fund.  
26

27 **1-07.2(1) State Sales Tax — Rule 171**  
28

29 WAC 458-20-171, and its related rules, apply to building, repairing, or improving streets, roads, etc.,  
30 which are owned by a municipal corporation, or political subdivision of the state, or by the United  
31 States, and which are used primarily for foot or vehicular traffic. This includes storm or combined  
32 sewer systems within and included as a part of the street or road drainage system and power lines  
33 when such are part of the roadway lighting system. For work performed in such cases, the Contractor  
34 shall include Washington State Retail Sales Taxes in the various unit bid item prices, or other contract  
35 amounts, including those that the Contractor pays on the purchase of the materials, equipment, or  
36 supplies used or consumed in doing the work.  
37

38 **1-07.2(2) State Sales Tax — Rule 170**  
39

40 WAC 458-20-170, and its related rules, apply to the constructing and repairing of new or existing  
41 buildings, or other structures, upon real property. This includes, but is not limited to, the construction  
42 of streets, roads, highways, etc., owned by the state of Washington;  
43 water mains and their appurtenances; sanitary sewers and sewage disposal systems unless such  
44 sewers and disposal systems are within, and a part of, a street or road drainage system; telephone,  
45 telegraph, electrical power distribution lines, or other conduits or lines in or above streets or roads,  
46 unless such power lines become a part of a street or road lighting system; and installing or attaching  
47 of any article of tangible personal property in or to real property, whether or not such personal  
48 property becomes a part of the realty by virtue of installation.  
49

50 For work performed in such cases, the Contractor shall collect from the Contracting Agency, retail  
51 sales tax on the full contract price. The Contracting Agency will automatically add this sales tax to  
52 each payment to the Contractor. For this reason, the Contractor shall not include the retail sales tax



1 in the unit bid item prices, or in any other contract amount subject to Rule 170, with the following  
2 exception.

3  
4 Exception: The Contracting Agency will not add in sales tax for a payment the Contractor or a  
5 subcontractor makes on the purchase or rental of tools, machinery, equipment, or consumable  
6 supplies not integrated into the project. Such sales taxes shall be included in the unit bid item prices  
7 or in any other contract amount.

8  
9 **1-07.2(3) Services**

10  
11 The Contractor shall not collect retail sales tax from the Contracting Agency on any contract wholly  
12 for professional or other services (as defined in Washington State Department of Revenue Rules 138  
13 and 244).

14  
15  
16 **1-07.5(2) State Department of Fish and Wildlife**

17  
18 *Supplement this section with the following:*

19  
20 New Zealand mud snails are an aquatic invasive species of concern for the Puget Sound region, as  
21 they have already invaded waterways near the City of Kirkland. Contractors working in-water (e.g.  
22 natural stream, small ponds and lakes, wetlands, etc.), including all construction equipment and  
23 vehicles used in-water, shall follow the Level 1 decontamination protocols and implement all Special  
24 Protocols for personnel and equipment as described in the “Invasive Species Management Protocols”  
25 published by the Washington State Department of Fish and Wildlife (WDFW) (Draft Version 3,  
26 February 2016). This document can be found on the WDFW website.

27  
28 For Work that will be performed in-water in the City of Kirkland, all Contractor vehicles and/or  
29 heavy equipment previously used for in-water work outside the City of Kirkland shall be cleaned by  
30 the Contractor as indicated for “Boats and other Large Aquatic Conveyances Transported Overland”,  
31 as described in the “Invasive Species Management Protocols” published by the Washington State  
32 Department of Fish and Wildlife (WDFW) (Draft Version 3, February 2016).

33  
34 The Contractor is only required to follow Level 2 Decontamination Protocols in the Work area when  
35 indicated in the Contract documents.

36  
37 All labor and materials required for completing decontamination and cleaning protocols shall be  
38 incidental to the Contract bid items, unless otherwise indicated in the Contract Documents.

39  
40 **1-07.5(3) State Department of Ecology**

41 *(July 19, 2022 COK SP)*

42  
43 *Section 1-07.5(3) is supplemented with the following:*

44  
45 **Protection of the Environment**

46 No construction related activity shall contribute to the degradation of the environment, allow material  
47 to enter surface or ground waters, or allow particulate emissions to the atmosphere, which exceed  
48 State or Federal standards. Any actions that potentially allow a discharge to State waters must have  
49 prior approval of the Washington State Department of Ecology.

50  
51 *(January 1, 2021 COK GSP)*

1 *Supplement this section with the following:*

2  
3 Contractor shall comply with all requirements of the Construction Stormwater General Permit  
4 (CSWGP), if this permit has been issued for this Work. Additionally, Contractor shall comply with  
5 all applicable requirement of Kirkland Municipal Code KMC 15.52, as this local code has been  
6 adopted to meet Washington State Department of Ecology requirements for city stormwater  
7 management.

8  
9 CSWGP Permit Number (if issued): N/A (not issued)

10  
11 CSWGP coverage is typically only issued by the State Department of Ecology in the event the  
12 disturbed area for the Work is greater than one (1) acre. In the event CSWGP coverage has been  
13 issued for this Work, Contractor shall coordinate the Transfer of the permit from the Contracting  
14 Agency to the Contractor prior to any ground disturbance commencing in the Work area.

15  
16 Unless identified otherwise in the Contract Documents, compliance with all requirements of this  
17 Section, the CSWGP, and the Kirkland Municipal Code KMC 15.52 shall be incidental to Contract  
18 pay items.

19  
20 *(January 1, 2021 COK GSP)*

21  
22 *Supplement this section with the following:*

23  
24 When a violation of the Construction Stormwater General Permit (CSWGP) and/or Kirkland  
25 Municipal Code KMC 15.52 occurs, Contractor shall immediately notify the City of Kirkland Spill  
26 Hotline (425) 587-3900. Contractor shall also report to the Engineer and other agencies as identified  
27 in the Contractor’s Spill Prevention, Control, and Countermeasures (SPCC) Plan (prepared in  
28 accordance with Section 1-07.15(1) ).

29  
30 **1-07.6 Permits and Licenses**

31 *(January 1, 2021 COK GSP)*

32  
33 *Replace item 6 of the second paragraph of this section with the following:*

34  
35 6. The permit costs the Contracting Agency nothing. This shall include, but not be limited to,  
36 application and initial review fees, costs associated with fulfillment of all permit requirements,  
37 additional operational fees assessed during the life of the permit.

38  
39 *Supplement second paragraph of this section with the following:*

40  
41 7. When a violation of the Construction Stormwater General Permit (CSWGP) and/or Kirkland  
42 Municipal Code KMC 15.52 occurs, Contractor shall immediately notify the City of Kirkland Spill  
43 Hotline (425) 587-3900. Contractor shall also report to the Engineer and other agencies as  
44 identified in the Contractor’s Spill Prevention, Control, and Countermeasures (SPCC) Plan  
45 (prepared in accordance with Section 1-07.15(1) ).

46  
47 **1-07.6(1) Permits for Sanitary Sewer Discharge for Construction Dewatering**

48 *(January 1, 2021 COK GSP)*

49  
50 *Add new Section 1-07.6(1)*

51  
52 The Contracting Agency has not obtained a King County Authorization for Construction Dewatering

1 or local sanitary sewer operating permits for this Work. Contractor proposals for  
2  
3 this method of construction stormwater disposal will be supported by the Contracting Agency only if,  
4 as determined by the Engineer, the proposal meets all the requirements indicated in Section 1-07.6  
5 and this Section.  
6

7 Contractors proposing to use sanitary sewer methods for construction dewatering and discharge are  
8 directed to the King County web page for “Construction Dewatering” for applications and information  
9 on the application process.  
10

11 In addition to the requirements of Section 1-07.6, Contractor shall provide to the Engineer the written  
12 permission obtained by the Contractor from the local sanitary sewer operating agency for use of the  
13 sanitary sewer for construction dewatering discharge in advance of the Contractor applying for either  
14 general or individual King County Authorization for Construction Dewatering.  
15

16 Unless otherwise indicated in the Contract Documents or by the Engineer in writing, no claims for  
17 equitable adjustment of Contract Time will be approved in order to obtain King County Authorizations  
18 and/or local sanitary sewer operating permits.  
19

20 **1-07.6(2) Permits for Off-site Staging and Storage Areas**

21 *(January 1, 2021 COK GSP)*

22  
23 *Add new Section 1-07.6(2):*  
24

25 The Contracting Agency has not obtained any City of Kirkland Temporary Use Permits for temporary  
26 use(s) of off-site areas or properties in the City of Kirkland for the purposes of staging, materials storage,  
27 and/or any other Contractor-desired temporary uses during the Work. A City of Kirkland Temporary Use  
28 Permit must be obtained by the Contractor for temporary use for the Work of any off-site areas or  
29 properties not located in a City of Kirkland right-of-way (ROW). This requirement is in addition to any  
30 permissions and/or agreements reached between the Contractor and the property owner(s) as required in  
31 Section 1-07.24.  
32

33 “Off-site” will be taken to mean any area not designated as part of the Work in the Plans or other Contract  
34 Documents.  
35

36 A City of Kirkland Temporary Use Permit is not required for additional use of areas located in a City of  
37 Kirkland right-of-way (ROW) and not indicated in the Plans or other Contract Documents. However,  
38 the Contractor shall not occupy additional City of Kirkland ROW not shown as part of the Work without  
39 advance written approval by the Engineer. Contractor shall photograph and/or video document the  
40 existing conditions of ROW used. Any damage or degradation of the existing conditions in these areas  
41 shall be repaired and/or replaced by the Contractor at no additional cost to the City of Kirkland.  
42

43 Contractor shall apply for a City of Kirkland Temporary Use Permit from the City of Kirkland Planning  
44 and Building Department through <http://mybuildingpermit.com> . Contractor shall also notify the  
45 Engineer when the Temporary Use Permit application has been submitted.  
46

47 Unless otherwise indicated in the Contract Documents or by the Engineer in writing, no claims for  
48 equitable adjustment of Contract Time will be allowed requesting additional time required for the  
49 Contractor to obtain a City of Kirkland Temporary Use Permit for temporary use of any off-site area or  
50 property not designated as part of the Work area in the Plans.  
51

1 **1-07.9(5)A Required Documents**

2 *(July 8, 2024 APWA GSP)*

3  
4 *This section is revised to read as follows:*

5  
6 All Statements of Intent to Pay Prevailing Wages, Affidavits of Wages Paid and Certified Payrolls,  
7 including a signed Statement of Compliance for Federal-aid projects, shall be submitted to the Engineer  
8 and to the State L&I online Prevailing Wage Intent & Affidavit (PWIA) system. When apprenticeship  
9 is a requirement of the contract, include in PWIA all apprentices.

10  
11  
12 **1-07.11 Requirements for Nondiscrimination**

13 *(July 18, 2016 APWA GSP, Option C)*

14  
15 *Supplement this section with the following:*

16  
17 ***Voluntary Minority, Small, Veteran and Women's Business Enterprise (MSVWBE) Participation***

18  
19 **General Statement**

20 Voluntary goals for minority, small, veteran and women business enterprises are included in this  
21 Contract. The Contractor is encouraged to utilize MSVWBEs in accordance with these Specifications,  
22 RCW 39.19 and Executive Order 13-01 (issued by the Governor of Washington on May 10, 2013).

23  
24 No preference will be included in the evaluation of the Contractor's Proposal or Bid; no minimum  
25 level of MSVWBE participation is required as a condition of award or completion of the Contract;  
26 and a Proposal or Bid will not be rejected or considered non-responsive on that basis.

27  
28 The goals are voluntary and outreach efforts to provide MSVWBEs maximum practicable  
29 opportunities are encouraged.

30  
31 **Non-Discrimination**

32 Contractors shall not create barriers to open and fair opportunities for all businesses, including  
33 MSVWBEs, to participate in the Work on this Contract. This includes the opportunity to compete for  
34 subcontracts as sources of supplies, equipment, construction or services.

35  
36 The Contractor shall make Voluntary MSVWBE Participation a part of all subcontracts and  
37 agreements entered into as a result of this Contract.

38  
39 **Voluntary MSVWBE Participation Goals**

40 Goals for voluntary MSVWBE participation have been established as a percentage of Contractor's  
41 total Bid amount.

42  
43 The Contracting Agency has established the following voluntary goals:

- 44  
45 Minority 10%  
46 Small 5%  
47 Veteran 5%  
48 Women 6%

49  
50 Amounts paid to an MSVWBE will be credited to every voluntary goal in which they are eligible. In  
51 other words participation may be credited for participation in more than one category. If the Contractor  
52 is a MSVWBE their Work will be credited to the voluntary goals in which they are eligible.

1  
2 **Definitions**

3 **Minority Business Enterprise (MBE)** – A minority owned business meeting the requirements of  
4 RCW 39.19 and WAC 326-20 and certified by the Washington State Office of Minority & Women’s  
5 Business Enterprises.  
6

7 **Small Business** – A business meeting the Washington State requirements for a “Small business”,  
8 “Minibusiness” or “Microbusiness as defined in RCW 39.26.010 and included on the WSDOT Office  
9 of Equal Opportunity list of Small Businesses at  
10 <http://www.wsdot.wa.gov/equalopportunity/bddirectory.htm>  
11

12 **Veteran Business** – A veteran owned business meeting the requirements of RCW 43.60A.010 and  
13 included on the WSDOT Office of Equal Opportunity list of Veteran Businesses at  
14 <http://www.wsdot.wa.gov/equalopportunity/bddirectory.htm>  
15

16 **Women Business Enterprise (WBE)** – A women owned business meeting the requirements of RCW  
17 39.19 and WAC 326-20 and certified by the Washington State Office of Minority & Women’s  
18 Business Enterprises.  
19

20 **MSVWBE Inclusion Plan**

21 A MSVWBE Inclusion Plan shall be submitted to the Engineer prior to the start of Work on the project.  
22 The plan is submitted for the Contracting Agency’s information. Approval of the plan is not required;  
23 an incomplete plan will be returned for correction and resubmittal. The plan shall include the  
24 information identified in the guidelines at  
25 <http://www.wsdot.wa.gov/EqualOpportunity/MSVWBE.htm>.  
26

27 **MSVWBE Reporting**

28 An end of project Report of Amounts Paid to MSVWBEs shall be submitted to the Engineer after  
29 Physical Completion of the Contract. The end of project report is due 20 calendar days after the  
30 physical completion of the project has been issued.  
31

32 The end of project report shall include payments to all eligible businesses regardless of their listing on  
33 the MSVWBE Inclusion Plan. If the Contractor is a MSVWBE the amounts paid by the Contracting  
34 Agency for Work performed by the Contractor shall also be reported.  
35

36 **MSVWBE Payment**

37 All costs for implementation of the requirements for Voluntary MSVWBE Participation shall be  
38 included in the associated items of Contract Work.  
39

40 **1-07.14 Responsibility for Damage**

41 *(January 1, 2016 COK GSP)*  
42

43 *Section 1-07.14 is supplemented with the following:*  
44

45 The Contractor further agrees that it is waiving immunity under Industrial Insurance Law Title 51 RCW  
46 for any claims brought against the City by its employees. In the event Contractor fails, after receipt of  
47 timely notice from the City, to appear, defend, or pay as required by the first paragraph of this section,  
48 then in that event and in that event only, the City may in its sole discretion, deduct from the progress  
49 payments to the Contractor and pay any amount sufficient to pay any claim, of which the City may have  
50 knowledge and regardless of the informalities of notice of such claim, arising out of the performance of  
51 this contract, provided the City has theretofore given notice of receipt of such claim to the Contractor  
52 and the Contractor has failed to act thereon.

1  
2 **1-07.15 Temporary Water Pollution/Erosion Control**

3  
4 **1-07.15(1) Spill Prevention, Control, and Countermeasures Plan**  
5 *(January 10, 2019 COK GSP)*

6  
7 *Add the following paragraph under the second paragraph of this section:*

8  
9 In the event the Contractor uses an SPCC Plan template that either follows the WSDOT SPCC Plan  
10 Template or contains the same or similar content and/or format, the following changes shall be  
11 required:

- 12 1. Replace all references to “WSDOT” as either the Contracting Agency or project owner with  
13 “City of Kirkland”, except where indicated in this Section.
- 14 2. Add into all Spill Reporting and related section(s): “The City of Kirkland Spill Response  
15 Hotline at (425) 587-3900 shall be the first point of contact in the event of a spill. Notification  
16 to the City of Kirkland Spill Response Hotline shall precede the spill notifications to federal  
17 and state agencies.”
- 18 3. Delete all references to the “WSDOT Environmental Compliance Assurance Procedure”  
19 (ECAP) in the SPCC.

20  
21 *Supplement the following referenced SPCC Plan Element Requirements in this Section as follows:*

22  
23 For SPCC Plan Element Requirement Number 2, add the following: “The City of Kirkland Spill  
24 Response Hotline at (425) 587-3900 shall be the first point of contact in the event of a spill.”

25  
26 For SPCC Plan Element Requirement Number 8, add the following: “As part of Contractor spill  
27 response procedure, the Contractor shall contact the City of Kirkland Spill Response Hotline at (425)  
28 587-3900 to report the spill regardless of whether or not the Contractor has fully contained, controlled,  
29 and/or cleaned up the spill.”

30  
31 **1-07.16 Protection and Restoration of Property**

32  
33 **1-07.16(3) Fences, Mailboxes, Incidentals**  
34 *(January 1, 2016 COK GSP)*

35  
36 *Section 1-07.16(3) is supplemented with the following:*

37  
38 **U.S. Postal Service Collection Boxes, Mail Receptacles, and other Structures:** U.S. Postal  
39 Service collection box and other Structures requiring temporary relocation to accommodate  
40 construction, the Contractor shall contact the Kirkland Postmaster at least 5 Working Days in  
41 advance for coordination. Only the U.S. Post Office will move Postal Service-owned property.

42  
43 **1-07.17 Utilities and Similar Facilities**  
44 *(January 1, 2020 COK GSP)*

45  
46 *Section 1-07.17 is supplemented with the following:*

47  
48 Locations and dimensions shown in the Plans for existing facilities are in accordance with available  
49 information obtained without uncovering, measuring, or other verification.

50 The Contractor is alerted to the existence of Chapter 19.122 RCW, a law relating to underground  
51 utilities. Any cost to the Contractor incurred as a result of this law shall be at the Contractor's  
52 expense.

No excavation shall begin until all known facilities in the vicinity of the excavation area have been located and marked.

The Contractor shall give advance notice to all utility companies involved where work is to take place and in all other respects comply with the provisions of Chapter 19.122 RCW.

Notice shall include, but not be limited to, the following utility companies:

4. Water, sewer, storm, streets – minimum two working days in advance
5. Power (Electric and Natural Gas) – minimum 48 hours in advance
6. Telephone – minimum 30 days in advance
7. Natural Gas – minimum 48 hours in advance
8. Cable Television – minimum 48 hours in advance
9. Transit – minimum 21 days in advance

The following is a list of some utilities serving the Kirkland area. This is not intended or represented to be a complete list and is provided for the Contractor’s convenience.

Utility	Agency/Company	Address	Contact	Phone
Water/Sewer	City of Kirkland	123 Fifth Avenue Kirkland, WA 98033	Tom Chriest	(425) 587-3900
Storm Drainage	City of Kirkland	123 Fifth Avenue Kirkland, WA 98033	Jason Osborn	(425) 587-3900
Water / Sewer (North area of Kirkland)	Northshore Utility District	6380 NE 185th St Kenmore, WA 98028	George Matote Kelly Nesbitt	(425) 471-9450 (425) 521-3750
Street	City of Kirkland	123 Fifth Avenue Kirkland, WA 98033	Ryan Fowler	(425) 587-3900
Natural Gas	Puget Sound Energy	P.O. Box 97034 EST-11W Bellevue, WA 98009-9734	Kiara Skye	(425) 213-9205
Electric	Puget Sound Energy	35131 SE Center St Snoqualmie, WA 98065	Kiara Skye	(425) 213-9205
Telephone/ FIOS	Ziply Fiber	P.O. Box 1127 Everett, WA 98206	Cheryl Schneider Kim Gilbert	(425) 949-0230 (206) 715-9922
FIOS	Zayo	22651 83 <sup>rd</sup> Ave. S. Kent, WA 98032	Kim Bodtker	(206) 841-5545
Cable FIOS	CenturyLink/Lumen	22817 SE Issaquah-Fall City Rd., Issaquah, WA 98029	Kayvan Fassnacht	(425) 213-9378
Cable Television	Comcast	1525 - 75th St SW, Suite 200 Everett, WA 98203	Parker Stewart	(425) 760-4070
Network	Verizon/MCI	11311 NE 120 <sup>th</sup> St Kirkland, WA 98034	Kenny Terhune	(425) 301-8658
Network	Astound/Wave Broadband	900 Lenora St, Suite 140 Seattle, WA 98121	Richard Hays	(360) 631-4134

School District Transportation	Lake Washington School District	15212 NE 95th St Redmond, WA 98052	Jeff Miles	(425) 936-1120
Transit	King County METRO	MS SVQ-TR-0100 1270 6th Ave S Seattle, WA 98134	David Freeman	(206) 472-2553 (206) 477-0438
Water (Northeast area of Kirkland)	Woodinville Water District	17238 NE Woodinville Duvall Road, Woodinville, WA 98072	Ken McDowell	(425) 487-4104
Olympic Pipeline	BP		Kenneth Metcalf Joseph Stone	(425) 981-2575 (425) 981-2506

Note that most utility companies may be contacted for locations through the “One Call” system, 1-800-424-5555. In the event of a gas emergency, call 911 and then the PSE hotline at 1-888-225-5773 (1-888-CALL-PSE).

The Contractor shall coordinate the work with these utilities and shall notify the Engineer in advance of any conflicts affecting the work schedule. The utility companies shall witness or perform all shutdowns, connections or disconnections.

Wherever in the course of the construction operation it becomes necessary to cause an outage of utilities, it shall be the Contractor's responsibility to notify the affected users not less than twenty-four (24) hours in advance of the creation of such outage. The Contractor shall make reasonable effort to minimize the duration of outages.

The Contractor shall be responsible for any breakage of utilities or services resulting from its operations and shall hold the City and its agents harmless from any claims resulting from disruption of, or damage to, same.

**Other Notifications**

Service Area Turn Off: All service area turn off notices must be distributed to affected parties two working days in advance of any scheduled shut off. City to provide door hangers and affected service area map. The contractor shall fill in all required information prior to hanging door hanger.

Entry onto Private Property: Each property owner shall be given two working days advance Written Notice prior to entry by the Contractor.

Loop Detection Systems: Where an excavation is to take place through a signal loop detector system, the Contractor shall provide at least five (5) Working Days advance notice to the City Signal Shop at (425) 587-3920 to coordinate temporary signal wire disconnect and installation of temporary signal detection equipment.

Survey Monuments: When proposed pavement removal is close to existing survey monumentation, or proposed pavement removal includes existing survey monumentation, the Contractor shall provide a minimum 4 Working Days advance notice to the Engineer to allow survey crews to tie the monument out and reset the monument after pavement installation.

**1-07.17(2) Utility Construction, Removal or Relocation by Others**  
(January 1, 2016 COK GSP)

Section 1-07.17(2) is supplemented with the following:



1  
2 Under no circumstances will discrepancies in location or incompleteness in description of existing  
3 utilities or improvements, whether they are visible from the surface, buried, or otherwise obscured, be  
4 considered as a basis for additional compensation to the Contractor.  
5

6 **1-07.18 Public Liability and Property Damage Insurance**

7 *(January 4, 2024 APWA GSP)*  
8

9 *Delete this section in its entirety, and replace it with the following:*  
10

11 **1-07.18 Insurance**

12  
13 **1-07.18(1) General Requirements**

- 14  
15 A. The Contractor shall procure and maintain the insurance described in all subsections of section  
16 1-07.18 of these Special Provisions, from insurers with a current A. M. Best rating of not less  
17 than A-: VII and licensed to do business in the State of Washington. The Contracting Agency  
18 reserves the right to approve or reject the insurance provided, based on the insurer's financial  
19 condition.  
20  
21 B. The Contractor shall keep this insurance in force without interruption from the commencement  
22 of the Contractor's Work through the term of the Contract and for thirty (30) days after the  
23 Physical Completion date, unless otherwise indicated below.  
24  
25 C. If any insurance policy is written on a claims-made form, its retroactive date, and that of all  
26 subsequent renewals, shall be no later than the effective date of this Contract. The policy shall  
27 state that coverage is claims made and state the retroactive date. Claims-made form coverage  
28 shall be maintained by the Contractor for a minimum of 36 months following the Completion  
29 Date or earlier termination of this Contract, and the Contractor shall annually provide the  
30 Contracting Agency with proof of renewal. If renewal of the claims made form of coverage  
31 becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended  
32 reporting period ("tail") or execute another form of guarantee acceptable to the Contracting  
33 Agency to assure financial responsibility for liability for services performed.  
34  
35 D. The Contractor's Automobile Liability, Commercial General Liability and Excess or Umbrella  
36 Liability insurance policies shall be primary and non-contributory insurance as respects the  
37 Contracting Agency's insurance, self-insurance, or self-insured pool coverage. Any insurance,  
38 self-insurance, or self-insured pool coverage maintained by the Contracting Agency shall be  
39 excess of the Contractor's insurance and shall not contribute with it.  
40  
41 E. The Contractor shall provide the Contracting Agency and all additional insureds with written  
42 notice of any policy cancellation, within two business days of their receipt of such notice.  
43  
44 F. The Contractor shall not begin work under the Contract until the required insurance has been  
45 obtained and approved by the Contracting Agency  
46  
47 G. Failure on the part of the Contractor to maintain the insurance as required shall constitute a  
48 material breach of contract, upon which the Contracting Agency may, after giving five business  
49 days' notice to the Contractor to correct the breach, immediately terminate the Contract or, at  
50 its discretion, procure or renew such insurance and pay any and all premiums in connection  
51 therewith, with any sums so expended to be repaid to the Contracting Agency on demand, or at

1 the sole discretion of the Contracting Agency, offset against funds due the Contractor from the  
2 Contracting Agency.

3  
4 H. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the  
5 Contract and no additional payment will be made.

6  
7 I. Under no circumstances shall a wrap up policy be obtained, for either initiating or maintaining  
8 coverage, to satisfy insurance requirements for any policy required under this Section. A “wrap  
9 up policy” is defined as an insurance agreement or arrangement under which all the parties  
10 working on a specified or designated project are insured under one policy for liability arising  
11 out of that specified or designated project.

12  
13 **1-07.18(2) Additional Insured**

14  
15 All insurance policies, with the exception of Workers Compensation, and of Professional Liability and  
16 Builder’s Risk (if required by this Contract) shall name the following listed entities as additional  
17 insured(s) using the forms or endorsements required herein:

- 18  
19 • The Contracting Agency and its officers, elected officials, employees, agents, and volunteers

20  
21 The above-listed entities shall be additional insured(s) for the full available limits of liability maintained  
22 by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than  
23 those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the  
24 Contractor pursuant to 1-07.18(4) describes limits lower than those maintained by the Contractor.

25  
26 For Commercial General Liability insurance coverage, the required additional insured endorsements  
27 shall be at least as broad as ISO forms CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for  
28 completed operations.

29  
30 **1-07.18(3) Subcontractors**

31  
32 The Contractor shall cause each subcontractor of every tier to provide insurance coverage that complies  
33 with all applicable requirements of the Contractor-provided insurance as set forth herein, except the  
34 Contractor shall have sole responsibility for determining the limits of coverage required to be obtained  
35 by subcontractors.

36  
37 The Contractor shall ensure that all subcontractors of every tier add all entities listed in 1-07.18(2) as  
38 additional insureds, and provide proof of such on the policies as required by that section as detailed in  
39 1-07.18(2) using an endorsement as least as broad as ISO CG 20 10 10 01 for ongoing operations and  
40 CG 20 37 10 01 for completed operations.

41  
42 Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency  
43 evidence of insurance and copies of the additional insured endorsements of each subcontractor of every  
44 tier as required in 1-07.18(4) Verification of Coverage.

45  
46 **1-07.18(4) Verification of Coverage**

47  
48 The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements  
49 for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the  
50 signed Contract for the work. Failure of Contracting Agency to demand such verification of coverage  
51 with these insurance requirements or failure of Contracting Agency to identify a deficiency from the

1 insurance documentation provided shall not be construed as a waiver of Contractor's obligation to  
2 maintain such insurance.

3  
4 Verification of coverage shall include:

- 5 1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
- 6 2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2)  
7 as additional insured(s), showing the policy number. The Contractor may submit a copy of any  
8 blanket additional insured clause from its policies instead of a separate endorsement.
- 9 3. Any other amendatory endorsements to show the coverage required herein.
- 10 4. A notation of coverage enhancements on the Certificate of Insurance shall not satisfy these  
11 requirements – actual endorsements must be submitted.

12  
13 Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency a full  
14 and certified copy of the insurance policy(s). If Builders Risk insurance is required on this Project, a  
15 full and certified copy of that policy is required when the Contractor delivers the signed Contract for  
16 the work.

### 17 18 **1-07.18(5) Coverages and Limits**

19  
20 The insurance shall provide the minimum coverages and limits set forth below. Contractor's  
21 maintenance of insurance, its scope of coverage, and limits as required herein shall not be construed to  
22 limit the liability of the Contractor to the coverage provided by such insurance, or otherwise limit the  
23 Contracting Agency's recourse to any remedy available at law or in equity.

24  
25 All deductibles and self-insured retentions must be disclosed and are subject to approval by the  
26 Contracting Agency. The cost of any claim payments falling within the deductible or self-insured  
27 retention shall be the responsibility of the Contractor. In the event an additional insured incurs a liability  
28 subject to any policy's deductibles or self-insured retention, said deductibles or self-insured retention  
29 shall be the responsibility of the Contractor.

### 30 31 **1-07.18(5)A Commercial General Liability**

32  
33 Commercial General Liability insurance shall be written on coverage forms at least as broad as ISO  
34 occurrence form CG 00 01, including but not limited to liability arising from premises, operations, stop  
35 gap liability, independent contractors, products-completed operations, personal and advertising injury,  
36 and liability assumed under an insured contract. There shall be no exclusion for liability arising from  
37 explosion, collapse or underground property damage.

38  
39 The Commercial General Liability insurance shall be endorsed to provide a per project general  
40 aggregate limit, using ISO form CG 25 03 05 09 or an equivalent endorsement.

41  
42 Contractor shall maintain Commercial General Liability Insurance arising out of the Contractor's  
43 completed operations for at least three years following Substantial Completion of the Work.

44  
45 Such policy must provide the following minimum limits:  
46 \$1,000,000 Each Occurrence  
47 \$2,000,000 General Aggregate  
48 \$2,000,000 Products & Completed Operations Aggregate  
49 \$1,000,000 Personal & Advertising Injury each offence  
50 \$1,000,000 Stop Gap / Employers' Liability each accident  
51

1 **1-07.18(5)B Automobile Liability**

2  
3 Automobile Liability shall cover owned, non-owned, hired, and leased vehicles; and shall be written on  
4 a coverage form at least as broad as ISO form CA 00 01. If the work involves the transport of pollutants,  
5 the automobile liability policy shall include MCS 90 and CA 99 48 endorsements.  
6

7 Such policy must provide the following minimum limit:  
8 \$1,000,000 Combined single limit each accident  
9

10 **1-07.18(5)C Workers' Compensation**

11  
12 The Contractor shall comply with Workers' Compensation coverage as required by the Industrial  
13 Insurance laws of the State of Washington.  
14

15 **1-07.18(5)D Excess or Umbrella Liability**

16 *(January 4, 2016 APWA GSP)*

17  
18 The Contractor shall provide Excess or Umbrella Liability insurance with limits of not less than  
19 \$1,000,000 each occurrence and annual aggregate. This excess or umbrella liability coverage shall be  
20 excess over and as least as broad in coverage as the Contractor's Commercial General and Auto Liability  
21 insurance.  
22

23 **1-07.23 Public Convenience and Safety**

24 *(January 1, 2016 COK GSP)*

25  
26 *Section 1-07.23 is supplemented with the following:*  
27

28 No road or street shall be closed to the public except as permitted in these plans and specifications or  
29 with the approval of the Engineer and proper governmental authority. Fire hydrants on or adjacent to  
30 the work shall be kept accessible to fire fighting equipment at all times. Provision shall be made by the  
31 Contractor to ensure the proper functioning of all gutters, sewer inlets, drainage ditches and culverts,  
32 irrigation ditches and natural water courses, and storm sewer facilities throughout the project.  
33 Temporary interruption of service will be allowed only with the permission of the Engineer.  
34

35 The Kirkland Police Department and Kirkland Fire Department shall be notified at least four (4) hours  
36 in advance of any actions by the Contractor that may affect the functions of either the Police Department  
37 or Fire Department.  
38

39 The Contractor shall conduct its work and take preventative measures so that dust or other particulate  
40 matter in the project area shall not become objectionable to the adjacent property owners or general  
41 public. Should the Owner determine the Contractor is not fulfilling its obligation in this regard; the  
42 Owner reserves the right to take such action as may be necessary to remedy the objectionable condition  
43 and to charge the Contractor with any cost that may be incurred in such remedial action. All work shall  
44 be carried on with due regard for the safety of the public. No driveway, whether public, commercial,  
45 or private, may be closed without prior approval of the Owner, project supervisor, or Engineer unless  
46 written authority has been given by the affected property owner. The Contractor shall be responsible  
47 for notifying the affected property owners 24 hours in advance of scheduled interruptions to access.  
48

49 **Pedestrian Control and Protection**

50 *(January 1, 2016 COK GSP)*

51  
52 When the work area encroaches upon a sidewalk, walkway or crosswalk area, special consideration must

1 be given to pedestrian safety. Maximum effort must be made to separate pedestrians from the work area.

2  
3 Protective barricades, fencing, and bridges, together with warning and guidance devices and signs, shall  
4 be utilized so that the passageway for pedestrians is safe and well defined. Whenever pedestrian  
5 walkways are provided across excavations, they shall be provided with suitable handrails. Footbridges  
6 shall be safe, strong, free of bounce and sway, have a slip resistant coating, and be free of cracks, holes,  
7 and irregularities that could cause tripping. Ramps shall be provided at the entrance and exit of all raised  
8 footbridges, again to prevent tripping. Adequate illumination and reflectorization shall be provided  
9 during hours of darkness. All walkways shall be maintained with at least 4 feet clear width.

10  
11 Where walks are closed by construction, an alternate walkway shall be provided, preferably within the  
12 planting strip.

13  
14 Where it is necessary to divert pedestrians into the roadway, barricading or channeling devices shall be  
15 provided to separate the pedestrian walkway from the adjacent vehicular traffic lane. At no time shall  
16 pedestrians be diverted into a portion of a street used concurrently by moving vehicular traffic.

17  
18 At locations where adjacent alternate walkways cannot be provided, appropriate signs shall be posted at  
19 the limits of construction and in advance of the closure at the nearest crosswalk or intersection to divert  
20 pedestrians across the street.

21  
22 Physical barricades shall be installed to prevent visually impaired people from inadvertently entering a  
23 closed area. Pedestrian walkways shall be wheelchair accessible at all times. Pedestrian access shall be  
24 maintained to all properties adjacent to the construction site.

25  
26 **1-07.23(1) Construction Under Traffic**

27 *(May 2, 2017 APWA GSP)*

28  
29 *Revise the third sentence of the second paragraph to read:*

30  
31 Accessibility to existing or temporary pedestrian push buttons shall not be impaired; if approved by the  
32 Contracting Agency activating pedestrian recall timing or other accommodation may be allowed during  
33 construction.

34  
35 *(November 4, 2024 WSDOT GSP, Option 5)*

36  
37 Lane, ramp, shoulder, and roadway closures are only permitted as follows:

38  
39 (\*\*\*)

40 Lane, ramp, shoulder and roadway closures are subject to the following restrictions:

- 41
- 42 • Local Access must be maintained at all times except during asphalt curing periods.
  - 43 • Contractor shall give residents 5 day's notice prior to limiting access to their property. The  
44 notice shall give the day and time frame (not to exceed 8 hours) that there will be no access  
45 to their property to allow the asphalt to cure. The notice shall be hand delivered or  
46 overnighted to each resident 5 days prior to the closure.
  - 47 • Contractor shall return all lanes to normal operations at the end of each working day or  
48 provide temporary pavement markings and/or signal detection along with traffic control  
49 devices. Tape may be used for temporary pavement markings for a maximum of 1 week. If  
50 temporary pavement markings are required longer than 1 week then raised pavement  
51 markers shall be used.
  - 52 • For the purposes of the bid, the Contractor shall assume nighttime lane closures will be  
required for roadway elements, rail track removal, electrical work, and channelization.

1 Incidental night work costs may include but are not limited to temporary lighting, labor  
2 premiums, concrete and asphalt batch plant premiums. All costs associated with night work  
3 shall be considered incidental and included in the unit bid item mobilization with the  
4 exception of UPO. Must have TCP approval and Engineer's approval 1 week prior to work  
5 starting. Night work is allowed during the following hours:

- 6 • 9:00 pm to 5:00 am Monday through Thursday, except holidays
- 7 • Contractor shall install a portable message sign on each end of the project as follows:
- 8 • 5 days prior to limiting access to property owners/paving operations. The message shall  
9 give the date and time of the occurrence.
- 10 • 1 week prior to full road closures
- 11 • days prior to night work
- 12 • During the closure the message shall state "Expect delays from \_\_\_Street to \_\_\_Street."  
13 (\*\*\*)

14  
15 If the Engineer determines the permitted closure hours adversely affect traffic, the Engineer may adjust  
16 the hours accordingly. The Engineer will notify the Contractor in writing of any change in the closure  
17 hours. Exceptions to these restrictions are listed below and when applicable take precedence over  
18 closures listed above. The Engineer may also consider on a case-by-case basis additional exceptions  
19 following a written request by the Contractor.

20  
21 Lane, ramp, shoulder, and roadway closures are not allowed on any of the following:

- 22 1. A holiday,
- 23
- 24 2. A holiday weekend; holidays that occur on Friday, Saturday, Sunday or Monday are  
25 considered a holiday weekend. A holiday weekend includes Saturday, Sunday, and the holiday.  
26
- 27 3. After \*\*\* 3 :00 p.m. \*\*\* on the day prior to a holiday or holiday weekend, and  
28
- 29 4. Before \*\*\* 9:00 a.m.\*\*\* on the day after the holiday or holiday weekend.  
30
- 31 5. The two-hour period prior to and the two-hour period after the following special events:  
32

33  
34 \*\*\* None \*\*\*  
35

36 It shall be the Contractor's responsibility to obtain the dates and times of all events.  
37

### 38 **Traffic Delays**

39 When Automated Flagger Assistance Devices (AFADs) or flaggers are used to control traffic, traffic  
40 shall not be stopped for more than 5 minutes at any time. All traffic congestion shall be allowed to  
41 clear before traffic is delayed again.  
42

43 If the delay becomes greater than 5 minutes, the Contractor shall immediately begin to take action to  
44 cease the operations that are causing the delays. If the 5 minute delay limit has been exceeded, as  
45 determined by the Engineer, the Contractor shall provide to the Engineer, a written proposal to revise  
46 his work operations to meet the 5 minute limit. This proposal shall be accepted by the Engineer prior  
47 to resuming any work requiring traffic control.  
48

49 There shall be no delay to medical, fire, or other emergency vehicles. The Contractor shall alert all  
50 flaggers and personnel of this requirement.  
51

### 52 **General Restrictions**

1 Construction vehicles using a closed traffic lane shall travel only in the normal direction of traffic flow  
2 unless expressly allowed in an accepted traffic control plan. Construction vehicles shall be equipped  
3 with flashing or rotating amber lights.  
4

5 No two consecutive on-ramps, off-ramps, or intersections shall be closed at the same time and only  
6 one ramp at an interchange shall be closed, unless specifically shown in the Plans.  
7

8 Roads or ramps that are designated as part of a detour shall not be closed or restricted during the  
9 implementation of that detour, unless specifically shown in the Plans.  
10

11 **Controlled Access**

12 No special access or egress shall be allowed by the Contractor other than normal legal movements or  
13 as shown in the Plans.  
14

15 Contractor's vehicles of 10,000 GVW or greater shall not exit or enter a lane open to public traffic  
16 except as follows:  
17

18 Egress and ingress shall only occur during the hours of allowable lane closures, and:

- 19 1. For exiting an open lane of traffic, by decelerating in a lane that is closed during the  
20 allowable hours for lane closures.  
21
  - 22 2. For entering an open lane of traffic, by accelerating in a closed lane during the  
23 allowable hours for lane closures.  
24
- 25

26 Traffic control vehicles are excluded from the gross vehicle weight requirement. If placing  
27 construction signs will restrict traveled lanes, then the work will be permitted during the hours of  
28 allowable lane closures.  
29

30 **Advance Notification**

31 The Contractor shall notify the Engineer in writing of any traffic impacts related to lane closure,  
32 shoulder closure, sidewalk closure, or any combination for the week by 12:00 p.m. (noon) Wednesday  
33 the week prior to the stated impacts.  
34

35 The Contractor shall notify the Engineer in writing ten working days in advance of any traffic impacts  
36 related to full roadway closure, ramp closure, or both.  
37

38 The Contractor shall notify the Engineer in writing of any changes to the stated traffic impacts a  
39 minimum of 48 hours prior to the traffic impacts.  
40

41  
42  
43 **1-07.24 Rights of Way**  
44 *(July 23, 2015 APWA GSP)*  
45

46 *Delete this section and replace it with the following:*  
47

48 Street Right of Way lines, limits of easements, and limits of construction permits are indicated in the  
49 Plans. The Contractor's construction activities shall be confined within these limits, unless  
50 arrangements for use of private property are made.  
51

1 Generally, the Contracting Agency will have obtained, prior to bid opening, all rights of way and  
2 easements, both permanent and temporary, necessary for carrying out the work. Exceptions to this are  
3 noted in the Bid Documents or will be brought to the Contractor's attention by a duly issued Addendum.  
4

5 Whenever any of the work is accomplished on or through property other than public Right of Way, the  
6 Contractor shall meet and fulfill all covenants and stipulations of any easement agreement obtained by  
7 the Contracting Agency from the owner of the private property. Copies of the easement agreements  
8 may be included in the Contract Provisions or made available to the Contractor as soon as practical after  
9 they have been obtained by the Engineer.

10  
11 Whenever easements or rights of entry have not been acquired prior to advertising, these areas are so  
12 noted in the Plans. The Contractor shall not proceed with any portion of the work in areas where right  
13 of way, easements or rights of entry have not been acquired until the Engineer certifies to the Contractor  
14 that the right of way or easement is available or that  
15 the right of entry has been received. If the Contractor is delayed due to acts of omission on the part of  
16 the Contracting Agency in obtaining easements, rights of entry or right of way, the Contractor will be  
17 entitled to an extension of time. The Contractor agrees that such delay shall not be a breach of contract.  
18

19 Each property owner shall be given 48 hours notice prior to entry by the Contractor. This includes entry  
20 onto easements and private property where private improvements must be adjusted.  
21

22 The Contractor shall be responsible for providing, without expense or liability to the Contracting  
23 Agency, any additional land and access thereto that the Contractor may desire for temporary  
24 construction facilities, storage of materials, or other Contractor needs. However, before using any  
25 private property, whether adjoining the work or not, the Contractor shall file with the Engineer a written  
26 permission of the private property owner, and, upon vacating the premises, a written release from the  
27 property owner of each property disturbed or otherwise interfered with by reasons of construction  
28 pursued under this contract.  
29

30 The statement shall be signed by the private property owner, or proper authority acting for the owner of  
31 the private property affected, stating that permission has been granted to use the property and all  
32 necessary permits have been obtained or, in the case of a release, that the restoration of the property has  
33 been satisfactorily accomplished. The statement shall include the parcel number, address, and date of  
34 signature. Written releases must be filed with the Engineer before the Completion Date will be  
35 established.  
36

37 *(January 1, 2021 COK GSP)*  
38

39 In addition to all agreements and releases between the Contractor and private property owner(s)  
40 described in this Section and as required in Section 1-07.6(2), the Contractor shall apply for a City of  
41 Kirkland Temporary Use Permit from the City of Kirkland Planning and Building Department for any  
42 temporary uses of real property (including both private property and City-owned real property) for  
43 temporary construction facilities, storage of materials, or other Contractor needs.  
44

45 The Contractor shall file with the Engineer signed property release forms (in the format as detailed  
46 below) for all properties disturbed or damaged by the Contractor's operations.  
47



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**PROPERTY RELEASE**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(Contractor's name and address)

DATE: \_\_\_\_\_  
I, \_\_\_\_\_ owner of \_\_\_\_\_,  
\_\_\_\_\_, hereby release \_\_\_\_\_,  
\_\_\_\_\_(Contractor's name)  
from any property damage or personal injury resulting from construction on or adjacent to my property  
located at \_\_\_\_\_  
during construction of the \_\_\_\_\_. My signature below is my  
acknowledgment and acceptance that my property, as identified above, was returned to a satisfactory  
condition.

Signed: \_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_

1 **1-08 PROSECUTION AND PROGRESS**

2  
3 *Add the following new section:*

4  
5 **1-08.0 Preliminary Matters**

6 *(May 25, 2006 APWA GSP)*

7  
8 *Add the following new section:*

9  
10 **1-08.0(1) Preconstruction Conference**

11 *(July 8, 2024 APWA GSP)*

12  
13 Prior to the Contractor beginning the work, a preconstruction conference will be held between the  
14 Contractor, the Engineer and such other interested parties as may be invited. The purpose of the  
15 preconstruction conference will be:

- 16 1. To review the initial progress schedule;
- 17 2. To establish a working understanding among the various parties associated or affected by  
18 the work;
- 19 3. To establish and review procedures for progress payment, notifications, approvals,  
20 submittals, etc.;
- 21 4. To review DBE Requirements, Training Plans, and Apprenticeship Plans, when  
22 applicable.
- 23 5. To establish normal working hours for the work;
- 24 6. To review safety standards and traffic control; and
- 25 7. To discuss such other related items as may be pertinent to the work.

26  
27 The Contractor shall prepare and submit at the preconstruction conference the following:

- 28 1. A breakdown of all lump sum items;
- 29 2. A preliminary schedule of working drawing submittals; and
- 30 3. A list of material sources for approval if applicable.

31  
32 *(January 1, 2021 COK GSP)*

33  
34 *Add new Section 1-08.0(2)*

35  
36 **1-08.0(2) Hours of Work**

37  
38 Except in the case of emergency, unless otherwise indicated in the Contract Documents, or unless  
39 otherwise approved by the Contracting Agency in advance, the allowable working hours for this Contract  
40 Work shall be any consecutive 8-hour period between 7:00 a.m. and 6:00 p.m. of a working day. A  
41 maximum 1-hour lunch break is allowable between 7:00 a.m. and 6:00 p.m. and does not count for  
42 purposes of the 8-hour working period. The Contract assumes a 5-day work week, exclusive of  
43 weekends and holidays observed by the City of Kirkland and identified in Section 1-08.5 of the Standard  
44 Specifications.

45  
46 The normal straight time 8-hour working period for the contract shall be established at the  
47 preconstruction conference or prior to the Contractor commencing the Work.

48  
49 Except in the event of an emergency, unless otherwise indicated in the Contract Documents, or unless  
50 otherwise approved in advance by the Contracting Agency (including the Contractor obtaining approval  
51 for all applicable City of Kirkland permits as required by the City of Kirkland Zoning Code), no Work  
52 shall be allowed between the hours of 6:00 p.m. and 7:00 a.m., during weekends (except driveway  
53 construction), or during holidays observed by the City of Kirkland and identified in Section 1-08.5 of

1 the Standard Specifications.

2  
3 The Contracting Agency may consider specific and limited requests by the Contractor to allow Work  
4 during one or more periods in which Work is not allowed by this Section, but approval of these requests  
5 is solely at the discretion of the Contracting Agency as a benefit to the general public. Contractor shall  
6 submit a request in writing to the Engineer, including a full and accurate explanation of the type(s) of  
7 work to be performed, the period or periods of time outside normal Work hours, and the explanation(s)  
8 for why this work cannot be performed during the allowable Work hours.

9  
10 The Engineer will consider requests and determine conditions and limitations as the Engineer deems  
11 necessary, in conformance with the conditions of support for local permitting described in Section 1-  
12 07.6 of the Standard Specifications and these Special Provisions. These conditions and limitations are  
13 additional to any conditions or limitations that may be required by Contracting Agency permits and/or  
14 variances. These conditions may include, but are not limited to:

- 15  
16 1. Require the Engineer or such assistants as the Engineer may deem necessary to be present  
17 during the Work, including (but not limited to):
  - 18 a. Survey crews
  - 19 b. Personnel from the Contracting Agency's material testing laboratory
  - 20 c. Inspectors
  - 21 d. City operations and maintenance staff
  - 22 e. Police, fire, or other public safety officials
  - 23 f. Any other Contracting Agency employees who, in the opinion of the Engineer, are a  
24 necessary presence for the Work outside of the allowable working hours;
- 25  
26 2. Require the Contractor to reimburse the Contracting Agency for all additional costs and  
27 expenses in excess of straight-time costs incurred for Contracting Agency employees and  
28 expenses during such times;
- 29  
30 3. Measure Work performed on nights, weekend days, and holidays as working days with  
31 regards to the Contract Time; and/or,
- 32  
33 4. Consider multiple work shifts (such as a sequential 8-hour day period followed by an 8-hour  
34 night period) as multiple working days with respect to Contract Time, even if those multiple  
35 shifts occur in a single 24-hour period.

36  
37 If the Engineer approves the Contractor's written request and all conditions and/or restrictions the  
38 Engineer applies to that approval are acceptable by the Contractor, the Contractor shall be responsible  
39 for obtaining work hours and noise variances as required by Section 1-07.6. The Contractor shall apply  
40 to the City of Kirkland Planning and Building Department using <http://mybuildingpermit.com>. The  
41 Engineer can provide supporting documentation, as deemed appropriate by the Engineer, to the  
42 Contractor for submission with this application.

43  
44 Unless otherwise indicated in the Contract Documents or indicated by the Engineer in writing, no claims  
45 for equitable adjustments of Contract will be allowed for review and approval time frames for the  
46 Contractor to obtain approval for requests to Work outside the approved working hours in this Section.

47  
48 No claims for equitable adjustments of the Contract will be allowed for requirements, including  
49 limitations, in approvals to work outside of the allowed working hours in this Section.

50  
51 Approved Work outside the allowable working hours in this Section is subject to additional noise control  
52 requirements. Approval to continue work during these hours may be revoked at any time the Contractor

exceeds the Contracting Agency’s noise control regulations or complaints are received from the public or adjoining property owners regarding the noise from the Contractor’s operations. The Contractor shall have no claim for damages or delays should such permission be revoked for these reasons.

**Arterial Streets**

No work will be performed on arterial streets during the peak traffic hours of 7:00 a.m. – 9:00 a.m. and 3:00 p.m. – 6:00 p.m., except emergency work to restore services, unless a City-approved traffic control plan allows work during the peak hours. A minimum of two travel lanes, one in each direction, shall remain open at all times on arterials. The following streets are classified as arterials:

<b><i>STREET</i></b>	<b><i>FROM</i></b>	<b><i>TO</i></b>
Central Way/NE 85th St	Market St	132nd Ave NE
Juanita Dr NE /NE Juanita Dr	NE 143 <sup>rd</sup> St (City Limits)	98th Ave NE
Juanita Woodinville Way	100 <sup>th</sup> Ave NE	NE 145 <sup>th</sup> St (City Limits)
Lake St/Lake Washington Blvd/Northup Wy	Central Way	Northup Way (City Limits)
Kirkland Ave/Kirkland Way	Lake St	NE 85 <sup>th</sup> St
Lakeview Dr /NE 68th St/NE 70th St	Lake Washington Blvd	132nd Ave NE
Market St/98th Ave NE/100th Ave NE	Central Way	NE 145 <sup>th</sup> St (City Limits)
NE 116th St	98th Ave NE	Slater Ave NE
NE 120th St/132nd Ave NE	Slater Ave NE	NE 60th St (City Limits)
NE 124th St	100th Ave NE	East City Limits
NE 128th St	116 <sup>th</sup> Ave NE/116 <sup>th</sup> Way NE	120 <sup>th</sup> Ave NE
Simonds Rd NE	92 <sup>nd</sup> Ave NE (City Limits)	100 <sup>th</sup> Ave NE
Slater Ave NE/132 <sup>nd</sup> Ave NE	NE 116 <sup>th</sup> St	NE 132 <sup>nd</sup> St
Totem Lake Blvd	NE 132nd St	124th Ave NE
3 <sup>rd</sup> Street/State Street	Central Way	NE 68 <sup>th</sup> Street/Lakeview Dr.
6 <sup>th</sup> St/6 <sup>th</sup> St S/108 <sup>th</sup> Ave NE	Central Way/NE 85 <sup>th</sup> St	South City Limits
90 <sup>th</sup> Ave NE/NE 131st Way/NE 132nd St	NE 134 <sup>th</sup> St	132nd Ave NE
120 <sup>th</sup> Ave NE/116 <sup>th</sup> Ave NE/116 <sup>th</sup> Way NE	NE 112 <sup>th</sup> St	NE 132 <sup>nd</sup> St
124th Ave NE	NE 85th St	NE 124th St
124th Ave NE	NE 132 <sup>nd</sup> St	NE 145 <sup>th</sup> Pl (City Limits)

**1-08.1 Subcontracting**

*(January 1, 2016 COK GSP)*

*Section 1-08.1 is supplemented with the following:*

A Subcontractor or an Agent to the Subcontractor will not be permitted to perform any work under the contract until the following documents have been completed and submitted to the Engineer:

1. Request to Sublet Work (form 421-012).
2. Statement of Intent to Pay Prevailing Wages (Form 700-029-000).

The Contractor's records pertaining to the requirements of this Special Provision shall be open to inspection or audit by representatives of the Department during the life of the contract and for a period of not less than three years after the date of acceptance of the contract. The Contractor shall retain

1 these records for that period. The Contractor shall also guarantee that these records of all  
2 Subcontractors and Agents shall be open to similar inspection or audit for the same period.

3  
4 *(December 30, 2022 APWA GSP, Option A)*

5  
6 Prior to any subcontractor or lower tier subcontractor beginning work, the Contractor shall submit to  
7 the Engineer a certification (WSDOT Form 420-004) that a written agreement between the Contractor  
8 and the subcontractor or between the subcontractor and any lower tier subcontractor has been executed.  
9 This certification shall also guarantee that these subcontract agreements include all the documents  
10 required by the Special Provision Federal Agency Inspection.

11  
12 A subcontractor or lower tier subcontractor will not be permitted to perform any work under the  
13 contract until the following documents have been completed and submitted to the Engineer:

- 14  
15 1. Request to Sublet Work (WSDOT Form 421-012), and  
16  
17 2. Contractor and Subcontractor or Lower Tier Subcontractor Certification for Federal-aid Projects  
18 (WSDOT Form 420-004).

19  
20 The Contractor shall submit to the Engineer a completed Monthly Retainage Report (WSDOT Form  
21 272-065) within 15 calendar days after receipt of every monthly progress payment until every  
22 subcontractor and lower tier subcontractor's retainage has been released.

23  
24 The Contractor's records pertaining to the requirements of this Special Provision shall be open to  
25 inspection or audit by representatives of the Contracting Agency during the life of the contract and for  
26 a period of not less than three years after the date of acceptance of the contract. The Contractor shall  
27 retain these records for that period. The Contractor shall also guarantee that these records of all  
28 subcontractors and lower tier subcontractors shall be available and open to similar inspection or audit  
29 for the same time period.

30  
31 **1-08.3 Progress Schedule**

32 *(January 1, 2016 COK GSP)*

33  
34 The order of work will be at the Contractor's option, in keeping with good construction practice and  
35 the terms of the contract. All work shall be carried out in accordance with the requirements of the City  
36 of Kirkland in compliance with the plans and specifications. However, the Contractor shall so schedule  
37 the work within the time constraints noted in the various contract documents, including any permits.  
38 The Contractor is cautioned to review said documents and permits and schedule the work appropriately  
39 as no additional compensation will be made to the Contractor due to the time constraints imposed by  
40 such documents.

41  
42 **1-08.3(2)A Type A Progress Schedule**

43 *(December 30, 2022 APWA GSP)*

44  
45 *Revise this section to read:*

46  
47 The Contractor shall submit 10 copies of a Type A Progress Schedule no later than 7 days prior to the  
48 preconstruction conference, or some other mutually agreed upon submittal time. The schedule may be  
49 a critical path method (CPM) schedule, bar chart, or other standard schedule format. Regardless of  
50 which format used, the schedule shall identify the critical path. The Engineer will evaluate the Type A  
51 Progress Schedule and approve or return the schedule for corrections within 15 calendar days of  
52 receiving the submittal.

1  
2 **1-08.4 Prosecution of Work**

3 *(July 23, 2015 APWA GSP)*

4  
5 *Delete this section in its entirety, and replace it with the following:*

6  
7 **1-08.4 Notice to Proceed and Prosecution of Work**

8  
9 Notice to Proceed will be given after the contract has been executed and the contract bond and  
10 evidence of insurance have been approved and filed by the Contracting Agency. The Contractor  
11 shall not commence with the work until the Notice to Proceed has been given by the Engineer. The  
12 Contractor shall commence construction activities on the project site within ten days of the Notice  
13 to Proceed Date, unless otherwise approved in writing. The Contractor shall diligently pursue the  
14 work to the physical completion date within the time specified in the contract. Voluntary shutdown  
15 or slowing of operations by the Contractor shall not relieve the Contractor of the responsibility to  
16 complete the work within the time(s) specified in the contract.

17  
18 When shown in the Plans, the first order of work shall be the installation of high visibility fencing to  
19 delineate all areas for protection or restoration, as described in the Contract. Installation of high  
20 visibility fencing adjacent to the roadway shall occur after the placement of all necessary signs and  
21 traffic control devices in accordance with 1-10.1(2). Upon construction of the fencing, the Contractor  
22 shall request the Engineer to inspect the fence. No other work shall be performed on the site until the  
23 Contracting Agency has accepted the installation of high visibility fencing, as described in the  
24 Contract.

25  
26 **1-08.5 Time for Completion**

27 *(December 30, 2022 APWA GSP, Option A)*

28  
29 *Revise the third and fourth paragraphs to read:*

30  
31 Contract time shall begin on the first working day following the Notice to Proceed Date.

32  
33 Each working day shall be charged to the contract as it occurs, until the contract work is physically  
34 complete. If substantial completion has been granted and all the authorized working days have been  
35 used, charging of working days will cease. Each week the Engineer will provide the Contractor a  
36 statement that shows the number of working days: (1) charged to the contract the week before; (2)  
37 specified for the physical completion of the contract; and (3) remaining for the physical completion  
38 of the contract. The statement will also show the nonworking days and all partial or whole days the  
39 Engineer declares as unworkable. The statement will be identified as a Written Determination by the  
40 Engineer. If the Contractor does not agree with the Written Determination of working days, the  
41 Contractor shall pursue the protest procedures in accordance with Section 1-04.5. By failing to follow  
42 the procedures of Section 1-04.5, the Contractor shall be deemed as having accepted the statement  
43 as correct. If the Contractor is approved to work 10 hours a day and 4 days a week (a 4-10 schedule)  
44 and the fifth day of the week in which a 4-10 shift is worked would ordinarily be charged as a  
45 working day then the fifth day of that week will be charged as a working day whether or not the  
46 Contractor works on that day.

47  
48 *Revise the sixth paragraph to read:*

49  
50 The Engineer will give the Contractor written notice of the completion date of the contract after all  
51 the Contractor's obligations under the contract have been performed by the Contractor. The  
52 following events must occur before the Completion Date can be established:

- 1
- 2 1. The physical work on the project must be complete; and
- 3
- 4 2. The Contractor must furnish all documentation required by the contract and required by law, to allow
- 5 the Contracting Agency to process final acceptance of the contract. The following documents must
- 6 be received by the Project Engineer prior to establishing a completion date:
- 7 a. Certified Payrolls (per Section 1-07.9(5)).
- 8 b. Material Acceptance Certification Documents
- 9 c. Monthly Reports of Amounts Credited as DBE Participation, as required by the Contract
- 10 Provisions.
- 11 d. Final Contract Voucher Certification
- 12 e. Copies of the approved “Affidavit of Prevailing Wages Paid” for the Contractor and all
- 13 Subcontractors
- 14 f. A copy of the Notice of Termination sent to the Washington State Department of
- 15 Ecology (Ecology); the elapse of 30 calendar days from the date of receipt of the Notice
- 16 of Termination by Ecology; and no rejection of the Notice of Termination by Ecology.
- 17 This requirement will not apply if the Construction Stormwater General Permit is
- 18 transferred back to the Contracting Agency in accordance with Section 8-01.3(16).
- 19 g. Property owner releases per Section 1-07.24
- 20

21 *(January 1, 2016 COK GSP)*

22

23 *Section 1-08.5 is supplemented with the following:*

24

25 This project shall be physically completed in its entirety within **\*\*\*70\*\*\*** working days.

26

27 **1-08.6 Suspension of Work**

28 *(February 6, 2023 WSDOT GSP Option 2)*

29

30 *Section 1-08.6 is supplemented with the following:*

31

32 Contract time may be suspended for procurement of critical materials (Procurement Suspension). In

33 order to receive a Procurement Suspension, the Contractor shall within 21 calendar days after execution

34 by the Contracting Agency, place purchase orders for all materials deemed critical by the Contracting

35 Agency for physical completion of the contract. The Contractor shall provide copies of purchase orders

36 for the critical materials. Such purchase orders shall disclose the purchase order date and estimated

37 delivery dates for such critical material.

38

39 The Contractor shall show procurement of the materials listed below as activities in the Progress

40 Schedule. If the approved Progress Schedule indicates that the materials procurement are critical

41 activities, and if the Contractor has provided documentation that purchase orders are placed for the

42 critical materials within the prescribed 21 calendar days, then contract time will be suspended upon

43 physical completion of all critical work except that work dependent upon the below listed critical

44 materials:

45

46 (\*\*\*)

- 47 • Traffic signal poles
- 48 • Traffic signal cabinet
- 49 • Electrical service cabinet

50 (\*\*\*)

51

52 Charging of contract time will resume upon delivery of the critical materials to the Contractor or

1 \*\*\*70\*\*\* calendar days after execution by the Contracting Agency, whichever occurs first.

2  
3 **1-08.9 Liquidated Damages**

4 *(January 1, 2016 COK GSP)*

5  
6 *The third paragraph of Section 1-08.9 is revised to read as follows:*

7  
8 Accordingly, the Contractor agrees:

- 9  
10 1. To pay (according to the following formula) liquidated damages for each working day beyond the  
11 number of working days established for Physical Completion, and  
12  
13 2. To authorize the Engineer to deduct these liquidated damages from any money due or coming to the  
14 Contractor.

15  
16 **LIQUIDATED DAMAGES FORMULA**

17 For  $C > \$50,000 \rightarrow LD = 0.15 \times C \div T$ , and

18 For  $C \leq \$50,000 \rightarrow LD = 0.30 \times C \div T$ .

19  
20 Where:

21 LD = liquidated damages per working day (rounded to the nearest dollar)

22 C = original Contract amount

23 T = original time for Physical Completion

24  
25 **1-09 MEASUREMENT AND PAYMENT**

26  
27 **1-09.2 Weighing Equipment**

28  
29 **1-09.2(1) General Requirements for Weighing Equipment**

30 *(November 25, 2024 APWA GSP, Option B)*

31  
32 Revise item 4 of the fifth paragraph to read:

- 33  
34 4. Test results and scale weight records for each day's hauling operations are provided to the Engineer  
35 daily. Reporting shall utilize WSDOT form 422-027LP, Scaleman's Daily Report, unless the printed  
36 ticket contains the same information that is on the Scaleman's Daily Report Form. The scale operator  
37 must provide AM and/or PM tare weights for each truck on the printed ticket.

38  
39 *(January 1, 2016 COK GSP)*

40  
41 *The second to last last paragraph of Section 1-09.2(1) is supplemented with the following:*

42  
43 **Trucks and Tickets**

44 All tickets shall, at a minimum, contain the following information:

- 45 1. Ticket serial number  
46 2. Date and hour of weighing  
47 3. Weigher's identification

48  
49 Duplicate tally tickets shall be prepared to accompany each truckload of materials delivered to the  
50 project.

51  
52 It is the responsibility of the Contractor to see that tickets are given to the Inspector on the project for  
53 each truckload of material delivered. Pay quantities will be prepared on the basis of said tally tickets,



1 delivered to the Inspector at time of delivery of materials. Tickets not collected at the time of  
2 delivery will not be honored for payment.

3  
4 **1-09.2(5) Measurement**

5 *(December 30, 2022 APWA GSP)*

6  
7 *Revise the first paragraph to read:*

8  
9 **Scale Verification Checks** – At the Engineer’s discretion, the Engineer may perform verification  
10 checks on the accuracy of each batch, hopper, or platform scale used in weighing contract items of  
11 Work.

12  
13 **1-09.6 Force Account**

14 *(December 30, 2022 APWA GSP)*

15  
16 *Supplement this section with the following:*

17  
18 The Contracting Agency has estimated and included in the Proposal, dollar amounts for all items to  
19 be paid per force account, only to provide a common proposal for Bidders. All such dollar amounts  
20 are to become a part of Contractor's total bid. However, the Contracting Agency does not warrant  
21 expressly or by implication, that the actual amount of work will correspond with those estimates.  
22 Payment will be made on the basis of the amount of work actually authorized by the Engineer.

23  
24 **1-09.7 Mobilization**

25  
26 *(\*\*\*\*\*)*

27  
28 *Supplement this section with the following:*

29  
30 The item of Mobilization includes all costs necessary for installing and removing up to three City-  
31 provided informational signs at or near the two ends of the project’s geographic limits. The  
32 informational signs shall be chloroplast or aluminum signs up to 72 inches wide and 48 inches tall. The  
33 Contractor shall mount chloroplast signs to plywood sheets of the same size. This mounting can be  
34 skipped for aluminum signs. The Contractor shall install signs by setting two 4” x 4” x 10’ posts (per  
35 sign) 36” below grade, set apart consistent with the width of the sign, and backfilling with soil at a  
36 location agreed upon by the City and the Contractor. The signs shall be secured so the top of the signs  
37 are 7’ above ground level. The Contractor shall remove the signs at substantial completion and deliver  
38 the signs to the City Maintenance Yard.

39  
40 The material, labor, equipment, and all other costs associated with project informational sign  
41 installation shall be incidental to the “Mobilization,” lump sum pay item. No additional payment will  
42 be made.

43  
44 **1-09.9 Payments**

45 *(July 8, 2024 APWA GSP, Option A)*

46  
47 *Supplement this section with the following:*

48  
49 Lump sum item breakdowns are not required when the bid price for the lump sum item is less than  
50 \$20,000.  
51

1 (December 30, 2022 APWA GSP)

2  
3 Section 1-09.9 is revised to read:

4  
5 The basis of payment will be the actual quantities of Work performed according to the Contract and  
6 as specified for payment.

7  
8 The Contractor shall submit a breakdown of the cost of lump sum bid items at the Preconstruction  
9 Conference, to enable the Project Engineer to determine the Work performed on a monthly basis. A  
10 breakdown is not required for lump sum items that include a basis for incremental payments as part  
11 of the respective Specification. Absent a lump sum breakdown, the Project Engineer will make a  
12 determination based on information available. The Project Engineer's determination of the cost of  
13 work shall be final.

14  
15 Progress payments for completed work and material on hand will be based upon progress estimates  
16 prepared by the Engineer. A progress estimate cutoff date will be established at the preconstruction  
17 conference.

18  
19 The initial progress estimate will be made not later than 30 days after the Contractor commences the  
20 work, and successive progress estimates will be made every month thereafter until the Completion  
21 Date. Progress estimates made during progress of the work are tentative, and made only for the  
22 purpose of determining progress payments. The progress estimates are subject to change at any time  
23 prior to the calculation of the final payment.

24  
25 The value of the progress estimate will be the sum of the following:

- 26 1. Unit Price Items in the Bid Form — the approximate quantity of acceptable units of work  
27 completed multiplied by the unit price.
- 28 2. Lump Sum Items in the Bid Form — based on the approved Contractor's lump sum  
29 breakdown for that item, or absent such a breakdown, based on the Engineer's determination.
- 30 3. Materials on Hand — 100 percent of invoiced cost of material delivered to Job site or other  
31 storage area approved by the Engineer.
- 32 4. Change Orders — entitlement for approved extra cost or completed extra work as  
33 determined by the Engineer.

34  
35 Progress payments will be made in accordance with the progress estimate less:

- 36 1. Retainage per Section 1-09.9(1), on non FHWA-funded projects;
- 37 2. The amount of progress payments previously made; and
- 38 3. Funds withheld by the Contracting Agency for disbursement in accordance with the Contract  
39 Documents.

40  
41 Progress payments for work performed shall not be evidence of acceptable performance or an  
42 admission by the Contracting Agency that any work has been satisfactorily completed. The  
43 determination of payments under the contract will be final in accordance with Section 1-05.1.

44  
45 Failure to perform obligations under the Contract by the Contractor may be decreed by the  
46 Contracting Agency to be adequate reason for withholding any payments until compliance is  
47 achieved.

48  
49 Upon completion of all Work and after final inspection (Section 1-05.11), the amount due the  
50 Contractor under the Contract will be paid based upon the final estimate made by the Engineer and  
51 presentation of a Final Contract Voucher Certification to be signed by the Contractor. The  
52 Contractor's signature on such voucher shall be deemed a release of all claims of the Contractor

1 unless a Certified Claim is filed in accordance with the requirements of Section 1-09.11 and is  
2 expressly excepted from the Contractor's certification on the Final Contract Voucher Certification.

3  
4 The date the Contracting Agency signs the Final Contract Voucher Certification constitutes the final  
5 acceptance date (Section 1-05.12).

6  
7 If the Contractor fails, refuses, or is unable to sign and return the Final Contract Voucher  
8 Certification or any other documentation required for completion and final acceptance of the  
9 Contract, the Contracting Agency reserves the right to establish a Completion Date (for the purpose  
10 of meeting the requirements of RCW 60.28) and unilaterally accept the Contract. Unilateral final  
11 acceptance will occur only after the Contractor has been provided the opportunity, by written request  
12 from the Engineer, to voluntarily submit such documents. If voluntary compliance is not achieved,  
13 formal notification of the impending establishment of a Completion Date and unilateral final  
14 acceptance will be provided by email with delivery confirmation from the Contracting Agency to  
15 the Contractor, which will provide 30 calendar days for the Contractor to submit the necessary  
16 documents. The 30 calendar day period will begin on the date the email with delivery confirmation  
17 is received by the Contractor. The date the Contracting Agency unilaterally signs the Final Contract  
18 Voucher Certification shall constitute the Completion Date and the final acceptance date (Section 1-  
19 05.12).

20  
21 The reservation by the Contracting Agency to unilaterally accept the Contract will apply to Contracts  
22 that are Physically Completed in accordance with Section 1-08.5, or for Contracts that are terminated  
23 in accordance with Section 1-08.10. Unilateral final acceptance of the Contract by the Contracting  
24 Agency does not in any way relieve the Contractor of their responsibility to comply with all Federal,  
25 State, tribal, or local laws, ordinances, and regulations that affect the Work under the Contract.

26  
27 Payment to the Contractor of partial estimates, final estimates, and retained percentages shall be  
28 subject to controlling laws.

29  
30 *(January 1, 2016 COK GSP)*

31  
32 Unless otherwise agreed to by both parties, the work period shall coincide with the calendar month.  
33 A check will be mailed or made available to the Contractor no later than thirty (30) days following  
34 the last day of the work period.

35  
36 **1-09.11(3) Time Limitation and Jurisdiction**

37 *(December 30, 2022 APWA GSP)*

38  
39 *Revise this section to read:*

40  
41 For the convenience of the parties to the Contract it is mutually agreed by the parties that all claims  
42 or causes of action which the Contractor has against the Contracting Agency arising from the  
43 Contract shall be brought within 180 calendar days from the date of final acceptance (Section 1-  
44 05.12) of the Contract by the Contracting Agency; and it is further agreed that all such claims or  
45 causes of action shall be brought only in the Superior Court of the county where the Contracting  
46 Agency headquarters is located, provided that where an action is asserted against a county, RCW  
47 36.01.050 shall control venue and jurisdiction. The parties understand and agree that the Contractor's  
48 failure to bring suit within the time period provided, shall be a complete bar to all such claims or  
49 causes of action. It is further mutually agreed by the parties that when claims or causes of action  
50 which the Contractor asserts against the Contracting Agency arising from the Contract are filed with  
51 the Contracting Agency or initiated in court, the Contractor shall permit the Contracting Agency to  
52 have timely access to all records deemed necessary by the Contracting Agency to assist in evaluating

1 the claims or action.

2  
3 **1-09.13 Claims Resolution**

4  
5 **1-09.13(3) Claims \$250,000 or Less**  
6 *(February 1, 2021 COK GSP)*

7  
8 *Delete this Section and replace it with the following:*

9  
10 The Contractor and the Contracting Agency mutually agree that those claims that total \$250,000 or  
11 less, submitted in accordance with Section 1-09.11 and not resolved by nonbinding Alternative  
12 Dispute Resolution (ADR) processes, **provided Contracting Agency agreed to engage such ADR**  
13 **processes**, shall be resolved through litigation unless the parties mutually agree in writing to resolve  
14 the claim through binding arbitration.

15  
16 **1-09.13(3)A Arbitration General**  
17 *(January 19, 2022 APWA GSP)*

18  
19 *Revise the third paragraph to read:*

20  
21 The Contracting Agency and the Contractor mutually agree to be bound by the decision of the  
22 arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior  
23 Court of the county in which the Contracting Agency's headquarters is located, provided that where  
24 claims subject to arbitration are asserted against a county, RCW 36.01.050 shall control venue and  
25 jurisdiction of the Superior Court. The decision of the arbitrator and the specific basis for the decision  
26 shall be in writing. The arbitrator shall use the Contract as a basis for decisions.

27  
28 **1-10 TEMPORARY TRAFFIC CONTROL**

29  
30 **1-10.2 Traffic Control Management**  
31 *(November 2, 2022)*

32  
33 **Work Zone Safety Contingency**

34 Enhancements to improve the effectiveness of the accepted traffic control plans to increase the safety  
35 of the work zones shall be discussed on a weekly basis between the Contractor and the Contracting  
36 Agency. Enhancements shall be mutually agreed upon by the Contractor and Engineer prior to  
37 performing any Work to implement the enhancement.

38  
39 Enhancements do not include the use of Uniformed Police Officers or WSP, address changes to the  
40 allowed work hour restrictions, or changes to the staging plans in the Contract (if applicable). If  
41 allowed by the Engineer, these items will be addressed in accordance with Section 1-04.4.

42  
43 The Contractor shall be solely responsible for submitting any traffic control plan revision to  
44 implement the enhancement in accordance with Section 1-10.2(2).

45  
46 **1-10.2(1) General**  
47 *(October 3, 2022, WSDOT GSP Option 1)*

48  
49 *Section 1-10.2(1) is supplemented with the following*

50  
51 The Traffic Control Supervisor shall be certified by one of the following:

52  
53 The Northwest Laborers-Employers Training Trust

1 27055 Ohio Ave.  
2 Kingston, WA 98346  
3 (360) 297-3035  
4 <https://www.nwlett.edu>

5  
6 Evergreen Safety Council  
7 12545 135<sup>th</sup> Ave. NE  
8 Kirkland, WA 98034-8709  
9 1-800-521-0778  
10 <https://www.esc.org>

11  
12 The American Traffic Safety Services Association  
13 15 Riverside Parkway, Suite 100  
14 Fredericksburg, Virginia 22406-1022  
15 Training Dept. Toll Free (877) 642-4637  
16 Phone: (540) 368-1701  
17 <https://atssa.com/training>

18  
19 Integrity Safety  
20 13912 NE 20th Ave.  
21 Vancouver, WA 98686  
22 (360) 574-6071  
23 <https://www.integritysafety.com>

24  
25 US Safety Alliance  
26 (904) 705-5660  
27 <https://www.ussafetyalliance.com>

28  
29 K&D Services Inc.  
30 2719 Rockefeller Ave.  
31 Everett, WA 98201  
32 (800) 343-4049  
33 <https://www.kndservices.net>

34  
35 **1-10.2(2) Traffic Control Plans**

36 *(January 1, 2016 COK GSP)*

37  
38 *The first and second sentences of Section 1-10.2(2) are deleted and replaced with the following:*

39  
40 The Contractor shall submit a traffic control plan or plans showing a method of handling traffic  
41 including pedestrian and bicycle traffic. All construction signs, flaggers, spotters and other traffic  
42 control devices shall be shown on the traffic control plan(s) except for emergency situations. Any  
43 traffic control plan must be submitted at least one week prior to when it is planned to be used. . The  
44 contractor shall conform with City of Kirkland Pre-Approved Plans Policy R-29 for traffic control  
45 plan requirements and guidelines unless approved by a City of Kirkland Transportation Division  
46 Engineer.

47  
48 **1-10.3 Traffic Control Labor, Procedures, and Devices**

49  
50 **1-10.3(1)B Other Traffic Control Labor**

51 *(May 16, 2006 COK GSP)*

52

1 *Section 1-10.3(1)B is supplemented with the following:*

2  
3 **Off Duty Police**

4 When construction activities occur at or near a signalized intersection, the Contractor shall provide  
5 an off-duty uniformed police officer to control the flow of traffic through the intersection. It is the  
6 Contractor's responsibility to coordinate the scheduling of the Uniformed Police Officer (UPO). The  
7 contractor shall conform with City of Kirkland Pre-Approved Plans Policy R-29 for UPO  
8 requirements and guidelines unless approved by a City of Kirkland Transportation Division  
9 Engineer.

10  
11 **1-10.3(3) Traffic Control Devices**

12  
13 **1-10.3(3)C Portable Changeable Message Sign**

14 *(April 18, 2018 COK GSP)*

15  
16 *Supplement this section with the following:*

17  
18 Two Portable Changeable Message Signs (PCMS) shall be provided for the duration of the project  
19 and placed at least one week in advance of construction beginning for this project. Proposed locations  
20 shall be shown on Traffic Control Plan(s) submitted by the contractor. Contractor shall submit  
21 proposed message(s) to be displayed and receive approval by the Engineer prior to placement.  
22 Contractor is responsible for programming of the approved message into the PCMS('s), set-up,  
23 placement, and removal upon project completion.

24  
25 **1-10.4 Measurement**

26  
27 **1-10.4(2) Item Bids with Lump Sum for Incidentals**

28 *(May 16, 2006 COK GSP)*

29  
30 *Section 1-10.4(2) is supplemented with the following:*

31  
32 "Off-duty Uniformed Police Officer" will be by measured per hour for each hour the off-duty  
33 uniformed police officer is performing work to control the flow of traffic through signalized  
34 intersections affected by Contractor work.

35  
36 **1-10.5 Payment**

37  
38 **1-10.5(1) Lump Sum Bid for Project (No Unit Items)**

39 *(December 30, 2022 APWA GSP)*

40  
41 *Revise the pay item name to read:*

42  
43 "Project Temporary Traffic Control, min. Bid \$ 60,000", lump sum.

44  
45 **1-10.5(3) Reinstating Unit Items with Lump Sum Traffic Control**

46 *(May 16, 2006 COK GSP)*

47  
48 *Supplement this Section with the following:*

49  
50 "Off-duty Uniformed Police Officer", per hour.

51  
52 The unit Contract price per hour for "Off-duty Uniformed Police Officer" shall be full pay for the

1 work described herein. No additional compensation will be made for hours of work on holidays,  
2 weekends, or overtime.

3  
4 The quantity for “Off-duty Uniformed Police Officer” is not subject to the provisions of Section 1-  
5 04.6 of the Standard Specifications.

6  
7 “Project Temporary Traffic Control”, lump sum.

8  
9 Costs for layout, installation, removal, and transport of project signage shall be included with the  
10 Contract lump sum price for “Project Temporary Traffic Control.” This Bid item shall also constitute  
11 full compensation for all labor, tools, equipment, and materials necessary and incidental to maintaining  
12 temporary driving surface as required by Section 1-07.23(1), traffic and pedestrian control as required  
13 throughout the project duration in compliance with the MUTCD including, but not limited to,  
14 reflective signage, barricades, lights, traffic cones, and temporary pavement markings. Providing a  
15 minimum of two (2) flaggers and one (1) Traffic Control Supervisor during all periods of construction  
16 activities shall be included in the lump sum Bid item “Project Temporary Traffic Control”.

17  
18 Providing, operating, and maintaining two (2) Portable Changeable Message Signs from 7 calendar  
19 days prior to the start of construction and throughout the project duration shall be included in the lump  
20 sum Bid item “Project Temporary Traffic Control”.

21  
22 No separate payment will be made for preparation of the Traffic Control or Detour Plans. All costs  
23 for developing, updating, and implementing Traffic Control or Detour Plans shall be included in  
24 “Project Temporary Traffic Control”.

25  
26 No separate payment will be made for materials used to maintain temporary traffic that are not  
27 incorporated into the final improvements. Such materials shall be included in and considered  
28 incidental to “Project Temporary Traffic Control”.

29  
30 All costs for minimizing drop-offs and maintaining access to existing streets and driveways including,  
31 but not limited to, steel sheeting, and channelization devices, shall be included by the Contractor in  
32 the lump sum Bid price for “Project Temporary Traffic Control”. No additional or separate  
33 compensation will be allowed.

34  
35 The Lump Sum bid item for “Project Temporary Traffic Control” shall cover the cost to provide  
36 temporary traffic control for the for each and every working day (the entire contract duration) allowed  
37 as defined in Section 1-08.5 of these Special Provisions. The total allowable working days defined  
38 for this contract includes sufficient time to complete all work associated with items paid as “Minor  
39 Change” and/or as other Force Account items. Should the Contractor complete the work in fewer  
40 working days than allowed the Contract Lump Sum item will be paid in full and shall be consider an  
41 incentive to the Contractor for early completion.

42  
43 For additional working days approved via a change order for work that is not identified to be paid by  
44 force account, the daily cost for Project Temporary Traffic Control shall be determined by dividing  
45 the lump sum Contract price for “Project Temporary Traffic Control” by the original allowed contract  
46 working days as defined in Section 1-08.5 of these Special Provisions.

47  
48 **END OF DIVISION 1**

1 **DIVISION 2**  
2 **EARTHWORK**

3 **2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP**

4 **2-01.1 Description**

5 *This section is supplemented with the following:*

6 The Contractor shall consider the clearing and grubbing limits for this project to be all areas within the  
7 limits specified on the Site Preparation Plans, or 1-foot beyond the proposed improvements, whichever is  
8 greater. The Contractor shall allow 48 hours for the Engineer to approve the clearing limits before  
9 commencing activities. At the direction of the Engineer, the limits shall be adjusted in the field. When  
10 marking the limits, the Contractor shall protect from damage existing landscaping items and private  
11 improvements, including but not limited to vegetation, rockeries, mailboxes, signs, irrigation, and other  
12 items.

13 **2-01.2 Disposal of Usable Material and Debris**

14 *This section is supplemented with the following:*

15 The Contractor shall dispose of all debris in accordance with Disposal Method No. 2 per Section 2-01.2(2).

16 **2-01.2(2) Disposal Method No. 2 – Waste Site**

17 *This section is supplemented with the following:*

18 No waste site has been provided for the disposal of excess or excavated materials. The Contractor shall  
19 make his or her own arrangements for obtaining waste sites in accordance with Section 2-03.3(7)C of the  
20 Standard Specifications.

21 **2-01.3 Construction Requirements**

22 **2-01.3(1) Clearing**

23 *This section is revised to read:*

- 24 1. Fell trees only within the clearing limits as identified on the Plans.
- 25 2. Leave standing and protect all trees, roots, and native growth outside of the clearing limits or that have  
26 not been identified by the Engineer for removal. Where roots extend into the improvement area and are  
27 in conflict with the proposed improvements, they shall be sawcut and allowed to dry prior to backfill,  
28 except as noted in item 3 below.
- 29 3. Removal of trees shall include removal of stumps and roots to minimum 6 inches below existing or  
30 finished subgrade, whichever is lower, unless noted otherwise on the Plans.
- 31 4. Completely remove all stumps in conflict with proposed utilities, structures, walls and foundations.
- 32 5. To avoid disturbance outside clearing limits, roots requiring removal shall be cut at the clearing limits.
- 33 6. Contractor shall take all necessary precautions to protect adjacent trees, utilities, and other  
34 improvements from damage.
- 35 7. Trim all trees to remain to the height specified by the Engineer or to a minimum height of 8 feet above  
36 proposed sidewalk and 14 feet above the finish roadway surface. Neatly cut all limbs close to the tree  
37 trunk.
- 38 8. Trim trees, brush, and shrubs encroaching over the right-of-way line as necessary to accommodate the  
39 proposed improvements.



1 9. Trim trees and other vegetation as necessary to provide clear, unobstructed view of roadway signs.  
2 Determination of “clear and unobstructed” shall be at the sole discretion of the Engineer.

3 *(February 17, 2022 COK GSP)*

4 *This Section is supplemented with the following:*

5 12. Trees removal shall be performed in a manner that does not damage overhead utilities. The Contractor  
6 shall coordinate tree removal activities with the affected utility companies, including meeting all  
7 applicable requirements.

8 **2-01.3(2) Grubbing**

9 *(January 1, 2020 COK GSP)*

10 *This Section is supplemented with the following:*

11 3. Remove stumps of removed trees by grinding. Contractor shall grind stumps to a minimum of 6  
12 inches below either the existing or final ground surface elevation, whichever is lower. The Contractor  
13 shall coordinate stump removal activities with the affected utility companies, including meeting all  
14 applicable requirements.

15 **2-01.3(4) Roadside Cleanup**

16 *Delete this section and replace it with the following:*

17 **2-01.3(4) Cleanup and Restoration**

18 From time to time throughout the progress of the work, the Contractor, when directed by the Owner’s  
19 Representative, shall clean up and remove all refuse and unwanted or unused materials resulting from the  
20 work, at the Contractor’s expense. If the Contractor fails to do so within 24 hours after the request by the  
21 Owner’s Representative, the work may be done by the City and the cost thereof be charged to the Contractor  
22 and deducted from monies due to the Contractor.

23 All cleanup shall be performed as specified in the various sections of these Specifications. Final cleanup  
24 shall be in accordance with Section 1-04.11.

25 *Add the following new sub-section:*

26 **1. 2-01.3(5) Tree Removal and Protection**

27 All existing trees not noted on the Plans for removal shall be retained and protected during construction as  
28 shown on the Plans. Tree protection shall be installed where shown and as detailed on the Plans.

29 If the construction operation causes irreparable damage to the tree or its roots, the Contractor shall be  
30 responsible for all work and materials required to mitigate the damage, as directed by the Engineer.

31 **2-01.3(4) Roadside Cleanup**

32 *Delete Section 2-01.3(4) in its entirety and replace it with the following:*

33 **2-01.3(4) Cleanup and Restoration**

34 From time to time throughout the progress of the work, the Contractor, when directed by the Owner’s  
35 Representative, shall clean up and remove all refuse and unwanted or unused materials resulting from the  
36 work, at the Contractor’s expense. If the Contractor fails to do so within 24 hours after the request by the  
37 Owner’s Representative, the work may be done by the City and the cost thereof be charged to the Contractor  
38 and deducted from monies due to the Contractor.

39 All cleanup shall be performed as specified in the various sections of these Specifications. Final cleanup  
40 shall be in accordance with Section 1-04.11.

1 **2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

2 **2-02.1 Description**

3 *This section is supplemented with the following:*

4 This work shall consist of removing all materials noted in this section of the Special Provisions as well as any  
5 other materials designated for removal on the Plans or necessary for the construction of this project for which  
6 a specific Bid item is not provided in the Proposal. The following items shall be included under “Removal of  
7 Structures and Obstructions”, as well as other items noted on the Plans:  
8

- 9 1. Remove and dispose of two 30-foot spans of chain link fence on either side of crossing as noted in  
10 the Plans.
- 11
- 12 2. Protect, salvage and deliver railroad crossing gate, signals, steel truss cantilever structure, and rail  
13 (39’ minimum sections only) to Northwest Railway Museum, Conservation and Restoration  
14 Workshop located at 9300 Stone Quarry Road, Snoqualmie, WA 98065. Coordinate delivery with  
15 museum representative, and if requested, coordinate onsite inspection of salvageable material by  
16 museum representative prior to delivery. Contact information:  
17  
18 Richard Anderson  
19 Executive Director – Northwest Railway Museum  
20 (425) 888-3030 ext. 7201  
21 Richard@TrainMuseum.org  
22
- 23 3. Remove and dispose of non-salvageable railroad equipment, concrete and steel crossing pads, and  
24 rail.
- 25
- 26 4. Remove trash receptacle from existing concrete pad, salvage and protect for reinstallation. Reinstall  
27 trash receptacle on new concrete pad at new location, with all new hardware, as noted in the Plans.  
28

29 Items to be removed, abandoned, or relocated that are identified on the Plans but not specifically called out  
30 above shall also be paid for under the lump sum bid item for “Removal of Structures and Obstructions”.  
31

32 In general, the Contractor shall remove and dispose, relocate, or abandon existing items which are in  
33 conflict with the new improvements. Where not in conflict, or where not specified for demolition or  
34 removal, Contractor shall protect all private and public improvements.

35 **2-02.3 Construction Requirements**

36 *Supplement this section with the following:*

37 Prior to relocating or realigning any feature, the Contractor shall mark the proposed location in the field  
38 and obtain approval from the Engineer.

39 The Contractor shall remove storm structures as identified on the Plans and backfill the voids. If deemed  
40 usable by the Owner, castings shall be salvaged and returned to the Owner. The Contractor shall dispose of  
41 all other elements.

42 All portions of abandoned utility systems (previously abandoned or abandoned by this project) that conflict  
43 with the proposed improvements or are noted specifically for removal on the Plans shall be removed and  
44 disposed of. Segments of existing pipes not removed shall be abandoned in place by completely filling with  
45 CDF, then bricked and grouted at each end.

46 Voids left by the removal or abandonment of items shall be backfilled with Gravel Borrow as approved by  
47 the Engineer and compacted to 95 percent of maximum density as specified in Section 2-03.3(14)D of the  
48 Standard Specifications.

1 All material removed for the construction of the project shall be hauled off-site to a legal disposal site by  
2 the Contractor, except for materials specifically noted for salvage, reinstallation, or relocation. The  
3 Contractor shall determine the requirements of his selected disposal site related to accepting the material to  
4 be deposited on the site. Testing of the material by the disposal site or refusal of the site to accept the  
5 material shall not be the basis for additional payment or for an extension of the Contract time. The cost of  
6 all such requirements shall be included in the various Bid prices in the Proposal.

7 **2-02.3(3) Removal of Pavement, Sidewalks, Curbs, and Gutters**

8 *Supplement this section with the following:*

9 Any pavement, sidewalk, or curb and gutter that is damaged and not designated for removal on the Plans  
10 or preapproved by the Owner shall be repaired or replaced entirely at the Contractor's expense.

11 Existing pavement, sidewalk, and curb and gutter shall be sawcut before commencing removal. These items  
12 shall be removed as required for construction, and to the limits shown in the Plans or approved by the  
13 Engineer. Pavement, sidewalk, and curb and gutter thickness, type, and extent may vary.

14 The location of sawcuts shall be marked in the field by the Contractor and approved by the Engineer prior  
15 to cutting of pavement, sidewalk, or curb and gutter.

16 Removal shall be accomplished by making a neat longitudinal vertical cut along the boundaries of the area  
17 to be removed. All cuts shall be continuous and shall be made with saws specifically equipped for this  
18 purpose. No skip cutting will be allowed. Existing sidewalk or curb and gutter shall be removed in full  
19 panel sections and removed or sawcut at expansion/contraction joints only, unless directed otherwise by  
20 the Engineer or noted otherwise on the Plans.

21 A clean, vertical butt joint shall be provided between any surface that is to remain and the portion to be  
22 removed. Edges of pavement that becomes damaged after initial sawcutting shall be recut by the Contractor  
23 to provide a clean, vertical joint.

24 Wheel cutting or jack hammering will not be considered an acceptable means of pavement, sidewalk, or  
25 curb and gutter "cutting," and will not be measured for payment.

26 *Add the following new sections:*

27 **2-02.3(4) Salvage**

28 Specific railroad items are noted for salvage to the Northwest Railway Museum in Special Provisions  
29 Section 2-02.1. All other salvageable materials not named in the Special Provisions, identified on the Plans,  
30 or otherwise identified by the Contracting Agency as City property shall become the property of the  
31 Contractor.

32 **2-02.3(5) Adjust Utility to Finished Grade**

33 All existing utilities within or abutting new improvements, including but not limited to storm and sewer  
34 structures, manholes, and valve cans, shall be adjusted to finished grade. The Contractor shall, prior to  
35 beginning any work, familiarize himself with the existing utility locations. The Contractor shall mark the  
36 location of all utilities prior to paving the new surface. Final adjustment shall be smooth and flush with  
37 finished grade.

38 Existing boxes, rings, grates, and covers shall be inspected by the Owner of the utility prior to reuse.  
39 Materials determined to be in satisfactory condition, and noted in the Plans for reinstallation, shall be reset  
40 in a careful and workmanlike manner to conform to the new grade. Materials determined to be in  
41 satisfactory condition, but not noted in the Plans for reinstallation, shall be salvaged to the Owner or  
42 removed and disposed of, as directed by the Owner.

43 Materials determined by the Owner to be in unsatisfactory or poor condition shall be removed and disposed  
44 of by the Contractor, and replaced as noted in the Plans or with new materials directed by the Owner.

1 Any damage occurring due to the Contractor’s operations shall be repaired at the Contractor’s own expense.  
2 All materials to be reused or salvaged shall be thoroughly cleaned. The Contractor shall be responsible for  
3 referencing and keeping a record of all structures and appurtenances encountered and shall submit a copy  
4 of these references to the Engineer.

5 Adjustment section, pick holes, joints, and other penetrations shall be grouted inside and out to provide a  
6 water-tight seal.

7 Manholes and catch basins shall be adjusted with pre-cast grade rings and mortar, or rubber Cretex  
8 adjustment rings, with maximum 2-inch thickness. Metal adjustment rings shall not be used. The use of  
9 bricks will only be allowed if approved by the Engineer on a case-by-case basis where a full adjustment  
10 ring cannot be used. Rings and frames shall be securely grouted to the structure.

11 Structures and appurtenances shall be adjusted to finished grade per City of Kirkland Standard Plans,  
12 Northshore Utility District Standard Plans, or as otherwise specified in the Plans.

13 **2-02.4 Measurement**

14 *Supplement this Section with the following:*

15 No specific unit of measure shall apply to the lump sum item for “Removal of Structures and Obstructions”.

16 Sawcutting will not be measured for payment and is considered incidental to the Bid item it is associated  
17 with.

18 “Asphalt Conc. Pavement Removal” will be measured per square yard, regardless of depth. Only pavement  
19 designated for removal on the Plans or approved by the Engineer will be measured for payment.

20 “Cement Conc. Sidewalk Removal” will be measured per square yard, regardless of depth. Only cement  
21 concrete sidewalk designated for removal on the Plans or approved by the Engineer will be measured for  
22 payment.

23 “Cement Conc. Curb Removal” will be measured per linear foot, regardless of type and depth. Only curb  
24 designated for removal on the Plans or approved by the Engineer will be measured for payment.

25 “Adjust Water Valve to Grade” will be measured per each existing water valve and structure adjusted to  
26 finished grade. Separate measurement will not be made for interim utility adjustments.

27 **2-02.5 Payment**

28 *Supplement this Section with the following:*

29 “Removal of Structures and Obstructions”, lump sum.

30 All items noted for removal, relocation, reinstallation, or salvage on the Plans or specified herein, to which  
31 other Bid items do not apply, shall be considered included in the lump sum Bid item “Removal of Structures  
32 and Obstructions”.

33 “Asphalt Conc. Pavement Removal”, per square yard.

34 The unit Contract price for “Asphalt Conc. Pavement Removal” shall be full compensation for all costs  
35 necessary and incidental to completely removing and disposing of asphalt concrete pavement, regardless  
36 of depth, including but not limited to sawcutting.

37 “Cement Conc. Sidewalk Removal”, per square yard.

38 The unit Contract price for “Cement Conc. Sidewalk Removal” shall be full compensation for all costs  
39 necessary and incidental to completely removing and disposing of concrete sidewalks, regardless of depth,  
40 including but not limited to sawcutting.

1 “Cement Conc. Curb Removal”, per linear foot.

2 The unit Contract price for “Cement Conc. Curb Removal” shall be full compensation for all costs necessary  
3 and incidental to completely removing and disposing of concrete curbs, including but not limited to  
4 sawcutting.

5 “Adjust Water Valve to Grade”, per each.

6 The unit Contract price for “Adjust Water Valve to Grade” shall be full compensation for all costs necessary  
7 and incidental to adjusting the existing valve to finished grade.

## 8 **2-03 ROADWAY EXCAVATION AND EMBANKMENT**

### 9 **2-03.1 Description**

10 *Supplement this section with the following:*

11 The work shall include all excavation for the roadway, curbs, sidewalks, medians, and excavation for all  
12 other work unless specifically paid for under other Bid items included in the Proposal.

### 13 **2-03.2 Materials**

14 *Supplement this section with the following:*

15 Fill material for embankment construction shall be Crushed Surfacing Top Course.

### 16 **2-03.3 Construction Requirements**

17 *Supplement this section with the following:*

18 Any excavation beyond that necessary for construction, unless otherwise directed by the Engineer in  
19 writing, will be considered unauthorized and will not be measured for payment. Unauthorized over-  
20 excavated areas shall be filled with Gravel Borrow to be furnished, placed, and compacted at the  
21 Contractor’s expense.

### 22 **2-03.3(7) Disposal of Surplus Material**

23 *Supplement this section with the following:*

24 Disposal of surplus material shall be considered incidental to the project and as such, included in the various  
25 unit prices bid in the Proposal.

### 26 **2-03.3(14)C Compacting Earth Embankments**

27 *Supplement this section with the following:*

28 Embankments shall be placed and compacted per Method C.

### 29 **2-03.4 Measurement**

30 *Supplement this section with the following:*

31 No specific unit of measurement shall apply to the lump sum item of “Roadway Excavation Incl. Haul”.  
32 Earthwork quantities were computed by means of electronic data processing equipment, by use of the  
33 average end area method utilizing digital terrain modeling techniques, without shrinkage or swelling  
34 factors. Quantities are calculated from the assumed average bottom of existing pavement to subgrade  
35 elevation.

36 Only one determination of the original ground elevation will be made on this project. If discrepancies are  
37 discovered in ground elevations that will materially affect the quantities of earthwork, the original  
38 computations of earthwork quantities will be adjusted accordingly. All excavation required for roadway,  
39 walls, sidewalks and curbs, including subgrade excavation, or not identified for payment under other Bid  
40 items, shall be included in the lump sum price for “Roadway Excavation Incl. Haul”. The lump sum cost  
41 for “Roadway Excavation Incl. Haul” in the Proposal is based on **200 CY** of excavation measured in place.  
42 This calculation is based on the assumption that the average existing pavement section thickness is 6”.

1 The survey basemap and digital terrain model Civil3D files will be made available to the Contractor upon  
2 request.

3 Should the Owner direct the Contractor to perform additional excavation beyond that shown on the Contract  
4 Plans, the additional roadway excavation will be measured and paid for at a unit cost determined by dividing  
5 the lump sum bid amount by the cubic yards specified above.

6 If the Contractor does not agree with the “Roadway Excavation Incl. Haul” quantity shown above the  
7 Contractor shall employ their own survey crew to conduct survey as needed to develop a digital terrain  
8 model as outlined in the Standard Specifications and present this information to the Owner. Should it be  
9 determined that the quantities are in error, the lump sum bid amount will be adjusted by a unit price  
10 calculated as described above. All costs required to survey the site, develop the model, and compare the  
11 model to the pre-construction model shall be borne by the Contractor.

12 No separate measurement for payment will be made for disposal of surplus materials. All costs associated  
13 with this work shall be included with the other various Bid items in the Proposal.

14 Compaction of all material as required by this Contract, regardless of method, will not be measured for  
15 separate payment and shall be considered incidental to and included in the cost of the Bid item for the  
16 material being placed.

17 **2-03.5 Payment**

18 *Supplement this section with the following:*

19 “Roadway Excavation Incl. Haul”, lump sum.

20 The lump sum Contract price for “Roadway Excavation, Incl. Haul” shall be full compensation for all costs  
21 necessary and incidental to establish subgrade for surface improvements.

22 **2-04 HAUL**

23 *Add the following new section:*

24 **2-04.2 Hauling on Other Than State Highways**

25 If the sources of materials provided by the Contractor necessitate hauling over roads other than City streets,  
26 the Contractor shall, at the Contractor’s expense, make all arrangements for the use and cleaning, if  
27 necessary, of the haul routes.

28 **2-04.5 Payment**

29 *Supplement this section with the following:*

30 All costs associated with hauling materials of any description to, from, and within the project site, including  
31 loading and disposal, shall be considered incidental and shall be included in the appropriate unit Bid prices  
32 in the Proposal and no further compensation will be paid.

33 **2-06 SUBGRADE PREPARATION**

34 **2-06.3 Construction Requirements**

35 *Supplement this Section with the following:*

36 The subgrade must be suitable, as determined by the Engineer, prior to placement of crushed rock. All costs  
37 for protection of the subgrade, including replacing all material that becomes unsuitable while the subgrade  
38 is exposed, shall be incidental to the Contract and no additional compensation shall be made.

39 Preparation and compaction of the subgrade shall be considered incidental to the construction and all costs  
40 thereof shall be included by the Contractor in other pay items of the Contract. The subgrade shall be shaped

1 and maintained to drain at all times during construction, including temporary ditches and modifications to  
2 drainage structures necessary to eliminate standing water on the subgrade.

3 **2-07 WATER**

4 **2-07.3 Construction Requirements**

5 *Supplement this Section with the following:*

6 The hauling and applying water for compacting embankments, constructing subgrade, placing of crushed  
7 surfacing, dust control, and as the Engineer requires, will be incidental to the various bid items and no  
8 additional compensation shall be considered.

9 The City will provide water at no expense to the Contractor. The Contractor will be required to obtain water  
10 from the City Public Works yard. If preferred, the Contractor may instead purchase water from the local  
11 water district at no cost to the Owner.

12 **2-09 STRUCTURE EXCAVATION**

13 **2-09.3 Construction Requirements**

14 **2-09.3(1) General Requirements**

15 **2-09.3(1)D Disposal of Excavated Material**

16 *Supplement this section with the following:*

17 All costs associated with disposing of, hauling, or stockpiling excavated material shall be considered  
18 incidental to the various bid items and no additional compensation will be considered.

19 **2-11 TRIMMING AND CLEANUP**

20 **2-11.1 Description**

21 *Supplement this section with the following:*

22 During construction, and then upon completion of the work, the Contractor shall thoroughly comb and  
23 search the surrounding area and remove any construction material or garbage thrown or discarded amongst  
24 the trees, bushes, ditches, etc., such as paint cans, cartons, broken pipe, pavement pieces, paper, bottles,  
25 etc., and shall tidy up the surrounding general area to make it neat in appearance, including removal of  
26 debris that may or may not have been deposited by Contractor's operation.

27 Paved surfaces, existing and new, shall be thoroughly cleaned (i.e. by street sweeper) upon completion of  
28 work within the area, and shall require daily cleaning if dust or mud exists. Prior to Physical Completion,  
29 all hard surfaces shall be clean.

30 **2-11.3 Construction Requirements**

31 *Add the following new subsections:*

32 **2-11.3(1) Routine Cleaning**  
33 **General**

- 34 2. Retain all stored materials and equipment in an orderly fashion allowing maximum access, not  
35 impeding drainage or traffic, and providing protection.
- 36 3. Do not allow the accumulation of scrap, debris, waste material, and other items not required for this  
37 work.
- 38 4. At least once a week, and more often if necessary or as directed by the Construction Inspector, the  
39 Contractor shall completely remove all scrap, debris, and waste material from the project site.

1 5. Provide adequate storage for all materials awaiting removal from the project site, observing all  
2 requirements for fire protection and protection of the environment.

3  
4 **Site**

- 5 1. Daily and more often if necessary or as directed, inspect the site and pick up all scrap, debris, and waste  
6 material. Remove all such items to the place designated for their storage until it can be disposed of.  
7 2. Weekly, and more often if necessary or directed, inspect all arrangements of materials stored on the  
8 site, restack, tidy, or otherwise service all arrangements to meet the requirements above.  
9 3. Maintain the site in a neat and orderly condition at all times so as to meet the approval of the Owner.

10 **2-11.3(2) Final Cleaning**

11 Prior to final inspection for Physical Completion, remove from the job site all tools, surplus materials,  
12 equipment, scrap, debris, and waste.

13 **2-11.4 Measurement**

14 *Delete this section and replace with the following:*

15 Trimming and cleanup shall be considered incidental to the lump sum Contract price for “Mobilization”  
16 and will not be measured for separate payment.

17  
18 **END OF DIVISION 2**



1 **DIVISION 3**  
2 **AGGREGATE PRODUCTION AND ACCEPTANCE**

3 **3-01 PRODUCTION FROM QUARRY AND PIT SITES**

4 **3-01.4 Contractor Furnished Material Sources**

5 *Supplement this section with the following:*

6 No source has been provided for any imported materials necessary for the construction of this improvement.

7 The Contractor shall make arrangements to obtain the necessary materials at no expense to the City, and all  
8 costs of acquiring, producing, and placing this material in the finished work shall be included in the unit  
9 Contract prices for the various items involved.

10 If the source of materials provided by the Contractor necessitates hauling over roads other than City streets,  
11 the Contractor at its own expense shall make all arrangements for the use of haul routes.

12 **3-01.6 Payment**

13 *Supplement this section with the following:*

14 All costs of any work required under Division 3 shall be incidental to and included in the unit contract  
15 prices for the various items in the Proposal.

16  
17 **END OF DIVISION 3**  
18

**DIVISION 4  
BASES**

1  
2  
3

4 **4-04 BALLAST AND CRUSHED SURFACING**

5 **4-04.1 Description**

6 *Supplement this section with the following:*

7 Crushed surfacing shall be placed in accordance with the Standard Specifications and the Plans, or as  
8 directed by the Engineer.

9 **4-04.2 Materials**

10 *Supplement this section with the following:*

11 Crushed Surfacing Top Course per Section 9-03.9(3) shall be used under concrete and paved surfaces, as  
12 embankment, and as specified herein and shown on the Plans.

13 *Revise section 9-03.9(2) to read:*

14 **Crushed Surfacing for Trail**

15 Crushed Surfacing for Trail shall be manufactured from 100% ledger rock in accordance with the Provisions  
16 of Section 3-01. The materials shall be uniform in quality and substantially free from wood, roots, bark and  
17 other extraneous materials and shall meet the following requirements:

18

Sieve Size	Percent Passing
3/8" (9.5mm)	100
#4 (4.75mm)	85-100
#10 (2mm)	40-65
#16 (1.18mm)	30-75
#30 (0.6mm)	15-40
#200 (75um)	5-15
% Fracture	100%

19

20 The material from which ballast is to be manufactured shall meet the following test requirements:

- 21 • Los Angeles Wear, 500 Rev 25 percent max.
- 22 • Degradation Factor 15 min.

23

24 The portion of crushed surfacing retained on a No. 4 sieve shall not contain more than 0.15 percent wood  
25 waste.

26 For approval of Source the Contractor shall supply one sample of material and test reports shown the  
27 product meets the above requirements.

28 Acceptance by the owner will be based on non-statistical evaluation as described in Section 3-04.3(5).

1 **4-04.4 Measurement**

2 *Supplement this section with the following:*

3 "Crushed Surfacing Top Course" will be measured per ton based on certified truck tickets collected by the  
4 inspector at the end of each working day.

5 Crushed Surfacing Top Course used for other items as shown on the Plans and described herein will not be  
6 measured for payment and is considered incidental to and included in other Bid items in the Contract.

7 Crushed Surfacing for Trail will not be measured for payment and is included in the Lump Sum Bid item  
8 for Property Restoration in Section 8-02.

9 Crushed surfacing material used for temporary purposes, including but not limited to driving surfaces, will  
10 not be measured for payment unless it is incorporated into construction of the final improvements as  
11 required by the Plans.

12 Should the Contractor not prepare subgrade to the correct line and grades and crushed surfacing materials  
13 are placed in excess of the depths required by the Plans, the excess depth will not be measured for payment.  
14 The crushed surfacing in these areas will instead be measured by neat line to be converted to tons for  
15 deduction in quantities accepted based on the certified truck tickets.

16 Water used in placing and compacting surfacing materials shall be considered incidental to the material  
17 being placed.

18 **4-04.5 Payment**

19 *Supplement this section with the following:*

20 "Crushed Surfacing Top Course", per ton.

21 The unit Contract price for "Crushed Surfacing Top Course" shall be full compensation for all costs  
22 necessary and incidental to satisfactorily completing the work as defined in the Plans, Standard  
23 Specifications and these Special Provisions.

24 It is the Contractor's responsibility to track crushed surfacing materials measured per ton separately from  
25 crushed surfacing materials incidental to other Bid items by providing separate stockpiles or another method  
26 acceptable by the Engineer. Should the Contractor not provide separate stockpiles or other method as  
27 outlined above, crushed surfacing material paid for per ton will not be based on certified truck tickets, but  
28 instead be measured by neat line to be converted to tons based neat line measurements in the field and on  
29 the cross sections provided in the Plans.

30 **END OF DIVISION 4**

**DIVISION 5**  
**SURFACE TREATMENTS AND PAVEMENTS**

(\*\*\*\*\*)

Delete Section 5-04 and all amendments and replace it with the following Section 5-04:

**5-04 Hot Mix Asphalt**

**5-04.1 Description**

This Work shall consist of providing and placing one or more layers of plant-mixed hot mix asphalt (HMA) on a prepared foundation or base in accordance with these Specifications and the lines, grades, thicknesses, and typical cross-sections shown in the Plans. The manufacture of HMA may include warm mix asphalt (WMA) processes in accordance with these Specifications. WMA processes include organic additives, chemical additives, and foaming.

HMA shall be composed of asphalt binder and mineral materials as may be required, mixed in the proportions specified to provide a homogeneous, stable, and workable mixture.

**5-04.2 Materials**

Materials shall meet the requirements of the following sections:

Asphalt Binder	9-02.1(4)
Cationic Emulsified Asphalt	9-02.1(6)
Anti-Stripping Additive	9-02.4
HMA Additive	9-02.5
Aggregates	9-03.8
Recycled Asphalt Pavement	9-03.8(3)B
Mineral Filler	9-03.8(5)
Recycled Material	9-03.21
Portland Cement	9-01
Sand	9-03.1(2)
(As noted in 5-04.3(5)C for crack sealing)	
Joint Sealant	9-04.2
Foam Backer Rod	9-04.2(3)A

The Contract documents may establish that the various mineral materials required for the manufacture of HMA will be furnished in whole or in part by the Contracting Agency. If the documents do not establish the furnishing of any of these mineral materials by the Contracting Agency, the Contractor shall be required to furnish such materials in the amounts required for the designated mix. Mineral materials include coarse and fine aggregates, and mineral filler.

The Contractor may choose to utilize recycled asphalt pavement (RAP) in the production of HMA. The RAP may be from pavements removed under the Contract, if any, or pavement material from an existing stockpile.

The Contractor may use up to 20 percent RAP by total weight of HMA with no additional sampling or testing of the RAP. The RAP shall be sampled and tested at a frequency of one sample for every 1,000 tons

1 produced and not less than ten samples per project. The asphalt content and gradation test data shall be  
2 reported to the Contracting Agency when submitting the mix design for approval on the QPL. The  
3 Contractor shall include the RAP as part of the mix design as defined in these Specifications.

4  
5 The grade of asphalt binder shall be as required by the Contract. Blending of asphalt binder from different  
6 sources is not permitted.

7  
8 The Contractor may only use warm mix asphalt (WMA) processes in the production of HMA with 20  
9 percent or less RAP by total weight of HMA. The Contractor shall submit to the Engineer for approval the  
10 process that is proposed and how it will be used in the manufacture of HMA.

11  
12 Production of aggregates shall comply with the requirements of Section 3-01.  
13 Preparation of stockpile site, the stockpiling of aggregates, and the removal of aggregates from stockpiles  
14 shall comply with the requirements of Section 3-02.

15 **5-04.2(1) How to Get an HMA Mix Design on the QPL**

16 If the contractor wishes to submit a mix design for inclusion in the Qualified Products List (QPL), please  
17 follow the WSDOT process outlined in Standard Specification 5-04.2(1).

18 **5-04.2(1)A Vacant**

19 **5-04.2(2) Mix Design – Obtaining Project Approval**

20 No paving shall begin prior to the approval of the mix design by the Engineer.

21 **Nonstatistical** evaluation will be used for all HMA not designated as Commercial HMA in the contract  
22 documents.

23 **Commercial** evaluation will be used for Commercial HMA and for other classes of HMA in the following  
24 applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, and pavement repair.  
25 Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the  
26 Project Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option  
27 of the Project Engineer. The Proposal quantity of HMA that is accepted by commercial evaluation will be  
28 excluded from the quantities used in the determination of nonstatistical evaluation.

29 **Nonstatistical Mix Design.** Fifteen days prior to the first day of paving the contractor shall provide one of  
30 the following mix design verification certifications for Contracting Agency review;

- 31  
32
- 33 • The WSDOT Mix Design Evaluation Report from the current WSDOT QPL, or one of the mix  
design verification certifications listed below.
  - 34 • The proposed HMA mix design on WSDOT Form 350-042 with the seal and certification (stamp  
35 & sig-nature) of a valid licensed Washington State Professional Engineer.
  - 36 • The Mix Design Report for the proposed HMA mix design developed by a qualified City or County  
37 laboratory that is within one year of the approval date.\*\*

38 The mix design shall be performed by a lab accredited by a national authority such as Laboratory  
39 Accreditation Bureau, L-A-B for Construction Materials Testing, The Construction Materials Engineering  
40 Council (CMEC's) ISO 17025 or AASHTO Accreditation Program (AAP) and shall supply evidence of  
41 participation in the AASHTO: resource proficiency sample program.

42  
43 Mix designs for HMA accepted by Nonstatistical evaluation shall;  
44

- Have the aggregate structure and asphalt binder content determined in accordance with WSDOT Standard Operating Procedure 732 and meet the requirements of Sections 9-03.8(2), except that Hamburg testing for ruts and stripping are at the discretion of the Engineer, and 9-03.8(6).
- Have anti-strip requirements, if any, for the proposed mix design determined in accordance with AASHTO T 283 or T 324, or based on historic anti-strip and aggregate source compatibility from previous WSDOT lab testing.

At the discretion of the Engineer, agencies may accept verified mix designs older than 12 months from the original verification date with a certification from the Contractor that the materials and sources are the same as those shown on the original mix design.

Commercial Evaluation Approval of a mix design for “Commercial Evaluation” will be based on a review of the Contractor’s submittal of WSDOT Form 350-042 (For commercial mixes, AASHTO T 324 evaluation is not required) or a Mix Design from the current WSDOT QPL or from one of the processes allowed by this section. Testing of the HMA by the Contracting Agency for mix design approval is not required.

For the Bid Item Commercial HMA, the Contractor shall select a class of HMA and design level of Equivalent Single Axle Loads (ESAL’s) appropriate for the required use.

**5-04.2(2)B Using Warm Mix Asphalt Processes**

The Contractor may elect to use additives that reduce the optimum mixing temperature or serve as a compaction aid for producing HMA. Additives include organic additives, chemical additives and foaming processes. The use of Additives is subject to the following:

- Do not use additives that reduce the mixing temperature more than allowed in Section 5-04.3(6) in the production of mixtures.
- Before using additives, obtain the Engineer’s approval using WSDOT Form 350-076 to describe the proposed additive and process.

**5-04.3 Construction Requirements**

**5-04.3(1) Weather Limitations**

Do not place HMA for wearing course on any Traveled Way beginning October 1st through March 31st of the following year without written concurrence from the Engineer.

Do not place HMA on any wet surface, or when the average surface temperatures are less than those specified below, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

**Minimum Surface Temperature for Paving**

Compacted Thickness (Feet)	Wearing Course	Other Courses
Less than 0.10	55°F	45°F
0.10 to .20	45°F	35°F
More than 0.20	35°F	35°F

1 **5-04.3(2) Paving Under Traffic**

2 When the Roadway being paved is open to traffic, the requirements of this Section shall apply.

3  
4 The Contractor shall keep intersections open to traffic at all times except when paving the intersection or  
5 paving across the intersection. During such time, and provided that there has been an advance warning to  
6 the public, the intersection may be closed for the minimum time required to place and compact the mixture.  
7 In hot weather, the Engineer may require the application of water to the pavement to accelerate the finish  
8 rolling of the pavement and to shorten the time required before reopening to traffic.

9  
10 Before closing an intersection, advance warning signs shall be placed and signs shall also be placed marking  
11 the detour or alternate route.

12  
13 During paving operations, temporary pavement markings shall be maintained throughout the project.  
14 Temporary pavement markings shall be installed on the Roadway prior to opening to traffic. Temporary  
15 pavement markings shall be in accordance with Section 8-23.

16  
17 All costs in connection with performing the Work in accordance with these requirements, except the cost  
18 of temporary pavement markings, shall be included in the unit Contract prices for the various Bid items  
19 involved in the Contract.

20 **5-04.3(3) Equipment**

21 **5-04.3(3)A Mixing Plant**

22 Plants used for the preparation of HMA shall conform to the following requirements:

- 23  
24 1. **Equipment for Preparation of Asphalt Binder** – Tanks for the storage of asphalt binder shall be  
25 equipped to heat and hold the material at the required temperatures. The heating shall be  
26 accomplished by steam coils, electricity, or other approved means so that no flame shall be in  
27 contact with the storage tank. The circulating system for the asphalt binder shall be designed to  
28 ensure proper and continuous circulation during the operating period. A valve for the purpose of  
29 sampling the asphalt binder shall be placed in either the storage tank or in the supply line to the  
30 mixer.
- 31 2. **Thermometric Equipment** – An armored thermometer, capable of detecting temperature ranges  
32 expected in the HMA mix, shall be fixed in the asphalt binder feed line at a location near the  
33 charging valve at the mixer unit. The thermometer location shall be convenient and safe for access  
34 by Inspectors. The plant shall also be equipped with an approved dial-scale thermometer, a mercury  
35 actuated thermometer, an electric pyrometer, or another approved thermometric instrument placed  
36 at the discharge chute of the drier to automatically register or indicate the temperature of the heated  
37 aggregates. This device shall be in full view of the plant operator.

- 1           3. **Heating of Asphalt Binder** – The temperature of the asphalt binder shall not exceed the maximum  
2 recommended by the asphalt binder manufacturer nor shall it be below the minimum temperature  
3 required to maintain the asphalt binder in a homogeneous state. The asphalt binder shall be heated  
4 in a manner that will avoid local variations in heating. The heating method shall provide a  
5 continuous supply of asphalt binder to the mixer at a uniform average temperature with no  
6 individual variations exceeding 25°F. Also, when a WMA additive is included in the asphalt binder,  
7 the temperature of the asphalt binder shall not exceed the maximum recommended by the  
8 manufacturer of the WMA additive.
- 9           4. **Sampling and Testing of Mineral Materials** – The HMA plant shall be equipped with a  
10 mechanical sampler for the sampling of the mineral materials. The mechanical sampler shall meet  
11 the requirements of Section 1-05.6 for the crushing and screening operation. The Contractor shall  
12 provide for the setup and operation of the field testing facilities of the Contracting Agency as  
13 provided for in Section 3-01.2(2).
- 14           5. **Sampling HMA** – The HMA plant shall provide for sampling HMA by one of the following  
15 methods:
- 16               a. A mechanical sampling device attached to the HMA plant.
- 17               b. Platforms or devices to enable sampling from the hauling vehicle without entering the  
18 hauling vehicle.

19 **5-04.3(3)B Hauling Equipment**

20 Trucks used for hauling HMA shall have tight, clean, smooth metal beds and shall have a cover of canvas  
21 or other suitable material of sufficient size to protect the mixture from adverse weather. Whenever the  
22 weather conditions during the work shift include, or are forecast to include, precipitation or an air  
23 temperature less than 45°F or when time from loading to unloading exceeds 30 minutes, the cover shall be  
24 securely attached to protect the HMA.

25

26 The contractor shall provide an environmentally benign means to prevent the HMA mixture from adhering  
27 to the hauling equipment. Excess release agent shall be drained prior to filling hauling equipment with  
28 HMA. Petroleum derivatives or other coating material that contaminate or alter the characteristics of the  
29 HMA shall not be used. For live bed trucks, the conveyer shall be in operation during the process of  
30 applying the release agent.

31 **5-04.3(3)C Pavers**

32 HMA pavers shall be self-contained, power-propelled units, provided with an internally heated vibratory  
33 screed and shall be capable of spreading and finishing courses of HMA plant mix material in lane widths  
34 required by the paving section shown in the Plans.

35

36 The HMA paver shall be in good condition and shall have the most current equipment available from the  
37 manufacturer for the prevention of segregation of the HMA mixture installed, in good condition, and in  
38 working order. The equipment certification shall list the make, model, and year of the paver and any  
39 equipment that has been retrofitted.

40

41 The screed shall be operated in accordance with the manufacturer's recommendations and shall effectively  
42 produce a finished surface of the required evenness and texture without tearing, shoving, segregating, or  
43 gouging the mixture. A copy of the manufacturer's recommendations shall be provided upon request by the  
44 Contracting Agency. Extensions will be allowed provided they produce the same results, including ride,  
45 density, and surface texture as obtained by the primary screed. Extensions without augers and an internally  
46 heated vibratory screed shall not be used in the Traveled Way.



1  
2 When specified in the Contract, reference lines for vertical control will be required. Lines shall be placed  
3 on both outer edges of the Traveled Way of each Roadway. Horizontal control utilizing the reference line  
4 will be permitted. The grade and slope for intermediate lanes shall be controlled automatically from  
5 reference lines or by means of a mat referencing device and a slope control device. When the finish of the  
6 grade prepared for paving is superior to the established tolerances and when, in the opinion of the Engineer,  
7 further improvement to the line, grade, cross-section, and smoothness can best be achieved without the use  
8 of the reference line, a mat referencing device may be substituted for the reference line. Substitution of the  
9 device will be subject to the continued approval of the Engineer. A joint matcher may be used subject to  
10 the approval of the Engineer. The reference line may be removed after the completion of the first course of  
11 HMA when approved by the Engineer. Whenever the Engineer determines that any of these methods are  
12 failing to provide the necessary vertical control, the reference lines will be reinstalled by the Contractor.

13  
14 The Contractor shall furnish and install all pins, brackets, tensioning devices, wire, and accessories  
15 necessary for satisfactory operation of the automatic control equipment.

16  
17 If the paving machine in use is not providing the required finish, the Engineer may suspend Work as allowed  
18 by Section 1-08.6. Any cleaning or solvent type liquids spilled on the pavement shall be thoroughly  
19 removed before paving proceeds.

20 **5-04.3(3)D Material Transfer Device or Material Transfer Vehicle**

21 A Material Transfer Device/Vehicle (MTD/V) shall only be used with the Engineer's approval, unless  
22 other-wise required by the contract.

23  
24 Where an MTD/V is required by the contract, the Engineer may approve paving without an MTD/V, at the  
25 request of the Contractor. The Engineer will determine if an equitable adjustment in cost or time is due.

26  
27 When used, the MTD/V shall mix the HMA after delivery by the hauling equipment and prior to laydown  
28 by the paving machine. Mixing of the HMA shall be sufficient to obtain a uniform temperature throughout  
29 the mixture. If a windrow elevator is used, the length of the windrow may be limited in urban areas or  
30 through intersections, at the discretion of the Engineer.

31  
32 To be approved for use, an MTV:

- 33  
34 1. Shall be self-propelled vehicle, separate from the hauling vehicle or paver.  
35 2. Shall not be connected to the hauling vehicle or paver.  
36 3. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.  
37 4. Shall mix the HMA after delivery by the hauling equipment and prior to placement into the  
38 paving machine.  
39 5. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

40  
41 To be approved for use, an MTD:

- 42  
43 1. Shall be positively connected to the paver.

2. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
3. Shall mix the HMA after delivery by the hauling equipment and prior to placement into the paving machine.
4. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

**5-04.3(3)E Rollers**

Rollers shall be of the steel wheel, vibratory, oscillatory, or pneumatic tire type, in good condition and capable of reversing without backlash. Operation of the roller shall be in accordance with the manufacturer's recommendations. When ordered by the Engineer for any roller planned for use on the project, the Contractor shall provide a copy of the manufacturer's recommendation for the use of that roller for compaction of HMA. The number and weight of rollers shall be sufficient to compact the mixture in compliance with the requirements of Section 5-04.3(10). The use of equipment that results in crushing of the aggregate will not be permitted. Rollers producing pickup, washboard, uneven compaction of the surface, displacement of the mixture or other undesirable results shall not be used.

**5-04.3(4) Preparation of Existing Paved Surfaces**

When the surface of the existing pavement or old base is irregular, the Contractor shall bring it to a uniform grade and cross-section as shown on the Plans or approved by the Engineer.

Preleveling of uneven or broken surfaces over which HMA is to be placed may be accomplished by using an asphalt paver, a motor patrol grader, or by hand raking, as approved by the Engineer.

Compaction of preleveling HMA shall be to the satisfaction of the Engineer and may require the use of small steel wheel rollers, plate compactors, or pneumatic rollers to avoid bridging across preleveled areas by the compaction equipment. Equipment used for the compaction of preleveling HMA shall be approved by the Engineer.

Before construction of HMA on an existing paved surface, the entire surface of the pavement shall be clean. All fatty asphalt patches, grease drippings, and other objectionable matter shall be entirely removed from the existing pavement. All pavements or bituminous surfaces shall be thoroughly cleaned of dust, soil, pavement grindings, and other foreign matter. All holes and small depressions shall be filled with an appropriate class of HMA. The surface of the patched area shall be leveled and compacted thoroughly. Prior to the application of tack coat, or paving, the condition of the surface shall be approved by the Engineer.

A tack coat of asphalt shall be applied to all paved surfaces on which any course of HMA is to be placed or abutted; except that tack coat may be omitted from clean, newly paved surfaces at the discretion of the Engineer. Tack coat shall be uniformly applied to cover the existing pavement with a thin film of residual asphalt free of streaks and bare spots at a rate between 0.02 and 0.10 gallons per square yard of retained asphalt. The rate of application shall be approved by the Engineer. A heavy application of tack coat shall be applied to all joints. For Roadways open to traffic, the application of tack coat shall be limited to surfaces that will be paved during the same working shift. The spreading equipment shall be equipped with a thermometer to indicate the temperature of the tack coat material.

Equipment shall not operate on tacked surfaces until the tack has broken and cured. If the Contractor's operation damages the tack coat it shall be repaired prior to placement of the HMA.

1 The tack coat shall be CSS-1, or CSS-1h emulsified asphalt. The CSS-1 and CSS-1h emulsified asphalt  
2 may be diluted once with water at a rate not to exceed one part water to one part emulsified asphalt. The  
3 tack coat shall have sufficient temperature such that it may be applied uniformly at the specified rate of  
4 application and shall not exceed the maximum temperature recommended by the emulsified  
5 asphalt manufacturer.

#### 6 **5-04.3(4)A Crack Sealing**

##### 7 **5-04.3(4)A1 General**

8 When the Proposal includes a pay item for crack sealing, seal all cracks ¼ inch in width and greater.  
9

10 **Cleaning:** Ensure that cracks are thoroughly clean, dry and free of all loose and foreign material when  
11 filling with crack sealant material. Use a hot compressed air lance to dry and warm the pavement surfaces  
12 within the crack immediately prior to filling a crack with the sealant material. Do not overheat pavement.  
13 Do not use direct flame dryers. Routing cracks is not required.  
14

15 **Sand Slurry:** For cracks that are to be filled with sand slurry, thoroughly mix the components and pour the  
16 mixture into the cracks until full. Add additional CSS-1 cationic emulsified asphalt to the sand slurry as  
17 needed for workability to ensure the mixture will completely fill the cracks. Strike off the sand slurry flush  
18 with the existing pavement surface and allow the mixture to cure. Top off cracks that were not completely  
19 filled with additional sand slurry. Do not place the HMA overlay until the slurry has fully cured.  
20

21 The sand slurry shall consist of approximately 20 percent CSS-1 emulsified asphalt, approximately 2  
22 percent portland cement, water (if required), and the remainder clean Class 1 or 2 fine aggregate per section  
23 9-03.1(2). The components shall be thoroughly mixed and then poured into the cracks and joints until full.  
24 The following day, any cracks or joints that are not completely filled shall be topped off with additional  
25 sand slurry. After the sand slurry is placed, the filler shall be struck off flush with the existing pavement  
26 surface and allowed to cure. The HMA overlay shall not be placed until the slurry has fully cured. The  
27 requirements of Section 1-06 will not apply to the portland cement and sand used in the sand slurry.

28 In areas where HMA will be placed, use sand slurry to fill the cracks.

29 In areas where HMA will not be placed, fill the cracks as follows:  
30

- 31 1. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.
- 32 2. Cracks greater than 1 inch in width – fill with sand slurry.

33  
34 **Hot Poured Sealant:** For cracks that are to be filled with hot poured sealant, apply the material in  
35 accordance with these requirements and the manufacturer’s recommendations. Furnish a Type 1 Working  
36 Drawing of the manufacturer’s product information and recommendations to the Engineer prior to the start  
37 of work, including the manufacturer’s recommended heating time and temperatures, allowable storage time  
38 and temperatures after initial heating, allowable reheating criteria, and application temperature range.  
39 Confine hot poured sealant material within the crack. Clean any overflow of sealant from the pavement  
40 surface. If, in the opinion of the Engineer, the Contractor’s method of sealing the cracks with hot poured  
41 sealant results in an excessive amount of material on the pavement surface, stop and correct the operation  
42 to eliminate the excess material.

##### 43 **5-04.3(4)A2 Crack Sealing Areas Prior to Paving**

44 In areas where HMA will be placed, use sand slurry to fill the cracks.

1 **5-04.3(4)A3 Crack Sealing Areas Not to be Paved**

2 In areas where HMA will not be placed, fill the cracks as follows:

3 A. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.

4 B. Cracks greater than 1 inch in width – fill with sand slurry.

5 **5-04.3(4)B Vacant**

6 **5-04.3(4)C Pavement Repair**

7 The Contractor shall excavate pavement repair areas and shall backfill these with HMA in accordance with  
8 the details shown in the Plans and as marked in the field. The Contractor shall conduct the excavation  
9 operations in a manner that will protect the pavement that is to remain. Pavement not designated to be  
10 removed that is damaged as a result of the Contractor’s operations shall be repaired by the Contractor to  
11 the satisfaction of the Engineer at no cost to the Contracting Agency. The Contractor shall excavate only  
12 within one lane at a time unless approved otherwise by the Engineer. The Contractor shall not excavate  
13 more area than can be completely finished during the same shift, unless approved by the Engineer.

14  
15 Unless otherwise shown in the Plans or determined by the Engineer, excavate to a depth of 1.0 feet. The  
16 Engineer will make the final determination of the excavation depth required. The minimum width of any  
17 pavement repair area shall be 40 inches unless shown otherwise in the Plans. Before any excavation, the  
18 existing pavement shall be sawcut or shall be removed by a pavement grinder. Excavated materials will  
19 become the property of the Contractor and shall be disposed of in a Contractor-provided site off the Right  
20 of Way or used in accordance with Sections 2-02.3(3) or 9-03.21.

21  
22 Asphalt for tack coat shall be required as specified in Section 5-04.3(4). A heavy application of tack coat  
23 shall be applied to all surfaces of existing pavement in the pavement repair area.

24  
25 Placement of the HMA backfill shall be accomplished in lifts not to exceed 0.35-foot compacted depth.  
26 Lifts that exceed 0.35-foot of compacted depth may be accomplished with the approval of the Engineer.  
27 Each lift shall be thoroughly compacted by a mechanical tamper or a roller.

28 **5-04.3(5) Producing/Stockpiling Aggregates and RAP**

29 Aggregates and RAP shall be stockpiled according to the requirements of Section 3-02. Sufficient storage  
30 space shall be provided for each size of aggregate and RAP. Materials shall be removed from stockpile(s)  
31 in a manner to ensure minimal segregation when being moved to the HMA plant for processing into the  
32 final mixture. Different aggregate sizes shall be kept separated until they have been delivered to the HMA  
33 plant.

34 **5-04.3(5)A Vacant**

35 **5-04.3(6) Mixing**

36 After the required amount of mineral materials, asphalt binder, recycling agent and anti-stripping additives  
37 have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the  
38 particles and thorough distribution of the asphalt binder throughout the mineral materials is ensured.

39  
40 When discharged, the temperature of the HMA shall not exceed the optimum mixing temperature by more  
41 than 25°F as shown on the reference mix design report or as approved by the Engineer. Also, when a WMA  
42 additive is included in the manufacture of HMA, the discharge temperature of the HMA shall not exceed  
43 the maximum recommended by the manufacturer of the WMA additive. A maximum water content of 2  
44 percent in the mix, at discharge, will be allowed providing the water causes no problems with handling,

1 stripping, or flushing. If the water in the HMA causes any of these problems, the moisture content shall be  
2 reduced as directed by the Engineer.

3  
4 Storing or holding of the HMA in approved storage facilities will be permitted with approval of the  
5 Engineer, but in no event shall the HMA be held for more than 24 hours. HMA held for more than 24 hours  
6 after mixing shall be rejected. Rejected HMA shall be disposed of by the Contractor at no expense to the  
7 Contracting Agency. The storage facility shall have an accessible device located at the top of the cone or  
8 about the third point. The device shall indicate the amount of material in storage. No HMA shall be accepted  
9 from the storage facility when the HMA in storage is below the top of the cone of the storage facility, except  
10 as the storage facility is being emptied at the end of the working shift.

11  
12 Recycled asphalt pavement (RAP) utilized in the production of HMA shall be sized prior to entering the  
13 mixer so that a uniform and thoroughly mixed HMA is produced. If there is evidence of the recycled asphalt  
14 pavement not breaking down during the heating and mixing of the HMA, the Contractor shall immediately  
15 suspend the use of the RAP until changes have been approved by the Engineer. After the required amount  
16 of mineral materials, RAP, new asphalt binder and asphalt rejuvenator have been introduced into the mixer  
17 the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of  
18 the asphalt binder throughout the mineral materials, and RAP is ensured.

#### 19 **5-04.3(7) Spreading and Finishing**

20 The mixture shall be laid upon an approved surface, spread, and struck off to the grade and elevation  
21 established. HMA pavers complying with Section 5-04.3(3) shall be used to distribute the mixture. Unless  
22 otherwise directed by the Engineer, the nominal compacted depth of any layer of any course shall not exceed  
23 the following:

24		
25	HMA Class 1"	0.35 feet
26	HMA Class ¾" and HMA Class ½"	
27	wearing course	0.30 feet
28	other courses	0.35 feet
29	HMA Class ⅜"	0.15 feet

30  
31 On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing  
32 equipment impractical, the paving may be done with other equipment or by hand.

33  
34 When more than one JMF is being utilized to produce HMA, the material produced for each JMF shall be  
35 placed by separate spreading and compacting equipment. The intermingling of HMA produced from more  
36 than one JMF is prohibited. Each strip of HMA placed during a work shift shall conform to a single JMF  
37 established for the class of HMA specified unless there is a need to make an adjustment in the JMF.

#### 38 **5-04.3(8) Aggregate Acceptance Prior to Incorporation in HMA**

39 For HMA accepted by nonstatistical evaluation the aggregate properties of sand equivalent, uncompacted  
40 void content and fracture will be evaluated in accordance with Section 3-04. Sampling and testing of  
41 aggregates for HMA accepted by commercial evaluation will be at the option of the Engineer.

#### 42 **5-04.3(9) HMA Mixture Acceptance**

43 Acceptance of HMA shall be as provided under nonstatistical, or commercial evaluation.  
44

1 Nonstatistical evaluation will be used for the acceptance of HMA unless Commercial Evaluation is  
2 specified.

3  
4 Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following  
5 applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, temporary pavement,  
6 and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be  
7 as approved by the Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at  
8 the option of the Engineer.

9  
10 The mix design will be the initial JMF for the class of HMA. The Contractor may request a change in the  
11 JMF. Any adjustments to the JMF will require the approval of the Engineer and may be made in accordance  
12 with this section.

### 13 HMA Tolerances and Adjustments

- 14  
15 1. **Job Mix Formula Tolerances** – The constituents of the mixture at the time of acceptance shall be  
16 within tolerance. The tolerance limits will be established as follows:

17 For Asphalt Binder and Air Voids (Va), the acceptance limits are determined by adding the  
18 tolerances below to the approved JMF values. These values will also be the Upper  
19 Specification Limit (USL) and Lower Specification Limit (LSL) required in Section 1-  
20 06.2(2)D2

Property	Non-Statistical Evaluation	Commercial Evaluation
Asphalt Binder	+/- 0.5%	+/- 0.7%
Air Voids, Va	2.5% min. and 5.5% max	N/A

21 For Aggregates in the mixture:

- 22 a. First, determine preliminary upper and lower acceptance limits by applying the following  
23 tolerances to the approved JMF.

Aggregate Percent Passing	Non-Statistical Evaluation	Commercial Evaluation
1", ¾", ½", and 3/8" sieves	+/- 6%	+/- 8%
No. 4 sieve	+/-6%	+/- 8%
No. 8 Sieve	+/- 6%	+/-8%
No. 200 sieve	+/- 2.0%	+/- 3.0%

- 24 b. Second, adjust the preliminary upper and lower acceptance limits determined from step (a) the  
25 minimum amount necessary so that none of the aggregate properties are outside the control  
26 points in Section 9-03.8(6). The resulting values will be the upper and lower acceptance limits  
27 for aggregates, as well as the USL and LSL required in Section 1-06.2(2)D2.

- 28 2. **Job Mix Formula Adjustments** – An adjustment to the aggregate gradation or asphalt binder content  
29 of the JMF requires approval of the Engineer. Adjustments to the JMF will only be considered if  
30 the change produces material of equal or better quality and may require the development of a new  
31 mix design if the adjustment exceeds the amounts listed below.

- 32 a. **Aggregates** –2 percent for the aggregate passing the 1½", 1", ¾", ½", ⅜", and the No. 4 sieves,  
33 1 percent for aggregate passing the No. 8 sieve, and 0.5 percent for the aggregate passing the  
34 No. 200 sieve. The adjusted JMF shall be within the range of the control points in Section 9-  
35 03.8(6).

1           b. **Asphalt Binder Content** – The Engineer may order or approve changes to asphalt binder  
2           content. The maximum adjustment from the approved mix design for the asphalt binder content  
3           shall be 0.3 percent

4   **5-04.3(9)A   Vacant**

5   **5-04.3(9)B   Vacant**

6   **5-04.3(9)C   Mixture Acceptance – Nonstatistical Evaluation**

7       HMA mixture which is accepted by Nonstatistical Evaluation will be evaluated by the Contracting Agency  
8       by dividing the HMA tonnage into lots.

9   **5-04.3(9)C1   Mixture Nonstatistical Evaluation – Lots and Sublots**

10       A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance.  
11       A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only  
12       one lot per JMF is expected. A subplot shall be equal to one day’s production or 800 tons, whichever is less  
13       except that the final subplot will be a minimum of 400 tons and may be increased to 1200 tons.

14  
15       All of the test results obtained from the acceptance samples from a given lot shall be evaluated collectively.  
16       If the Contractor requests a change to the JMF that is approved, the material produced after the change will  
17       be evaluated on the basis of the new JMF for the remaining sublots in the current lot and for acceptance of  
18       subsequent lots. For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor’s  
19       request after the Engineer is satisfied that material conforming to the Specifications can be produced.

20  
21       Sampling and testing for evaluation shall be performed on the frequency of one sample per subplot.

22   **5-04.3(9)C2   Mixture Nonstatistical Evaluation Sampling**

23       Samples for acceptance testing shall be obtained by the Contractor when ordered by the Engineer. The  
24       Contractor shall sample the HMA mixture in the presence of the Engineer and in accordance with AASH-  
25       TO T 168. A minimum of three samples should be taken for each class of HMA placed on a project. If used  
26       in a structural application, at least one of the three samples shall to be tested.

27  
28       Sampling and testing HMA in a Structural application where quantities are less than 400 tons is at the  
29       discretion of the Engineer.

30  
31       For HMA used in a structural application and with a total project quantity less than 800 tons but more than  
32       400 tons, a minimum of one acceptance test shall be performed. In all cases, a minimum of 3 samples will  
33       be obtained at the point of acceptance, a minimum of one of the three samples will be tested for conformance  
34       to the JMF:

- 35  
36           • If the test results are found to be within specification requirements, additional testing will be at the  
37           Engineer’s discretion.
- 38           • If test results are found not to be within specification requirements, additional testing of the  
39           remaining samples to determine a Composite Pay Factor (CPF) shall be performed.

40   **5-04.3(9)C3   Mixture Nonstatistical Evaluation – Acceptance Testing**

41       Testing of HMA for compliance of  $V_a$  will at the option of the Contracting Agency. If tested, compliance  
42       of  $V_a$  will use WSDOT SOP 731.

1 Testing for compliance of asphalt binder content will be by WSDOT FOP for AASHTO T 308.

3 Testing for compliance of gradation will be by FOP for WAQTC T 27/T 11.

5 **5-04.3(9)C4 Mixture Nonstatistical Evaluation – Pay Factors**

6 For each lot of material falling outside the tolerance limits in 5-04.3(9), the Contracting Agency will  
7 determine a Composite Pay Factor (CPF) using the following price adjustment factors:

8

<b>Table of Price Adjustment Factors</b>	
<b>Constituent</b>	<b>Factor “F”</b>
All aggregate passing: 1½", 1", ¾", ½", ⅜" and No.4 sieves	2
All aggregate passing No. 8 sieve	15
All aggregate passing No. 200 sieve	20
Asphalt binder	40
Air Voids (Va) (where applicable)	20

9

10 Each lot of HMA produced under Nonstatistical Evaluation and having all constituents falling within the  
11 tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further  
12 evaluation. When one or more constituents fall outside the nonstatistical tolerance limits in the Job Mix  
13 Formula shown in Table of Price Adjustment Factors, the lot shall be evaluated in accordance with Section  
14 1-06.2 to determine the appropriate CPF. The nonstatistical tolerance limits will be used in the calculation  
15 of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the  
16 existing sublots or samples from the Roadway shall be tested to provide a minimum of three sets of results  
17 for evaluation.

18 **5-04.3(9)C5 Vacant**

19 **5-04.3(9)C6 Mixture Nonstatistical Evaluation – Price Adjustments**

20 For each lot of HMA mix produced under Nonstatistical Evaluation when the calculated CPF is less than  
21 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference  
22 of CPF minus 1.00 multiplied by 60 percent. The total job mix compliance price adjustment will be  
23 calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price  
24 per ton of mix.

25

26 If a constituent is not measured in accordance with these Specifications, its individual pay factor will be  
27 considered 1.00 in calculating the Composite Pay Factor (CPF).



1 **5-04.3(9)C7 Mixture Nonstatistical Evaluation - Retests**

2 The Contractor may request a subplot be retested. To request a retest, the Contractor shall submit a written  
3 request within 7 calendar days after the specific test results have been received. A split of the original  
4 acceptance sample will be retested. The split of the sample will not be tested with the same tester that ran  
5 the original acceptance test. The sample will be tested for a complete gradation analysis, asphalt binder  
6 content, and, at the option of the agency,  $V_a$ . The results of the retest will be used for the acceptance of the  
7 HMA in place of the original subplot sample test results. The cost of testing will be deducted from any  
8 monies due or that may come due the Contractor under the Contract at the rate of \$500 per sample.

9 **5-04.3 (9)D Mixture Acceptance – Commercial Evaluation**

10 If sampled and tested, HMA produced under Commercial Evaluation and having all constituents falling  
11 within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further  
12 evaluation. When one or more constituents fall outside the commercial tolerance limits in the Job Mix  
13 Formula shown in 5-04.3(9), the lot shall be evaluated in accordance with Section 1-06.2 to determine the  
14 appropriate CPF. The commercial tolerance limits will be used in the calculation of the CPF and the  
15 maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or  
16 samples from the street shall be tested to provide a minimum of three sets of results for evaluation.

17  
18 For each lot of HMA mix produced and tested under Commercial Evaluation when the calculated CPF is  
19 less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic  
20 difference of CPF minus 1.00 multiplied by 60 percent. The Job Mix Compliance Price Adjustment will be  
21 calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price  
22 per ton of mix.

23  
24 If a constituent is not measured in accordance with these Specifications, its individual pay factor will be  
25 considered 1.00 in calculating the Composite Pay Factor (CPF).

26 **5-04.3(10) HMA Compaction Acceptance**

27 HMA mixture accepted by nonstatistical evaluation that is used in traffic lanes, including lanes for  
28 intersections, ramps, truck climbing, weaving, and speed change, and having a specified compacted course  
29 thickness greater than 0.10-foot, shall be compacted to a specified level of relative density. The specified  
30 level of relative density shall be a Composite Pay Factor (CPF) of not less than 0.75 when evaluated in  
31 accordance with Section 1-06.2, using a LSL of 92.0 (minimum of 92 percent of the maximum density).  
32 The maximum density shall be determined by WSDOT FOP for AASHTO T 729. The specified level of  
33 density attained will be determined by the evaluation of the density of the pavement. The density of the  
34 pavement shall be determined in accordance with WSDOT FOP for WAQTC TM 8, except that gauge  
35 correlation will be at the discretion of the Engineer, when using the nuclear density gauge and WSDOT  
36 SOP 736 when using cores to determine density.

37  
38 Tests for the determination of the pavement density will be taken in accordance with the required procedures  
39 for measurement by a nuclear density gauge or roadway cores after completion of the finish rolling.

40  
41 If the Contracting Agency uses a nuclear density gauge to determine density the test procedures FOP for  
42 WAQTC TM 8 and WSDOT SOP T 729 will be used on the day the mix is placed and prior to opening to  
43 traffic.

44  
45 Roadway cores for density may be obtained by either the Contracting Agency or the Contractor in  
46 accordance with WSDOT SOP 734. The core diameter shall be 4-inches minimum, unless otherwise

1 approved by the Engineer. Roadway cores will be tested by the Contracting Agency in accordance with  
2 WSDOT FOP for AASHTO T 166.

3  
4 If the Contract includes the Bid item “Roadway Core” the cores shall be obtained by the Contractor in the  
5 presence of the Engineer on the same day the mix is placed and at locations designated by the Engineer. If  
6 the Contract does not include the Bid item “Roadway Core” the Contracting Agency will obtain the cores.

7  
8 For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor’s request after the  
9 Engineer is satisfied that material conforming to the Specifications can be produced.

10  
11 HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those  
12 listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test  
13 point evaluation shall be performed in accordance with instructions from the Engineer. The number of  
14 passes with an approved compaction train, required to attain the maximum test point density, shall be used  
15 on all subsequent paving.

16  
17 HMA for preleveling shall be thoroughly compacted. HMA that is used for preleveling wheel rutting shall  
18 be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

19  
20  
21 **Test Results**

22 For a subplot that has been tested with a nuclear density gauge that did not meet the minimum of 92 percent  
23 of the reference maximum density in a compaction lot with a CPF below 1.00 and thus subject to a price  
24 reduction or rejection, the Contractor may request that a core be used for determination of the relative  
25 density of the subplot. The relative density of the core will replace the relative density determined by the  
26 nuclear density gauge for the subplot and will be used for calculation of the CPF and acceptance of HMA  
27 compaction lot.

28  
29 When cores are taken by the Contracting Agency at the request of the Contractor, they shall be requested  
30 by noon of the next workday after the test results for the subplot have been provided or made available to  
31 the Contractor. Core locations shall be outside of wheel paths and as determined by the Engineer. Traffic  
32 control shall be provided by the Contractor as requested by the Engineer. Failure by the Contractor to  
33 provide the requested traffic control will result in forfeiture of the request for cores. When the CPF for the  
34 lot based on the results of the HMA cores is less than 1.00, the cost for the coring will be deducted from  
35 any monies due or that may become due the Contractor under the Contract at the rate of \$200 per core and  
36 the Contractor shall pay for the cost of the traffic control.

37 **5-04.3(10)A HMA Compaction – General Compaction Requirements**

38 Compaction shall take place when the mixture is in the proper condition so that no undue displacement,  
39 cracking, or shoving occurs. Areas inaccessible to large compaction equipment shall be compacted by other  
40 mechanical means. Any HMA that becomes loose, broken, contaminated, shows an excess or deficiency of  
41 asphalt, or is in any way defective, shall be removed and replaced with new hot mix that shall be  
42 immediately compacted to conform to the surrounding area.

43  
44 The type of rollers to be used and their relative position in the compaction sequence shall generally be the  
45 Contractor’s option, provided the specified densities are attained. Unless the Engineer has approved  
46 otherwise, rollers shall only be operated in the static mode when the internal temperature of the mix is less

1 than 175°F. Regardless of mix temperature, a roller shall not be operated in a mode that results in checking  
2 or cracking of the mat. Rollers shall only be operated in static mode on bridge decks.

3 **5-04.3(10)B HMA Compaction – Cyclic Density**

4 Low cyclic density areas are defined as spots or streaks in the pavement that are less than 90 percent of the  
5 theoretical maximum density. At the Engineer’s discretion, the Engineer may evaluate the HMA pavement  
6 for low cyclic density, and when doing so will follow WSDOT SOP 733. A \$500 Cyclic Density Price  
7 Adjustment will be assessed for any 500-foot section with two or more density readings below 90 percent  
8 of the theoretical maximum density.

9 **5-04.3(10)C Vacant**

10 **5-04.3(10)D HMA Nonstatistical Compaction**

11 **5-04.3(10)D1 HMA Nonstatistical Compaction – Lots and Sublots**

12 HMA compaction which is accepted by nonstatistical evaluation will be based on acceptance testing  
13 performed by the Contracting Agency dividing the project into compaction lots.

14  
15 A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance.  
16 A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only  
17 one lot per JMF is expected. A subplot shall be equal to one day’s production or 400 tons, whichever is less  
18 except that the final subplot will be a minimum of 200 tons and may be increased to 800 tons. Testing for  
19 compaction will be at the rate of 5 tests per subplot per WSDOT T 738.

20  
21 The subplot locations within each density lot will be determined by the Engineer. For a lot in progress with  
22 a CPF less than 0.75, a new lot will begin at the Contractor’s request after the Engineer is satisfied that  
23 material conforming to the Specifications can be produced.

24  
25 HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those  
26 listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test  
27 point evaluation shall be performed in accordance with instructions from the Engineer. The number of  
28 passes with an approved compaction train, required to attain the maximum test point density, shall be used  
29 on all subsequent paving.

30  
31 HMA for preleveling shall be thoroughly compacted. HMA that is used to prelevel wheel ruts shall be  
32 compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

33 **5-04.3(10)D2 HMA Compaction Nonstatistical Evaluation – Acceptance Testing**

34 The location of the HMA compaction acceptance tests will be randomly selected by the Engineer from  
35 within each subplot, with one test per subplot.

36 **5-04.3(10)D3 HMA Nonstatistical Compaction – Price Adjustments**

37 For each compaction lot with one or two sublots, having all sublots attain a relative density that is 92 percent  
38 of the reference maximum density the HMA shall be accepted at the unit Contract price with no further  
39 evaluation. When a subplot does not attain a relative density that is 92 percent of the reference maximum  
40 density, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The  
41 maximum CPF shall be 1.00, however, lots with a calculated CPF in excess of 1.00 will be used to offset  
42 lots with CPF values below 1.00 but greater than 0.90. Lots with CPF lower than 0.90 will be evaluated for  
43 compliance per 5-04.3(11). Additional testing by either a nuclear moisture-density gauge or cores will be  
44 completed as required to provide a minimum of three tests for evaluation.

1  
2 For compaction below the required 92% a Non-Conforming Compaction Factor (NCCF) will be  
3 determined. The NCCF equals the algebraic difference of CPF minus 1.00 multiplied by 40 percent. The  
4 Compaction Price Adjustment will be calculated as the product of CPF, the quantity of HMA in the  
5 compaction control lot in tons, and the unit Contract price per ton of mix.

6 **5-04.3(11) Reject Work**

7 **5-04.3(11)A Reject Work General**

8 Work that is defective or does not conform to Contract requirements shall be rejected. The Contractor may  
9 propose, in writing, alternatives to removal and replacement of rejected material. Acceptability of such  
10 alternative proposals will be determined at the sole discretion of the Engineer. HMA that has been rejected  
11 is subject to the requirements in Section 1-06.2(2) and this specification, and the Contractor shall submit a  
12 corrective action proposal to the Engineer for approval.

13 **5-04.3(11)B Rejection by Contractor**

14 The Contractor may, prior to sampling, elect to remove any defective material and replace it with new  
15 material. Any such new material will be sampled, tested, and evaluated for acceptance.

16 **5-04.3(11)C Rejection Without Testing (Mixture or Compaction)**

17 The Engineer may, without sampling, reject any batch, load, or section of Roadway that appears defective.  
18 Material rejected before placement shall not be incorporated into the pavement. Any rejected section of  
19 Roadway shall be removed.

20  
21 No payment will be made for the rejected materials or the removal of the materials unless the Contractor  
22 requests that the rejected material be tested. If the Contractor elects to have the rejected material tested, a  
23 minimum of three representative samples will be obtained and tested. Acceptance of rejected material will  
24 be based on conformance with the nonstatistical acceptance Specification. If the CPF for the rejected  
25 material is less than 0.75, no payment will be made for the rejected material; in addition, the cost of  
26 sampling and testing shall be borne by the Contractor. If the CPF is greater than or equal to 0.75, the cost  
27 of sampling and testing will be borne by the Contracting Agency. If the material is rejected before placement  
28 and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at a CPF of 0.75.  
29 If rejection occurs after placement and the CPF is greater than or equal to 0.75, compensation for the  
30 rejected material will be at the calculated CPF with an addition of 25 percent of the unit Contract price  
31 added for the cost of removal and disposal.

32 **5-04.3(11)D Rejection - A Partial Sublot**

33 In addition to the random acceptance sampling and testing, the Engineer may also isolate from a normal  
34 sublot any material that is suspected of being defective in relative density, gradation or asphalt binder  
35 content. Such isolated material will not include an original sample location. A minimum of three random  
36 samples of the suspect material will be obtained and tested. The material will then be statistically evaluated  
37 as an independent lot in accordance with Section 1-06.2(2).

38 **5-04.3(11)E Rejection - An Entire Sublot**

39 An entire sublot that is suspected of being defective may be rejected. When a sublot is rejected a minimum  
40 of two additional random samples from this sublot will be obtained. These additional samples and the  
41 original sublot will be evaluated as an independent lot in accordance with Section 1-06.2(2).

42 **5-04.3(11)F Rejection - A Lot in Progress**

43 The Contractor shall shut down operations and shall not resume HMA placement until such time as the  
44 Engineer is satisfied that material conforming to the Specifications can be produced:

- 1
- 2 1. When the Composite Pay Factor (CPF) of a lot in progress drops below 1.00 and the Contractor is
- 3 taking no corrective action, or
- 4 2. When the Pay Factor (PF) for any constituent of a lot in progress drops below 0.95 and the
- 5 Contractor is taking no corrective action, or
- 6 3. When either the PFi for any constituent or the CPF of a lot in progress is less than 0.75.

7 **5-04.3(11)G Rejection - An Entire Lot (Mixture or Compaction)**

8 An entire lot with a CPF of less than 0.75 will be rejected.

9 **5-04.3(12) Joints**

10 **5-04.3(12)A HMA Joints**

11 **5-04.3(12)A1 Transverse Joints**

12 The Contractor shall conduct operations such that the placing of the top or wearing course is a continuous  
13 operation or as close to continuous as possible. Unscheduled transverse joints will be allowed and the roller  
14 may pass over the unprotected end of the freshly laid mixture only when the placement of the course must  
15 be discontinued for such a length of time that the mixture will cool below compaction temperature. When  
16 the Work is resumed, the previously compacted mixture shall be cut back to produce a slightly beveled  
17 edge for the full thickness of the course.

18  
19 A temporary wedge of HMA constructed on a 20H:1V shall be constructed where a transverse joint as a  
20 result of paving or planing is open to traffic. The HMA in the temporary wedge shall be separated from the  
21 permanent HMA by strips of heavy wrapping paper or other methods approved by the Engineer. The  
22 wrapping paper shall be removed and the joint trimmed to a slightly beveled edge for the full thickness of  
23 the course prior to resumption of paving.

24  
25 The material that is cut away shall be wasted and new mix shall be laid against the cut. Rollers or tamping  
26 irons shall be used to seal the joint.

27 **5-04.3(12)A2 Longitudinal Joints**

28 The longitudinal joint in any one course shall be offset from the course immediately below by not more  
29 than 6 inches nor less than 2 inches. All longitudinal joints constructed in the wearing course shall be located  
30 at a lane line or an edge line of the Traveled Way. A notched wedge joint shall be constructed along all  
31 longitudinal joints in the wearing surface of new HMA unless otherwise approved by the Engineer. The  
32 notched wedge joint shall have a vertical edge of not less than the maximum aggregate size or more than 1/2  
33 of the compacted lift thickness and then taper down on a slope not steeper than 4H:1V. The sloped portion  
34 of the HMA notched wedge joint shall be uniformly compacted.

35 **5-04.3(12)B Bridge Paving Joint Seals**

36 **5-04.3(12)B1 HMA Sawcut and Seal**

37 Prior to placing HMA on the bridge deck, establish sawcut alignment points at both ends of the bridge  
38 paving joint seals to be placed at the bridge ends, and at interior joints within the bridge deck when and  
39 where shown in the Plans. Establish the sawcut alignment points in a manner that they remain functional  
40 for use in aligning the sawcut after placing the overlay.

41  
42 Submit a Type 1 Working Drawing consisting of the sealant manufacturer's application procedure.

1  
2 Construct the bridge paving joint seal as specified on the Plans and in accordance with the detail shown in  
3 the Standard Plans. Construct the sawcut in accordance with the detail shown in the Standard Plan.  
4 Construct the sawcut in accordance with Section 5-05.3(8)B and the manufacturer's application procedure.

5  
6 **5-04.3(12)B2 Paved Panel Joint Seal**

7 Construct the paved panel joint seal in accordance with the requirements specified in section 5-04.3(12)B1  
8 and the following requirement:

- 9  
10 1. Clean and seal the existing joint between concrete panels in accordance with Section 5-01.3(8) and  
11 the details shown in the Standard Plans.

12 **5-04.3(13) Surface Smoothness**

13 *(April 20, 2012 COK GSP)*

14 *This Section is replaced with the following:*

15 The completed surface of all courses shall be of uniform texture, smooth, uniform as to crown and grade,  
16 and free from defects of all kinds. The completed surface of the wearing course shall not vary more than  
17 1/8 inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline. The  
18 transverse slope of the completed surface of the wearing course shall vary not more than 1/4 inch in 10 feet  
19 from the rate of transverse slope shown in the Plans.

20 When deviations in excess of the above tolerances are found that result from a high place in the HMA, the  
21 pavement surface shall be corrected by one of the following methods:

- 22 1. Removal of material from high places by grinding with an approved grinding machine, or  
23 2. Removal and replacement of the wearing course of HMA, or  
24 3. By other method approved by the Project Engineer.

25 Correction of defects shall be carried out until there are no deviations anywhere greater than the allowable  
26 tolerances.

27 Deviations in excess of the above tolerances that result in a low place in the HMA and deviations resulting  
28 from a high place where corrective action, in the opinion of the Project Engineer, will not produce  
29 satisfactory results will be removed and replaced at the contractor's expense.

30 When Portland cement concrete pavement is to be placed on HMA, the surface tolerance of the HMA shall  
31 be such that no surface elevation lies above the plan grade minus the specified plan depth of Portland cement  
32 concrete pavement. Prior to placing the Portland cement concrete pavement, any such irregularities shall  
33 be brought to the required tolerance by grinding or other means approved by the Project Engineer.

34 When utility appurtenances such as manhole covers and valve boxes are located in the traveled way, the  
35 roadway shall be paved before the utility appurtenances are adjusted to the finished grade.

36 *(\*\*\*\*\* cont'd)*

37 **5-04.3(14) Planing (Milling) Bituminous Pavement**

38 The planing plan must be approved by the Engineer and a pre planing meeting must be held prior to the  
39 start of any planing. See Section 5-04.3(14)B2 for information on planing submittals.

40  
41 Locations of existing surfacing to be planed are as shown in the Drawings.  
42

1 Where planing an existing pavement is specified in the Contract, the Contractor must remove existing  
2 surfacing material and to reshape the surface to remove irregularities. The finished product must be a  
3 prepared surface acceptable for receiving an HMA overlay.

4  
5 Use the cold milling method for planing unless otherwise specified in the Contract. Do not use the planer  
6 on the final wearing course of new HMA.

7  
8 Conduct planing operations in a manner that does not tear, break, burn, or otherwise damage the surface  
9 which is to remain. The finished planed surface must be slightly grooved or roughened and must be free  
10 from gouges, deep grooves, ridges, or other imperfections. The Contractor must repair any damage to the  
11 surface by the Contractor's planing equipment, using an Engineer approved method.

12  
13 Repair or replace any metal castings and other surface improvements damaged by planing, as determined  
14 by the Engineer.

15  
16 A tapered wedge cut must be planed longitudinally along curb lines sufficient to provide a minimum of 4  
17 inches of curb reveal after placement and compaction of the final wearing course. The dimensions of the  
18 wedge must be as shown on the Drawings or as specified by the Engineer.

19  
20 A tapered wedge cut must also be made at transitions to adjoining pavement surfaces (meet lines) where  
21 butt joints are shown on the Drawings. Cut butt joints in a straight line with vertical faces 2 inches or more  
22 in height, producing a smooth transition to the existing adjoining pavement.

23  
24 After planing is complete, planed surfaces must be swept, cleaned, and if required by the Contract, patched  
25 and preleveled.

26  
27 The Engineer may direct additional depth planing. Before performing this additional depth planing, the  
28 Contractor must conduct a hidden metal in pavement detection survey as specified in Section 5-04.3(14)A.

29 **5-04.3(14)A Pre-Planing Metal Detection Check**

30 Before starting planing of pavements, and before any additional depth planing required by the Engineer,  
31 the Contractor must conduct a physical survey of existing pavement to be planed with equipment that can  
32 identify hidden metal objects.

33  
34 Should such metal be identified, promptly notify the Engineer.

35  
36 See Section 1-07.16(1) regarding the protection of survey monumentation that may be hidden in pavement.

37  
38 The Contractor is solely responsible for any damage to equipment resulting from the Contractor's failure  
39 to conduct a pre-planing metal detection survey, or from the Contractor's failure to notify the Engineer of  
40 any hidden metal that is detected.

1 **5-04.3(14)B Paving and Planing Under Traffic**

2 **5-04.3(14)B1 General**

3 In addition the requirements of Section 1-07.23 and the traffic controls required in Section 1-10, unless  
4 otherwise specified by the Contract Documents or approved by the Engineer in writing, the Contractor shall  
5 comply with the following:  
6

7 1. Intersections:

8 a. Keep intersections open to traffic at all times, except when paving or planing operations  
9 through an intersection requires closure. Such closure must be kept to the minimum time required  
10 to place and compact the HMA mixture, or plane as appropriate. For paving, schedule such closure  
11 to individual lanes or portions thereof that allows the traffic volumes and schedule of traffic  
12 volumes required in the approved traffic control plan. Schedule work so that adjacent intersections  
13 are not impacted at the same time and comply with the traffic control restrictions required by the  
14 Traffic Engineer. Each individual intersection closure or partial closure, must be addressed in the  
15 traffic control plan, which must be submitted to and accepted by the Engineer, see Section 1-  
16 10.2(2).

17 b. When planing or paving and related construction must occur in an intersection, consider  
18 scheduling and sequencing such work into quarters of the intersection, or half or more of an  
19 intersection with side street detours. Be prepared to sequence the work to individual lanes or  
20 portions thereof.

21 c. Should closure of the intersection in its entirety be necessary, and no trolley service is  
22 impacted, keep such closure to the minimum time required to place and compact the HMA  
23 mixture, plane, remove asphalt, tack coat, and as needed.

24 d. Any work in an intersection requires advance warning in both signage and a number of  
25 Working Days advance notice as determined by the Engineer, to alert traffic and emergency  
26 services of the intersection closure or partial closure.

27 e. Allow new compacted HMA asphalt to cool to ambient temperature before any traffic is  
28 allowed on it. Traffic is not allowed on newly placed asphalt until approval has been obtained  
29 from the Engineer.

30 2. Temporary centerline marking, post-paving temporary marking, temporary stop bars, and  
31 maintaining temporary pavement marking must comply with Section 8-23.

32 3. Permanent pavement marking must comply with Section 8-22.

33 **5-04.3(14)B2 Submittals – Planing Plan and HMA Paving Plan**

34 The Contractor must submit a separate planing plan and a separate paving plan to the Engineer at least 5  
35 Working Days in advance of each operation's activity start date. These plans must show how the moving  
36 operation and traffic control are coordinated, as they will be discussed at the pre-planing briefing and pre-  
37 paving briefing. When requested by the Engineer, the Contractor must provide each operation's traffic  
38 control plan on 24 x 36 inch or larger size Shop Drawings with a scale showing both the area of operation  
39 and sufficient detail of traffic beyond the area of operation where detour traffic may be required. The scale  
40 on the Shop Drawings is 1 inch = 20 feet, which may be changed if the Engineer agrees sufficient detail is  
41 shown.  
42



1 The planing operation and the paving operation include, but are not limited to, metal detection, removal of  
2 asphalt and temporary asphalt of any kind, tack coat and drying, staging of supply trucks, paving trains,  
3 rolling, scheduling, and as may be discussed at the briefing.

4  
5 When intersections will be partially or totally blocked, provide adequately sized and noticeable signage  
6 alerting traffic of closures to come, a minimum 2 Working Days in advance. The traffic control plan must  
7 show where police officers will be stationed when signalization is or may be, countermanded, and show  
8 areas where flaggers are proposed.

9  
10 At a minimum, the planing and the paving plan must include:

- 11  
12 1. A copy of the accepted traffic control plan, see Section 1-10.2(2), detailing each day's traffic  
13 control as it relates to the specific requirements of that day's planing and paving. Briefly describe  
14 the sequencing of traffic control consistent with the proposed planing and paving sequence, and  
15 scheduling of placement of temporary pavement markings and channelizing devices after each  
16 day's planing, and paving.
- 17 2. A copy of each intersection's traffic control plan.
- 18 3. Haul routes from Supplier facilities, and locations of temporary parking and staging areas,  
19 including return routes. Describe the complete round trip as it relates to the sequencing of paving  
20 operations.
- 21 4. Names and locations of HMA Supplier facilities to be used.
- 22 5. List of all equipment to be used for paving.
- 23 6. List of personnel and associated job classification assigned to each piece of paving equipment.
- 24 7. Description (geometric or narrative) of the scheduled sequence of planing and of paving, and  
25 intended area of planing and of paving for each day's work, must include the directions of proposed  
26 planing and of proposed paving, sequence of adjacent lane paving, sequence of skipped lane paving,  
27 intersection planing and paving scheduling and sequencing, and proposed notifications and  
28 coordinations to be timely made. The plan must show HMA joints relative to the final pavement  
29 marking lane lines.
- 30 8. Names, job titles, and contact information for field, office, and plant supervisory personnel.
- 31 9. A copy of the approved Mix Designs.
- 32 10. Tonnage of HMA to be placed each day.
- 33 11. Approximate times and days for starting and ending daily operations.

34 **5-04.3(14)B3 Pre-Paving and Pre-Planing Briefing**

35 At least 2 Working Days before the first paving operation and the first planing operation, or as scheduled  
36 by the Engineer for future paving and planing operations to ensure the Contractor has adequately prepared  
37 for notifying and coordinating as required in the Contract, the Contractor must be prepared to discuss that  
38 day's operations as they relate to other entities and to public safety and convenience, including driveway  
39 and business access, garbage truck operations, Metro transit operations and working around energized  
40 overhead wires, school and nursing home and hospital and other accesses, other contractors who may be  
41 operating in the area, pedestrian and bicycle traffic, and emergency services. The Contractor, and  
42 Subcontractors that may be part of that day's operations, must meet with the Engineer and discuss the

1 proposed operation as it relates to the submitted planing plan and paving plan, approved traffic control plan,  
2 and public convenience and safety. Such discussion includes, but is not limited to:

- 3
- 4 1. General for both Paving Plan and for Planing Plan:
  - 5 a. The actual times of starting and ending daily operations.
  - 6 b. In intersections, how to break up the intersection, and address traffic control and signalization for  
7 that operation, including use of peace officers.
  - 8 c. The sequencing and scheduling of paving operations and of planing operations, as applicable, as  
9 it relates to traffic control, to public convenience and safety, and to other contractors who may  
10 operate in the Project Site.
  - 11 d. Notifications required of Contractor activities, and coordinating with other entities and the public  
12 as necessary.
  - 13 e. Description of the sequencing of installation and types of temporary pavement markings as it  
14 relates to planning and to paving.
  - 15 f. Description of the sequencing of installation of, and the removal of, temporary pavement patch  
16 material around exposed castings and as may be needed
  - 17 g. Description of procedures and equipment to identify hidden metal in the pavement, such as  
18 survey monumentation, monitoring wells, street car rail, and castings, before planning, see  
19 Section 5-04.3(14)B2.
  - 20 h. Description of how flaggers will be coordinated with the planing, paving, and related operations.
  - 21 i. Description of sequencing of traffic controls for the process of rigid pavement base repairs.
  - 22 j. Other items the Engineer deems necessary to address.
- 23 2. Paving – additional topics:
  - 24 a. When to start applying tack and coordinating with paving.
  - 25 b. Types of equipment and numbers of each type equipment to be used. If more pieces of  
26 equipment than personnel are proposed, describe the sequencing of the personnel operating the  
27 types of equipment. Discuss the continuance of operator personnel for each type equipment as  
28 it relates to meeting Specification requirements.
  - 29 c. Number of JMFs to be placed, and if more than one JMF how the Contractor will ensure different  
30 JMFs are distinguished, how pavers and MTVs are distinguished if more than one JMF is being  
31 placed at the time, and how pavers and MTVs are cleaned so that one JMF does not adversely  
32 influence the other JMF.
  - 33 d. Description of contingency plans for that day's operations such as equipment breakdown, rain  
34 out, and Supplier shutdown of operations.
  - 35 e. Number of sublots to be placed, sequencing of density testing, and other sampling and testing.

36 **5-04.3(15) Sealing Pavement Surfaces**

37 Apply a fog seal where shown in the plans. Construct the fog seal in accordance with Section 5-02.3. Unless  
38 otherwise approved by the Engineer, apply the fog seal prior to opening to traffic.

1 **5-04.3(16) HMA Road Approaches**

2 HMA approaches shall be constructed at the locations shown in the Plans or where staked by the Engineer.  
3 The Work shall be performed in accordance with Section 5-04.

4 **5-04.4 Measurement**

5 “HMA Cl. \_\_\_ In. PG 58H-22” will be measured by the ton in accordance with Section 1-09.2, with no  
6 deduction being made for the weight of asphalt binder, mineral filler, or any other component of the  
7 mixture. If the Contractor elects to remove and replace mix as allowed by Section 5-04.3(11), the material  
8 removed will not be measured.

9 All temporary asphalt shall be HMA. Cold mix asphalt is not permitted. HMA used for temporary purposes  
10 will not be measured for separate payment and shall be considered included in the lump sum item “Project  
11 Temporary Traffic Control”.

12 HMA shall be measured based on certified truck tickets collected on the day of paving.

13 No measurement will be made for asphalt used in conjunction with adjusting utilities to finished grade or  
14 used for any temporary purposes.

15 **5-04.5 Payment**

16 Payment will be made for each of the following Bid items that are included in the Proposal:

17

18 “HMA Cl. \_\_\_ In. PG 58H-22”, per ton.

19 The unit Contract price per ton for “HMA Cl. \_\_\_ In. PG 58H-22” shall be full compensation for all costs,  
20 including anti-stripping additive, incurred to carry out the requirements of Section 5-04 except for those  
21 costs included in other items which are included in this Subsection and which are included in the Proposal.

22 All costs for minimizing drop-offs and maintaining access to existing streets and driveways including, but  
23 not limited to steel sheeting, cold mix, and channelization devices, shall be included in the lump sum bid  
24 item “Project Temporary Traffic Control”. No additional or separate compensation will be considered.

25 **5-05 CEMENT CONCRETE PAVEMENT**

26 **5-05.1 Description**

27 *Supplement this section with the following:*

28 This work shall also include constructing decorative stamped cement concrete pavement within the median,  
29 as shown on the Plans.

30 **5-05.2 Materials**

31 *Supplement this section with the following:*

32 Cement concrete pavement shall be constructed with a Class 4000 Portland Cement Concrete mix  
33 conforming to the requirements of Section 6-02.

34 **5-05.3 Construction Requirements**

35 *Supplement this section with the following:*

36 Full depth expansion joints and contraction/control joints shall be constructed with 10-foot max spacing, or  
37 as approved by the Engineer.

38 Stamped Cement Concrete Pavement shall be installed flush with adjacent cement concrete curb.

39 Antique release and sealer shall be applied evenly to the surface of fresh concrete according to the  
40 manufacturer’s specifications.

1 Catalog product cut sheets for antique release and sealer shall be submitted to Engineer for approval prior  
2 to providing mock-up samples.

3 Contractor shall provide pavement and joint layout in the field for Engineer approval prior to installation.

#### 4 Qualifications

5 Qualified and competent workman shall have a minimum five (5) years of work experience for same  
6 paving type installation of stamped concrete.

7 Stamped Cement Concrete Pavement Installer's Additional Qualifications: Installer shall provide a list of  
8 five (5) successfully installed projects that include stamped concrete work within the Western United  
9 States. Include the following information: Address/ name of project; square footage; date of installation;  
10 contact name and phone number; up to two (2) photos of each project.

#### 11 Submittals

12 Catalog product cut sheets for antique release and sealer shall be submitted to Streets & Grounds Manager  
13 for approval prior to providing mock-up samples.

14 Contractor to provide pavement and joint layout for Engineer's approval prior to installation.

#### 15 Mock-Up Sample(s)

16 Prior to the start of concrete pavement work, the Contractor shall provide a minimum (4) four feet by (4)  
17 four feet (16 square feet) mock-up sample of Stamped Cement Concrete Pavement showing stamped  
18 pattern, release agent and sealer per these special provisions and design plans.

19 Completed work not meeting the visual quality of the approved sample shall be removed and replaced by  
20 the Contractor at no additional cost to the Owner.

21 The final approved sample shall be the standard for the balance of the rest of the 'Stamped Cement  
22 Concrete Pavement' work installed in the median and shall be protected from damage until final  
23 acceptance and approval. Mock-up sample(s) provided for approval by Streets & Grounds Manager shall  
24 be incidental to and included in the unit bid price for "Stamped Cement Concrete Pavement" per these  
25 Special Provisions.

26 No additional concrete shall be placed prior to the test panel being approved by the Engineer.

### 27 **5-05.3(11) Finishing**

28 *Supplement this section with the following:*

29 Stamped Cement Concrete Pavement noted in the Plans within the median shall receive stamp pattern and  
30 finish.

31 Finish of Stamped Cement Concrete Pavement shall be achieved using 'Cobblestone' pattern - BST5000  
32 textured mats and Chiseled Slate – BST7618 touch-up skins as well as Chiseled Slate – BSTR0976 touch-  
33 up roller sleeve available from Butterfield Color, phone 1-800-282-3388, or approved equal. Cobblestone  
34 pattern surface texture shall be achieved using imprinting texture, stencils, detailing tools to create a running  
35 bond pattern of square and rectangular shapes with grout lines. Edges, corners and texture shall be as shown  
36 on the Plans.

37 Stamped Cement Concrete Pavement shall receive antiquing release agent and sealer (including additive)  
38 application, as follows:

- 39 • Butterfield Color® #PT12 Perma-Tique Antiquing Agent – Storm Gray
- 40 • Butterfield Color® Clear-Guard™ Cure & Seal

1  
2 Completed work not meeting the visual quality of the approved sample shall be removed and replaced by  
3 the Contractor at no additional cost to the Owner.

4 **5-05.4 Measurement**

5 *Supplement this section with the following:*

6 “Stamped Cement Conc. Pavement” will be measured per square foot.

7 **5-05.5 Payment**

8 *Supplement this section with the following:*

9 “Stamped Cement Conc. Pavement”, per square foot.

10 The unit Contract price for “Stamped Cement Conc. Pavement” shall be full compensation for all costs  
11 necessary and incidental to installing stamped cement concrete pavement, including but not limited to  
12 stamping tools, providing stamping tools to the Owner upon completion of the work, mock-up samples,  
13 excavation, compaction; forming, cement concrete, jointing, stamping and texturing, welded wire mesh,  
14 curing and sealing.

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END OF DIVISION 5

1 **DIVISION 7**  
2 **DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER**  
3 **MAINS, AND CONDUITS**  
4

5 **7-05 MANHOLES, INLETS, CATCH BASINS, AND DRYWELLS**

6 **7-05.3(1) Adjusting Manholes and Catch Basins to Grade**

7 *Section 7-05.3(1) is supplemented with the following:*

- 8 • Catch basins and similar structures shall be brought to finished grades by methods of construction  
9 as required in Section 7-05 and City of Kirkland Pre-Approved Plans. Steel risers are not allowed. Patch  
10 adjacent pavement with Class G asphalt concrete pavement. Seal joint with AR4000W and dry sand after  
11 patching.

12 **7-05.4 Measurement**

13 *Supplement this section with the following:*

14 “Solid Locking Lid”, will be measured per each.

15 “Open Curb Face Frame and Grate”, will be measured per each.

16 “Conversion Riser” will be measured per each.

17 **7-05.5 Payment**

18 *Supplement this section with the following:*

19 “Solid Locking Lid”, per each.

20 “Open Curb Face Frame and Grate”, per each.

21 “Conversion Riser”, per each.

22 The unit Contract price for “Solid Locking Lid”, “Open Curb Face Frame and Grate”, and “Conversion  
23 Riser” shall be full compensation for all costs necessary and incidental to furnish and install new castings  
24 on new or existing drainage or sewer structures as shown on the Plans, including but not limited to removing  
25 and disposal/salvage of existing castings, new castings, new adjustment sections, grouting and CDF,  
26 adjustment to finished grade, and restoration of surrounding surface.

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28 **END OF DIVISION 7**  
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**DIVISION 8  
MISCELLANEOUS CONSTRUCTION**

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**8-01            EROSION CONTROL AND WATER POLLUTION CONTROL**

**8-01.1            Description**

*Supplement this section with the following:*

The Contractor shall install and maintain all temporary and permanent erosion control measures and Best Management Practices (BMPs) in accordance with the Contract Documents, Standard Specifications, Permit Conditions, the Contractors “Stormwater Pollution Prevention Plan” (SWPPP) and as directed by the Engineer or the City. Such measures may include, but are not necessarily limited to:

- Temporary chain link construction fencing
- Commercial construction entrances per City of Kirkland Standard Plan CK-E.02.
- Quarry spill outfall pads for temporary erosion control
- Rock, wattle, compost sock check dams
- Straw mulch, netting and tackifier
- Concrete wash
- Baker tanks and/or Settling ponds
- Inlet protection on existing and proposed drainage structures
- Reinforced silt fencing
- Plastic covering
- Temporary pipe slope drains
- Temporary HMA curb
- Disposal of sediments and materials
- TESC seeding
- Maintenance of BMPs including in the event of emergencies and as weather and field conditions dictate; and also including installation of additional BMPs which may become required as field and weather conditions evolve
- Street sweeping and cleaning
- ESC Lead per 8-01 of the Standard Specifications
- All materials, tools and equipment necessary to meet these requirements

The Contractor shall provide erosion control as required for all stockpiled materials at no cost to the City. The Engineer, in the event of an emergency, and as weather and field conditions dictate, may require additional erosion controls and BMPs.

1 **Site Specific BMPs and SWPPP Plan**

2 The Contractor shall submit their own Storm Water Pollution Prevention Plan (SWPPP) to the City for  
3 review and approval prior to the commencement of clearing, grubbing, or grading activities.

4 Water quality testing and discharge volume reporting required by the project permits shall be performed by  
5 the Contractor and is a condition of approval of the SWPPP. The reporting data shall be provided to the  
6 Engineer as soon as practical, at regular intervals and prior to reporting deadlines established in the permits.  
7 The Contractor shall provide a copy of the reporting information within 24 hours of a request to do so by  
8 the Engineer. All costs to perform these reporting requirements are to be included in the lump sum Contract  
9 price for “Erosion Control and Water Pollution Prevention”.

10 All fines for non-compliance with applicable stormwater-related permits shall be the sole responsibility of  
11 the Contractor. No payment will be made to the Contractor for fines resulting from permit violations.

12 **8-01.3 Construction Requirements**

13 *Supplement this section with the following:*

14 The Contractor shall bear sole responsibility for damage to completed portions of the project and to property  
15 located off the project caused by erosion, siltation, runoff, or other related items during the construction of  
16 the project. The Contractor shall also bear sole responsibility for any pollution of rivers, streams,  
17 groundwater, or other water that may occur as a result of construction operations.

18 Any area not covered with established, stable vegetation where no further work is anticipated for a period  
19 of 15 days, shall be immediately stabilized with the approved erosion and sedimentation control methods  
20 (e.g., seeding and mulching, straw). Where seeding for temporary erosion control is required, fast  
21 germinating grasses shall be applied at an appropriate rate (e.g., perennial rye applied at approximately 80  
22 pounds per acre).

23 At no time shall more than 1 foot of sediment be allowed to accumulate within a catch basin. All catch  
24 basins and conveyance lines shall be cleaned at a time designated by the City Construction Inspector. The  
25 cleaning operation shall not flush sediment-laden water into the downstream system. The cleaning shall be  
26 conducted using an approved vacuum truck capable of jet rodding the lines. The collection and disposal of  
27 the sediment shall be the responsibility of the Contractor at no cost to the City.

28 **8-01.3(1) General**

29 **8-01.3(1)A Submittals**

30 *Supplement this section with the following:*

31 **Stormwater Pollution Prevention Plan**

32 The Contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) in accordance with  
33 Department of Ecology requirements.

34 The Contractor shall incorporate the SWPPP implementation schedule into the Contractor’s progress  
35 schedule. The SWPPP and implementation schedule shall be submitted in accordance with 1-05.3 and 1-  
36 08.3.

37 The Ecology template can be found at the following link:

38 <http://www.ecy.wa.gov/programs/wq/stormwater/construction/>

39 The SWPPP is considered a “living” document that shall be revised to account for additional erosion  
40 control/pollution prevention BMPs as they become necessary and are implemented in the field during  
41 project construction. A copy of the most current SWPPP shall remain on-site at all times and an additional  
42 copy shall be forwarded to the Engineer. At the Contractor’s preference, revisions to the SWPPP may be



1 forwarded to the Engineer rather than submitting a complete document. Revisions to the SWPPP may be  
2 kept on-site in a file along with the original SWPPP document.

3 **8-01.3(1)C Water Management**

4 *Supplement this section with the following:*

5 The Contractor will be responsible for meeting the SWPPP requirements.

6 The Bid Item “Erosion Control and Water Pollution Prevention” shall include the cost of providing  
7 temporary detention/retention facilities as illustrated in the Contractor’s SWPPP Plan as well as  
8 modifications, additions and removals of such facility as dictated by the Contractor’s sequence of work and  
9 may include, but are not limited to:

- 10 1. Temporary detention/retention facilities such as ponds, Baker Tanks, or other facilities.
- 11 2. If any permanent stormwater facilities are utilized, such as the detention vault, for SWPPP  
12 compliance, the Contractor shall remove accumulated sediment and clean the facility prior to  
13 final acceptance at no additional cost to the City.
- 14 3. Temporary facilities such as wheel wash stations or similar
- 15 4. Temporary construction entrances.

16  
17 No additional compensation shall be made for construction, alteration, removal, maintenance, and any  
18 additional requirements necessary for “Erosion Control and Water Pollution Prevention”. No additional  
19 compensation shall be made for conflicts with existing or proposed improvements or construction  
20 sequencing of work when facilities are utilized to meet permit requirements.

21 **8-01.3(8) Street Cleaning**

22 *Supplement this section with the following:*

23 The Contractor shall provide for cleaning all surfaced roadways that have become dirty as a result of the  
24 execution of this project. This shall be done at the completion of each day’s activities or more often if  
25 directed by the Engineer. Street sweepers with a vacuum function shall be the only acceptable method for  
26 street cleaning. Flushing will not be permitted.

27 Contractor shall have a vacuum sweeper available, full-time, for the duration of the project. Not having a  
28 full-time vacuum sweeper available and/or sufficient additional materials to react in a timely manner to  
29 changes may be grounds for the City to issue a Stop Work Order until the Contractor remedies the  
30 deficiency, or the City may elect to have complete the street sweeping and deduct the cost from monies due  
31 to the Contractor. Time spent under a Stop Work Order in this situation shall not be grounds for a claim  
32 for additional payment or additional Working Days.

33 Roadway sweeping and cleaning shall be considered included in the lump sum Contract price for “Erosion  
34 Control and Water Pollution Prevention”.

35 **8-01.3(9)D Inlet Protection**

36 *Supplement this Section with the following:*

37 Inlet protection can be in the form of internal devices and shall be installed prior to clearing, grubbing or  
38 earthwork activities. Inlet protection shall be installed on existing catch basins, new catch basins, and those  
39 immediately downstream of the project site that could possibly receive sediment laden runoff from the site.  
40 Inlet protection shall meet the requirements of City of Kirkland Standard Plan CK-E.11.

41 When the depth of accumulated sediment and debris reaches approximately one-half the height of an  
42 internal device or one-third the height of the external device (or less if specified by the manufacturer), the  
43 deposits shall be removed. Contractor shall be responsible for removing catch basin inserts upon completion  
44 of the project.

1 **8-01.3(16) Removal**

2 *Supplement this section with the following:*

3

4 **Removing Temporary Erosion / Water Pollution Control BMPs**

5 The Contractor shall removal all Temporary Erosion / Water Pollution Control BMPs within twenty (20)  
6 days after final stabilization, landscape restoration, or after the BMPs are no longer needed. Trapped  
7 sediment shall be removed or stabilized on site.

8 *Add the following new Sections:*

9 **8-01.3(17)Protection of Existing Trees and Shrubs**

10 The Contractor shall carefully protect existing trees and shrubs that are not designated for removal during  
11 the course of construction against cutting, breaking or skinning of roots, skinning or bruising of bark. The  
12 Contractor shall plan all operations to avoid creating situations in which trees and shrubs may be damaged.  
13 Notify the Engineer if construction may damage trees and shrubs; the Contractor shall not proceed with  
14 Work until directed by the Engineer.

15 **Root Protection**

16 Cut exposed roots cleanly and keep moist with straw mulch and burlap or equivalent during the time  
17 trenches are open. Hand dig trenches in areas with extensive roots. Roots larger than 3-inches in diameter  
18 shall be left intact and the Engineer notified for instructions on how to proceed.

19 **Damages for Loss or Injury to Existing Trees and Shrubs to Remain**

20 The Contractor shall be liable for damage to trees and shrubs. In the event of injuries to the crown, trunk  
21 or root system of existing trees and shrubs resulting from the Contractor's failure to protect them (the just  
22 value of which is determined by the *Valuation of Landscape Trees, Shrubs, and Other Plants*, (Current  
23 Edition) damages shall be deducted from the total amount due the Contractor.

24 **8-01.3(18)Suspension of Work**

25 If at any time during the life of this Contract the Contractor requests to suspend work due to weather  
26 conditions or other constraints, it shall be the Contractor's responsibility to meet the Erosion Control and  
27 Water Pollution Prevention requirements of the Bid Documents, including maintenance and repair of BMPs  
28 already installed, at all times during suspension.

29 **8-01.4 Measurement**

30 **8-01.4(3) Reinstating Unit Items with Lump Sum Erosion Control and Water Pollution Prevention**

31 *Supplement this section with the following:*

32 "Inlet Protection" will be measured per each.

33 "High Visibility Silt Fence" will be measured per linear foot.

34 Temporary chain link construction fencing shown in the plans will not be measured for separate payment  
35 and is considered incidental to the Lump Sum item "Erosion Control and Water Pollution Prevention".

36 **8-01.5 Payment**

37 **8-01.5(3) Reinstating Unit Items with Lump Sum Erosion Control and Water Pollution Prevention**

38 *Supplement this section with the following:*

39 "Erosion Control and Water Pollution Prevention", lump sum.

1 The lump sum Contract price for “Erosion Control and Water Pollution Prevention” shall be full  
2 compensation for all costs necessary and incidental to installation, maintenance, repair, and removal of  
3 erosion control facilities, and removal and disposal of sediment, as specified on the Plans and Standard  
4 Specifications for which specific Bid items are not provided, including but not limited to preparation and  
5 implementation of SWPPP; ESC lead; all temporary erosion control measures described within special  
6 provisions, standard specifications, and shown on the Plans; cleaning and rehabilitating the site after BMPs  
7 are removed; street sweeping; temporary chain link construction fencing; and other incidental items of  
8 works necessary to establish and maintain TESC measures.

9 “Inlet Protection”, per each.

10 The unit Contract price for “Inlet Protection” shall be full compensation for all costs necessary and  
11 incidental to installing, maintaining, and removing inlet protection at the locations shown on the Plans and  
12 where directed by the Engineer.

13 “High Visibility Silt Fence”, per linear foot.

14 The unit Contract price for “High Visibility Silt Fence” shall be full compensation for all costs necessary  
15 and incidental to installing and maintaining the high visibility silt fence at the locations shown on the Plans  
16 and where directed by the Engineer.

## 17 **8-02 ROADSIDE RESTORATION**

### 18 **8-02.2 Materials**

19 *Supplement this section with the following:*

20 Topsoil Type A	Section 9-14.2(1)
21 Seed	Section 9-14.3
22 Fertilizer	Section 9-14.4
23 Bark or Wood Chip Mulch	Section 9-14.5(3)

### 24 **8-02.3 Construction Requirements**

#### 25 **8-02.3(1) Responsibility During Construction**

26 *Supplement this Section with the following:*

27 Landscape construction is anticipated to begin after all curbs, sidewalks, and associated roadside work is  
28 completed. Landscape materials shall not be installed until weather permits and installation has been  
29 authorized by the Engineer. If water restrictions are anticipated or in force, planting of landscape materials  
30 may be delayed.

31 Throughout planting operations, the Contractor shall keep the premises clean, free of excess soils, plants,  
32 and other materials, including refuse and debris, resulting from the Contractor’s work. At the end of each  
33 workday, and as each planting area is completed, it shall be neatly dressed, and all surrounding walks and  
34 paved areas shall be cleaned to the satisfaction of the Engineer. No flushing will be allowed. At the  
35 conclusion of work, the Contractor shall remove surplus soils, materials, and debris from the construction  
36 site and shall leave the project in a condition acceptable to the Engineer.

#### 37 **8-02.3(4) Topsoil**

38 *Supplement this Section with the following:*

39 Thoroughly scarify subgrade in all areas to be seeded or planted, and all restoration areas, to a minimum  
40 depth of eight inches (8”). Scarified subgrade shall be inspected and approved by the Engineer prior to  
41 placement of topsoil. Remove all construction debris and rocks over two inches (2”) in diameter prior to  
42 the placement of topsoil.

1 Areas around existing trees to remain shall not be cultivated within the dripline of the tree or any other  
2 areas which appear to have a significant number of existing tree roots. Topsoil Type A shall be used in any  
3 areas requiring additional soil to bring subgrade up to grade, prior to the placement of required depth of  
4 topsoil as noted on the Plans. Remove all construction debris prior to placing topsoil.

5 Upon approval of the subgrade by Engineer, Topsoil Type A shall be installed in a single lift to the depth  
6 shown on the Plans. Remove rocks, roots, and debris over one (1) inch in diameter. Lightly compact soil  
7 and establish a smooth and uniform finished grade that protects against obstruction to surface drainage and  
8 ponding. Finish grade after installation of topsoil shall be 1" plus the specified depth of mulch below the  
9 top of adjacent curbs or paved surfaces.

10 Any additional fine grading to get a firm smooth surface in all planted or seeded areas shall be considered  
11 incidental to and included in the unit contract price for placement and installation of Topsoil Type A.

12 The costs of removing all excess material and debris shall be considered incidental to and included in the  
13 unit contract prices of other items in this contract.

14 **8-02.3(4)A Topsoil Type A**

15 *Supplement this Section with the following:*

16 Topsoil Type A shall conform to Section 9-14.2(1) of these Special Provisions and shall be supplied by a  
17 Contractor's supplied source, and as approved by the Engineer.

18 **8-02.3(6)B Fertilizers**

19 *Supplement this Section with the following:*

20 Fertilizer shall be a standard commercial grade of organic or inorganic fertilizer as specified in Section 9-  
21 14.4 of these Special Provisions. All fertilizers shall be furnished in standard unopened containers with  
22 weight, name of plant nutrients and manufacturer's guaranteed statement of analysis clearly marked, in  
23 accordance with State and Federal law.

24 Shrubs shall be fertilized at a rate according to fertilizer manufacturer's recommendations.

25 All fertilizer shall be pre-mixed prior to bringing on the job.

26 Fertilizer tablets shall be considered incidental to and included in the unit contract price for plants.

27 **8-02.3(11) Bark or Wood Chip Mulch**

28 *Supplement this Section with the following:*

29 Bark or wood chip mulch shall be placed over disturbed areas where shown on the Plans to a depth no less  
30 than two inches (2"). Thoroughly water and hose down plants with a fine spray to wash the leaves of the  
31 plants immediately after application.

32 Bark or wood chip mulch shall meet the requirements of Section 9-14.5(3) Bark or Wood Chips of these  
33 Special Provisions and shall be supplied by a Contractor's supplied source, and as approved by the  
34 Engineer.

35 *Add the following new section:*

36 • **8-02.3(17) Property Restoration**

37 Property restoration shall consist of placement of topsoil, seed, fertilizer, bark mulch, crushed surfacing top  
38 course, and crushed surfacing for trail, for restoration at back of walk, restoration of wetland buffer areas,  
39 restoration of trail shoulders, and restoration of trail surface at tie-ins.

40 All topsoil, seed, fertilizer, and mulch materials shall conform to Sections 9-14 Erosion Control and  
41 Roadside Planting of these Special Provisions and the Standard Specifications.

1 The Contractor is specifically reminded that any unnecessary damage caused by construction activities will  
2 be repaired at the Contractor's expense.

3 All disturbed areas shall be restored to original condition or better.

4 Topsoil shall be Type A and Bark Mulch shall be medium grade fir or hemlock.

5 **8-02.4 Measurement**

6 *Supplement this section with the following:*

7 No specific unit of measurement will apply to the Lump Sum item for "Property Restoration".

8 **8-02.5 Payment**

9 *Supplement this section with the following:*

10 "Property Restoration", per Lump Sum.

11 "Property Restoration" shall be full compensation for all costs necessary and incidental to restore areas  
12 adjacent to improvements to original condition where not covered by other Bid items, including but not  
13 limited to trail and shoulder restoration, wetland buffer restoration, bark mulch, seed, fertilizer, and topsoil.

14 **8-04 CURBS, GUTTERS, AND SPILLWAYS**

15 **8-04.3 Construction Requirements**

16 **8-04.3(1) Cement Concrete Curbs, Gutters, and Spillways**

17 *Replace the first paragraph of this Section with the following:*

18 Cement concrete curbs shall be constructed with air-entrained Class 4000 Portland Cement Concrete per  
19 Standard Specifications Section 6-02.

20 All curbs shall be poured separately and prior to sidewalks and curb ramps.

21 *Supplement this section with the following:*

22 Curbs shall be protected against damage or defacement of any kind until it has been accepted by the  
23 Engineer. Work that is not acceptable to the Engineer because of damage or defacement shall be removed  
24 and replaced by the Contractor at his own expense.

25 Pigmented curing compounds shall not be used on curbs and gutters. Only clear curing compounds will be  
26 permitted.

27 The Contractor shall have the subgrade prepared and the line or formwork for curbs placed at least 24 hours  
28 prior to installing curbs. Compliance shall be checked by the Contractor when forms are set and when  
29 concrete is poured. Any modification of grading from that shown on the Plans as required for ADA  
30 compliance shall be approved by the Engineer. Minor adjustment shall be considered changes to the Plan  
31 elevations of three inches or less. The work to revise the lines, formwork and subgrade for minor  
32 adjustments shall be considered incidental to the bid price for the type of curb being installed. If the lines  
33 and formwork are not in conformance with the Plans, all adjustments, regardless of size, shall be at the sole  
34 expense of the Contractor. Adjustments to the lines and grades shall not constitute a basis for claims for  
35 additional contract time or expenses.

36 Install curb expansion joints at 10' spacing; ensure curb expansion joints are in alignment with sidewalk  
37 joints.

38 **8-04.4 Measurement**

39 *Supplement this section with the following:*

40 "Cement Conc. Traffic Curb and Gutter" will be measured per linear foot.

1 “Cement Conc. Pedestrian Curb” will be measured per linear foot.  
2 “Roundabout Cement Conc. Curb and Gutter” will be measured per linear foot.  
3 Mountable Median Curb will be measured and paid per Section 8-07.

4 **8-04.5 Payment**

5 *Supplement this section with the following:*

6 “Cement Conc. Traffic Curb and Gutter”, per linear foot.

7 “Cement Conc. Pedestrian Curb”, per linear foot.

8 “Roundabout Cement Conc. Curb and Gutter”, per linear foot.

9 The unit Contract price for “Cement Conc. Traffic Curb and Gutter”, “Cement Conc. Pedestrian Curb”,  
10 “Roundabout Cement Conc. Curb and Gutter” shall be full compensation for all costs necessary and  
11 incidental to completely install curbs to lines and grades specified on the Plans, including but not limited  
12 to forming, form adjustments, procuring and pouring concrete, joint materials, finishing, curing, and  
13 stripping forms.

14 **8-07 PRECAST TRAFFIC CURB**

15 **8-07.3 Construction Requirements**

16 *Supplement this section with the following:*

17 Mountable Median Curb shall be per City of Kirkland Standard Plan CK-R.19B, painted yellow.

18 **8-07.4 Measurement**

19 *Supplement this section with the following:*

20 “Mountable Median Curb” will be measured per linear foot along the finished centerline of curb.

21 **8-07.5 Payment**

22 *Supplement this section with the following:*

23 “Mountable Median Curb”, per linear foot.

24 The unit Contract price for “Mountable Median Curb” shall be full compensation for all costs necessary  
25 and incidental to the complete installation, including but not limited to precast curb sections, adhesive, joint  
26 sealing, painting, and tack coat.

27 **8-13 MONUMENT CASES**

28 **8-13.3 Construction Requirements**

29 *Supplement this Section with the following:*

30 Existing monuments within the project limits have been identified on the Plans.

31 Monuments in conflict with proposed improvements as shown in the Plans, or disturbed during  
32 construction, shall be removed and reset, with a new monument case and cover.

33 The Contractor along with the Professional Land Surveyor (PLS) engaged in construction surveying for the  
34 Contractor shall be responsible for perpetuating and documenting existing monuments in compliance with  
35 the Application for Permit to Remove or Destroy a Survey monument (WAC 332-120). Following approval  
36 by the Public Land Survey Office at the Department of Natural Resources (DNR), copies of approved  
37 permits shall be forwarded to the City. After monuments are replaced Contractor shall file a Record of  
38 Survey or Land Corner Record as required by (DNR) and provide copy to the City for review.

1 The Contractor shall work diligently to protect from harm any property corners which are encountered  
2 during construction. All disturbed property corners shall be replaced by a PLS at no additional cost to the  
3 city.

4 **8-13.4 Measurement**

5 *Supplement this Section with the following:*

6 “Monument Case and Cover” will be measured per each.

7 **8-13.5 Payment**

8 *Supplement this Section with the following:*

9 “Monument Case and Cover”, per each.

10 The unit Contract price for “Monument Case and Cover” shall be full compensation for costs necessary and  
11 incidental to complete the work, including but not limited to resetting, surveying, perpetuation and  
12 documentation, new case and cover, and adjustment to finish grade.

13 **8-14 CEMENT CONCRETE SIDEWALKS**

14 **8-14.2 Materials**

15 *Supplement this section with the following:*

16 Cement concrete sidewalks, bike ramps, curb ramps, and slabs shall be constructed with air-entrained Class  
17 4000 Portland Cement Concrete per Standard Specifications Section 6-02.

18

19 **Precast Tactile Paver**

20 Precast Tactile Paver shall be DB-1, 12”x12” precast paver in black color as manufactured by WAUSAU Tile,  
21 Phone: (715) 359-3121, or approved equal.

22 Mortar for precast tactile paver shall be a polymer fortified blend of polymers, Portland cement and graded  
23 aggregates applicable for exterior applications.

24 Physical performance properties of the fortified mortar shall comply with the following:

- 25 • Water Absorption: ANSI A118.7.3.4 < 5%
- 26 • Compressive Strength: ASTM C270 4000–5000 psi (27.6-34.5 MPa)
- 27 • Shrinkage 7 Day Cure: ASTM C157 0.05%
- 28 • TCA Service Rating: ASTM C–627 Extra Heavy

29

30 Other non-fortified mortars shall be combined with a latex admix, specifically for use with thin-set mortars,  
31 cement grouts, and cement mortar beds.

32 Grout for precast tactile paver shall be a high strength blend of Portland cement, graded aggregates and  
33 polymers with color-fast pigments, combined with a latex or acrylic admixture. Grout shall conform to ANSI  
34 A118.7.

35 Performance properties of sanded grout mixed with water (70°F [21°C]) shall be:

- 36 • Water Absorption: ANSI A118.7-1999-3.4 7%
- 37 • Compressive Strength: ANSI A118.7-1999-3.5 3000–35000 psi (20.7-24 MPa)
- 38 • TCA Service Rating: ASTM C627 Extra Heavy
- 39 • Linear Shrinkage: ANSI A118.7-1999-3.3 <0.2%

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**8-14.3 Construction Requirements**

*Replace this Section with the following:*

The Contractor shall have the subgrade prepared and the line or formwork for sidewalk placed at least 24 hours prior to installing cement concrete sidewalks. Compliance shall be checked by the prime contractor when forms are set and when concrete is poured. Any modification of grading from that shown on the Plans as required for ADA compliance shall be approved by the Engineer. Minor adjustment shall be considered changes the Plan elevations or offsets of 3 inches or less. The work to revise the lines, formwork and subgrade for minor adjustments shall be considered incidental to the bid price for cement concrete sidewalk. If the lines and formwork are not in conformance with the Plans all adjustments, regardless of size, shall be at the sole expense of the Contractor. Adjustments to the lines and grades shall not constitute a basis for claims for additional contract time or expenses.

Sidewalk cross slope shall be 1.5% maximum.

Installation of precast tactile paver and detectable warning surfaces shall be set in a neat, craftsmanship manner and flush to adjacent concrete ramp, concrete curb, asphalt and/or cement concrete sidewalk edges per ADA and PROWAG guidelines for grade break and gap tolerances.

The Contractor shall be responsible for delivering precast tactile pavers to the site undamaged. Any damaged or blemished materials shall be rejected and replaced at the Contractor’s expense.

The Contractor shall submit precast tactile paver, detectable warning surfaces, mortar, grout and sealer manufacturer product, indicating material, dimensions, layout and color information for Engineer’s approval prior to installation.

**8-14.3(3) Placing and Finishing Concrete**

*The fourth paragraph of Section 8-14.3(3) shall be replaced with the following:*

- Curb ramps shall be of the type specified in the Plans. The detectable warning pattern shall have the truncated dome shape shown in the City of Kirkland Standard Plans and shall be installed by adding a manufactured material before the concrete has cured. Acceptable manufacturers’ products are shown on the Qualified Products List.

- 

Curb ramps must comply with all current ADA standards; minor modifications to the grades and dimensions shown on the Plans may be required to meet current standards. Ramps which do not meet the current ADA standards shall be removed and replaced at the Contractor’s expense.

**8-14.4 Measurement**

*Supplement this Section with the following:*

“Cement Conc. Sidewalk” will be measured per square yard across finished sidewalk surface, including bike ramps and non-stamped cement concrete median.

“Cement Conc. Curb Ramp” will be measured per square yard across finished concrete curb ramp surface, including flares and landings.

“Precast Tactile Paver” will be measured per square foot across the finished paver surface.

**8-14.5 Payment**

*Supplement this Section with the following:*

“Cement Conc. Sidewalk”, per square yard.



1 The unit Contract price for “Cement Conc. Sidewalk” shall be full compensation for all costs necessary and  
2 incidental to the complete installation of cement concrete sidewalk, including but not limited to forms and  
3 form adjustments, procuring and placing concrete, jointing, finishing and curing.

4 “Cement Conc. Curb Ramp”, per square yard.

5 The unit Contract price for “Cement Conc. Curb Ramp” shall be full compensation for all costs necessary  
6 and incidental to the complete installation of cement concrete curb ramps, including but not limited to  
7 excavation, spoils haul and disposal, forms, form adjustments, procuring and placing concrete, joint  
8 materials, finishing, and curing.

9 “Precast Tactile Paver”, per square foot.

10 The unit contract price for “Precast Tactile Paver” shall be full compensation for all costs necessary and  
11 incidental to the complete installation of the precast tactile pavers, including but not limited to forms,  
12 cement concrete slab, pavers, mortar setting bed, and joint grout.

13  
14  
15 **8-20 ILLUMINATION, TRAFFIC SIGNAL SYSTEMS, INTELLIGENT**  
16 **TRANSPORTATION SYSTEMS, AND ELECTRICAL**

17  
18 **8-20.1 Description**

19  
20 (\*\*\*\*\*)

21 *Section 8-20.1 is replaced with the following:*

22  
23 Work shall include furnishing and installing all materials necessary install new pedestrian signals  
24 at the following location:

- 25 1. 132nd Ave NE & Slater Ave Crossing  
26

27 Work shall include furnishing and installing all materials necessary to provide modifications to  
28 existing traffic signal systems at the following intersection:

- 29 1. NE 124TH ST AND Slater Ave NE  
30

31 Work shall include furnishing and installing all materials necessary to provide a fiber optic traffic  
32 signal interconnect system between these two traffic signals.  
33  
34

35 The work consists of furnishing, installing, integrating, lab and field testing all materials and  
36 equipment necessary to complete in place, fully functional system(s) of any or all of the following  
37 types including modifications to an existing system all in accordance with approved methods, the  
38 Plans, the Special Provisions and these Specifications.  
39

40 The work consists of the following:

- 41 a. City of Kirkland standard signal cabinet  
42 b. Mast arm traffic signal poles with foundations.  
43 c. Type 1, PS, and PPB signal poles with foundations.  
44 d. Signal cabinet and service cabinet foundation  
45 e. Electric service cabinet  
46 f. Accessible pedestrian signal (APS) system.  
47 g. Signal heads, backplates, and pedestrian countdown heads.  
48 h. Vehicle pre-emption system  
49 i. CCTV camera.

- j. Vehicle detection loops.
- k. Fiber optic cable, patch panel, and ethernet modem
- l. Junction boxes
- m. Conduit and wire
- n. All other necessary appurtenances and incidentals.
- o. All other necessary appurtenances and incidentals.

The Work shall also include removing existing junction boxes, loop detectors, wires, and all necessary associated equipment where applicable to complete the Work.

The Contractor shall be responsible for connecting and integrating with existing systems and infrastructure to complete this work. Unless otherwise noted, the location of signal, controllers, standards, and appurtenances shown in the Plans are approximate; and the exact location will be established by the Engineer in the field. Contractor shall work with manufacturers and City Information Services (IS) and engineering staff as needed to accomplish work.

*The last paragraph of this section is deleted and replaced with the following:*

Unless otherwise noted, the location of signals, controllers, conduit, and all related appurtenances shown in the Plans are approximate and shall be verified with the Engineer in the field prior to installation.

### **8-20.1(1) Regulations and Codes**

*Section 8-20.1(1) is supplemented with the following:*

(\*\*\*\*\*)

Prior to start of Work, all necessary licenses, permits, and approvals shall be obtained. The Contractor shall comply with all laws, ordinances, rules, orders, and regulations relating to the performance of the Work, the protection of adjacent property, and the maintenance of all other facilities. The Contractor will be required to comply with all the provisions of these instruments and shall save and hold the Contracting Agency harmless from any damage that may be incurred as a result of the Contractor's failure to comply with all the terms of these permits.

### **8-20.1(2) Industry Codes and Standards**

*Section 8-20.1(2) is supplemented with the following:*

(\*\*\*\*\*)

National Electrical Safety Code (NESC), PO Box 1331, 445 Hoes Lane, Piscataway, New Jersey.

(\*\*\*\*\*)

### **8-20.1(3) Errors and Omissions**

*Section 8-20.1(3) is supplemented with the following:*

The Contractor shall immediately notify the Engineer upon discovery of any errors or omissions in the Contract Documents, in the layout as given by survey points and instructions, or of any discrepancy between the Contract Documents and the physical conditions of the locality. If deemed necessary, the Engineer will rectify the matter and advise the Contractor accordingly. Any Work done after such discovery without authorization by the Engineer shall be done at the Contractor's

1 risk.

2  
3 **8-20.3 Construction Requirements**

4  
5 *Section 8-20.3(1) is supplemented with the following:*

6  
7 The Contractor shall follow specific requirements for electrical related work to be performed in the  
8 right-of-way as outlined in each applicable section of these Specifications.

9  
10 All adjacent surfaces damaged by the Contractor's operations shall be repaired at the Contractor's  
11 expense.

12  
13 All equipment shall be handled and protected so as to prevent damage. Damaged equipment, if any,  
14 shall be repaired or replaced by the Contractor to the satisfaction of the Engineer at no additional  
15 cost to the Owner.

16  
17 It shall be the Contractor's responsibility to locate all utilities whether above, on, or below the  
18 ground, and to protect against any and all damages arising from work under this project. At least 48  
19 hours before digging, the Contractor shall call the Utilities Underground Locator Center (telephone  
20 1-800-424-5555). Contractor must maintain locates during the duration of the project once they have  
21 been identified.

22  
23 The Contractor is advised that safe wiring labels required by the State of Washington Department of  
24 Labor and Industries shall apply on this project.

25  
26 *(WSDOT NWR May 15, 2000)*

27 **Energized Equipment**

28 Work shall be coordinated so that electrical equipment, with the exception of the service  
29 cabinet, is energized within 72 hours of installation.

30  
31 *(WSDOT NWR June 20, 1995)*

32 **Pole Removal**

33 Poles designated for removal shall not be removed prior to approval of the Engineer.

34  
35 *(WSDOT NWR January 11, 2005)*

36 **Signal Display Installation**

37 Signal displays shall be installed no more than 30 days prior to scheduled signal turn-on  
38 or changeover.

39  
40 **8-20.3(1) General**

41  
42 *Section 8-20.3(1) is supplemented with the following:*

43  
44 **Contractor Owned Removals:** All removals associated with an electrical system and traffic  
45 signal system, which are not designated to remain the property of the Contracting Agency,  
46 shall become the property of the Contractor and shall be removed from the project. The  
47 Contractor shall:

- 48
- 49 • Remove all wires for discontinued circuits from the conduit system. Where conduit is to  
50 remain, pull in tracer pull tape.
  - 51 • Remove elbow sections of abandoned conduit entering junction boxes.
  - 52 • Abandoned conduit encountered during excavation shall be removed to the nearest outlets or  
as directed by the Engineer.

- Remove foundations entirely, unless the Plans state otherwise.
- Backfill voids created by removal of foundations and junction boxes. Backfilling and compaction shall be performed in accordance with Section 2-09.3(1)E.

**Energized Equipment:** Work shall be coordinated so that electrical equipment, with the exception of the service cabinet, is energized within 72 hours of installation.

**Fiber optic Cable Installation:** When installing new fiber optic cable or reinstalling existing fiber optic cable into new or existing cable vaults or pull boxes, the installation method shall ensure that the cable is free of dirt and debris as it enters the conduit and that no dirt or debris enters the conduit receiving the cable prior to the conduit being plugged or sealed. When installing fiber optic cable, the installation method shall prevent the fiber cable from direct contact with the ground or pavement between pulls or prior to the installation of the fiber cable into the conduit. Fiber optic warning tracer tape shall be installed in or 12-inches above all new and existing exposed fiber optic conduits. The Contractor shall verify existing conduits for fiber optic cable installation and make modifications as necessary to install the fiber optic cable.

### **8-20.3(2) Excavation and Backfilling**

*Section 8-20.3(2) is supplemented with the following:*

Backfill for all trenches may consist of select native backfill from the excavation providing that such material is free of organic material, clay, or other deleterious material. If sufficient material from the excavation is not available, as determined by the Engineer, the Contractor shall furnish and install bank run gravel for trench backfill meeting the requirements of Section 9-03.19 of the Standard Specifications.

The Contractor warrants and represents awareness of the statutory provisions contained in RCW 19.122.010 through .900 that the Contractor has read and fully understands the same and will comply with the requirements of these provisions which are incorporated by reference herein. The Contractor agrees that all trenching as well as excavating for all pole foundations shall be an “excavation” as defined under RCW Chapter 19.122 and that such utilities constitute underground facilities. The parties agree that remedies affected under RCW Chapter 19.122 are also incorporated by reference herein. Any cost to the Contractor as a result of this law shall be at the Contractor’s expense.

### **8-20.3(5) Conduit**

*Section 8-20.3(5) is supplemented with the following:*

(\*\*\*\*\*)

The conduit runs shown in the Plans are schematic, however, they shall be followed as closely as site conditions will allow and may be revised, as directed by the Engineer, to allow for unforeseen obstructions. Conduits installed under paved Roadway shall be located approximately parallel to the curb line, unless otherwise indicated in the Plans or directed by the Engineer.

All conduit in Roadways shall be placed prior to any pavement construction.

Each conduit run shall contain a 200-pound breaking strength polyolefin pull cord, which shall be tied off at both ends.

All conduit installed underground shall have polyethylene underground hazard marking tape, six (6)

1 inches wide, red, legend “Caution-Electric Line Buried Below,” placed approximately twelve (12)  
2 inches above the conduit.  
3

4 Conduits installed for future use shall be prepared as follows: After final assembly in place, the  
5 conduit shall be blown clean with compressed air. Then, in the presence of the Engineer, a cleaning  
6 mandrel correctly sized for each size of conduit shall be pulled through to ensure that the conduit  
7 has not been deformed. As soon as the mandrel has been pulled through, both ends of the conduit  
8 shall be sealed with conduit caps. All conduits scheduled for future use shall originate in a  
9 foundation or junction box as detailed in the Plans and terminate in a junction box. All equipment  
10 grounding conductors, and the bonding conductor for metallic conduits shall be bonded in all  
11 junction boxes in accordance with Section 8-20.3(9).  
12

13 Existing conduit in place scheduled to receive new conductors shall have any existing conductors  
14 removed and a cleaning mandrel sized for the conduit shall be pulled through.  
15

### 16 **Detectable Pull Tape**

17 For all conduits that do not contain electrical conductors, the Contractor shall add a detectable pull  
18 tape in one of the conduits in the same trench. All other spare conduit may utilize non-detectable  
19 pull tape.  
20

### 21 **8-20.3(5)B Conduit Type**

22  
23 *The first paragraph of Section 8-20.3(5)B is revised to read as follows:*  
24

25 Conduit type for this project, where underground, shall be PVC or high density  
26 polyethylene (HDPE).  
27

### 28 **8-20.3(6) Junction Boxes, Cable Vaults, and Pull Boxes**

29  
30 *Section 8-20.3(6) is supplemented with the following:*  
31

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(\*\*\*\*\*)

The locations of the junction boxes as shown in the Plans are approximate and the exact locations shall be determined in the field. Junction boxes shall be located outside the Traveled Way, wheelchair ramps and landings, and driveways. The new junction box shall not interfere with any other previous or relocated installation. The lid shall also be flush with its frame and with the surrounding area whether it is Shoulder, sidewalk, or other surface.

When junction boxes are installed within cement concrete areas, the Contractor shall adjust junction boxes to grade prior to pouring the cement concrete.

When junction boxes are installed or adjusted prior to construction of finished grade, pre-molded joint filler for expansion joints may be placed around the junction boxes. The joint filler shall be removed prior to adjustment to finished grade.

Adjustments involving raising or lowering the junction boxes shall require conduit modification if the resultant clearance between top of conduit and the junction box lid becomes less than 9-inches as shown in the junction box details in the Plans. Wiring shall be replaced if sufficient slack as specified in Section 8-20.3(8) of the Standard Specifications is not maintained.

The Contractor shall not damage any existing conduits when replacing or excavating existing junction boxes. The Contractor is to maintain the integrity of all junction boxes during

1 reconfiguration of the conduits, installation of new conduits or when excavating.

2  
3 The Contractor shall reconfigure conduits in existing junction boxes as shown in the details in the  
4 Plans where the minimum bend radius of the fiber is not achievable. The integrity of the junction  
5 box shall be maintained. If damage occurs, the Engineer shall be contacted immediately.

6  
7 Prior to the use of any existing junction box, the Contractor shall verify that sufficient bending  
8 radius, as defined by the Code, is available both approaching and within the box for the cable being  
9 installed. If such is not the case, the Contractor shall notify the Engineer, who shall be the sole judge  
10 of whether new conduit bends or a new junction box shall be installed.

11  
12 Damage to the junction boxes, pull boxes, cable vaults and the associated conduit system, or wiring  
13 resulting from the Contractor's operations, shall be replaced at no additional cost to the Contracting  
14 Agency.

15  
16 When using an existing junction box, the Contractor shall modify the junction box such that it will  
17 be bonded to the grounding system.

18  
19 Junction boxes requiring adjustment within walking areas shall include replacement of non-slip  
20 resistant lids with approved slip resistant lids as determined by the Engineer.

21  
22 **8-20.3(8) Wiring**

23  
24 *Section 8-20.3(8) is supplemented with the following:*  
25 *(\*\*\*\*\*)*

26  
27 *(WSDOT NWR April 14, 2003)*

28 **Wire Labels**

29 At each junction box, all illumination wires, power supply wires, and communication cable shall be  
30 labeled with a PVC marking sleeve. For illumination and power supply circuits the sleeve shall bear  
31 the circuit number. For communication cable the sleeve shall be marked "Comm."

32  
33 *(WSDOT NWR March 13, 1995)*

34 **Wire Splices**

35 All splices shall be made in the presence of the Engineer.

36  
37 *(WSDOT NWR May 1, 2006)*

38 **Illumination Circuit Splices**

39 Temporary splices shall be the heat shrink type.

40  
41 *(WSDOT GSP March 13, 1995)*

42 **Field Wiring Chart**

43	501	AC+ Input	516-520 Railroad Pre-empt
44	502	AC- Input	5A1-5D5 Emergency Pre-empt
45	503-510	Control-Display	541-580 Coordination
46	511-515	Sign Lights	581-599 Spare

47	Movement Number	1	2	3	4	5	6	7	8	9
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48	Vehicle Head									
49	Red	611	621	631	641	651	661	671	681	691
50	Yellow	612	622	632	642	652	662	672	682	692

1	Green	613	623	633	643	653	663	673	683	693	
2	Spare	614	624	634	644	654	664	674	684	694	
3	Spare	615	625	635	645	655	665	675	685	695	
4	AC-	616	626	636	646	656	666	676	686	696	
5	Red Auxiliary	617	627	637	647	657	667	677	687	697	
6	Yellow Auxiliary	618	628	638	648	658	668	678	688	698	
7	Green Auxiliary	619	629	639	649	659	669	679	689	699	
8	Pedestrian Heads & Dets.										
9	Hand	711	721	731	741	751	761	771	781	791	
10	Man	712	722	732	742	752	762	772	782	792	
11	AC-	713	723	733	743	753	763	773	783	793	
12	Detection	714	724	734	744	754	764	774	784	794	
13	Common-Detection	715	725	735	745	755	765	775	785	795	795
14	Spare	716	726	736	746	756	766	776	786	796	
15	Spare	717	727	737	747	757	767	777	787	797	
16	Spare	718	728	738	748	758	768	778	788	798	
17	Spare	719	729	739	749	759	769	779	789	799	
18	Detection										
19	AC+	811	821	831	841	851	861	871	881	891	
20	AC-	812	822	832	842	852	862	872	882	892	
21	Common-Detection	813	823	833	843	853	863	873	883	893	893
22	Detection A	814	824	834	844	854	864	874	884	894	
23	Detection B	815	825	835	845	855	865	875	885	895	
24	Loop 1 Out	816	826	836	846	856	866	876	886	896	
25	Loop 1 In	817	827	837	847	857	867	877	887	897	
26	Loop 2 Out	818	828	838	848	858	868	878	888	898	
27	Loop 2 In	819	829	839	849	859	869	879	889	899	
28	Supplemental Detection										
29	Loop 3 Out	911	921	931	941	951	961	971	981	991	
30	Loop 3 In	912	922	932	942	952	962	972	982	992	
31	Loop 4 Out	913	923	933	943	953	963	973	983	993	
32	Loop 4 In	914	924	934	944	954	964	974	984	994	
33	Loop 5 Out	915	925	935	945	955	965	975	985	995	
34	Loop 5 In	916	926	936	946	956	966	976	986	996	
35	Loop 6 Out	917	927	937	947	957	967	977	987	997	
36	Loop 6 In	918	928	938	948	958	968	978	988	998	
37	Spare	919	929	939	949	959	969	979	989	999	

For installing new cables in existing occupied or empty conduit, the Contractor shall be responsible for the following steps:

- 1) Install a new pull rope using a rod/fish tape in the conduit for pulling in the new cabling if a pull rope does not already exist.
- 2) If the Contractor cannot get the rod/fish tape to pass through the conduit, the Contractor shall blow air through the conduit to remove any debris blocking the rod/fish tape path. The Contractor shall be careful not to blow air into controller or service cabinets.
- 3) If the rod/fish tape still does not pass through the conduit after blowing air, the Contractor shall disconnect a single existing wire as agreed to by the Engineer (if the conduit is occupied) and use that wire to pull the new wiring plus a new cable to replace the existing cable that is being used for pulling.
- 4) If no existing wire can be used to pull in the new wire, the Contractor shall try another conduit run if one exists, or pull out all existing wiring from the conduit and use to pull in the new wiring plus all new cabling to replace existing cabling. Rodding, fish taping, blowing air, and

1 disconnecting/ reconnecting cable shall be the Contractor's cost responsibility.

2  
3 In an event that none of these steps led to successful wire installation, the Contractor shall install new  
4 conduit as directed by the Engineer.

5  
6 When removing existing cabling, if the cable won't initially move, the Contractor shall attempt to  
7 blow air through the conduit to loosen debris around the cable. Blowing air into the conduit is included  
8 in the cost of cable removal. If the cable will not move after blowing air into the conduit, the Contractor  
9 shall contact the Engineer.

10  
11 Terminal strips in cabinets, or when used as a connecting device between conductors  
12 shall bear the circuit numbers.

### 13 **8-20.3(9) Bonding, Grounding**

14 *Section 8-20.3(9) is supplemented with the following:*

15  
16 All electrical vaults supplied for this project must be supplied with embedded grounds.

17  
18 All electrical vaults that are to be adjusted must be grounded.

### 19 **8-20.3(11) Testing**

20 *Section 8-20.3(11) is supplemented with the following:*

21 *(\*\*\*\*\*)*

22 The Contractor shall notify the Engineer three (3) working days prior to conducting the  
23 testing.

24 Prior to scheduling a turn-on date, the Contractor shall verify with the Engineer that:

- 25 • The traffic signal is substantially completed
- 26 • Field Test Nos. 1, 2, and 3, as specified in Section 8-20.3(11), have been completed
- 27 • The Contractor shall have completed all required inspections for permits including, but not  
28 limited to ground, conduit, wiring connections and final.
- 29 • The Contractor shall conduct tests to assure proper intended operation of the traffic signal  
30 system. The Contractor shall provide the Engineer a minimum of five (5) working days  
31 advance notices of the proposed traffic signal system turn-on date and time for approval.  
32 The traffic signal turn-on procedure shall not begin until all required channelization,  
33 pavement markings, and signs are installed. The Contractor shall provide traffic control to  
34 stop all traffic from entering the intersection or affected street segment and shall then turn  
35 the traffic signal system to its flash mode to verify proper flash indications. The Contractor  
36 shall then conduct functional tests to demonstrate that each part of the traffic signal  
37 functions as intended consistent with plans, project Specifications, and manufacturers  
38 Specifications. This demonstration shall be conducted in the presence of the Engineer. The  
39 Engineer may introduce additional testing to assess full functions of the system as intended.  
40 Based on the results of the turn-on, the Engineer will direct the Contractor to either keep the  
41 traffic signal on normal operation or to turn the system off and cover all lighted displays  
42 until necessary corrections by the Contractor are completed.



1  
2 **8-20.3(14) Signal Systems**

3  
4 **8-20.3(14)A Signal Controllers**

5  
6 *This Section is supplemented with the following:*

7  
8 The persons performing the controller cabinet installation and wiring and their Supervisor shall be  
9 personally experienced in traffic signal and controller cabinet systems and shall have been engaged  
10 in this work for a minimum of 3 years. Qualifications shall be submitted to the Engineer at least 30  
11 calendar days prior to the start of the first controller cabinet replacement. These qualifications shall  
12 include:

- 13  
14 1. The name of each person who will be performing controller cabinet and traffic signal wiring  
15 work and their employer's name, business address and telephone number.  
16  
17 2. The name and addresses of five similar projects that the foregoing people have worked on  
18 during the past 3 years.  
19  
20 3. All information required showing the experience criteria have been met.

21  
22 Where controllers cabinets are to be replaced, the Contractor shall label all existing wiring  
23 minimum of 5 working days prior to the scheduled replacement date for the controller cabinet. The  
24 wiring shall indicate the current termination of the cable in the cabinet and any change to the wire  
25 termination for the new cabinet. Changes will be required in locations where the phasing is being  
26 reconfigured as shown on the Plans.

27  
28 The Contractor shall use a labeling method that is preapproved by the Engineer and local  
29 technicians before completing the labeling work. Labeling will be subject to inspection and will  
30 require correction if not performed properly.

31  
32 The traffic signal controller cabinet with all pluggables and all associated equipment shall be  
33 furnished by the Contractor and delivered to the City traffic signal technicians for a 30- to 45-day  
34 testing period. The pedestrian pushbutton shall be delivered at the same time as the signal controller  
35 cabinet test. See Section 9- 29.13(7)D of these Special Provisions for additional testing  
36 requirements. At the conclusion of the test period, Contracting Agency personnel will deliver  
37 the controller and cabinet to the project site. The controller and cabinet will not be delivered until  
38 the electrical service cabinet is installed and functional. The Contractor shall provide 5 working-  
39 days' notice prior to delivery of the controller and cabinet. The Contractor shall install the  
40 cabinet and controller and make all field connections.

41  
42 Existing traffic signal cabinets shall remain operational until the switchover to new signal systems is  
43 completed and fully functional.  
44  
45

46 **8-20.3(14)C Induction Loop Vehicle Detectors**

47  
48 *Section 8-20.3(14)C is supplemented with the following:*

49  
50 *(December 9, 2004 COK GSP)*

51  
52 **Construction Requirements**

1 All saw cuts shall be cleaned with pressurized water (1400 psi) and then blown dry with heated  
2 pressurized air (100 psi) prior to the installation of wire. Care must be taken when inserting wire.  
3 Only wooden tools shall be used to push wire into the saw cuts. All loops shall have the number of  
4 turns shown in WSDOT Standard Plan J-8a. Lead-ins from loops to junction boxes shall be twisted  
5 two turns per foot.  
6

7 To prevent intersections from running “fixed time” longer than necessary, the Contractor shall  
8 connect detectors as soon as possible after sawcutting. The maximum amount of time allowable  
9 between cutting the loop and reconnecting the traffic signal loop shall be 7 calendar days.  
10

11 Multiple installations of lead-in wire shall not be considered additional length.  
12

13 Loop wires shall be connected to the lead-in cable using uninsulated butt splices. The connection  
14 shall then be encapsulated using approved heat shrinkable, thin wall, flexible, Polyolefin tubing.  
15

16 All loops are to be individually wired and shall be returned to the nearest junction box where loops  
17 shall be spliced in accordance with the Wiring Diagram in the plans. Controller connections shall be  
18 made under the direction of the Project Engineer unless otherwise noted on the Plans.  
19

20 The sawcut shall be filled with the loop sealant to within 1/16 inch of the top of the pavement. All  
21 sealant shall be installed per manufacturer’s specifications and recommendations.  
22

23 *(May 11, 2007 COK GSP)*  
24

25 Following grinding or other surface preparation activities, the Contractor shall perform testing on all  
26 existing vehicle detection loops in accordance with Section 8-20.3(14)D “Test C” of the Standard  
27 Specifications. Testing shall be conducted under the supervision of the Inspector or the City of  
28 Kirkland Signal Technician (828-7956).  
29

30 Splices shall use molds per Section 9-29.12. The spliced wires shall be centered in the mold prior to  
31 being encapsulated with epoxy. All splices shall be made by the City of Kirkland Signal Technician.  
32 Saw cuts shall be sealed with a one-part pre-mixed, elastomeric compound, MSI or approved equal.  
33 The encapsulant shall be used in lieu of the rope and sealant specified in Section 8-20.3(14)C and 9-  
34 29.18(1) and WSDOT Standard Plan J-8a.  
35

36 Properly installed and cured encapsulant shall exhibit resistance to the effects of weather, vehicular  
37 abrasion, motor oils, gasoline, antifreeze, brake fluid, deicing chemicals, and salt in such a manner  
38 that loop wire performance is not adversely affected.  
39

#### 40 **Temporary Vehicle Detection**

41 The Contractor shall coordinate the installation of temporary vehicle detection devices at least six (6)  
42 Working Days prior to performing any work that may cause damage to the existing vehicle detection  
43 loops. Temporary vehicle detection devices will be provided and installed by the City. Contact the  
44 City Signal Shop per Section 1-07.17 of these Special Provisions.  
45

#### 46 **8-20.3(14)D Test for Induction Loops and Lead-In Cable**

47

48 *Section 8-20.3(14)D is supplemented with the following:*  
49

50 Prior to installing the loop sealant material the Contractor shall perform the required inductance  
51 testing. The inductance of the loop shall be measured and the inductance reading shall be between 60  
52 and 120 microhenries. After the sealant has been installed, and prior to connection to the lead-in

1 cables, the inductance shall be measured again. If any of the installations fails to pass all tests, the  
2 installation shall be repaired or replaced and retested until satisfactory results area obtained. The  
3 results shall be submitted to the Engineer prior to signal turn-on.

4  
5 **8-20.3(14)E Signal Standards**

6  
7 (\*\*\*\*\*)

8 *This Section is supplemented with the following:*

9  
10 After delivering the poles and arms to the job site and before they are installed, they shall  
11 be stored in a place that will not inconvenience the public. All poles and arms shall be installed  
12 in compliance with Washington State Utility and Electrical Codes.

13  
14 Poles shall be installed so that the mast arm is perpendicular to the centerline of the roadway from  
15 which it is stationed, unless otherwise noted on the Plans or in the construction notes. The  
16 poles shall be installed on leveling nuts and washers secured to the anchor bolts and with  
17 locking nuts and washers on the top of the base flange. The side of the shaft opposite the load  
18 shall be plumbed by adjusting the leveling nuts or as otherwise directed by the Engineer. The  
19 space between the concrete base and the bottom of the pole flange shall be filled with dry pack  
20 mortar to completely fill the space under the flange and around the conduits and be neatly  
21 trowled to the contour of the pole flange. A plastic drain hose (1/2-inch diameter) shall be  
22 inserted through the mortar to provide drainage from the interior of the pole-base and be  
23 trimmed flush with the interior and exterior surface of the mortar. Dry pack mortar shall consist  
24 of a 1:3 mixture of cement and fine sand with just enough water so that the mixture will stick  
25 together on being molded into a ball by hand and will not exude free moisture when so pressed.  
26 All welds shall comply with the latest AASHTO Standard Specifications for Structural Supports  
27 of Highway Signs, Luminaires, and Traffic Signals. Welding inspection shall comply with Section  
28 1.4.2. Hardened washers shall be used with all signal arm connecting bolts instead of lockwashers  
29 and conform to AASHTO M 293. All signal arm connecting bolts shall conform to AASHTO M  
30 164 and be tightened to 40 percent of proof load.

31  
32 **8-20.3(17) “As-Built” Plans**

33  
34 (\*\*\*\*\*)

35 *Section 8-20.3(17) is supplemented with the following:*

36  
37 Upon completion of the construction and prior to the turn-on of any traffic control equipment, the  
38 Contractor shall furnish an “as-built” plan of the intersection showing all signal heads, pole locations,  
39 detectors, junction boxes, miscellaneous equipment, conductors, cable wires up to the signal controller  
40 cabinet, and with a special symbol identifying those items that have been changed from the original  
41 contract drawings. Field changes from the original design shall be shown in RED color. All items  
42 shall be located within one-foot horizontal distance and 6-inches vertical distance above, below or at  
43 the surface.

44  
45  
46  
47 **8-20.4 Measurement**

48  
49 (\*\*\*\*\*)

50 *This Section is supplemented with the following:*

51  
52 “Bicyclist Leaning Rail” will be measured by the linear foot along its complete line. This

1 measurement will be the out-to-out dimension from beginning vertical post to end vertical post.

2  
3  
4 **8-20.5 Payment**

5  
6 (\*\*\*\*\*)

7 *This Section is supplemented with the following:*

8  
9 “Traffic Signal System, Modification (NE 124th St And Slater Ave NE)”, lump sum

10  
11 The lump sum contract price for “Traffic Signal System, Modification (NE 124th St and Slater Ave  
12 NE)” shall include the cost of modification of the traffic signal system including but not limited to  
13 excavation, backfilling, new traffic poles, pole foundations, traffic signal heads, junction boxes,  
14 conduits, and wiring. The lump sum Contract price shall include coordination with local agencies,  
15 testing, permits, as-built plans, and all other work necessary or incidental to constructing the traffic  
16 system modification.

17  
18 “Traffic Signal System, Complete (132nd Ave NE & Slater Ave Crossing)”, lump sum

19  
20 The lump sum contract price for “Traffic Signal System, Complete (132nd Ave NE & Slater Ave  
21 Crossing)” shall include the cost of installation of a new traffic signal system including but not limited  
22 to excavation, backfilling, traffic signal cabinet, controller, cabinet foundation, electric service cabinet,  
23 traffic signal poles, mast arm pole mounted signs, pole foundations, traffic signal heads, vehicle  
24 detection loops, junction boxes, conduits, and wiring, lighting fixtures, luminaire arms, and power  
25 wiring. The lump sum Contract price shall include coordination with local agencies, utility company,  
26 electrical inspection, testing, permits, as-built plans, and all other work necessary or incidental to  
27 constructing a complete traffic system.

28  
29 “Traffic Signal Interconnect Complete”, lump sum

30  
31 The lump sum contract price for “Traffic Signal Interconnect Complete” shall include all work  
32 necessary to complete the fiber optic signal interconnect system between the 132<sup>nd</sup> Ave NE trail  
33 crossing signal and the NE 124<sup>th</sup> St/ 132<sup>nd</sup> Ave NE signal, including but not limited to excavation,  
34 backfilling, small cable vaults, conduits, fiber optic cables, patch panels, ethernet modems, testing,  
35 permits, as-built plans, and all other work necessary or incidental to constructing a complete  
36 interconnect system.

37  
38 “Bicyclist Leaning Rail”, per linear foot.

39  
40 The “Bicyclist Leaning Rail” shall be built and installed as shown on the contract plans. The unit price  
41 includes full payment to furnish all labor, materials, tools, and equipment necessary to fabricate and  
42 install the bicyclist leaning rail as shown, including but not limited to excavation, concrete foundation,  
43 and backfill. No separate payment will be made for any work associated with the Bicycle Leaning Rail.

44  
45  
46 **8-21 PERMANENT SIGNING**

47  
48 **8-21.3 Construction Requirements**

49  
50 (\*\*\*\*\*)

51  
52 *Supplement this section with the following:*

1  
2 The contractor shall install up to three City-provided informational signs at or near the two ends of the  
3 project's geographic limits. The informational signs will be chloroplast or aluminum signs up to 72  
4 inches wide and 48 inches tall. The contractor will mount chloroplast signs to plywood sheets of the  
5 same size. This mounting can be skipped for aluminum signs. Contractor will install signs by setting  
6 two 4" x 4" x 10' posts (per sign) 36" below grade, set apart consistent with the width of the sign, and  
7 backfilling with soil at a location agreed upon by the City and the Contractor. Secure the sign so the  
8 top is 7' above ground level. Contractor will remove at substantial completion.  
9

10 The project information sign installation shall be incidental to the "Permanent Signing", lump sum pay  
11 item.  
12

### 13 **8-21.5 Payment**

14  
15 *Supplement this section with the following:*  
16

17 "Permanent Signing", lump sum.  
18

19 The lump sum Contract price for "Permanent Signing" shall be full compensation for all costs  
20 necessary and incidental to complete the work, including but not limited to removing existing signing,  
21 temporarily reinstalling signs to accommodate construction activities, all new sign posts, plaques,  
22 excavation and backfill, hardware, and foundations.

23 The material, labor, equipment, and all other costs associated with the project information sign  
24 installation, as specified in section 8-21.3, shall be incidental to the "Permanent Signing," lump sum,  
25 pay item. No additional payment will be made.

### 26 **8-22.4 Measurement**

27 *Supplement this section with the following:*  
28

29 "Thermoplastic traffic arrow" shall be measured per each.

30 "Green MMA Pavement marking" shall be measured per square foot.

### 31 **8-22.5 Payment**

32  
33 *Supplement this section with the following:*  
34

35 "Thermoplastic Traffic Arrow", per each.  
36

37 "Green MMA Pavement marking", per square foot.  
38

39 *Add the following new section:*

## 40 **8-27 WOOD RAIL FENCE**

### 41 **8-27.1 Description**

42 The work consists of constructing a new Wood Rail Fence where shown on the Contract Drawings.

1       **8-27.2    Materials**

2       Wood rails and posts shall be Douglas Fir-Larch, Hem Fir, Southern Yellow Pine or Lodgepole Pine, No.  
3       1 or Better.

4       Post Backfill shall be Crushed Surfacing Top Course.

5       All wood posts shall have ACA preservative treatment with a minimum 0.40 pounds per cubic foot  
6       retention.

7       All wood rails shall have ACA preservative treatment with a minimum 0.25 pounds per cubic foot retention.

8       **8-27.3    Construction Requirements**

9       Wood Rail Fence shall be installed as shown on the plans. Post holes shall be excavated in a manner to  
10       ensure that no rocks or soils enter any adjacent ditch or sensitive areas. The Contractor shall use Crushed  
11       Surfacing Top Course for post backfill. Excavated native material shall be removed and disposed of. Post  
12       backfill materials shall be installed in lifts no greater than 6-inches and compacted as approved by the  
13       Engineer. Deeper lifts may be approved if contractor can demonstrate that the post will be stable as  
14       determined by the Engineer.

15       Approximate locations of Wood Rail Fence have been shown on the plans to provide the bidder with an  
16       estimate of the quantity and locations of the proposed improvements. The Contractor shall mark the final  
17       locations of the required Wood Rail Fence and obtain approval from Engineer prior to installation. Wood  
18       Rail Fence shall be installed after the rest of the work is complete and temporary chain link construction  
19       fencing has been removed.

20       **8-27.4    Measurement**

21       “Wood Rail Fence” shall be measured per linear foot.

22       **8-27.5    Payment**

23       Payment will be made in accordance with Section 1-04.1, for each of the following Bid items:

24       “Wood Rail Fence”, per linear foot.

25       The unit contract price for “Wood Rail Fence” shall be full compensation for all costs necessary and  
26       incidental to the complete installation of the wood rail fence, including but not limited to posts, rails,  
27       preservative treatment, excavation, CSTC backfill, compaction, and disposal of excess materials.

28  
29

**END OF DIVISION 8**

**DIVISION 9  
MATERIALS**

**9-03           AGGREGATES**

**9-03.21       Recycled Material**

*Supplement this section with the following:*

Recycled materials are not allowed to be used as bedding material for any pipe or utility type.

**9-14           EROSION CONTROL AND ROADSIDE PLANTING**

**9-14.2        Topsoil**

**9-14.2(1)    Topsoil Type A**

*Supplement this section with the following:*

Topsoil Type A shall be 50% pure organic compost and 50% sand or sandy loam. The soil shall be high in organic content and comprised of fully composted and mature organic materials.

Refer to Section 9-14.4(8) Compost of the Standard Specifications for compost requirements. No fresh sawdust or other fresh wood by-products shall be added to extend the volume after the composting process.

Chemical and physical characteristic of Topsoil Type A shall comply with the following:

Screen Size	7/16" Maximum (Approximate Particle Size)
Total Nitrogen	0.25% Minimum
Organic Matter	10% Minimum
pH Range	5.5 to 7.5
Conductivity	5 mmhos/cm Maximum

The Contractor shall provide a complete analysis of Topsoil Type A with one cubic foot sample for review and approval.

**9-14.3        Seed**

*Supplement this section with the following:*

The grass seed dealer shall mix the grass seed. The Contractor shall furnish the Engineer with a dealer's guaranteed statement of the composition, mixture, and the percentage of purity and germination of each variety.

The seed mixtures for hydroseeding shall conform to the composition specified below:

	<b>% Weight</b>	<b>% Purity</b>	<b>% Germination</b>
Lolium perenne/Perennial Rye (2 Varieties Dasher 3 and Cutter II or approved equal)	70	98	90

Festuca rubra var. Garnet	15	98	90
Festuca rubra spp. Fallax or Windward	15	98	90

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26

Seed shall be applied at the rate recommended by the seed supplier.

**9-14.4 Fertilizer**

*Supplement this section with the following:*

All fertilizer applications for trees and shrubs shall follow Washington State University, National Arborist Association or other accepted agronomic or horticultural standards.

Fertilizer for seed planting areas shall be slow release low phosphorus containing Nitrogen-Phosphorus-Potassium at 3-1-2 ratio by weight.

Fertilizer for plant materials shall be Agriform slow release 20-10-5 NPK tablets, or approved equal.

**9-14.5(3) Bark or Wood Chip Mulch**

*Supplement this section with the following:*

Bark mulch shall be medium grade composted ground fir or hemlock bark.

The bark shall be uniform in color, free from weed seeds, sawdust and splinters. The mulch shall not contain resin, tannin, wood fiber or other compounds detrimental to plant life. The moisture content of bagged mulch shall not exceed 22%. The acceptable size range of bark mulch material is ½-inch to 1-inch with maximum of 20% passing the ½-inch screen.



1 **9-29 ILLUMINATION, SIGNAL, ELECTRICAL**

2  
3 *Section 9-29 is supplemented with the following:*

4 *(\*\*\*\*\*)*

5  
6 **General**

7 All bolts, nuts, washers, and other fasteners shall be stainless steel unless otherwise specified  
8 herein.

9  
10 Where applicable, all materials, equipment, and installation procedures shall conform to the current  
11 requirements and standards of the State of Washington Department of Labor and Industries.

12  
13 *Section 9-29.1 is supplemented with the following:*

14  
15 *(WSDOT NWR August 10, 2009)*

16  
17 **9-21.1 Conduit, Innerduct, and Outerduct**

18  
19 **Conduit Sealing**

20 Mechanical plugs for cabinet conduit sealing shall be one of the following:

- 21 1. Tyco Electronics - TDUX
- 22 2. Jackmoon – Triplex Duct Plugs
- 23 3. O-Z Gedney – Conduit Sealing Bushings

24 The mechanical plug shall withstand a minimum of 5 psi of pressure.

25  
26 *(January 7, 2019 WSDOT GSP)*

27  
28 The following products are accepted for use as foam conduit sealant:

- 29 • CRC Minimal Expansion Foam (No. 14077)
- 30 • Polywater FST Foam Duct Sealant
- 31 • Superior Industries Foam Seal
- 32 • Todol Duo Fill 400

33  
34 **9-29.2 Junction Boxes, Cable Vaults, and Pull Boxes**

35  
36 *(\*\*\*\*\*)*

37 *Section 9-29.2 is supplemented with the following:*

38  
39 *(WSDOT GSP September 3, 2019)*

40  
41 **Slip-Resistant Surfacing for Junction Boxes, Cable Vaults, and Pull Boxes**

42 Where slip-resistant junction boxes, cable vaults, or pull boxes are required, each box or vault shall  
43 have slip-resistant surfacing material applied to the steel lid and frame of the box or vault. Where  
44 the exposed portion of the frame is ½ inch wide or less, slip-resistant surfacing material may be  
45 omitted from that portion of the frame.

46  
47 Slip-resistant surfacing material shall be identified with a permanent marking on the underside of  
48 each box or vault lid where it is applied. The permanent marking shall be formed with a mild steel  
49 weld bead, with a line thickness of at least 1/8 inch. The marking shall include a two character  
50 identification code for the type of material used and the year of manufacture or application. The  
51 following materials are approved for application as slip-resistant material, and shall use the associated

1 identification codes:

- 2 1. Harsco Industrial IKG, Mebac #1 - Steel: **M1**
- 3
- 4 2. W. S. Molnar Co., SlipNOT Grade 3 – Coarse: **S3**
- 5
- 6
- 7 3. Thermion, SafTrax TH604 Grade #1 – Coarse: **T1**
- 8

### 9 **9-29.3 Fiber Optic Cable, Electrical Conductors, and Cable**

#### 10

#### 11

#### 12 **9-29.3(1) Fiber Optic Cable**

13 *Section 9-29.3(1) is supplemented with the following:*  
14 *(\*\*\*\*\*)*

15  
16 The fiber optic cable network shall be single mode, non-zero dispersion shifted, loose tube fiber  
17 capable of supporting both SONET transmission speeds and protocols up to 2.4 GE/s, and NTSC  
18 quality color video applications. Trace wire will need to be in cable or pulled in conduit with  
19 fiber cable.

20  
21  
22 Install signal controller mounted patch panels for all fiber terminating applications.  
23 Patch panels shall accept SC style connectors.

24  
25 The Contractor shall provide all necessary tools, consumables, cleaner, mounting hardware and  
26 other materials required for the complete installation of each patch panel.

27  
28 A wiring diagram shall be supplied with each patch panel. The wiring diagram shall identify the  
29 destination of each fiber terminated in the patch panel. The destination information shall include  
30 at a minimum, an intersection name, cabinet number, patch panel number and patch panel port.  
31 The wiring diagram shall be placed in a plastic sheet protector next to the patch panel and a copy  
32 submitted to the Project Representative with As-Built drawings. Each row of ports in the patch  
33 panels shall be labeled with the associated port numbers with the assumption that the numbers  
34 increase from top to bottom or left to right.

35  
36 The Contractor is responsible for demonstrating the functionality of the installed system through  
37 testing. These tests shall be conducted in accordance with an approved test plan that shall cover  
38 the key functional requirements of the Work. The Contractor shall, at its cost, provide suitable  
39 test equipment, instruments and labor for the purpose of tests.

40  
41 The Contractor shall provide sufficient notice of not less than three (3) working days prior to the  
42 commencement of the first test. The Contractor shall submit with this notice a schedule of all  
43 tests covered by this notice.

#### 44

#### 45 **9-29.3(2) Electrical Conductors and Cable**

#### 46

#### 47 **9-29.3(2)F Detection Loop Wire**

48 *(\*\*\*\*\*)*  
49 *Section 9-29.3(2)F is replaced with the following:*

1 Detector loop wire shall be No. 12 AWG Class B stranded copper wire with cross-linked  
2 polyethylene type USE insulation of code thickness. Loop lead-in wire shall be IMSA Loop  
3 cable specification 50-2-1984, #14 AWG.  
4

5 A one-part loop sealant manufactured by Craftco "MSI", or approved equal, shall be used to  
6 embed the loop wire into the pavement.  
7

8 **9-29.6 Light and Signal Standards**

9  
10 *Section 9-29.6 is supplemented with the following:*

11  
12 *(June 6, 2023, WSDOT GSP)*

13  
14 **Traffic Signal Standards**

15 Traffic signal standards shall be furnished and installed in accordance with the methods and  
16 materials noted in the applicable Standard Plans, pre-approved plans, or special design plans.  
17

18 All welds shall comply with the latest AASHTO Standard Specifications for Structural Supports  
19 for Highway Signs, Luminaires and Traffic Signals. Welding inspection shall comply with  
20 Section 6-03.3(25)A Welding Inspection.  
21

22 Hardened washers shall be used with all signal arm connecting bolts instead of lockwashers. All  
23 signal arm ASTM F 3125 Grade A325 connecting bolts tightening shall comply with Section 6-  
24 03.3(33).  
25

26 Traffic signal standard types, applicable characteristics, and foundation types are as follows:  
27

28 **Type PS, Type I, Type RM, and Type FB**

29 Type PS pedestrian signal standards, Type I vehicle signal standards, Type RM ramp meter signal  
30 standards, and Type FB flashing beacon standards shall conform to Standard Plan J-20.16, J-  
31 21.15, J-21.16, and J-22.15 respectively, or to one of the following pre-approved plans:  
32

<b>Fabricator</b>	<b>Pre-Approved Drawing No.</b>
Valmont Ind., Inc.	DB01165 Rev. B (4 sheets)
Ameron Pole Products Division	WA15TR10-1 Rev. C (1 sheet) and WA15TR10-2 Rev. C (1 sheet)
Millerbernd Manufacturing, Co.	74514-WA-PED-FB Rev. H (2 sheets)
Millerbernd Manufacturing Co.	74514-WA-PED-SB Rev. H (2 sheets)

33 Foundations shall be as noted in Standard Plan J-21.10.  
34  
35

36 **Type II**

37 Type II signal standards are single mast arm signal standards with no luminaire arm or extension.  
38 Type II standards shall conform to one of the following pre-approved plans. Maximum arm  
39 length (in feet) and wind load (XYZ value, in cubic feet) is noted for each manufacturer.  
40

<b>Fabricator</b>	<b>Pre-Approved</b>	<b>Max. Arm</b>	<b>Max. Wind</b>
-------------------	---------------------	-----------------	------------------

	<b>Drawing No.</b>	<b>Length (ft)</b>	<b>Load (XYZ) (ft<sup>3</sup>)</b>
Valmont Ind., Inc.	DB01162 Rev. B (5 sheets)	65	3206
Ameron Pole Products Division	WA15TR3724-1 Rev. C (sheet 1 of 2), and WA15TR3724-2 Rev. D (sheet 2 of 2)	65	2935
Millerbernd Manufacturing, Co.	74516-WA-TS-II Rev. L (4 sheets)	65	3697

1  
2 Foundations shall be as noted in the Plans and Standard Plan J-26.10. Type II signal standards  
3 with two mast arms installed 90 degrees apart may use these pre-approved drawings. Standards  
4 with two arms at any other angle are Type SD and require special design.  
5

6 **Type III**

7 Type III signal standards are single mast arm signal standards with one Type 1 (radial davit type)  
8 luminaire arm. The luminaire arm has a maximum length of 16 feet and a mounting height of  
9 30, 35, 40, or 50 feet, as noted in the Plans. Type III standards shall conform to one of the  
10 following pre-approved plans. Maximum arm length (in feet) and wind load (XYZ value, in  
11 cubic feet) is noted for each manufacturer. Wind load limit includes a luminaire arm up to 16  
12 feet in length.  
13

<b>Fabricator</b>	<b>Pre-Approved Drawing No.</b>	<b>Max. Arm Length (ft)</b>	<b>Max. Wind Load (XYZ) (ft<sup>3</sup>)</b>
Valmont Ind., Inc.	DB00162 Rev. B (5 sheets), with Type “J” luminaire arm	65	3259
Ameron Pole Products Division	WA15TR3724-1 Rev. C (sheet 1 of 2), and WA15TR3724-2 Rev. D (sheet 2 of 2), with Series “J” luminaire arm	65	2988
Millerbernd Manufacturing, Co.	74516-WA-TS-III-J Rev. L (5 sheets)	65	3750

14 Foundations shall be as noted in the Plans and Standard Plan J-26.10. Type III signal standards  
15 with two mast arms installed 90 degrees apart may use these pre-approved drawings. Standards  
16 with two arms at any other angle are Type SD and require special design.  
17

18  
19 **9-29.10 Luminaires**

20  
21 *Section 9-29.10 is supplemented with the following:*

22  
23 Roadway Luminaire shall be LED type, LEOTEK model GCM2-40H-MV-NW-3R-GY-1A-  
24 PCR7-WL

1  
2 **9-29.11 Control Equipment**

3  
4 **9-29.11(2) Photoelectric Controls**

5  
6 *The first paragraph of Section 9-29.11(2) is supplemented with the following:*

7  
8 The photoelectric control shall have a minimum 1-year warranty.

9  
10 **9-29.13 Control Cabinet Assemblies**

11  
12 *Section 9-29.13 is supplemented with the following:*

13  
14 **9-29.13(3) Traffic Signal Controller**

15  
16 *This Section is supplemented with the following:*

17  
18  
19 The controller shall be configurable to meet, at a minimum, all applicable sections of the  
20 NEMA Standards Publication for TS2 and ATC standards. Traffic signal controller shall  
21 operate within Temperature Range: -37°C to +74°C, Service Voltage: 89 to 135 VAC, 57 to  
22 63 Hz, Power Consumption shall be typically 25 Watts and shall not exceed 120 Watts.

23  
24 Traffic signal controller supplier shall provide a letter from an independent testing laboratory  
25 certifying controller compliance to the environmental standards NEMA TS 2-2003 and ATC  
26 Standard version 5.2b upon request.

27  
28 It shall be possible to configure the controller for multiple configurations including: ATC  
29 Configuration: Standard version 5.2b specifications or TS-2 Type 2 NEMA Configuration:  
30 NEMA TS2-2003 without ATC compliance. An upgrade kit shall be available to convert  
31 TS2 to ATC with simple tools.

32  
33 The controller shall be suitable for both a direct parallel connection to load switches and  
34 detectors and an SDLC port to communicate with NEMA BIUs.

35  
36 The CPU shall provide the following:

- 37
- 38 • Linux Operating System with runtime license and Kernel x.y.z
  - 39 • MPC 8270 microprocessor operating at 266 MHz
  - 40 • 512 Megabytes minimum dynamic random-access memory (DRAM).
  - 41 • 512 Megabytes minimum FLASH memory organized as a disk drive.
  - 42 • 2 Megabytes minimum static random-access memory (SRAM).

43 Time of Day (TOD) clock with hours, minutes, seconds, month, year, and automatic day-  
44 light savings time adjustment. TOD may be implemented in the CPU via electronic circuitry,  
45 operating system software, or a combination.

46  
47 During power failures, the SRAM and TOD shall be powered by STANDBY voltage from  
48 the power supply.

49  
50 The ATC Communication module shall be a plug-in type module, and shall provide the  
51 following communications options:

- Four built-in USB 2.0 ports
- Built-in 10 Base-T Ethernet with four RJ-45 connectors.
- Built-in 9pin EIA-574 SP8 Port for GPS connection
- Built-in 8MB Data-key Port
- Dedicated normally flashing red 'CPU Active' LED to indicate CPU failure.

In addition to ATC 5.2b requirements, the Power Supply shall provide the following: Line Frequency Reference signal shall be generated by a crystal oscillator, which shall synchronize to the 60-Hz VAC incoming power line at 120 and 300 degrees. A continuous square wave signal shall be +5 VDC amplitude, 8.333ms half-cycle pulse duration, and 50 +/- 1% duty cycle. The Line Frequency Reference shall compensate for missing pulses and line noise during normal operation. The Line Frequency Reference shall continue through 450 mS power interruptions.

STANDBY voltage via supercapacitor for backup power during loss of service voltage shall be provided. Supercapacitor shall have a minimum of 15-farad nominal size. No batteries of any type are allowed.

In addition to ATC 5.2b requirements, Keyboard and Display shall provide the following:

- Removable by pulling off, installed by pushing on, with retaining screw.
- Emulation of terminal per Joint NEMA/AASHTO/ITE ATC Standard.
- Key quantity and function per Joint NEMA/AASHTO/ITE ATC Standard.
- Liquid Crystal Display (LCD) with 16 lines of 40 characters.
- LCD contrast adjustment accomplished via the keypad, no contrast knob allowed.
- Light-emitting diode backlight for the LCD.
- Audible electronic bell.
- Connector compatible with C60 of Joint NEMA/AASHTO/ITE ATC Standard, with the addition of +5VDC supplied by the controller on C60, Pin 1.
- Keyboard and display may be removed for cost savings by the Agency.
- It shall be possible to view the active status screens simultaneously with other programming menu screens.
- It shall be possible to assign a specific menu screen to one of the available function buttons on the keyboard.
- The operator shall be able to evoke a Help screen using a clearly identified HELP button.

For ease of operation for first responders and agency staff, the controller shall provide a clearly identified Auxiliary ON/OFF switch on the keypad.

In addition to ATC 5.2b requirements, the controller shall provide the following:

- Built-in 10 Base-T Ethernet with five RJ-45 connectors on controller front panel.
- Built-in Internet Protocol (IP) address assigned by Institute of Electrical and Electronic Engineers (IEEE), two unique IP addresses for each controller.
- Built-in 1200 bps Frequency Shift Keying (FSK) modem. Modem is optional per Agency specification. Choice of 2 or 4 wire operation per Agency specification.
- Built-in EIA-232 port for uploading and downloading applications software, as well as to update the operating system.
- Built-in C60 connector for use with removable Keyboard and Display, Personal Computer COM1 or Personal Digital Assistant (PDA). C60 protocol per Joint NEMA/AASHTO/ITE ATC standard.
- Four built-in USB 2.0 ports on controller front panel.

1  
2 In addition to the ATC 5.2b requirements, the controller housing shall provide the following:

- 3 • One slot with card guides for standard Joint NEMA/AASHTO/ITE ATC modems.
- 4 • Polycarbonate construction, except back panel, rear mounting tabs and power supply
- 5 mounting plate shall be aluminum for electrical grounding.
- 6 • Built-in carrying handle.
- 7 • Two adjustable front mounting feet, to raise the front cables and vary the display
- 8 viewing-angle.
- 9

10 The controller identification label shall be located on the front of the controller and include  
11 the controller part or model number, serial number and product code to decipher controller  
12 month and year of manufacture.

13  
14 The CU shall be a SIEMENS M62 series ATC model EPAC6138M62 with 8Mb datakey.

#### 15 **Local Intersection Software**

16 The CU shall function with SEPAC 5.5 software version. It shall also be completely  
17 operable with TACTICS 3.0 central system or greater, and the SCOOT adaptive control  
18 system.  
19

#### 20 **Malfunction Management Unit (MMU)**

21 The cabinet shall come with a (MMU) that meets all the requirements of NEMA TS2-2003  
22 while remaining downward compatible with NEMA TS1. It shall have (2) high contrast  
23 LCD displays and an internal diagnostic wizard. It shall come with a 10/100 ethernet port. It  
24 shall come with software to run flashing yellow arrow operation. The MMU shall be an  
25 Eberle Design, Inc. model MMU-16LEip or approved equivalent.  
26

#### 27 **Load Switch**

28 The cabinet shall come with (16) load switches. All load switches shall be cube type and  
29 have LED indications for both the input and output side of the load. The load switches shall  
30 be PDC model SSS87I/O or approved equivalent.  
31

#### 32 **Flasher**

33 The cabinet shall come with (1) dual channel flasher. The flasher shall be solid state circuit  
34 board type with a 2-piece aluminum case. LED indications shall be provided for both  
35 channels. The flasher shall be Western Systems model SSF-216.  
36

#### 37 **Flasher Transfer Relay**

38 The cabinet shall come with (8) heavy duty mini flash transfer relays. The relays shall  
39 operate 120VAC and be compatible with a Struthers-Dunn SH-TRF8-MW socket. The flash  
40 transfer relays shall be Western Systems model FTR-216.  
41

#### 42 **Bus Interface Unit (BIU)**

43 The cabinet shall come with (6) bus interface units (BIU). These shall meet all the  
44 requirements of NEMA TS-2 1998 standards. In addition, all BIUs shall provide separate  
45 front panel indicator LED's for DC power status and SDLC Port 1 transmit and receive  
46 status. The (BIU)'s shall be Eberle Design, Inc. model BIU700H.  
47

#### 48 **Power Supply (PS)**

49 The cabinet shall come with a shelf mounted cabinet power supply meeting at minimum TS  
50 2-2003 standards. It shall be a heavy duty device that provides +12VDC at 5 Amps /  
51

1 +24VDC at 2 Amps / 12VAC at .25 Amp, and line frequency reference at 50 mA. The  
2 power supply shall provide a separate front panel indicator LED for each of the four outputs.  
3 Front panel banana jack test points for 24VDC and logic ground shall also be provided. The  
4 power supply shall provide 5A of power and be able to cover the load of four (4) complete  
5 detector racks. The (PS) shall be Eberle Design, Inc. model PS250.  
6

### 7 **Loop Amplifiers**

8 The cabinet shall come with (8) 4-channel rack mounted half width loop amplifiers.  
9 These devices shall have LCD displays and have audible detect signal buzzer for  
10 diagnostic purposes. These devices must have the capability to perform directional logic  
11 and 3rd car queuing for protected/permissive operation. Each 4 channel loop amplifier card  
12 shall utilize only (1) card rack position. The loop amplifiers shall be Reno A&E model E/2-  
13 1200-SS.  
14

### 15 **Opticom**

16 The cabinet shall come with (2) 2-channel rack mounted Opticom™ phase selectors. These  
17 devices shall be capable of receiving encoded signals from Opticom series 700 emitters and  
18 detectors. The Opticom™ phase selectors shall be Global Traffic Technologies model 752  
19 equivalent.  
20

## 21 **9-29.13(5) Flashing Operations**

22 *This section is supplemented with the following:*  
23

24 **(\*\*\*\*\*)**

25  
26 All cabinets shall be wired to flash for all channels. Flashing operation shall alternate between the  
27 flasher circuits 1 & 3 (channels 1, 3, 5, 7, 9, 11, 13 & 15) and flasher circuits 2 & 4 (channels 2,  
28 4, 6, 8, 10, 12, 14 & 16). To change a channel from one flasher circuit to another shall be done  
29 from the front of the load bay without the use of tools. Flash programming shall be either red,  
30 yellow or no flash simply by changing the programmed connector on the front of the load-bay.  
31 Cabinet shall be supplied with vehicle and overlap phases programed to red flash, and pedestrian  
32 channels to no flash.  
33

## 34 **9-29.13(6) Emergency Preemption**

35 *This section is supplemented with the following:*  
36

37 **(\*\*\*\*\*)**

38  
39 The cabinet shall come with (1) 4-channel rack mounted Opticom™ phase selectors. This device  
40 shall be capable of receiving encoded signals from Opticom series 700 emitters and detectors.  
41 The Opticom™ phase selectors shall be Global Traffic Technologies model 764 or approved  
42 equivalent. (1) Opticom™ 768 auxiliary interface panels shall be supplied for each Opticom™  
43 phase selector supplied. (1) Opticom™ Model 3100 GPS radio unit with antenna and 500ft of  
44 Model 1070 GPS radio cable shall be shipped with each cabinet.  
45

## 46 **9-29.13(10) NEMA, Type 170E, 2070 Controllers and Cabinets**

47  
48 *This Section is supplemented with the following:*  
49

50 **CABINET MINIMUM REQUIREMENTS**  
51



1 The cabinet shall be completely wired and tested to the 2003 NEMA Traffic Controller  
2 Assemblies specification with NTCIP Requirements Version 02.06 (as amended here in). In  
3 addition, and at a minimum, the following requirements shall be met:  
4

5 • City of Kirkland traffic signal cabinet specification shall supersede any applicable parts of  
6 the State of Washington, Department of Transportation Standard Specifications and Standard  
7 plans. This specification shall apply to all controller cabinet types with noted  
8 exceptions.  
9

10 • All items not covered by these specifications shall conform to State of Washington,  
11 Department of Transportation Standard Specifications and Standard Plans. Traffic signal  
12 cabinets shall also comply with NEMA specifications where applicable.  
13

14 • The controller cabinet shall be furnished and installed by the contractor. The controller  
15 cabinet shall be equipped with all auxiliary equipment and plug-ins required to operate 8  
16 vehicle phases, 4 pedestrian phases and 4 overlap phases (NEMA TS-2, Type 1). Solid state  
17 switching devices shall conform to the provisions in Section Solid State Switching Devices,"  
18 of these Special Provisions and the following:  
19

20 • The cabinet manufacturer shall install and wire in the APS ICCU-S2 cabinet controller unit  
21 and any required cabling during assembly.  
22

23 • The cabinet manufacturer shall be pre-approved by the City of Kirkland signal shop, prior  
24 to bid letting, on any cabinet that they propose to provide to the City. Said pre-approval  
25 shall have been obtained no less than 60 days prior to the closing date of the bid.  
26

27 • The cabinet shall be designed for 16 channel operation where each dual load switch socket  
28 and channel can be configured for a vehicle phase, pedestrian phase or overlap operation.  
29 These load switch sockets shall be configured in this manner without rewiring the back side  
30 of the load-bay. BIU load switch drivers 1-16 shall be wired to their appropriate load switch  
31 sockets via a terminal block located on the front side of the load bay, to allow voltage inputs  
32 to the load switch sockets to be checked without lowering the load bay.  
33

34 • The cabinet shall be wired for up to a minimum of (64) channels of detection, (4) channels  
35 of Opticom™ preemption.  
36

37 • The use of PC boards shall not be allowed except in detector racks, SDLC interface panels  
38 or BIU cages.  
39

40 • The use of plug and play modules shall not be allowed, except for detector racks.  
41

42 • The cabinet shall be wired to provide a 55-pin "A" connector.  
43

44 • All cabinet 120VAC wires shall be 18AWG or greater, including controller "A" and MMU  
45 "A & B" cables.  
46

47 • The entire cabinet assembly with electronics shall undergo complete input/output function  
48 testing by the manufacturer before being released to the City of Kirkland. Testing shall be  
49 done via service feed to the 120VAC field terminal. Service power shall be routed through  
50 the generator bypass switch and UPS inverter before being connected to the power panel so  
51 that all service load circuits are tested.

1  
2 The following additional test shall be required;

- 3 • If the cabinet comes with a UPS system (BBS) and batteries; the entire controller cabinet
- 4 assembly shall undergo a BBS field test procedure where the cabinet is run off battery
- 5 power.
- 6 • The wired cabinet facility shall use the latest technology applicable and shall be 100%
- 7 compliant with Section 1605 of the American Recovery and Reinvestment Act of 2009,
- 8 requiring the use of American iron, steel and manufactured goods.
- 9 • The cabinet assembly shall be completely manufactured in the United States of America.

10  
11 At a minimum, the Stretched P cabinets shall meet the following criteria:

- 12
- 13 1. It shall have nominal dimensions of 67” high x 44” width x 25.5” depth and meet
- 14 the footprint dimensions as specified in Section 7.3, table 7-1 of NEMA TS2
- 15 standards for a Type P cabinet. The cabinet base shall have continuously welded
- 16 interior mounting reinforcement plates with the same anchor bolt hole pattern as
- 17 the footprint dimensions.
- 18 2. Shall be fabricated from 5052-H32 0.125-inch thick aluminum.
- 19 3. The cabinet shall be double-flanged where it meets the cabinet door.
- 20 4. The top of the cabinet shall be sloped 1” towards the rear to facilitate water
- 21 runoff. And shall bend at a 90° angle at the front of the cabinet. Lesser slope
- 22 angles are not allowed.
  - 23 A. The inside of the cabinet shall have (2) separate compartments. The main
  - 24 compartment shall be accessible from the front door and shall house the cabinet
  - 25 load facilities and electronics.
  - 26 B. The UPS compartment shall be accessible from the side door and shall contain
  - 27 the UPS system batteries. The UPS inverter and transfer switch assemblies shall
  - 28 be mounted in the UPS compartment but shall be accessible when the main
  - 29 compartment door is open.
- 30 5. The inside of the cabinet shall utilize C channel rails. (3) Welded on the back
- 31 wall. The outer two are on 34” center. The third is 8.5” on center with the farthest
- 32 right C channel. There are (4) welded on each side wall on 8” center with 2” gap
- 33 between sets. The C channel rails shall on the back wall shall be 48” in length and
- 34 start 5” from the bottom of the cabinet interior. The C channel rails on the side
- 35 walls shall be 59” in length and start 5” from the bottom of the cabinet interior.
- 36 Adjustable rails are not allowed.
- 37 6. The Cabinet shall be supplied with the following finishes; the interior natural
- 38 mill finish. The exterior natural mill finish.
- 39 7. All external fasteners shall be stainless steel. Pop rivets shall not be allowed on
- 40 any external surface.
- 41 8. The front door handle shall be ¾” round stock stainless steel bar. The side door
- 42 shall use a recessed hexagonal socket in lieu of a door handle. All door handle
- 43 mechanisms shall be interchangeable and field replaceable.
- 44 9. The front door shall contain (2) flush mount locking recessed compartments. The
- 45 upper compartment that houses a police door with a conventional police lock, and
- 46 a lower compartment that houses a generator bypass receptacle and a Best™ CX
- 47 series green core lock with a tapered bolt. The main door lock shall be a Best™
- 48 CX series green core lock with a deadbolt. The police and generator doors shall
- 49 be recessed so that it is flush with the main door. A stiffener plate shall be welded
- 50 to the inside of the front door to prevent flexing. A bar stop shall be provided that
- 51 provides a two-position, three-point stop accommodating open-angles of 90°,

- 125°, and 150°. A louvered air entrance located at the bottom of the main door shall satisfy NEMA rod entry test requirements for 3R ventilated enclosures. Bearing rollers shall be applied to ends of door latches to discourage metal-on-metal surfaces from rubbing. The main front door lock assembly shall be positioned so the door handle does not cause interference with the key when opening the door.
10. The generator bypass receptacle compartment shall have an integrated door slide mechanism that allows the door to be closed and locked after a generator has been connected to the internal receptacle. This compartment is used by maintenance personnel for emergency generator operation in the absence of service power or UPS control.
  11. The side door shall be one-piece construction without any recessed compartments. It shall have a three-position, two-point door stop that accommodates open-angles at roughly 80°, 100°, and 120°. A louvered air entrance located at the bottom of the side door shall satisfy NEMA rod entry test requirements for 3R ventilated enclosures. Bearing rollers shall be applied to ends of door latches to discourage metal-on-metal surfaces from rubbing. Lock assembly shall be positioned so handle does not cause interference with key when opening the door.
  12. The cabinet shall be equipped with a universal lock brackets capable of accepting Best™ CX style lock or Corbin #2 tumbler series locks.
  13. Closed-cell, neoprene gaskets shall be bonded to the inside of the cabinet doors. The gaskets shall cover all areas where the doors contact the double flanged cabinet housing exterior and be thick enough to provide a watertight seal.
  14. A key shall be provided for each cabinet lock.
  15. The cabinet shall be supplied with three (3) door switches which control the door and police door open status and the cabinet interior lighting circuits.
  16. All exterior seams shall be manufactured with neatly formed continuously weld construction. The weld for the police box door shall be done on the inside of the cabinet door. All welds shall be free from burrs, cracks, blowholes or other irregularities.
  17. The fan baffle panel seams shall be sealed with RTV sealant or equivalent material on the interior of the cabinet.
  18. The cabinet shall come with lifting ears affixed to the upper exterior of the cabinet. These ears shall utilize only one bolt for easy reorientation. (The cabinet lifting ears should not be utilized when batteries are installed in the cabinet).
  19. The cabinet shall come with two (2) dual-ply Dustlock™ Media polyester, disposable air filter; and the filter performance shall conform to listed UL 900 Class 2 and conform to MERV-8 & ASHRAE Standard 52.2-1999. The filter element shall be secured to louvered entrance on the main door with Velcro type mounting on all four edges, a metal filter cover shall be placed over the filter. The filter and metal cover shall be secured to entrance on main and UPS doors by two (2) horizontally-mounted restraints.
  20. All cabinet doors shall be mounted with a single continuous stainless-steel piano hinge that runs the length of the door. The hinge shall be attached via stainless steel tamper resistant bolts.
  21. The cabinet enclosure shall be a SP+ style Western Systems Part # 3017500000.
  22. The cabinet top level wiring/assembly shall be Western Systems Part # 2515510001.
  23. The cabinet shall be UL listed

LABELS

1 A permanent, printed thermo-vinyl, engraved or silk-screened label shall be provided for all  
2 terminals and sockets. Labels shall be legible and shall not be obstructed by cabinet wiring,  
3 panels or cables. All labels shall conform to the designations on the cabinet wiring prints.  
4

#### 5 SHELVES

6 Shall come with (3) 33.25" double beveled shelves 10" deep that are reinforced welded with  
7 V channel, fabricated from 5052-H32 0.125-inch thick aluminum with double flanged edges  
8 rolled front to back. Slotted hole shall be inserted every 7" for the purpose of tying off wire  
9 bundles. The UPS compartment shall come with (4) shelves designed to hold batteries and  
10 capable of supporting 75lbs each.  
11

#### 12 CABINET LAYOUT

13  
14 The shelves shall be populated as follows:

- 15 • The controller and malfunction management unit shall be placed on the bottom  
16 shelf. The power supply, two (2) detector racks and the video detection NEXT-CCU  
17 shall be placed on the middle shelf left to right. The Polara ICCU-S2 shall be placed  
18 on the top shelf, left side. The remainder of the top shelf shall be left empty for  
19 future electronics.
- 20 • The roll out drawer shall be mounted under the bottom shelf just left of center.
- 21 • Load bay shall be mounted on the back wall with 5" of clearance to the bottom of  
22 the cabinet.
- 23 • A 12"x10" blank panel shall be mounted on the lower left wall.
- 24 • The detector panel for all field inputs shall be mounted on the left wall above the  
25 12" x 10" blank panel.
- 26 • The SDLC and power supply interface panels shall be mounted on the left wall  
27 between the middle and bottom shelves.
- 28 • One 120VAC quad convenience outlet shall be mounted on the left wall above the  
29 top shelf.
- 30 • The power panel shall be mounted on the lower right wall.
- 31 • The Opticom™ 768 auxiliary interface panel shall be mounted on the right wall  
32 under the bottom shelf.
- 33 • A 12"x36" blank panel shall be mounted on the right wall above the power panel.
- 34 • One 120VAC quad convenience outlet shall be mounted on the right wall above the  
35 top shelf.  
36

#### 37 VENTILATING FANS

38 The cabinet shall be provided with two (2) finger safe din rail mounted thermostatically  
39 controlled (adjustable between 4-176° Fahrenheit) ventilation fans. The fans shall be  
40 installed in the top left and right side of the cabinet plenum. The safe touch thermostat fuse  
41 holder and power terminal block shall be din rail mounted on right side of cabinet plenum.  
42

#### 43 COMPUTER SHELF

44 A slide-out computer shelf 16" length by 12" width by 2" depth shall be installed  
45 below the middle shelf underneath the controller. The shelf shall be mounted just  
46 right of center so that controller cables will not interfere with the operation of the  
47 shelf when equipment is installed. The shelf shall have a hinged cover that opens  
48 from the front and shall be powder-coated black. It shall be a General Devices Part #  
49 VC4080-99-1168. The drawer when fully extended shall hold up to 50lbs.  
50  
51

1  
2 **9-29.13(10)A Auxiliary Equipment for NEMA Controllers**

3 *This section is supplemented with the following:*

4  
5 (\*\*\*\*\*)

6  
7 **Main Panel Configuration (Load-Bay)**

8 The design of the panel shall conform to NEMA TS2 Section 5, Terminals and  
9 Facilities, unless modified herein. This panel shall be the termination point for the  
10 controller unit (CU) MSA, (MMU) MSA & B cables, bus interface units 1 & 2 (BIU)  
11 and field terminal facilities. The terminal and facilities layout shall be arranged in a  
12 manner that allows all equipment in the cabinet and all screw terminals to be readily  
13 accessible by maintenance personnel.

14  
15 The load-bay shall be fully wired and meet the following requirements:

- 16 • The load-bay shall have the following dimensions; constructed from  
17 aluminum with a nominal thickness of 0.125", a maximum height of 16" and  
18 maximum width of 18" including attaching wiring bundles.
- 19 • The entire assembly shall roll down and provide access to all the back of  
20 panel wiring. All solder terminals shall be accessible when the load-bay is  
21 rolled down. The assembly shall be able to roll down without requiring other  
22 components, cables or switches to be removed.
- 23 • The load-bay shall be designed so that all other cabinet screw terminals are  
24 accessible without removing cabinet electronics.
- 25 • All the controller (CU) and malfunction management (MMU) cables shall be  
26 routed through the back of the load-bay so that they will not be subject to  
27 damage during load-bay roll down.
- 28 • The top of the load-bay panel shall attach directly to "C" channel and detach  
29 without the use of tools or loose hardware for roll down purposes.
- 30 • The load-bay shall be balanced such that it will not roll down when the top of  
31 the load bay is detached from the "C" channel, even when fully loaded with  
32 BIUs, load switches, flasher and flash transfer relays.
- 33 • The load-bay facility shall be wired for 16 channels. dual load switches 1-4  
34 shall be vehicle phases 1-8; dual load switches 5-6 shall be pedestrian phases  
35 2, 4, 6 & 8; dual load switches 7-8 shall be overlaps A, B, C & D. All load  
36 switches shall be routed through a flash transfer
- 37 • (8) Dual load switch sockets spaced on 1.25" center.
- 38 • (8) Mini flash transfer relay sockets.
- 39 • (1) Dual flasher socket.
- 40 • All load switches and the flasher shall be supported by a bracket extending at  
41 least ½ the length of the load switch.
- 42 • (2) Bus interface unit rack slots for BIU's 1 and 2. The main panel BIU racks  
43 shall be in the top left corner of the load-bay, placed horizontally, and shall  
44 accommodate ½ width BIU's.
- 45 • BIU socket wire connections to the PCB shall be via (2) 34 pin connectors  
46 with locking latches.
- 47 • All BIU wiring utilized shall be soldered to backside of a screw terminal.
- 48 • Wiring for one Type-16 MMU. All utilized MMU wiring shall be soldered to  
49 backside of a screw terminal.
- 50 • All 24VDC relays shall have the same base socket, but it shall be different  
51 from the 120VAC relays.

- All 120VAC relays shall have the same base socket, but it shall be different from the 24VDC relays. (not applicable to flash transfer relays)
- The cabinet shall have a relay that drops +24VDC to the load switches when the cabinet is in flash.
- The load-bay shall be silkscreened on both sides. Silkscreen shall be numbers and functions on the front side, and numbers only on the back side. The back side shall have labels upside down, so when load bay is rolled down labels will be oriented correctly for maintenance or service personnel.
- The field terminals shall be labeled with 300 series numbers for load-bay wiring purposes, and 600 & 700 series numbers for termination of field wiring.

Channel Wiring chart:

Red: 611, 621, 631, 641, 651, 661, 671, 681, 721, 741, 761, 781, 6A1, 6B1, 6C1, 6D1  
 Yellow: 612, 622, 632, 642, 652, 662, 672, 682, 722, 742, 762, 782, 6A2, 6B2, 6C2, 6D2  
 Green: 613, 623, 633, 643, 653, 663, 673, 683, 723, 743, 763, 783, 6A3, 6B3, 6C3, 6D3

- Field wiring terminations shall be per channel across the bottom of the load-bay. Each channel shall have 3 terminations corresponding to the appropriate channel indications. Default wiring shall be left to right green/walk, yellow/ped clearance and red/don't walk. Vehicle phases 1-8, pedestrian phases 2, 4, 6, 8 and overlap channels A, B, C, and D following the order of the load switches. Field terminals shall be #10 screw terminal and be rated for 600V.
- All cable wires shall be terminated. No tie-off of unused terminals will be allowed.
- Shall be 100% manufactured in the United States of America

All wiring shall conform to NEMA TS2 Section 5.2.5 and table 5-1. Conductors shall conform to military specification MIL-W-16878D, Electrical insulated high heat wire, type B. Conductors #14 or larger shall be permitted to be UL type THHN. Main panel wiring shall conform to the following colors and minimum wire sizes:

Vehicle green load switch output	16 gauge brown
Vehicle yellow load switch output	16 gauge yellow
Vehicle red load switch output	16 gauge red
Pedestrian Don't Walk switch	16 gauge orange
Pedestrian Walk switch	16 gauge blue
Pedestrian Clearance load switch	16 gauge yellow
Vehicle green load switch input	22 gauge brown
Vehicle yellow load switch input	22 gauge yellow
Vehicle red load switch input	22 gauge red
Pedestrian Don't Walk input	22 gauge orange
Pedestrian Walk input	22 gauge blue
Pedestrian Clearance input	22 gauge yellow
Logic Ground	18 gauge white with red tracer
+24V DC	18 gauge red with white tracer
+12V DC	18 gauge pink
AC+ Line	14 gauge black
AC- Line	14 gauge white

1	Earth Ground	16 gauge green
2	AC line (load bay)	16 gauge black
3	AC neutral (load bay)	16 gauge white
4	Controller A cables	22 gauge blue except for power wires
5	(AC+ Black, AC- White & Earth Ground Green) these wires shall be 18AWG	
6	MMU A & B cables	22 gauge orange except for power wires
7	(AC+ Black, AC- White & Earth Ground Green Start Delay Relay Common Black,	
8	normally open Black & Normally Closed Black) These wires shall be 18AWG	

9  
10 Two conductors will supply alternating current (AC) power to the load switch sockets.  
11 The load switch sockets shall be supplied 1-4 & 5-8 by each conductor.

12  
13 The vehicle field terminal blocks shall have a screw Type No. 10 post capable of  
14 accepting no less than 3 No. 12 AWG wires fitted with spade connectors. Four (4) 12-  
15 position terminal blocks shall be provided in two (2) rows across the bottom of the  
16 main panel. Spade lugs from internal cabinet wiring are not allowed on field terminal  
17 screws.

18  
19 There shall be a Phoenix Contact plug-in bridge with (16) 3-position panel mount  
20 sockets and (16) 2-position plugs with screw terminals located below the flash transfer  
21 relays. These connections shall operate the flash programing between flash circuit 1 &  
22 3 or 2 & 4. It shall be changeable from the front of the load-bay.

23  
24 The terminal block above the pedestrian field terminals shall be tied to the Don't  
25 Walk and Walk terminals via orange or blue 14AWG wire. This shall provide  
26 termination for pushbutton control wires without utilizing field terminals. There shall  
27 also be access to flash circuits 1 and 2.

28  
29 The power terminal blocks shall have a screw Type No. 10 post capable of accepting  
30 no less than (3) No. 12 AWG wires fitted with spade connectors. One (1) 12-position  
31 terminal block provided vertically on the right side of the load bay. The placement of  
32 the power terminal block on any other panel shall not be allowed.

33  
34 All load switch, flasher, and flash transfer relay sockets shall be marked and mounted  
35 with screws. Rivets and clip-mounting is unacceptable.

36  
37 Wire size 16 AWG or smaller at solder joints shall be hooked or looped around the  
38 eyelet or terminal block post prior to soldering to ensure circuit integrity. All wires  
39 shall have lugs or terminal fittings when not soldered. Lap joint/tack on soldering is  
40 not acceptable. All soldered connections shall be made with 60/40 solder and non-  
41 corrosive, non-conductive flux. All wiring shall be run neatly and shall use  
42 mechanical clamps and conductors shall not be spliced between terminations. Cables  
43 shall be sleeved in braided nylon mesh and wires shall not be exposed.

44  
45 **Load-Bay and Panel Wire Termination**

46 All wires terminated behind the main panel or on the back side of other panels shall be  
47 SOLDERED. No pressure or solder-less connectors shall be used. Printed circuit  
48 boards shall only be used on the load bay where connecting to the bus interface units  
49 (BIU).

50  
51 **Cabinet Light Assembly**

1 The cabinet shall have two (2) LED lighting fixtures with 15 high power LEDs. LEDs  
2 shall use a cool white color emitting 300lm min @ 12VDC/750mA. The LED shall be  
3 a Rodeo Electronics TS-LED-05M02. The LED fixture shall be powered by a Mean  
4 Well class 2 power supply LPV-20-12 that shall be mounted on the inside top of the  
5 cabinet's main compartment near the front edge. The cabinet light circuit shall be  
6 designed so both LED fixtures can be installed in the cabinet without the need of a  
7 second power supply. The second LED shall be attached under the cabinet drawer so  
8 that it remains stationary when drawer is extended. An on/off switch that is turned on  
9 when the cabinet door is opened and off when it is closed shall activate the lighting  
10 fixture(s) power supply.  
11

### 12 **Convenience Outlet**

13 The cabinet shall be wired with one (1) convenience outlet with a ground fault  
14 interrupter (GFI) and two (2) quad convenience outlets without ground fault  
15 interrupters. The ground fault outlet (GFI) shall be mounted on the right side of the  
16 cabinet on or near the power panel. The two quad convenience outlets shall be  
17 mounted near the top shelf on the left and right sides. Outlets shall not be mounted on  
18 the door. The GFI power shall be fed through the auxiliary breaker (CB2). The  
19 convenience outlets shall be fed through the main breaker (CB1).  
20

### 21 **Auxiliary Panel**

22 The cabinet shall include an auxiliary switch panel mounted to the interior side of the  
23 police panel compartment on the cabinet door. The panel shall be secured to the police  
24 panel compartment by (2) screws and shall be hinged at the bottom to allow access to  
25 the soldered side of the switches with the use of only a Phillips screwdriver. Both  
26 sides of the panel shall be silkscreened. Silk-screening on the backside of the switch  
27 panel shall be upside down so that when the panel is opened for maintenance the silk-  
28 screening will be right side up. All the switches shall be protected by a hinged see-  
29 through Plexiglas cover.  
30

31 At a minimum the following switches shall be included;  
32

33 **Controller ON/OFF Switch:** There shall be a switch that renders the controller  
34 and load-switching devices electrically dead while maintaining flashing  
35 operations for purpose of changing the controller or load-switching devices. The  
36 switch shall be a general-purpose bat style toggle switch with .688-inch long bat.  
37

38 **Stop Time Switch:** There shall be a 3-position switch labeled "Normal" (up),  
39 "Off" (center), and "On" (down). With the switch in the "Normal" position, a  
40 stop timing command shall be applied to the controller by the police flash switch  
41 or the MMU (Malfunction Management Unit). When the switch is in its "Off"  
42 position, stop timing commands shall be removed from the controller. The "On"  
43 position shall cause the controller to stop time. The switch shall be a general-  
44 purpose bat style toggle switch with .688-inch long bat.  
45

46 **Technician Flash Switch:** There shall be a switch that places the field signal  
47 displays in flashing operation while the controller continues to operate. This flash  
48 shall have no effect on the operation of the controller or MMU. The switch shall  
49 be a general-purpose bat style toggle switch with .688-inch long bat.  
50



1 **Signals ON/OFF Switch:** There shall be a switch that renders the field signal  
2 displays electrically dead while maintaining controller operation for purpose of  
3 monitoring controller operations. The switch shall be a general-purpose bat style  
4 toggle switch with .688-inch long bat.  
5

6 **Vehicle Test Switches:** All eight vehicle phase inputs shall have momentary  
7 pushbutton test switches with black caps. The switches shall directly input a call  
8 to the related controller vehicle phase without routing the call through the  
9 detector rack(s) when pushed. These switches shall be labeled 1, 2, 3, 4, 5, 6, 7  
10 and 8.  
11

12 **Pedestrian Test Switches:** All eight pedestrian phase inputs shall have  
13 momentary pushbutton test switches with black caps. The switches shall directly  
14 input a call to the related controller pedestrian phase. These switches shall be  
15 labeled 1, 2, 3, 4, 5, 6, 7 and 8.  
16

17 **Pre-Empt Test Switches:** All four preempt inputs shall have a (3) position  
18 disconnect/test switch. The switch positions shall be labeled "On" (up), "Off"  
19 (center) and "Test" (down). When in the "On" position it shall connect the  
20 appropriate preemption phase GTT/Opticom output to the controller, The "Off"  
21 position shall disconnect the GTT/Opticom output to the controller, and the  
22 "Test" position which shall provide a momentary true output to the  
23 corresponding controller preemption channel. These switches shall be labeled 1,  
24 2, 3 and 4.  
25

### 26 **Police Panel**

27 Behind the police panel door there shall be switches for use by emergency personnel.  
28 The wiring for these switches shall be accessible when the auxiliary panel is open.  
29 The following switches shall be included;  
30

31 **Flash Switch:** There shall be a switch for the police that puts the cabinet into  
32 flashing operations. The switch shall have two positions, "Auto" (up) and  
33 "Flash" (down). The "Auto" position shall allow normal signal operation. The  
34 "Flash" position shall immediately cause all signal displays to flash as  
35 programmed for emergency flash and apply stop time to the controller. When the  
36 police flash switch is returned to "Auto", the controller shall restart except when  
37 the MMU has commanded flash operation. The effect shall be to disable the  
38 police panel switch when the MMU has detected a malfunction and all controller  
39 and MMU indications shall be available to the technician regardless of the  
40 position of the police flash switch. The switch shall be a general-purpose bat  
41 style toggle switch with .688-inch long bat.  
42

### 43 **Cables**

44 All wire cable bundles shall be encased in flex or expandable braided sleeving along  
45 their entire free length.  
46

47 All SDLC cables shall be terminated on both ends, securely terminated to the SDLC  
48 interface panel with screw type connection and professionally routed in the cabinet  
49 interior to easily reach the load bay, controller, malfunction management unit and  
50 detector racks. All SDLC connectors shall be fully populated with 15 pins each.  
51

1                   **Detector Racks**

2                   At a minimum, the cabinet shall be wired to accommodate (64) channels of detection  
3                   as follows:

- 4
- 5                   1. One detector rack shall be half width size and support (32) channels of loop  
6                   detection, two (2) Buss Interface Units (BIU), and four (4) channel of  
7                   Opticom™ preemption. This rack shall be capable of using half width four  
8                   channel detection devices or Opticom™ cards.
  - 9                   2. One detector rack shall be half width size and support (32) channels of loop  
10                  detection and two (2) Buss Interface Units (BIU). These racks shall be  
11                  capable of using half width four channel detection devices.
  - 12                  3. The loop cabling shall be connected via a 37-pin DB connector using spring  
13                  clips. The Opticom cable shall be connected via a 24-pin connector using  
14                  locking latches. The power cable shall be a 6-pin connector. All power wires  
15                  shall be 18AWG. The addressing of detector racks shall be accomplished  
16                  via dipswitches mounted to the PCB. There shall be the capability to turn off  
17                  the TS2 status to the BIU for the uses of TS1 detector equipment via  
18                  dipswitches mounted to the PCB. There shall be a 34-pin connector using  
19                  locking latches that breaks the output from the detector to the input of the  
20                  BIU, there shall also be +24VDC and logic ground on this connector.

21

22                  All racks shall have space at the bottom front for labeling. All racks shall be designed  
23                  for horizontal stacking. Separate racks for detection and preemption are not allowed.

24

25                  **768 Panel**

26                  There shall be an Opticom™ GTT 768 interface panel installed in the cabinet. At a  
27                  minimum it shall be soldered to the load switch green outputs and to the advanced  
28                  vehicle preemption terminal block on the detector panel. This panel shall have a  
29                  protective plastic cover. It shall be mounted on the lower right wall of the cabinet,  
30                  under the bottom shelf.

31

32                  **Detection Panel**

33                  The detection panel shall support (64) channels of vehicle detection, (4) channels of  
34                  emergency vehicle preemption, (8) channels of auxiliary emergency vehicle  
35                  preemption, (8) channels of pedestrian detection and (8) pedestrian returns on a single  
36                  panel. The pedestrian call terminal block shall be (2) single row terminals.

37

38                  The loop wires shall be a 22AWG twisted pair, color coded as follows; channel one  
39                  brown, channel two red, channel three orange and channel four yellow. One of the  
40                  twisted pair wires of all colors shall have a white tracer and land on the second  
41                  position terminal of each loop.

42

43                  The emergency preempt wires shall be color coded as follows; +24VDC orange,  
44                  preempt inputs yellow and ground blue.

45

46                  This panel will be mounted on the left side of the cabinet below the bottom shelf. The  
47                  panel shall also include a (19) position solid aluminum, tin plated neutral and ground  
48                  buss bars with raised slotted & torque style screws heads. They shall be mounted  
49                  vertically at the bottom of the panel.

50

51                  The Opticom and pedestrian terminal blocks shall be labeled as follows:

1 Opticom + orange: 581, 587  
2 Opticom call yellow: 582, 585, 588, 591  
3 Opticom – blue: 583, 589  
4 Pedestrian Calls: 714, 724, 734, 744, 754, 764, 774, 784  
5 Pedestrian returns: 715, 725, 735, 745, 755, 765, 775, 785  
6

7 **Power Supply Interface Panel**

8 The power supply interface panel shall include terminations for all the cabinet power  
9 supply inputs and outputs. It shall have a protective plastic cover. This panel shall be  
10 mounted on the left wall of the cabinet.  
11

12 **SDLC Panel**

13 The SDLC panel shall have (12) 15 socket DB connectors mounted to a PCB. The  
14 PCB shall be mounted to an “L” bracket for attaching to cabinet “C” channel. All  
15 SDLC cables shall attach with screw type retainers. There shall be one position with  
16 latching blocks to mate with latching spring blocks. This panel shall be mounted on  
17 the left wall of the cabinet between the shelves.  
18

19 **Service Surge Suppression**

20 The cabinet shall be equipped with an CITELE surge protection device model  
21 DS72US-120S/G-F-ASSM mounted on the power panel. It shall be installed after the  
22 main breaker (CB1). The auxiliary breaker (CB2) shall be wired after the SPD.  
23

24 **Generator Bypass Compartment and Cable**

25 The cabinet main door shall have a locking generator bypass compartment that shall  
26 be used to connect a generator to operate the cabinet during extended loss of service  
27 line power. The generator compartment shall be capable of being closed and locked  
28 while a generator is connected. The mechanism for allowing generator cable access,  
29 while the compartment is closed, shall be an integral part of the generator bypass  
30 door, that will normally be in the closed position. Inside the compartment there shall  
31 be a silkscreened panel that holds a Hubbell HBL2615 30A / 125V flanged inlet  
32 receptacle capable of accepting a standard 30-amp generator plug, a BACO  
33 HC52DQG cam switch with split 120VAC line and neutral feeds, and two (2) LED  
34 lamps with sockets. The cam switch shall be a break before make type switch. Switch  
35 is isolating service line and neutral from the generator power. One LED shall be  
36 illuminated when the cabinet has service line power available and the other when the  
37 cabinet has generator power available. LED's shall be field replaceable without  
38 putting the intersection in flash and shall carry a 5-year manufacturer warranty.  
39

40 All wiring to and from the generator bypass compartment shall be contained in a  
41 single cable bundle. The cable shall connect to the backside of the electrical  
42 components and shall only be accessible from the inside of the cabinet front door. All  
43 electrical components on the inside of the front door that carry AC voltage shall be  
44 covered by a see-through plexiglass cover. The generator bypass cable shall terminate  
45 at the same power panel location as service line voltage.  
46

47 **Generator Cord**

48 A 14ft generator power cord shall be supplied with the cabinet that connects between  
49 the generator bypass compartment and an external 15A/125V generator.  
50

51 **Additional Panels**

1 Sheet metal panels shall be installed in the available space on the lower left and upper  
2 right & left sides of the cabinet. The lower left side panel shall be 10" x 12". The  
3 upper right-side panels shall be 36" x 12".  
4

#### 5 **Supplemental Loads**

6 The supplemental load panel shall have all field yellow and green outputs loaded with  
7 2.5K-Ohm, 10-Watt resistors. There shall be a disconnect between the load resistor  
8 and the field output. Connecting and disconnecting the load resistor Each load resistor  
9 from the field circuit shall be done with the use of simple tools. There shall be no live  
10 120VAC exposed.  
11

#### 12 **Power Panel**

13 The power panel shall handle all the power distribution and protection for the cabinet  
14 and shall be mounted in the bottom right side of the facility. All equipment shall be  
15 mounted on a 12" x 17" or smaller silkscreened aluminum panel and include at a  
16 minimum the following equipment:

- 17 • A 30-amp main breaker shall be supplied. This breaker shall supply power via  
18 CITEL DS72US-120S/G-F-ASSM to the load bay, load switches, auxiliary  
19 panel, controller, MMU, power supply, detector racks and quad AC  
20 convenience outlets.
- 21 • A 15-amp auxiliary breaker shall supply power to the fan, light and GFI.
- 22 • A 15-amp auxiliary breaker wired for future use.
- 23 • A 60-amp, 125 VAC radio interference line filter.
- 24 • A normally open, 75-amp, solid-state relay. The relay shall have a red LED  
25 light that is on when energized.
- 26 • The CITEL surge shall consist of a modular surge protector for the AC line,  
27 another modular surge protector for the AC neutral and ground. There shall  
28 also be a radio interference suppressor (RIS), this device shall be a CITEL  
29 DUC31.
- 30 • One see through plexiglass cover over the utility power block terminals.
- 31 • Two (19) position solid aluminum, tin plated neutral buss bar with raised  
32 slotted & torque style screw heads. No tube bars shall be allowed.
- 33 • One (19) position solid aluminum, tin plated ground buss bar with raised  
34 slotted & torque style screw heads. No tube bars shall be allowed.  
35

#### 36 **Manuals & Documentation**

37 The cabinet shall be furnished with (3) complete sets of cabinet prints. All cabinet  
38 wiring, and layout shall come on (1) E1 size sheet, multiple pages shall not be  
39 allowed. Upon request (1) USB memory stick with AutoCAD v2008 cabinet drawing  
40 for the cabinet wiring can be provided direct to the agency.  
41

#### 42 **Fiberoptic Termination Panel**

43 The cabinet shall come with a 12 port wall mounted fiberoptic termination panel with  
44 loaded duplex single-mode LC coupler plates and splice tray. The panel shall be a  
45 Corning SPH-01P with (1) CCH-CP12-A9 coupler plate.  
46

#### 47 **Ethernet Switch**

48 The IE4000 series is a family of fully managed Ethernet switches, providing easy  
49 setup, management and replacement. Cisco IOS® software, and nanosecond precision  
50 for high-performance applications. Ethernet switch shall have eight (8) 10/100TX  
51 copper ports and two (2) dual-purpose 10/100/100 SFP uplink ports. It shall come

1 with an expansion power module that supports 110/220VAC and 90-300VDC power,  
2 an AC power cord, LAN base web base device manager software and license, and two  
3 (2) single mode fiber 1000base LX/LH SFPs.  
4

5 The Ethernet switch shall be Cisco model IE-4000-8GS4G-E, with (6) Gig-E SFP  
6 transceivers model GLC-T-RGD=, (1) IOS IP service license L-IE4000-RTU=, (1)  
7 advanced license model C1F1PIE4K5K1K9, (2) rugged SFP transceivers GLC-LX-  
8 SM-RGD=, (1) power module for POE model PWR-IE65W-PC-AC= and (1) prime  
9 infrastructure lifecycle Application policy model L\_MGMT3X-TKN-K9=.

10 The following cables and cords shall be supplied with the Ethernet switch:

- 11 • Two single mode patch cords (LC to LC)
- 12 • Six Cat6 patch cables

### 13 **Malfunction Management Unit (MMU)**

14 The cabinet shall come with a (MMU) that meets all the requirements of NEMA TS2-  
15 2003 while remaining downward compatible with NEMA TS1. It shall have (2) high  
16 contrast LCD displays and an internal diagnostic wizard. It shall come with a 10/100  
17 ethernet port. It shall come with software to run flashing yellow arrow operation. The  
18 MMU shall be an Eberle Design, Inc. model MMU2-16LEip.  
19

### 20 **Load Switch**

21 The cabinet shall come with (8) dual channel load switches. All load switches shall be  
22 solid state circuit board type with a 2-piece aluminum case. LED indications shall for  
23 provided for both the input and output side of the loads for both channels. The load  
24 switches shall be Western Systems model SSS-216.  
25

### 26 **Flasher**

27 The cabinet shall come with (1) dual channel flasher. The flasher shall be solid state  
28 circuit board type with a 2-piece aluminum case. LED indications shall be provided  
29 for both channels. The flasher shall be Western Systems model SSF-216.  
30

### 31 **Flasher Transfer Relay**

32 The cabinet shall come with (8) heavy duty mini flash transfer relays. The relays shall  
33 operate 120VAC and be compatible with a Struthers-Dunn SH-TRF8-MW socket.  
34 The flash transfer relays shall be Western Systems model FTR-216.  
35

### 36 **Bus Interface Unit (BIU)**

37 The cabinet shall come with (6) bus interface units (BIU). These shall meet all the  
38 requirements of NEMA TS-2 1998 standards. In addition, all BIUs shall provide  
39 separate front panel indicator LED's for DC power status and SDLC Port 1 transmit  
40 and receive status. The BIU's shall utilize only 1 rack position. The (BIU)'s shall be  
41 Eberle Design, Inc. model BIU-700H.  
42

### 43 **Power Supply (PS)**

44 The cabinet shall come with a shelf mounted cabinet power supply meeting at  
45 minimum TS 2-2003 standards. It shall be a heavy-duty device that provides +12VDC  
46 at 5 Amps / +24VDC at 2 Amps / 12VAC at .25 Amp, and line frequency reference at  
47 50 mA. The power supply shall provide a separate front panel indicator LED for each  
48 of the four outputs. Front panel banana jack test points for 24VDC and logic ground  
49 shall also be provided. The power supply shall provide 5A of power and be able to  
50  
51

1 cover the load of four (4) complete detector racks. The (PS) shall be Eberle Design,  
2 Inc. model PS250.  
3

#### 4 **Loop Amplifiers**

5 The cabinet shall come with (8) 4-channel rack mounted half width loop amplifiers.  
6 These devices shall have LCD displays and have audible detect signal buzzer for  
7 diagnostic purposes. These devices must have the capability to perform directional  
8 logic and 3rd car queuing for protected/permissive operation. Each 4 channel loop  
9 amplifier card shall utilize only (1) card rack position. The loop amplifiers shall be  
10 Reno A&E model E/2-1200-SS.  
11

#### 12 **PBS Control Station**

13 The cabinet shall come with shelf mount intelligent control unit for accessible push  
14 button stations (PBS) wired in prior to delivery. It shall have a backlit LCD status  
15 display, Ethernet, USB and SDLC port on the front and be compatible with all iNS2  
16 pushbuttons stations. The control unit shall be a Polara Engineering model ICCU-S2  
17 with a ACCP cable harness.  
18

#### 19 **UPS System**

20 The cabinet shall come with a complete uninterruptable power system (UPS) which  
21 shall include at a minimum a UPS inverter module with SNMP adapter, an automatic  
22 transfer switch assembly, batteries, battery cables and a remote battery management  
23 system. All other auxiliary equipment for a complete functioning UPS system shall be  
24 included.  
25

#### 26 **UPS Module**

27 The cabinet shall come with (1) FXM HP 1100W high performance uninterruptible  
28 power supply that supplies clean reliable power control and management. It shall have  
29 Automatic Voltage Regulation (AVR), an Ethernet SNMP interface and a control and  
30 power connection panel that is rotatable for viewing in any vertical or horizontal  
31 orientation. It shall have nominal dimensions of 5.22" x 15.5" x 8.75" and come with  
32 mounting brackets. It shall have a tough screen and advanced analytics built-in. The  
33 UPS module shall be an Alpha model 0170024-001.  
34

#### 35 **UATS/UGTS Assembly**

36 The cabinet shall come with (1) universal automatic transfer switch and universal  
37 generator transfer switch connected between the UPS module and the batteries. It shall  
38 have surge protection, have dimensions of 3.25" x 15.5" x 6.00" and come with  
39 mounting brackets. The ATS module shall be an Alpha model 020-168-25.  
40

#### 41 **UPS Batteries**

42 The cabinet shall come with (4) high performance silver alloy sealed valve regulated  
43 lead acid AlphaCell™ XTV Gel Cell batteries with 112Ah runtime. The UPS batteries  
44 shall be Alpha model 240XTV.  
45

#### 46 **UPS Battery Harness**

47 The cabinet shall come with (1) battery cable (8) foot long, with 13" black offset  
48 extension, wired for (4) batteries. The battery harness shall be Alpha model 740-628-  
49 32.  
50

#### 51 **Battery Management System**

1 The cabinet shall come with a Remote Battery Management System which extends  
2 and monitors the battery operational life. It shall be an Alpha model 0370260-002.  
3 The RBMS cable assembly shall be loomed and tie-wrapped in with the UPS battery  
4 harness prior to delivery.  
5

6 **9-29.16 Vehicular Signal Heads, Displays, and Housing**  
7

8 *The second paragraph of Section 9-29.16 is deleted and replaced with the following:*  
9

10 (\*\*\*\*\*)  
11

12 Backplates shall be constructed of 5-inch-wide, .050-inch-thick corrosion-resistant flat  
13 black finish, louvered anodized aluminum, or Polycarbonate attached with stainless steel  
14 hardware. A 2-inch-wide strip of yellow retro-reflective, type IV prismatic sheeting,  
15 conforming to the requirements of Section 9-28.12, shall be applied around the perimeter  
16 of each backplate with the exception of installations where all sections of the display will  
17 be dark as part of normal operation such as the pedestrian hybrid beacon.  
18

19 Signal house color shall be Fir-green.  
20

21 **9-29.18(3) CCTV Camera System**  
22

23 *This section is supplemented with the following:*  
24

25 (\*\*\*\*\*)  
26

27 CCTV Camera System shall conform to the following parameters:  
28

29 PTZ CAMERA – PD950 5MP IP PTZ Outdoor 40X Zoom;  
30

Fabricator	Part No.
Siquira	PD950

34 POE Injector 61W;  
35

Fabricator	Part No.
Siquira	POE-61W

39 Camera Bracket to include: Adapter 2” x 1.5” Galv. Threaded adapter for TKH camera  
40 mount; Luminaire Arm “L” Mount with base, aluminum; Mast Arm Camera Mount  
41 Adapter Channel for TKH Gooseneck Mount; Alum Adjustable Camera Mount Adapter  
42

Fabricator	Part No.
Western Systems	6349000520
	6349000000
	6349000490

Fabricator	Part No.
Western Systems	4286104/10

1 **9-29.19 Pedestrian Push Buttons**

2  
3 *Section 9-29.19 is supplemented with the following:*

4 *(\*\*\*\*\*)*

5  
6 Pedestrian Push Button at 132<sup>nd</sup>/Slater Crossing shall conform to the following parameters:  
7 APS PBS (Polara iDetect Option) with 9 x 12 HIRR R10-3 (or as specified in the contract  
8 drawings) Sign, NO Braille, with Voice (Federal green);

Fabricator	Part No.
Polara	iDS23TN0-G

9  
10  
11  
12  
13 Pedestrian push buttons shall be delivered to the City of Kirkland Signal Shop for testing and  
14 programming. The 2-conductor pedestrian cable shall be continuous between the button and  
15 the cabinet. The Contractor shall perform ohm test(s) of wires per the manufacturer’s  
16 installation manual. Upon satisfactory ohm test(s), Contracting Agency Signal Technicians  
17 will land wires in the cabinet.

18  
19 All existing push buttons at the intersection of NE 124<sup>th</sup> St & Slater Ave NE shall be  
20 replaced with the product noted above. All new push buttons at the intersection of NE 124<sup>th</sup>  
21 St & Slater Ave NE shall be the product noted above. The control unit required for the noted  
22 push buttons shall be installed in the existing signal controller cabinet at the intersection of  
23 NE 124<sup>th</sup> St & Slater Ave NE.

24  
25 All new push buttons at crossing across Slater Ave NE/132<sup>nd</sup> Ave NE shall be the product  
26 noted above.

27  
28 Signs shall conform to Section 9-29.19 of the Standard Specifications and Standard Plan J-  
29 20.26-01.

30  
31 **Accessible Pedestrian Signal (APS) Pushbuttons**

32  
33 When required in the Contract, APS Pushbuttons shall be provided. Each accessible  
34 pedestrian signal (APS) shall be a complete APS pushbutton system at each pedestrian  
35 pushbutton location shown in the Plans. Equipment shall be Polara iDetect Option ; Part  
36 Number: iDS23TN0-G

37  
38 Each pushbutton station shall include the following:

1. Flat dark green colored housing.
2. High contrast pushbutton arrow (dark on a light background or light on a dark background). White on silver or silver on white are not acceptable as high contrast.
3. Integral 9” x 12” R10-3 Sign (or as specified in contract plans). Braille shall not be included. Adaptor plates shall be included if required to accommodate the sign.
4. Appropriate Control Unit (PN iCCU-S2, iCCU-C2, iCCU-S, or iCCU-C).
5. Percussive tone / rapid tick walk indication.



6. Voice messages, as specified below, pre-installed.
7. Cable for installation between pushbutton and control unit. Cable shall meet all manufacturer's requirements.

The following shall be provided at each intersection:

1. One USB flash drive with copies of all voice message audio files for that intersection, placed in the traffic signal cabinet drawer or drawing envelope. A separate flash drive is required for each intersection.
2. One USB cable of the appropriate type (A to A, A to B, male/female, etc.), placed in the traffic signal cabinet drawer or drawing envelope.

Any other equipment or software required by the manufacturer for setup, operation, and maintenance of the pushbutton stations shall be provided.

Dual button adaptor brackets are required for all installations with two APS pushbuttons on the same Type PPB, Type PS, or Type I Signal Standard. Where dual button adaptor brackets or extension brackets are required, they shall be obtained from the same manufacturer as the pushbutton station. Brackets and extensions from other manufacturers shall not be used.

**APS Speech Messages**

Speech messages shall be provided in the following format:

- "Wait."
- "Wait to cross \_\_\_\_ (A) \_\_\_\_ at \_\_\_\_ (B) \_\_\_\_."
- "Walk sign is on to cross \_\_\_\_ (A) \_\_\_\_."

See contract plans for speech messages, quantities, and button and arrow orientations.

Order forms shall be completed by the Contractor using the information presented above.

**9-29.20 Pedestrian Signals**

*Section 9-29.20 is supplemented with the following:*

(\*\*\*\*\*)

Pedestrian Signals shall conform to the following parameters:  
 Pedestrian Signal Heads aluminum (federal green) with counted LED module;

Fabricator	Part No.
Mobotrex	SG7SZ20C1GFF10-00, SG7MZ21C1GFF10-49
Dialight	430-6479-001X
Pelco	SP-8037-P30

**END OF DIVISION 9**



1 (November 4, 2024)

2 **Standard Plans**

3 The Washington State Department of Transportation *Standard Plans* M21-01, published  
4 September 2024, is made a part of this Contract with the following revisions:

5  
6 A-10.30

7 RISER RING detail (Including SECTION view and RISER RING DIMENSIONS table): The  
8 RISER RING detail is deleted from the plan.

9  
10 INSTALLATION detail, SECTION A: The "1/4"" callout is revised to read "+/- 1/4" (SEE  
11 CONTRACT ~ Note: The + 1/4" installation is shown in the Section A view)"

12  
13 A-40.20

14 Sheet 1, NOTES 1, 2, 3, and 4 are replaced with the following:

- 15  
16 1. Use the ½ inch joint details for bridges with expansion length less than 100 feet and  
17 for bridges with L type abutments. Use the 1 inch joint details for other applications.  
18  
19 2. Use detail 5, 6, 7 on steel trusses and timber bridges with concrete bridge deck  
20 panels.  
21  
22 3. For details 1, 2, 3, and 4, the item "HMA Joint Seal at Bridge End" shall be used for  
23 payment. For details 5 and 6, the item "HMA Joint Seal at Bridge Deck Panel Joint"  
24 shall be used for payment. For detail 7, the item "Clean and Seal Bridge Deck Panel  
25 Joint" shall be used for payment.  
26

27 Sheet 2, Detail 8 reference to "6-09.3(6)" is revised to read "6-21.3(7)".

28  
29 A-50.40

30 Sheet 1, Plan View: The callout "BEAM GUARDRAIL TYPE 31 TRANSITION SECTION  
31 TYPE 21 OR TYPE 24 (SEE STANDARD PLAN C-25.20 OR C-25.30)" is revised to read  
32 "BEAM GUARDRAIL TYPE 31 TRANSITION SECTION TYPE 21, 24, OR 25 (SEE  
33 STANDARD PLAN C-25.20, C-25.30, OR C-25.32)"

34  
35 A-60.40

36 Note 2 reference to "6-09.3(6)" is revised to read "6-21.3(7)".

37  
38 B-90.40

39 Valve Detail – DELETED

40  
41 C-23.70

42 Sheet 2, ANCHOR BRACKET ASSEMBLY DETAIL, dimension, "R. 5/16" is revised to read;  
43 R. 15/16"  
44 ANCHOR PLATE DETAIL, weld callout (fillet), 1/4" is revised to read; 3/16"

45  
46 C-60.20

47 Sheet 1, Plan view, callout – "1/2" (IN) DIAMETER X 6 1/2" (IN) LONG ANCHOR BOLT ~  
48 PER STD. SPEC. SECT. 9-06.5(4) (TYPICAL) (SEE NOTE 7)" is revised to read: "5/8"  
49 DIAMETER x 6 1/2" (IN) LONG ANCHOR BOLT ~ PER STD. SPEC. SECT. 9-06.5(4)  
50 (TYPICAL) (SEE NOTE 7)"

1  
2 C-81.15

3 Sheet 1, General Notes, Add Note 7, to read;”7. The concrete class for the moment slab  
4 shall be class 4000 typically and class 4000A when the top of the slab is used as the roadway,  
5 or sidewalk, surface. The concrete class for the barrier is defined in Standard Specification  
6 Section 6-10.3.”

7  
8 C-85.11

9 On Section B, the callout “3” EXPANDED POLYSTYRENE AROUND COLUMN (TYP.)” is  
10 revised to read “3” EXPANDED POLYSTYRENE OR POLYETHYLENE FOAM AROUND  
11 COLUMN (TYP.)”

12  
13 D-3.09

14 Sheet 1, Geosynthetic Wall with 2 FT Traffic Surcharge detail, callout – “BARRIER ON WALL  
15 ~ SEE Standard Plan D-3.15 or D-3.16” is revised to read: “BARRIER ON WALL ~ SEE  
16 Standard Plan C-81.10 and/or C-81.15”

17  
18 D-3.10

19 Sheet 1, Typical Section, callout – “FOR WALLS WITH SINGLE SLOPE TRAFFIC BARRIER.  
20 USE THE DETAILS ABOVE THE MATCH LINE ON STANDARD PLAN D-3.15” is revised to  
21 read; ”FOR WALLS WITH SINGLE SLOPE TRAFFIC BARRIER, SEE CONTRACT PLANS”  
22 Sheet 1, Typical Section, callout – “FOR WALLS WITH F-SHAPE TRAFFIC BARRIER. USE  
23 THE DETAILS ABOVE THE MATCH LINE ON STANDARD PLAN D-3.16” is revised to read;  
24 ”FOR WALLS WITH F-SHAPE TRAFFIC BARRIER, SEE CONTRACT PLANS”

25  
26 D-3.11

27 Sheet 1, Typical Section, callout – “”B” BRIDGE APPROACH SLAB (SEE BRIDGE PLANS)  
28 OR PERMANENT GEOSYNTHETIC WALL BARRIER ~ SEE STANDARD PLANS D-3.15  
29 OR D-3.16” is revised to read; ”B” BRIDGE APPROACH SLAB OR MOMENT SLAB (SEE  
30 CONTRACT PLANS)  
31 Sheet 1, Typical Section, callout – “TYPICAL BARRIER ON BRIDGE APPROACH SLAB  
32 (SEE BRIDGE PLANS) OR PERMANENT GEOSYNTHETIC WALL BARRIER ~ SEE  
33 STANDARD PLANS D-3.15 OR D-3.16” is revised to read; “TYPICAL BARRIER ON BRIDGE  
34 APPROACH SLAB OR MOMENT SLAB (SEE CONTRACT PLANS)

35  
36 D-10.10

37 Note 7, “If Traffic Barriers are required, See Standard Plans D-15.10, D-15.20 and D-15.30”  
38 is revised to read “Traffic Barriers shall not be structurally connected to the Reinforced  
39 Concrete Retaining Wall Type 1 and 1SW”.

40  
41 D-10.15

42 Note 7, “If Traffic Barriers are required, See Standard Plans D-15.10, D-15.20 and D-15.30”  
43 is revised to read “Traffic Barriers shall not be structurally connected to the Reinforced  
44 Concrete Retaining Wall Type 2 and 2SW”.

45  
46 D-10.30

47 Wall Type 5 may be used in all cases.

48  
49 D-10.35

50 Wall Type 6 may be used in all cases.  
51

1 D-10.40

2 Note 5, "If Traffic Barriers are required, See Standard Plans D-15.10, D-15.20 and D-15.30"  
3 is revised to read "Traffic Barriers shall not be structurally connected to the Reinforced  
4 Concrete Retaining Wall Type 7".  
5

6 D-10.45

7 Note 5, "If Traffic Barriers are required, See Standard Plans D-15.10, D-15.20 and D-15.30"  
8 is revised to read "Traffic Barriers shall not be structurally connected to the Reinforced  
9 Concrete Retaining Wall Type 8".  
10

11 F-10.18

12 General Note 1; "Construct curb joints at concrete pavement transverse joint locations. If all  
13 adjacent pavement is HMA, see Standard Plan F-30.10 for Curb Expansion and Contraction  
14 Joint Spacing." Is revised to read – "See Standard Plan F-30.10 and Standard Specification  
15 Section 8-04.3 for Curb Expansion and Contraction Joint details and spacing."  
16

17 F-30.10

18 All five instances of the "2.0% MAX." are replaced with "2.1% MAX."  
19

20 F-40.12

21 The one instance of "2.0% MAX." is replaced with "2.1% MAX."

22 Note 7 is replaced with the following:

23 7. The running slope of curb ramps shall not exceed 8.3% maximum except as noted herein.  
24 If the 8.3% running slope creates a ramp that exceeds 15ft, see contract plans for details.  
25 Use a single constant slope from bottom of ramp to top of ramp to match into the landing. Do  
26 not include the abutting landing in the Curb Ramp length measurement. When a ramp is  
27 constructed on a radius, the Curb Ramp length is measured on the inside radius along the  
28 back of the walkway.

29 Section B is amended as follows:

30 Delete: "15' – 0" MAX. (TYP.)"

31 Section C is amended as follows:

32 Delete: "15' – 0" MAX. (TYP.)"  
33

34 F-40.14

35 The one instance of "2.0% MAX." is replaced with "2.1% MAX."

36 Note 7 is replaced with the following:

37 7. The running slope of curb ramps shall not exceed 8.3% maximum except as noted herein.  
38 If the 8.3% running slope creates a ramp that exceeds 15ft, see contract plans for details.  
39 Use a single constant slope from bottom of ramp to top of ramp to match into the landing. Do  
40 not include the abutting landing in the Curb Ramp length measurement. When a ramp is  
41 constructed on a radius, the Curb Ramp length is measured on the inside radius along the  
42 back of the walkway.

43 Section A is amended as follows:

44 Delete: "15' – 0" MAX. (TYP.)"

45 Section C is amended as follows:

46 Delete: "15' – 0" MAX. (TYP.)"  
47

48 F-40.15

49 The one instance of "2.0% MAX." is replaced with "2.1% MAX."

50 Note 7 is replaced with the following:

1 7. The running slope of curb ramps shall not exceed 8.3% maximum except as noted herein.  
2 If the 8.3% running slope creates a ramp that exceeds 15ft, see contract plans for details.  
3 Use a single constant slope from bottom of ramp to top of ramp to match into the landing. Do  
4 not include the abutting landing in the Curb Ramp length measurement.

5 Section A is amended as follows:

6 Delete: "15' – 0" MAX. (TYP.)"  
7

8 F-40.16

9 The one instance of "2.0% MAX." is replaced with "2.1% MAX."

10 Note 8 is replaced with the following:

11 7. The running slope of curb ramps shall not exceed 8.3% maximum except as noted herein.  
12 If the 8.3% running slope creates a ramp that exceeds 15ft, see contract plans for details.  
13 Use a single constant slope from bottom of ramp to top of ramp to match into the landing. Do  
14 not include the abutting landing in the Curb Ramp length measurement.

15 Section A is amended as follows:

16 Delete: "15' – 0" MAX. (TYP.)"

17 Section B is amended as follows:

18 Delete: "15' – 0" MAX. (TYP.)"  
19

20 F-80.10

21 The one instance of "2.0% MAX." is replaced with "2.1% MAX."

22 Note 6 is replaced with the following:

23 The running slope of the Pedestrian Ramp shall not exceed 8.3% maximum except as noted  
24 herein. If the 8.3% running slope creates a ramp that exceeds 15ft, see contract plans for  
25 details. Use a single constant slope from bottom of ramp to top of ramp to match into the  
26 sidewalk.

27 Section A is amended as follows:

28 Delete: "15" Max."  
29

30 J-10.10

31 Sheet 4 of 6, "Foundation Size Reference Table", PAD WIDTH column, Type 33xD=6' – 3" is  
32 revised to read: 7' – 3". Type 342LX / NEMA P44=5' – 10" is revised to read: 6' – 10"

33 Sheet 5 of 6, Plan View, "FOR EXAMPLE PAD SHOWN HERE:", "first bullet" item, "-SPACE  
34 BETWEEN TYPE B MOD. CABINET AND 33x CABINET IS 6" (IN)" IS REVISED TO READ:  
35 "SPACE BETWEEN TYPE B MOD. CABINET (BACK OF ALL CHANNEL STEEL) AND 33x  
36 CABINET IS 6" (IN) (CHANNEL STEEL ADDS ABOUT 5" (IN))"  
37

38 J-10.16

39 Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14  
40

41 J-10.17

42 Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14  
43

44 J-10.18

45 Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14  
46

47 J-20.10

48 DELETED  
49

50 J-20.11

51 DELETED

1  
2 J-20.26  
3 Add Note 1, "1. One accessible pedestrian pushbutton station per pedestrian pushbutton  
4 post."  
5 Add General Note 2, to read: "Signs shown are for locations with pedestrian signal displays  
6 (Accessible Pedestrian Signals/APS). Accessible information device (AID) pushbuttons  
7 signs not shown."  
8 Revise View Titles (Both Sheets) to read: "ACCESSIBLE PEDESTRIAN PUSHBUTTON  
9 ASSEMBLY"  
10  
11 J-20.16  
12 View A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE  
13  
14 J-21.10  
15 Sheet 1, Anchor Bolt Template, callout; "9" (IN) BOLT CIRCLE" is revised to read: "9" (IN)  
16 DIA.BOLT CIRCLE"  
17 Base Plate Detail, callout; "3/4" (IN) STEEL PLATE WITH HOLE = POLE BASE + 1/6" (IN)"  
18 IS REVISED TO READ; "3/4" (IN) STEEL PLATE WITH HOLE = POLE BASE + 1/16" (IN)"  
19 Flat Foundation Detail – Elevation, callout; "ANCHOR BOLTS ~ 3/4" (IN) x 30" (IN) FULL  
20 THREAD ~ THREE REQ'D. PER ASSEMBLY" is revised to read; "ANCHOR BOLTS ~ 3/4"  
21 (IN) x 30" (IN) FULL THREAD ~ FOUR REQ'D. PER ASSEMBLY"  
22 Flat Foundation Detail – Elevation, dimension; 4' – 0" is revised to read; "4' – 0" ROUND OR  
23 3' – 0" SQUARE"  
24  
25 J-21.15  
26 Partial View, callout, was – LOCK NIPPLE ~ 1 1/2" DIAM., is revised to read; CHASE NIPPLE  
27 ~ 1 1/2" (IN) DIAM.  
28  
29 J-28.30  
30 General Note 13 – "See Standard Plans C-8b and C-85.14 for steel light standards on traffic  
31 barrier" is revised to read; "See Standard Plan C-85.15 for steel light standards on traffic  
32 barrier."  
33  
34 J-40.10  
35 Sheet 2 of 2, Detail F, callout, "12 – 13 x 1 1/2" S.S. PENTA HEAD BOLT AND 12" S. S. FLAT  
36 WASHER" is revised to read; "12 – 13 x 1 1/2" S.S. PENTA HEAD BOLT AND 1/2" (IN) S. S.  
37 FLAT WASHER"  
38  
39 J-40.36  
40 Note 1, second sentence; "Finish shall be # 2B for backbox and # 4 for the cover." Is revised  
41 to read; "Finish shall be # 2B for barrier box and HRAP (Hot Rolled Annealed and Pickled)  
42 for the cover."  
43  
44 J-40.37  
45 Note 1, second sentence; "Finish shall be # 2B for backbox and # 4 for the cover." Is revised  
46 to read; "Finish shall be # 2B for barrier box and HRAP (Hot Rolled Annealed and Pickled)  
47 for the cover."  
48  
49 J-75.20  
50 Key Notes, note 16, second bullet point, was: "1/2" (IN) x 0.45" (IN) Stainless Steel Bands",  
51 add the following to the end of the note: "Alternate: Stainless steel cable with stainless steel

1 ends, nuts, bolts, and washers may be used in place of stainless steel bands and associated  
2 hardware.”

3  
4 J-75.55

5 Notes, Note A1, Revise reference, was – G-90.29, should be – G-90.20.  
6

7 L-5.10

8 Add new general Note 9 on sheet 1 – “9. The top of wall in Section A on Sheet 1 shall be  
9 located as follows: 1) flush with the finished grade when placed within the deflection distance  
10 of the long span guardrail system (Std. Plan C-20.40), 2) Two inches maximum above  
11 finished grade when placed behind a box culvert guardrail steel post system (Std. Plan C-  
12 20.41 or C-20.43), 3) Six inches minimum for all other applications. The bottom rail shall be  
13 located at mid height between the top rail and the top of structure.”  
14

15 M-20.30

16 Wide Dotted Lane Line Detail, reference below title, (SEE NOTE 6) is revised to read: (SEE  
17 NOTE 5)  
18

19 M-40.10

20 Guide Post Type ~ Reflective Sheeting Applications Table, remove reference - “(SEE NOTE  
21 5)”  
22

23 The following are the Standard Plan numbers applicable at the time this project was  
24 advertised. The date shown with each plan number is the publication approval date shown  
25 in the lower right-hand corner of that plan. Standard Plans showing different dates shall not  
26 be used in this contract.  
27

A-10.10-00 ..... 8/7/07	A-30.35-00 ..... 10/12/07	A-50.10-02 ..... 7/18/24
A-10.20-00 ..... 10/5/07	A-40.00-01 ..... 7/6/22	A-50.40-01 ..... 8/17/21
A-10.30-00 ..... 10/5/07	A-40.10-04 ..... 7/31/19	A-60.10-03 ..... 12/23/14
A-20.10-00 ..... 8/31/07	A-40.15-00 ..... 8/11/09	A-60.20-03 ..... 12/23/14
A-30.10-00 ..... 11/8/07	A-40.20-04 ..... 1/18/17	A-60.30-01 ..... 6/28/18
A-30.30-01 ..... 6/16/11	A-40.50-03 ..... 9/12/23	A-60.40-00 ..... 8/31/07

28

B-5.20-03 ..... 9/9/20	B-30.50-03 ..... 2/27/18	B-75.20-03 ..... 8/17/21
B-5.40-02 ..... 1/26/17	B-30.60-00 ..... 9/9/20	B-75.50-02 ..... 3/15/22
B-5.60-02 ..... 1/26/17	B-30.40-03 ..... 2/27/18	B-70.60-01 ..... 1/26/17
B-10.20-03 ..... 8/23/23	B-30.70-04 ..... 2/27/18	B-75.60-00 ..... 6/8/06
B-10.40-02 ..... 8/17/21	B-30.80-01 ..... 2/27/18	B-80.20-00 ..... 6/8/06
B-10.70-03 ..... 8/23/23	B-30.90-02 ..... 1/26/17	B-80.40-00 ..... 6/1/06
B-15.20-01 ..... 2/7/12	B-35.20-00 ..... 6/8/06	B-85.10-01 ..... 6/10/08
B-15.40-01 ..... 2/7/12	B-35.40-01 ..... 8/23/23	B-85.20-00 ..... 6/1/06
B-15.60-02 ..... 1/26/17	B-40.20-00 ..... 6/1/06	B-85.30-00 ..... 6/1/06
B-20.20-02 ..... 3/16/12	B-40.40-02 ..... 1/26/17	B-85.40-00 ..... 6/8/06
B-20.40-04 ..... 2/27/18	B-45.20-01 ..... 7/11/17	B-85.50-01 ..... 6/10/08
B-20.60-03 ..... 3/15/12	B-45.40-01 ..... 7/21/17	B-90.10-00 ..... 6/8/06
B-25.20-02 ..... 2/27/18	B-50.20-00 ..... 6/1/06	B-90.20-00 ..... 6/8/06
B-25.60-03 ..... 8/23/23	B-55.20-03 ..... 8/17/21	B-90.30-00 ..... 6/8/06
B-30.05-00 ..... 9/9/20	B-60.20-02 ..... 9/9/20	B-90.40-01 ..... 1/26/17
B-30.10-03 ..... 2/27/18	B-60.40-01 ..... 2/27/18	B-90.50-00 ..... 6/8/06
B-30.15-00 ..... 2/27/18	B-65.20-01 ..... 4/26/12	B-95.20-02 ..... 8/17/21



	B-30.20-04 ..... 2/27/18	B-65.40-00 ..... 6/1/06	B-95.40-01 ..... 6/28/18
	B-30.30-03 ..... 2/27/18	B-70.20-01 ..... 3/15/22	
1	C-1 ..... 9/8/22	C-23.70-01 ..... 10/16/23	C-70.10-04 ..... 10/16/23
	C-1b ..... 10/12/23	C-24.10-05 ..... 7/21/24	C-70.15-01 ..... 7/21/24
	C-1d ..... 10/31/03	C-24.15-00 ..... 3/15/22	C-75.10-02 ..... 9/16/20
	C-6a ..... 9/8/22	C-25.20-07 ..... 8/20/21	C-75.20-03 ..... 8/20/21
	C-7 ..... 9/8/22	C-25.22-06 ..... 8/20/21	C-75.30-03 ..... 8/20/21
	C-7a ..... 9/8/22	C-25.26-05 ..... 8/20/21	C-80.10-03 ..... 10/16/23
	C-20.10-09 ..... 10/12/23	C-25.30-01 ..... 8/20/21	C-80.20-01 ..... 6/11/14
	C-20.14-05 ..... 9/8/22	C-25.32-00 ..... 7/29/24	C-80.30-02 ..... 8/20/21
	C-20.15-03 ..... 10/12/23	C-25.80-05 ..... 8/12/19	C-80.40-01 ..... 6/11/14
	C-20.18-04 ..... 9/8/22	C-60.10-04 ..... 7/21/24	C-85.10-00 ..... 4/8/12
	C-20.40-10 ..... 10/12/23	C-60.15-01 ..... 7/21/24	C-85.11-01 ..... 9/16/20
	C-20.41-05 ..... 7/18/24	C-60.20-01 ..... 9/8/22	C-85.15-03 ..... 10/17/23
	C-20.43-01 ..... 7/18/24	C-60.30-02 ..... 7/21/24	C-85.18-03 ..... 9/8/22
	C-20.44-00 ..... 8/13/24	C-60.40-01 ..... 7/21/24	C-81.10-00 ..... 9/12/23
	C-20.45-03 ..... 9/8/22	C-60.45-01 ..... 7/21/24	C-81.15-00 ..... 9/12/23
	C-20.55-00 ..... 7/30/24	C-60.50-01 ..... 7/21/24	
	C-22.16-08 ..... 10/17/23	C-60.60-01 ..... 7/21/24	
	C-22.40-11 ..... 7/21/24	C-60.70-01 ..... 9/8/22	
	C-22.45-07 ..... 7/21/24	C-60.80-02 ..... 7/21/24	
2	D-2.36-03 ..... 6/11/14	D-3.11-03 ..... 6/11/14	D-10.25-01 ..... 8/7/19
	D-2.46-02 ..... 8/13/21	D-4 ..... 12/11/98	D-10.30-00 ..... 7/8/08
	D-2.84-00 ..... 11/10/05	D-6 ..... 6/19/98	D-10.35-00 ..... 7/8/08
	D-2.92-01 ..... 4/26/22	D-10.10-01 ..... 12/2/08	D-10.40-01 ..... 12/2/08
	D-3.09-00 ..... 5/17/12	D-10.15-01 ..... 12/2/08	D-10.45-01 ..... 12/2/08
	D-3.10-01 ..... 5/29/13	D-10.20-01 ..... 8/7/19	D-20.10-00 ..... 10/9/23
3	E-1 ..... 2/21/07	E-4 ..... 8/27/03	E-20.10-00 ..... 9/12/23
	E-2 ..... 5/29/98	E-4a ..... 8/27/03	E-20.20-00 ..... 10/4/23
4	F-10.12-04 ..... 9/24/20	F-10.62-02 ..... 4/22/14	F-40.15-04 ..... 9/25/20
	F-10.16-00 ..... 12/20/06	F-10.64-03 ..... 4/22/14	F-40.16-03 ..... 6/29/16
	F-10.18-04 ..... 6/28/24	F-30.10-04 ..... 9/25/20	F-45.10-05 ..... 6/4/24
	F-10.40-04 ..... 9/24/20	F-40.12-03 ..... 6/29/16	F-80.10-04 ..... 7/15/16
	F-10.42-00 ..... 1/23/07	F-40.14-03 ..... 6/29/16	
5	G-10.10-00 ..... 9/20/07	G-24.50-05 ..... 8/7/19	G-90.10-03 ..... 7/11/17
	G-20.10-03 ..... 8/20/21	G-24.60-05 ..... 6/28/18	G-90.20-05 ..... 7/11/17
	G-22.10-04 ..... 6/28/18	G-25.10-05 ..... 9/16/20	G-90.30-04 ..... 7/11/17
	G-24.10-00 ..... 11/8/07	G-26.10-00 ..... 7/31/19	G-95.10-02 ..... 6/28/18
	G-24.20-01 ..... 2/7/12	G-30.10-04 ..... 6/23/15	G-95.20-03 ..... 6/28/18
	G-24.30-02 ..... 6/28/18	G-50.10-03 ..... 6/28/18	G-95.30-03 ..... 6/28/18
	G-24.40-07 ..... 6/28/18		
6	H-10.10-01 ..... 6/2/24	H-30.10-00 ..... 10/12/07	H-70.10-02 ..... 8/17/21
	H-10.11-00 ..... 6/2/24	H-32.10-00 ..... 9/20/07	H-70.20-02 ..... 8/17/21
	H-10.15-01 ..... 6/2/24	H-60.10-01 ..... 7/3/08	
	H-10.16-00 ..... 6/2/24	H-60.20-01 ..... 7/3/08	

1

I-10.10-01..... 8/11/09	I-30.20-00 ..... 9/20/07	I-40.20-00 ..... 9/20/07
I-30.10-02..... 3/22/13	I-30.30-02 ..... 6/12/19	I-50.20-02 ..... 7/6/22
I-30.15-02..... 3/22/13	I-30.40-02 ..... 6/12/19	I-60.10-01 ..... 6/10/13
I-30.16-01..... 7/11/19	I-30.60-02 ..... 6/12/19	I-60.20-01 ..... 6/10/13
I-30.17-01..... 6/12/19	I-40.10-00 ..... 9/20/07	I-80.10-02 ..... 7/15/16

2

J-05.50-00..... 8/30/22	J-26.10-03 ..... 7/21/16	J-50.05-00 ..... 7/21/17
J-10..... 7/18/97	J-26.15-01 ..... 5/17/12	J-50.10-01 ..... 7/31/19
J-10.10-04 ..... 9/16/20	J-26.20-01 ..... 6/28/18	J-50.11-02..... 7/31/19
J-10.12-00 ..... 9/16/20	J-27.10-01 ..... 7/21/16	J-50.12-02 ..... 8/7/19
J-10.14-00 ..... 9/16/20	J-27.15-00 ..... 3/15/12	J-50.13-01 ..... 8/30/22
J-10.15-01 ..... 6/11/14	J-28.01-00 ..... 8/30/22	J-50.15-01 ..... 7/21/17
J-10.16-02 ..... 8/18/21	J-28.10-02 ..... 8/7/19	J-50.16-01 ..... 3/22/13
J-10.17-02 ..... 8/18/21	J-28.22-00 ..... 8/07/07	J-50.18-00 ..... 8/7/19
J-10.18-02 ..... 8/18/21	J-28.24-02 ..... 9/16/20	J-50.19-00 ..... 8/7/19
J-10.20-04 ..... 8/18/21	J-28.26-01 ..... 12/02/08	J-50.20-00 ..... 6/3/11
J-10.21-02 ..... 8/18/21	J-28.30-04 ..... 6/18/24	J-50.25-00 ..... 6/3/11
J-10.22-03 ..... 10/4/23	J-28.40-02 ..... 6/11/14	J-50.30-00 ..... 6/3/11
J-10.25-01 ..... 6/21/24	J-28.42-01 ..... 6/11/14	J-60.05-01 ..... 7/21/16
J-10.26-00 ..... 8/30/22	J-28.43-01 ..... 6/28/18	J-60.11-00..... 5/20/13
J-12.15-00 ..... 6/28/18	J-28.45-03 ..... 7/21/16	J-60.12-00 ..... 5/20/13
J-12.16-00 ..... 6/28/18	J-28.50-03 ..... 7/21/16	J-60.13-00 ..... 6/16/10
J-15.10-01 ..... 6/11/14	J-28.60-03 ..... 8/27/21	J-60.14-01 ..... 7/31/19
J-15.15-02 ..... 7/10/15	J-28.70-04 ..... 8/30/22	J-75.10-02 ..... 7/10/15
J-20.01-01 ..... 6/21/24	J-29.10-02 ..... 8/26/22	J-75.20-01 ..... 7/10/15
J-20.05-00 ..... 6/21/24	J-29.15-01 ..... 7/21/16	J-75.30-02 ..... 7/10/15
J-20.10-05 ..... 10/4/23	J-29.16-02 ..... 7/21/16	J-75.50-00 ..... 8/30/22
J-20.11-03 ..... 7/31/19	J-30.10-01 ..... 8/26/22	J-75.55-00 ..... 8/30/22
J-20.15-04 ..... 6/21/24	J-40.01-00 ..... 8/30/22	J-80.05-00 ..... 8/30/22
J-20.16-02 ..... 6/30/14	J-40.05-00 ..... 7/21/16	J-80.10-01 ..... 8/18/21
J-20.20-02 ..... 5/20/13	J-40.10-04 ..... 4/28/16	J-80.12-00 ..... 8/18/21
J-20.26-01 ..... 7/12/12	J-40.20-03 ..... 4/28/16	J-80.15-00 ..... 6/28/18
J-21.10-05 ..... 6/21/24	J-40.30-04 ..... 4/28/16	J-81.10-02 ..... 8/18/21
J-21.15-01 ..... 6/10/13	J-40.35-01 ..... 5/29/13	J-81.12-00 ..... 9/3/21
J-21.16-02 ..... 6/21/24	J-40.36-02 ..... 7/21/17	J-84.05-00 ..... 8/30/22
J-21.17-01 ..... 6/10/13	J-40.37-02 ..... 7/21/17	J-86.10-00 ..... 6/28/18
J-21.20-01 ..... 6/10/13	J-40.38-01 ..... 5/20/13	J-90.10-03 ..... 6/28/18
J-22.15-03 ..... 6/21/24	J-40.39-00 ..... 5/20/13	J-90.20-03 ..... 6/28/18
J-22.16-03 ..... 7/10/15	J-40.40-02 ..... 7/31/19	J-90.21-02 ..... 6/28/18
J-22.17-00 ..... 6/21/24	J-45.36-00 ..... 7/21/17	J-90.50-00 ..... 6/28/18

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K-70.20-01 ..... 6/1/16	K-80.32-00..... 8/17/21	K-80.35-01..... 9/16/20
K-80.10-02 ..... 9/25/20	K-80.34-00..... 8/17/21	K-80.37-01..... 9/16/20

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L-5.10-02..... 6/5/24	L-20.10-03 ..... 7/14/15	L-40.20-02 ..... 6/21/12
L-5.15-00..... 9/19/22	L-30.10-02 ..... 6/11/14	L-70.10-01 ..... 5/21/08
L-10.10-02..... 6/21/12	L-40.15-01 ..... 6/16/11	L-70.20-01 ..... 5/21/08

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M-1.20-04..... 9/25/20	M-9.60-00 ..... 2/10/09	M-24.66-00 ..... 7/11/17
M-1.40-03..... 9/25/20	M-11.10-04..... 8/2/22	M-40.10-04 ..... 10/17/23

M-1.60-03..... 9/25/20	M-12.10-04 ..... 6/28/24	M-40.20-00 ..... 10/12/07
M-1.80-03..... 6/3/11	M-15.10-02 ..... 7/17/23	M-40.30-01 ..... 7/11/17
M-2.20-03..... 7/10/15	M-17.10-02 ..... 7/3/08	M-40.40-00 ..... 9/20/07
M-2.21-00..... 7/10/15	M-20.10-04 ..... 8/2/22	M-40.50-00 ..... 9/20/07
M-3.10-04..... 9/25/20	M-20.20-02 ..... 4/20/15	M-40.60-00 ..... 9/20/07
M-3.20-04..... 8/2/22	M-20.30-05 ..... 6/28/24	M-60.10-01 ..... 6/3/11
M-3.30-04..... 9/25/20	M-20.40-03 ..... 6/24/14	M-60.20-03 ..... 8/17/21
M-3.40-04..... 9/25/20	M-20.50-02 ..... 6/3/11	M-65.10-03 ..... 8/17/21
M-3.50-03..... 9/25/20	M-24.20-02 ..... 4/20/15	M-80.10-01 ..... 6/3/11
M-5.10-03..... 9/25/20	M-24.40-02 ..... 4/20/15	M-80.20-00 ..... 6/10/08
M-7.50-01..... 1/30/07	M-24.60-04 ..... 6/24/14	M-80.30-00 ..... 6/10/08
M-9.50-02..... 6/24/14	M-24.65-00 ..... 7/11/17	

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# PREVAILING WAGE RATES

King County Wage Rates  
Supplement to Wage Rates  
Benefit Code Key

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# PREVAILING WAGE RATES

Prevailing wage rates can be found at:  
[www.lni.wa.gov/tradeslicensing/prevwage/wagerates](http://www.lni.wa.gov/tradeslicensing/prevwage/wagerates)

Use Effective Bid Due Date

(January 23, 2025)

King County

A copy of the applicable wage rates is available for viewing in our office:

City Hall Annex  
310 1<sup>st</sup> Street  
Kirkland, WA 98033

The City of Kirkland will mail a hard copy of the applicable wage rates upon request.  
Send your request to the Project Engineer, or [kweil@kirklandwa.gov](mailto:kweil@kirklandwa.gov).

**Washington State Department of Labor and Industries  
Policy Statement  
(Regarding the Production of "Standard" or "Non-standard" Items)**

Below is the department's (State L&I's) list of criteria to be used in determining whether a prefabricated item is "standard" or "non-standard". For items not appearing on WSDOT's predetermined list, these criteria shall be used by the Contractor (and the Contractor's subcontractors, agents to subcontractors, suppliers, manufacturers, and fabricators) to determine coverage under RCW 39.12. The production, in the State of Washington, of non-standard items is covered by RCW 39.12, and the production of standard items is not. The production of any item outside the State of Washington is not covered by RCW 39.12.

1. Is the item fabricated for a public works project? If not, it is not subject to RCW 39.12. If it is, go to question 2.
2. Is the item fabricated on the public works jobsite? If it is, the work is covered under RCW 39.12. If not, go to question 3.
3. Is the item fabricated in an assembly/fabrication plant set up for, and dedicated primarily to, the public works project? If it is, the work is covered by RCW 39.12. If not, go to question 4.
4. Does the item require any assembly, cutting, modification or other fabrication by the supplier? If not, the work is not covered by RCW 39.12. If yes, go to question 5.
5. Is the prefabricated item intended for the public works project typically an inventory item which could reasonably be sold on the general market? If not, the work is covered by RCW 39.12. If yes, go to question 6.
6. Does the specific prefabricated item, generally defined as standard, have any unusual characteristics such as shape, type of material, strength requirements, finish, etc? If yes, the work is covered under RCW 39.12.

Any firm with questions regarding the policy, WSDOT's Predetermined List, or for determinations of covered and non-covered workers shall be directed to State L&I at (360) 902-5330.

**WSDOT's  
Predetermined List for  
Suppliers - Manufactures - Fabricator**

Below is a list of potentially prefabricated items, originally furnished by WSDOT to Washington State Department of Labor and Industries, that may be considered non-standard and therefore covered by the prevailing wage law, RCW 39.12. Items marked with an X in the "YES" column should be considered to be non-standard and therefore covered by RCW 39.12. Items marked with an X in the "NO" column should be considered to be standard and therefore not covered. Of course, exceptions to this general list may occur, and in that case shall be evaluated according to the criteria described in State and L&I's policy statement.

<b>ITEM DESCRIPTION</b>	<b>YES</b>	<b>NO</b>
1. Metal rectangular frames, solid metal covers, herringbone grates, and bi-directional vaned grates for Catch Basin Types 1, 1L, 1P, and 2 and Concrete Inlets. See Std. Plans		<b>X</b>
2. Metal circular frames (rings) and covers, circular grates, and prefabricated ladders for Manhole Types 1, 2, and 3, Drywell Types 1, 2, and 3 and Catch Basin Type 2. See Std. Plans		<b>X</b>
3. Prefabricated steel grate supports and welded grates, metal frames and dual vaned grates, and Type 1, 2, and 3 structural tubing grates for Drop Inlets. See Std. Plans.		<b>X</b>
4. Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes smaller than 60 inch diameter.		<b>X</b>
5. Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes larger than 60 inch diameter.		<b>X</b>
6. Corrugated Steel Pipe - Steel lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, 1 thru 5.		<b>X</b>
7. Corrugated Aluminum Pipe - Aluminum lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, #5.		<b>X</b>



ITEM DESCRIPTION	YES	NO
8. Anchor Bolts & Nuts - Anchor Bolts and Nuts, for mounting sign structures, luminaries and other items, shall be made from commercial bolt stock. See Contract Plans and Std. Plans for size and material type.		<b>X</b>
9. Aluminum Pedestrian Handrail - Pedestrian handrail conforming to the type and material specifications set forth in the contract plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).	<b>X</b>	
10. Major Structural Steel Fabrication - Fabrication of major steel items such as trusses, beams, girders, etc., for bridges.	<b>X</b>	
11. Minor Structural Steel Fabrication - Fabrication of minor steel Items such as special hangers, brackets, access doors for structures, access ladders for irrigation boxes, bridge expansion joint systems, etc., involving welding, cutting, punching and/or boring of holes. See Contact Plans for item description and shop drawings.	<b>X</b>	
12. Aluminum Bridge Railing Type BP - Metal bridge railing conforming to the type and material specifications set forth in the Contract Plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).		<b>X</b>
13. Concrete Piling--Precast-Prestressed concrete piling for use as 55 and 70 ton concrete piling. Concrete to conform to Section 9-19.1 of Std. Spec..	<b>X</b>	
14. Precast Manhole Types 1, 2, and 3 with cones, adjustment sections and flat top slabs. See Std. Plans.		<b>X</b>
15. Precast Drywell Types 1, 2, and with cones and adjustment Sections. See Std. Plans.		<b>X</b>
16. Precast Catch Basin - Catch Basin type 1, 1L, 1P, and 2 With adjustment sections. See Std. Plans.		<b>X</b>

ITEM DESCRIPTION	YES	NO
17. Precast Concrete Inlet - with adjustment sections, See Std. Plans		<b>X</b>
18. Precast Drop Inlet Type 1 and 2 with metal grate supports. See Std. Plans.		<b>X</b>
19. Precast Grate Inlet Type 2 with extension and top units. See Std. Plans		<b>X</b>
20. Metal frames, vaned grates, and hoods for Combination Inlets. See Std. Plans		<b>X</b>
21. Precast Concrete Utility Vaults - Precast Concrete utility vaults of various sizes. Used for in ground storage of utility facilities and controls. See Contract Plans for size and construction requirements. Shop drawings are to be provided for approval prior to casting		<b>X</b>
22. Vault Risers - For use with Valve Vaults and Utilities  X Vaults.		<b>X</b>
23. Valve Vault - For use with underground utilities. See Contract Plans for details.		<b>X</b>
24. Precast Concrete Barrier - Precast Concrete Barrier for use as new barrier or may also be used as Temporary Concrete Barrier. Only new state approved barrier may be used as permanent barrier.		<b>X</b>
25. Reinforced Earth Wall Panels – Reinforced Earth Wall Panels in size and shape as shown in the Plans. Fabrication plant has annual approval for methods and materials to be used. See Shop Drawing. Fabrication at other locations may be approved, after facilities inspection, contact HQ. Lab.	<b>X</b>	
26. Precast Concrete Walls - Precast Concrete Walls - tilt-up wall panel in size and shape as shown in Plans. Fabrication plant has annual approval for methods and materials to be used	<b>X</b>	

ITEM DESCRIPTION	YES	NO
27. Precast Railroad Crossings - Concrete Crossing Structure Slabs.	<b>X</b>	
28. 12, 18 and 26 inch Standard Precast Prestressed Girder – Standard Precast Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	<b>X</b>	
29. Prestressed Concrete Girder Series 4-14 - Prestressed Concrete Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	<b>X</b>	
30. Prestressed Tri-Beam Girder - Prestressed Tri-Beam Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	<b>X</b>	
31. Prestressed Precast Hollow-Core Slab – Precast Prestressed Hollow-core slab for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A.	<b>X</b>	
32. Prestressed-Bulb Tee Girder - Bulb Tee Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	<b>X</b>	
33. Monument Case and Cover See Std. Plan.		<b>X</b>

ITEM DESCRIPTION	YES	NO
34. Cantilever Sign Structure - Cantilever Sign Structure fabricated from steel tubing meeting AASHTO-M-183. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.	<b>X</b>	
35. Mono-tube Sign Structures - Mono-tube Sign Bridge fabricated to details shown in the Plans. Shop drawings for approval are required prior to fabrication.	<b>X</b>	
36. Steel Sign Bridges - Steel Sign Bridges fabricated from steel tubing meeting AASHTO-M-138 for Aluminum Alloys. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.	<b>X</b>	
37. Steel Sign Post - Fabricated Steel Sign Posts as detailed in Std Plans. Shop drawings for approval are to be provided prior to fabrication		<b>X</b>
38. Light Standard-Prestressed - Spun, prestressed, hollow concrete poles.	<b>X</b>	
39. Light Standards - Lighting Standards for use on highway illumination systems, poles to be fabricated to conform with methods and materials as specified on Std. Plans. See Special Provisions for pre-approved drawings.	<b>X</b>	
40. Traffic Signal Standards - Traffic Signal Standards for use on highway and/or street signal systems. Standards to be fabricated to conform with methods and material as specified on Std. Plans. See Special Provisions for pre-approved drawings	<b>X</b>	
41. Precast Concrete Sloped Mountable Curb (Single and DualFaced) See Std. Plans.		<b>X</b>

ITEM DESCRIPTION	YES	NO
42. Traffic Signs - Prior to approval of a Fabricator of Traffic Signs, the sources of the following materials must be submitted and approved for reflective sheeting, legend material, and aluminum sheeting. <b>NOTE:</b> *** Fabrication inspection required. Only signs tagged "Fabrication Approved" by WSDOT Sign Fabrication Inspector to be installed	<b>X</b>	<b>X</b>
	Custom Message	Std Signing Message
43. Cutting & bending reinforcing steel		<b>X</b>
44. Guardrail components	<b>X</b>	<b>X</b>
	Custom End Sec	Standard Sec
45. Aggregates/Concrete mixes	Covered by WAC 296-127-018	
46. Asphalt	Covered by WAC 296-127-018	
47. Fiber fabrics		<b>X</b>
48. Electrical wiring/components		<b>X</b>
49. treated or untreated timber pile		<b>X</b>
50. Girder pads (elastomeric bearing)	<b>X</b>	
51. Standard Dimension lumber		<b>X</b>
52. Irrigation components		<b>X</b>

ITEM DESCRIPTION	YES	NO
53. Fencing materials		<b>X</b>
54. Guide Posts		<b>X</b>
55. Traffic Buttons		<b>X</b>
56. Epoxy		<b>X</b>
57. Cribbing		<b>X</b>
58. Water distribution materials		<b>X</b>
59. Steel "H" piles		<b>X</b>
60. Steel pipe for concrete pile casings		<b>X</b>
61. Steel pile tips, standard		<b>X</b>
62. Steel pile tips, custom	<b>X</b>	

Prefabricated items specifically produced for public works projects that are prefabricated in a county other than the county wherein the public works project is to be completed, the wage for the offsite prefabrication shall be the applicable prevailing wage for the county in which the actual prefabrication takes place.

It is the manufacturer of the prefabricated product to verify that the correct county wage rates are applied to work they perform.

See RCW [39.12.010](#)

(The definition of "locality" in RCW [39.12.010](#)(2) contains the phrase "wherein the physical work is being performed." The department interprets this phrase to mean the actual work site.

## **WSDOT's List of State Occupations not applicable to Heavy and Highway Construction Projects**

This project is subject to the state hourly minimum rates for wages and fringe benefits in the contract provisions, as provided by the state Department of Labor and Industries.

The following list of occupations, is comprised of those occupations that are not normally used in the construction of heavy and highway projects.

When considering job classifications for use and / or payment when bidding on, or building heavy and highway construction projects for, or administered by WSDOT, these Occupations will be excepted from the included "Washington State Prevailing Wage Rates For Public Work Contracts" documents.

- Building Service Employees
- Electrical Fixture Maintenance Workers
- Electricians - Motor Shop
- Heating Equipment Mechanics
- Industrial Engine and Machine Mechanics
- Industrial Power Vacuum Cleaners
- Inspection, Cleaning, Sealing of Water Systems by Remote Control
- Laborers - Underground Sewer & Water
- Machinists (Hydroelectric Site Work)
- Modular Buildings
- Playground & Park Equipment Installers
- Power Equipment Operators - Underground Sewer & Water
- Residential \*\*\* ALL ASSOCIATED RATES \*\*\*
- Sign Makers and Installers (Non-Electrical)
- Sign Makers and Installers (Electrical)
- Stage Rigging Mechanics (Non Structural)

The following occupations may be used only as outlined in the preceding text concerning "WSDOT's list for Suppliers - Manufacturers - Fabricators"

- Fabricated Precast Concrete Products
- Metal Fabrication (In Shop)

Definitions for the Scope of Work for prevailing wages may be found at the Washington State Department of Labor and Industries web site and in WAC Chapter 296-127.

**Washington State Department of Labor and Industries  
Policy Statements  
(Regarding Production and Delivery of Gravel, Concrete, Asphalt, etc.)**

**WAC 296-127-018 Agency filings affecting this section**

**Coverage and exemptions of workers involved in the production and delivery of gravel, concrete, asphalt, or similar materials.**

(1) The materials covered under this section include but are not limited to: Sand, gravel, crushed rock, concrete, asphalt, or other similar materials.

(2) All workers, regardless of by whom employed, are subject to the provisions of chapter 39.12 RCW when they perform any or all of the following functions:

(a) They deliver or discharge any of the above-listed materials to a public works project site:

(i) At one or more point(s) directly upon the location where the material will be incorporated into the project; or

(ii) At multiple points at the project; or

(iii) Adjacent to the location and coordinated with the incorporation of those materials.

(b) They wait at or near a public works project site to perform any tasks subject to this section of the rule.

(c) They remove any materials from a public works construction site pursuant to contract requirements or specifications (e.g., excavated materials, materials from demolished structures, clean-up materials, etc.).

(d) They work in a materials production facility (e.g., batch plant, borrow pit, rock quarry, etc.) which is established for a public works project for the specific, but not necessarily exclusive, purpose of supplying materials for the project.

(e) They deliver concrete to a public works site regardless of the method of incorporation.

(f) They assist or participate in the incorporation of any materials into the public works project.



(3) All travel time that relates to the work covered under subsection (2) of this section requires the payment of prevailing wages. Travel time includes time spent waiting to load, loading, transporting, waiting to unload, and delivering materials. Travel time would include all time spent in travel in support of a public works project whether the vehicle is empty or full. For example, travel time spent returning to a supply source to obtain another load of material for use on a public works site or returning to the public works site to obtain another load of excavated material is time spent in travel that is subject to prevailing wage. Travel to a supply source, including travel from a public works site, to obtain materials for use on a private project would not be travel subject to the prevailing wage.

(4) Workers are not subject to the provisions of chapter 39.12 RCW when they deliver materials to a stockpile.

(a) A "stockpile" is defined as materials delivered to a pile located away from the site of incorporation such that the stockpiled materials must be physically moved from the stockpile and transported to another location on the project site in order to be incorporated into the project.

(b) A stockpile does not include any of the functions described in subsection (2)(a) through (f) of this section; nor does a stockpile include materials delivered or distributed to multiple locations upon the project site; nor does a stockpile include materials dumped at the place of incorporation, or adjacent to the location and coordinated with the incorporation.

(5) The applicable prevailing wage rate shall be determined by the locality in which the work is performed. Workers subject to subsection (2)(d) of this section, who produce such materials at an off-site facility shall be paid the applicable prevailing wage rates for the county in which the off-site facility is located. Workers subject to subsection (2) of this section, who deliver such materials to a public works project site shall be paid the applicable prevailing wage rates for the county in which the public works project is located.

[Statutory Authority: Chapter 39.12 RCW, RCW 43.22.051 and 43.22.270. 08-24-101, § 296-127-018, filed 12/2/08, effective 1/2/09. Statutory Authority: Chapters 39.04 and 39.12 RCW and RCW 43.22.270. 92-01-104 and 92-08-101, § 296-127-018, filed 12/18/91 and 4/1/92, effective 8/31/92.]

Benefit Code Key – Effective 8/31/2024 thru 3/4/2025

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**Overtime Codes**

**Overtime calculations** are based on the hourly rate actually paid to the worker. On public works projects, the hourly rate must be not less than the prevailing rate of wage minus the hourly rate of the cost of fringe benefits actually provided for the worker.

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
  - B. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
  - C. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
  - D. The first two (2) hours before or after a five-eight (8) hour workweek day or a four-ten (10) hour workweek day and the first eight (8) hours worked the next day after either workweek shall be paid at one and one-half times the hourly rate of wage. All additional hours worked and all worked on Sundays and holidays shall be paid at double the hourly rate of wage.
  - E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
  - F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
  - G. The first ten (10) hours worked on Saturdays and the first ten (10) hours worked on a fifth calendar weekday in a four-ten hour schedule, shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
  - H. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions or equipment breakdown) shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
  - I. All hours worked on Sundays and holidays shall also be paid at double the hourly rate of wage.
  - J. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage.
  - K. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
  - M. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

**Overtime Codes Continued**

- 1. N. All hours worked on Saturdays (except makeup days) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- O. The first ten (10) hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays, holidays and after twelve (12) hours, Monday through Friday and after ten (10) hours on Saturday shall be paid at double the hourly rate of wage.
- P. All hours worked on Saturdays (except makeup days if circumstances warrant) and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
- Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas day) shall be paid at double the hourly rate of wage. All hours worked on Christmas day shall be paid at two and one-half times the hourly rate of wage.
- R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.
- U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
- V. All hours worked on Sundays and holidays (except Thanksgiving Day and Christmas day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas day shall be paid at double the hourly rate of wage.
- W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
- X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.
- Y. All hours worked outside the hours of 5:00 am and 5:00 pm (or such other hours as may be agreed upon by any employer and the employee) and all hours worked in excess of eight (8) hours per day (10 hours per day for a 4 x 10 workweek) and on Saturdays and holidays (except labor day) shall be paid at one and one-half times the hourly rate of wage. (except for employees who are absent from work without prior approval on a scheduled workday during the workweek shall be paid at the straight-time rate until they have worked 8 hours in a day (10 in a 4 x 10 workweek) or 40 hours during that workweek.) All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and Labor Day shall be paid at double the hourly rate of wage.
- Z. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid the straight time rate of pay in addition to holiday pay.

**Overtime Codes Continued**

2. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
- B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.
  - F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.
  - M. This code appears to be missing. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.
  - R. All hours worked on Sundays and holidays and all hours worked over sixty (60) in one week shall be paid at double the hourly rate of wage.
  - U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked over 12 hours in a day or on Sundays and holidays shall be paid at double the hourly rate of wage.
3. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
- F. All hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.
  - H. All work performed on Sundays between March 16th and October 14th and all Holidays shall be compensated for at two (2) times the regular rate of pay. Work performed on Sundays between October 15th and March 15th shall be compensated at one and one half (1-1/2) times the regular rate of pay.
  - J. All hours worked between the hours of 10:00 pm and 5:00 am, Monday through Friday, and all hours worked on Saturdays shall be paid at a one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
  - K. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the eight (8) hours rest period.

**Overtime Codes Continued**

4. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

- A. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage
- C. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay. On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay. All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.
- D. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturday, Sundays and holidays shall be paid at double the hourly rate of pay. Rates include all members of the assigned crew.

EXCEPTION:

On all multipole structures and steel transmission lines, switching stations, regulating, capacitor stations, generating plants, industrial plants, associated installations and substations, except those substations whose primary function is to feed a distribution system, will be paid overtime under the following rates:

The first two (2) hours after eight (8) regular hours Monday through Friday of overtime on a regular workday, shall be paid at one and one-half times the hourly rate of wage. All hours in excess of ten (10) hours will be at two (2) times the hourly rate of wage. The first eight (8) hours worked on Saturday will be paid at one and one-half (1-1/2) times the hourly rate of wage. All hours worked in excess of eight (8) hours on Saturday, and all hours worked on Sundays and holidays will be at the double the hourly rate of wage.

All overtime eligible hours performed on the above described work that is energized, shall be paid at the double the hourly rate of wage.

- E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.  
  
On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one and one half (1½) times the regular shift rate for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- G. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- I. The First eight (8) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) per day on Saturdays shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

**Overtime Codes Continued**

4. J. The first eight (8) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) hours on a Saturday shall be paid at double the hourly rate of wage. All hours worked over twelve (12) in a day, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- K. All hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked over twelve (12) in a day Monday through Saturday, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- L. The first twelve (12) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on a Saturday in excess of twelve (12) hours shall be paid at double the hourly rate of pay. All hours worked over twelve (12) in a day Monday through Friday, and all hours worked on Sundays shall be paid at double the hourly rate of wage. All hours worked on a holiday shall be paid at one and one-half times the hourly rate of wage, except that all hours worked on Labor Day shall be paid at double the hourly rate of pay.
- S. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, work performed in excess of (10) hours shall be paid at one and one half (1-1/2) times the hourly rate of pay. On Monday through Friday, work performed outside the normal work hours of 6:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations).
- All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.
- Multiple Shift Operations: When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. Special Shifts: The Special Shift Premium is the basic hourly rate of pay plus \$2.00 an hour. When due to conditions beyond the control of the employer or when an owner (not acting as the contractor), a government agency or the contract specifications require more than four (4) hours of a special shift can only be performed outside the normal 6am to 6pm shift then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid the special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday).
- U. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. (Except on makeup days if work is lost due to inclement weather, then the first eight (8) hours on Saturday may be paid the regular rate.) All hours worked over twelve (12) hours Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

**Overtime Codes Continued**

4. X. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. Work performed outside the normal shift of 6 am to 6pm shall be paid at one and one-half the straight time rate, (except for special shifts or three shift operations). All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. Shifts may be established when considered necessary by the Employer.

The Employer may establish shifts consisting of eight (8) or ten (10) hours of work (subject to WAC 296-127-022), that shall constitute a normal forty (40) hour work week. The Employer can change from a 5-eight to a 4-ten hour schedule or back to the other. All hours of work on these shifts shall be paid for at the straight time hourly rate. Work performed in excess of eight hours (or ten hours per day (subject to WAC 296-127-022) shall be paid at one and one-half the straight time rate.

When due to conditions beyond the control of the Employer, or when contract specifications require that work can only be performed outside the regular day shift, then by mutual agreement a special shift may be worked at the straight time rate, eight (8) hours work for eight (8) hours pay. The starting time shall be arranged to fit such conditions of work.

When an employee returns to work without at a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

**Overtime Codes Continued**

11. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

B After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

C The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, and all hours on Sunday shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage. All non-overtime and non-holiday hours worked between 4:00 pm and 5:00 am, Monday through Friday, shall be paid at a premium rate of 15% over the hourly rate of wage.

D. All hours worked on Saturdays and holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

E. The first two (2) hours after eight (8) regular hours Monday through Friday, the first ten (10) hours on Saturday, and the first ten (10) hours worked on Holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, and Sundays shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

**Overtime Codes Continued**

11. F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one-half times the hourly rate of wage for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- G. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.
- All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.
- After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of nine (9) hours or more. When an employee returns to work without at least nine (9) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the nine (9) hours rest period.
- H. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.
- All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.
- After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of ten (10) hours or more. When an employee returns to work without at least ten (10) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the ten (10) hours rest period.
- J. All hours worked on holidays shall be paid at double the hourly rate of wage.
- K. On Monday through Friday hours worked outside 4:00 am and 5:00 pm, and the first two (2) hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked over 10 hours per day Monday through Friday, and all hours worked on Saturdays, Sundays, and Holidays worked shall be paid at double the hourly rate of wage.
- L. An employee working outside 5:00 am and 5:00 pm shall receive an additional two dollar (\$2.00) per hour for all hours worked that shift. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.



**Overtime Codes Continued**

11. M. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.
- Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 am to 6:00 pm, then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shift shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten shifts.
- On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay. All work performed after 6:00 pm Saturday to 5:00 am Monday, all work performed over twelve (12) hours, and all work performed on holidays shall be paid at double the straight time rate of pay.
- Shift Pay Premium: In an addition to any overtime already required, all hours worked between the hours of 6:00 pm and 5:00 am shall receive an additional two dollars (\$2.00) per hour.
- N. All work performed over twelve hours in a shift and all work performed on Sundays and Holidays shall be paid at double the straight time rate.
- Any time worked over eight (8) hours on Saturday shall be paid double the straight time rate, except employees assigned to work six 10-hour shifts per week shall be paid double the straight time rate for any time worked on Saturday over 10 hours.
- O. All work performed on Saturdays, Sundays, and Holidays shall be paid at one and one half (1-1/2) times the straight time rate of pay.

**Overtime Codes Continued**

11. P. Work performed in excess of ten (10) hours of straight time per day when four ten (10) hour shifts are established and all work on Saturdays, except for make-up days shall be paid at time and one-half (1 ½) the straight time rate.
- Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 a.m. to 6:00 p.m., then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shifts shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten-hour shifts.
- In the event the job is down due to weather conditions, then Saturday may, be worked as a voluntary make-up day at the straight time rate. However, Saturday shall not be utilized as a make-up day when a holiday falls on Friday. All work performed on Sundays and holidays and work in excess of twelve (12) hours per day shall be paid at double (2x) the straight time rate of pay.
- After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.
- When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.
- Q. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 35% over the hourly rate of wage. Work performed on Sundays shall be paid at double time. All hours worked on holidays shall be paid at double the hourly rate of wage.
- R. On Monday through Saturday hours worked outside 6:00 am and 7:00 pm, and all hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- When a holiday falls on a Saturday, the Friday before shall be the observed holiday. When a holiday falls on a Sunday, the following Monday shall be the observed holiday.
- S. The first ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. In the event the job is down due to weather conditions, or other conditions beyond the control of the Employer, then Saturday may be worked at the straight time rate, for the first eight (8) hours, or the first ten (10) hours when a four day ten hour workweek has been established.
- All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

## Benefit Code Key – Effective 8/31/2024 thru 3/4/2025

11. T. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.
- On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay.
- All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.
- U. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.
- On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay.
- All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.
- If, due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift, then a Special Shift may be worked, Monday through Friday, at the straight-time rate. The starting time of work for the Special Shift will be arranged to fit such conditions of work. Such Special Shift shall consist of eight (8) hours of work for eight (8) hours of pay or ten (10) hours of work for ten(10) hours of pay on a four-ten workday schedule.

### Holiday Codes

5. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, and Christmas Day (7).
- B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, the day before Christmas, and Christmas Day (8).
- C. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).
- D. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8).
- H. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Day after Thanksgiving Day, And Christmas (6).

**Holiday Codes Continued**

- 5. I. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).
- K. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9).
- L. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (8).
- N. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (9).
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday And Saturday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9). If A Holiday Falls On Sunday, The Following Monday Shall Be Considered As A Holiday.
- Q. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).
- R. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day After Thanksgiving Day, One-Half Day Before Christmas Day, And Christmas Day. (7 1/2).
- S. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, And Christmas Day (7).
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

**Holiday Codes Continued**

- 6. G. Paid Holidays: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Christmas Eve Day (11).
- H. Paid Holidays: New Year's Day, New Year's Eve Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, Christmas Day, The Day After Christmas, And A Floating Holiday (10).
- T. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Last Working Day Before Christmas Day, And Christmas Day (9).
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). If a holiday falls on Saturday, the preceding Friday shall be considered as the holiday. If a holiday falls on Sunday, the following Monday shall be considered as the holiday.

**Holiday Codes Continued**

7. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any Holiday Which Falls On A Sunday Shall Be Observed As A Holiday On The Following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- C. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- D. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Unpaid Holidays: President's Day. Any paid holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any paid holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- E. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- F. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the last working day before Christmas day and Christmas day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

**Holiday Codes Continued**

7. G. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

**Holiday Codes Continued**

7. K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- V. Holidays: New Year's Day, President's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, the day before or after Christmas, and the day before or after New Year's Day. If any of the above listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- W. Holidays: New Year's Day, Day After New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day, Christmas Day, the day after Christmas, the day before New Year's Day, and a Floating Holiday.
- X. Holidays: New Year's Day, Day before or after New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day before or after Christmas day. If a holiday falls on a Saturday or on a Friday that is the normal day off, then the holiday will be taken on the last normal workday. If the holiday falls on a Monday that is the normal day off or on a Sunday, then the holiday will be taken on the next normal workday.
- Y. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. (8) If the holiday falls on a Sunday, then the day observed by the federal government shall be considered a holiday and compensated accordingly.
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, Christmas Eve, and Christmas Day (9). Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday. Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

**Holiday Codes Continued**

15. G. New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, the last scheduled workday before Christmas, and Christmas Day (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- J. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- L. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- M. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- O. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, the day before Christmas day, and Christmas Day (10). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Benefit Code Key – Effective 8/31/2024 thru 3/4/2025

Note Codes

8. D. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.
- L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$0.75, Level B: \$0.50, And Level C: \$0.25.
- M. Workers on hazmat projects receive additional hourly premiums as follows: Levels A & B: \$1.00, Levels C & D: \$0.50.
- N. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$1.00, Level B: \$0.75, Level C: \$0.50, And Level D: \$0.25.
- S. Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.
- T. Effective August 31, 2012 – A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.
- U. Workers on hazmat projects receive additional hourly premiums as follows – Class A Suit: \$2.00, Class B Suit: \$1.50, And Class C Suit: \$1.00. Workers performing underground work receive an additional \$0.40 per hour for any and all work performed underground, including operating, servicing and repairing of equipment. The premium for underground work shall be paid for the entire shift worked. Workers who work suspended by a rope or cable receive an additional \$0.50 per hour. The premium for work suspended shall be paid for the entire shift worked. Workers who do “pioneer” work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation receive an additional \$0.50 per hour.
8. V. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.
- Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - \$2.00 per foot for each foot over 50 feet. Over 101' to 150' - \$3.00 per foot for each foot over 101 feet. Over 151' to 220' - \$4.00 per foot for each foot over 220 feet. Over 221' - \$5.00 per foot for each foot over 221 feet.
- Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25' to 300' - \$1.00 per foot from entrance. 300' to 600' - \$1.50 per foot beginning at 300'. Over 600' - \$2.00 per foot beginning at 600'.
- W. Meter Installers work on single phase 120/240V self-contained residential meters. The Lineman/Groundmen rates would apply to meters not fitting this description.



**Note Codes Continued**

- X. Workers on hazmat projects receive additional hourly premiums as follows - Class A Suit: \$2.00, Class B Suit: \$1.50, Class C Suit: \$1.00, and Class D Suit: \$0.50. Special Shift Premium: Basic hourly rate plus \$2.00 per hour.

When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications requires that work can only be performed outside the normal 5 am to 6pm shift, then the special shift premium will be applied to the basic hourly rate. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in OT or Double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

- Y. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.

Swinging Stage/Boatswains Chair: Employees working on a swinging state or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

- Z. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.

Special Shift Premium: Basic hourly rate plus \$2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as a contractor), a government agency or the contract specifications require that more than (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they will be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

**Note Codes Continued**

9. A. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.

Special Shift Premium: Basic hourly rate plus \$2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications require that more than four (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Certified Crane Operator Premium: Crane operators requiring certifications shall be paid \$0.50 per hour above their classification rate.

Boom Pay Premium: All cranes including tower shall be paid as follows based on boom length:

- (A) – 130’ to 199’ – \$0.50 per hour over their classification rate.
- (B) – 200’ to 299’ – \$0.80 per hour over their classification rate.
- (C) – 300’ and over – \$1.00 per hour over their classification rate.

**Note Codes Continued**

9. B. The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

- C. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. These classifications are only effective on or after August 31, 2012.

- D. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, bridges, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.
- E. Heavy Construction includes construction, repair, alteration or additions to the production, fabrication or manufacturing portions of industrial or manufacturing plants, hydroelectric or nuclear power plants and atomic reactor construction. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$1.00, Level B: \$0.75, Level C: \$0.50, And Level D: \$0.25.
- F. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.
- H. One (1) person crew shall consist of a Party Chief. (Total Station or similar one (1) person survey system). Two (2) person survey party shall consist of a least a Party Chief and a Chain Person. Three (3) person survey party shall consist of at least a Party Chief, an Instrument Person, and a Chain Person.

Benefit Code Key – Effective 8/31/2024 thru 3/4/2025

9. I. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.

Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - \$2.00 per foot for each foot over 50 feet. Over 101' to 150' - \$3.00 per foot for each foot over 101 feet. Over 151' to 220' - \$4.00 per foot for each foot over 220 feet. Over 221' - \$5.00 per foot for each foot over 221 feet.

Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25' to 300' - \$1.00 per foot from entrance. 300' to 600' - \$1.50 per foot beginning at 300'. Over 600' - \$2.00 per foot beginning at 600'.

Employees may be required to perform any combination of work within the Diving team/crew, (with the exception of dive Supervisor) provided they are paid at the highest rate at which he/she has worked for the shift.

- L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$0.75, Level B: \$0.50, And Level C: \$0.25.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.

Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

# **APPENDIX A**

## **GEOTECHNICAL REPORT AND SOIL BORING LOGS**

**REVISED REPORT OF GEOTECHNICAL ENGINEERING SERVICES**

City of Kirkland  
NE 124<sup>th</sup> St/Slater/132<sup>nd</sup> Ave NE CKC Trail Crossing  
Kirkland, Washington

For  
DKS Associates  
November 25, 2024

Project: DKS-16-01

N|V|5

November 25, 2024

DKS Associates  
719 Second Avenue, Suite 1250  
Seattle, WA 98104

Attention: Jerry Liu, P.E.

**Revised Report of Geotechnical Engineering Services**

City of Kirkland  
NE 124<sup>th</sup> St/Slater/132<sup>nd</sup> Ave NE CKC Trail Crossing  
Kirkland, Washington  
Project: DKS-16-01

NV5 is pleased to submit this revised report of geotechnical engineering services to support the City of Kirkland's NE 124<sup>th</sup> St/Slater/132<sup>nd</sup> Ave NE CKC Trail Crossing project in Kirkland, Washington. This report has been prepared in accordance with our Subconsultant Agreement dated June 9, 2023.

We appreciate the opportunity to be of service to you. Please contact us if you have questions regarding this report.

Sincerely,

NV5



Vinnie Oskierko  
Project Manager



Ricky Wang, PhD, PE, GE, LEG  
Senior Principal Geotechnical Engineer

KJL:TAP:kt:sn:VKO

Attachments

One copy submitted

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## ACRONYMS AND ABBREVIATIONS

AC	asphalt concrete
ASTM	American Society for Testing and Materials
BGS	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CKC	Cross Kirkland Corridor
CVOC	chlorinated volatile organic compound
DRO	diesel-range organics
EPA	U.S. Environmental Protection Agency
GRO	gasoline-range organics
GPS	global positioning system
HAWK	High-Intensity Activated crosswalk
IDW	investigation-derived waste
not detected	compound not detected at a concentration equal to or greater than the laboratory method reporting limit or reporting detection limit
ORO	heavy oil-range organics
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCC	Portland cement concrete
PCE	tetrachloroethene
pcf	pounds per cubic foot
PID	photoionization detector
ppm	parts per million
psi	pounds per square inch
psf	pounds per square foot
RCRA	Resource Conservation and Recovery Act
SPT	standard penetration test
TCE	trichloroethene
WSDOT	Washington State Department of Transportation
WSS	Washington Standard Specifications for Road, Bridge, and Municipal Construction (2022)



## 1.0 INTRODUCTION

This report presents the results of NV5's geotechnical engineering services for the City of Kirkland's (City's) NE 124<sup>th</sup> St/Slater/132<sup>nd</sup> Ave NE CKC Trail Crossing project.

The project will include an at-grade crossing with a narrowed roadway and a HAWK pedestrian signal to facilitate a safer crossing for users of the CKC trail. An additional scope element will provide a signalized pedestrian crossing through the right-turn slip lane from a pork chop/island at the northeast corner of the intersection of NE 124<sup>th</sup> Street and Slater Avenue NE.

The site location relative to the surrounding physical features is shown on Figure 1. Acronyms and abbreviations used herein are defined above, immediately following the Table of Contents.

## 2.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this study was to gather and review available subsurface information, evaluate subsurface conditions, and provide geotechnical recommendations to support design and construction of the planned improvements. We performed the following:

- Reviewed preliminary plans and readily available geotechnical, geological, and environmental reports.
- Planned, coordinated, and managed the field explorations, which included one boring.
- Conducted a limited Phase II ESA of the subsurface material encountered in the boring for potential hazardous regulated material.
- Performed analytical laboratory testing on select soil samples from the boring, which included a suite of tests to evaluate for the presence of regulated material.
- Reviewed the analytical laboratory testing results to evaluate the laboratory's performance in meeting the quality control criteria outlined in the EPA Contract Laboratory Program's *National Functional Guidelines for Organic Superfund Methods Data Review* and *National Functional Guidelines for Inorganic Superfund Methods Data Review*. Soil sample analytical results were validated for usability and qualified as necessary.
- Prepared this draft report summarizing our findings, conclusions, and recommendations, including information related to the following:
  - Subsurface soil and groundwater conditions
  - Signal pole foundation design based on Chapter 17 "Foundation Design for Signals, Signs, Noise Barriers, Culverts, and Buildings" of the 2022 WSDOT GDM
  - Soil analytical results, laboratory reports, data validation, and conclusions based on the findings
- Prepare a final report that incorporates acceptable revisions requested to the draft report.

## 3.0 SITE CONDITIONS

The project area includes the CKC crossing of Slater Avenue NE, just north of the intersection with NE 124<sup>th</sup> Street. At this location, the former railroad crossing signals on the sides of the road and the railroad tracks are still present. The tracks extend across the road within concrete pavement panels that extend several feet past the edge of the road on both sides. Slater

Avenue NE north and south of the crossing consists of two travel lanes in each direction with a center turn lane.

### **3.1 SURFACE CONDITIONS**

Slater Avenue NE north and south of the crossing is paved with AC that is generally in a moderate condition with longitudinal fatigue cracking in the travel lanes. The concrete panels between the track rails and that transition to the adjacent AC pavement are in generally good condition. PCC curbs and gutters, with adjacent sidewalks, are present on both sides of the road. A small planter strip is present between the backs of the curbs and the sidewalk area just prior to the tracks on both sides of the road.

### **3.2 SUBSURFACE CONDITIONS**

Subsurface conditions at the site were evaluated through a review of existing geologic maps and logs of nearby borings and by drilling a boring on the northwest side of the trail crossing within the planter area between the road and the sidewalk.

Surficial geology of the area is mapped as alluvium. Grading activities during development and road construction throughout the area have included the placement of fill over portions of the mapped surficial geology deposits.

We drilled one boring (B-1A) to a depth of 21.5 feet BGS within the planter area at the approximate location shown on Figure 2. Initially, the boring encountered a concrete obstruction at a depth of approximately 8 feet BGS, at which point the boring was terminated and moved approximately 3.5 feet to the east where drilling resumed. A description of the field exploration and the exploration log are presented in Appendix A.

Subsurface conditions encountered during our field exploration program are described below.

#### **3.2.1 Fill**

Fill composed of 5/8-inch-minus crushed rock to a depth of 2.5 feet BGS and 1¼-inch-minus crushed rock to a depth of 5 feet BGS is present at the boring location. The fill is generally dense and well compacted.

#### **3.2.2 Recessional Lacustrine**

Fine-grained recessional lacustrine deposits composed of silty sand, silt with sand, and sandy silt are present below the fill to the depth explored (21.5 feet BGS). These deposits are poorly consolidated, and the coarse-grained deposits of silty sand are loose and fine-grained deposits of silt and sandy silt are soft to medium stiff.

### **3.3 GROUNDWATER**

Groundwater was encountered during drilling at a depth of 11.5 feet BGS. Soil encountered below 12.5 feet BGS is wet to saturated.

### **3.4 ENVIRONMENTAL SCREENING**

During drilling, samples and drill spoils were screened for potential hazardous materials and samples were collected for environmental screening. Results of the screening are discussed in the “Limited Phase II ESA” section.

## **4.0 GEOTECHNICAL DESIGN RECOMMENDATIONS**

### **4.1 SIGNAL POLE FOUNDATIONS**

We understand that three signal pole foundations are proposed for the project: two signal poles at Slater Ave NE, at the intersection with the CKC Trail, and one signal pole at the northeast corner of NE 124<sup>th</sup> St and Slater Ave NE. Boring B-1A was drilled in the vicinity of the signal pole foundations at the intersection with the CKC and was the basis for our recommendations at that location. We reviewed geologic maps of the area and boring logs performed by others in the vicinity of the NE 124<sup>th</sup> St signal pole foundation to provide recommendations for the signal pole foundation there.

We understand the signal poles will have drilled or excavated shaft foundations and will be constructed in accordance with the methodology of the 2022 WSDOT GDM, Chapter 17 “Foundation Design for Signals, Signs, Noise Barriers, Culverts, and Buildings.” The ground surface is relatively level across the intersection. We recommend designing the pole foundation using the standard foundation design methodology identified in Chapter 17, Section 17.2.1. Foundation recommendations in accordance with Chapter 17 are provided below. We recommend neglecting the upper 2 feet of soil in design of the signal pole foundations and recommend a minimum embedment depth of 8 feet BGS.

Soil encountered at the vicinity of Boring B-1A is generally characterized as “very soft soil” to a depth of 15-feet BGS, as described in Table 17-2 of the WSDOT GDM.

To provide foundation recommendations for the signal pole at the NE corner of the Intersection of NE 124<sup>th</sup> St and Slater Ave NE, we reviewed a report issued by Earth Solutions NW LLC’s (ESNW, 2006). Borings B-1 and B-2 were drilled approximately 300-feet east of Slater Ave. The soil at these borings is generally characterized as “very soft soil” to a depth of 12.5- to 15-feet BGS and was consistent with our findings at Boring B-1A. Review of geologic maps of the area indicate that surface geology is consistent across the project area. A vicinity map, site plan, and boring logs from this report are presented in Appendix C.

We anticipate the pole foundations will generally extend to depths of up to approximately 8 to 10 feet BGS. Groundwater should be expected below a depth of 11.5 feet BGS in the vicinity of the CKC Trail crossing at Slater Ave NE, and between 15- and 17-feet BGS near the NE corner of the intersection of NE 124<sup>th</sup> St and Slater Ave NE. The boring logs indicate wet and saturated soils as shallow as 5-feet BGS in the vicinity of NE 124<sup>th</sup> St, so wet drilling conditions should be expected below that depth. Excavation support or casing, depending on excavation methods, will be required to stabilize the excavation in the soft recessional lacustrine deposits and below the groundwater table.

We recommend the allowable lateral soil bearing pressures presented in Table 1 for foundations at the described locations, which are based on Table 17-2 of the WSDOT GDM.

**Table 1. Traffic Signal Pole Recommended Soil Parameters and Allowable Lateral Bearing Pressure**

Location	Foundation Type	Depth (feet BGS)	Allowable Lateral Soil Bearing Pressure (psf)	Friction Angle (degrees)	Moist Unit Weight (pcf)
Slater Ave NE, at intersection with CKC Trail (vicinity of Boring B-1A)	Cantilever signals and strain pole standards (types II, III, IV, and V)	2 to 10	1,000	28	110
NE Corner of Intersection of NE 124 <sup>th</sup> St and Slater Ave NE	Cantilever signals and strain pole standards (types II, III, IV, and V)	2 to 10	1,000	28	110

Upper 2 feet of soil contribution should be neglected in design.

#### **4.2 SIGNAL POLE CONSTRUCTION CONSIDERATIONS**

We recommend that drilled shaft foundations for the poles be installed using WSDOT procedures. Concrete should be cast neat against the sides of excavations. The use of temporary steel casing, drilling mud, or other types of excavation stabilization methods should be used as necessary to control the sloughing of sidewalls. Based on the conditions encountered in the boring, temporary casing may be necessary for the full depth of the foundation to control sloughing of loose fill and recessional lacustrine. Casing should be removed while the concrete is still fluid, so proper soil/cement contact is achieved. Slough should be removed from the bottom of the excavation before concrete is placed, as loose or disturbed soil in the excavation base could result in increased settlement. Groundwater may be encountered during drilling if excavation exceeds a depth of 11.5 feet BGS.

We anticipate the existing railroad crossing foundations may need to be removed to facilitate new signal pole installation. Excavations to remove existing foundations of nearby utilities should be backfilled with structural fill that is placed in lifts and compacted to 95 percent of the maximum dry density, as determined by ASTM D1557. Stabilization of the excavation base may be required. The method typically used in the area is to over-excavate approximately 1 foot and compact and knead spalls into the excavation base with the excavator bucket, cover the spalls with geotextile reinforcement, and backfill to the required elevation with crushed aggregate.

Excavating the pole foundations with a backhoe or tracked excavator, rather than a drill rig, can result in a void space between the temporary form and the excavation sidewall. Loose, disturbed material should be removed from the sides and base of the excavation to expose firm,

undisturbed material. Concrete should be poured directly against the exposed soil in the sides of the excavation. If a form is used, the annular space between the form and the sides of the excavation should be backfilled with controlled density fill with an unconfined compressive strength of 100 psi.

We recommend that NV5 be present during foundation excavation and/or drilling. NV5 will evaluate and confirm the adequacy of the subgrade soil with respect to the anticipated conditions based on the conditions and foundation design recommendations presented in this report.

### **4.3 EXCAVATION**

The soil at the project area can be excavated with conventional earthwork equipment. Excavations should stand vertical to a depth of approximately 4 feet BGS, provided groundwater seepage is not observed in the trench walls. Open excavation techniques may be used to excavate utility trenches, provided the walls of the excavation are cut at appropriate cut slopes determined by the contractor or supported using contractor-designed temporary shoring or shielding.

Significant caving and sloughing should be expected below a depth of 4 feet BGS where trench walls are unsupported or where the shielding is not tight against the face of the excavation. Where caving and sloughing occur, the excavation width may extend outward an additional horizontal distance equal to the depth of the excavation from the original sidewall location.

#### **4.3.1 Petroleum-Impacted Soil**

The limited Phase II ESA, as discussed below, did not find evidence of petroleum or other environmental contaminants. The boring location was off to the side of the main tracks and conditions directly beneath the tracks may be different. We recommend including in the bid documents a unit cost item for disposing of petroleum-impacted soil to address the potential for encountering impacted soil that may be below the railroad tracks.

### **4.4 PAVEMENT DESIGN**

We anticipate the railroad tracks and concrete pavement will be removed as part of this project. The tracks appear to be bedded in and overlie railroad ballast based on exposures at the ends. This material will provide a suitable subgrade over which to construct the new pavement section. We recommend installing a geotextile filter fabric over the existing ballast prior to placing any additional fill for raising grades for paving.

The project is within a section of Slater Avenue NE that is classified as a collector. The new pavement section should be a minimum of 6 inches thick or if the existing pavement is thicker, it should match the existing pavement section. The existing pavement should be sawcut a few feet back from the existing joint between the AC and PCC pavement to allow for proper patching and AC compaction, similar to City Standard Plan CK-R.12.

#### **4.4.1 Subgrade Preparation**

After removal of the concrete panels and track elements, including ties, the exposed subgrade should be compacted to a dense and unyielding condition. If open, course railroad ballast is

present and additional material is required to raise the grade, it should consist of additional ballast material. Alternatively, a geosynthetic for filtration and separation may be placed over the ballast material and 1¼-inch-minus crushed rock base course material may be used to raise the grade.

## **4.5 CONSTRUCTION CONSIDERATIONS**

### **4.5.1 Fill Material**

Fill material may be required for grading along the trail alignment across the road, backfilling over-excavations, and installing utilities. We assume the on-site soil generated from excavation will not be suitable for fill due to the high fines content and susceptibility to deterioration when wet. The Aggregate Source Approval certificates should not be used as the sole acceptance criteria for imported fill material that is coming from WSDOT-approved borrow pits. Confirmation sampling and testing should be performed on all proposed imported fill material. The recommended fill materials are discussed below.

#### **4.5.1.1 Structural Fill**

Imported granular material used for structural fill should be naturally occurring pit- or quarry-run rock, crushed rock, or crushed gravel and sand and should meet the specifications provided in WSS 9-03.14(1) – Gravel Borrow, with the exception that the percentage passing the U.S. Standard No. 200 sieve does not exceed 5 percent by dry weight. The reduced percentage passing the U.S. Standard No. 200 sieve results in a material less susceptible to deteriorating under wet weather conditions.

#### **4.5.1.2 Hardscape/Pavement Base Course**

Imported granular material used as aggregate base beneath hardscape areas should consist of 1¼-inch-minus material meeting the specifications provided in the WSS 9-03.9(3) – Crushed Surfacing Base Course or Top Course material, with the exception that the aggregate should have less than 5 percent by dry weight passing the U.S. Standard No. 200 sieve and at least two mechanically fractured faces. The imported granular material should be placed in lifts with a maximum uncompacted thickness of 12 inches and compacted to not less than 95 percent of the maximum dry density, as determined by ASTM D1557.

#### **4.5.1.3 Stabilization Material**

Stabilization material to backfill over-excavations or to stabilize soft subgrade areas may consist of either:

- WSS 9-03.9(2) – Permeable Ballast, or
- WSS 9-13.7(2) – Backfill for Rock Wall

The initial lift of stabilization material used to fill over-excavations should be 12 inches thick and compacted to a firm condition. Successive lifts should be 12 inches thick and compacted to a dense and unyielding condition.

To prevent migration of the fine-grained subgrade soil upward into the structural fill, stabilization fabric should be placed between the stabilization material prior to placing structural fill. The geotextile should conform to the specifications for woven stabilization geotextile as defined in

the “Geosynthetics” section.

#### **4.6 GEOSYNTHETICS**

Geotextiles used on this project should be installed in conformance with the specifications provided in WSS 2-12 – Construction Geosynthetic.

##### **4.6.1 Stabilization Geotextile**

To provide subgrade stabilization, reinforcement, and drainage, a geosynthetic is recommended in areas where soft subgrade conditions are encountered. This can be accomplished using a single layer of heavy-duty geotextile with high permittivity characteristics such as Mirafi RS380i. The geotextile should conform to the specifications for woven soil stabilization material provided in WSS 9-33.2(1) – Geotextile Properties, Table 3 Geotextile for Separation or Soil Stabilization and meet the apparent opening size and water permittivity requirements in WSS 9-33.2(1) – Geotextile Properties, Table 5, Class A.

#### **4.7 OBSERVATION OF CONSTRUCTION**

Recommendations provided in this report assume that NV5 will be retained to provide geotechnical consultation and observation services during construction. Satisfactory earthwork performance depends to a large degree on the quality of construction. Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations. Recognition of changed conditions often requires experience; therefore, NV5 personnel should visit the site with sufficient frequency to detect whether subsurface conditions change significantly from those anticipated and to verify that the work is completed in accordance with the construction drawings and specifications.

Observation and laboratory testing of the proposed fill material should be completed to verify that it is in conformance with our recommendations. Observation of the placement and compaction of the fill should be performed to verify it meets the required compaction and will be capable of providing the structural support for the proposed infrastructure. A sufficient number of in-place density tests should be performed as the fill is placed to verify the required relative compaction is being achieved.

#### **5.0 LIMITED PHASE II ESA**

A limited Phase II ESA of subsurface soil and groundwater conditions was completed as part of the geotechnical services. A discussion of environmental field observations and soil analytical results for the Phase II ESA is presented below. The data validation memorandum, which includes the laboratory report, is presented in Appendix B.

##### **5.1 FIELD PROCEDURES**

Subsurface environmental conditions at the site were explored by drilling two borings (B-1 and B-1A). The borings were advanced using hollow-stem auger techniques. The initial boring was advanced to a depth of approximately 8 feet BGS, at which point drilling equipment hit refusal. Given the limited amount of soil sample recovery (insufficient for laboratory analysis) and the lack of odors/soil staining/volatile vapors, soil samples were not collected from this boring. The boring was designated “B-1” and abandoned. The drilling location was moved approximately



3.5 feet east of boring B-1 to a location within a landscaping strip immediately adjacent to the curb at Slater Avenue NE (Figure 2). Boring B-1A was drilled to a total depth of 21.5 feet BGS.

NV5 collected soil samples directly from the split spoon sampler when the soil volume was sufficient. Soil samples were collected for environmental field observations at 5, 10, 12.5, 15, and 20 feet BGS. An environmental sample could not be collected from 2.5-foot BGS because the entire soil volume was used for the geotechnical assessment. In addition, the 5-foot BGS soil sample was collected from the associated soil cuttings, as the split spoon sample recovery was insufficient.

NV5 field screened the sampled soil using visual/olfactory observations, sheen testing, and/or a PID to measure for the potential presence of volatile compounds/gases. Soil samples for field screening were collected directly from split spoon sampling equipment (or the center of a soil cuttings stockpile) and placed into individual clean, sealed Ziploc bags. Clean nitrile gloves were used to collect each sample. PID readings were collected within each sealed Ziploc bag prior to the soil sample being placed into the laboratory-provided sample containers.

Soil samples for analysis of BTEX, CVOCs, and GRO were collected using syringe samplers and placed in laboratory-provided bottles preserved with methanol, consistent with EPA Method 5035 protocols. Soil samples for analysis of DRO, ORO, PAHs, RCRA 8 metals, herbicides/pesticides, and/or PCBs were collected in unpreserved glass soil sample jars. Sample containers were sealed, labeled, and placed in a cooler with ice for transport under standard chain-of-custody protocols to Fremont Analytical, a Washington State-accredited laboratory located in Seattle, Washington.

Depth to water was measured using a water level meter extended down the center of the hollow-stem augers once the total drilling depth of 21.5 feet BGS was reached. Groundwater was field screened using visual/olfactory observations for any evidence of odor, staining, or oily sheen. Groundwater at boring B-1A was sampled through the hollow-stem augers. The sample was collected from an approximate depth of 16 feet BGS (in the approximate middle of the observed groundwater column) using a peristaltic pump and general low-flow sampling procedures.

## **5.2 FIELD OBSERVATIONS**

Soil encountered in the boring consists of interlayered silty sand with gravel, silt with sand, silty sand, and sandy silt. PID readings for soil samples collected from boring B-1A ranged from 0.3 to 3,425 ppm. These elevated PID readings (3,425 ppm at 15 feet BGS and 1,864 ppm at 20 feet BGS) appeared to be a PID response to moisture. Weather conditions were sunny with an approximate temperature of 80 degrees Fahrenheit on the day of the limited Phase II ESA. Given the heat of the day, the moisture in soil samples collected from depths greater than 5 feet BGS, and the lack of other evidence of soil contamination (sheen, staining, or odors), the high PID readings were interpreted to be the result of condensation within the Ziploc bags rather than evidence of soil contamination. This conclusion is supported by subsequent laboratory analytical results, as described below.

Two of the soil samples collected were submitted for laboratory analysis. Soil samples were selected for analysis based on field observations (e.g., elevated PID readings) and to provide



representative soil data across the depth interval sampled.

Groundwater was encountered at a depth of approximately 12 feet BGS in boring B-1A. The soil is stiff (sandy silt) and wet at 12.5 feet BGS. Groundwater was observed to be highly turbid (i.e., contained a high amount of suspended sediment) but did not exhibit any noticeable odor, staining, or oily sheen. As groundwater occurs deeper than the planned HAWK pedestrian signal, the groundwater sample was not submitted for laboratory analysis.

### **5.3 INVESTIGATION-DERIVED WASTE**

Given the lack of soil staining, odors, or other obvious signs of soil contamination, the drilling contractor placed a small amount of uncovered soil cuttings produced during drilling at the ground surface along the west side of the sidewalk (west side of Slater Avenue NE). Other IDW, including nitrile gloves, trash bags, and laboratory label waste, was disposed of off site. No other IDW was produced during the limited Phase II ESA.

### **5.4 ANALYTICAL LABORATORY TESTING**

Two soil samples (B-1A-10 and B-1A-15), collected from 10 and 15 feet BGS, respectively, within boring B-1A were analyzed by Fremont Analytical. The samples were analyzed for one or more of the following:

- PCE-related CVOCs, including PCE, TCE, cis-1,2-dichlorethene, trans-1,2-dichlorethene, and vinyl chloride by EPA Method 8260D
- GRO by Washington State Department of Ecology (Ecology) Method NWTPH-Gx
- BTEX by EPA Method 8260D
- DRO and ORO by Ecology Method NWTPH-Dx/Dx Ext
- PAHs by EPA Method 8270-SIM
- RCRA 8 total metals by EPA Method 6020B
- Herbicides and pesticides by EPA Methods 8151A and 8081A, respectively
- PCBs by EPA Method 8082

The laboratory report and chain-of-custody forms are attached to the data validation memorandum.

NV5 conducted a data quality review of the analytical data consistent with EPA data review guidelines. Data completeness, holding times, laboratory instrument calibrations, surrogate recoveries, matrix spike and matrix spike duplicates, laboratory control samples, quantitation limits, method blanks, and trip blanks were reviewed. NV5 assigned the following data qualifier, as needed:

- UJ qualifier: The analyte was not detected at or above the estimated reporting limit.

Data were not rejected based on the data validation review, and all data were judged acceptable for the intended use. The data validation memorandum is presented in Appendix B.

### **5.5 SOIL SAMPLE RESULTS**

The soil sample results from the limited Phase II ESA are summarized as follows:

- CVOCs, GRO, BTEX, DRO, ORO, PAHs, herbicides/pesticides, and/or PCBs were not detected above their respective laboratory reporting limits in either of the two soil samples.
- Total metals arsenic, barium, cadmium, total chromium, lead, and silver were detected in both soil samples; however, none of the detected total metals concentrations exceeded the applicable natural background concentrations (if established) or applicable Model Toxics Control Act cleanup levels. Natural background metals concentrations in soil were identified in Natural Background Soil Metals Concentration in Washington State, Puget Sound Region, Ecology Publication #94-115 (October 1994). Total mercury and selenium were not detected above their respective reporting limits in either soil sample.

## **5.6 LIMITED PHASE II ESA CONCLUSIONS AND RECOMMENDATIONS**

NV5's limited Phase II ESA at the planned HAWK pedestrian signal identified no evidence of soil or groundwater contamination indicative of a federal- or state-mandated need for special handling, remediation, or disposal of soil or groundwater at the assessed locations and depths. NV5 recommends the following related to environmental conditions:

- Depending on the requirements of any potential recipient of soil exported from the vicinity of the proposed HAWK pedestrian signal location, the data valuation memorandum with the attached laboratory report may need to be shared with the recipient to confirm adequacy of the soil for acceptance at an off-site location.
- This limited Phase II ESA applies only to those soil depths assessed at the location of boring B-1A (Figure 2). Although sampled soil contained no detectable contaminants and groundwater is not expected to be encountered during construction activities, it is possible that pockets of impacted soil or perched groundwater exist in areas near boring B-1A that were not assessed during this investigation. Therefore, if any obvious signs of soil/groundwater sheen, staining, or odor are identified during the proposed HAWK pedestrian signal installation activities, the client should reach out to NV5 for further field assessment prior to proceeding with construction.

## **8.0 LIMITATIONS**

We have prepared this report for use by DKS Associates and their consultants in design of this project. The data and report can be used for bidding or estimating purposes, but our report, conclusions, and interpretations should not be construed as warranty of the subsurface conditions and are not applicable to other nearby building sites.

Exploration observations indicate soil conditions only at specific locations and only to the depths penetrated. They do not necessarily reflect soil strata or water level variations that may exist between exploration locations. If subsurface conditions differing from those described are noted during the course of excavation and construction, re-evaluation will be necessary.

The site development plans and design details were preliminary at the time this report was prepared. If design changes are made, we request that we be retained to review our conclusions and recommendations and to provide a written modification or verification.

The scope of our services does not include services related to construction safety precautions and our recommendations are not intended to direct the contractor's methods, techniques, sequences, or procedures, except as specifically described in this report for consideration in design.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in this area at the time this report was prepared. No warranty, express or implied, should be understood.

◆ ◆ ◆

We appreciate the opportunity to be of continued service to you. Please call if you have questions concerning this report or if we can provide additional services.

Sincerely,

NV5



Vinnie Oskierko  
Project Manager



Ricky Wang, PhD, PE, GE, LEG  
Senior Principal Geotechnical Engineer



## REFERENCES

ASTM, 2020. Annual Book of ASTM Standards, Vol. 4.08 and 4.09, Soil and Rock (I and II): D420 - latest, Philadelphia: ASTM.

Earth Solutions NW LLC (ESNW), 2006. *Geotechnical Engineering Study; Proposed Toyota of Kirkland; Sales Building and Parking Garage; Northeast 124<sup>th</sup> Street and 132<sup>nd</sup> Place Northeast; King County (Kirkland), Washington; ES-0657*, dated December 13, 2006

Washington State Department of Natural Resources, 2024. Washington Geologic Information Portal. Accessed at <https://geologyportal.dnr.wa.gov/#subsurface>.

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## FIGURES





DKS-16-01

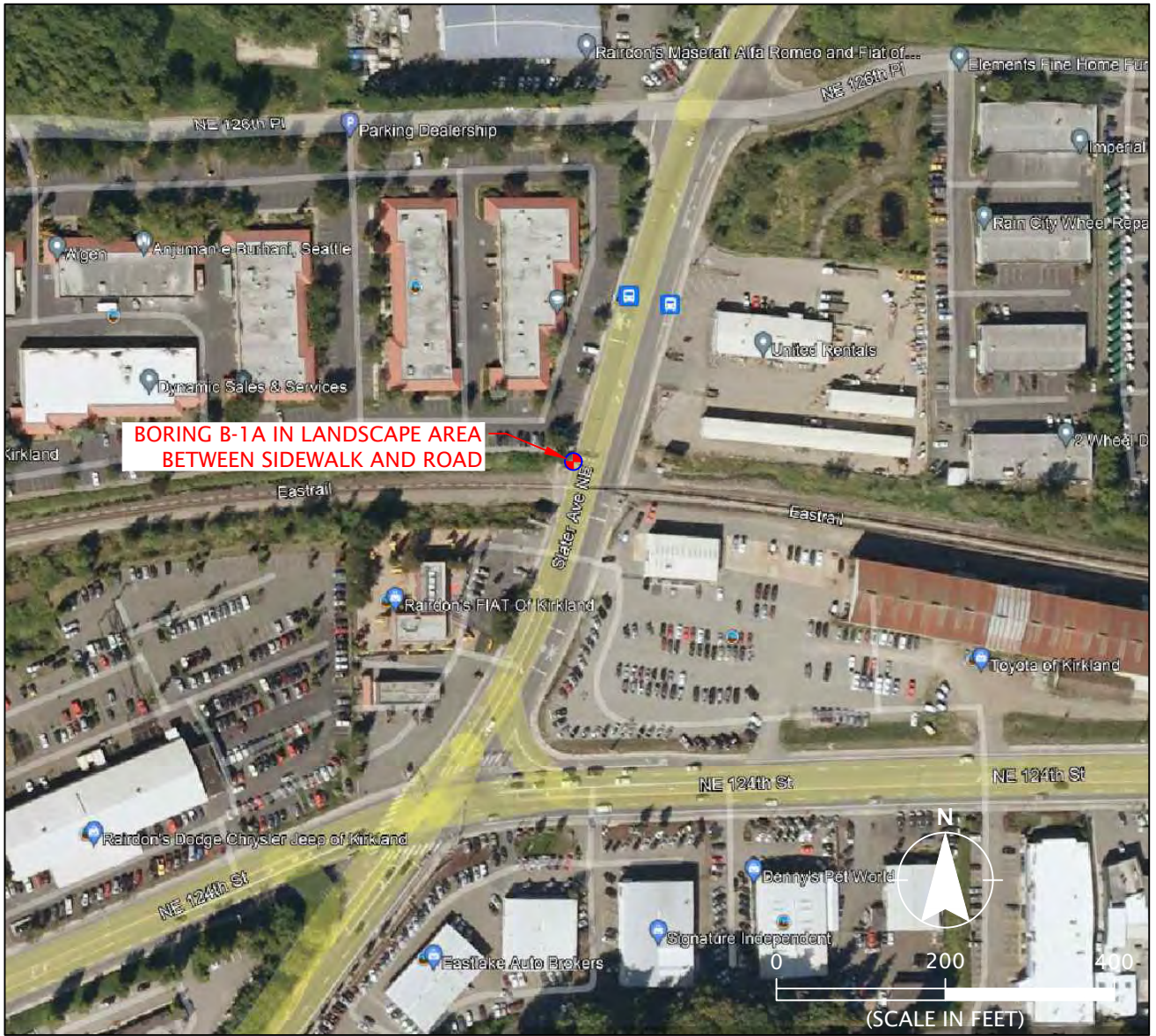
VICINITY MAP

JUNE 2024

NE 124TH ST/SLATER/132ND AVE NE CKC TRAIL  
 KIRKLAND, WA

FIGURE 1





SITE PLAN BASED ON AERIAL PHOTOGRAPH DATED NOVEMBER 8, 2007, OBTAINED FROM GOOGLE EARTH PRO.

Printed By: andy.day | Print Date: 6/13/2024 9:43:36 AM  
 File Name: J:\A-D\DKS\DKS-16\DKS-16-01\Figures\CAD\DKS-16-01-SP01.dwg | Layout: FIGURE 2

	DKS-16-01	<b>SITE PLAN</b>	
	JUNE 2024	NE 124TH ST/SLATER/132ND AVE NE CKC TRAIL KIRKLAND, WA	<b>FIGURE 2</b>

## APPENDIX A



## **APPENDIX A**

### **FIELD EXPLORATIONS**

#### **GENERAL**

We explored subsurface conditions by drilling one boring (B-1A) to a depth of 21.5 feet BGS. Drilling services were provided by Boretect1 Inc. of Bellevue, Washington, on June 29, 2023, using an excavator-mounted drill rig with hollow-stem auger techniques. The exploration log is presented in this appendix.

The exploration location is shown on Figure 2. The location of the exploration was determined based on existing conditions, field measurements, and a hand-held GPS. This information should be considered accurate to the degree implied by the methods used.










#### **SOIL SAMPLING**

We collected representative samples of the various soils encountered during drilling. Samples were collected from the boring using 1½-inch-inside diameter split spoon sampler (SPT) in general accordance with ASTM D1586. The sampler was driven into the soil with a 140-pound automatic trip hammer free falling 30 inches. The sampler was driven a total distance of 18 inches. The number of blows required to drive the sampler the final 12 inches is recorded on the boring log, unless otherwise noted. Sampling methods and intervals are shown on the exploration log.

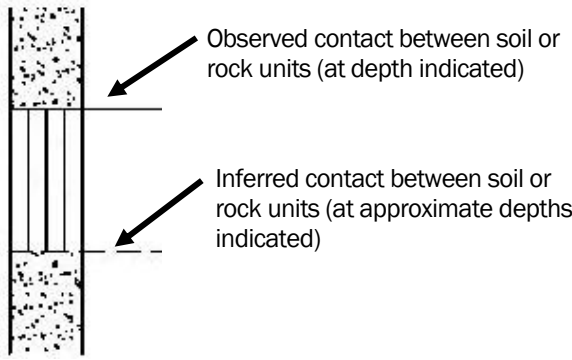
The hammer used to conduct the SPTs was lifted using a rope and cathead system. The hammer was raised using two wraps of the rope around the cathead to conduct the SPTs.

#### **SOIL CLASSIFICATION**

The soil samples were classified in accordance with the “Exploration Key” (Table A-1) and “Soil Classification System” (Table A-2), which are presented in this appendix. The exploration log indicates the depths at which the soil or their characteristics change, although the change could be gradual. If the change occurred between sample locations, the depth was interpreted. Classifications are shown on the exploration log.

SYMBOL	SAMPLING DESCRIPTION
	Location of sample collected in general accordance with ASTM D1586 using Standard Penetration Test (SPT) with recovery
	Location of sample collected using thin-wall Shelby tube or Geoprobe® sampler in general accordance with ASTM D1587 with recovery
	Location of sample collected using Dames & Moore sampler and 300-pound hammer or pushed with recovery
	Location of sample collected using Dames & Moore sampler and 140-pound hammer or pushed with recovery
	Location of sample collected using 3-inch-outside diameter California split-spoon sampler and 140-pound hammer with recovery
	Location of grab sample
	Rock coring interval
	Water level during drilling
	Water level taken on date shown

Graphic Log of Soil and Rock Types



The graphic log shows a vertical column representing soil and rock types. The top section is stippled, representing soil. Below it is a section with vertical lines, representing rock units. Two horizontal lines indicate contact points: a solid line for 'Observed contact between soil or rock units (at depth indicated)' and a dashed line for 'Inferred contact between soil or rock units (at approximate depths indicated)'.

### GEOTECHNICAL TESTING EXPLANATIONS

ATT	Atterberg Limits	P	Pushed Sample
CBR	California Bearing Ratio	PP	Pocket Penetrometer
CON	Consolidation	P200	Percent Passing U.S. Standard No. 200 Sieve
DD	Dry Density		
DS	Direct Shear	RES	Resilient Modulus
HYD	Hydrometer Gradation	SIEV	Sieve Gradation
MC	Moisture Content	TOR	Torvane
MD	Moisture-Density Relationship	UC	Unconfined Compressive Strength
NP	Non-Plastic	VS	Vane Shear
OC	Organic Content	kPa	Kilopascal


### ENVIRONMENTAL TESTING EXPLANATIONS

CA	Sample Submitted for Chemical Analysis	ND	Not Detected
P	Pushed Sample	NS	No Visible Sheen
PID	Photoionization Detector Headspace Analysis	SS	Slight Sheen
ppm	Parts per Million	MS	Moderate Sheen
		HS	Heavy Sheen



**EXPLORATION KEY**

**TABLE A-1**

RELATIVE DENSITY - COARSE-GRAINED SOIL							
Relative Density	Standard Penetration Test (SPT) Resistance		Dames & Moore Sampler (140-pound hammer)		Dames & Moore Sampler (300-pound hammer)		
Very loose	0 - 4		0 - 11		0 - 4		
Loose	4 - 10		11 - 26		4 - 10		
Medium dense	10 - 30		26 - 74		10 - 30		
Dense	30 - 50		74 - 120		30 - 47		
Very dense	More than 50		More than 120		More than 47		
CONSISTENCY - FINE-GRAINED SOIL							
Consistency	Standard Penetration Test (SPT) Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)	Unconfined Compressive Strength (tsf)			
Very soft	Less than 2	Less than 3	Less than 2	Less than 0.25			
Soft	2 - 4	3 - 6	2 - 5	0.25 - 0.50			
Medium stiff	4 - 8	6 - 12	5 - 9	0.50 - 1.0			
Stiff	8 - 15	12 - 25	9 - 19	1.0 - 2.0			
Very stiff	15 - 30	25 - 65	19 - 31	2.0 - 4.0			
Hard	More than 30	More than 65	More than 31	More than 4.0			
PRIMARY SOIL DIVISIONS			GROUP SYMBOL	GROUP NAME			
COARSE-GRAINED SOIL  (more than 50% retained on No. 200 sieve)	GRAVEL  (more than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (< 5% fines)	GW or GP	GRAVEL			
		GRAVEL WITH FINES (≥ 5% and ≤ 12% fines)	GW-GM or GP-GM	GRAVEL with silt			
			GW-GC or GP-GC	GRAVEL with clay			
		GRAVEL WITH FINES (> 12% fines)	GM	silty GRAVEL			
			GC	clayey GRAVEL			
	GC-GM		silty, clayey GRAVEL				
	SAND  (50% or more of coarse fraction passing No. 4 sieve)	CLEAN SAND (<5% fines)	SW or SP	SAND			
		SAND WITH FINES (≥ 5% and ≤ 12% fines)	SW-SM or SP-SM	SAND with silt			
			SW-SC or SP-SC	SAND with clay			
		SAND WITH FINES (> 12% fines)	SM	silty SAND			
SC			clayey SAND				
SC-SM	silty, clayey SAND						
FINE-GRAINED SOIL  (50% or more passing No. 200 sieve)	SILT AND CLAY  Liquid limit less than 50	ML	SILT				
		CL	CLAY				
		CL-ML	silty CLAY				
		OL	ORGANIC SILT or ORGANIC CLAY				
	Liquid limit 50 or greater	MH	SILT				
		CH	CLAY				
		OH	ORGANIC SILT or ORGANIC CLAY				
HIGHLY ORGANIC SOIL			PT	PEAT			
MOISTURE CLASSIFICATION		ADDITIONAL CONSTITUENTS					
Term	Field Test	Secondary granular components or other materials such as organics, man-made debris, etc.					
		Percent	Silt and Clay In:		Percent	Sand and Gravel In:	
	Fine-Grained Soil		Coarse-Grained Soil			Fine-Grained Soil	Coarse-Grained Soil
dry	very low moisture, dry to touch	< 5	trace	trace	< 5	trace	trace
moist	damp, without visible moisture	5 - 12	minor	with	5 - 15	minor	minor
		> 12	some	silty/clayey	15 - 30	with	with
wet	visible free water, usually saturated				> 30	sandy/gravelly	Indicate %
		SOIL CLASSIFICATION SYSTEM				TABLE A-2	

BORING LOG - NV5 - 1 PER PAGE DKS-16-01-B1A.GPJ GDI\_NV5.GDT PRINT DATE: 6/13/24.KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▨ RQD% ▩ CORE REC%	INSTALLATION AND COMMENTS
0.0		CRUSHED ROCK (5/8-inch-minus - CSTC) - FILL.					Hard drilling at 0.5 foot.
2.5		CRUSHED ROCK (1 1/4-inch-minus - CSBC) - FILL.	2.5			61	
5.0		Loose, gray-brown, silty SAND with gravel (SM); moist - RECESSIONAL LACUSTRINE.	5.0		4		
7.5		Medium stiff, gray SILT with sand (ML), some clay; moist - RECESSIONAL LACUSTRINE.	7.5		5		
10.0		Loose/soft to medium stiff, gray-brown, silty SAND (SM)/sandy SILT (ML); moist to wet - RECESSIONAL LACUSTRINE.	10.0		4		
12.5		stiff; wet at 12.5 feet			9		
15.0		Medium stiff, gray-brown, sandy SILT (ML); wet - RECESSIONAL LACUSTRINE.	15.0		6		
20.0		grades to stiff at 20.0 feet			10		
21.5		Exploration completed at a depth of 21.5 feet. SPT completed using two wraps with a cathead.	21.5				Surface elevation was not measured at the time of exploration.

11.5 feet, during drilling

DRILLED BY: Boretect1

LOGGED BY: R. Hiall

COMPLETED: 06/29/23

BORING METHOD: hollow-stem auger (see document text)

BORING BIT DIAMETER: 2 1/2 inches



DKS-16-01

**BORING B-1A**

JUNE 2024

NE 124TH ST/SLATER/132ND AVE NE CKC TRAIL  
KIRKLAND, WA

**FIGURE A-1**

## **APPENDIX B**

**APPENDIX B**

**LIMITED PHASE II ENVIRONMENTAL ASSESSMENT DATA**

## MEMORANDUM

**TO:** Project File **DATE:** July 24, 2023  
**FROM:** Jessie Compeau  
**SUBJECT:** Laboratory Data Validation Review  
**PROJECT:** DKS-16-01 Data Validation  
**PROJECT #:** 124423-1000014.01.002  
**TASK:** EIM Data Validation Level EPA2A for June 2023 – Soil Samples  
**LAB:** Fremont Work Order Number: 2306508

---

Five soil samples, one groundwater sample, and two trip blanks were collected from the DKS-16-01 (Site) in Kirkland, Washington. Samples were collected June 29, 2023, and were delivered to Fremont Analytical (Fremont) of Seattle WA for laboratory analysis. Three soil and one groundwater sample were placed on hold. Samples were analyzed for various parameters which include the following:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D;
- Gasoline range organics by NWTPH-Gx, total petroleum hydrocarbons (TPH) as diesel range organics and heavy oil by NWTPH-Dx per analytical methods stipulated by Washington State Department of Ecology;
- Organochlorine pesticides by USEPA Method 8081A;
- Herbicides by USEPA Method 8151A;
- Polycyclic aromatic hydrocarbons (PAHs) using Selected Ion Monitoring (SIM) by USEPA Method 8270D-SIM;
- Polychlorinated Biphenyls (PCBs) by USEPA Method 8082 with acid/florisil cleanup by USEPA Methods 3665A/3620C;
- RCRA Metals (8)
  - Metals – (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by USEPA Method 6020B;
- Percent Moisture by USEPA Method 8000D.

The quality assurance review on Work Order 2306508 is summarized below.

### DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation review of analytical data along with Fremont control limit criteria were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA National Functional Guidelines for Organic Superfund Methods Data Review (2020), and USEPA National Functional Guidelines for Inorganic Superfund Methods

Data Review (2020). Following Guidelines, non-project-specific laboratory duplicates and matrix spike results were not evaluated as part of this data validation.

## **DATA VALIDATION**

### **Completeness**

All samples were collected and analyzed as requested with the following discussions:

- Review of the chain of custody (COC) shows that PES requested selected VOCs (including BETX) on the Trip Blank associated with soils on June 29, 2023.
- Review of the COC indicates that the Trip Blank associated with water was submitted for analysis (RUN) with no specified analytical parameters and not analyzed. No action is needed since the associated water sample (B-1A-water) was not analyzed.

### **Sample Collection and Preservation**

Samples were collected in laboratory-supplied sample containers preserved as appropriate for the individual analyses conducted. The samples were packed on ice in coolers and hand delivered after sampling to Fremont. Cooler and samples were received within the EPA recommended preservation temperature of 6°C. No data were qualified based upon the sample collection and preservation information.

### **Holding Times**

#### *USEPA Method 8260D:*

All samples were analyzed for VOCs within the USEPA recommended holding time of fourteen days for soils from the date of sample collection. All holding time criteria are met.

#### *NWTPH-Gx Method:*

All samples were analyzed for gasoline within the WA State recommended holding time of fourteen days for soils from the date of sample collection. All holding time criteria are met.

#### *NWTPH-Dx Method:*

All samples were extracted within the WA State recommended holding time of fourteen days for soils from the date of sample collection to extraction. All samples were analyzed within forty days from the date of extraction. All holding time criteria are met.

#### *USEPA Methods 8081A, 8151A, 8270D-SIM and 8082:*

All samples were extracted within the USEPA recommended holding time of fourteen days for soils from the date of sample collection to extraction. All samples were analyzed within forty days from the date of extraction. All holding time criteria are met.

#### *USEPA Method 6020B:*

All soil samples submitted for USEPA 6020B were analyzed within the USEPA recommended holding time for metals (except for mercury) of 180 days for soils from the date of sample



collection. All soil samples were analyzed within the USEPA recommended holding time for mercury of twenty-eight days for soils from the date of sample collection.

*Percent Moisture by USEPA Method 8000D:*

Samples were analyzed within the USEPA recommended holding time of seven days for total solids. All holding time criteria are met.

**Initial and Continuing Calibration**

Initial and continuing calibration verification (CCV) data for this project are retained by the laboratory and available for review if necessary. These data were not provided nor requested for this project. Fremont did not indicate any issues with initial or continuing calibration in the case narrative or sample footnotes.

**Method Blank Results**

*USEPA Method 8260D:*

A laboratory method blank is included with each analytical batch per method requirement. The target analytes are not detected in the method blanks at or above the reporting limits (RLs).

*NWTPH-Gx Method:*

A laboratory method blank is included with the analytical batch per method requirement. The target analyte (gasoline range organics) is not detected in the method blank at or above the RL.

*NWTPH-Dx Method:*

A laboratory method blank is included with the analytical batch per method requirement. The target analytes (diesel range organics, heavy oil, and TPH) are not detected in the method blank at or above the RLs.

*USEPA Methods 8081A, 8151A, 8270D-SIM and 8082:*

A laboratory method blank is included with each analytical batch per method requirement. The target analytes are not detected in the method blanks at or above the RLs.

*USEPA Method 6020B:*

A laboratory method blank was included with each analytical batch per method requirement. The target analytes (metals) were not detected in the method blanks at or above the RLs.

**Trip Blank Results**

*USEPA Method 8260D:*

The trip blank associated with soils (Trip Blank: soil) was collected and submitted for VOC analyses. Target analytes (VOCs) are not detected in the trip blank at or above the RLs.

**Field, Rinsate, or Equipment Blank Results**

Field, rinsate, or equipment blanks were not collected.

## **Field Duplicate Analyses**

Field duplicate pairs were not collected. Refer to laboratory quality control results for precision data.

## **Laboratory Duplicate Analyses**

### *USEPA Method 8260D:*

Laboratory duplicate samples were performed on non-client samples within the analytical batches. Target compound (VOCs) results are comparable and within relative percent differences (RPDs) of 30%.

### *NWTPH-Gx Method:*

Laboratory duplicate samples were performed on non-client samples within the analytical batches. Target compound (gasoline range organics) results are comparable and within an RPD of 30%.

### *NWTPH-Dx Method:*

Laboratory duplicate samples were performed on a non-client sample within the analytical batches. Target compound (diesel range organics, heavy oil, and TPH) results are comparable and within an RPD of 30%.

### *USEPA Methods 8081A, 8151A, 8270D-SIM and 8082:*

Laboratory duplicate samples were not analyzed. Refer to matrix spike results for precision data.

### *USEPA Method 6020B:*

Laboratory duplicate samples were not analyzed. Refer to matrix spike results for precision data.

### *Percent moisture by USEPA Method 8000D:*

Laboratory duplicate sample analyses were not performed. No action is taken other than to note this.

## **Surrogate Recoveries**

### *USEPA Method 8260D:*

The surrogate recovery results for the samples, laboratory duplicates, laboratory control samples, matrix spike samples, and blanks are within the laboratory surrogate control limits for all analyses with the following exception:

- VOC surrogate (dibromofluoromethane) % recovery is slightly above control limit criteria for laboratory control sample (analytical batch 40812). No action is taken since the associated sample surrogate recoveries are acceptable and the outlying recovery in the LCS appears to be isolated.

### *NWTPH-Gx Method:*

The surrogate recovery results for the samples, laboratory duplicates, laboratory control sample, matrix spike sample, and blank are within the laboratory surrogate control limits.

*NWTPH-Dx Method:*

The surrogate recovery results for the samples, laboratory duplicate, laboratory control sample, matrix spike samples, and method blank are within the laboratory surrogate control limits.

*USEPA Methods 8081A, 8151A, 8270D-SIM and 8082:*

The surrogate recovery results for the samples, laboratory control samples, matrix spike samples, and method blanks are within the laboratory surrogate control limits.

**Laboratory Control Samples**

*USEPA Method 8260D:*

Laboratory control samples (LCS) were analyzed by USEPA Method 8260D method. The LCS % recoveries (% Rs) for the target compounds are within the laboratory control criteria.

*NWTPH-Gx Method:*

An LCS was analyzed by the NWTPH-Gx method along with the analytical batch. The LCS %R for the target compound is within the laboratory control criteria.

*NWTPH-Dx Method:*

An LCS was analyzed by the NWTPH-Dx method along with the analytical batch. The LCS %R for the target compound (TPH) is within the laboratory control criteria.

*USEPA Methods 8081A, 8151A, 8270D-SIM and 8082:*

LCSs were analyzed by USEPA Methods 8081A, 8151A, 8270D-SIM and 8082 along with each analytical batch. The LCS %Rs for the target compounds are within the laboratory control criteria with the following exception:

- USEPA Method 8151A - Analytical batch 40789: LCS % recovery for herbicide compound dinoseb is below above laboratory acceptance criteria. Associated sample B-1A-10 dinoseb result is laboratory qualified (\*). **Sample B-1A-10 dinoseb result is estimated and qualified (UJ) due to low LCS recovery.**

*USEPA Method 6020B:*

An LCS was analyzed by USEPA Method 6020B along with the analytical batch. The LCS %Rs for the control analytes are within the laboratory control criteria.

**Matrix Spike/Matrix Spike Duplicates**

*USEPA Method 8260D:*

Matrix spike (MS) analyses were performed on non-client samples within the analytical batches. Refer to laboratory duplicate and LCS results for additional precision and accuracy data. MS % Rs are acceptable and within laboratory control limit criteria.

*NWTPH-Gx Method:*

MS analysis was performed on a non-client soil sample within the analytical batch. Refer to laboratory duplicate and LCS results for additional precision and accuracy data. MS % recovery is acceptable and within laboratory control limit criteria.

*NWTPH-Dx Method:*

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on a non-client soil sample along with the analytical batch. Refer to laboratory duplicate and LCS results for additional precision and accuracy data. MS/MSD % Rs and RPD are acceptable and within laboratory control limit criteria.

*USEPA Methods 8081A, 8151A, 8270D-SIM and 8082:*

MS/MSD analyses were performed on client or on non-client soil samples within the analytical batches. The MS/MSD % Rs and RPDs are acceptable and within laboratory control limit criteria.

*USEPA Method 6020B:*

MS/MSD analyses were performed on non-client soil sample within the analytical batch. The MS/MSD % Rs and RPDs are acceptable and within laboratory control limit criteria with the following exception:

- MS/MSD analyses were performed on a non-client sample (analytical batch 40840). Barium MSD % recovery is slightly greater than laboratory acceptance criteria. No action is taken on this basis since the spike was performed on a non-client sample within the analytical batch.

**Other Quality Control Issues**

No laboratory quality control issues were identified in the laboratory reports with the following discussion:

- An electronic data deliverable (EDD) for this Work Order was provided by the laboratory and data validator qualifiers were entered into the EDDs.

**Quantitation Limits**

The RLs used for this sample group are acceptable for the project.

**Data Assessment**

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA National Functional Guidelines for Organic Superfund Methods Data Review (2020); and
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (2020).

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. All data, including qualified data, are judged to be acceptable for their intended use.



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**GeoDesign Inc. / NV5**

Kevin Lamb  
19201 120th Ave NE, Suite 201  
Bothell, WA 98011

**RE: DKS-16-01**

**Work Order Number: 2306508**

July 07, 2023

**Attention Kevin Lamb:**

Fremont Analytical, Inc. received 8 sample(s) on 6/29/2023 for the analyses presented in the following report.

***Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.***  
***Gasoline by NWTPH-Gx***  
***Herbicides by EPA Method 8151A (GC/MS)***  
***Organochlorine Pesticides by EPA Method 8081A***  
***Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)***  
***Polychlorinated Biphenyls (PCB) by EPA Method 8082***  
***Sample Moisture (Percent Moisture)***  
***Total Metals by EPA Method 6020B***  
***Volatile Organic Compounds by EPA Method 8260D***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing  
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing  
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Original

[www.fremontanalytical.com](http://www.fremontanalytical.com)



Brianna Barnes  
Project Manager

CC:  
Jessica Babb

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing  
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing  
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

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Original

[www.fremontanalytical.com](http://www.fremontanalytical.com)

**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01  
**Work Order:** 2306508

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2306508-001	B-1A-5	06/29/2023 10:16 AM	06/29/2023 1:50 PM
2306508-002	B-1A-10	06/29/2023 11:10 AM	06/29/2023 1:50 PM
2306508-003	B-1A-12.5	06/29/2023 11:13 AM	06/29/2023 1:50 PM
2306508-004	B-1A-15	06/29/2023 11:18 AM	06/29/2023 1:50 PM
2306508-005	B-1A-20	06/29/2023 11:27 AM	06/29/2023 1:50 PM
2306508-006	B-1A-Water	06/29/2023 10:52 AM	06/29/2023 1:50 PM
2306508-007	Trip Blank: water	06/19/2023 8:22 AM	06/29/2023 1:50 PM
2306508-008	Trip Blank: soil	06/27/2023 11:20 AM	06/29/2023 1:50 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

---

**CLIENT:** GeoDesign Inc. / NV5

**Project:** DKS-16-01

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2306508-004A) required Acid Cleanup Procedure (Using Method No 3665A).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2306508-004A) required Florisil Cleanup Procedure (Using Method No 3620C).



### Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

### Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



# Analytical Report

Work Order: **2306508**  
Date Reported: **7/7/2023**

**Client:** GeoDesign Inc. / NV5

**Collection Date:** 6/29/2023 11:10:00 AM

**Project:** DKS-16-01

**Lab ID:** 2306508-002

**Matrix:** Soil

**Client Sample ID:** B-1A-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Organochlorine Pesticides by EPA Method 8081A**

Batch ID: 40827      Analyst: AP

Toxaphene	ND	0.0818		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Alpha BHC	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Beta BHC	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Gamma BHC (Lindane)	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Delta BHC	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Heptachlor	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Aldrin	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Heptachlor epoxide	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
gamma-Chlordane	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endosulfan I	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
alpha-Chlordane	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Dieldrin	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
4,4'-DDE	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endrin	ND	0.0175		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endosulfan II	ND	0.0175		mg/Kg-dry	1	7/6/2023 2:51:43 PM
4,4'-DDD	ND	0.0175		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endrin aldehyde	ND	0.0187		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endosulfan sulfate	ND	0.0175		mg/Kg-dry	1	7/6/2023 2:51:43 PM
4,4'-DDT	ND	0.0187		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endrin ketone	ND	0.0234		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Methoxychlor	ND	0.0234		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Surr: Decachlorobiphenyl	130	43.8 - 173		%Rec	1	7/6/2023 2:51:43 PM
Surr: Tetrachloro-m-xylene	129	36.6 - 156		%Rec	1	7/6/2023 2:51:43 PM

**Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.**

Batch ID: 40809      Analyst: AP

Diesel Range Organics	ND	57.5		mg/Kg-dry	1	7/3/2023 2:30:45 PM
Heavy Oil	ND	115		mg/Kg-dry	1	7/3/2023 2:30:45 PM
Total Petroleum Hydrocarbons	ND	172		mg/Kg-dry	1	7/3/2023 2:30:45 PM
Surr: 2-Fluorobiphenyl	95.9	50 - 150		%Rec	1	7/3/2023 2:30:45 PM
Surr: o-Terphenyl	97.1	50 - 150		%Rec	1	7/3/2023 2:30:45 PM

**Herbicides by EPA Method 8151A (GC/MS)**

Batch ID: 40789      Analyst: SK

Dicamba	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
2,4-D	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
2,4-DP	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
2,4,5-TP (Silvex)	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
2,4,5-T	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM

Original



# Analytical Report

Work Order: 2306508  
Date Reported: 7/7/2023

**Client:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01  
**Lab ID:** 2306508-002  
**Client Sample ID:** B-1A-10

**Collection Date:** 6/29/2023 11:10:00 AM  
**Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Herbicides by EPA Method 8151A (GC/MS)**

Batch ID: 40789      Analyst: SK

Dinoseb	ND	59.3	*	µg/Kg-dry	1	7/3/2023 9:35:28 PM
Dalapon	ND	237		µg/Kg-dry	1	7/3/2023 9:35:28 PM
2,4-DB	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
MCPP	ND	59.3		µg/Kg-dry	1	7/3/2023 9:35:28 PM
MCPA	ND	59.3		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Picloram	ND	59.3		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Bentazon	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Chloramben	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Acifluorfen	ND	59.3		µg/Kg-dry	1	7/3/2023 9:35:28 PM
3,5-Dichlorobenzoic acid	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
4-Nitrophenol	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Dacthal (DCPA)	ND	59.3		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Surr: 2,4-Dichlorophenylacetic acid	96.9	5 - 150		%Rec	1	7/3/2023 9:35:28 PM

**NOTES:**

\* - Associated LCS is below acceptance criteria. Result may be low-biased.

**Gasoline by NWTPH-Gx**

Batch ID: 40804      Analyst: MS

Gasoline Range Organics	ND	5.56		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Surr: Toluene-d8	99.4	65 - 135		%Rec	1	7/4/2023 5:42:31 PM
Surr: 4-Bromofluorobenzene	89.4	65 - 135		%Rec	1	7/4/2023 5:42:31 PM

**Volatile Organic Compounds by EPA Method 8260D**

Batch ID: 40804      Analyst: MS

Vinyl chloride	ND	0.0278		mg/Kg-dry	1	7/4/2023 5:42:31 PM
trans-1,2-Dichloroethene	ND	0.0111		mg/Kg-dry	1	7/4/2023 5:42:31 PM
cis-1,2-Dichloroethene	ND	0.0167		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Benzene	ND	0.0194		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Trichloroethene (TCE)	ND	0.0167		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Toluene	ND	0.0333		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Tetrachloroethene (PCE)	ND	0.0167		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Ethylbenzene	ND	0.0278		mg/Kg-dry	1	7/4/2023 5:42:31 PM
m,p-Xylene	ND	0.0556		mg/Kg-dry	1	7/4/2023 5:42:31 PM
o-Xylene	ND	0.0278		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Surr: Dibromofluoromethane	119	79.5 - 124		%Rec	1	7/4/2023 5:42:31 PM
Surr: Toluene-d8	94.4	77.5 - 124		%Rec	1	7/4/2023 5:42:31 PM
Surr: 1-Bromo-4-fluorobenzene	95.0	60.5 - 139		%Rec	1	7/4/2023 5:42:31 PM



# Analytical Report

Work Order: **2306508**  
 Date Reported: **7/7/2023**

**Client:** GeoDesign Inc. / NV5

**Collection Date:** 6/29/2023 11:10:00 AM

**Project:** DKS-16-01

**Lab ID:** 2306508-002

**Matrix:** Soil

**Client Sample ID:** B-1A-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Total Metals by EPA Method 6020B**

Batch ID: 40840      Analyst: JR

Arsenic	1.32	0.229		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Barium	75.6	0.457		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Cadmium	0.0261	0.0183		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Chromium	32.4	0.229		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Lead	3.14	0.915		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Mercury	ND	0.183		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Selenium	ND	0.915		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Silver	0.0430	0.0183		mg/Kg-dry	1	7/6/2023 2:38:00 PM

**Sample Moisture (Percent Moisture)**

Batch ID: R85030      Analyst: MP

Percent Moisture	19.6			wt%	1	6/30/2023 8:19:02 AM
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# Analytical Report

Work Order: **2306508**  
 Date Reported: **7/7/2023**

**Client:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01  
**Lab ID:** 2306508-004  
**Client Sample ID:** B-1A-15

**Collection Date:** 6/29/2023 11:18:00 AM  
**Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Polychlorinated Biphenyls (PCB) by EPA Method 8082**

Batch ID: 40798      Analyst: SH

Aroclor 1016	ND	0.0248		mg/Kg-dry	1	6/30/2023 4:16:19 PM
Aroclor 1221	ND	0.0248		mg/Kg-dry	1	6/30/2023 4:16:19 PM
Aroclor 1232	ND	0.0248		mg/Kg-dry	1	6/30/2023 4:16:19 PM
Aroclor 1242	ND	0.0248		mg/Kg-dry	1	6/30/2023 4:16:19 PM
Aroclor 1248	ND	0.0248		mg/Kg-dry	1	6/30/2023 4:16:19 PM
Aroclor 1254	ND	0.0248		mg/Kg-dry	1	6/30/2023 4:16:19 PM
Aroclor 1260	ND	0.0248		mg/Kg-dry	1	6/30/2023 4:16:19 PM
Aroclor 1262	ND	0.0248		mg/Kg-dry	1	6/30/2023 4:16:19 PM
Aroclor 1268	ND	0.0248		mg/Kg-dry	1	6/30/2023 4:16:19 PM
Total PCBs	ND	0.0248		mg/Kg-dry	1	6/30/2023 4:16:19 PM
Surr: Decachlorobiphenyl	98.4	5 - 160		%Rec	1	6/30/2023 4:16:19 PM
Surr: Tetrachloro-m-xylene	104	57.3 - 159		%Rec	1	6/30/2023 4:16:19 PM

**Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.**

Batch ID: 40809      Analyst: AP

Diesel Range Organics	ND	63.1		mg/Kg-dry	1	7/3/2023 2:41:50 PM
Heavy Oil	ND	126		mg/Kg-dry	1	7/3/2023 2:41:50 PM
Total Petroleum Hydrocarbons	ND	189		mg/Kg-dry	1	7/3/2023 2:41:50 PM
Surr: 2-Fluorobiphenyl	94.7	50 - 150		%Rec	1	7/3/2023 2:41:50 PM
Surr: o-Terphenyl	94.4	50 - 150		%Rec	1	7/3/2023 2:41:50 PM

**Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)**

Batch ID: 40810      Analyst: SH

Naphthalene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
2-Methylnaphthalene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
1-Methylnaphthalene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Acenaphthylene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Acenaphthene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Fluorene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Phenanthrene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Anthracene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Fluoranthene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Pyrene	ND	45.2		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Benz(a)anthracene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Chrysene	ND	22.6		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Benzo(b)fluoranthene	ND	28.2		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Benzo(k)fluoranthene	ND	28.2		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Benzo(a)pyrene	ND	33.9		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Indeno(1,2,3-cd)pyrene	ND	45.2		µg/Kg-dry	1	7/4/2023 2:29:30 AM



# Analytical Report

Work Order: **2306508**  
 Date Reported: **7/7/2023**

**Client:** GeoDesign Inc. / NV5

**Collection Date:** 6/29/2023 11:18:00 AM

**Project:** DKS-16-01

**Lab ID:** 2306508-004

**Matrix:** Soil

**Client Sample ID:** B-1A-15

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)**

Batch ID: 40810      Analyst: SH

Dibenz(a,h)anthracene	ND	56.5		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Benzo(g,h,i)perylene	ND	56.5		µg/Kg-dry	1	7/4/2023 2:29:30 AM
Surr: 2-Fluorobiphenyl	80.8	22.2 - 146		%Rec	1	7/4/2023 2:29:30 AM
Surr: Terphenyl-d14 (surr)	99.6	20.2 - 159		%Rec	1	7/4/2023 2:29:30 AM

**Gasoline by NWTPH-Gx**

Batch ID: 40804      Analyst: MS

Gasoline Range Organics	ND	5.84		mg/Kg-dry	1	7/4/2023 6:14:15 PM
Surr: Toluene-d8	101	65 - 135		%Rec	1	7/4/2023 6:14:15 PM
Surr: 4-Bromofluorobenzene	89.6	65 - 135		%Rec	1	7/4/2023 6:14:15 PM

**Volatile Organic Compounds by EPA Method 8260D**

Batch ID: 40804      Analyst: MS

Vinyl chloride	ND	0.0292		mg/Kg-dry	1	7/4/2023 6:14:15 PM
trans-1,2-Dichloroethene	ND	0.0117		mg/Kg-dry	1	7/4/2023 6:14:15 PM
cis-1,2-Dichloroethene	ND	0.0175		mg/Kg-dry	1	7/4/2023 6:14:15 PM
Benzene	ND	0.0204		mg/Kg-dry	1	7/4/2023 6:14:15 PM
Trichloroethene (TCE)	ND	0.0175		mg/Kg-dry	1	7/4/2023 6:14:15 PM
Toluene	ND	0.0350		mg/Kg-dry	1	7/4/2023 6:14:15 PM
Tetrachloroethene (PCE)	ND	0.0175		mg/Kg-dry	1	7/4/2023 6:14:15 PM
Ethylbenzene	ND	0.0292		mg/Kg-dry	1	7/4/2023 6:14:15 PM
m,p-Xylene	ND	0.0584		mg/Kg-dry	1	7/4/2023 6:14:15 PM
o-Xylene	ND	0.0292		mg/Kg-dry	1	7/4/2023 6:14:15 PM
Surr: Dibromofluoromethane	121	79.5 - 124		%Rec	1	7/4/2023 6:14:15 PM
Surr: Toluene-d8	94.8	77.5 - 124		%Rec	1	7/4/2023 6:14:15 PM
Surr: 1-Bromo-4-fluorobenzene	95.2	60.5 - 139		%Rec	1	7/4/2023 6:14:15 PM

**Total Metals by EPA Method 6020B**

Batch ID: 40840      Analyst: JR

Arsenic	2.82	0.255		mg/Kg-dry	1	7/6/2023 2:40:00 PM
Barium	72.2	0.510		mg/Kg-dry	1	7/6/2023 2:40:00 PM
Cadmium	0.0372	0.0204		mg/Kg-dry	1	7/6/2023 2:40:00 PM
Chromium	33.3	0.255		mg/Kg-dry	1	7/6/2023 2:40:00 PM
Lead	3.13	1.02		mg/Kg-dry	1	7/6/2023 2:40:00 PM
Mercury	ND	0.204		mg/Kg-dry	1	7/6/2023 2:40:00 PM
Selenium	ND	1.02		mg/Kg-dry	1	7/6/2023 2:40:00 PM
Silver	0.0464	0.0204		mg/Kg-dry	1	7/6/2023 2:40:00 PM



# Analytical Report

Work Order: **2306508**  
 Date Reported: **7/7/2023**

**Client:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01  
**Lab ID:** 2306508-004  
**Client Sample ID:** B-1A-15

**Collection Date:** 6/29/2023 11:18:00 AM  
**Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Sample Moisture (Percent Moisture)**

Batch ID: R85030      Analyst: MP

Percent Moisture	22.2			wt%	1	6/30/2023 8:19:02 AM
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# Analytical Report

Work Order: **2306508**  
 Date Reported: **7/7/2023**

**Client:** GeoDesign Inc. / NV5

**Collection Date:** 6/27/2023 11:20:00 AM

**Project:** DKS-16-01

**Lab ID:** 2306508-008

**Matrix:** Soil

**Client Sample ID:** Trip Blank: soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260D**

Batch ID: 40812

Analyst: MS

Vinyl chloride	ND	0.0250		mg/Kg	1	7/3/2023 11:24:30 AM
trans-1,2-Dichloroethene	ND	0.0100		mg/Kg	1	7/3/2023 11:24:30 AM
cis-1,2-Dichloroethene	ND	0.0150		mg/Kg	1	7/3/2023 11:24:30 AM
Benzene	ND	0.0175		mg/Kg	1	7/3/2023 11:24:30 AM
Trichloroethene (TCE)	ND	0.0150		mg/Kg	1	7/3/2023 11:24:30 AM
Toluene	ND	0.0300		mg/Kg	1	7/3/2023 11:24:30 AM
Tetrachloroethene (PCE)	ND	0.0150		mg/Kg	1	7/3/2023 11:24:30 AM
Ethylbenzene	ND	0.0250		mg/Kg	1	7/3/2023 11:24:30 AM
m,p-Xylene	ND	0.0500		mg/Kg	1	7/3/2023 11:24:30 AM
o-Xylene	ND	0.0250		mg/Kg	1	7/3/2023 11:24:30 AM
Surr: Dibromofluoromethane	123	79.5 - 124		%Rec	1	7/3/2023 11:24:30 AM
Surr: Toluene-d8	97.3	77.5 - 124		%Rec	1	7/3/2023 11:24:30 AM
Surr: 1-Bromo-4-fluorobenzene	92.9	60.5 - 139		%Rec	1	7/3/2023 11:24:30 AM



**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Total Metals by EPA Method 6020B**

Sample ID: <b>MB-40840</b>		SampType: <b>MBLK</b>		Units: <b>mg/Kg</b>		Prep Date: <b>7/6/2023</b>		RunNo: <b>85148</b>			
Client ID: <b>MBLKS</b>		Batch ID: <b>40840</b>				Analysis Date: <b>7/6/2023</b>		SeqNo: <b>1777220</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.250									
Barium	ND	0.500									
Cadmium	ND	0.0200									
Chromium	ND	0.250									
Lead	ND	1.00									
Mercury	ND	0.200									
Selenium	ND	1.00									
Silver	ND	0.0200									

Sample ID: <b>2307016-001AMS</b>		SampType: <b>MS</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>7/6/2023</b>		RunNo: <b>85148</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>40840</b>				Analysis Date: <b>7/6/2023</b>		SeqNo: <b>1777223</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	39.1	0.208	41.56	2.577	87.9	75	125				
Barium	116	0.416	41.56	69.13	113	75	125				
Cadmium	2.06	0.0166	2.078	0.05845	96.2	75	125				
Chromium	47.5	0.208	41.56	13.43	82.0	75	125				
Lead	26.5	0.831	20.78	6.465	96.5	75	125				
Mercury	1.00	0.166	1.039	0.03694	92.8	75	125				
Selenium	3.60	0.831	4.156	0.3109	79.2	75	125				
Silver	1.97	0.0166	2.078	0.05845	92.2	75	125				

Sample ID: <b>2307016-001AMSD</b>		SampType: <b>MSD</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>7/6/2023</b>		RunNo: <b>85148</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>40840</b>				Analysis Date: <b>7/6/2023</b>		SeqNo: <b>1777224</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	40.4	0.209	41.89	2.577	90.4	75	125	39.10	3.36	20	
Barium	122	0.419	41.89	69.13	127	75	125	116.3	4.97	20	S
Cadmium	2.08	0.0168	2.095	0.05845	96.4	75	125	2.058	1.02	20	
Chromium	50.8	0.209	41.89	13.43	89.3	75	125	47.52	6.76	20	
Lead	28.3	0.838	20.95	6.465	104	75	125	26.52	6.54	20	

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Total Metals by EPA Method 6020B**

Sample ID: <b>2307016-001AMSD</b>		SampType: <b>MSD</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>7/6/2023</b>		RunNo: <b>85148</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>40840</b>				Analysis Date: <b>7/6/2023</b>		SeqNo: <b>1777224</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.09	0.168	1.047	0.03694	101	75	125	1.001	8.65	20	
Selenium	3.78	0.838	4.189	0.3109	82.9	75	125	3.602	4.90	20	
Silver	2.00	0.0168	2.095	0.05845	92.5	75	125	1.974	1.15	20	

**NOTES:**

S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: <b>LCS-40840</b>		SampType: <b>LCS</b>		Units: <b>mg/Kg</b>		Prep Date: <b>7/6/2023</b>		RunNo: <b>85148</b>			
Client ID: <b>LCSS</b>		Batch ID: <b>40840</b>				Analysis Date: <b>7/6/2023</b>		SeqNo: <b>1777261</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	86.3	0.200	80.00	0	108	80	120				
Barium	90.3	0.400	80.00	0	113	80	120				
Cadmium	4.34	0.0160	4.000	0	108	80	120				
Chromium	84.3	0.200	80.00	0	105	80	120				
Lead	43.2	0.800	40.00	0	108	80	120				
Mercury	0.917	0.160	1.000	0	91.7	80	120				
Selenium	8.12	0.800	8.000	0	102	80	120				
Silver	4.49	0.0160	4.000	0	112	80	120				

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

## QC SUMMARY REPORT

### Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: <b>LCS-40809</b>		SampType: <b>LCS</b>		Units: <b>mg/Kg</b>		Prep Date: <b>7/3/2023</b>		RunNo: <b>85060</b>			
Client ID: <b>LCSS</b>		Batch ID: <b>40809</b>				Analysis Date: <b>7/3/2023</b>		SeqNo: <b>1775653</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydrocarbons	949	150	1,000	0	94.9	76.8	124				
Surr: 2-Fluorobiphenyl	8.54		10.00		85.4	50	150				
Surr: o-Terphenyl	10.9		10.00		109	50	150				

Sample ID: <b>MB-40809</b>		SampType: <b>MBLK</b>		Units: <b>mg/Kg</b>		Prep Date: <b>7/3/2023</b>		RunNo: <b>85060</b>			
Client ID: <b>MBLKS</b>		Batch ID: <b>40809</b>				Analysis Date: <b>7/3/2023</b>		SeqNo: <b>1775654</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics	ND	50.0									
Heavy Oil	ND	100									
Total Petroleum Hydrocarbons	ND	150									
Surr: 2-Fluorobiphenyl	9.31		10.00		93.1	50	150				
Surr: o-Terphenyl	9.08		10.00		90.8	50	150				

Sample ID: <b>2306425-001ADUP</b>		SampType: <b>DUP</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>7/3/2023</b>		RunNo: <b>85060</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>40809</b>				Analysis Date: <b>7/3/2023</b>		SeqNo: <b>1776641</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics	ND	51.1						0		30	
Heavy Oil	ND	102						0		30	
Total Petroleum Hydrocarbons	ND	153						0		30	
Surr: 2-Fluorobiphenyl	9.98		10.21		97.7	50	150		0		
Surr: o-Terphenyl	10.4		10.21		102	50	150		0		

Sample ID: <b>2306425-003AMS</b>		SampType: <b>MS</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>7/3/2023</b>		RunNo: <b>85060</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>40809</b>				Analysis Date: <b>7/3/2023</b>		SeqNo: <b>1776643</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydrocarbons	447	147	488.6	0	91.6	21.8	165				
Surr: 2-Fluorobiphenyl	8.11		9.772		83.0	50	150				

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.**

Sample ID: <b>2306425-003AMS</b>		SampType: <b>MS</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>7/3/2023</b>		RunNo: <b>85060</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>40809</b>				Analysis Date: <b>7/3/2023</b>		SeqNo: <b>1776643</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: o-Terphenyl	10.3		9.772		105	50	150				

Sample ID: <b>2306425-003AMSD</b>		SampType: <b>MSD</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>7/3/2023</b>		RunNo: <b>85060</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>40809</b>				Analysis Date: <b>7/3/2023</b>		SeqNo: <b>1776644</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydrocarbons	463	146	488.2	0	94.9	21.8	165	447.3	3.45	30	
Surr: 2-Fluorobiphenyl	8.20		9.763		84.0	50	150		0		
Surr: o-Terphenyl	10.8		9.763		111	50	150		0		

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Herbicides by EPA Method 8151A (GC/MS)**

Sample ID: <b>MB-40789</b>	SampType: <b>MBLK</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/29/2023</b>	RunNo: <b>85108</b>							
Client ID: <b>MBLKS</b>	Batch ID: <b>40789</b>		Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1776549</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	ND	30.0									
2,4-D	ND	30.0									
2,4-DP	ND	30.0									
2,4,5-TP (Silvex)	ND	30.0									
2,4,5-T	ND	30.0									
Dinoseb	ND	50.0									*
Dalapon	ND	200									
2,4-DB	ND	30.0									
MCPP	ND	50.0									
MCPA	ND	50.0									
Picloram	ND	50.0									
Bentazon	ND	30.0									
Chloramben	ND	30.0									
Acifluorfen	ND	50.0									
3,5-Dichlorobenzoic acid	ND	30.0									
4-Nitrophenol	ND	30.0									
Dacthal (DCPA)	ND	50.0									
Surr: 2,4-Dichlorophenylacetic acid	920		1,000		92.0	5	150				

**NOTES:**

\* - Associated LCS is below acceptance criteria. Result may be low-biased.

Sample ID: <b>LCS-40789</b>	SampType: <b>LCS</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/29/2023</b>	RunNo: <b>85108</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>40789</b>		Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1776550</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	160	30.0	200.0	0	79.8	43.1	121				
2,4-D	161	30.0	200.0	0	80.7	49	125				
2,4-DP	160	30.0	200.0	0	79.8	45.8	120				
2,4,5-TP (Silvex)	162	30.0	200.0	0	81.1	56	117				
2,4,5-T	159	30.0	200.0	0	79.7	51.4	127				
Dinoseb	37.4	30.0	200.0	0	18.7	27.6	114				
Dalapon	990	200	1,000	0	99.0	58.9	113				S

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Herbicides by EPA Method 8151A (GC/MS)**

Sample ID: <b>LCS-40789</b>	SampType: <b>LCS</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/29/2023</b>	RunNo: <b>85108</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>40789</b>	Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1776550</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-DB	159	30.0	200.0	0	79.6	43.9	123				
MCPP	845	50.0	1,000	0	84.5	57.6	147				
MCPA	832	50.0	1,000	0	83.2	52.1	109				
Picloram	169	50.0	200.0	0	84.7	15.1	199				
Bentazon	162	30.0	200.0	0	81.0	58.2	123				
Chloramben	110	30.0	200.0	0	54.8	16.8	95				
Acifluorfen	72.1	50.0	200.0	0	36.1	14.8	133				
3,5-Dichlorobenzoic acid	155	30.0	200.0	0	77.3	47.5	104				
4-Nitrophenol	152	30.0	200.0	0	75.9	55.1	147				
Dacthal (DCPA)	183	50.0	200.0	0	91.6	71.2	124				
Surr: 2,4-Dichlorophenylacetic acid	1,030		1,000		103	5	150				

**NOTES:**

S - Outlying spike recovery observed (low bias). Samples will be qualified with a \*.

Sample ID: <b>2306385-001AMS</b>	SampType: <b>MS</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>6/29/2023</b>	RunNo: <b>85108</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40789</b>	Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1776552</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	140	29.3	195.2	0	72.0	16.3	135				
2,4-D	146	29.3	195.2	0	75.0	12.2	148				
2,4-DP	145	29.3	195.2	0	74.1	22.9	131				
2,4,5-TP (Silvex)	150	29.3	195.2	0	76.7	31.8	141				
2,4,5-T	146	29.3	195.2	0	74.8	11.6	151				
Dinoseb	48.1	19.5	195.2	0	24.6	5	135				
Dalapon	849	195	976.1	0	87.0	5	134				
2,4-DB	142	29.3	195.2	0	73.0	29.1	135				
MCPP	778	48.8	976.1	0	79.8	31.8	115				
MCPA	773	48.8	976.1	0	79.2	28.9	119				
Picloram	120	48.8	195.2	0	61.5	5	185				
Bentazon	147	29.3	195.2	0	75.4	34	139				
Chloramben	111	29.3	195.2	0	56.6	5	110				
Acifluorfen	52.0	48.8	195.2	0	26.6	5	147				

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Herbicides by EPA Method 8151A (GC/MS)**

Sample ID: <b>2306385-001AMS</b>	SampType: <b>MS</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>6/29/2023</b>	RunNo: <b>85108</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40789</b>	Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1776552</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,5-Dichlorobenzoic acid	139	29.3	195.2	0	71.2	15.8	122				
4-Nitrophenol	132	29.3	195.2	0	67.4	11.5	141				
Dacthal (DCPA)	86.4	48.8	195.2	0	44.2	5	181				
Surr: 2,4-Dichlorophenylacetic acid	920		976.1		94.3	5	150				

Sample ID: <b>2306385-001AMSD</b>	SampType: <b>MSD</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>6/29/2023</b>	RunNo: <b>85108</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40789</b>	Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1776553</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	135	29.3	195.2	0	69.0	16.3	135	140.5	4.16	30	
2,4-D	138	29.3	195.2	0	70.8	12.2	148	146.5	5.86	30	
2,4-DP	137	29.3	195.2	0	70.2	22.9	131	144.7	5.50	30	
2,4,5-TP (Silvex)	141	29.3	195.2	0	72.4	31.8	141	149.7	5.79	30	
2,4,5-T	138	29.3	195.2	0	70.8	11.6	151	146.1	5.45	30	
Dinoseb	64.2	29.3	195.2	0	32.9	5	135	48.09	28.7	30	
Dalapon	834	195	976.1	0	85.5	5	134	848.8	1.75	30	
2,4-DB	137	29.3	195.2	0	70.0	29.1	135	142.5	4.22	30	
MCPPP	736	48.8	976.1	0	75.4	31.8	115	778.5	5.60	30	
MCPA	733	48.8	976.1	0	75.1	28.9	119	772.9	5.32	30	
Picloram	121	48.8	195.2	0	61.8	5	185	120.0	0.562	30	
Bentazon	138	29.3	195.2	0	70.7	34	139	147.2	6.36	30	
Chloramben	107	29.3	195.2	0	54.9	5	110	110.5	3.08	30	
Acifluorfen	64.2	48.8	195.2	0	32.9	5	147	52.01	21.0	30	
3,5-Dichlorobenzoic acid	132	29.3	195.2	0	67.4	15.8	122	138.9	5.46	30	
4-Nitrophenol	123	29.3	195.2	0	63.1	11.5	141	131.6	6.56	30	
Dacthal (DCPA)	86.4	48.8	195.2	0	44.3	5	181	86.36	0.0405	30	
Surr: 2,4-Dichlorophenylacetic acid	871		976.1		89.3	5	150		0		

Work Order: 2306508  
 CLIENT: GeoDesign Inc. / NV5  
 Project: DKS-16-01

**QC SUMMARY REPORT**  
**Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)**

Sample ID: <b>MB-40810</b>	SampType: <b>MBLK</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/3/2023</b>	RunNo: <b>85067</b>							
Client ID: <b>MBLKS</b>	Batch ID: <b>40810</b>		Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1775706</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Naphthalene	ND	20.0									
2-Methylnaphthalene	ND	20.0									
1-Methylnaphthalene	ND	20.0									
Acenaphthene	ND	20.0									
Acenaphthylene	ND	20.0									
Phenanthrene	ND	20.0									
Fluorene	ND	20.0									
Anthracene	ND	20.0									
Fluoranthene	ND	20.0									
Pyrene	ND	40.0									
Benz(a)anthracene	ND	20.0									
Chrysene	ND	20.0									
Benzo(b)fluoranthene	ND	25.0									
Benzo(k)fluoranthene	ND	25.0									
Benzo(a)pyrene	ND	30.0									
Indeno(1,2,3-cd)pyrene	ND	40.0									
Dibenz(a,h)anthracene	ND	50.0									
Benzo(g,h,i)perylene	ND	50.0									
Surr: 2-Fluorobiphenyl	930		1,000		93.0	22.2	146				
Surr: Terphenyl-d14 (surr)	1,070		1,000		107	20.2	159				

Sample ID: <b>LCS-40810</b>	SampType: <b>LCS</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/3/2023</b>	RunNo: <b>85067</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>40810</b>		Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1775707</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Naphthalene	2,110	20.0	2,000	0	105	59.3	114				
2-Methylnaphthalene	2,040	20.0	2,000	0	102	55.5	115				
1-Methylnaphthalene	2,050	20.0	2,000	0	103	57.2	116				
Acenaphthene	2,070	20.0	2,000	0	104	56.6	114				
Acenaphthylene	2,180	20.0	2,000	0	109	58.2	120				
Phenanthrene	2,080	20.0	2,000	0	104	53.2	118				



**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

## QC SUMMARY REPORT

### Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: <b>LCS-40810</b>	SampType: <b>LCS</b>	Units: <b>µg/Kg</b>				Prep Date: <b>7/3/2023</b>	RunNo: <b>85067</b>				
Client ID: <b>LCSS</b>	Batch ID: <b>40810</b>					Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1775707</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	2,100	20.0	2,000	0	105	57.7	117				
Anthracene	2,080	20.0	2,000	0	104	54.7	118				
Fluoranthene	2,130	20.0	2,000	0	106	56	120				
Pyrene	2,150	40.0	2,000	0	107	56.9	120				
Benz(a)anthracene	2,160	20.0	2,000	0	108	59.5	123				
Chrysene	2,060	20.0	2,000	0	103	51.5	115				
Benzo(b)fluoranthene	1,990	25.0	2,000	0	99.3	50	122				
Benzo(k)fluoranthene	2,050	25.0	2,000	0	102	51	117				
Benzo(a)pyrene	2,200	30.0	2,000	0	110	53.2	123				
Indeno(1,2,3-cd)pyrene	2,020	40.0	2,000	0	101	49.5	122				
Dibenz(a,h)anthracene	2,020	50.0	2,000	0	101	51	120				
Benzo(g,h,i)perylene	1,980	50.0	2,000	0	98.9	46.8	122				
Surr: 2-Fluorobiphenyl	1,120		1,000		112	22.2	146				
Surr: Terphenyl-d14 (surr)	1,210		1,000		121	20.2	159				

Sample ID: <b>2306508-004AMS</b>	SampType: <b>MS</b>	Units: <b>µg/Kg-dry</b>				Prep Date: <b>7/3/2023</b>	RunNo: <b>85067</b>				
Client ID: <b>B-1A-15</b>	Batch ID: <b>40810</b>					Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776147</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,960	21.4	2,144	0	91.5	44	114				
2-Methylnaphthalene	1,890	21.4	2,144	0	88.1	46.9	106				
1-Methylnaphthalene	1,900	21.4	2,144	0	88.8	47.3	109				
Acenaphthene	1,940	21.4	2,144	0	90.3	44.3	110				
Acenaphthylene	1,980	21.4	2,144	0	92.5	48.4	112				
Phenanthrene	1,940	21.4	2,144	0	90.4	42.9	109				
Fluorene	1,950	21.4	2,144	0	91.1	43.9	115				
Anthracene	1,960	21.4	2,144	0	91.6	42.6	113				
Fluoranthene	1,980	21.4	2,144	0	92.6	40.4	122				
Pyrene	1,990	42.9	2,144	0	92.8	40.2	122				
Benz(a)anthracene	2,000	21.4	2,144	0	93.4	41.7	126				
Chrysene	1,930	21.4	2,144	0	89.9	40.4	108				

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

## QC SUMMARY REPORT

### Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: 2306508-004AMS	SampType: MS	Units: µg/Kg-dry			Prep Date: 7/3/2023	RunNo: 85067					
Client ID: B-1A-15	Batch ID: 40810				Analysis Date: 7/4/2023	SeqNo: 1776147					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(b)fluoranthene	1,930	26.8	2,144	0	89.8	30.9	124				
Benzo(k)fluoranthene	1,940	26.8	2,144	0	90.5	32.8	115				
Benzo(a)pyrene	2,150	32.2	2,144	0	100	25.9	129				
Indeno(1,2,3-cd)pyrene	1,910	42.9	2,144	0	88.9	14.3	126				
Dibenz(a,h)anthracene	1,910	53.6	2,144	0	89.0	18.6	121				
Benzo(g,h,i)perylene	1,830	53.6	2,144	0	85.1	4.01	130				
Surr: 2-Fluorobiphenyl	982		1,072		91.6	22.2	146				
Surr: Terphenyl-d14 (surr)	1,090		1,072		101	20.2	159				

Sample ID: 2306508-004AMSD	SampType: MSD	Units: µg/Kg-dry			Prep Date: 7/3/2023	RunNo: 85067					
Client ID: B-1A-15	Batch ID: 40810				Analysis Date: 7/4/2023	SeqNo: 1776148					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	2,040	21.5	2,155	0	94.5	44	114	1,961	3.79	30	
2-Methylnaphthalene	1,960	21.5	2,155	0	90.8	46.9	106	1,889	3.53	30	
1-Methylnaphthalene	1,960	21.5	2,155	0	91.1	47.3	109	1,903	3.07	30	
Acenaphthene	2,010	21.5	2,155	0	93.3	44.3	110	1,937	3.73	30	
Acenaphthylene	2,060	21.5	2,155	0	95.7	48.4	112	1,984	3.85	30	
Phenanthrene	2,030	21.5	2,155	0	94.1	42.9	109	1,939	4.46	30	
Fluorene	2,030	21.5	2,155	0	94.4	43.9	115	1,953	4.10	30	
Anthracene	2,030	21.5	2,155	0	94.0	42.6	113	1,964	3.05	30	
Fluoranthene	2,080	21.5	2,155	0	96.6	40.4	122	1,985	4.71	30	
Pyrene	2,090	43.1	2,155	0	97.1	40.2	122	1,990	4.95	30	
Benz(a)anthracene	2,130	21.5	2,155	0	98.6	41.7	126	2,004	5.91	30	
Chrysene	2,000	21.5	2,155	0	92.9	40.4	108	1,927	3.81	30	
Benzo(b)fluoranthene	2,000	26.9	2,155	0	92.9	30.9	124	1,925	3.94	30	
Benzo(k)fluoranthene	2,030	26.9	2,155	0	94.3	32.8	115	1,941	4.61	30	
Benzo(a)pyrene	2,240	32.3	2,155	0	104	25.9	129	2,149	4.06	30	
Indeno(1,2,3-cd)pyrene	1,980	43.1	2,155	0	91.8	14.3	126	1,905	3.73	30	
Dibenz(a,h)anthracene	1,980	53.9	2,155	0	92.1	18.6	121	1,908	3.91	30	
Benzo(g,h,i)perylene	1,890	53.9	2,155	0	87.6	4.01	130	1,825	3.40	30	

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

## QC SUMMARY REPORT

### Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: <b>2306508-004AMSD</b>	SampType: <b>MSD</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>7/3/2023</b>	RunNo: <b>85067</b>							
Client ID: <b>B-1A-15</b>	Batch ID: <b>40810</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776148</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	1,010		1,077		93.5	22.2	146		0		
Surr: Terphenyl-d14 (surr)	1,140		1,077		106	20.2	159		0		

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Polychlorinated Biphenyls (PCB) by EPA Method 8082**

Sample ID: <b>MB-40798</b>		SampType: <b>MBLK</b>		Units: <b>mg/Kg</b>		Prep Date: <b>6/30/2023</b>		RunNo: <b>85070</b>			
Client ID: <b>MBLKS</b>		Batch ID: <b>40798</b>				Analysis Date: <b>6/30/2023</b>		SeqNo: <b>1775741</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0200									
Aroclor 1221	ND	0.0200									
Aroclor 1232	ND	0.0200									
Aroclor 1242	ND	0.0200									
Aroclor 1248	ND	0.0200									
Aroclor 1254	ND	0.0200									
Aroclor 1260	ND	0.0200									
Aroclor 1262	ND	0.0200									
Aroclor 1268	ND	0.0200									
Total PCBs	ND	0.0200									
Surr: Decachlorobiphenyl	199		200.0		99.6	5	160				
Surr: Tetrachloro-m-xylene	212		200.0		106	57.3	159				

Sample ID: <b>LCS-40798</b>		SampType: <b>LCS</b>		Units: <b>mg/Kg</b>		Prep Date: <b>6/30/2023</b>		RunNo: <b>85070</b>			
Client ID: <b>LCSS</b>		Batch ID: <b>40798</b>				Analysis Date: <b>6/30/2023</b>		SeqNo: <b>1775742</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.994	0.0200	1.000	0	99.4	67.1	142				
Aroclor 1260	0.934	0.0200	1.000	0	93.4	71	140				
Surr: Decachlorobiphenyl	207		200.0		104	5	160				
Surr: Tetrachloro-m-xylene	212		200.0		106	57.3	159				

Sample ID: <b>2306444-001AMS</b>		SampType: <b>MS</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>6/30/2023</b>		RunNo: <b>85070</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>40798</b>				Analysis Date: <b>6/30/2023</b>		SeqNo: <b>1775744</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.976	0.0201	1.006	0	97.0	64.1	141				
Aroclor 1260	0.980	0.0201	1.006	0.04739	92.7	51.1	146				
Surr: Decachlorobiphenyl	224		201.2		111	5	160				
Surr: Tetrachloro-m-xylene	212		201.2		105	57.3	159				

Work Order: 2306508  
 CLIENT: GeoDesign Inc. / NV5  
 Project: DKS-16-01

**QC SUMMARY REPORT**  
**Polychlorinated Biphenyls (PCB) by EPA Method 8082**

Sample ID: <b>2306444-001AMSD</b>	SampType: <b>MSD</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85070</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40798</b>	Analysis Date: <b>6/30/2023</b>	SeqNo: <b>1775745</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aroclor 1016	0.970	0.0201	1.004	0	96.6	64.1	141	0.9759	0.634	30	
Aroclor 1260	0.910	0.0201	1.004	0.04739	85.9	51.1	146	0.9799	7.38	30	
Surr: Decachlorobiphenyl	199		200.9		99.1	5	160		0		
Surr: Tetrachloro-m-xylene	206		200.9		103	57.3	159		0		

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Organochlorine Pesticides by EPA Method 8081A**

Sample ID: <b>MB-40827</b>		SampType: <b>MBLK</b>		Units: <b>mg/Kg</b>		Prep Date: <b>7/5/2023</b>		RunNo: <b>85173</b>			
Client ID: <b>MBLKS</b>		Batch ID: <b>40827</b>				Analysis Date: <b>7/6/2023</b>		SeqNo: <b>1777678</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	ND	0.0700									
Alpha BHC	ND	0.0100									
Beta BHC	ND	0.0100									
Gamma BHC (Lindane)	ND	0.0100									
Delta BHC	ND	0.0100									
Heptachlor	ND	0.0100									
Aldrin	ND	0.0100									
Heptachlor epoxide	ND	0.0100									
gamma-Chlordane	ND	0.0100									
Endosulfan I	ND	0.0100									
alpha-Chlordane	ND	0.0100									
Dieldrin	ND	0.0100									
4,4'-DDE	ND	0.0100									
Endrin	ND	0.0150									
Endosulfan II	ND	0.0150									
4,4'-DDD	ND	0.0150									
Endrin aldehyde	ND	0.0160									
Endosulfan sulfate	ND	0.0150									
4,4'-DDT	ND	0.0160									
Endrin ketone	ND	0.0200									
Methoxychlor	ND	0.0200									
Surr: Decachlorobiphenyl	0.232		0.2000		116	43.8	173				
Surr: Tetrachloro-m-xylene	0.234		0.2000		117	36.6	156				

Sample ID: <b>LCS1-40827</b>		SampType: <b>LCS</b>		Units: <b>mg/Kg</b>		Prep Date: <b>7/5/2023</b>		RunNo: <b>85173</b>			
Client ID: <b>LCSS</b>		Batch ID: <b>40827</b>				Analysis Date: <b>7/6/2023</b>		SeqNo: <b>1777679</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alpha BHC	0.190	0.0100	0.2000	0	95.1	68.1	149				
Beta BHC	0.192	0.0100	0.2000	0	95.9	69.8	138				
Gamma BHC (Lindane)	0.190	0.0100	0.2000	0	95.0	68.7	139				

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Organochlorine Pesticides by EPA Method 8081A**

Sample ID: <b>LCS1-40827</b>		SampType: <b>LCS</b>		Units: <b>mg/Kg</b>		Prep Date: <b>7/5/2023</b>		RunNo: <b>85173</b>			
Client ID: <b>LCSS</b>		Batch ID: <b>40827</b>				Analysis Date: <b>7/6/2023</b>		SeqNo: <b>1777679</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Delta BHC	0.189	0.0100	0.2000	0	94.3	70	138				
Heptachlor	0.190	0.0100	0.2000	0	94.9	77.9	150				
Aldrin	0.202	0.0100	0.2000	0	101	68.1	144				
Heptachlor epoxide	0.206	0.0100	0.2000	0	103	69.3	143				
gamma-Chlordane	0.194	0.0100	0.2000	0	97.1	67	141				
Endosulfan I	0.207	0.0100	0.2000	0	103	68.2	142				
alpha-Chlordane	0.197	0.0100	0.2000	0	98.3	65.3	140				
Dieldrin	0.209	0.0100	0.2000	0	105	66.3	142				
4,4'-DDE	0.198	0.0100	0.2000	0	99.0	64	135				
Endrin	0.206	0.0150	0.2000	0	103	71.7	144				
Endosulfan II	0.204	0.0150	0.2000	0	102	67.6	135				
4,4'-DDD	0.196	0.0150	0.2000	0	97.9	61.8	142				
Endrin aldehyde	0.204	0.0160	0.2000	0	102	65.1	135				
Endosulfan sulfate	0.204	0.0150	0.2000	0	102	64.1	135				
4,4'-DDT	0.197	0.0160	0.2000	0	98.7	68.2	140				
Endrin ketone	0.204	0.0200	0.2000	0	102	66.4	132				
Methoxychlor	0.194	0.0200	0.2000	0	97.2	66	136				
Surr: Decachlorobiphenyl	0.236		0.2000		118	43.8	173				
Surr: Tetrachloro-m-xylene	0.235		0.2000		117	36.6	156				

Sample ID: <b>LCS2-40827</b>		SampType: <b>LCS</b>		Units: <b>mg/Kg</b>		Prep Date: <b>7/5/2023</b>		RunNo: <b>85173</b>			
Client ID: <b>LCSS</b>		Batch ID: <b>40827</b>				Analysis Date: <b>7/6/2023</b>		SeqNo: <b>1777680</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	0.844	0.0700	1.000	0	84.4	58	150				
Surr: Decachlorobiphenyl	0.237		0.2000		118	43.8	173				
Surr: Tetrachloro-m-xylene	0.226		0.2000		113	36.6	156				

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Organochlorine Pesticides by EPA Method 8081A**

Sample ID: 2306508-002AMS		SampType: MS		Units: mg/Kg-dry		Prep Date: 7/5/2023		RunNo: 85173			
Client ID: B-1A-10		Batch ID: 40827				Analysis Date: 7/6/2023		SeqNo: 1777682			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alpha BHC	0.246	0.0118	0.2358	0	104	47.7	160				
Beta BHC	0.246	0.0118	0.2358	0	104	43.6	160				
Gamma BHC (Lindane)	0.244	0.0118	0.2358	0	104	49.9	160				
Delta BHC	0.246	0.0118	0.2358	0	104	48.1	160				
Heptachlor	0.243	0.0118	0.2358	0	103	42.8	160				
Aldrin	0.258	0.0118	0.2358	0	109	49.7	160				
Heptachlor epoxide	0.265	0.0118	0.2358	0	112	52.5	160				
gamma-Chlordane	0.248	0.0118	0.2358	0	105	41	160				
Endosulfan I	0.262	0.0118	0.2358	0	111	53.2	160				
alpha-Chlordane	0.250	0.0118	0.2358	0	106	48.1	160				
Dieldrin	0.268	0.0118	0.2358	0	114	53.2	160				
4,4'-DDE	0.254	0.0118	0.2358	0	108	49	160				
Endrin	0.263	0.0177	0.2358	0	112	41.7	160				
Endosulfan II	0.262	0.0177	0.2358	0	111	55.1	160				
4,4'-DDD	0.251	0.0177	0.2358	0	107	41.5	160				
Endrin aldehyde	0.221	0.0189	0.2358	0	93.6	48.2	160				
Endosulfan sulfate	0.261	0.0177	0.2358	0	111	56.8	160				
4,4'-DDT	0.250	0.0189	0.2358	0	106	33.9	160				
Endrin ketone	0.261	0.0236	0.2358	0	111	57.1	160				
Methoxychlor	0.246	0.0236	0.2358	0	104	38.4	160				
Surr: Decachlorobiphenyl	0.293		0.2358		124	43.8	173				
Surr: Tetrachloro-m-xylene	0.292		0.2358		124	36.6	156				

Sample ID: 2306508-002AMSD		SampType: MSD		Units: mg/Kg-dry		Prep Date: 7/5/2023		RunNo: 85173			
Client ID: B-1A-10		Batch ID: 40827				Analysis Date: 7/6/2023		SeqNo: 1777683			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alpha BHC	0.252	0.0118	0.2367	0	106	47.7	160	0.2456	2.47	30	
Beta BHC	0.255	0.0118	0.2367	0	108	43.6	160	0.2463	3.53	30	
Gamma BHC (Lindane)	0.251	0.0118	0.2367	0	106	49.9	160	0.2445	2.70	30	
Delta BHC	0.254	0.0118	0.2367	0	107	48.1	160	0.2457	3.11	30	



**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Organochlorine Pesticides by EPA Method 8081A**

Sample ID: 2306508-002AMSD	SampType: MSD	Units: mg/Kg-dry				Prep Date: 7/5/2023	RunNo: 85173				
Client ID: B-1A-10	Batch ID: 40827					Analysis Date: 7/6/2023	SeqNo: 1777683				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heptachlor	0.249	0.0118	0.2367	0	105	42.8	160	0.2425	2.48	30	
Aldrin	0.264	0.0118	0.2367	0	112	49.7	160	0.2581	2.41	30	
Heptachlor epoxide	0.272	0.0118	0.2367	0	115	52.5	160	0.2648	2.67	30	
gamma-Chlordane	0.256	0.0118	0.2367	0	108	41	160	0.2480	3.11	30	
Endosulfan I	0.269	0.0118	0.2367	0	114	53.2	160	0.2619	2.57	30	
alpha-Chlordane	0.257	0.0118	0.2367	0	108	48.1	160	0.2497	2.80	30	
Dieldrin	0.275	0.0118	0.2367	0	116	53.2	160	0.2677	2.88	30	
4,4'-DDE	0.262	0.0118	0.2367	0	111	49	160	0.2543	2.85	30	
Endrin	0.271	0.0178	0.2367	0	114	41.7	160	0.2631	2.85	30	
Endosulfan II	0.271	0.0178	0.2367	0	114	55.1	160	0.2623	3.26	30	
4,4'-DDD	0.260	0.0178	0.2367	0	110	41.5	160	0.2513	3.36	30	
Endrin aldehyde	0.233	0.0189	0.2367	0	98.6	48.2	160	0.2207	5.61	30	
Endosulfan sulfate	0.269	0.0178	0.2367	0	114	56.8	160	0.2615	2.79	30	
4,4'-DDT	0.258	0.0189	0.2367	0	109	33.9	160	0.2500	3.28	30	
Endrin ketone	0.266	0.0237	0.2367	0	113	57.1	160	0.2610	2.08	30	
Methoxychlor	0.253	0.0237	0.2367	0	107	38.4	160	0.2460	2.73	30	
Surr: Decachlorobiphenyl	0.297		0.2367		126	43.8	173		0		
Surr: Tetrachloro-m-xylene	0.303		0.2367		128	36.6	156		0		

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Gasoline by NWTPH-Gx**

Sample ID: <b>LCS-40804</b>	SampType: <b>LCS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85096</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>40804</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776356</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	20.3	5.00	25.00	0	81.2	65	135				
Surr: Toluene-d8	1.24		1.250		99.3	65	135				
Surr: 4-Bromofluorobenzene	1.29		1.250		103	65	135				

Sample ID: <b>MB-40804</b>	SampType: <b>MBLK</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85096</b>							
Client ID: <b>MBLKS</b>	Batch ID: <b>40804</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776354</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	ND	5.00									
Surr: Toluene-d8	1.30		1.250		104	65	135				
Surr: 4-Bromofluorobenzene	1.09		1.250		86.8	65	135				

Sample ID: <b>2306493-001BDUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85096</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40804</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776337</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	ND	7.49						0		30	
Surr: Toluene-d8	1.90		1.871		102	65	135		0		
Surr: 4-Bromofluorobenzene	1.67		1.871		89.2	65	135		0		

Sample ID: <b>2306425-001BDUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85096</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40804</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776327</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	ND	6.56						0		30	
Surr: Toluene-d8	1.63		1.640		99.6	65	135		0		
Surr: 4-Bromofluorobenzene	1.46		1.640		88.7	65	135		0		

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Gasoline by NWTPH-Gx**

Sample ID: <b>2306425-003BMS</b>	SampType: <b>MS</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85096</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40804</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776329</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	14.3	3.09	15.47	1.688	81.5	65	135				
Surr: Toluene-d8	0.793		0.7734		102	65	135				
Surr: 4-Bromofluorobenzene	0.769		0.7734		99.4	65	135				

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260D**

Sample ID: <b>LCS-40812</b>		SampType: <b>LCS</b>		Units: <b>µg/L</b>		Prep Date: <b>7/3/2023</b>		RunNo: <b>85063</b>			
Client ID: <b>LCSS</b>		Batch ID: <b>40812</b>				Analysis Date: <b>7/3/2023</b>		SeqNo: <b>1775662</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.11	0.0250	1.000	0	111	80	120				
trans-1,2-Dichloroethene	1.07	0.0100	1.000	0	107	80	120				
cis-1,2-Dichloroethene	1.11	0.0150	1.000	0	111	80	120				
Benzene	0.983	0.0175	1.000	0	98.3	80	120				
Trichloroethene (TCE)	0.907	0.0150	1.000	0	90.7	80	120				
Toluene	1.01	0.0300	1.000	0	101	80	120				
Tetrachloroethene (PCE)	1.00	0.0150	1.000	0	100	80	120				
Ethylbenzene	1.06	0.0250	1.000	0	106	80	120				
m,p-Xylene	2.21	0.0500	2.000	0	110	80	120				
o-Xylene	1.03	0.0250	1.000	0	103	80	120				
Surr: Dibromofluoromethane	1.64		1.250		131	79.5	124				S
Surr: Toluene-d8	1.34		1.250		107	77.5	124				
Surr: 1-Bromo-4-fluorobenzene	1.30		1.250		104	60.5	139				

**NOTES:**

S - Outlying surrogate recovery(ies) observed.

Sample ID: <b>MB-40812</b>		SampType: <b>MBLK</b>		Units: <b>mg/Kg</b>		Prep Date: <b>7/3/2023</b>		RunNo: <b>85063</b>			
Client ID: <b>MBLKS</b>		Batch ID: <b>40812</b>				Analysis Date: <b>7/3/2023</b>		SeqNo: <b>1775657</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.0250									
trans-1,2-Dichloroethene	ND	0.0100									
cis-1,2-Dichloroethene	ND	0.0150									
Benzene	ND	0.0175									
Trichloroethene (TCE)	ND	0.0150									
Toluene	ND	0.0300									
Tetrachloroethene (PCE)	ND	0.0150									
Ethylbenzene	ND	0.0250									
m,p-Xylene	ND	0.0500									
o-Xylene	ND	0.0250									
Surr: Dibromofluoromethane	1.38		1.250		110	79.5	124				
Surr: Toluene-d8	1.23		1.250		98.5	77.5	124				

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260D**

Sample ID: <b>MB-40812</b>	SampType: <b>MBLK</b>	Units: <b>mg/Kg</b>	Prep Date: <b>7/3/2023</b>	RunNo: <b>85063</b>							
Client ID: <b>MBLKS</b>	Batch ID: <b>40812</b>		Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1775657</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 1-Bromo-4-fluorobenzene	1.16		1.250		92.6	60.5	139				

Sample ID: <b>2306533-001BDUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>7/3/2023</b>	RunNo: <b>85063</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40812</b>		Analysis Date: <b>7/3/2023</b>	SeqNo: <b>1775661</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.0194						0		30	
trans-1,2-Dichloroethene	ND	0.00777						0		30	
cis-1,2-Dichloroethene	ND	0.0116						0		30	
Benzene	ND	0.0136						0		30	
Trichloroethene (TCE)	ND	0.0116						0		30	
Toluene	ND	0.0233						0		30	
Tetrachloroethene (PCE)	ND	0.0116						0		30	
Ethylbenzene	ND	0.0194						0		30	
m,p-Xylene	ND	0.0388						0		30	
o-Xylene	ND	0.0194						0		30	
Surr: Dibromofluoromethane	1.30		0.9707		134	79.5	124		0		S
Surr: Toluene-d8	0.931		0.9707		95.9	77.5	124		0		
Surr: 1-Bromo-4-fluorobenzene	0.958		0.9707		98.7	60.5	139		0		

**NOTES:**

S - Outlying surrogate recovery(ies) observed.

Sample ID: <b>LCS-40804</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85092</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>40804</b>		Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776286</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.18	0.0250	1.000	0	118	80	120				
trans-1,2-Dichloroethene	1.16	0.0100	1.000	0	116	80	120				
cis-1,2-Dichloroethene	1.10	0.0150	1.000	0	110	80	120				
Benzene	1.00	0.0175	1.000	0	100	80	120				
Trichloroethene (TCE)	1.07	0.0150	1.000	0	107	80	120				
Toluene	1.01	0.0300	1.000	0	101	80	120				

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260D**

Sample ID: <b>LCS-40804</b>		SampType: <b>LCS</b>		Units: <b>µg/L</b>		Prep Date: <b>6/30/2023</b>		RunNo: <b>85092</b>			
Client ID: <b>LCSS</b>		Batch ID: <b>40804</b>				Analysis Date: <b>7/4/2023</b>		SeqNo: <b>1776286</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene (PCE)	1.05	0.0150	1.000	0	105	80	120				
Ethylbenzene	1.16	0.0250	1.000	0	116	80	120				
m,p-Xylene	2.39	0.0500	2.000	0	119	80	120				
o-Xylene	1.09	0.0250	1.000	0	109	80	120				
Surr: Dibromofluoromethane	1.14		1.250		91.3	79.5	124				
Surr: Toluene-d8	1.30		1.250		104	77.5	124				
Surr: 1-Bromo-4-fluorobenzene	1.30		1.250		104	60.5	139				

Sample ID: <b>MB-40804</b>		SampType: <b>MBLK</b>		Units: <b>mg/Kg</b>		Prep Date: <b>6/30/2023</b>		RunNo: <b>85092</b>			
Client ID: <b>MBLKS</b>		Batch ID: <b>40804</b>				Analysis Date: <b>7/4/2023</b>		SeqNo: <b>1776285</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.0250									
trans-1,2-Dichloroethene	ND	0.0100									
cis-1,2-Dichloroethene	ND	0.0150									
Benzene	ND	0.0175									
Trichloroethene (TCE)	ND	0.0150									
Toluene	ND	0.0300									
Tetrachloroethene (PCE)	ND	0.0150									
Ethylbenzene	ND	0.0250									
m,p-Xylene	ND	0.0500									
o-Xylene	ND	0.0250									
Surr: Dibromofluoromethane	1.26		1.250		101	79.5	124				
Surr: Toluene-d8	1.23		1.250		98.6	77.5	124				
Surr: 1-Bromo-4-fluorobenzene	1.15		1.250		92.2	60.5	139				

Sample ID: <b>2306493-001BDUP</b>		SampType: <b>DUP</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>6/30/2023</b>		RunNo: <b>85092</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>40804</b>				Analysis Date: <b>7/4/2023</b>		SeqNo: <b>1776269</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.0374						0		30	

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260D**

Sample ID: <b>2306493-001BDUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85092</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40804</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776269</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	ND	0.0150						0		30	
cis-1,2-Dichloroethene	ND	0.0225						0		30	
Benzene	ND	0.0262						0		30	
Trichloroethene (TCE)	ND	0.0225						0		30	
Toluene	ND	0.0449						0		30	
Tetrachloroethene (PCE)	ND	0.0225						0		30	
Ethylbenzene	ND	0.0374						0		30	
m,p-Xylene	ND	0.0749						0		30	
o-Xylene	ND	0.0374						0		30	
Surr: Dibromofluoromethane	2.23		1.871		119	79.5	124		0		
Surr: Toluene-d8	1.83		1.871		97.6	77.5	124		0		
Surr: 1-Bromo-4-fluorobenzene	1.77		1.871		94.7	60.5	139		0		

Sample ID: <b>2306425-001BDUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85092</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40804</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776260</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.0328						0		30	
trans-1,2-Dichloroethene	ND	0.0131						0		30	
cis-1,2-Dichloroethene	ND	0.0197						0		30	
Benzene	ND	0.0230						0		30	
Trichloroethene (TCE)	ND	0.0197						0		30	
Toluene	ND	0.0394						0		30	
Tetrachloroethene (PCE)	ND	0.0197						0		30	
Ethylbenzene	ND	0.0328						0		30	
m,p-Xylene	ND	0.0656						0		30	
o-Xylene	ND	0.0328						0		30	
Surr: Dibromofluoromethane	2.06		1.640		126	79.5	124		0		S
Surr: Toluene-d8	1.58		1.640		96.6	77.5	124		0		
Surr: 1-Bromo-4-fluorobenzene	1.55		1.640		94.2	60.5	139		0		

**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260D**

Sample ID: <b>2306425-001BDUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85092</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40804</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776260</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**NOTES:**

S - Outlying surrogate recovery(ies) observed (high bias). Sample is non-detect; result meets QC requirements.

Sample ID: <b>2306493-002BMS</b>	SampType: <b>MS</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/30/2023</b>	RunNo: <b>85092</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40804</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776271</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.72	0.0316	1.264	0	136	21.7	160				
trans-1,2-Dichloroethene	1.74	0.0126	1.264	0	138	41.9	160				
cis-1,2-Dichloroethene	1.70	0.0190	1.264	0	134	52.6	151				
Benzene	1.36	0.0221	1.264	0	108	52.3	147				
Trichloroethene (TCE)	1.64	0.0190	1.264	0	130	43.1	160				
Toluene	1.38	0.0379	1.264	0	109	50.1	147				
Tetrachloroethene (PCE)	1.37	0.0190	1.264	0	109	44.6	160				
Ethylbenzene	1.52	0.0316	1.264	0	120	51.7	143				
m,p-Xylene	3.13	0.0632	2.527	0	124	54.5	144				
o-Xylene	1.45	0.0316	1.264	0	114	57.1	141				
Surr: Dibromofluoromethane	1.92		1.580		122	79.5	124				
Surr: Toluene-d8	1.69		1.580		107	77.5	124				
Surr: 1-Bromo-4-fluorobenzene	1.68		1.580		106	60.5	139				

Sample ID: <b>2306523-002BDUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>7/3/2023</b>	RunNo: <b>85063</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>40812</b>	Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776046</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.0261						0		30	
trans-1,2-Dichloroethene	ND	0.0104						0		30	
cis-1,2-Dichloroethene	ND	0.0157						0		30	
Benzene	ND	0.0183						0		30	
Trichloroethene (TCE)	ND	0.0157						0		30	
Toluene	ND	0.0313						0		30	
Tetrachloroethene (PCE)	ND	0.0157						0		30	



**Work Order:** 2306508  
**CLIENT:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260D**

Sample ID: <b>2306523-002BDUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>			Prep Date: <b>7/3/2023</b>	RunNo: <b>85063</b>					
Client ID: <b>BATCH</b>	Batch ID: <b>40812</b>				Analysis Date: <b>7/4/2023</b>	SeqNo: <b>1776046</b>					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	ND	0.0261						0		30	
m,p-Xylene	ND	0.0522						0		30	
o-Xylene	ND	0.0261						0		30	
Surr: Dibromofluoromethane	1.51		1.305		116	79.5	124		0		
Surr: Toluene-d8	1.25		1.305		95.8	77.5	124		0		
Surr: 1-Bromo-4-fluorobenzene	1.21		1.305		93.0	60.5	139		0		

Sample ID: <b>2306523-004BMS</b>	SampType: <b>MS</b>	Units: <b>mg/Kg-dry</b>			Prep Date: <b>7/3/2023</b>	RunNo: <b>85063</b>					
Client ID: <b>BATCH</b>	Batch ID: <b>40812</b>				Analysis Date: <b>7/5/2023</b>	SeqNo: <b>1776048</b>					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.755	0.0299	1.196	0	63.2	21.7	160				
trans-1,2-Dichloroethene	1.66	0.0120	1.196	0	139	41.9	160				
cis-1,2-Dichloroethene	1.58	0.0179	1.196	0	132	52.6	151				
Benzene	1.31	0.0209	1.196	0	109	52.3	147				
Trichloroethene (TCE)	1.47	0.0179	1.196	0	123	43.1	160				
Toluene	1.28	0.0359	1.196	0	107	50.1	147				
Tetrachloroethene (PCE)	1.32	0.0179	1.196	0	110	44.6	160				
Ethylbenzene	1.47	0.0299	1.196	0	123	51.7	143				
m,p-Xylene	3.00	0.0598	2.391	0	125	54.5	144				
o-Xylene	1.41	0.0299	1.196	0	118	57.1	141				
Surr: Dibromofluoromethane	1.57		1.495		105	79.5	124				
Surr: Toluene-d8	1.51		1.495		101	77.5	124				
Surr: 1-Bromo-4-fluorobenzene	1.54		1.495		103	60.5	139				

Client Name: GEODES	Work Order Number: 2306508
Logged by: Clare Griggs	Date Received: 6/29/2023 1:50:00 PM

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? Client

**Log In**

3. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes  No  Not Present
4. Was an attempt made to cool the samples? Yes  No  NA
5. Were all items received at a temperature of >2°C to 6°C \* Yes  No  NA
6. Sample(s) in proper container(s)? Yes  No
7. Sufficient sample volume for indicated test(s)? Yes  No
8. Are samples properly preserved? Yes  No
9. Was preservative added to bottles? Yes  No  NA
10. Is there headspace in the VOA vials? Yes  No  NA
11. Did all samples containers arrive in good condition(unbroken)? Yes  No
12. Does paperwork match bottle labels? Yes  No
13. Are matrices correctly identified on Chain of Custody? Yes  No
14. Is it clear what analyses were requested? Yes  No
15. Were all holding times able to be met? Yes  No

**Special Handling (if applicable)**

16. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

17. Additional remarks:

**Item Information**

Item #	Temp °C
Sample	1.2

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



3600 Fremont Ave N.  
Seattle, WA 98103  
Tel: 206-352-3790  
Fax: 206-352-7178

# Chain of Custody Record & Laboratory Services Agreement

Date: 6/29/2023 Page: 1 of: 1

Laboratory Project No (Internal): 2306508

Project Name: DKS-16-01

Special Remarks: LAB FILTER

Project No: 124423-1000014.01 (Phase 02)

Collected by: SDG/JDB (RES ENV/NVS)

Location: 132nd Ave NE/NE 124th St, Kirkland

Report To (PM): Kevin Lamb

Sample Disposal:  Return to client  Disposal by lab (after 30 days)

PM Email: Kevin.Lamb@nvs.com

Client: Geo Design / NV5  
Address: 19201 120th Ave NE, Suite 201  
City, State, Zip: Bothell, WA 98011  
Telephone: 206-496-1422  
Fax: 206-838-9901

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	# of Cont.	VOCs (EPA 8160/624)	BTEX (8200)	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCS (EPA 8270 / 825)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8087 / 698)	Metals** (EPA 6020 / 200.8)	Total (T)   Dissolved (D)	Anions (IC)**	EDB (8011)	Herbicides/Pesticides***	Comments
1 B-1A-5	6/29/23	10:10	SOIL	3	X	X	X	X	X	X	X	X	X	X	X	X	X	HOLD
2 B-1A-10		11:10			X	X	X	X	X	X	X	X	X	X	X	X	X	RUN
3 B-1A-12.5		11:13			X	X	X	X	X	X	X	X	X	X	X	X	X	HOLD
4 B-1A-15		11:18			X	X	X	X	X	X	X	X	X	X	X	X	X	RUN
5 B-1A-20		11:27			X	X	X	X	X	X	X	X	X	X	X	X	X	HOLD
6 B-1A-Water		10:52	WATER		X	X	X	X	X	X	X	X	X	X	X	X	X	HOLD
7 Trip Blank: water	6/19/23	08:22	(water)	1														RUN
8 Trip Blank: soil	6/27/23	11:20	(soil)															RUN
9																		
10																		

\*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water  
 \*\*Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl V Zn  
 \*\*\*Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around Time:  
 Standard  Next Day  
 3 Day  Same Day  
 2 Day (specify)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished (Signature) [Signature] Print Name Danielle Collier Date/Time 6/29/23 1:50 PM

Received (Signature) [Signature] Print Name Emma Tuck Date/Time 6/29/23 13:50

Page 39 of 40





3600 Fremont Ave N.  
Seattle, WA 98103  
Tel: 206-352-3790  
Fax: 206-352-7178

# Chain of Custody Record & Laboratory Services Agreement

Date: 6/29/2023 Page: 1 of: 1

Laboratory Project No (Internal): 2306508

Project Name: DKS-16-01

Special Remarks: LAB FILTER

Project No: 124423-1000014.01 (Phase 02)

edit per JB 6/29/23 -cg

Collected by: SDG/JDB (RES ENV/NVS)

Location: 132nd Ave NE/NE 124th St, Kirkland

Report To (PM): Kevin Lamb

Sample Disposal:  Return to client  Disposal by lab (after 30 days)

PM Email: Kevin.Lamb@nvs.com

Client: Geo Design / NV5

Address: 19201 120th Ave NE, Suite 201

City, State, Zip: Bothell, WA 98011

Telephone: 206-496-1422

Fax: 206-838-9901

Sample Name

Sample Date

Sample Time

Sample Type (Matrix)\*

# of Cont.

VOCs (EPA 8160/624)  
BTX (8200)

Gasoline Range Organics (GX)

Hydrocarbon Identification (HCID)

Diesel/Heavy Oil Range Organics (DX)

SVOcs (EPA 8270 / 825)

PAHs (EPA 8270 - SIM)

PCBs (EPA 8087 / 698)

Metals\*\* (EPA 6020 / 200.8)

Total (T) | Dissolved (D)

Anions (IC)\*\*

EDB (8011)

Herbicides/Pesticides\*\*\*

HOLD

RUN

HOLD

RUN

HOLD

HOLD

RUN

RUN

\*PCE, TCE,  
cis-1,2-dichloroethene,  
trans-1,2-dichloroethene,  
& vinyl chloride  
\*\*\* 8051 & 8081

\*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Turn-around Time:

\*\*Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl V Zn

Standard  Next Day

\*\*\*Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

3 Day  Same Day

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

2 Day (specify)

Relinquished (Signature) [Signature]  
Print Name Danielle Collier  
Date/Time 6/29/23 1:50 PM

Received (Signature) [Signature]  
Print Name Emma Tuck  
Date/Time 6/29/23 13:50

Relinquished (Signature) \_\_\_\_\_  
Print Name \_\_\_\_\_  
Date/Time \_\_\_\_\_

Received (Signature) \_\_\_\_\_  
Print Name \_\_\_\_\_  
Date/Time \_\_\_\_\_



# Analytical Report

Work Order: **2306508**  
 Date Reported: **7/7/2023**

**Client:** GeoDesign Inc. / NV5

**Collection Date:** 6/29/2023 11:10:00 AM

**Project:** DKS-16-01

**Lab ID:** 2306508-002

**Matrix:** Soil

**Client Sample ID:** B-1A-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Organochlorine Pesticides by EPA Method 8081A**

Batch ID: 40827      Analyst: AP

Toxaphene	ND	0.0818		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Alpha BHC	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Beta BHC	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Gamma BHC (Lindane)	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Delta BHC	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Heptachlor	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Aldrin	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Heptachlor epoxide	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
gamma-Chlordane	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endosulfan I	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
alpha-Chlordane	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Dieldrin	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
4,4'-DDE	ND	0.0117		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endrin	ND	0.0175		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endosulfan II	ND	0.0175		mg/Kg-dry	1	7/6/2023 2:51:43 PM
4,4'-DDD	ND	0.0175		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endrin aldehyde	ND	0.0187		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endosulfan sulfate	ND	0.0175		mg/Kg-dry	1	7/6/2023 2:51:43 PM
4,4'-DDT	ND	0.0187		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Endrin ketone	ND	0.0234		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Methoxychlor	ND	0.0234		mg/Kg-dry	1	7/6/2023 2:51:43 PM
Surr: Decachlorobiphenyl	130	43.8 - 173		%Rec	1	7/6/2023 2:51:43 PM
Surr: Tetrachloro-m-xylene	129	36.6 - 156		%Rec	1	7/6/2023 2:51:43 PM

**Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.**

Batch ID: 40809      Analyst: AP

Diesel Range Organics	ND	57.5		mg/Kg-dry	1	7/3/2023 2:30:45 PM
Heavy Oil	ND	115		mg/Kg-dry	1	7/3/2023 2:30:45 PM
Total Petroleum Hydrocarbons	ND	172		mg/Kg-dry	1	7/3/2023 2:30:45 PM
Surr: 2-Fluorobiphenyl	95.9	50 - 150		%Rec	1	7/3/2023 2:30:45 PM
Surr: o-Terphenyl	97.1	50 - 150		%Rec	1	7/3/2023 2:30:45 PM

**Herbicides by EPA Method 8151A (GC/MS)**

Batch ID: 40789      Analyst: SK

Dicamba	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
2,4-D	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
2,4-DP	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
2,4,5-TP (Silvex)	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
2,4,5-T	ND	35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM

Original



# Analytical Report

Work Order: **2306508**  
 Date Reported: **7/7/2023**

**Client:** GeoDesign Inc. / NV5

**Collection Date:** 6/29/2023 11:10:00 AM

**Project:** DKS-16-01

**Lab ID:** 2306508-002

**Matrix:** Soil

**Client Sample ID:** B-1A-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**Herbicides by EPA Method 8151A (GC/MS)**

Batch ID: 40789      Analyst: SK

Dinoseb	ND	UJ	59.3	*	µg/Kg-dry	1	7/3/2023 9:35:28 PM
Dalapon	ND		237		µg/Kg-dry	1	7/3/2023 9:35:28 PM
2,4-DB	ND		35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
MCPP	ND		59.3		µg/Kg-dry	1	7/3/2023 9:35:28 PM
MCPA	ND		59.3		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Picloram	ND		59.3		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Bentazon	ND		35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Chloramben	ND		35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Acifluorfen	ND		59.3		µg/Kg-dry	1	7/3/2023 9:35:28 PM
3,5-Dichlorobenzoic acid	ND		35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
4-Nitrophenol	ND		35.6		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Dacthal (DCPA)	ND		59.3		µg/Kg-dry	1	7/3/2023 9:35:28 PM
Surr: 2,4-Dichlorophenylacetic acid	96.9		5 - 150		%Rec	1	7/3/2023 9:35:28 PM

**NOTES:**

\* - Associated LCS is below acceptance criteria. Result may be low-biased.

**Gasoline by NWTPH-Gx**

Batch ID: 40804      Analyst: MS

Gasoline Range Organics	ND		5.56		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Surr: Toluene-d8	99.4		65 - 135		%Rec	1	7/4/2023 5:42:31 PM
Surr: 4-Bromofluorobenzene	89.4		65 - 135		%Rec	1	7/4/2023 5:42:31 PM

**Volatile Organic Compounds by EPA Method 8260D**

Batch ID: 40804      Analyst: MS

Vinyl chloride	ND		0.0278		mg/Kg-dry	1	7/4/2023 5:42:31 PM
trans-1,2-Dichloroethene	ND		0.0111		mg/Kg-dry	1	7/4/2023 5:42:31 PM
cis-1,2-Dichloroethene	ND		0.0167		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Benzene	ND		0.0194		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Trichloroethene (TCE)	ND		0.0167		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Toluene	ND		0.0333		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Tetrachloroethene (PCE)	ND		0.0167		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Ethylbenzene	ND		0.0278		mg/Kg-dry	1	7/4/2023 5:42:31 PM
m,p-Xylene	ND		0.0556		mg/Kg-dry	1	7/4/2023 5:42:31 PM
o-Xylene	ND		0.0278		mg/Kg-dry	1	7/4/2023 5:42:31 PM
Surr: Dibromofluoromethane	119		79.5 - 124		%Rec	1	7/4/2023 5:42:31 PM
Surr: Toluene-d8	94.4		77.5 - 124		%Rec	1	7/4/2023 5:42:31 PM
Surr: 1-Bromo-4-fluorobenzene	95.0		60.5 - 139		%Rec	1	7/4/2023 5:42:31 PM





# Analytical Report

Work Order: **2306508**  
 Date Reported: **7/7/2023**

**Client:** GeoDesign Inc. / NV5  
**Project:** DKS-16-01  
**Lab ID:** 2306508-002  
**Client Sample ID:** B-1A-10

**Collection Date:** 6/29/2023 11:10:00 AM  
**Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**Total Metals by EPA Method 6020B**

Batch ID: 40840      Analyst: JR

Arsenic	1.32	0.229		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Barium	75.6	0.457		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Cadmium	0.0261	0.0183		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Chromium	32.4	0.229		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Lead	3.14	0.915		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Mercury	ND	0.183		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Selenium	ND	0.915		mg/Kg-dry	1	7/6/2023 2:38:00 PM
Silver	0.0430	0.0183		mg/Kg-dry	1	7/6/2023 2:38:00 PM

**Sample Moisture (Percent Moisture)**

Batch ID: R85030      Analyst: MP

Percent Moisture	19.6			wt%	1	6/30/2023 8:19:02 AM
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## APPENDIX C

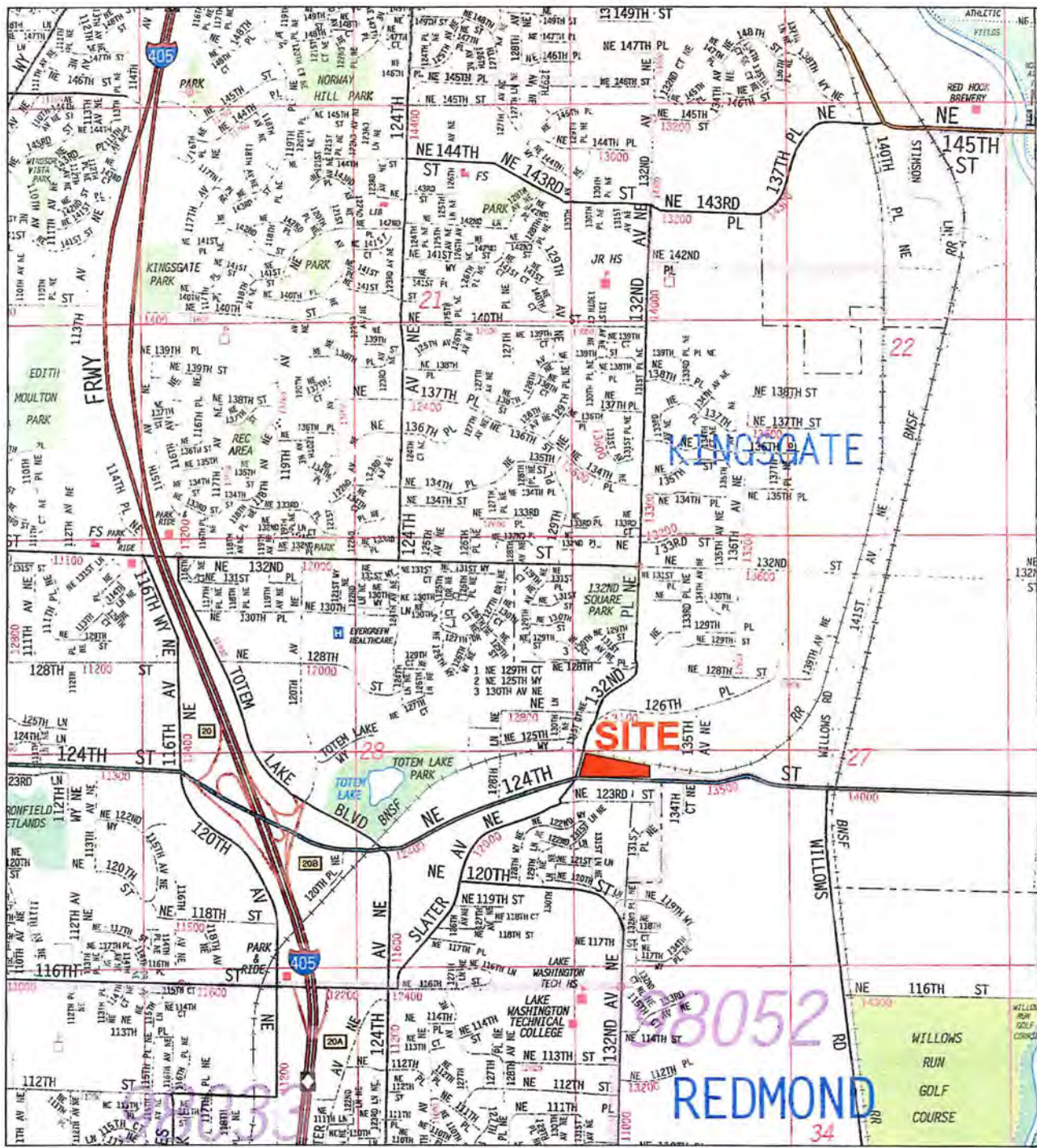


**APPENDIX C**

**PAGES FROM:**

**GEOTECHNICAL ENGINEERING STUDY  
PROPOSED TOYOTA OF KIRKLAND  
SALES BUILDING AND PARKING GARAGE  
NORTHEAST 124<sup>TH</sup> STREET AND 132<sup>ND</sup> PLACE NORTHEAST  
KING COUNTY (KIRKLAND), WASHINGTON**

**EARTH SOLUTIONS NW, LLC**



Reference:  
 King County  
 Map 506  
 By Thomas Brothers Maps  
 Dated 2007



NOTE: This plate may contain areas of color. ESNW cannot be responsible for any subsequent misinterpretation of the information resulting from black & white reproductions of this plate.

**Earth Solutions NW LLC**  
 Engineering, Construction Monitoring and Environmental Sciences

Vicinity Map  
 Proposed Toyota of Kirkland  
 King County, Washington

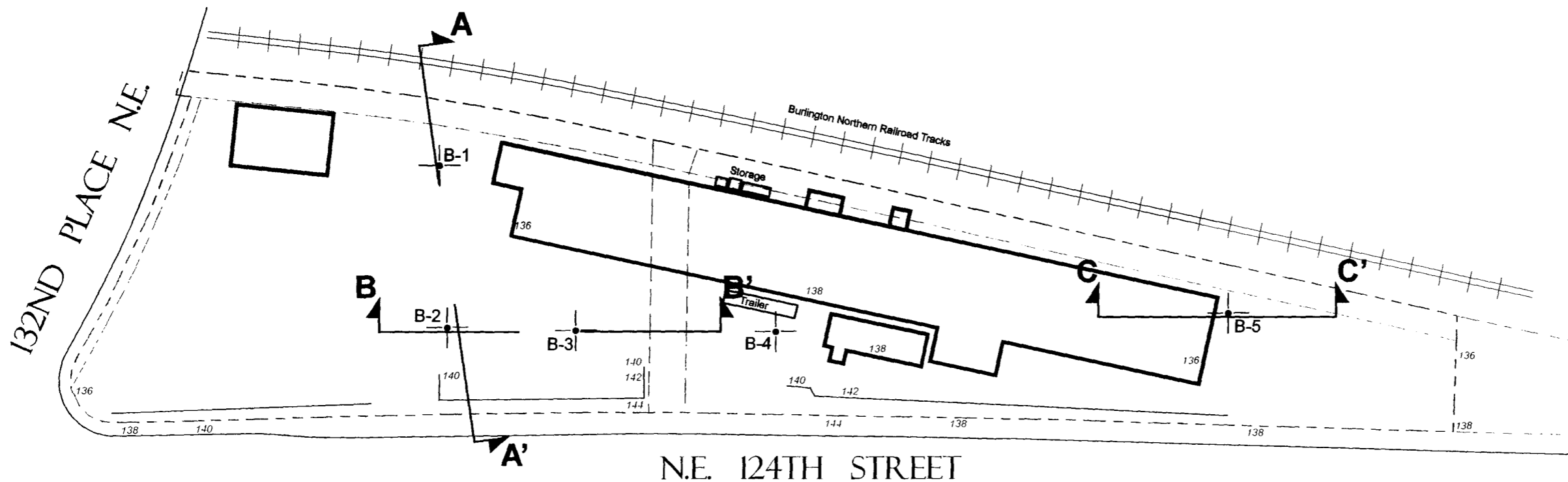
Drwn. GLS	Date 12/04/2006	Proj. No. 0657
Checked WLR	Date Dec. 2006	Plate 1

Boring Location Plan  
 Proposed Toyota of Kirkland  
 King County, Washington

Earth Solutions NW LLC  
 Engineering, Construction Monitoring  
 and Environmental Sciences

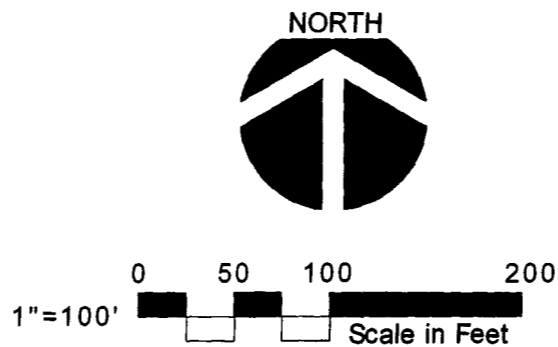


Drwn. By	GLS
Checked By	WLR
Date	12/04/2006
Proj. No.	0657
Plate	2



**LEGEND**

- B-1 — Approximate Location of ESNW Boring, Proj. No. ES-0657, Oct. 2006
- Subject Site
- Existing Building
- Cross Section Line (See Plate 3)









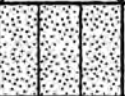
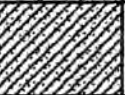
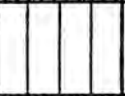

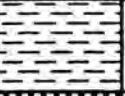




NOTE: The graphics shown on this plate are not intended for design purposes or precise scale measurements, but only to illustrate the approximate test locations relative to the approximate locations of existing and / or proposed site features. The information illustrated is largely based on data provided by the client at the time of our study. ESNW cannot be responsible for subsequent design changes or interpretation of the data by others.

NOTE: This plate may contain areas of color. ESNW cannot be responsible for any subsequent misinterpretation of the information resulting from black & white reproductions of this plate.



# Earth Solutions NW<sub>LLC</sub>

## SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
<b>COARSE GRAINED SOILS</b>  MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	<b>GRAVEL AND GRAVELLY SOILS</b>  (LITTLE OR NO FINES)	CLEAN GRAVELS		<b>GW</b>	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		<b>GP</b>	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES		<b>GM</b>	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		<b>GC</b>	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	<b>SAND AND SANDY SOILS</b>  MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS		<b>SW</b>	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		<b>SP</b>	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES		<b>SM</b>	SILTY SANDS, SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		<b>SC</b>	CLAYEY SANDS, SAND - CLAY MIXTURES
<b>FINE GRAINED SOILS</b>  MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	<b>SILTS AND CLAYS</b>  LIQUID LIMIT LESS THAN 50	(LITTLE OR NO FINES)		<b>ML</b>	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
		(LITTLE OR NO FINES)		<b>CL</b>	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		(LITTLE OR NO FINES)		<b>OL</b>	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	<b>SILTS AND CLAYS</b>  LIQUID LIMIT GREATER THAN 50	(LITTLE OR NO FINES)		<b>MH</b>	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
		(LITTLE OR NO FINES)		<b>CH</b>	INORGANIC CLAYS OF HIGH PLASTICITY
		(LITTLE OR NO FINES)		<b>OH</b>	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
<b>HIGHLY ORGANIC SOILS</b>				<b>PT</b>	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

DUAL SYMBOLS are used to indicate borderline soil classifications.

The discussion in the text of this report is necessary for a proper understanding of the nature of the material presented in the attached logs.



Earth Solutions NW, LLC  
 2881 152nd Avenue N.E.  
 Redmond, WA 98052  
 Telephone: 4252843300  
 Fax: 4252842855

CLIENT Howard S. Wright Construction PROJECT NAME Proposed Toyota of Kirkland  
 PROJECT NUMBER 0657 PROJECT LOCATION King County, Washington  
 DATE STARTED 10/26/06 COMPLETED 10/26/06 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE \_\_\_\_\_  
 DRILLING CONTRACTOR Borettec GROUND WATER LEVELS:  
 DRILLING METHOD HSA  AT TIME OF DRILLING 17.0 ft  
 LOGGED BY RAC CHECKED BY RAC AT END OF DRILLING —  
 NOTES Crushed Rock Surfacing AFTER DRILLING —

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0							
					FILL		12" - 2" Minus Crushed Rock
					SP		Coarse SAND (Fill)
							Brown SILT, loose to soft, wet to saturated, medium plasticity, small sample
	SS	100	7-4-4 (8)	MC = 11.50%	ML		
5							
	SS	100	3-3-4 (7)	MC = 22.10%	SM		Gray silty fine SAND, loose, wet, some silts
					ML		Interbedded Silt lenses, saturated
	SS	100	3-3-3 (6)	MC = 25.80%	SM		Gray silty fine SAND, loose, wet
10							
	SS	100	3-5-2 (7)	MC = 32.00%	ML		Brown SILT, soft to stiff, saturated, high plasticity
							-possible gravel increase
	SS	100	15-18-33 (51)	MC = 8.20%	SM		Gray silty SAND with gravel, dense, wet, possible water bearing
							-increasing gravel
15							
	SS	100	15-26-33 (59)	MC = 9.50%			Grades to poorly graded GRAVEL with silt and sand, very dense
					GP-GM		<input checked="" type="checkbox"/> -drill rod indicates groundwater table
20							

GENERAL BH / TP / WELL / 0657.GPJ / GINT / US.GDT / 12/14/06



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CLIENT Howard S. Wright Construction

PROJECT NAME Proposed Toyota of Kirkland

PROJECT NUMBER 0657

PROJECT LOCATION King County, Washington

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
20	SS	92	32-50	MC = 7.50%	GP-GM		Gray poorly graded GRAVEL with silt and sand, very dense (compact), water bearing
25	SS	92	37-50	MC = 8.80%			
							Boring terminated at 26.0 feet below existing grade. Groundwater table encountered at 17.0 feet during drilling. Boring back filled with bentonite. Bottom of hole at 26.0 feet.


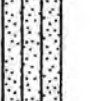
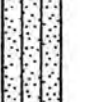
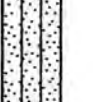
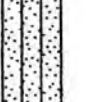
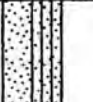
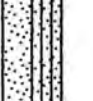
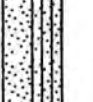


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# BORING NUMBER B-2

PAGE 1 OF 2

CLIENT <u>Howard S. Wright Construction</u>	PROJECT NAME <u>Proposed Toyota of Kirkland</u>
PROJECT NUMBER <u>0657</u>	PROJECT LOCATION <u>King County, Washington</u>
DATE STARTED <u>10/26/06</u> COMPLETED <u>10/26/06</u>	GROUND ELEVATION _____ HOLE SIZE _____
DRILLING CONTRACTOR <u>Boretec</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>HSA</u>	∇ AT TIME OF DRILLING <u>15.0 ft</u>
LOGGED BY <u>RAC</u> CHECKED BY <u>RAC</u>	AT END OF DRILLING <u>—</u>
NOTES <u>Crushed Rock Surfacing</u>	AFTER DRILLING <u>—</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0							
					FILL		12" - 1" Minus Crushed Rock
							1.0
							Brown silty SAND, loose, moist
	SS	100	18-14-7 (21)	MC = 16.80%			
5							
	SS	100	4-3-4 (7)	MC = 27.70%			
					SM		
	SS	100	3-2-4 (6)	MC = 25.70%			-grades to fine sand
10							
	SS	100	3-3-3 (6)	MC = 36.30%			
	SS	100	4-2-2 (4)	MC = 18.40%			12.5
							Gray poorly graded medium to coarse SAND, loose, moist
15							
	SS	100	5-9-6 (15)	MC = 40.60%			∇ -groundwater table encountered
					SP-SM		
	SS	100	6-6-7 (13)	MC = 17.20%			
20							20.0

GENERAL BH / TP / WELL / 0657.GPJ GINT US.GDT 12/14/06





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**BORING NUMBER B-2**

CLIENT Howard S. Wright Construction

PROJECT NAME Proposed Toyota of Kirkland

PROJECT NUMBER 0657

PROJECT LOCATION King County, Washington

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	
20								
	SS	100	5-7-7 (14)	MC = 19.40%	SP-SM		Interbedded fine SAND layers throughout	
	SS	100	4-6-8 (14)	MC = 26.60%				
25	SS	100	6-6-5 (11)	MC = 23.30%				
	SS	100	6-9-50 (59)	MC = 28.10%			28.5	
					GP		Gray poorly graded GRAVEL with sand, dense, wet	
30	SS	100	35-50	MC = 14.20%				
	SS	100	29-50	MC = 9.10%				
35								
	SS	83	25-50	MC = 10.30%			41.0	
40								
							Boring terminated at 41.0 feet below existing grade. Groundwater table encountered at 15.0 feet during drilling. Boring backfilled with bentonite. Bottom of hole at 41.0 feet.	

GENERAL BH / TP / WELL 0657.GPJ GINT US.GDT 12/14/06





# **APPENDIX B**

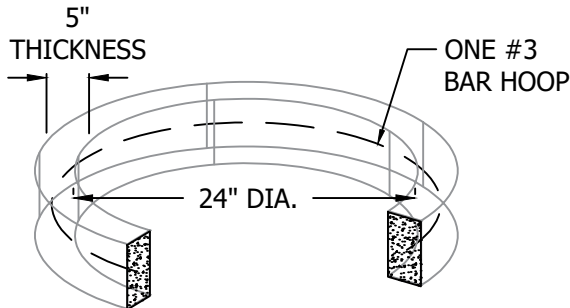
## **CITY OF KIRKLAND PRE- APPROVED PLANS / WSDOT STANDARD PLANS**



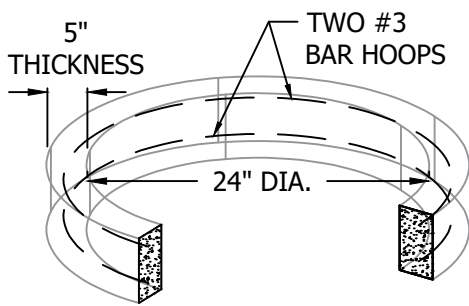
FRAME AND GRATE  
(SEE STANDARD DETAILS  
D.18 AND D.18A)

NOTES:

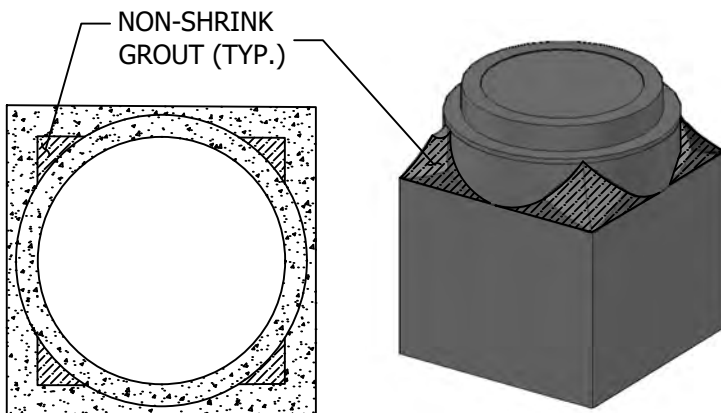
1. GROUT SHALL BE APPLIED BETWEEN ALL MATING SURFACES TO ENSURE A WATER TIGHT SEAL AND STRONG BOND.
2. COMMERCIALY AVAILABLE CONVERTER FROM RECTANGULAR STRUCTURE TO CIRCULAR RISER MAY BE USED IF APPROVED BY PUBLIC WORKS DEPARTMENT.
3. 1", 2", AND 4" RISERS ACCEPTED AS NEEDED.



6" RISER SECTION



12" RISER SECTION



TRANSITION DETAIL  
2-D PLAN VIEW

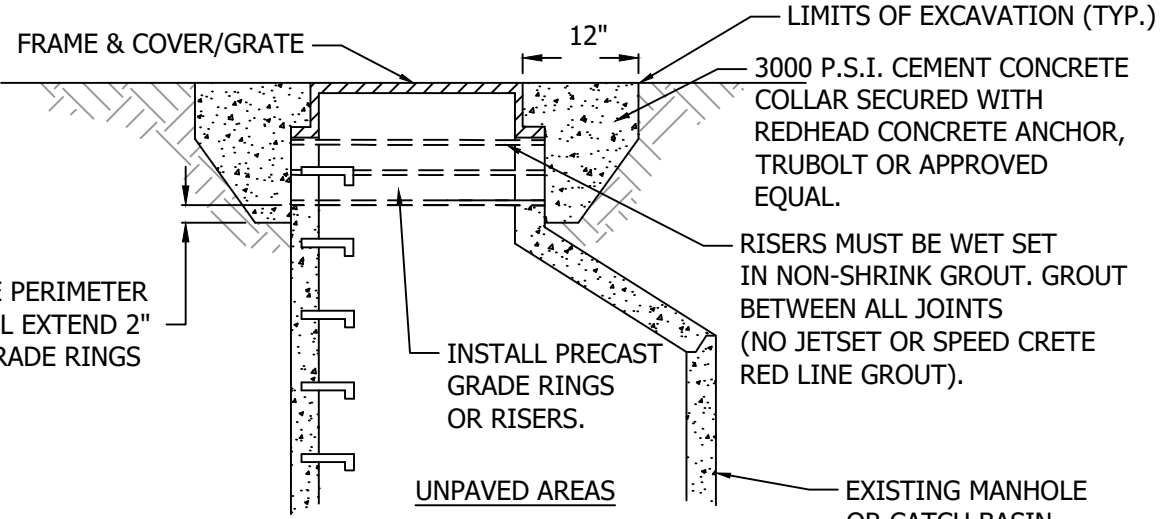
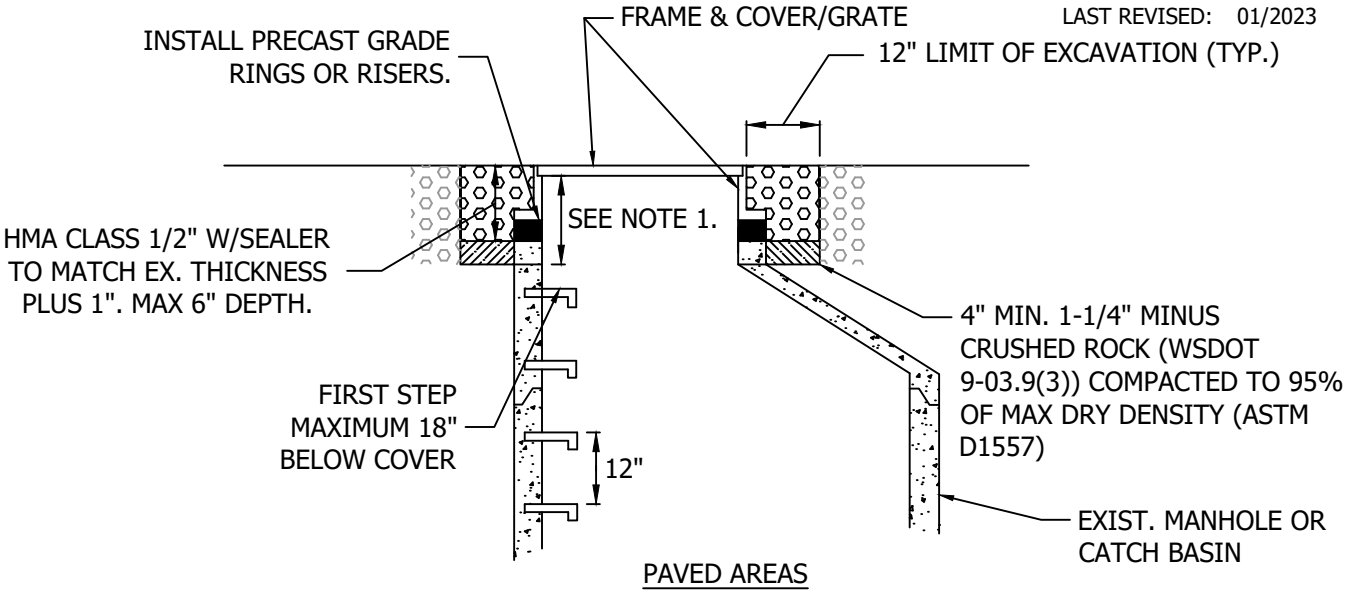
TRANSITION DETAIL  
3-D CONCEPTUAL  
VIEW

CITY OF KIRKLAND

PLAN NO. CK - D.07A

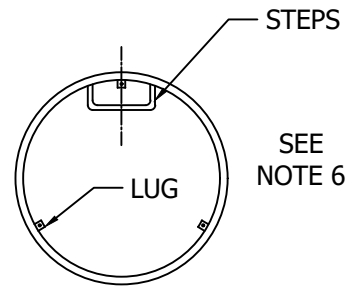


CIRCULAR RISER  
AND TRANSITION FOR  
TYPE 1 AND 1-L CB

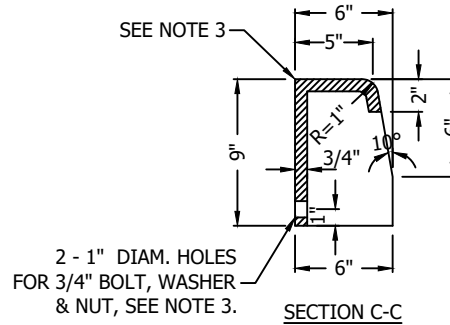
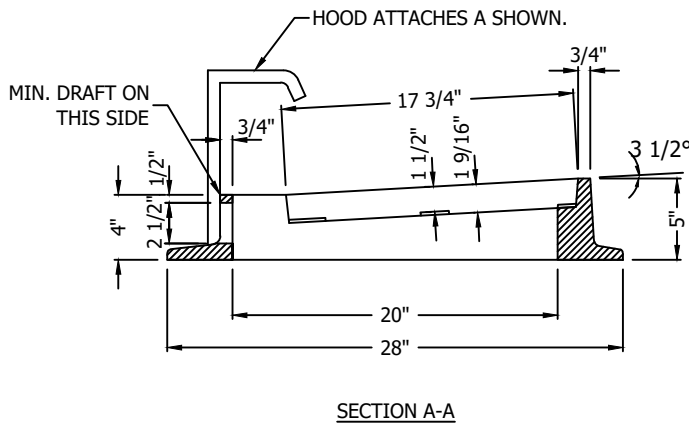
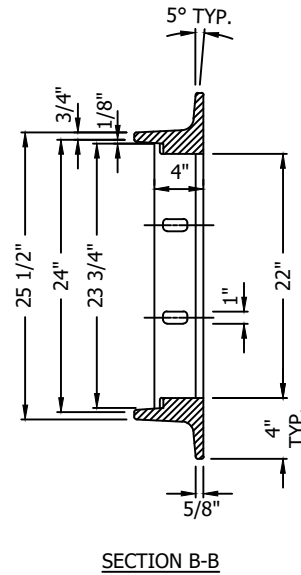
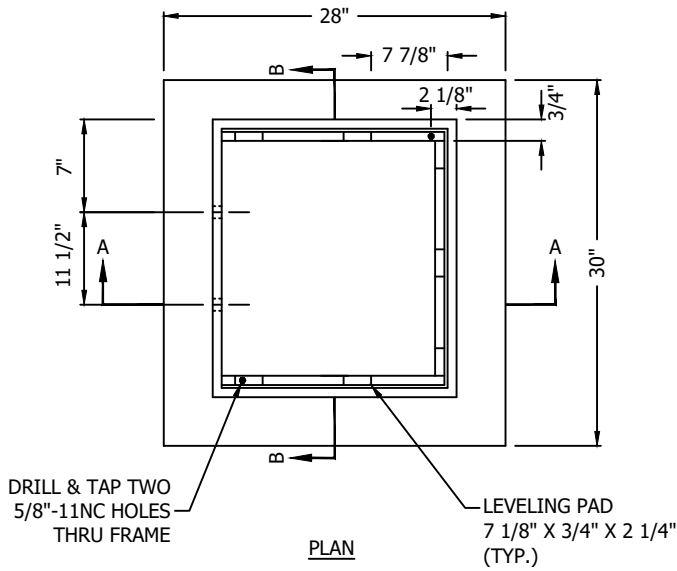


**NOTES:**

1. WHERE DEPTH OF NECK EXCEEDS 18 INCHES (INCLUDING FRAME AND COVER), ADJUST MANHOLE/CATCH BASIN TO GRADE BY INSERTING NEW BARREL SECTION BETWEEN THE CONE/SLAB AND EXISTING BARREL.
2. GRADE RINGS, RISERS AND FRAME SHALL BE SET IN 3/4" NON-SHRINK GROUT, GROUT BETWEEN ALL JOINTS. ALL SURFACES MUST BE CLEAN OF DEBRIS AND DIRT, AND WETTED PRIOR TO GROUTING. GROUT SMOOTH INSIDE AND OUTSIDE SURFACES PRIOR TO BACKFILL.
3. STEPS OR HAND HOLDS SHALL BE ADDED PER ASTM C478.
4. PRECAST GRADE RINGS AND RISERS MUST BE CAST WITH GROOVE TO ALLOW FIELD INSTALLATION OF SAFETY STEP WHEN RISER IS 4" OR HIGHER.
5. REPLACE EXISTING FRAME AND COVER/GRATE IF NOT MEETING CURRENT SPECIFICATIONS.
6. IF REQUIRED: LOCKING MH SHALL BE POSITIONED WITH ONE LUG CENTERED OVER STEPS, UNLESS USING CK-D.18A CASTING.

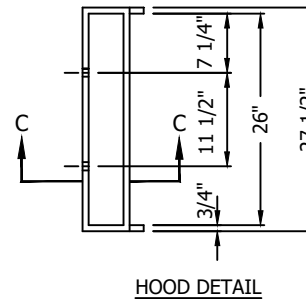



<b>CITY OF KIRKLAND</b>	
<b>PLAN NO. CK - D.11</b>	
	<b>MANHOLE/CB FRAME AND GRATE ADJUSTMENT</b>

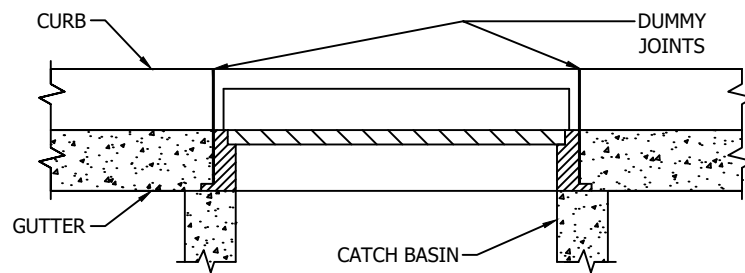
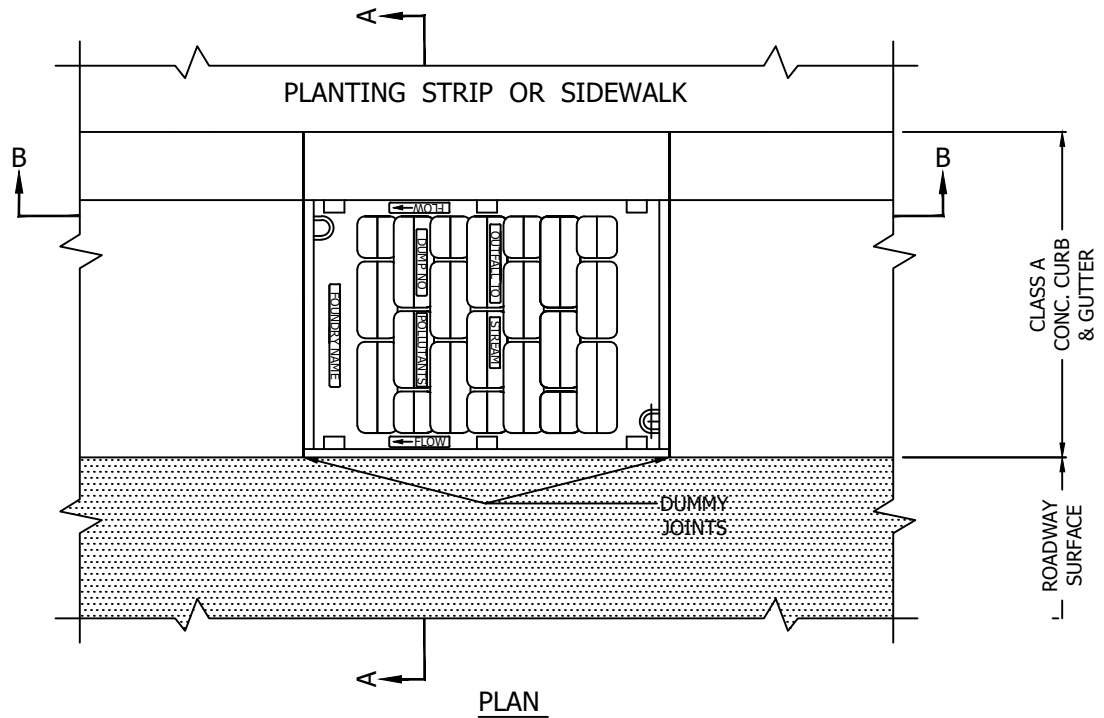


**NOTES:**

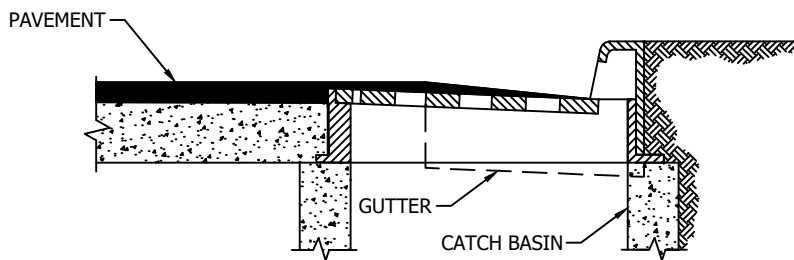
1. FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS OR EQUAL, SUBJECT TO APPROVAL BY CITY. MATERIAL SHALL CONFORM TO SECTION 9-05.15(2) OF THE STANDARD SPECIFICATION.
2. PATTERN ON TOP SURFACE SHALL SPECIFY THE FISH LOGO AND DUMP NO POLLUTANTS (NO DIAMOND PATTERN).
3. BOLT, WASHER, AND NUT SHALL BE GALVANIZED OR CORROSION RESISTANT. BOLTS SHALL BE INSERTED INTO THE FACE OF THE HOOD WITH WASHER AND NUT SECURED TO THE BACK SIDE OF THE HOOD.
4. USE APPROPRIATE GRATE DEPENDING ON THE DIRECTION OF FLOW.
5. NO HORIZONTAL CROSS BAR IN THE OPENING.
6. 18" X 24" VANED OR BI-VANED LID. APPLICATION OF THIS DETAIL NOT TO REPLACE FUNCTION OF CK-D.14.
7. MUST BE MADE IN THE USA.
8. TROWELED EDGE MUST BE IN CONTACT WITH FRAME (RATHER THAN EXPANSION JOINT).



<b>CITY OF KIRKLAND</b>	
<b>PLAN NO. CK - D.15</b>	
	<b>OPEN CURB FACE FRAME AND GRATE DETAILS</b>




SECTION B-B

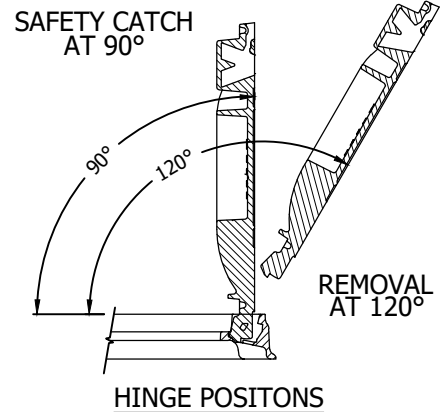
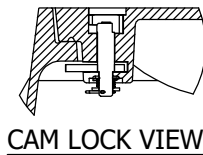
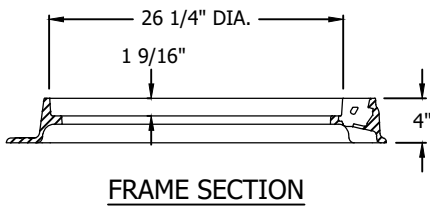
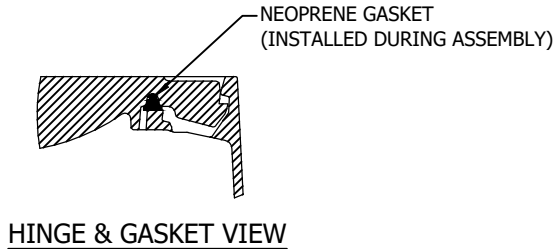
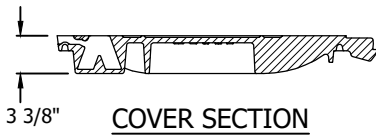
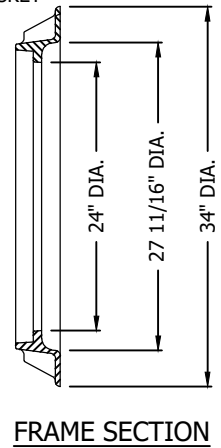
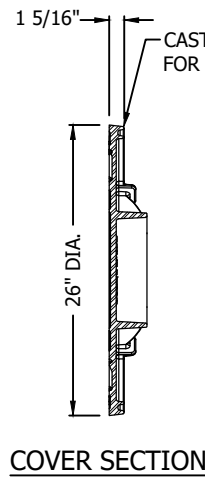
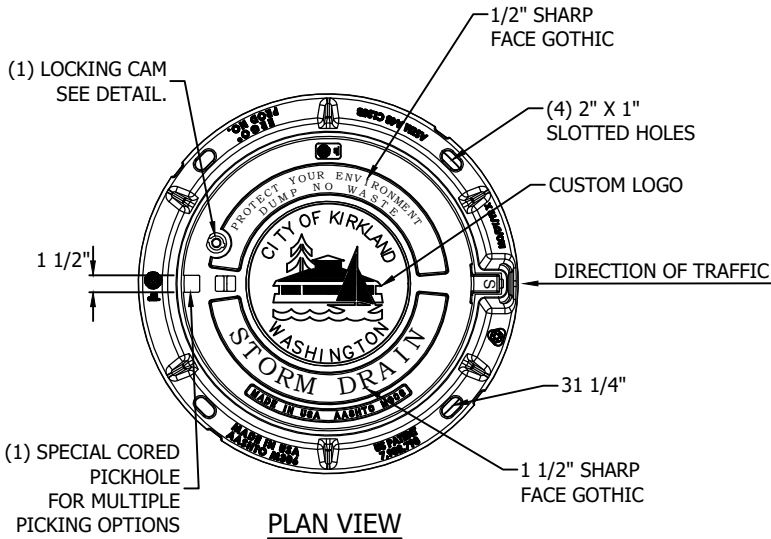


SECTION A-A

**NOTES:**


1. FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS OR EQUAL, SUBJECT TO APPROVAL BY CITY. SEE CK-D.15.
2. PATTERN ON TOP SHALL SPECIFY FISH LOGO AND DUMP NO POLLUTANTS (NO DIAMOND PATTERN).
3. CASTING MUST BE SET 0.5" BELOW FINAL ROAD/GUTTER GRADE.
4. HOOD SHALL MATCH TOP OF CURB ELEVATION.
5. NO HORIZONTAL CROSS BAR IN THE OPENING.
6. TROWELED EDGE MUST BE IN CONTACT WITH FRAME (RATHER THAN EXPANSION JOINT).
7. MUST BE MADE IN THE USA.

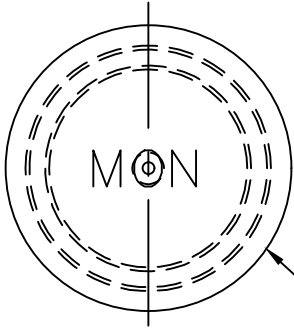
<b>CITY OF KIRKLAND</b>	
<b>PLAN NO. CK - D.16</b>	
	<b>THROUGH-CURB INLET FRAME AND GRATE WITH VERTICAL CURB INSTALLATION</b>



**NOTES:**

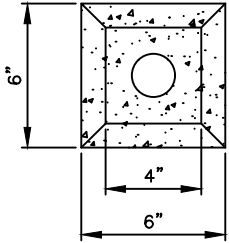
1. VERIFY SLOTTED FRAMES ARE THOROUGHLY FILLED IN WITH MORTAR FOR EFFICIENT INTERACTION WITH IRON AND STRUCTURE.
2. VERIFY BEDDING MORTAR IS NOT IN CONTACT WITH AREA UNDER LID FLANGE THAT WILL INTERFERE WITH CAMLOCK.
3. INSTALL PLUG IN LOCK HOLE TO KEEP LOCK FREE OF FOREIGN MATERIAL.
4. 24 INCH MANHOLE LID IS FITTED WITH AN INFILTRATION PLUG LOCATED IN THE HINGE HOUSING OF THE FRAME. VERIFY PLUG IS PROPERLY INSTALLED BEFORE INSTALLING THE FRAME.
5. REQUIRED ON ALL ARTERIALS, COLLECTORS OR ANY TIME THAT THE IRON WILL BE WITHIN THE TRAVEL LANE.
6. LID SHALL BE MARKED "STORM DRAIN".
7. CITY OF KIRKLAND LOGO REQUIRED.
8. LID MUST BE COVERED WITH TAR PAPER BEFORE OVERLAY.
9. PRODUCT SUPPLIED BY EAST JORDAN IRON WORKS, OR APPROVED EQUAL.
10. FRAME AND COVER SHALL BE H-20 LOADING RATED AND BE AT MINIMUM 7" TALL IF INSTALLED IN ROADWAY.
11. 7" TALL ERGO CASTING REQUIRED FOR CONCRETE ROADWAYS.
12. MUST BE MADE IN THE USA.

<b>CITY OF KIRKLAND</b>	
<b>PLAN NO. CK - D.18A</b>	
 <p>CITY OF KIRKLAND WASHINGTON</p>	<p><b>MODIFIED 24" MANHOLE FRAME W/ HINGED COVER</b></p>

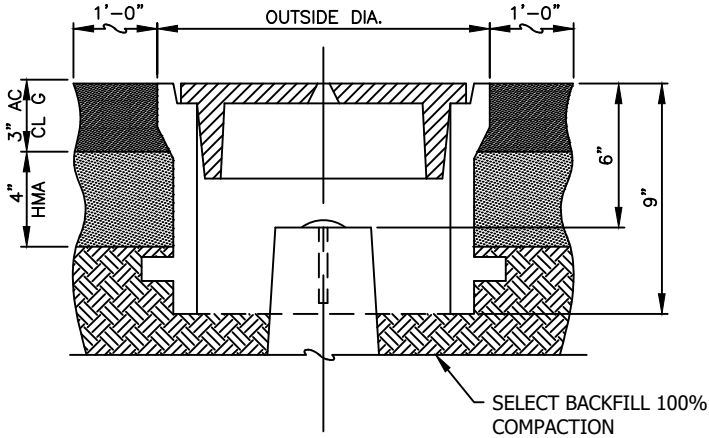


PLAN

SEAL WITH PG64-22 & DRY SAND AFTER PATCHING

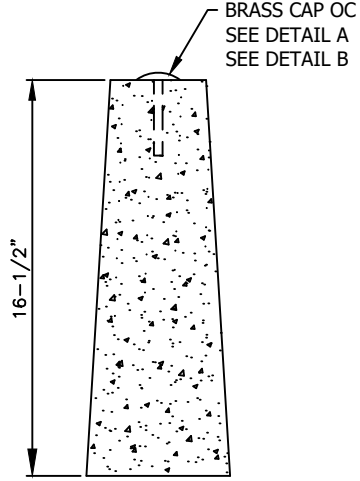


PLAN



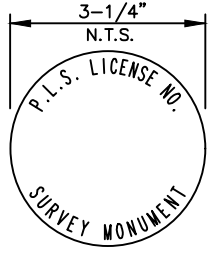
ELEVATION

SELECT BACKFILL 100% COMPACTION



ELEVATION

BRASS CAP OC  
SEE DETAIL A  
SEE DETAIL B



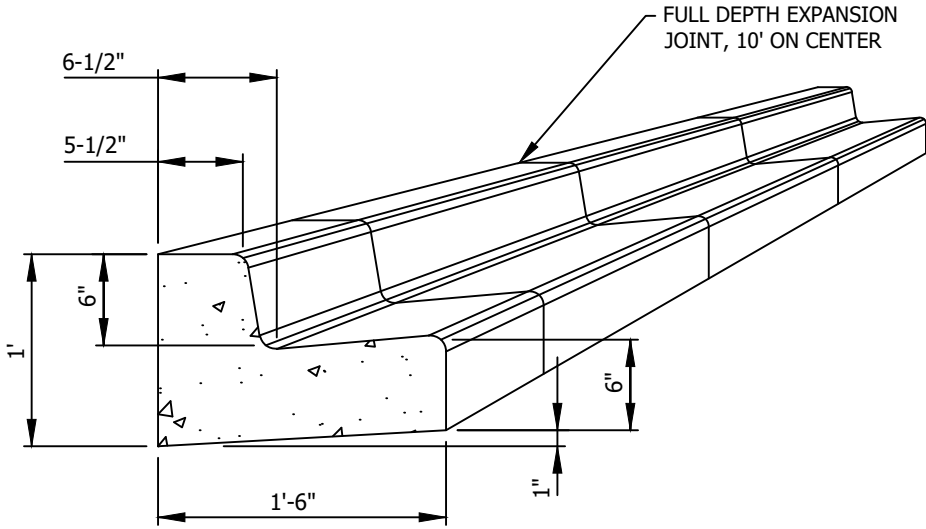
CAP DETAIL  
CAP LAYOUT FOR ALL PROJECTS

NOTES:

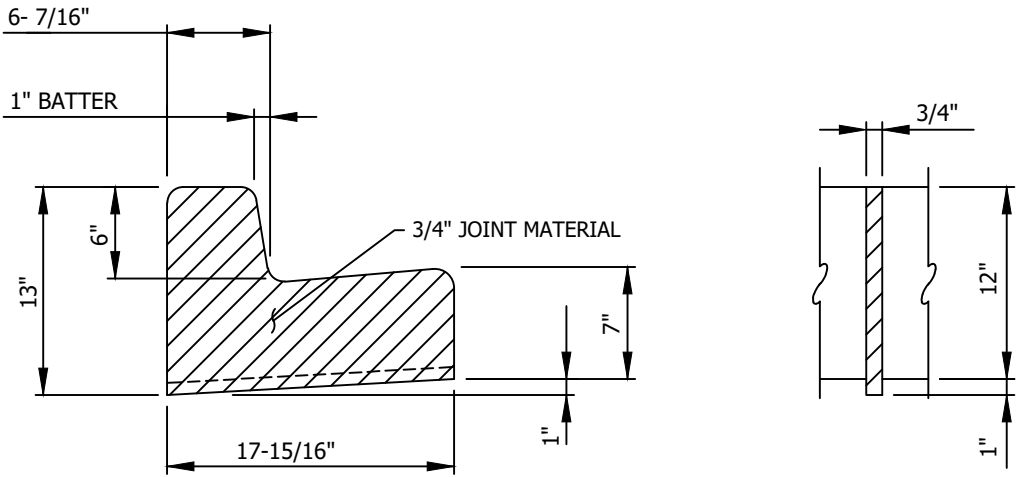
1. ALL JOINTS BETWEEN ASPHALT PATCH AND EXISTING PAVEMENT SHALL BE SEALED.
2. THE CASTINGS SHALL BE GREY-IRON CASTINGS, ASTM DESIGNATION A-48, CLASS 30B. THE COVER AND SEAT SHALL BE MACHINED SO AS TO HAVE PERFECT CONTACT AROUND THE ENTIRE CIRCUMFERENCE AND FULL WIDTH OF BEARING SURFACE.
3. CONCRETE COLLAR REQUIRED IF OUTSIDE OF ASPHALT AREA.
4. HMA MUST BE COMPACTED WITH PROCTOR HAMMER (PNEUMATIC BACKFILL COMPACTION TAMPER) IN 3" LIFTS

CITY OF KIRKLAND	
PLAN NO. CK-R.03	
	MONUMENT CASE AND COVER






TYPICAL SECTION FOR CURB & GUTTER, TYPE A

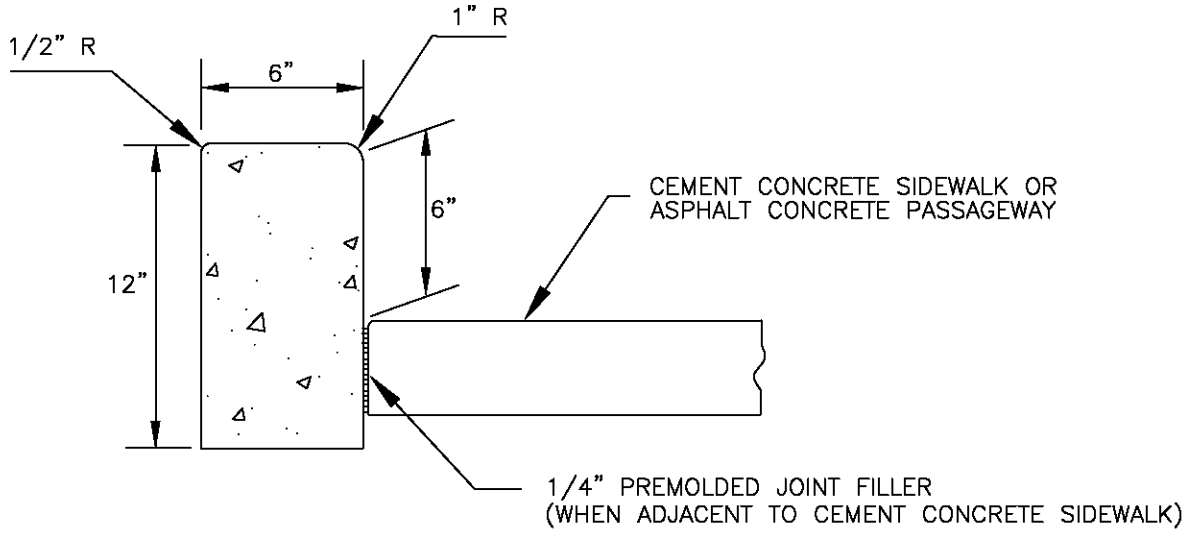


JOINT DETAIL

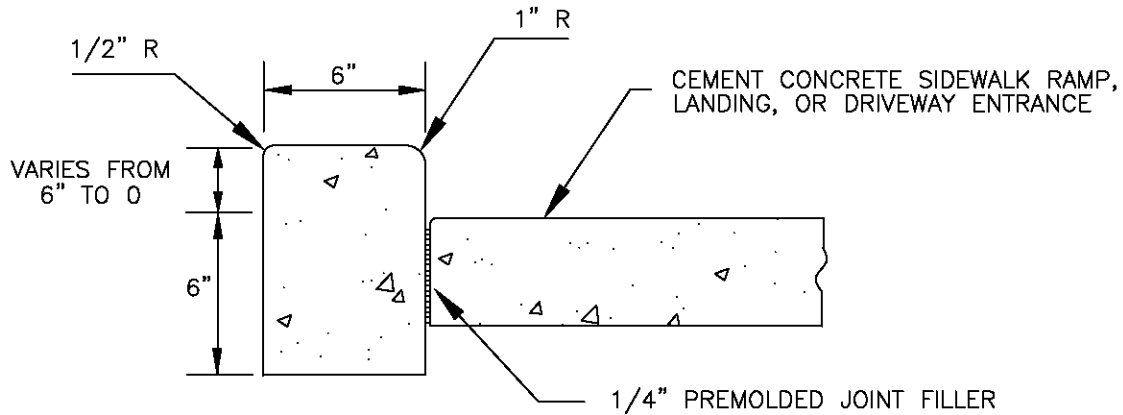
NOTES:

1. FORMS SHALL BE STEEL AND SET TRUE TO LINE AND GRADE (INSPECTION IS REQUIRED PRIOR TO PLACEMENT OF CONCRETE) UNLESS SPECIFIED DIFFERENTLY BY CITY PROJECT ENGINEER.
2. CONCRETE SHALL BE CEMENT CONCRETE CLASS 4000.
3. BASE COURSE SHALL BE 4" OF 5/8" MINUS CRUSHED ROCK.
4. SURVEY REQUIRED FOR CURB ALIGNMENT.

CITY OF KIRKLAND	
PLAN NO. CK-R.17	
	CONCRETE CURB AND GUTTER, TYPE "A"



CEMENT CONCRETE PEDESTRIAN CURB



CEMENT CONCRETE PEDESTRIAN CURB

AT SIDEWALK RAMPS & LANDINGS, AND DRIVEWAY ENTRANCES

NOTES

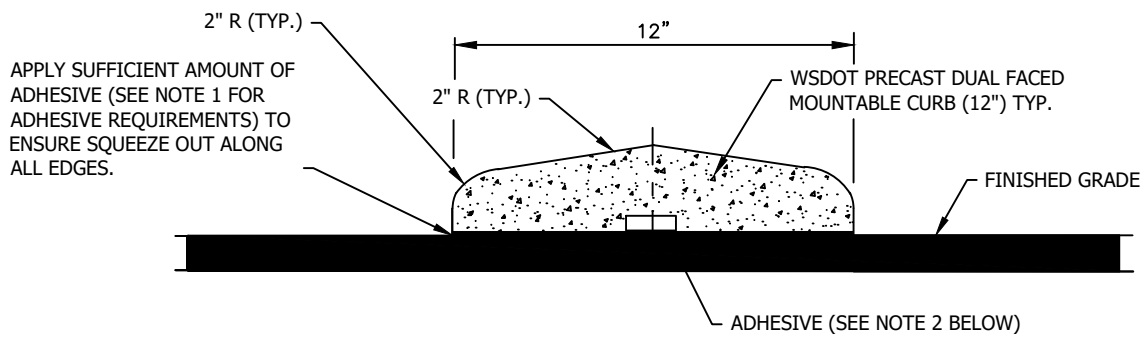
1. FORMS SHALL BE STEEL AND SET TRUE TO LINE AND GRADE (INSPECTION REQUIRED PRIOR TO PLACEMENT OF CONCRETE).
2. CONCRETE SHALL BE CEMENT CONCRETE CLASS 4000.
3. BASE COURSE SHALL BE 4" OF 5/8" MINUS CRUSHED ROCK.
4. SEE CK-R.17 FOR CURB EXPANSION AND CONTRACTION JOINT SPACING.

CITY OF KIRKLAND

PLAN NO. CK-R.17A



CEMENT CONCRETE PEDESTRIAN CURB



MOUNTABLE MEDIAN CURB  
NOT TO SCALE

NOTES:

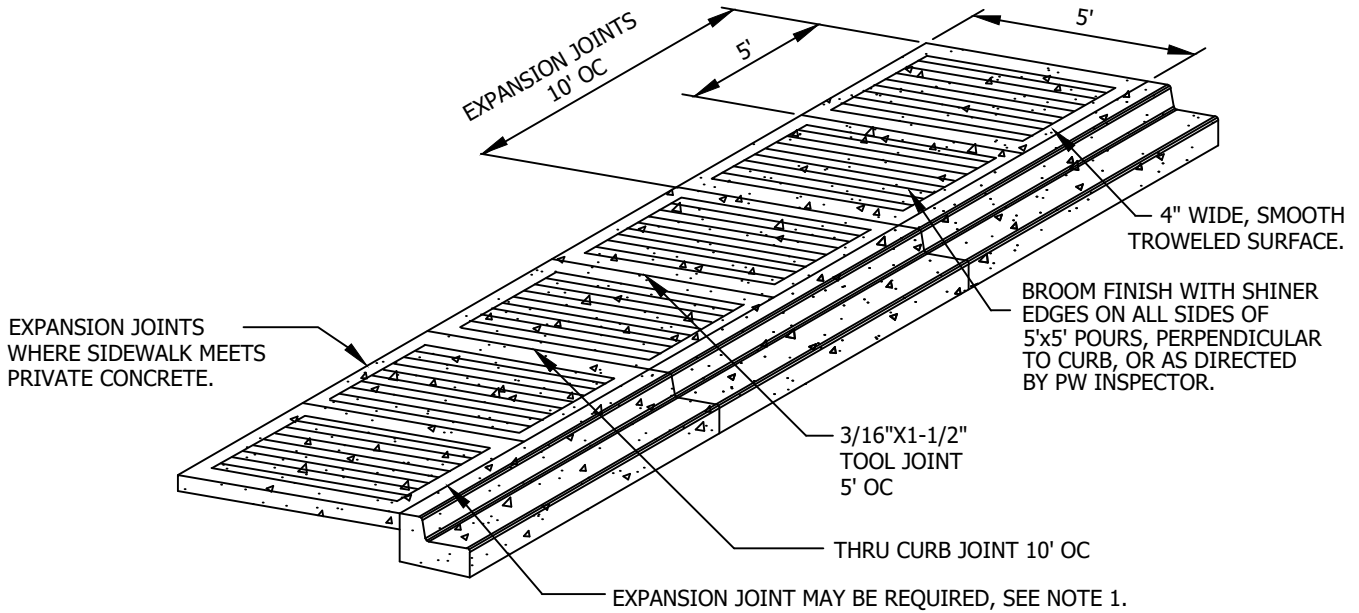
1. THE ADHESIVE SHALL MEET THE REQUIREMENTS OF SECTION 9.26(1) OF THE WSDOT STANDARD SPECIFICATION. USE APPROPRIATE ADHESIVE TYPE FOR EXISTING CONDITIONS.
2. MEDIAN CURB SHALL BE PAINTED. PAINT SHALL MEET SECTION 9.34.2 OF THE WSDOT STANDARD SPECIFICATION.
3. ALL SECTIONS TO BE 5 FOOT LENGTHS.

CITY OF KIRKLAND

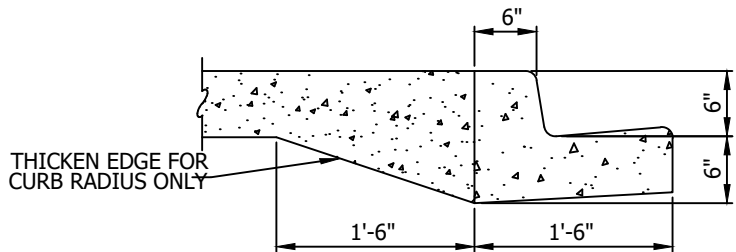
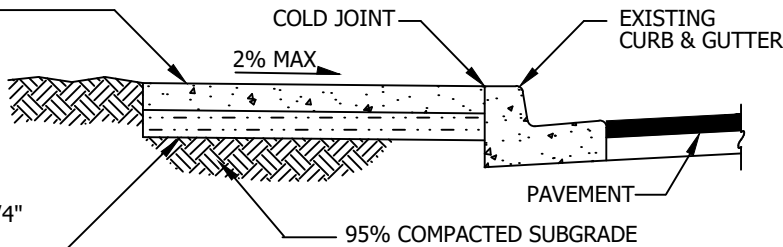
PLAN NO. CK-R.19B



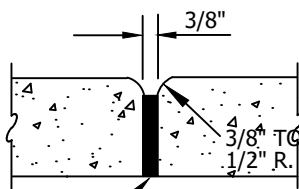
MOUNTABLE  
MEDIAN CURB



5' WIDE CONCRETE SIDEWALK  
4" MIN THICKNESS (6" AT DRIVEWAYS)  
BROOM FINISH

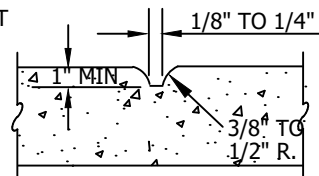


EXPANSION JOINT



PREMOLDED JOINT FILLER FULL DEPTH

CONTRACTION JOINT



**NOTES:**

1. SIDEWALK AND CURB & GUTTER CANNOT BE POURED MONOLITHICALLY. EXPANSION JOINT WILL BE REQUIRED WHEN CONCRETE SIDEWALK IS SURROUNDED BY OTHER HARD SURFACES (E.G., DRIVEWAY); OR AS DIRECTED BY PW INSPECTOR.
2. CONCRETE SHALL BE CEMENT CONCRETE CLASS 4000 PSI MINIMUM, WITH AIR ENTRAINMENT. NO COLOR OR TINT SHALL BE ADDED.
3. FORMS SHALL BE SET TRUE TO LINE AND GRADE AND SHALL BE STEEL UNLESS OTHERWISE APPROVED BY INSPECTOR.
4. SIDEWALK SHALL NOT BE POURED IN THE RAIN. SEE POLICY R-8, PLACING CONCRETE OR ASPHALT IN ADVERSE WEATHER CONDITIONS.

CITY OF KIRKLAND

PLAN NO. CK- R.23



SIDEWALK SECTION

# **CITY OF KIRKLAND**

123 FIFTH AVENUE, KIRKLAND WASHINGTON 98033-6189 (425) 587-3800

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## **DEPARTMENT OF PUBLIC WORKS**

### **PRE-APPROVED PLANS POLICY**

#### **POLICY R-28: Right-of-Way Restoration Securities on All Projects Except In-Fill Single Family**

Restoration securities for all City of Kirkland projects except in-fill single family projects shall be a minimum of \$5,000.00 or 20% of the value of work per the improvement evaluation packet, whichever is greater.

**CITY OF KIRKLAND**123 FIFTH AVENUE, KIRKLAND WASHINGTON 98033-6189 (425) 587-3800

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**DEPARTMENT OF PUBLIC WORKS****PRE-APPROVED PLANS POLICY****Policy R-30: Street Light Installation Policy**

Street lighting serves a number of purposes including illuminating travel ways for vehicles, pedestrians, and bicyclists. In some situations, street lights have been shown to have an impact on crime reduction or prevention. Conversely, light pollution and/or glare can disrupt natural areas, impact views, and lead to higher energy and maintenance costs. Consideration of various factors will impact the decision of whether or not to install street lights. This policy helps the public and City staff understand the process for installing individual street lights within Kirkland. New street lights will be LEDs, which have lower power consumption and maintenance costs over time than HPS (High Pressure Sodium).

The City also replaces existing sodium vapor street lights with LEDs upon request. This policy assists the public and City staff in understanding the process for replacing HPS with LED street lights.

**New Street Lights**

Residents, businesses, or groups of individuals may petition the City for installation of street lights on public streets or right of way. Two possible scenarios for requesting new street lights are:

1. Where an existing power pole exists
2. Where a new pole is required

The process for each scenario is outlined below.

**1. Utility pole currently exists**

The process to have a new street light installed on an existing pole is as follows:

- a) Proponent will identify the location of the utility pole to be used for the proposed street light, document the pole ID #(Number(s)), and provide this information to Public Works staff via phone call (425-587-3800), email, or letter. In general, new street lights can be considered if street lights do not already exist within 100 feet of the proposed new street light location.
- b) Proponent will contact impacted residents and obtain agreement for installation of the new street light. All impacted residents (those within 100 feet of the new light location) must agree with the installation. Residents whose view will be impacted by the proposed light should be included even if they are beyond the 100-foot buffer.
- c) Proponent will submit the signed **Street Light Petition 1** to Public Works staff via fax (425-587-3807) or email;
- d) Public Works Staff will verify the information and contact Puget Sound Energy (PSE) to request the installation of the new street light. PSE will make a field check the power pole and complete an illumination analysis if the pole can support a street light. PSE will submit a cost estimate and design for the City's approval.

- e) If a street light can be installed at a reasonable cost on an existing utility pole, the City will pay PSE to install the new street light and also pay ongoing monthly costs.
- f) Once the new street light cost is final, the City will approve PSE to install the new street light. Installation can take up to 60 to 90 days depending on PSE's workload.
- g) If PSE decides a street light cannot be added to the existing power pole and a new pole is required, the City will refer the proponent to the process described in Scenario 2.

## 2. Utility pole does not currently exist

For this scenario, proposed street lights need to be installed on new poles and require underground wiring from an existing source that PSE identifies. **The costs involved with pole installation are the responsibility of the proponent(s).** The process to have a new street light and pole installed is:

- a) Proponent will identify the proposed location for the new light and provide this information to Public Works staff via phone call (425-587-3800), email, or letter.
- b) Proponent will contact impacted residents and obtain agreement for installation of the new pole and street light. All impacted residents (those within 100 feet of the proposed location) must agree with the installation. Residents whose view will be impacted by the proposed light should be included even if they are beyond the 100-foot buffer.
- c) Proponent will submit the signed **Street Light Petition 2** to Public Works staff via fax (425-587-3807) or email, and acknowledge they understand they are responsible for paying for the new street light and pole.
- d) Public Works staff will contact PSE to request a cost estimate and will then advise the proponent about the cost of the pole/light installation.
- e) If proponent accepts the cost, proponent will make the necessary arrangements directly with PSE for the installation of the new pole and street light within public right of way. Once the light is installed, the City pays the ongoing monthly cost directly to PSE.

## 3. Upgrade Existing HPS to LED's Street Lights

The City sometimes receives requests to replace existing HPS lights with LEDs. The following describes a process for small upgrade requests of one to three street lights where the proponent resides. The City does not have a dedicated budget for city-wide or even neighborhood-wide upgrades to LED street lights. Large replacement requests shall be considered separately in the context of priority and available budget.

The process to upgrade an HPS street light to a LED is as follows:

- a) Proponent will provide the location and identification numbers of the street light pole for upgrading to public works staff via phone call (425-587-3800), email, or letter.
- b) Public Works staff will check the proposed location and notify the proponent about the adequacy of the proposed location.
- c) Proponent will contact impacted residents and obtain agreement for upgrade of the street light to LED. All impacted residents (those within 100 feet of the proposed location) must agree with the installation. Residents whose view will be impacted by the proposed light should be included even if they are beyond the 100-foot buffer.
- d) Proponent will submit the signed **Street Light Petition 3** to Public Works staff via fax (425-587-3807) or email;
- e) Public Works staff will request a cost quote from PSE for upgrading the street light.
- f) If PSE's cost quote is reasonable, Public Works staff will inform the proponent and make the necessary arrangements with PSE for the upgrade. Once the light is installed, the City continues to pay the ongoing monthly cost directly to PSE.

g) After installation, if a resident objects to the glare, Public Works will consider requesting PSE install a shield. Please note the City will only agree to installing a back shield for residents behind the street light. The City typically does not allow front shields to be installed because of the potential for these shields to reduce illumination of the street right of way.



**City of Kirkland**  
**Department of Public Works**  
**Street Light Petition 1**

**Street Light on existing PSE Pole**

To: Transportation Engineer/Neighborhood Traffic Control Coordinator

We, the undersigned, residing near \_\_\_\_\_, state that we have no objection to the installation of a street light on \_\_\_\_\_ at/near  
(Address/Location)\_\_\_\_\_

We request the City of Kirkland to install the street light based on its street light installation policy R-30.  
Once installed, we understand the City of Kirkland will pay the ongoing monthly cost of the new street light.  
We understand that if additional preparation work is required, the City will notify us of the work and cost estimate and confirm that we are willing to pay the extra cost before directing PSE to install the street light.

Name	Address/Phone/e-mail	Signature

**City of Kirkland**  
**Department of Public Works**  
**Street Light Petition 2**

**Street Light on a new PSE Pole**

To: Transportation Engineer/Neighborhood Traffic Control Coordinator

We, the undersigned, residing near \_\_\_\_\_, state that we have no objection to the installation of a street light on \_\_\_\_\_ at/near  
(Address/Location) \_\_\_\_\_

We request the City of Kirkland approve the proposed street light on a new pole based on its street light installation policy R-30. We understand the City will obtain a cost estimate from PSE, notify the proponent of the estimate and confirm the proponent will pay the cost of installation before the City gives final approval for street light and pole installation. The proponent will arrange and pay PSE for the street light installation.

Once installed, we understand the City of Kirkland will pay the ongoing monthly cost of the light.

Name	Address/Phone	Signature

**City of Kirkland**  
**Department of Public Works**  
**Street Light Petition 3**

**Upgrade Existing HPS Street Light to LED**

To: Transportation Engineer/Neighborhood Traffic Control Coordinator

We, the undersigned, residing near \_\_\_\_\_, state that we have no objection to the upgrade of an existing HPS street light to LED on \_\_\_\_\_ at/near  
(Address/Location)\_\_\_\_\_

We request the City of Kirkland upgrade the proposed street light to LED based on its street light installation policy R-30.

Once installed, we understand the City of Kirkland will pay the ongoing monthly cost of the light.

Name	Address/Phone	Signature

DEPARTMENT OF PUBLIC WORKS  
PRE-APPROVED PLANS POLICY

Policy R-31: Policy for Installation of Accessible Pedestrian Signals and Pushbuttons

Intent:

It is the City's intention to be consistent with the most current version of the Public Right of Way Access Guidelines (PROWAG) in the provision of and location of accessible pedestrian signals and pushbuttons<sup>1</sup> (APS) at traffic signals. Further guidance is available in 28 CFR Part 36 and MUTCD section 4E.09.

Purpose:

The purpose of this policy is to establish reasonable and consistent policy for installing APS.

Scope (items presented in no particular order):

1. *Requests.* Requests for APS signals from the public will be responded to in a timely manner<sup>2</sup> and the consideration for installation will be done in accordance with applicable sections of the ADA.
2. *New construction:* New construction of traffic signal projects requires installation of APS and associated accessible features when pedestrian signals are installed.
3. *Curb ramp replacement at traffic signals:* Altering or replacing curb ramps does not require installation of APS. The altered or new curb ramps shall install poles at accessible locations using existing pedestrian push buttons.
4. *Minor work and routine maintenance at traffic signals:* Projects, including but not limited to: emergency repairs<sup>3</sup>, signal timing adjustments (including signal phasing or coordination changes), vehicular detection installation and repairs, installation and repair of CCTV or other cameras, vehicular signal head upgrades and repairs<sup>4</sup>, and repair of pedestrian detection do not require installation of APS and associated accessible features.

Signal controller software upgrades and repairs and/or cabinet upgrades and repairs that do not alter the operation or display of pedestrian signals do not require installation of APS and associated accessible features.

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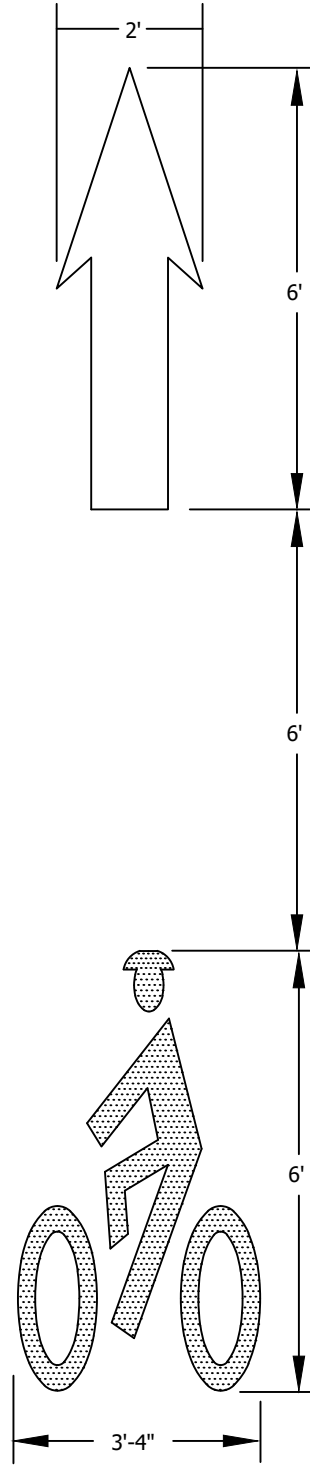
<sup>1</sup> An Accessible Pedestrian Signal and pedestrian pushbutton is an integrated device that communicates information about the WALK and DON'T WALK intervals at signalized intersections in non-visual formats (i.e., audible tones and vibrotactile surfaces) to pedestrians who are blind or have low vision.

<sup>2</sup> Timely manner means, at minimum, discussing the proposed timeframe with the requestor and agreement on a date for installation of APS

<sup>3</sup> Emergency repairs include repairs such as the replacement of a traffic control signal component with a replacement component that is similar in physical appearance and operation


<sup>4</sup> All signals maintained by the City of Kirkland have countdown pedestrian signal heads.

5. *Other traffic signal projects:* For traffic signal improvement projects that are not new construction, minor work and routine maintenance or curb ramp replacement projects:
- A. Where the project scope, includes the alteration, installation or replacement of any pole to which a pedestrian push button is attached, installation of APS on poles in accessible locations is required. Relocation of poles may be required to achieve accessibility. Construction or alteration of curb ramps is not required.
  - B. Where the project scope, does not include the alteration, installation or replacement of any pole to which a pedestrian push button is attached, installation of APS at existing push button locations is required. Relocation of poles, construction or alteration of curb ramps, etc. is not required.
  - C. Signal controller software upgrades and repairs and/or cabinet upgrades and repairs that alter the operation or display of pedestrian signals require installation of APS at existing push button locations. Relocation of poles, construction or alteration of curb ramps, etc. is not required.
  - D. Adding or revising pedestrian signal heads or pedestrian detectors require installation of APS at existing push button locations. Relocation of poles, construction or alteration of curb ramps, etc. is not required.
  - E. In addition to the areas above, APS will be installed through fulfillment of the city's obligations to complete its ADA Transition Plan.



**NOTES:**

1. BIKE LANE SYMBOLS AND ARROW MATERIAL SHALL BE 90 MILL, PREFORMED, SKID RESISTANT THERMOPLASTIC.
2. BICYCLE SYMBOL FACES ROADWAY CENTERLINE.

CITY OF KIRKLAND	
PLAN NO. CK-R.34	
	BICYCLE LANE MARKINGS

DEPARTMENT OF PUBLIC WORKS  
PRE-APPROVED PLANS POLICY

Policy R-35: Guidelines for Temporary Non-Vehicle use of Parking Stalls

PURPOSE:

The purpose of this policy is to clarify the restrictions and design standards for short-term non-vehicle use of regulated parking stalls in the City of Kirkland. In general, any parking stall occupant should be aware of the parking restrictions and these standards without them being designated or signed at any location. However, if a parking stall user is found in violation of these restrictions or standards, any future proposed uses may be denied and they will be subject to any fine determined by the City.

In most situations, Public Works will approve all temporary non-vehicle uses in regulated parking stalls throughout the City. Public Works staff will work in conjunction with the Police Department and the Fire Department to evaluate for any safety risk posed to the public.

A Site Plan is required for review of all Temporary Non-Vehicle uses proposed. The site Plan must identify the following items:

- Adjacent Land use (both side of the street)
- Sidewalk width
- Bike lane width
- Exact location and distance from nearest driveways, crosswalks, and intersections
- Nearest waste receptacles (depending on the proposed use, the applicant may be required to provide these as part of the permit)
- The profile of the proposed use and the impact on the surrounding area
- All utilities and other city assets (sewer drains, light posts, trees, etc.)

A Temporary is required if the proposed use is expected to overlap with any travel lanes within the right-of-way (shoulders, sidewalks, crosswalks, parking and bicycle facilities), in accordance with Pre-Approved Plans Policy R-29.

GENERAL NOTES:

1. All proposed uses must be equally available for the public for use.
2. No more than two parking stalls may be occupied at one time unless approved by the Public Works Department.
3. No use shall last longer than 24-hours.
4. No devices/signs/equipment which redirect movement in the roadway travel lanes is not allowed without department approval.
5. Any use of heating equipment requires the approval from the fire department
6. Artwork is allowed and encouraged, however, it cannot replicate any traffic control symbols
7. Painting on the pavement surface is not allowed

8. Play equipment is allowed, as long as the use does not overlap and impede movement in the travel lanes.
9. The Public Works Department reserves the right to deny any proposed use for any reason.
10. The Public Works Department issued parking permit must be on display at all times.
11. No Parking restriction signs must be in place no less than 24 hours prior to the proposed use date.
12. All adjacent land uses must be notified of the proposed use date and time at least two (2) business days prior to the prior to the proposed use date.

REQUIREMENTS:

Deck use requirements (Pre-Approve Plans No. E):

1. There must be a minimum gap of 6" between the deck and curb,
2. The top layer of the deck must be no more than 1/4" above the top of the sidewalk,
3. The top layer of the deck must be no more than 1/2" between the top layer and the curb,
4. If a deck is to be used, ADA access must be provided in compliance with Title II of the American Disabilities Act.

Other Required equipment (Figure F)

1. Traffic reflector tubes (a.k.a. plastic bollards) linked with a rope along the outside barrier of the parking stall placed at every corner and every 10' of the parking stall to be used.

**Table 1:**

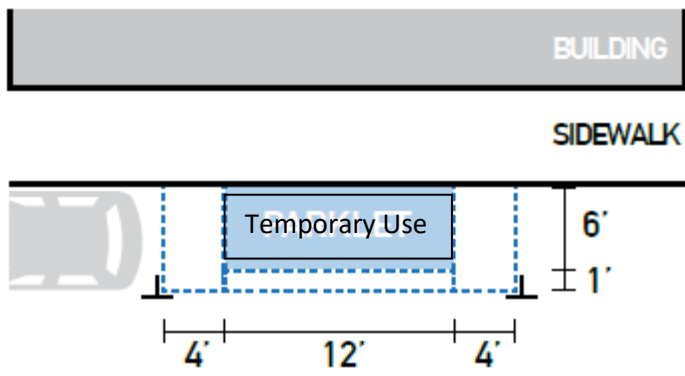
Proposed Use Design Guidelines									
Location	Stall width (ft)	Stall length (ft)	Buffer from travel lane (ft)	Buffer from car use (ft)	Available width for use (ft)	Available length for use (ft)	Min Height for use (ft)	Max Height for use (ft)	Pre-approved Plan No.
Mid-block	7	20	1	4	6	12	30"	8	A
Mid-block	7	40	1	4	6	32	30"	8	B
Corner	7	20	1	4*	6	12	30"	3	C
Corner	7	20	1	4*	6	32	30"	3	D

\*The 4' buffer only applies on the side adjacent to car parking uses. The corner side does not require a buffer.

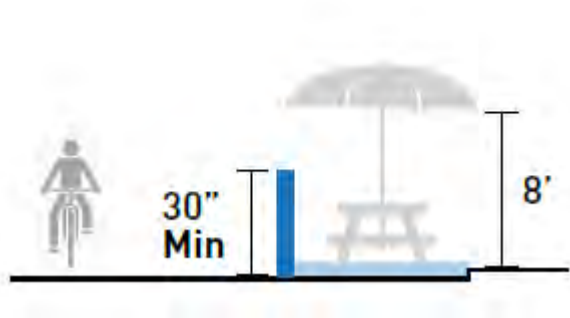
Drawing A



## MINIMUM DIMENSIONS

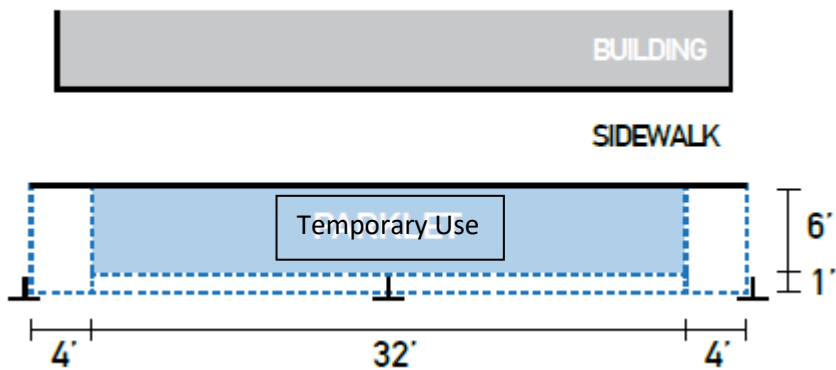


## MINIMUM HEIGHT

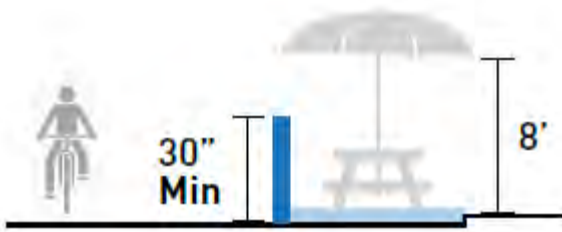


Drawing B

## DOUBLE SPACE DIMENSIONS

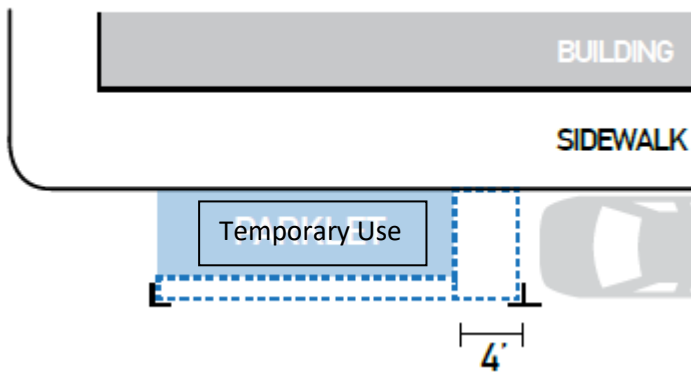


## MINIMUM HEIGHT

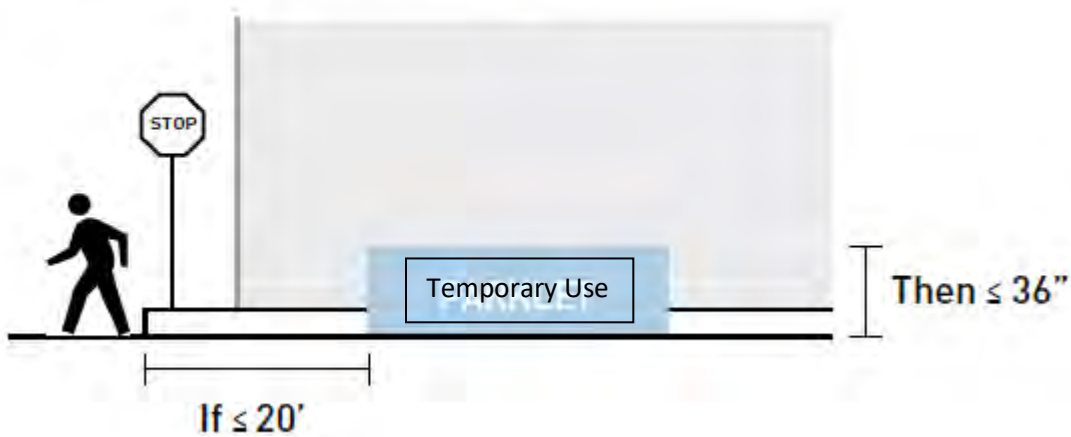


Drawing C

## CORNER BUFFER

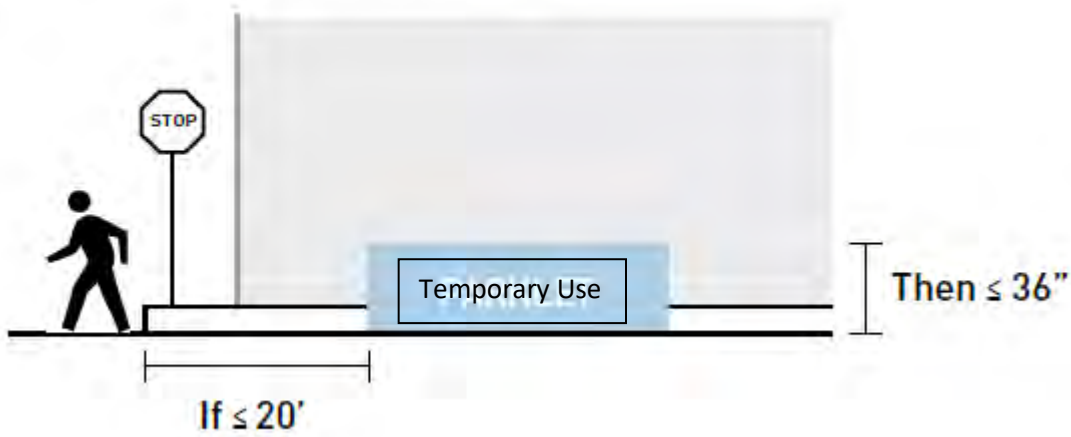


## MAXIMUM HEIGHT NEAR CORNERS



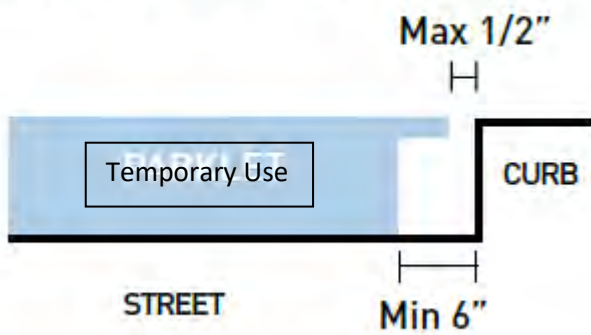
Drawing D

## MAXIMUM HEIGHT NEAR CORNERS



Drawing E

## GUTTER & DECK GAP



## MAXIMUM VERTICAL GAP

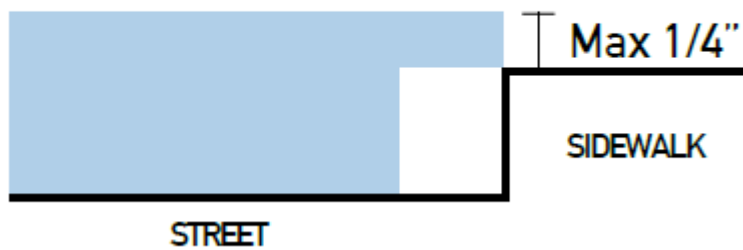
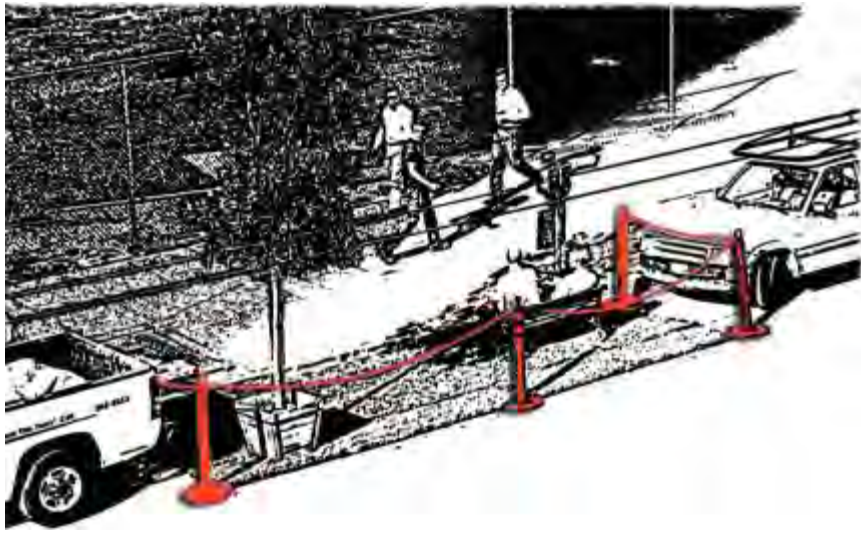
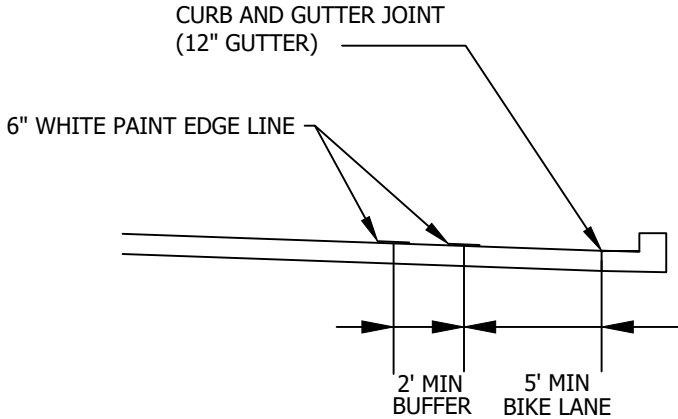
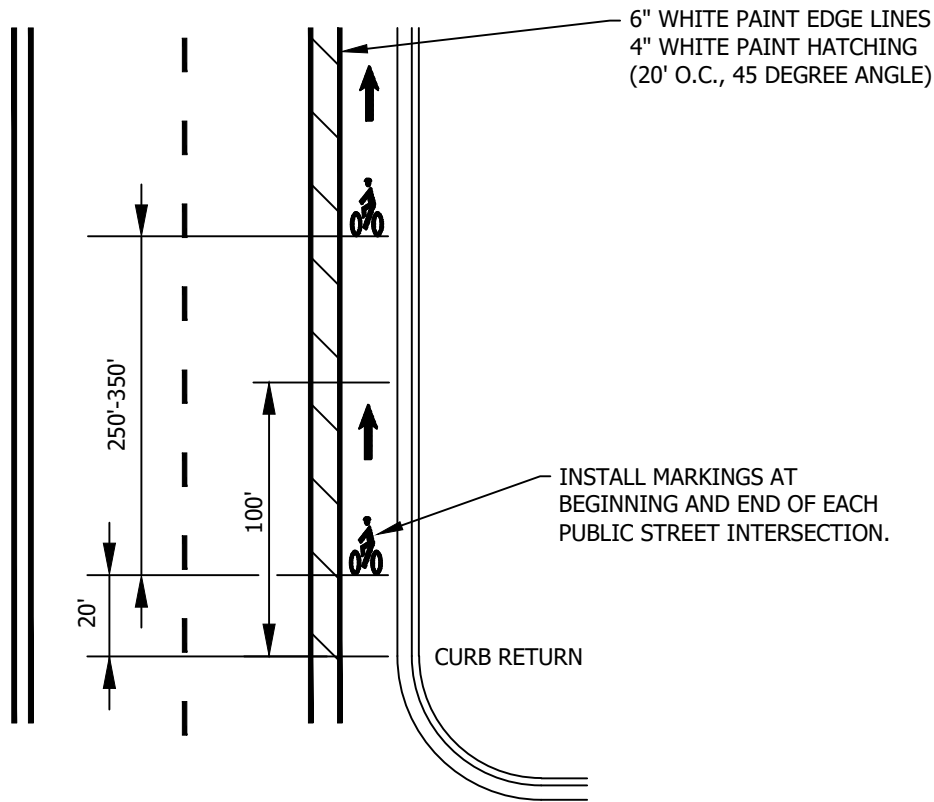


Figure F





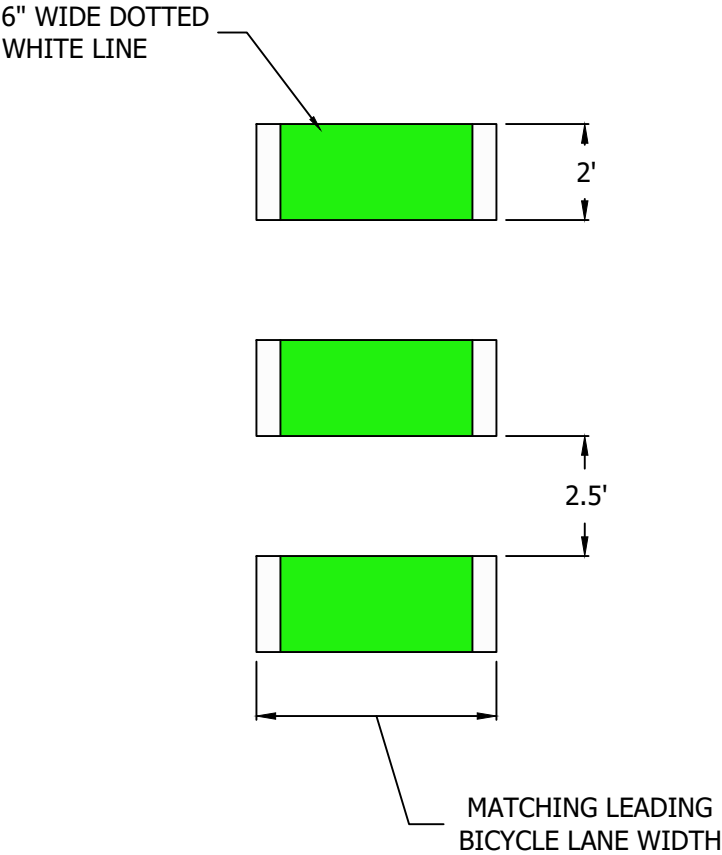
BUFFERED BICYCLE PEDESTRIAN LANE WITHOUT PARKING  
(MEASURED TO EDGE OF GUTTER OR CENTER OF PAINT STRIPE)



NOTES:


1. SEE MUTCD FOR MORE INFORMATION AND SPECIFICATIONS.
2. PER SEC. 9B.04 2009 MUTCD, DO NOT USE R3-17 SIGNS.
3. BICYCLIST AND PEDESTRIAN SYMBOLS PER CK-R.34.
4. 4' BIKE LANE WIDTH MAY BE CONSIDERED IN CONSTRAINED LOCATIONS.

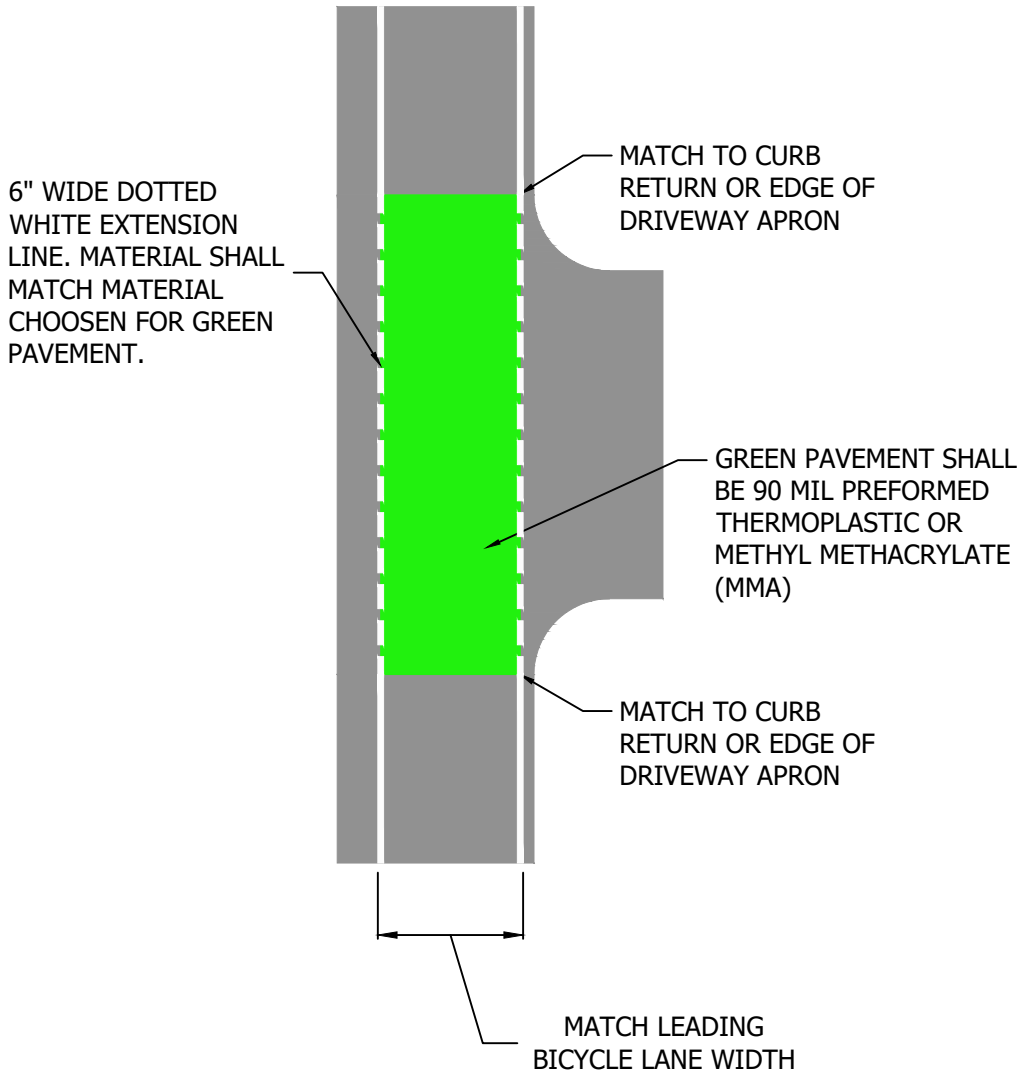
<b>CITY OF KIRKLAND</b>	
PLAN NO. CK-R.35A	
<p>CITY OF KIRKLAND WASHINGTON</p>	<p><b>TYPICAL BUFFERED BICYCLE LANE - WIDTH, SIGNING &amp; MARKING</b></p>



**NOTE:**


ALL MARKINGS, INCLUDING GREEN COLORED PAVEMENT AND WIDE DOTTED WHITE LINE, SHALL BE EITHER 90 MIL. PREFORMED THERMOPLASTIC OR METHYL METHACRYLATE (MMA)

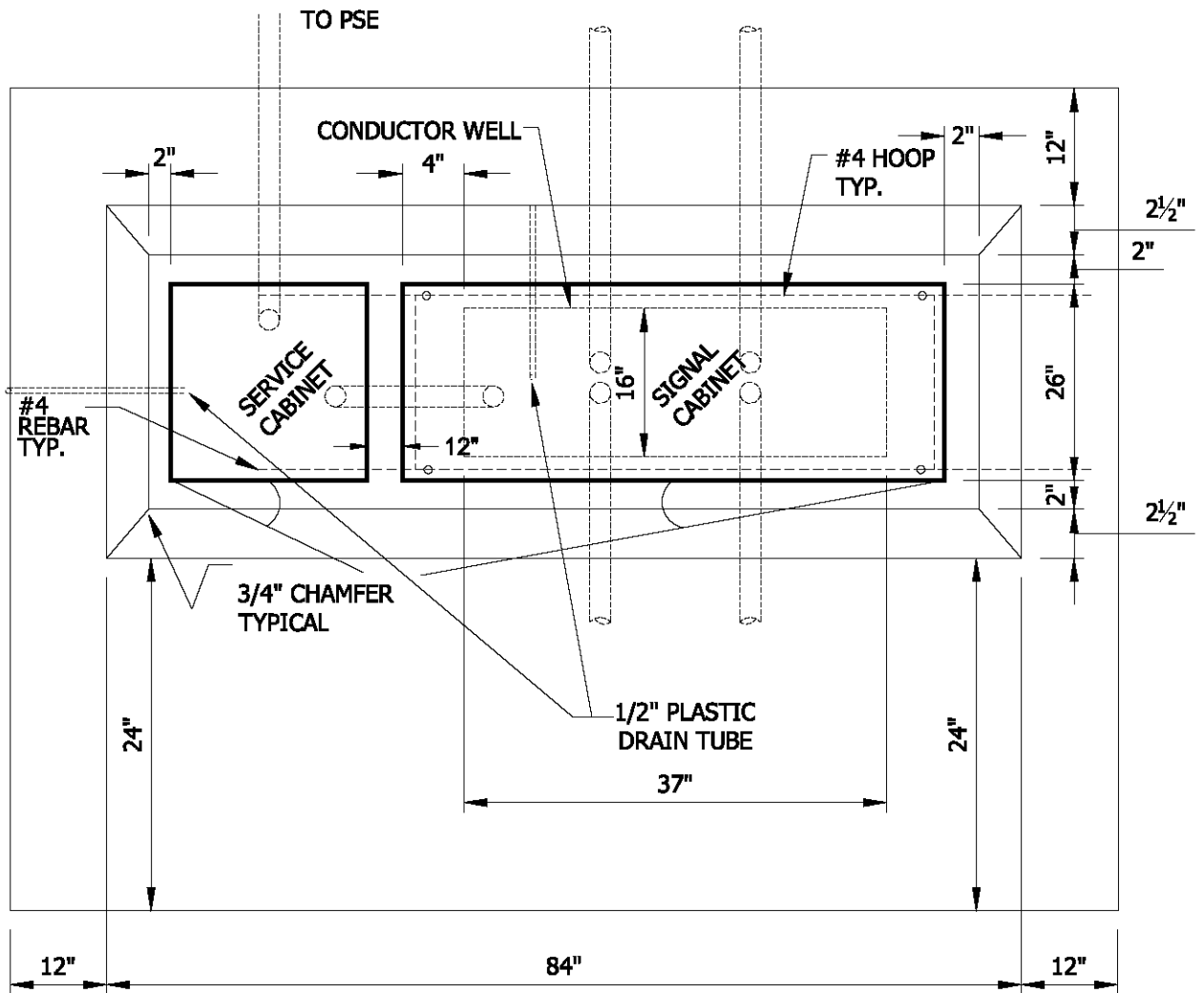
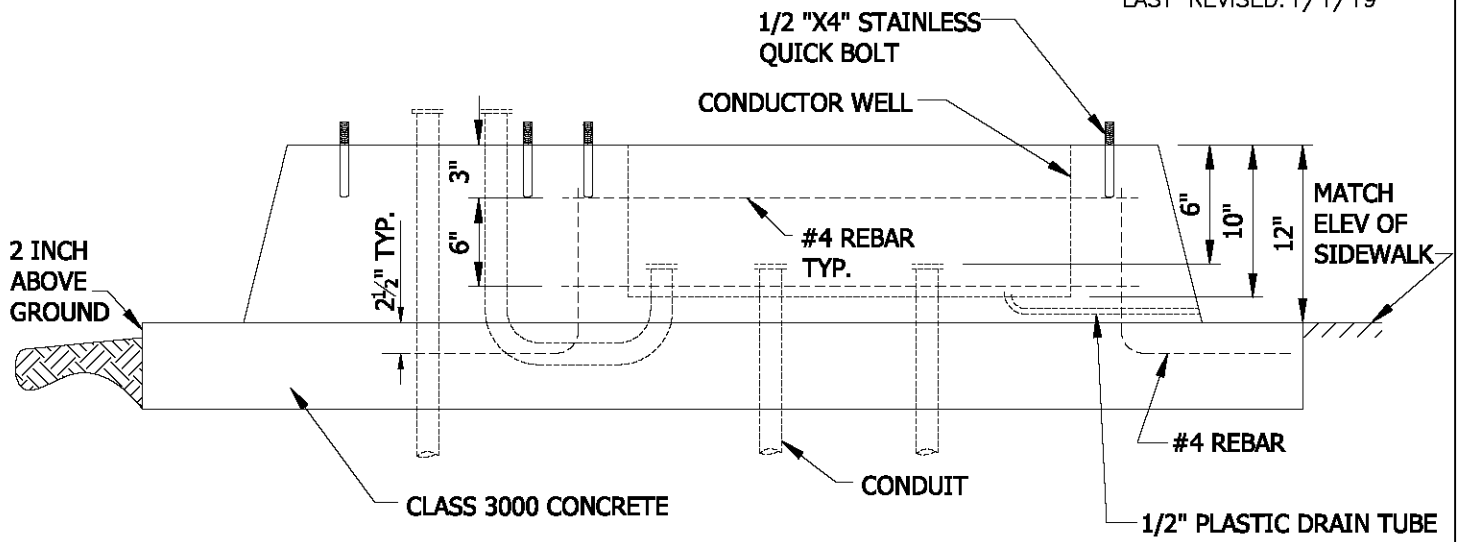
CITY OF KIRKLAND	
PLAN NO. CK - R.36C	
	TYPICAL INTERSECTION/ CONFLICT ZONE BIKE LANE PAVEMENT MARKING



NOTE:

DRIVEWAYS ARE NOT TYPICALLY MARKED WITH GREEN PAVEMENT, BUT DRIVEWAYS WITH HIGH VEHICLE VOLUMES OR OTHER COMPLEX VEHICULAR MOVEMENTS SHOULD BE EVALUATED TO INCLUDE GREEN PAVEMENT MARKINGS.

<b>CITY OF KIRKLAND</b>	
<b>PLAN NO. CK - R.36D</b>	
	<b>TYPICAL DRIVEWAY CROSSING BIKE LANE PAVEMENT MARKING</b>



**NOTE:**

- 1. CONTRACTOR TO VERIFY BOLT PATTERN WITH CABINETS.
- 2. CLEARANCE NEEDED FOR DOORS.

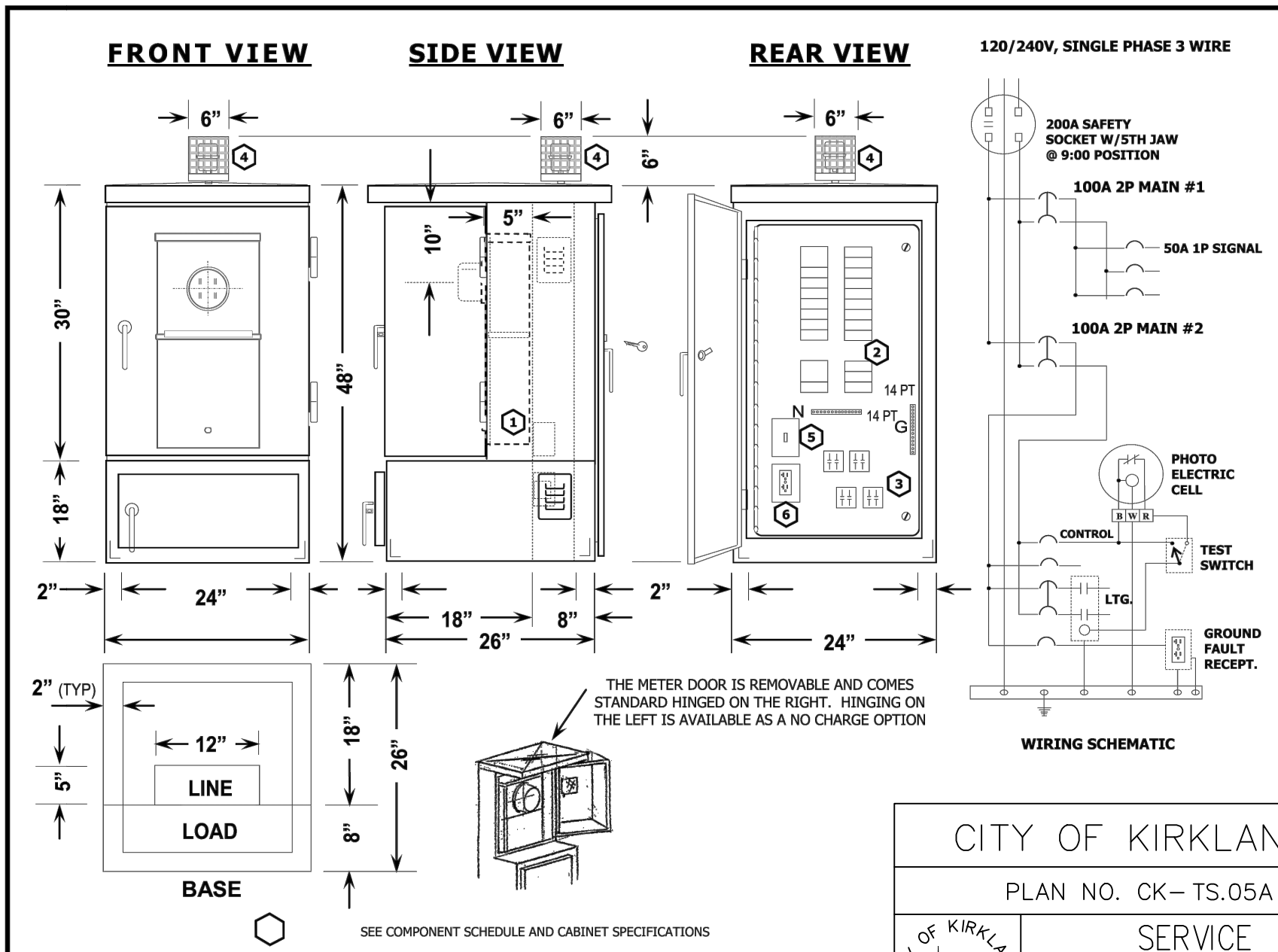
CITY OF KIRKLAND

PLAN NO. CK-TS.04




SIGNAL & SERVICE  
 CABINET FOUNDATION  
 DETAIL

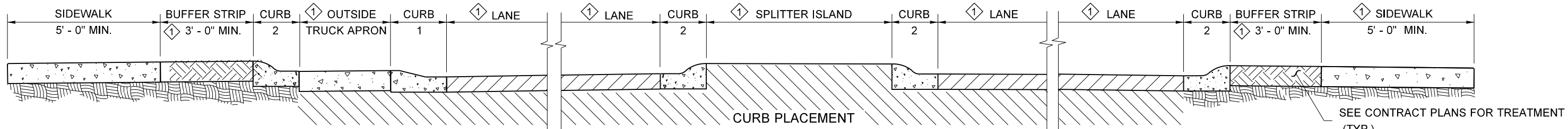




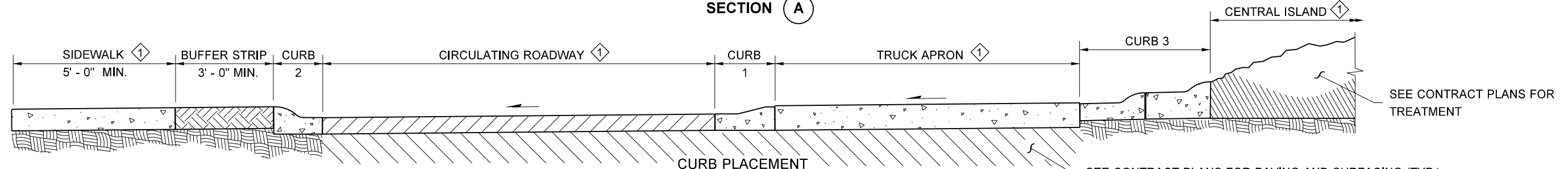
NOTES:  
SKYLINE ELECTRIC & MFG. CO. OR EQUAL

CITY OF KIRKLAND	
PLAN NO. CK-TS.05A	
	SERVICE CABINET 62460-R1

DRAWN BY: FERN LIDDELL



**SECTION A**

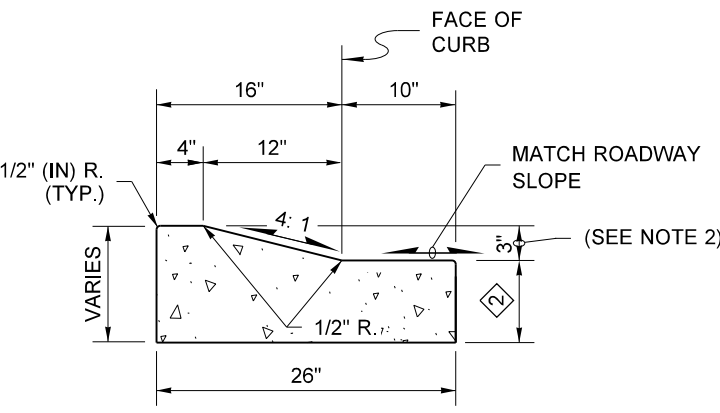


**SECTION B**

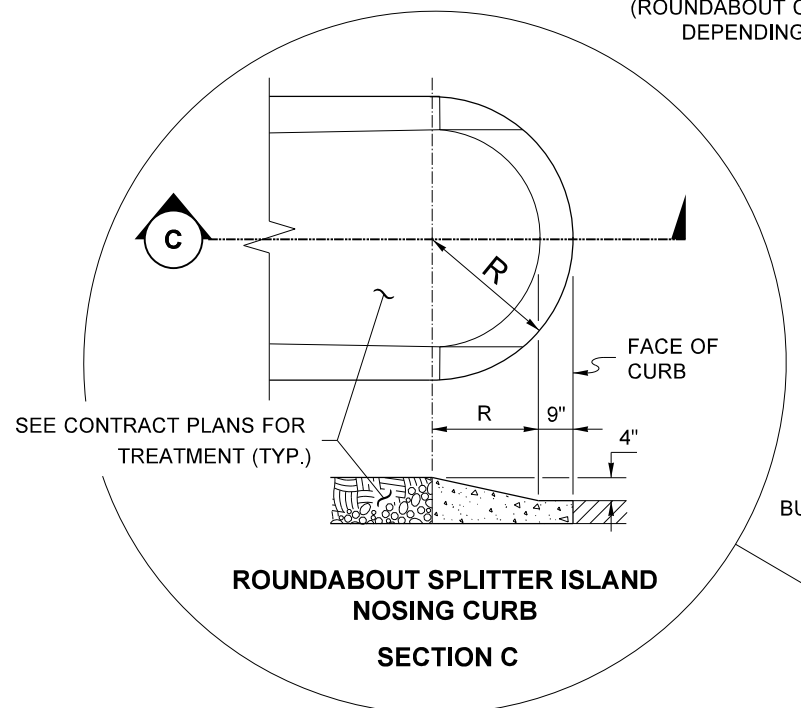
(ROUNABOUT CONFIGURATION WILL VARY DEPENDING ON CONTRACT PLANS)

**NOTE**

1. Construct curb joints at cement concrete pavement transverse joint locations. If all adjacent pavement is HMA, see **Standard Plan F-30.10** for Curb Expansion and Contraction Joint Spacing.
2. Region Traffic engineer approval is needed to install a truck apron lower than 3".

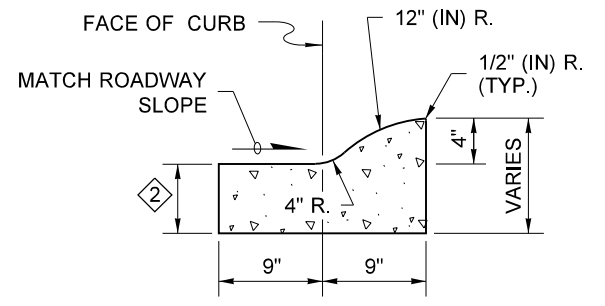


**CURB 1**  
**ROUNABOUT TRUCK APRON**  
**CEMENT CONCRETE CURB & GUTTER**  
 (SINGLE SLOPE CURB)

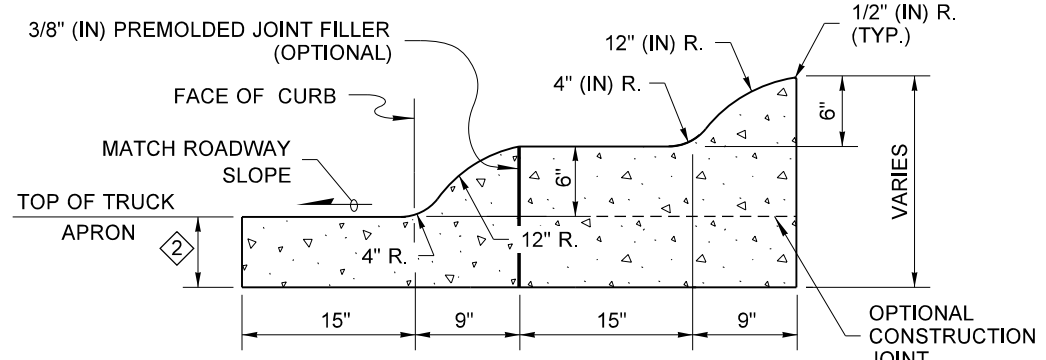


**ROUNABOUT SPLITTER ISLAND**  
**NOSING CURB**  
**SECTION C**

**DETAIL**  
 (SEE CONTRACT PLANS FOR R)

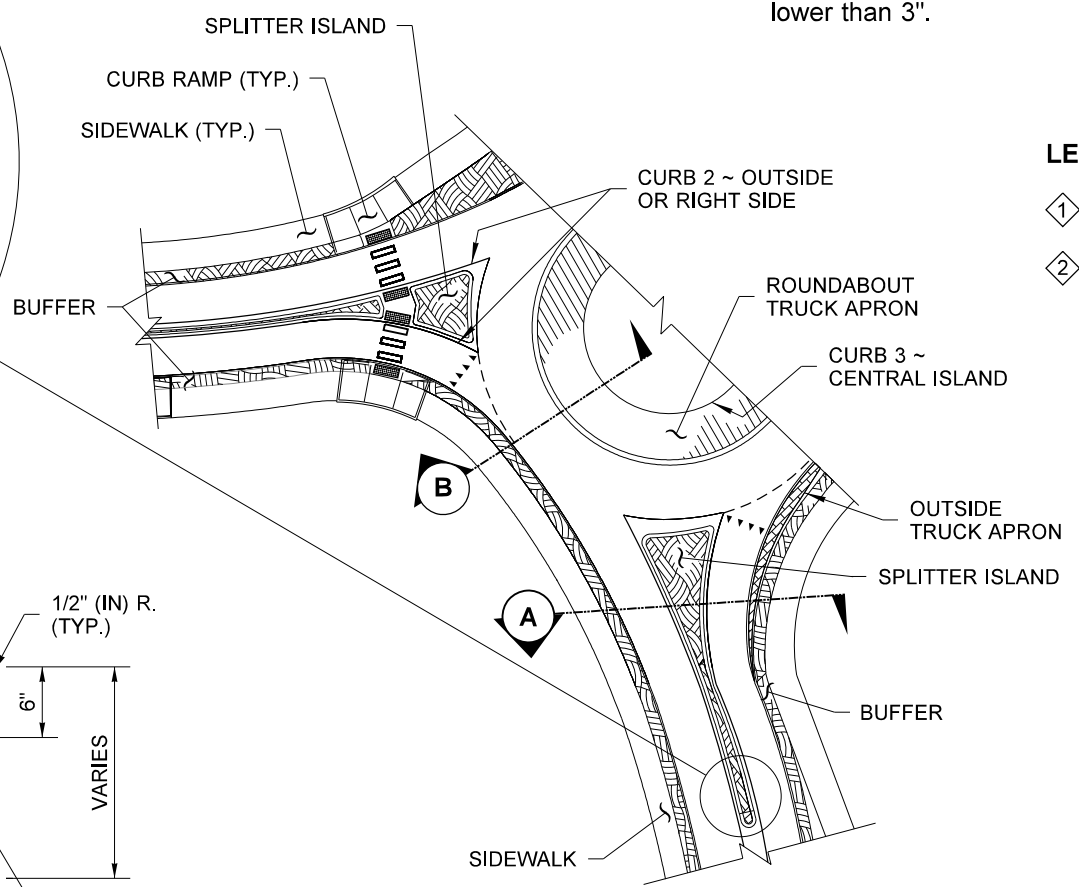


**CURB 2**  
**(OUTSIDE, RIGHT SIDE OR SPLITTER ISLAND)**  
**ROUNABOUT CEMENT CONCRETE**  
**CURB AND GUTTER**  
 (SINGLE SLOPE CURB)



**CURB 3**  
**ROUNABOUT CENTRAL ISLAND**  
**CEMENT CONCRETE CURB**  
 (SINGLE SLOPE CURB)

OPTIONAL CONSTRUCTION JOINT



**PARTIAL PLAN**

**LEGEND**

- ① Width varies ~ See Contract Plans.
- ② Match adjacent pavement thickness but not less than 6 inches.



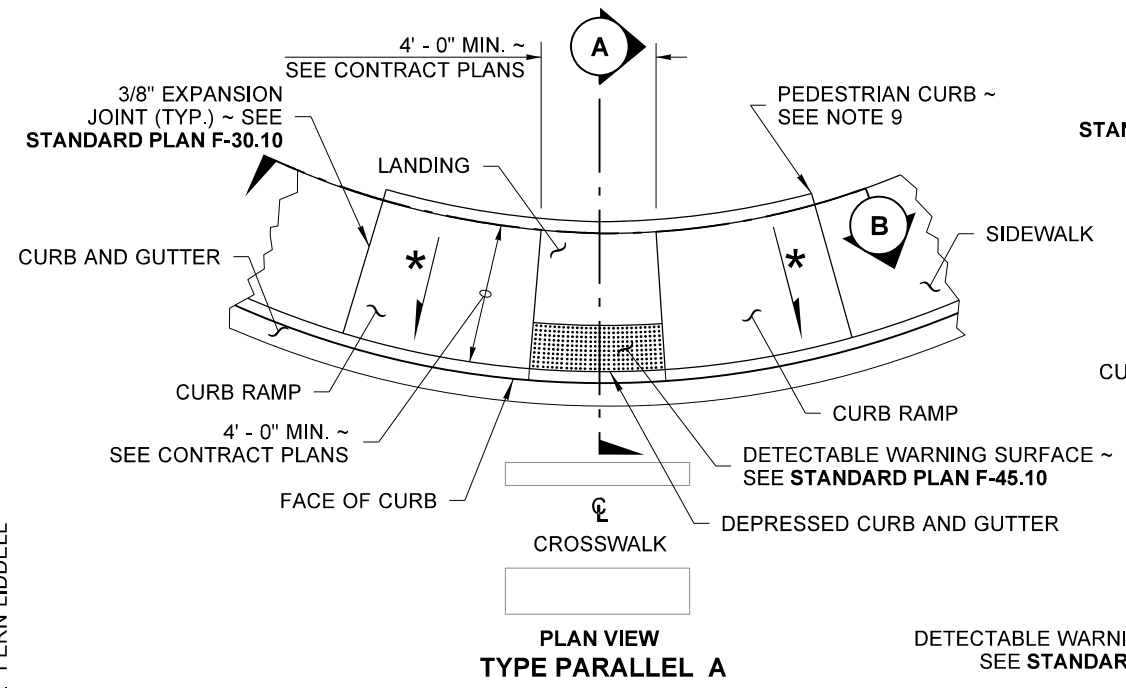
Mar 25, 2022

**ROUNABOUT CEMENT CONCRETE CURBS**  
**STANDARD PLAN F-10.18-03**

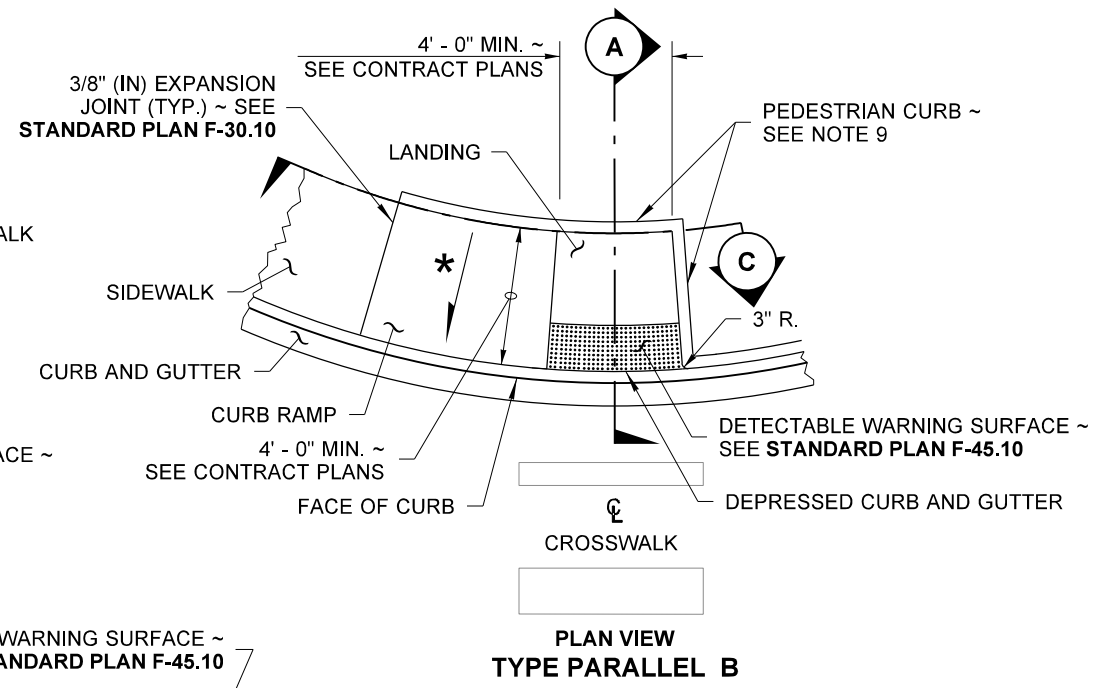
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION  
*Mark Gaines*  
 Mark Gaines (Mar 28, 2022 08:32 PDT)  
 STATE DESIGN ENGINEER  
 Washington State Department of Transportation  
 Mar 28, 2022

DRAWN BY: FERN LIDDELL

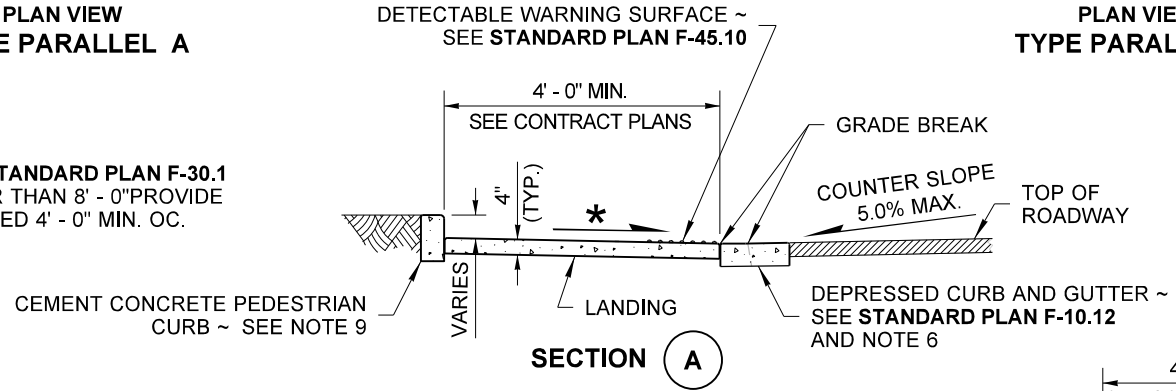


**PLAN VIEW  
TYPE PARALLEL A**

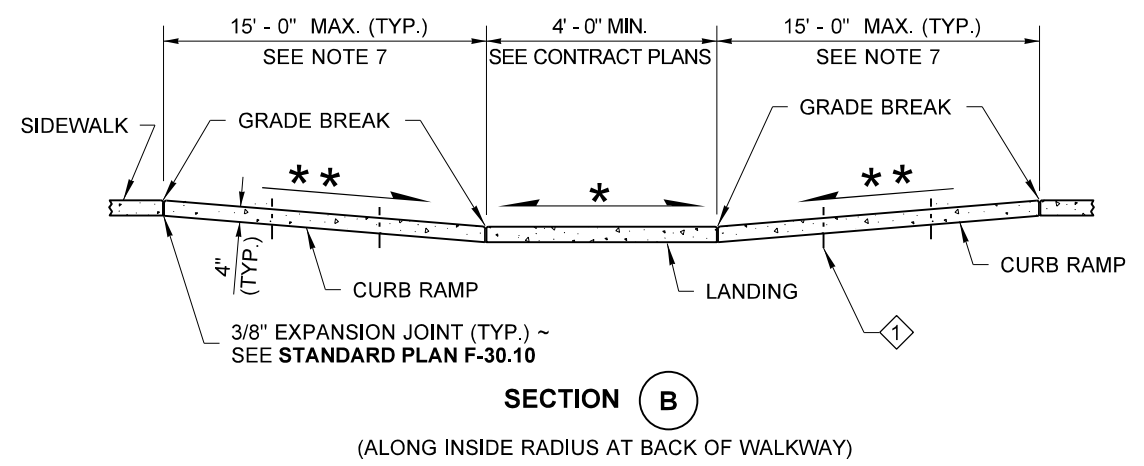


**PLAN VIEW  
TYPE PARALLEL B**

1 CONTRACTION JOINT (TYP.) ~ SEE **STANDARD PLAN F-30.1** FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.



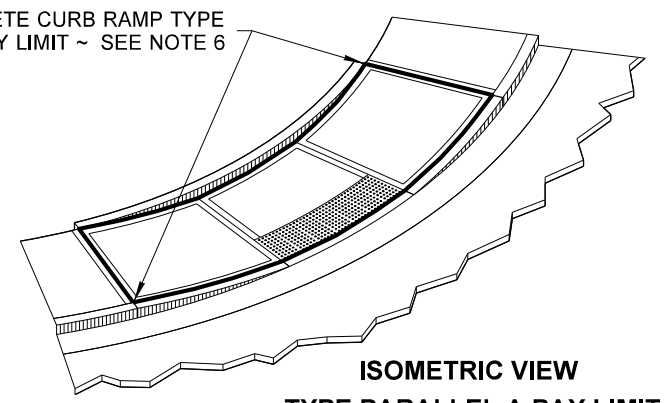
**SECTION A**



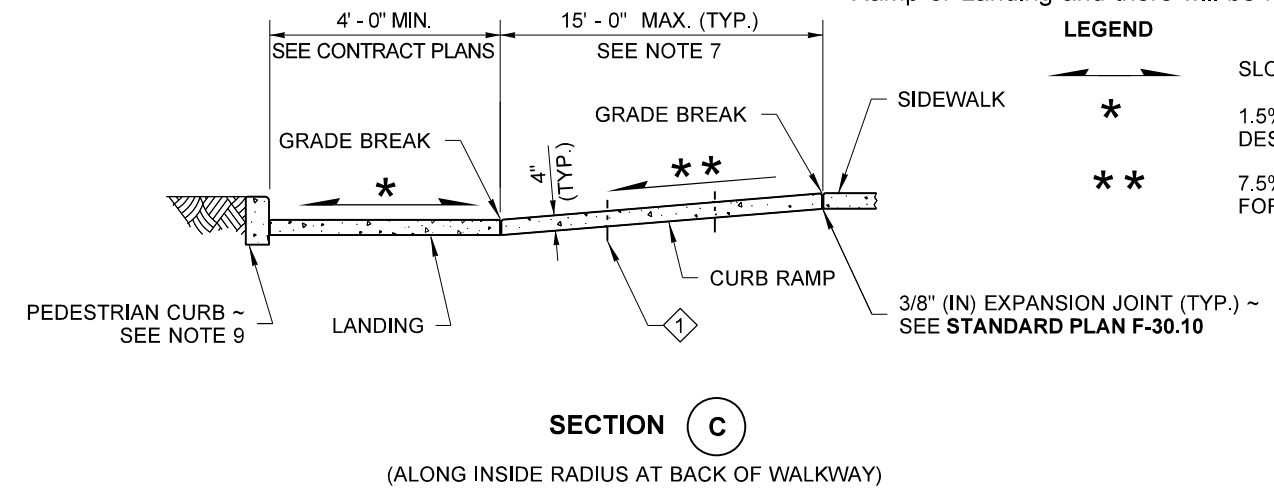
**SECTION B**

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)

"CEMENT CONCRETE CURB RAMP TYPE PARALLEL A" PAY LIMIT ~ SEE NOTE 6



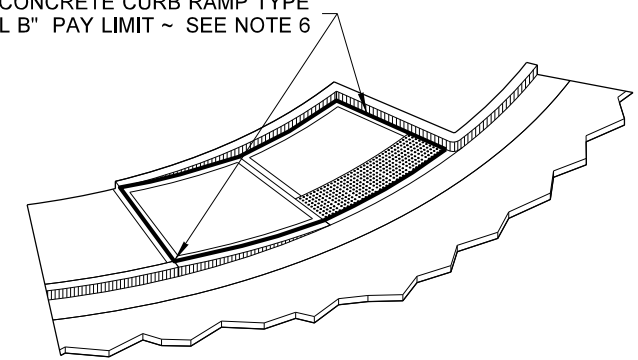
**ISOMETRIC VIEW  
TYPE PARALLEL A PAY LIMIT**



**SECTION C**

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)

"CEMENT CONCRETE CURB RAMP TYPE PARALLEL B" PAY LIMIT ~ SEE NOTE 6



**ISOMETRIC VIEW  
TYPE PARALLEL B PAY LIMIT**

**NOTES**

1. At marked crosswalks, the connection between the landing and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in the Depressed Curb and Gutter where the Landing connects to the roadway.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type \_\_\_" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length, the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet. Do not include abutting landing(s) in the 15-foot max. measurement. When a ramp is constructed on a radius, the 15-foot max. length is measured on the inside radius along the back of the walkway.
8. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14**.
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.

**LEGEND**

- ↔ SLOPE IN EITHER DIRECTION
- \* 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- \*\* 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) ~ SEE NOTE 7



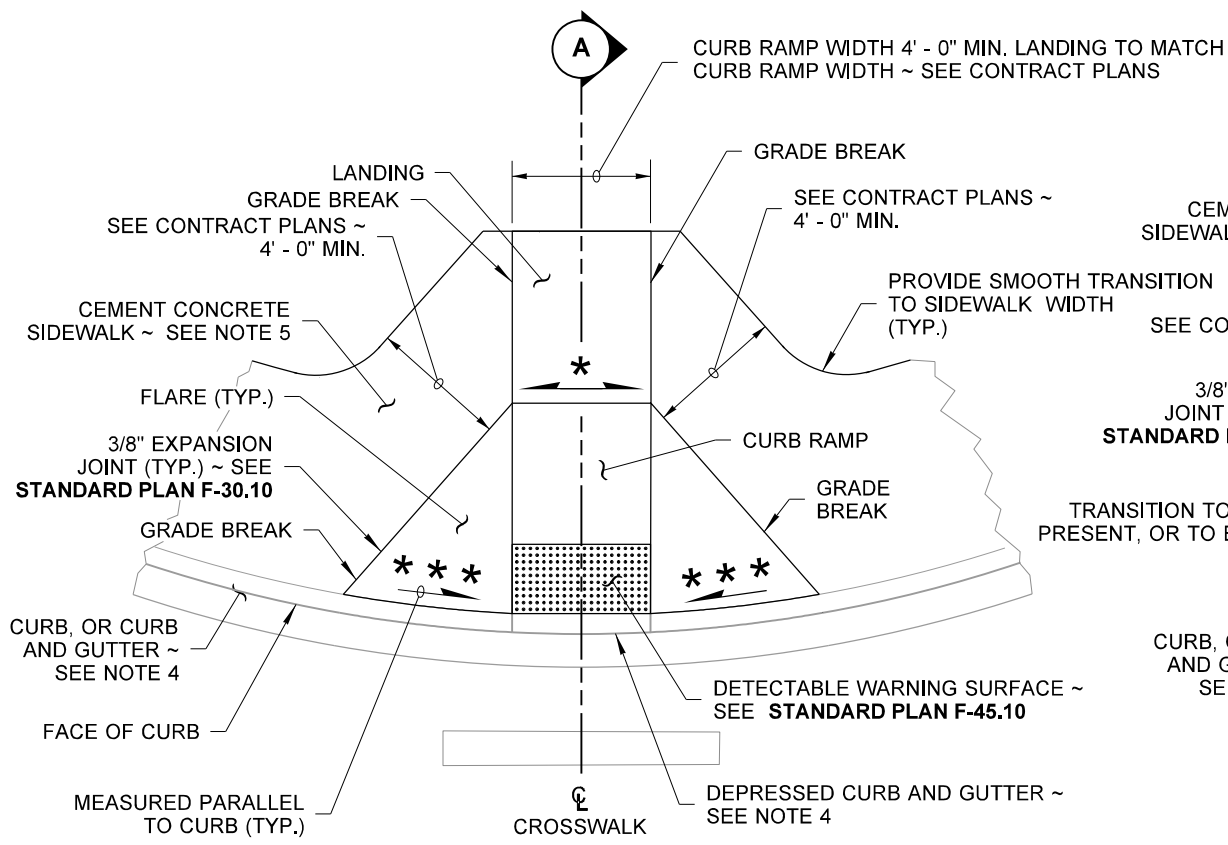
**PARALLEL CURB RAMP  
STANDARD PLAN F-40.12-03**

SHEET 1 OF 1 SHEET

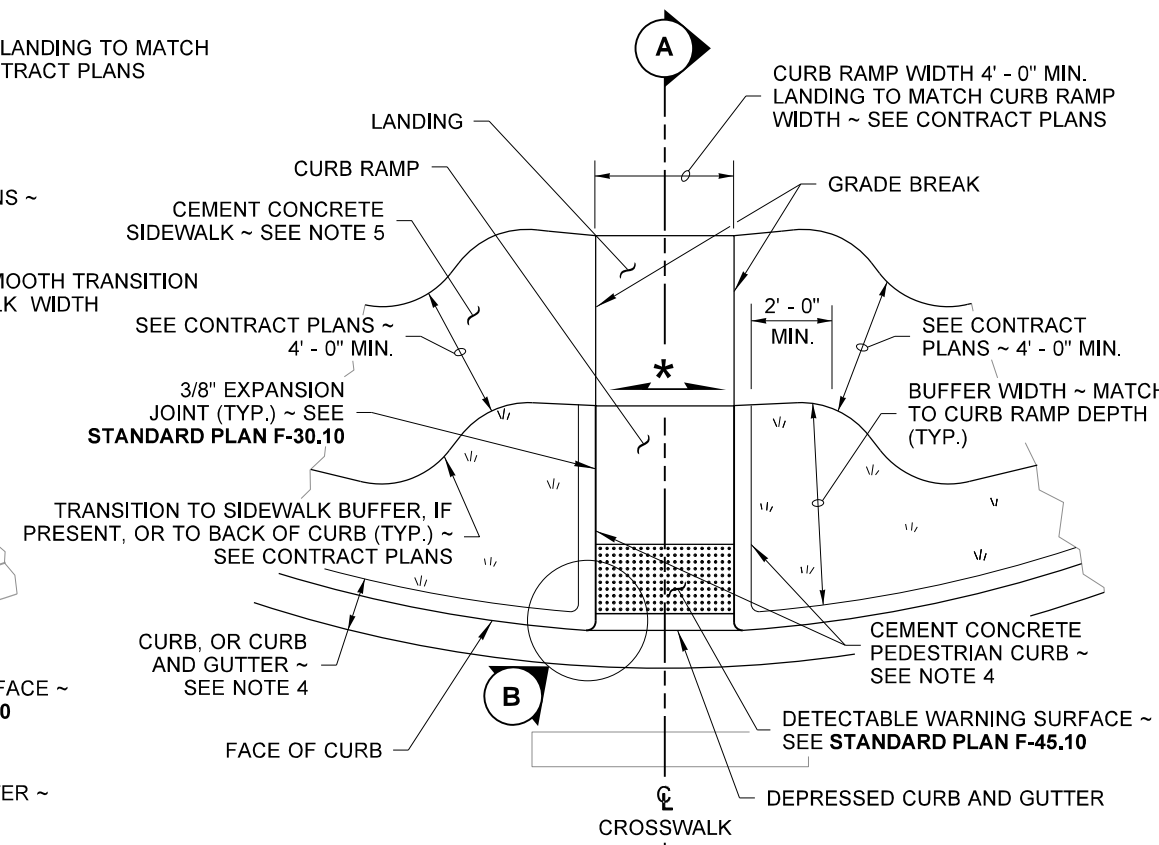
APPROVED FOR PUBLICATION



DRAWN BY: FERN LIDDELL

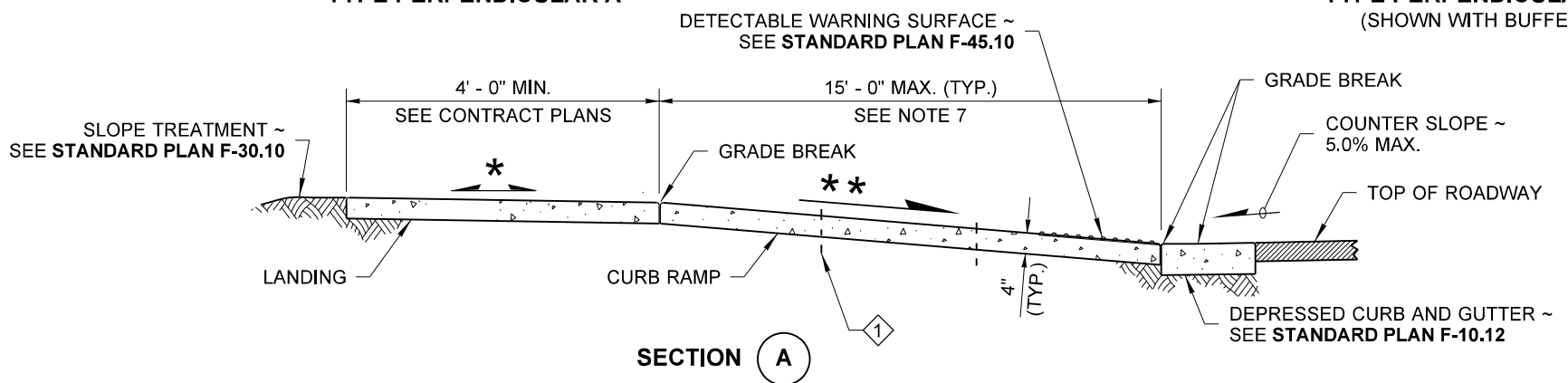


**PLAN VIEW**  
**TYPE PERPENDICULAR A**



**PLAN VIEW**  
**TYPE PERPENDICULAR B**  
(SHOWN WITH BUFFER)

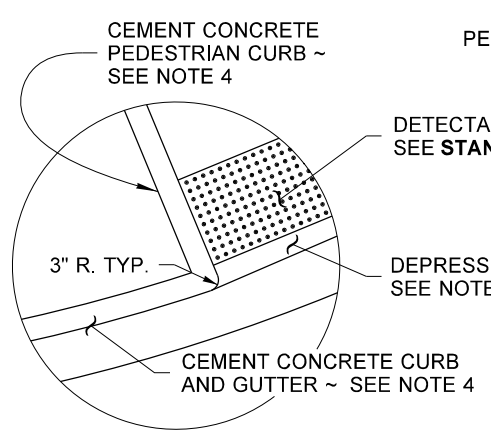
① CONTRACTION JOINT (TYP.) ~ SEE STANDARD PLAN F-30.10 FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.



**SECTION A**

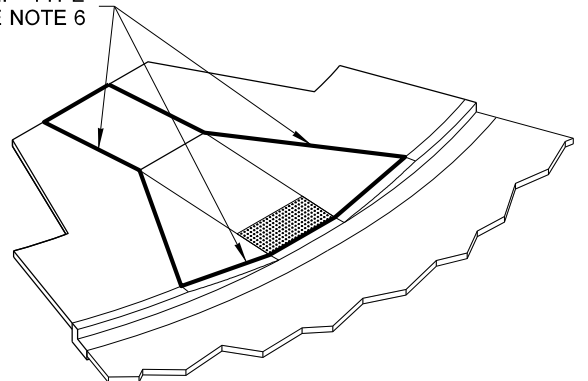
**LEGEND**

- SLOPE IN EITHER DIRECTION
- \* 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- \*\* 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.)
- \*\*\* 9.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (10% MAX.)



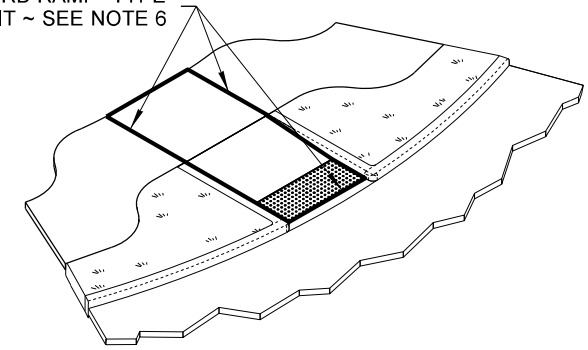
**CURB RADIUS DETAIL** **B**

CEMENT CONCRETE CURB RAMP "TYPE PERPENDICULAR "A" PAY LIMIT ~ SEE NOTE 6



**ISOMETRIC VIEW**  
**TYPE PERPENDICULAR A PAY LIMIT**

CEMENT CONCRETE CURB RAMP "TYPE PERPENDICULAR "B" PAY LIMIT ~ SEE NOTE 6



**ISOMETRIC VIEW**  
**TYPE PERPENDICULAR B PAY LIMIT**

**NOTES**

1. At marked crosswalks, the connection between the curb ramp and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in front of the Curb Ramp where it connects to the roadway.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type \_\_\_" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless shown otherwise in the Contract Plans). When applying the 15-foot max. length, the running slope of the Curb Ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the landing over a horizontal distance of 15 feet. Do not include the abutting landing in the 15-foot max. measurement.
8. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14**.
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will not be material to retain.



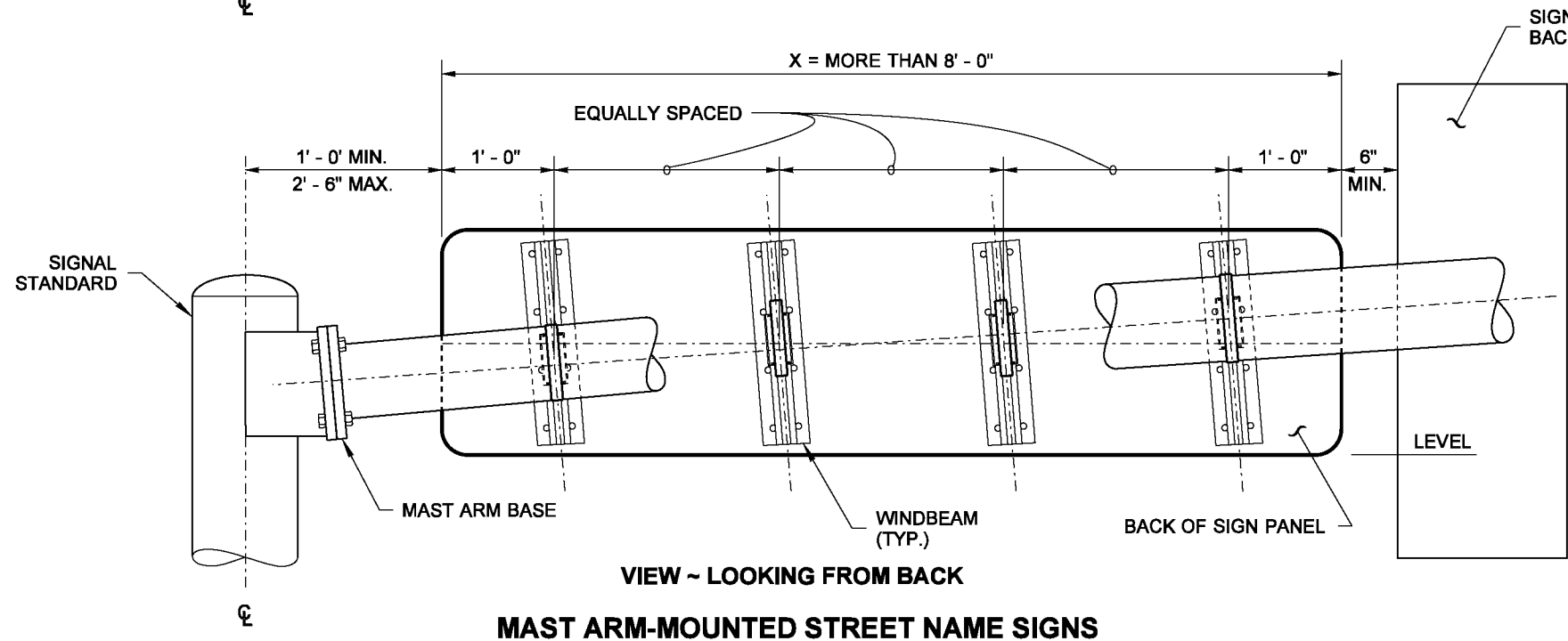
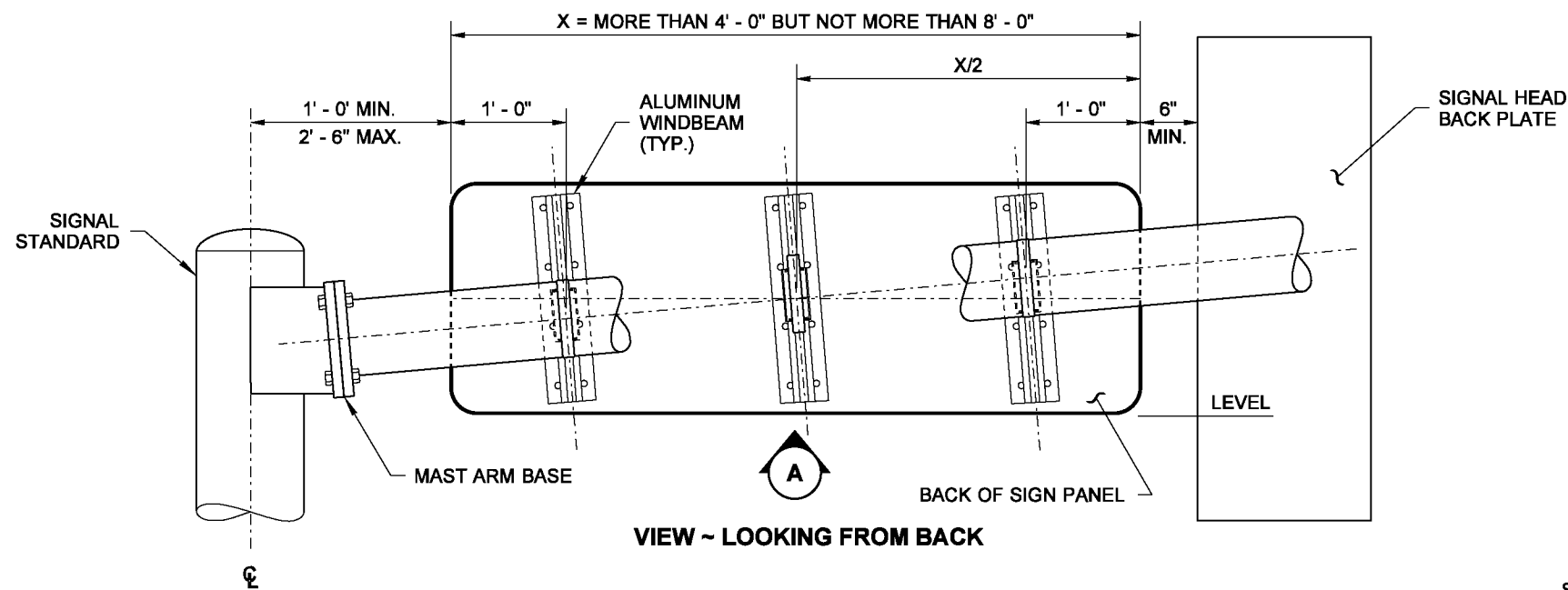
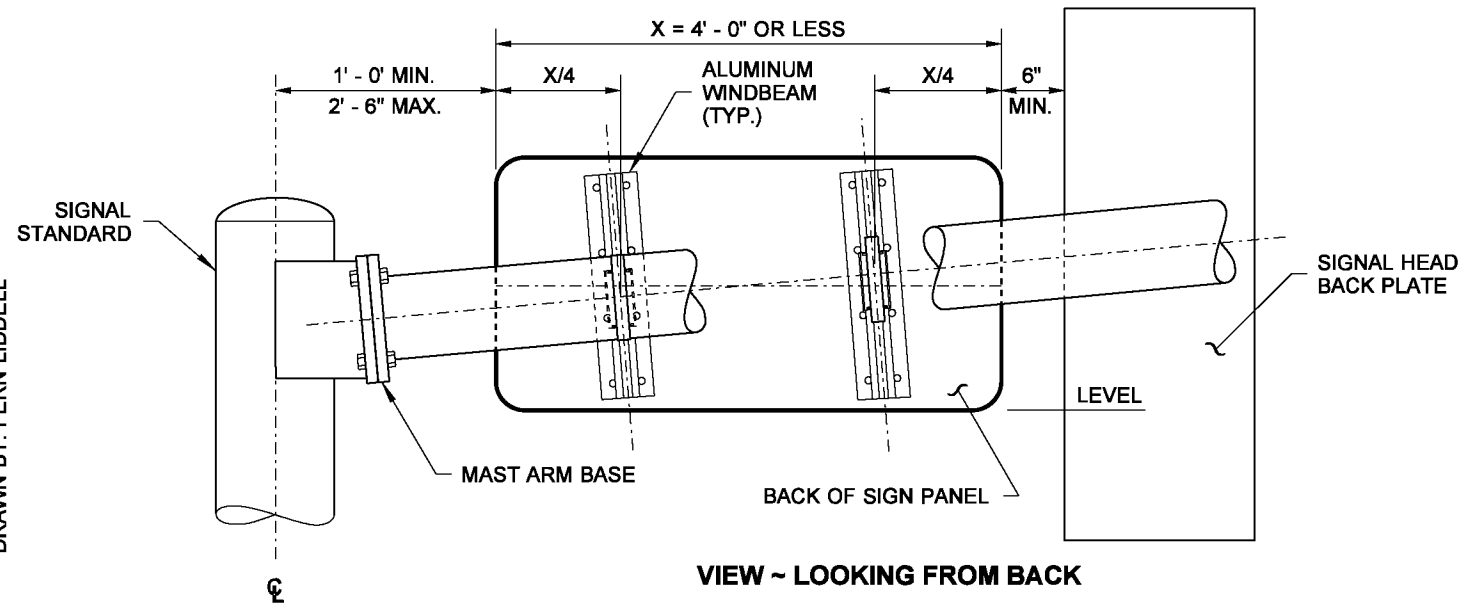
Digitally signed by R. Scott Zeller  
Date: 2020.09.22 13:23:53 -07'00'

**PERPENDICULAR CURB RAMP**  
**STANDARD PLAN F-40.15-04**

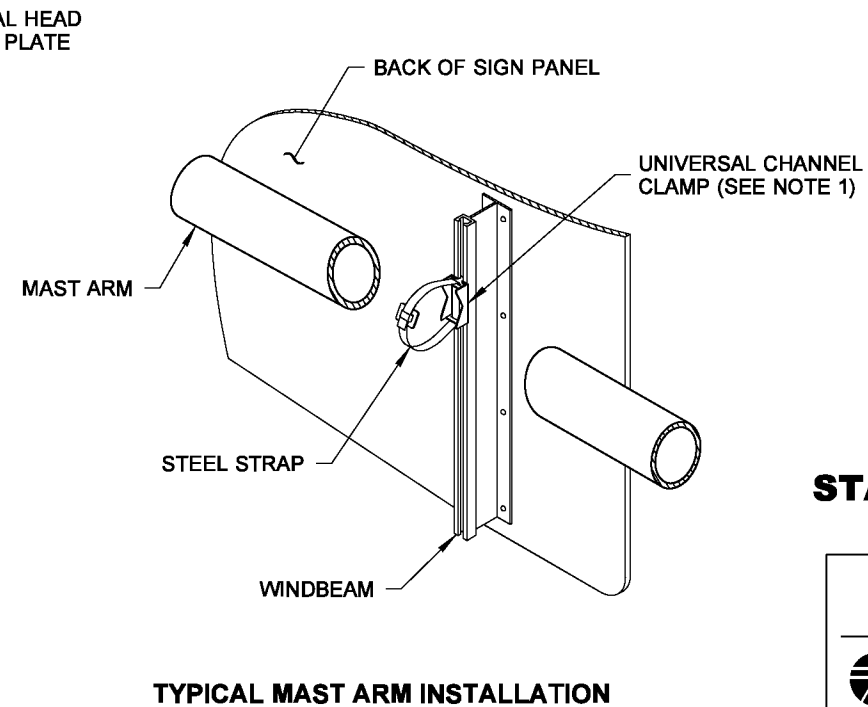
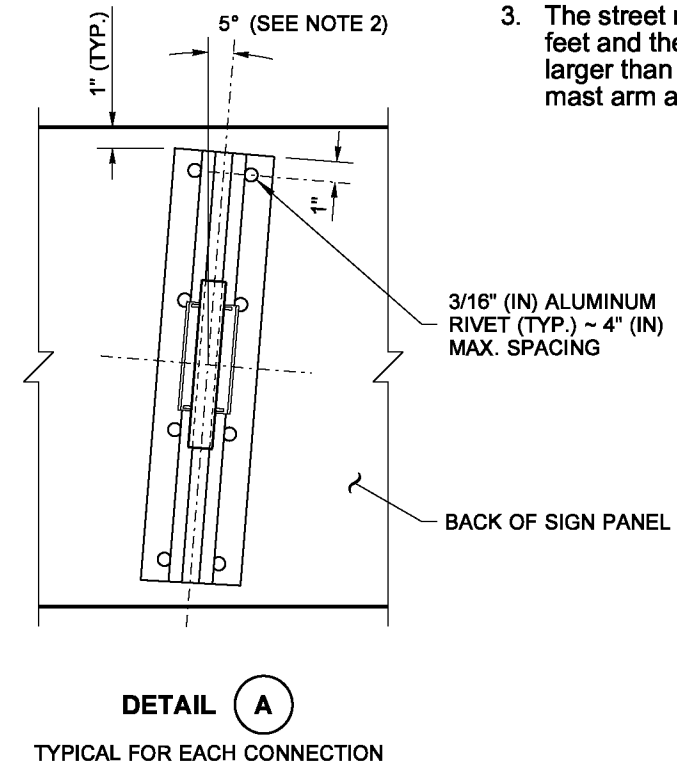
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION  
Date: 2020.09.25 14:44:37 -07'00'  
STATE DESIGN ENGINEER  
Washington State Department of Transportation

DRAWN BY: FERN LIDDELL

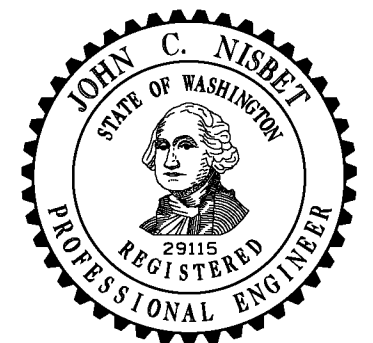


MAST ARM-MOUNTED STREET NAME SIGNS



NOTES

1. Mounting brackets with steel straps shall be a stainless steel band and buckle system product or an approved equal. Mounting brackets shall be universal channel clamps; steel straps shall be 3/4" (in) wide and 0.030" (in) thick.
2. All signs installed on mast arms or standards (poles) require windbeams. All signs shall be installed with horizontal edges level. A skewed windbeam is required only when the sign is mounted within 12" (in) of the mast arm base (see Detail "A").
3. The street name sign shall be a maximum of 36 square feet and the sign height is a maximum of 3' (ft); signs larger than 36 square feet require a special design mast arm and signal pole.



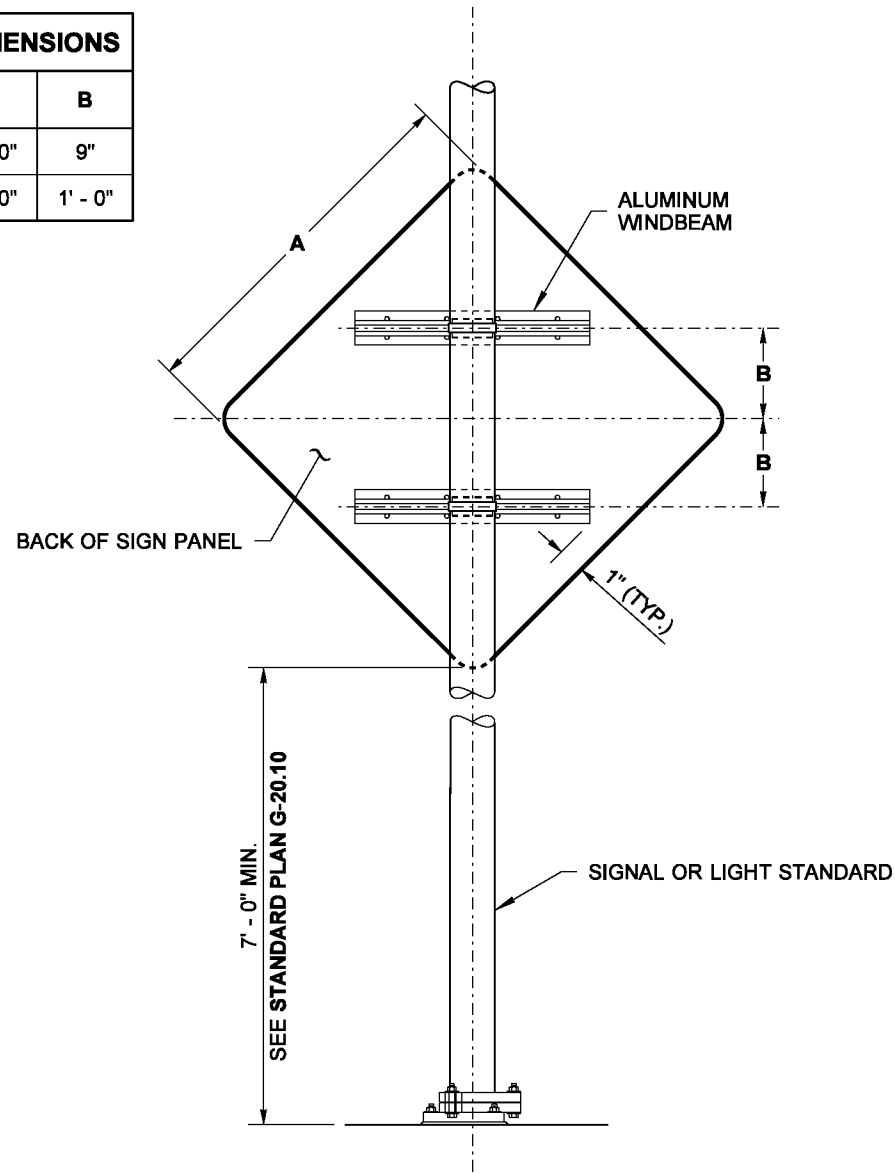
**SIGN INSTALLATION  
ON SIGNAL AND  
LIGHT STANDARDS  
STANDARD PLAN G-30.10-04**

SHEET 1 OF 2 SHEETS

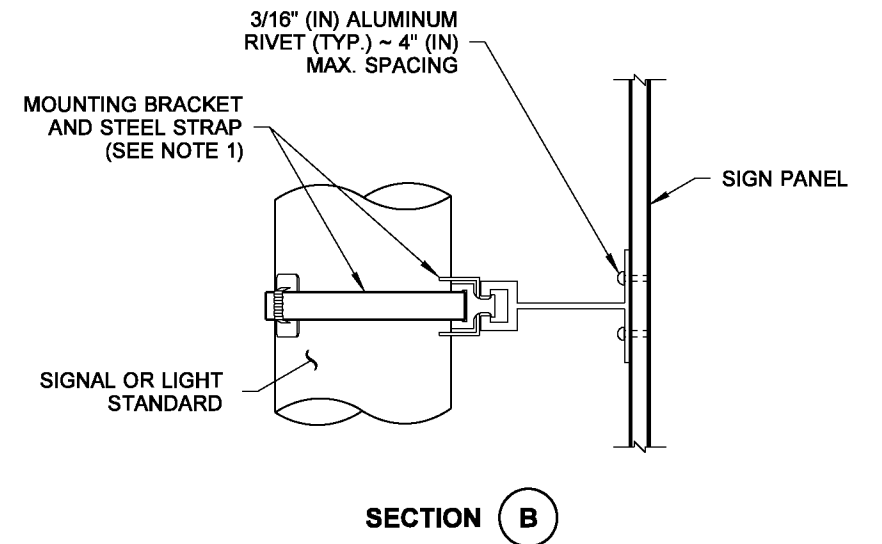
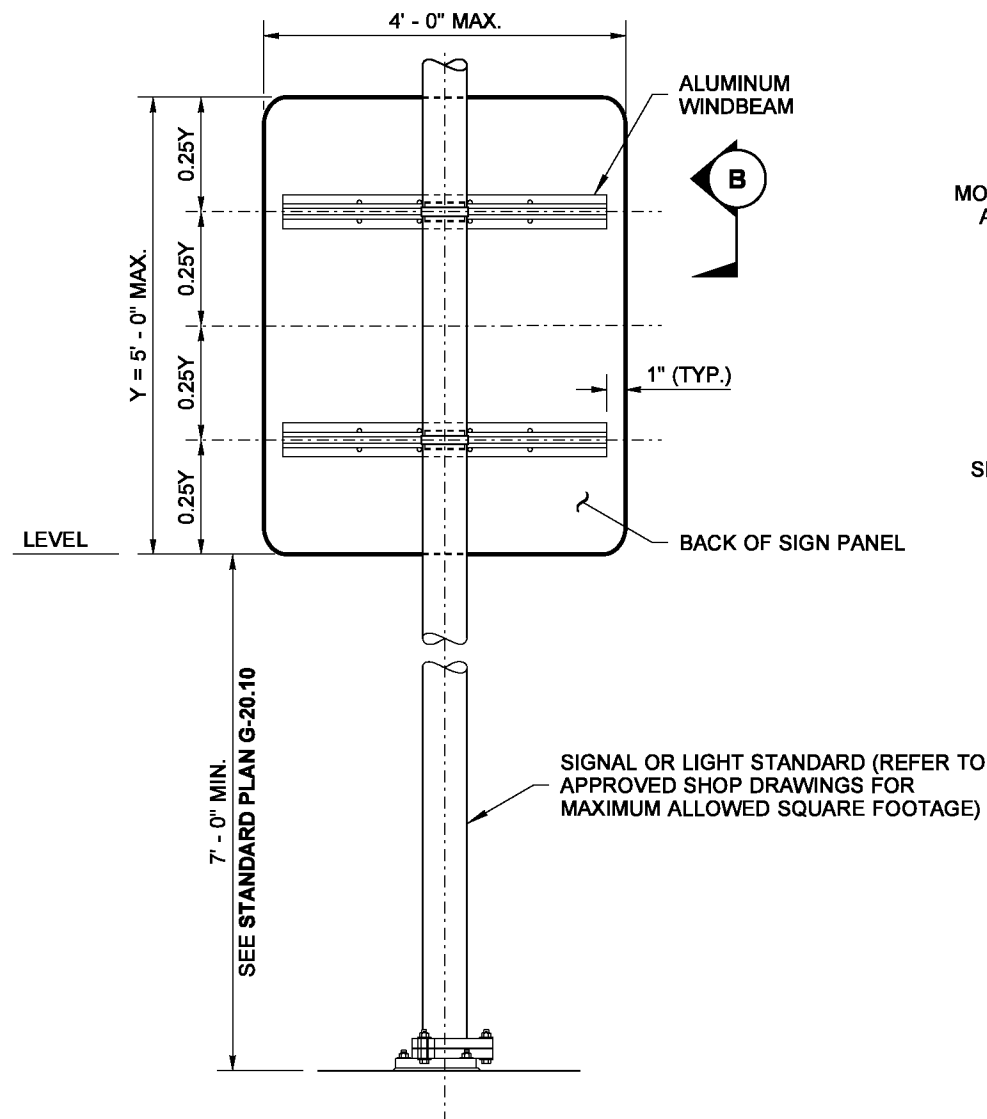
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Washington State Department of Transportation

DIMENSIONS	
A	B
3' - 0"	9"
4' - 0"	1' - 0"

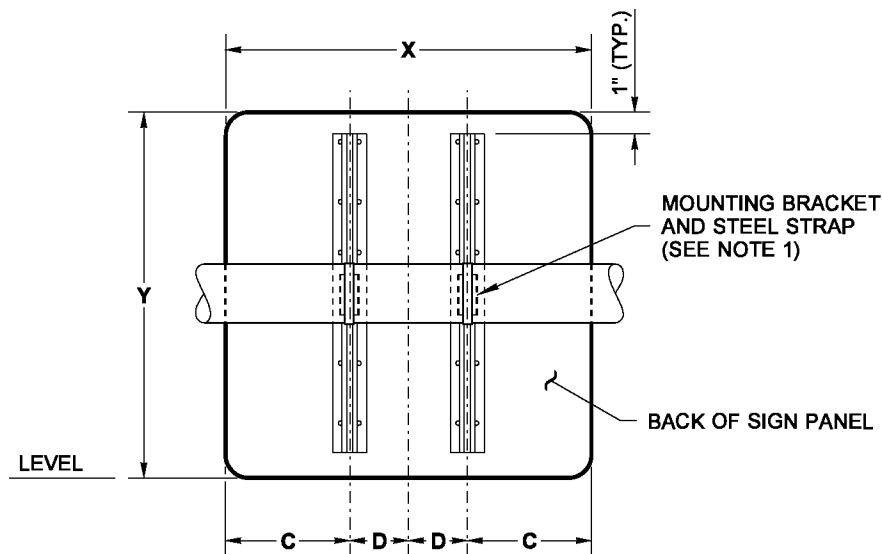


**SIGN INSTALLATION ON SIGNAL OR LIGHT STANDARD**



DIMENSIONS			
X	Y	C	D
3' - 0"	2' - 6"	1' - 0"	6"
3' - 0"	3' - 0"	1' - 0"	6"
3' - 0"	4' - 0"	1' - 3"	9"
4' - 0"	2' - 6"	1' - 3"	9"

**NOTE:**  
Any Lane Use Sign greater than 7.5 sq ft. requires a Special Design Mast Arm and Signal Pole.



**MAST ARM-MOUNTED LANE USE SIGNS**

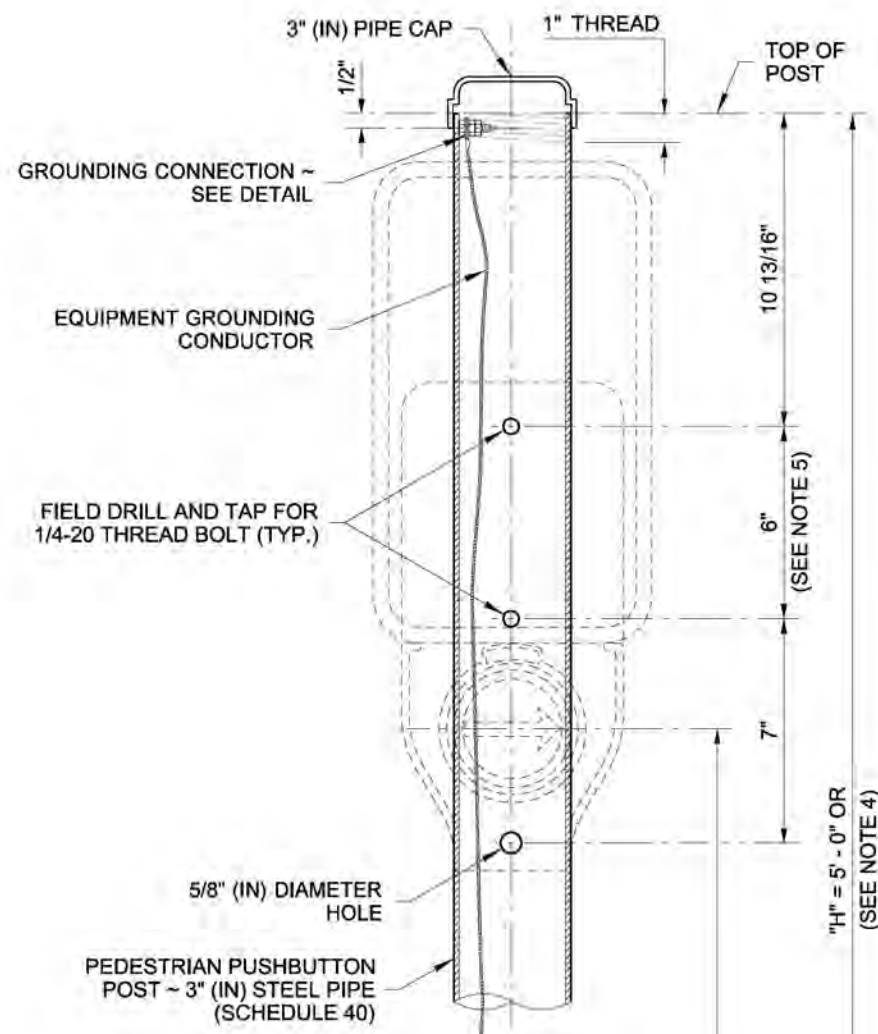


**SIGN INSTALLATION  
ON SIGNAL AND  
LIGHT STANDARDS  
STANDARD PLAN G-30.10-04**

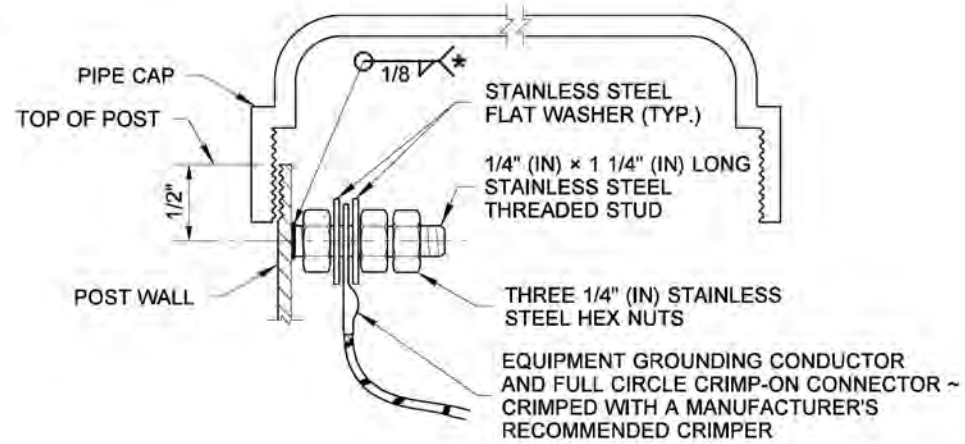
SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION



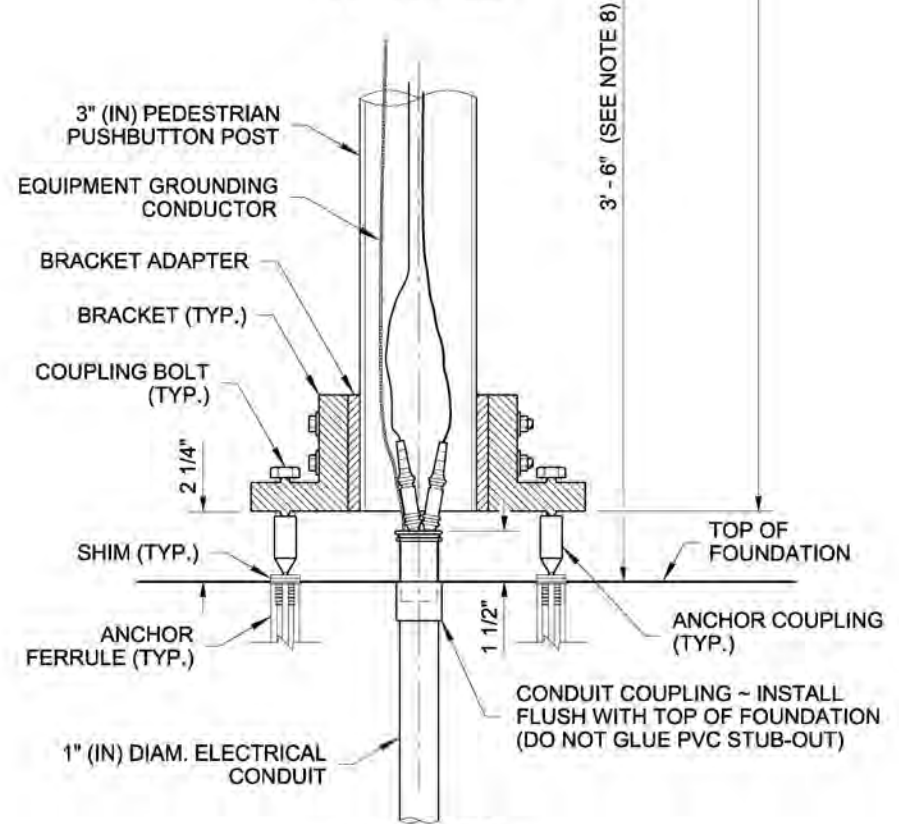


**POST DETAIL**

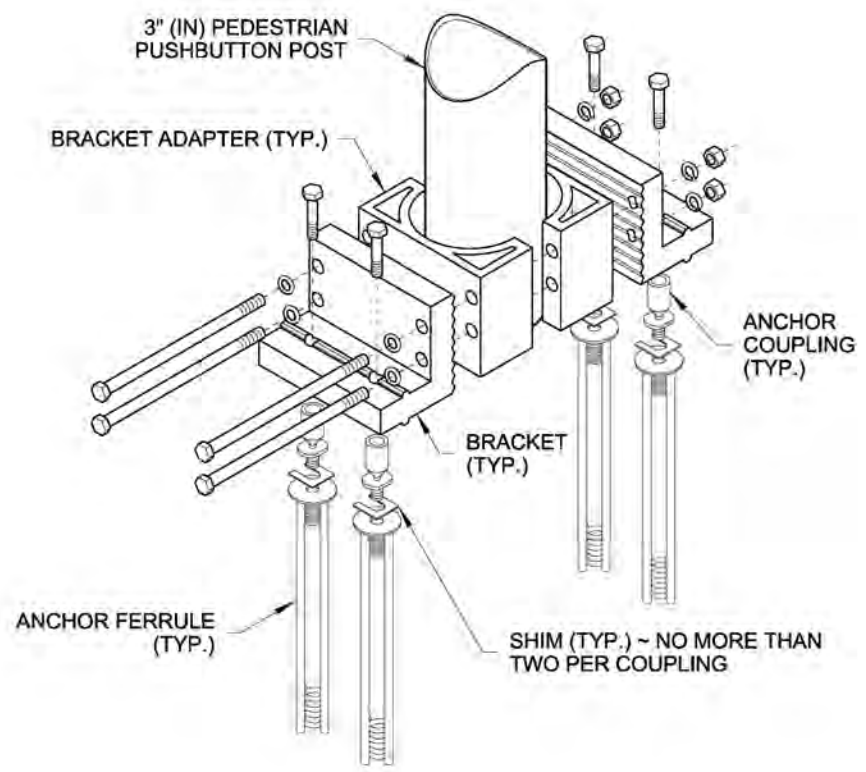


**GROUNDING CONNECTION DETAIL**

\* WELD STUD TO POLE WALL TO MAXIMUM EXTENT POSSIBLE - 1/2" (IN) MINIMUM WELD  
 CONFIGURATIONS VARY AMONG DIFFERENT MANUFACTURERS (SHOWN EXPLODED FOR CLARITY)



**DETAIL A**



**EXPLODED VIEW  
 BREAKAWAY BASE CONNECTOR  
 (SEE NOTE 1)**

**NOTES:**

1. See **Standard Specification Section 9-06.16** for Breakaway Base Connection details. Dimensions for the parts used to assemble the base connections are intentionally not shown. Base connections are patented manufactured products that are in compliance with NCHRP 350 crash test criteria. The Breakaway Base Connection details are only shown on this plan to illustrate how parts are assembled.
2. See **Standard Plan J-20.26** for Accessible Pedestrian Pushbutton (APS) details; Audible Information Device (AID) pedestrian pushbutton similar.
3. Secure conductor in adjacent Junction Box per detail in **Standard Plan J-28.70**.
4. Where shown in the plans, install plaque (R10-32P) "PUSH BUTTON FOR 2 SECONDS FOR EXTRA CROSSING TIME" above the Accessible Pedestrian Signal (APS) assembly. Add 14" (in) to post height to accommodate plaque and leave a 2" (in) space between signs.
5. Mounting distances vary between manufacturers. See manufacturer's recommendations for mounting information.
6. Junction Box serving the Standard shall preferably be located 5' - 0" (10' - 0" Max.) from the Standard.
7. Two button installation may require adaptor(s) or extension(s).
8. Pushbutton height is measured from the walking surface to the center of the actual pushbutton circle.



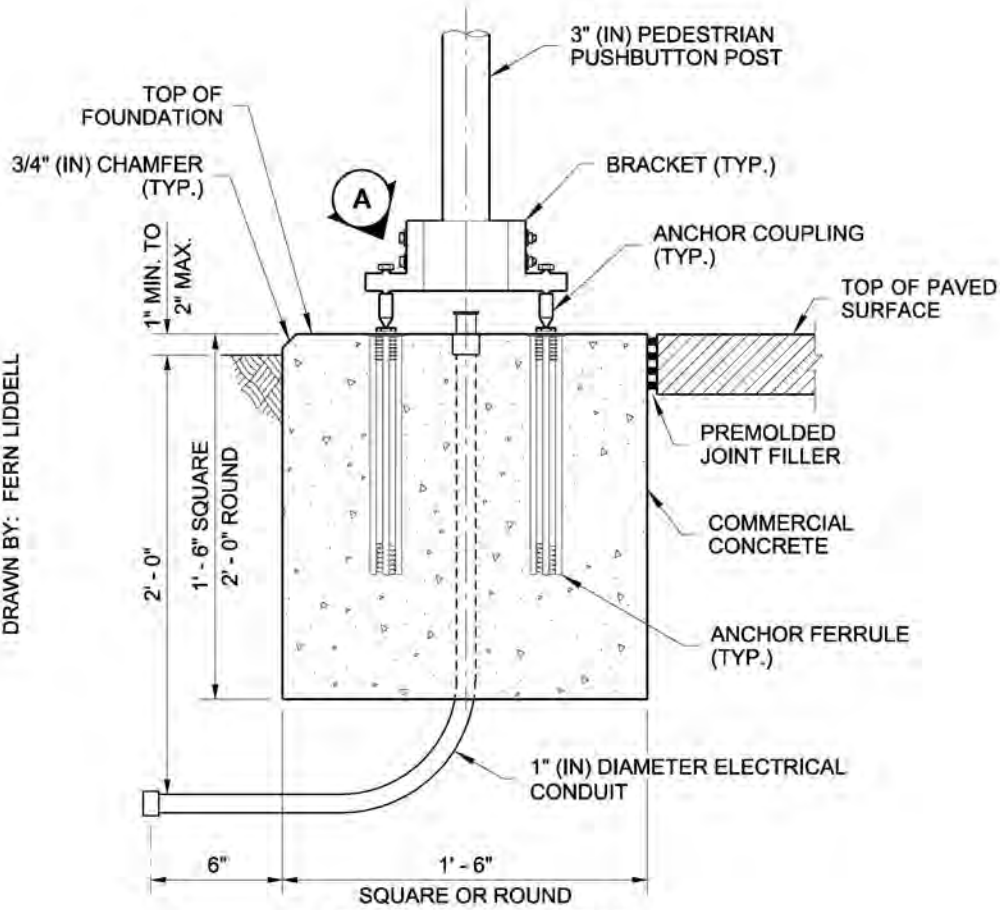
Jun 20, 2024

**PEDESTRIAN PUSHBUTTON (PPB) POST AND FOUNDATION  
 STANDARD PLAN J-20.15-04**

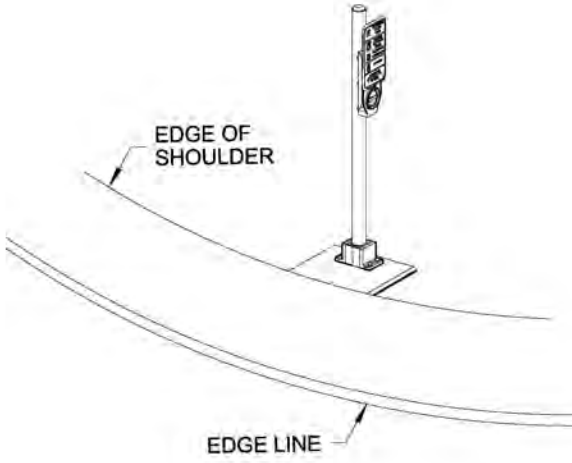
SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION  
*Mark A. Jones* Jun 21, 2024  
 STATE DESIGN ENGINEER  
 Washington State Department of Transportation

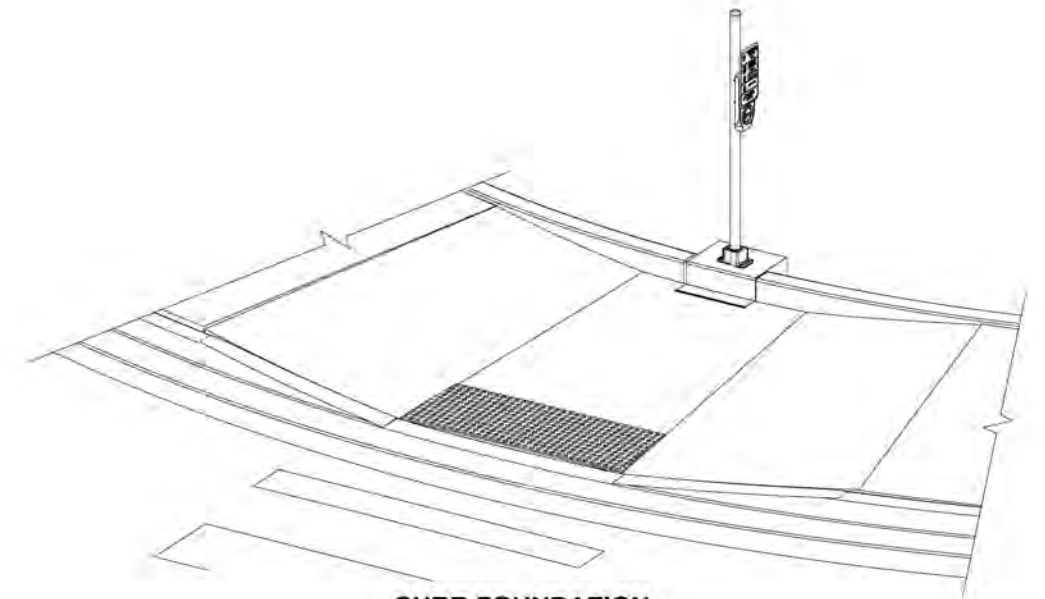
DRAWN BY: FERN LIDDELL



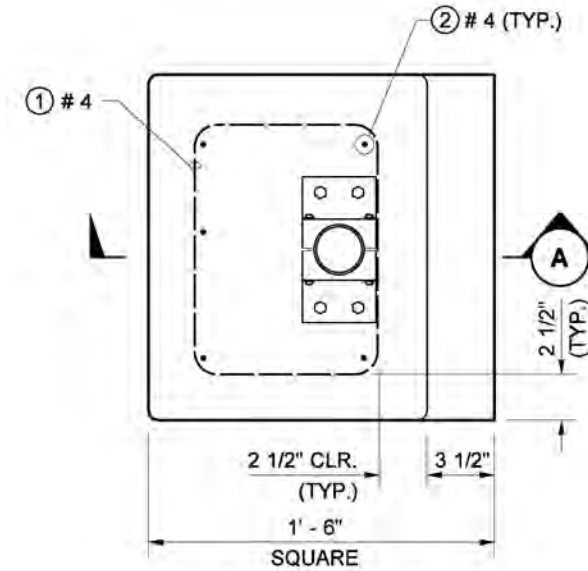
**FLAT FOUNDATION DETAIL ELEVATION VIEW**



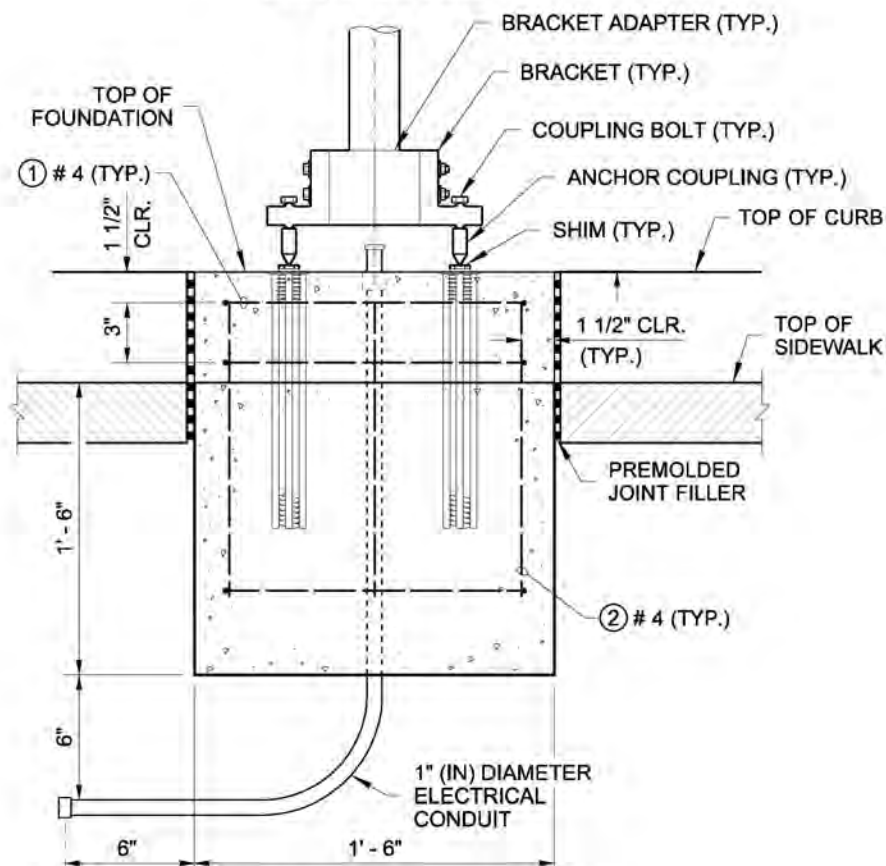
**FLAT FOUNDATION PERSPECTIVE VIEW**



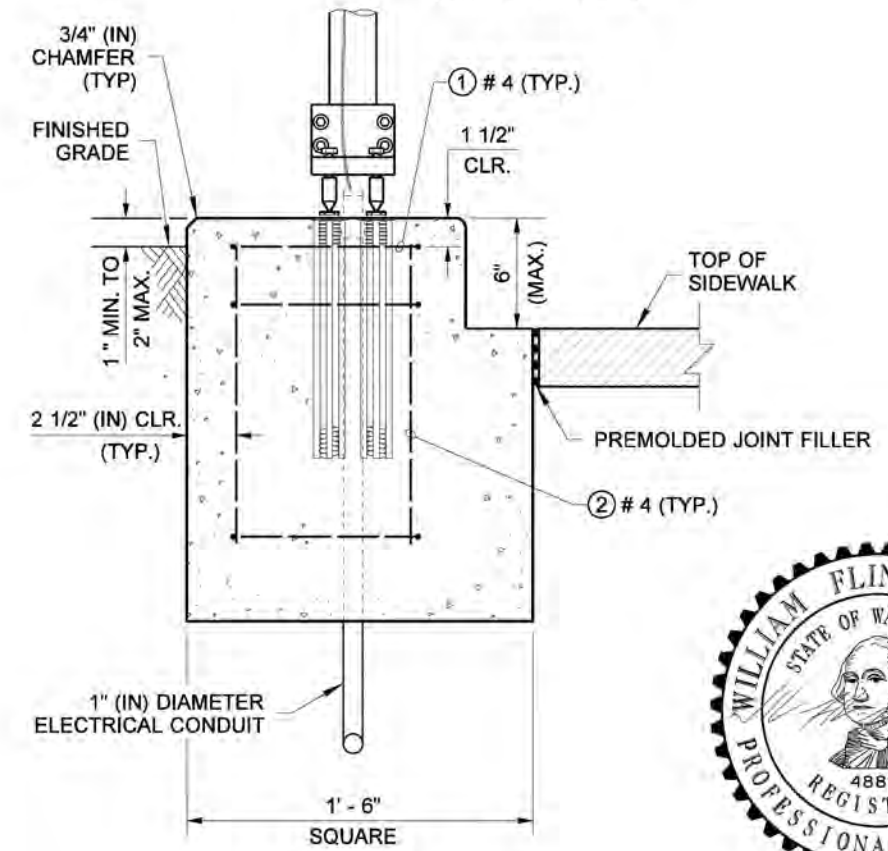
**CURB FOUNDATION PERSPECTIVE VIEW (SKIRT NOT SHOWN)**



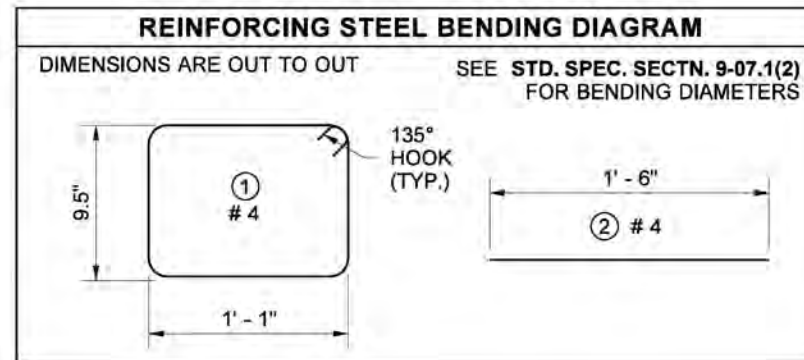
**CURB FOUNDATION PLAN VIEW**



**CURB FOUNDATION DETAIL ELEVATION VIEW**



**SECTION A**



Jun 20, 2024

**PEDESTRIAN PUSHBUTTON (PPB) POST AND FOUNDATION STANDARD PLAN J-20.15-04**

SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

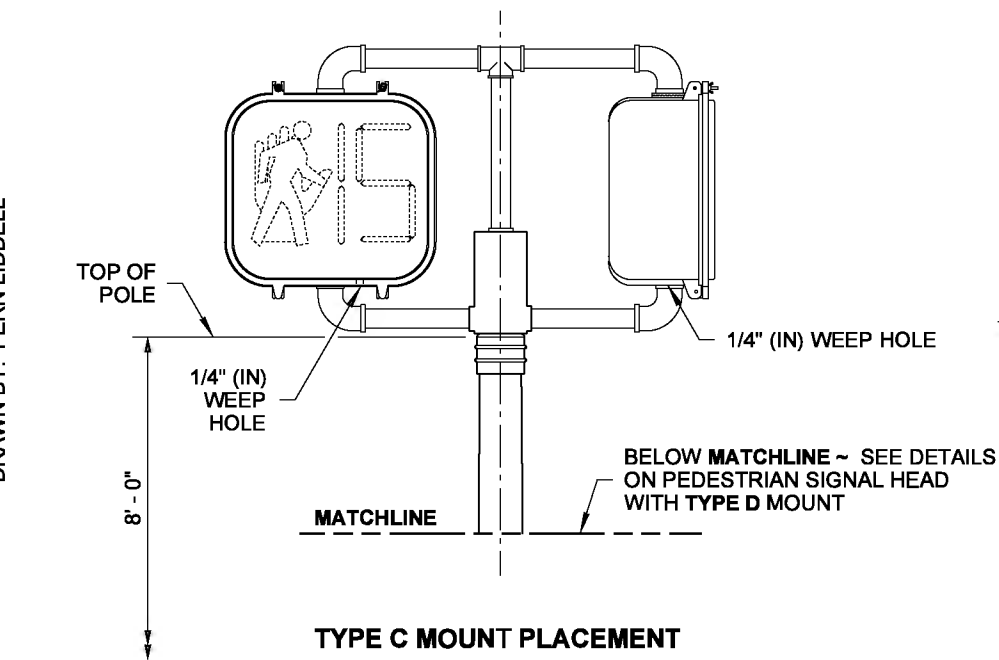
*Mark A. Davies* Jun 21, 2024

STATE DESIGN ENGINEER

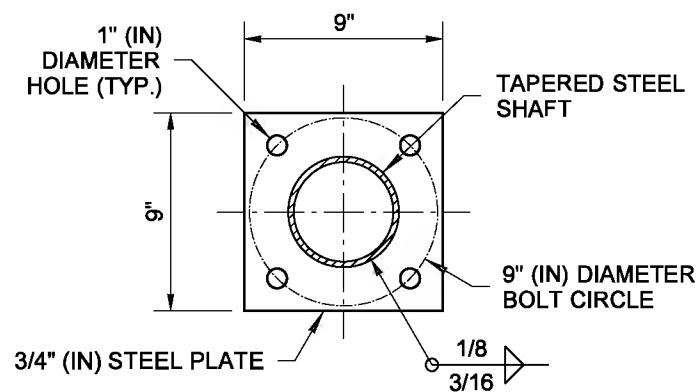
Washington State Department of Transportation



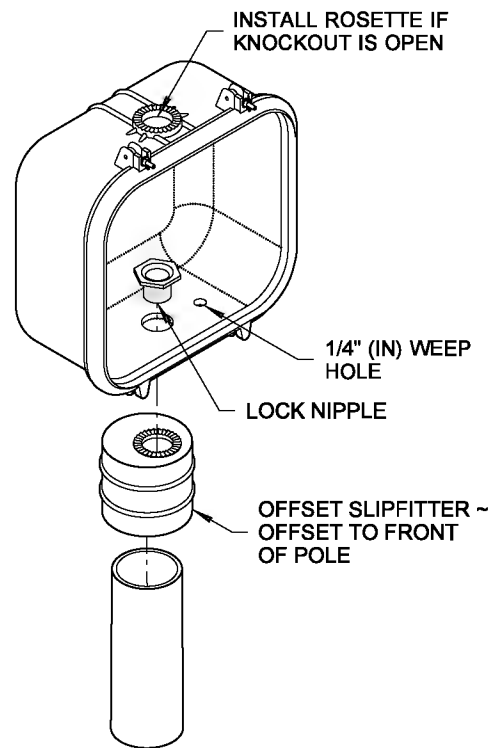
DRAWN BY: FERN LIDDELL



**TYPE C MOUNT PLACEMENT**

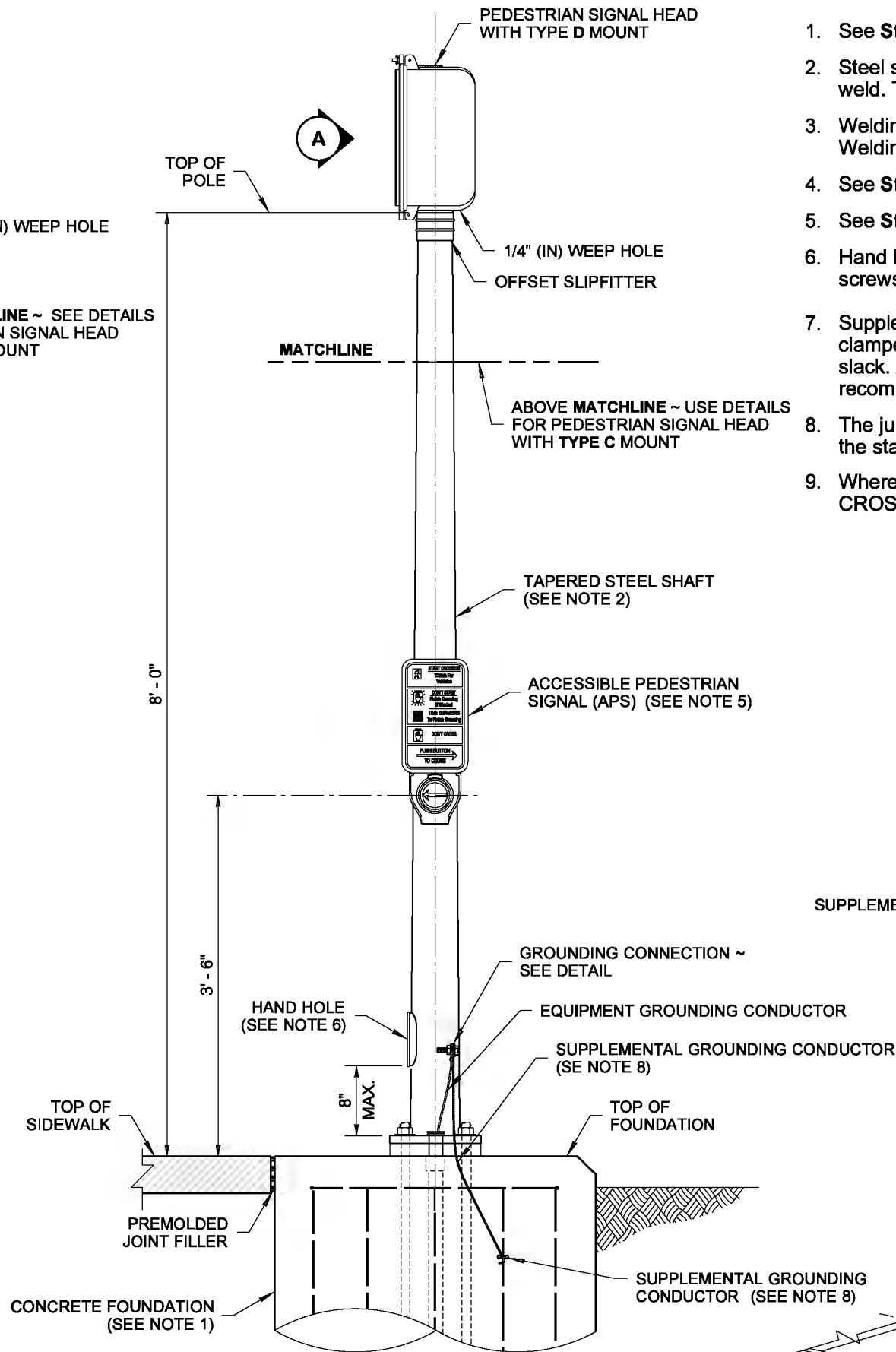


**BASE PLATE DETAIL**



**VIEW A**

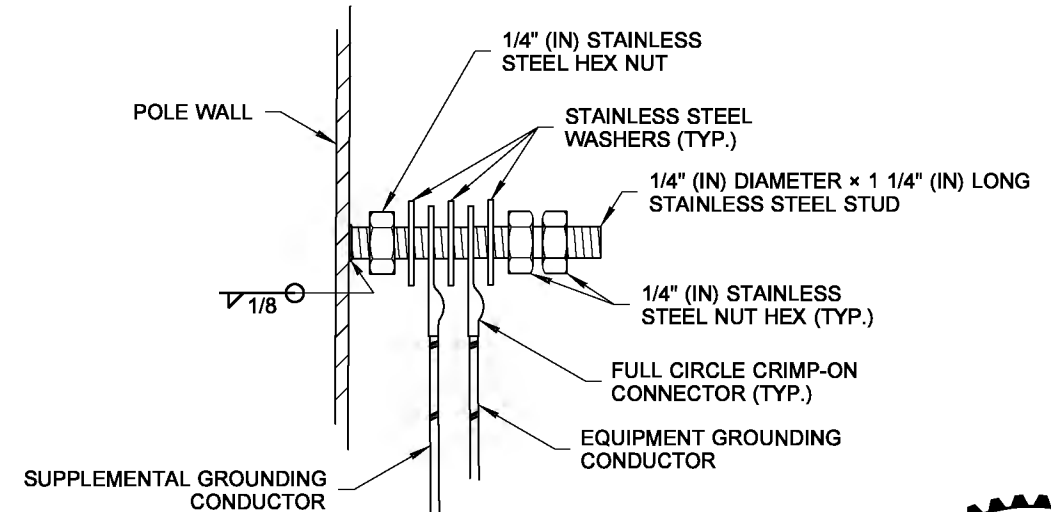
**TYPE D MOUNTING DETAIL**



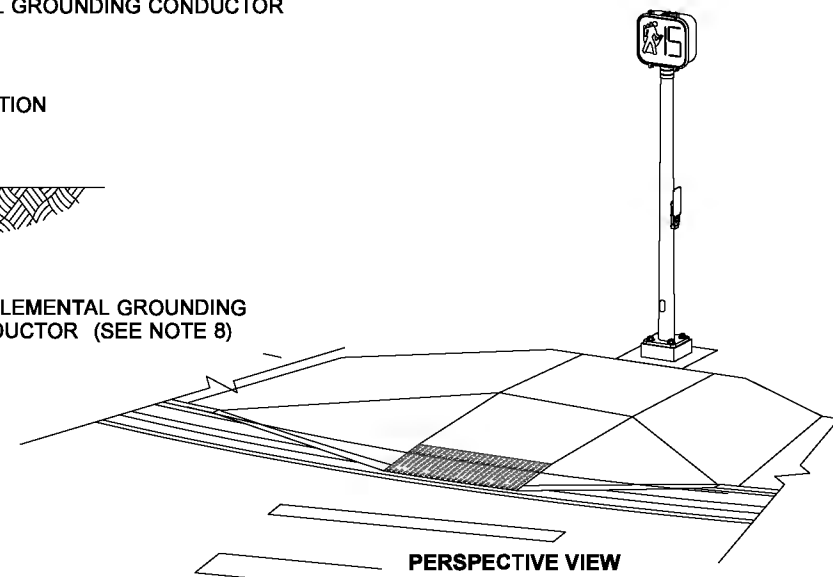
**TYPE D MOUNT  
PEDESTRIAN SIGNAL STANDARD  
(FIXED BASE SHOWN)**

**NOTES**

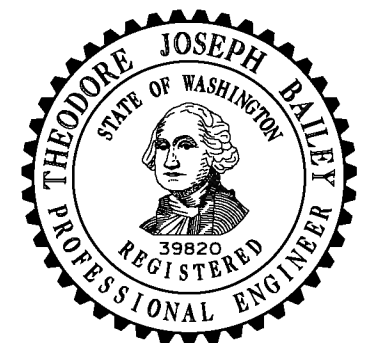
1. See **Standard Plan J-21.10** for Signal Standard Foundation with Fixed Base and Slip Base details.
2. Steel shaft shall be tapered either round or dodecagon (12-sided), 11 gage, 4 1/2" (in) O.D. at slipfitter weld. Taper shall be 0.14" (in) per foot.
3. Welding of structures shall be in accordance with the latest edition of the AWS D1.1 Structural Welding Code - Steel. All butt welds shall be ground flush with base metal.
4. See **Standard Plan J-20.26** for Accessible Pedestrian Pushbutton details.
5. See **Standard Plan J-20.20** for Accessible Pedestrian Signal Standard Electrical details.
6. Hand holes shall include a removable, rain-tight cover and gasket, fastened with two stainless steel screws (ASTM 593).
7. Supplemental grounding conductor shall be non-insulated #4 AWG stranded copper and shall be clamped to vertical rebar with a connector suitable for use embedded in concrete. Provide 3' - 0" min. slack. Attach to pole grounding stud with a full circle crimp-on connector (crimped with a manufacturer recommended crimper).
8. The junction box serving the standard shall preferably be located 5' - 0" (10' - 0" max.) from the standard.
9. Where shown in the plans, install plaque (R10 - 32P) "PUSH BUTTON FOR 2 SECONDS FOR EXTRA CROSSING TIME" two inches above the Accessible Pedestrian Signal (APS) Assembly.



**GROUNDING CONNECTION  
DETAIL**



**PERSPECTIVE VIEW**



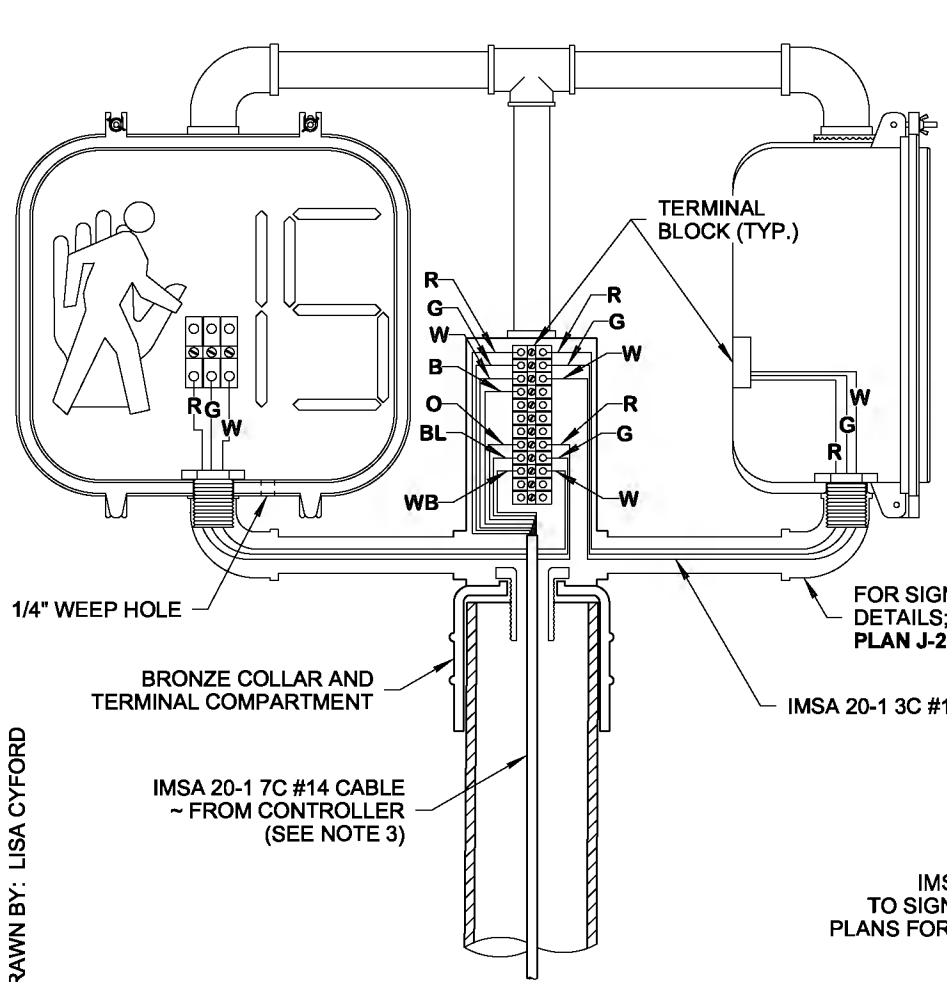
**PEDESTRIAN SIGNAL  
STANDARD (TYPE PS)  
DETAILS  
STANDARD PLAN J-20.16-02**

SHEET 1 OF 1 SHEET

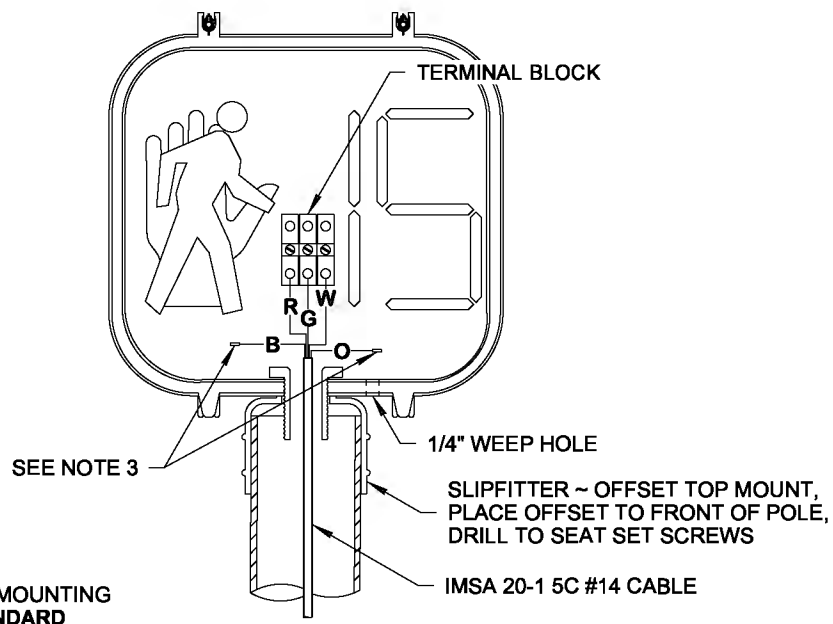
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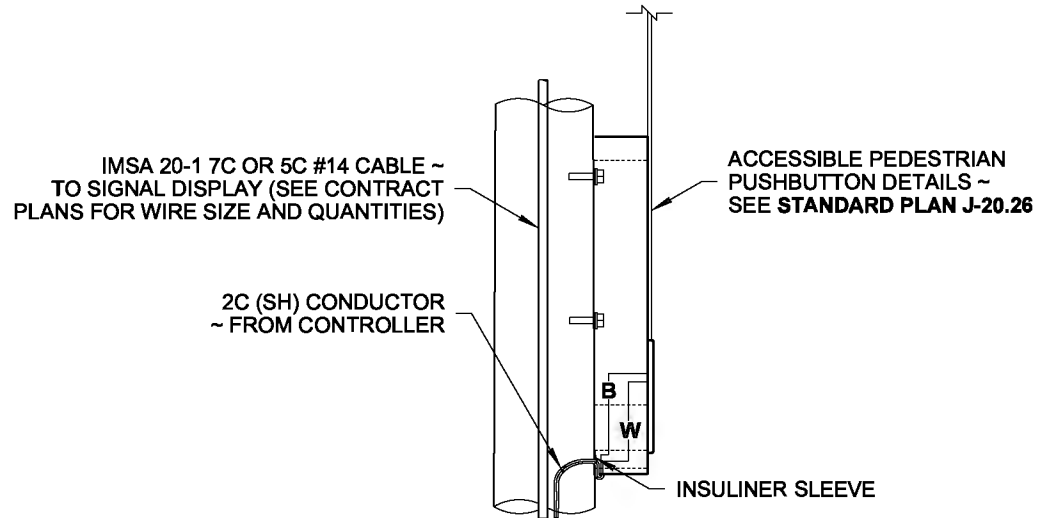
DRAWN BY: LISA CYFORD



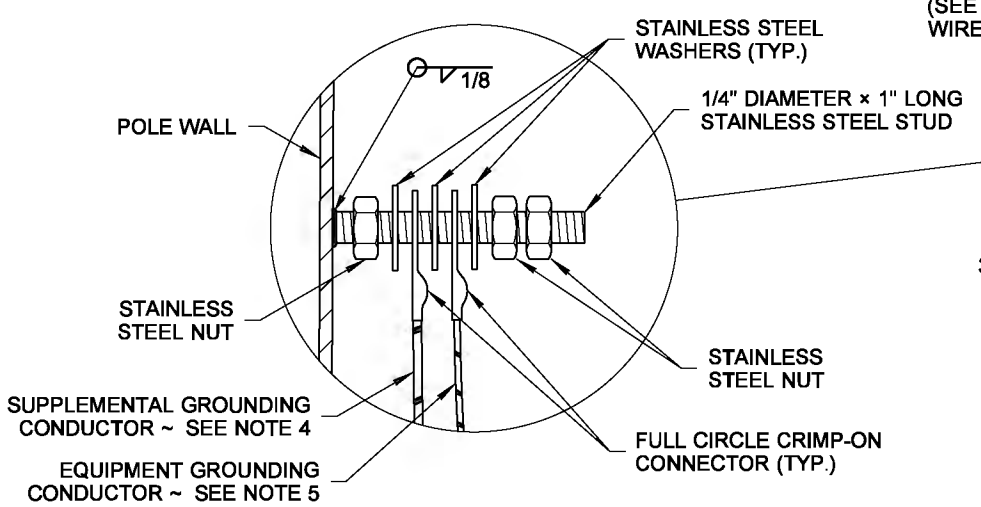
**DOUBLE PEDESTRIAN SIGNAL WIRING DETAIL**  
(TYPE C MOUNTING SHOWN)



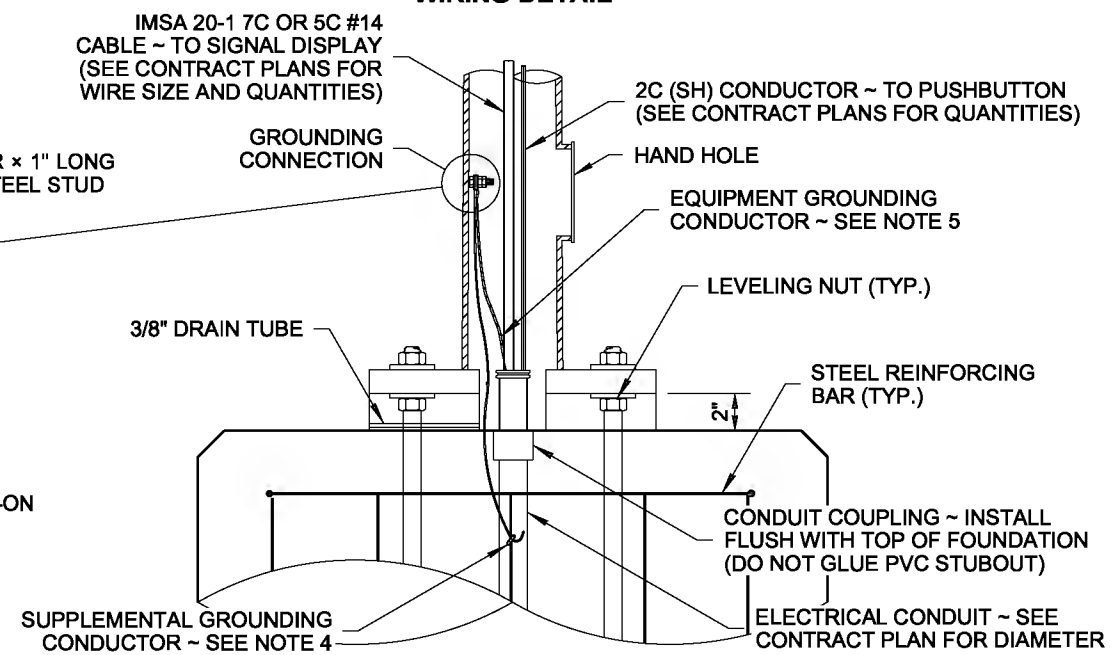
**PEDESTRIAN SIGNAL WIRING DETAIL**  
(TYPE D MOUNTING SHOWN)



**ACCESSIBLE PEDESTRIAN PUSHBUTTON WIRING DETAIL**



**GROUNDING CONNECTION DETAIL**



**FOUNDATION WIRING DETAIL**

**NOTES**

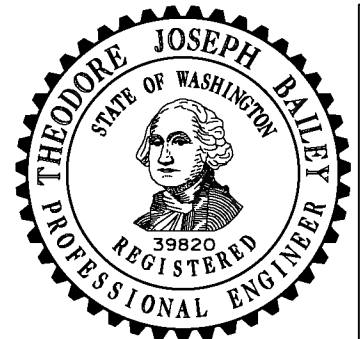
1. See **Standard Plan J-21.10** for Signal Standard Foundation with Fixed Base and Slip Base details.
2. See **Standard Specification 9-29.3** for Cable Conductor requirements.
3. Install heat shrink caps on all spare conductors not terminated on a terminal strip.
4. Supplemental grounding conductor shall be non-insulated #4 AWG stranded copper and shall be clamped to vertical rebar with a connector suitable for use embedded in concrete: provide 3' - 0" min. slack. Attach to pole grounding stud with a full circle crimp-on connector (crimped with manufacturer's recommended crimper).
5. Equipment grounding conductor shall attach to grounding stud with a full circle crimp-on connector (crimped with a manufacturer's recommended crimper).

5C PEDESTRIAN HEAD TERMINATIONS		
TERMINAL NUMBER	COLOR CODE	USE
7 * 1	R	DON'T WALK DISPLAY
7 * 2	G	WALK DISPLAY
7 * 3	W	NEUTRAL CONDUCTOR
7 * 6	B	SPARE CONDUCTOR
7 * 7	O	SPARE CONDUCTOR

\* ASSOCIATED PHASE NUMBER

7C PEDESTRIAN HEAD TERMINATIONS		
TERMINAL NUMBER	COLOR CODE	USE
7 * 1	R	DON'T WALK DISPLAY
7 * 2	G	WALK DISPLAY
7 * 3	W	NEUTRAL CONDUCTOR
7 * 6	B	SPARE CONDUCTOR
7 * 1	O	DON'T WALK DISPLAY
7 * 2	BL	WALK DISPLAY
7 * 3	WB	NEUTRAL CONDUCTOR

\* ASSOCIATED PHASE NUMBER



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**PEDESTRIAN SIGNAL STANDARD (TYPE PS) ELECTRICAL DETAIL**  
**STANDARD PLAN J-20.20-02**

SHEET 1 OF 1 SHEET

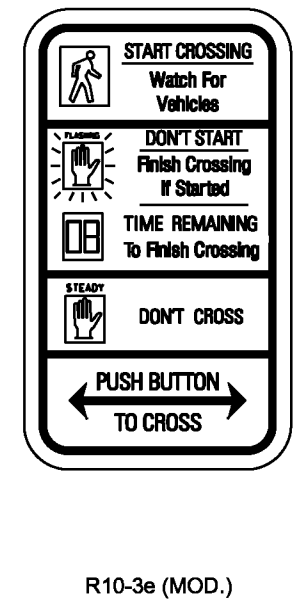
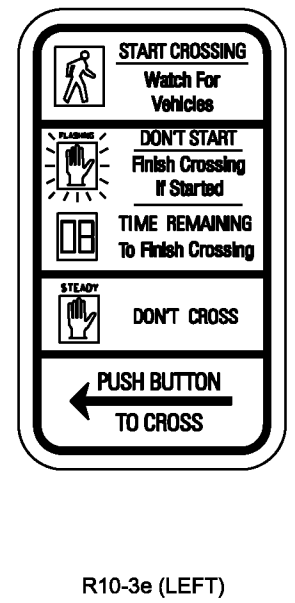
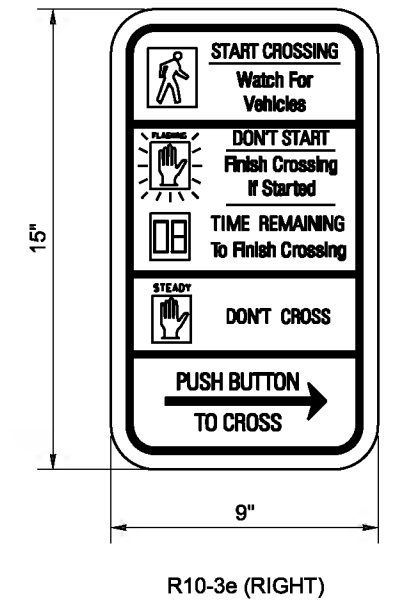
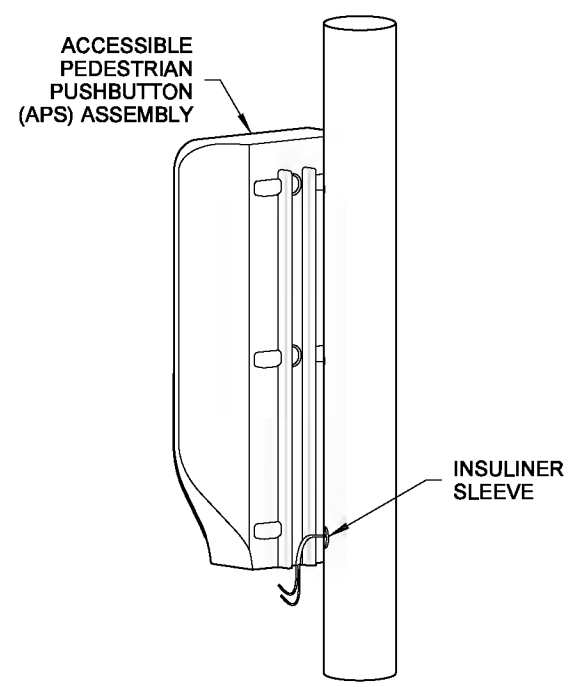
APPROVED FOR PUBLICATION

**Pasco Bakotich III** 5/20/13  
STATE DESIGN ENGINEER DATE

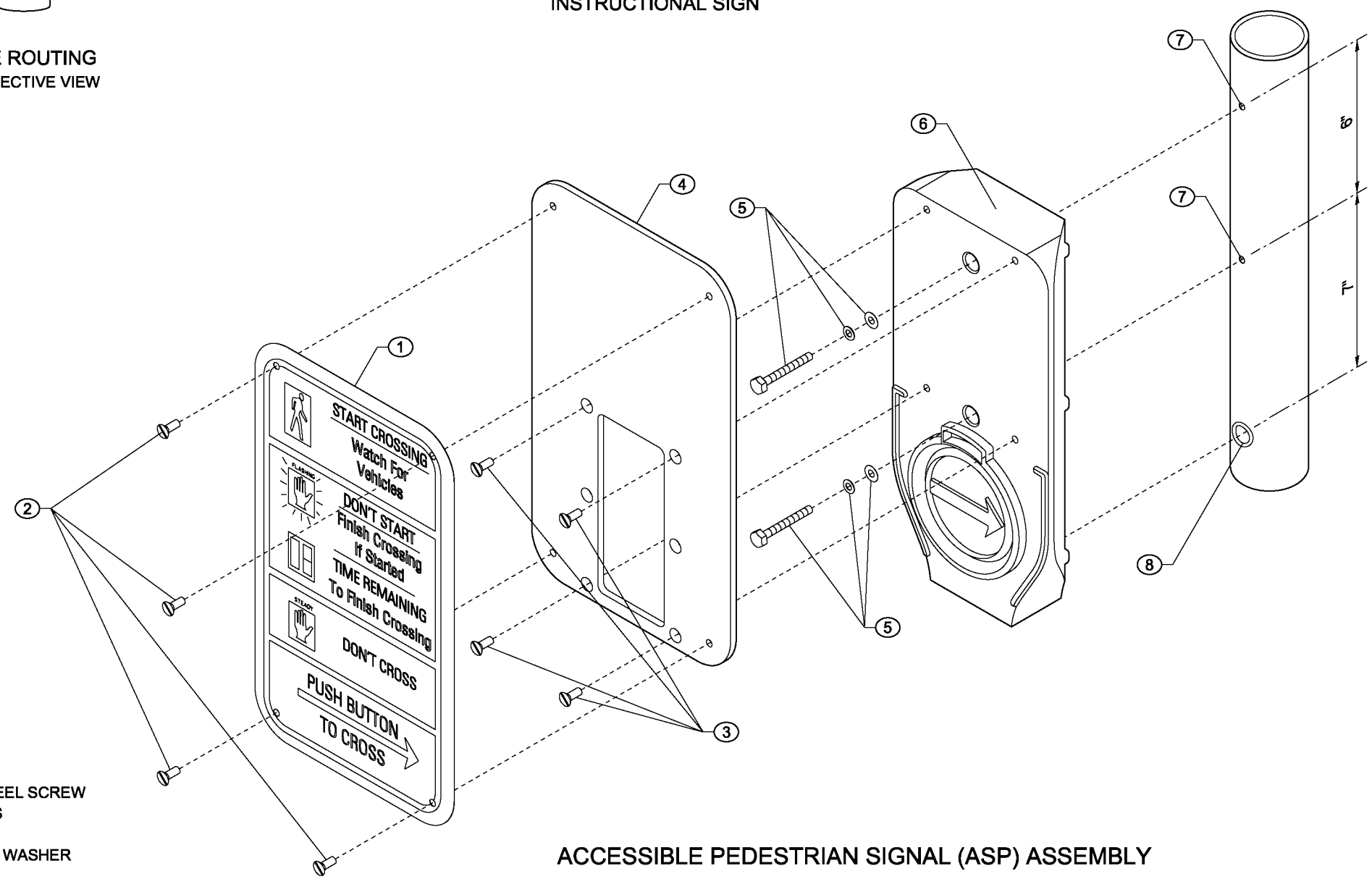
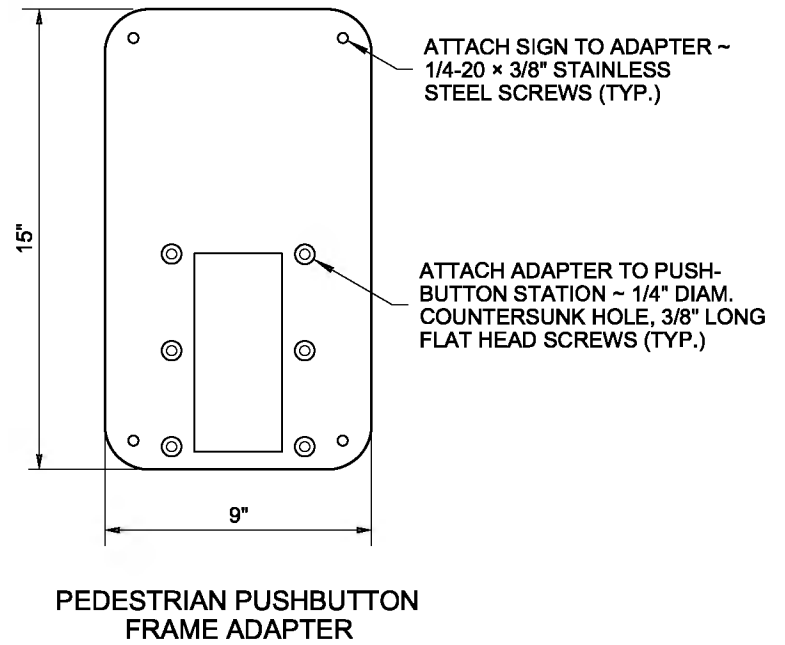
Washington State Department of Transportation

CONFIGURATIONS VARY AMONG DIFFERENT MANUFACTURERS (SHOWN EXPLODED FOR CLARITY)

DRAWN BY: LISA CYFORD

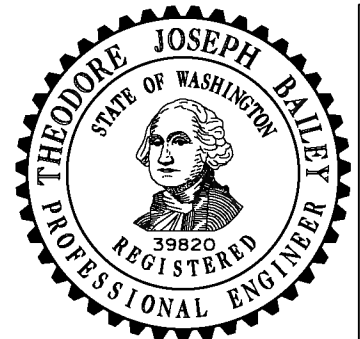
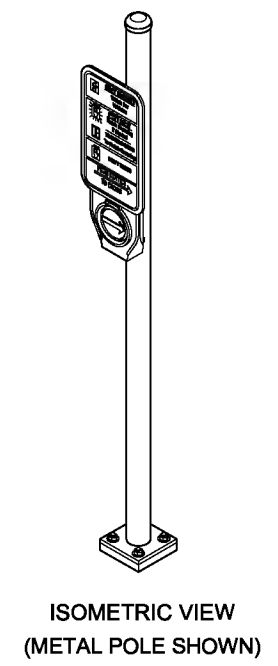


PEDESTRIAN PUSHBUTTON INSTRUCTIONAL SIGN



- KEY**
- ① FACE PLATE
  - ② 1/4-20 x 3/8" LONG STAINLESS STEEL SCREW
  - ③ 1/4-20 STAINLESS STEEL SCREWS
  - ④ PUSHBUTTON FRAME ADAPTER
  - ⑤ 1/4-20 STAINLESS STEEL BOLT W/ WASHER AND LOCK WASHER
  - ⑥ PUSHBUTTON STATION
  - ⑦ DRILL AND TAP SHAFT FOR 1/4" DIAM. BOLT
  - ⑧ DRILL AND TAP SHAFT FOR 5/8" WIRE GUIDE HOLE - ADD INSULINER

ACCESSIBLE PEDESTRIAN SIGNAL (ASP) ASSEMBLY  
METAL POLE INSTALLATION  
PPB-M



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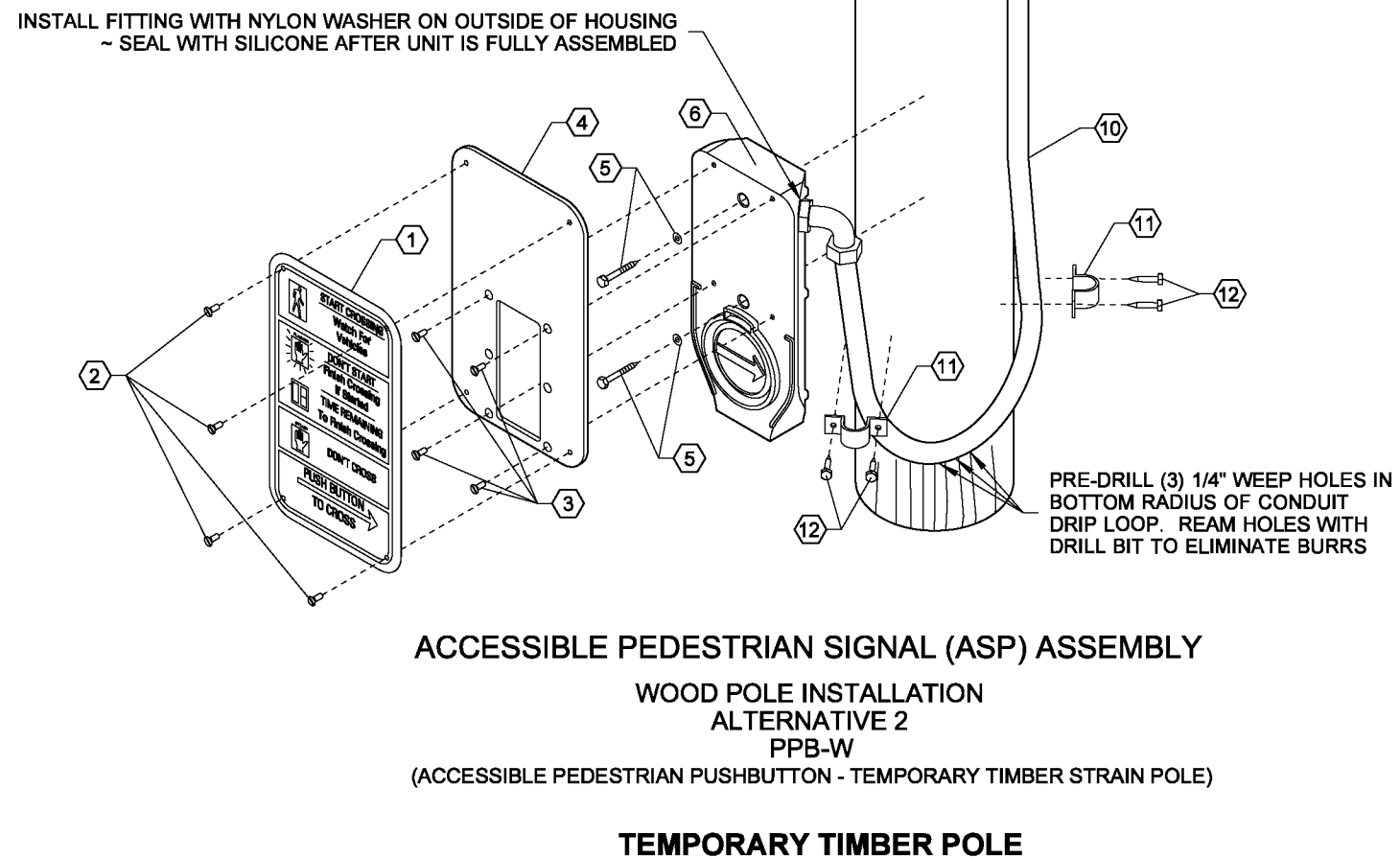
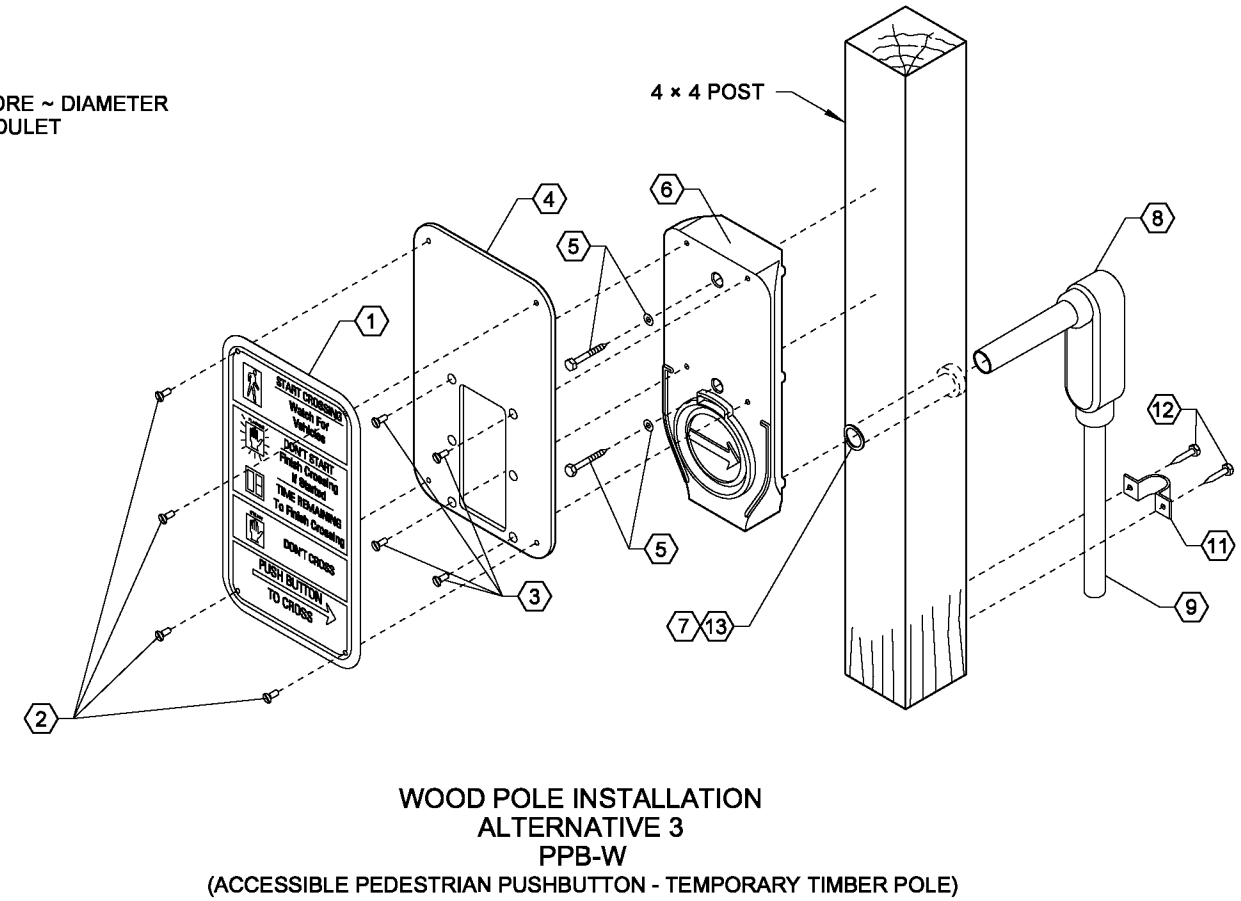
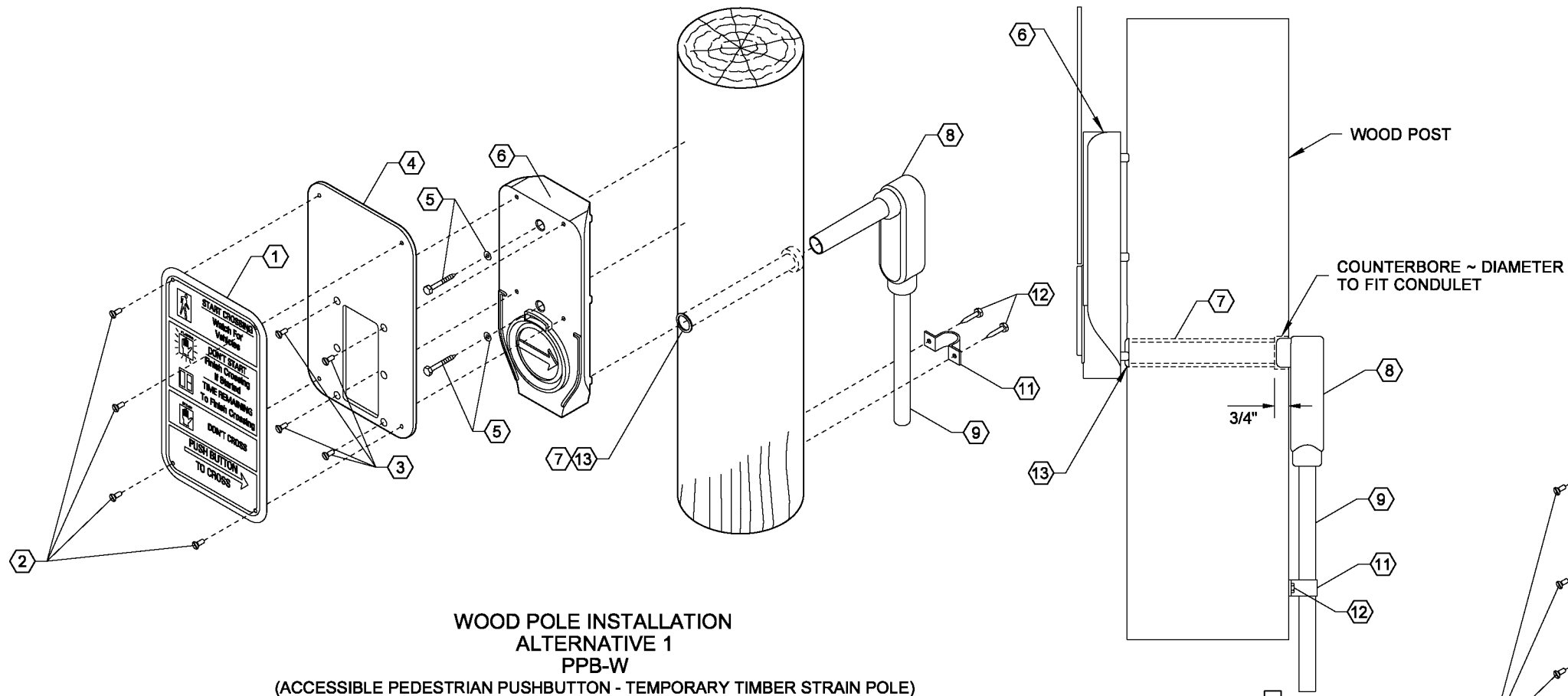
**ACCESSIBLE PEDESTRIAN PUSHBUTTON (PPB) DETAILS**  
**STANDARD PLAN J-20.26-01**

SHEET 1 OF 2 SHEETS

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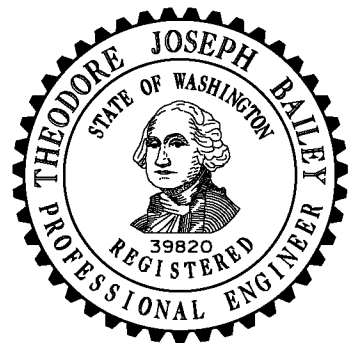
**Pasco Bakotich III** 7/12/12  
STATE DESIGN ENGINEER DATE

Washington State Department of Transportation



KEY

- 1 FACE PLATE
- 2 1/4-20 x 3/8" LONG STAINLESS STEEL SCREW
- 3 1/4-20 STAINLESS STEEL SCREWS
- 4 PUSHBUTTON FRAME ADAPTER
- 5 LAG BOLT WITH WASHER
- 6 PUSHBUTTON STATION
- 7 CONDUIT DIAMETER + 1/8" HOLE THRU POLE
- 8 CONDULET
- 9 3/4" CONDUIT
- 10 LIQUID-TITE FLEX CONDUIT
- 11 ONE PIECE TWO HOLE CLAMP
- 12 LAG BOLT
- 13 INSULINER SLEEVE



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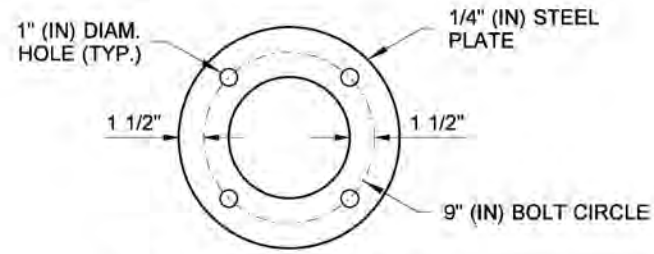
**ACCESSIBLE PEDESTRIAN  
PUSHBUTTON (PPB)  
DETAILS**  
**STANDARD PLAN J-20.26-01**

SHEET 2 OF 2 SHEETS

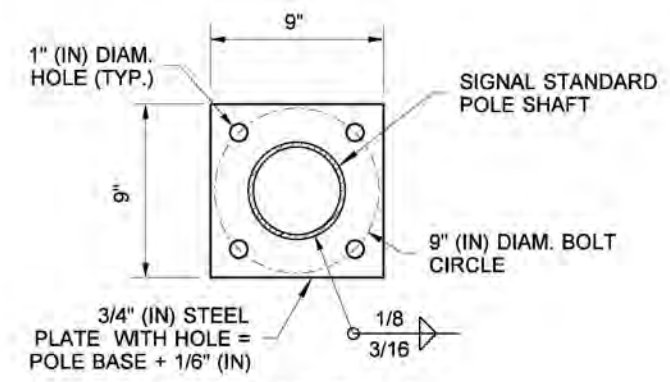
APPROVED FOR PUBLICATION

**Pasco Bakotich III** 7/12/12  
STATE DESIGN ENGINEER DATE

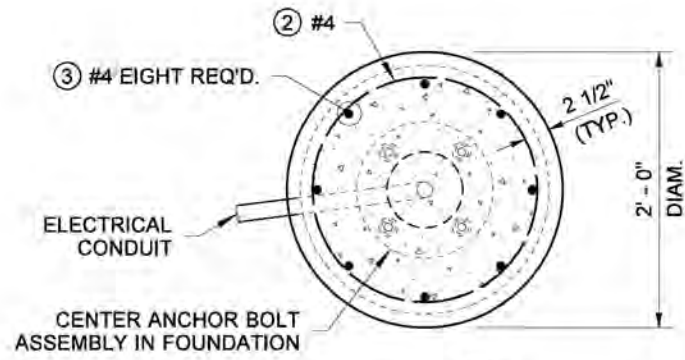




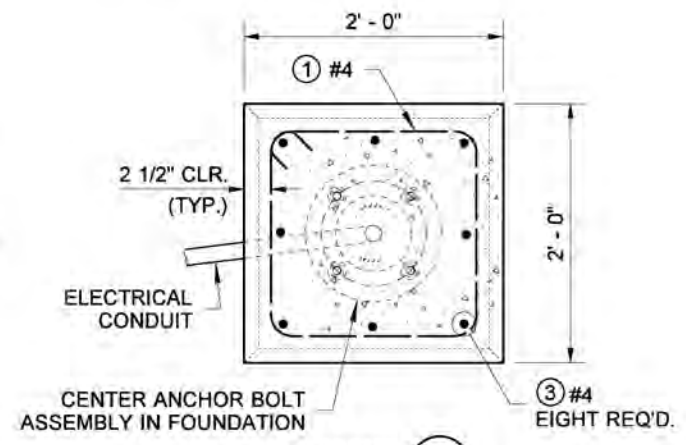
**ANCHOR BOLT TEMPLATE**



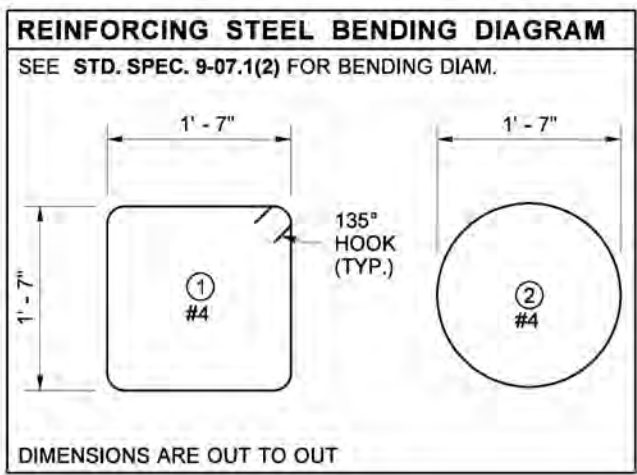
**BASE PLATE DETAIL**



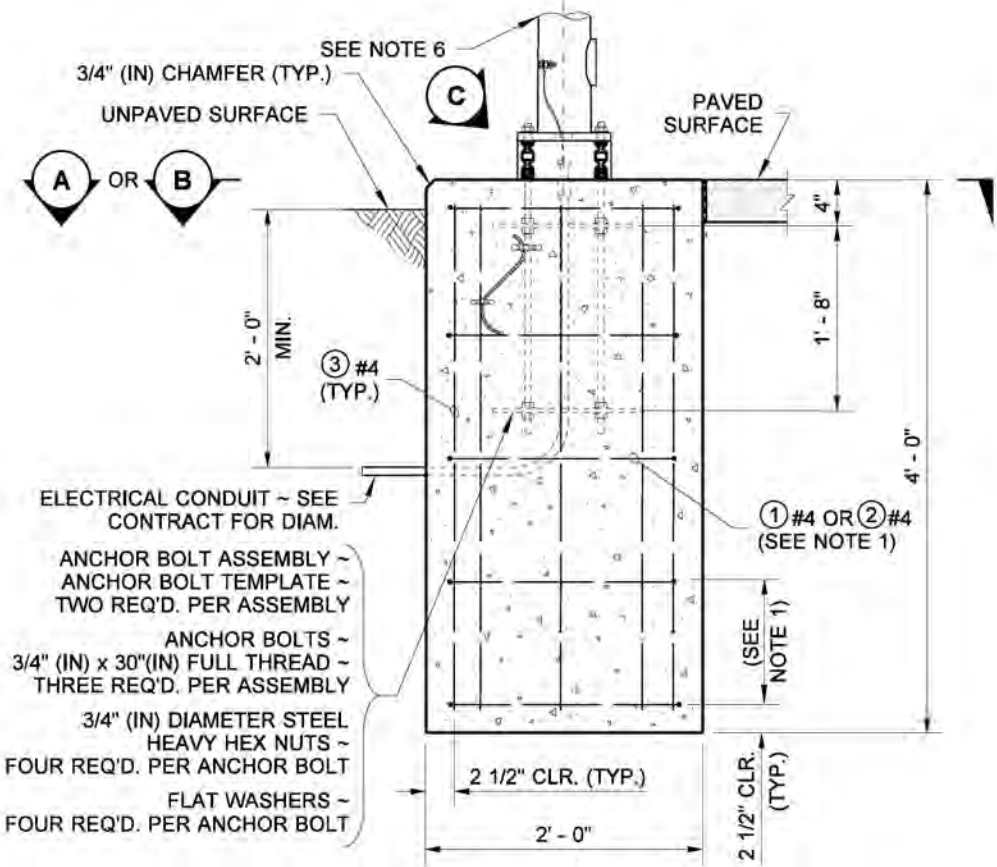
**SECTION A  
ROUND FOUNDATION - PLAN VIEW**



**SECTION B  
SQUARE FOUNDATION - PLAN VIEW**



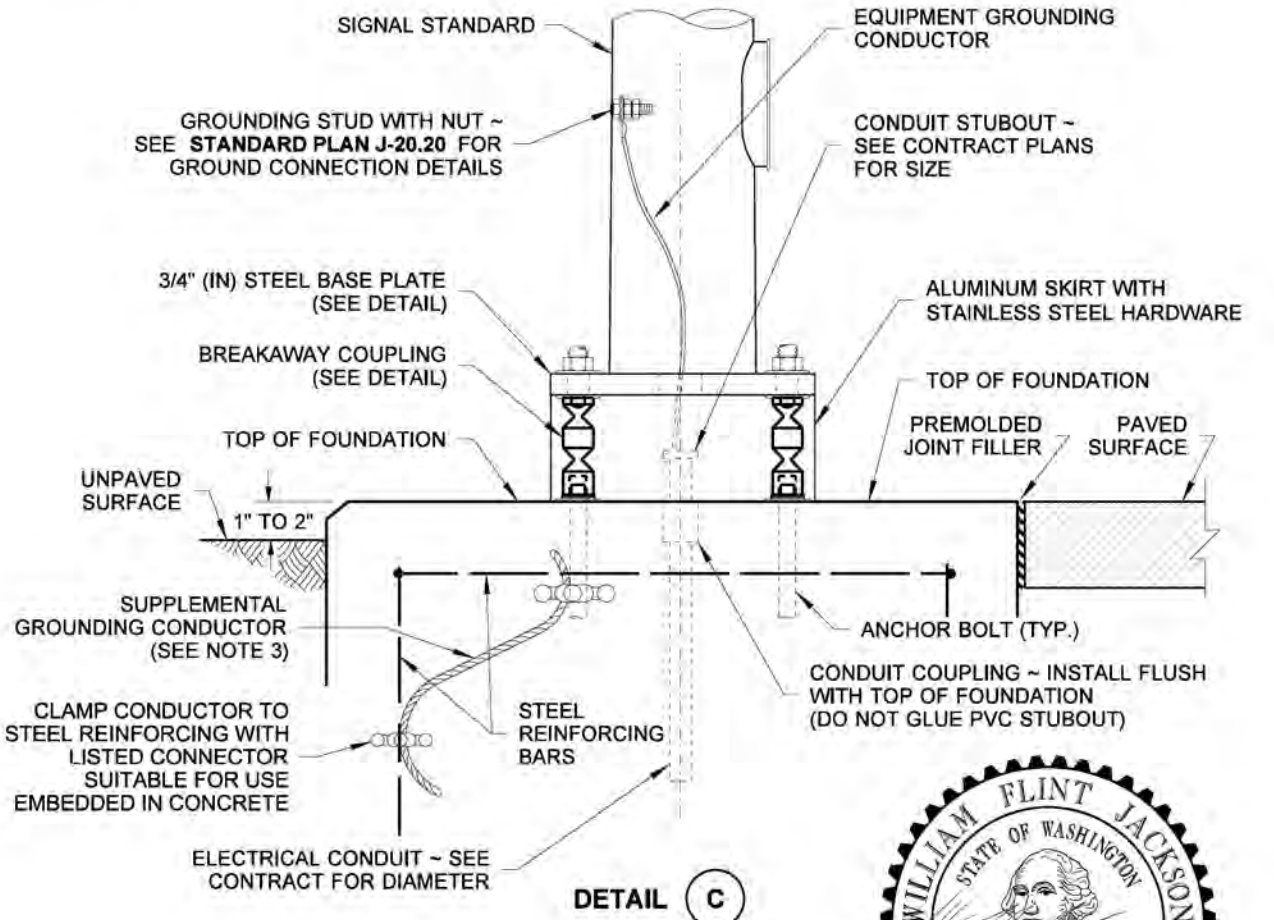
**REINFORCING STEEL BENDING DIAGRAM**  
SEE STD. SPEC. 9-07.1(2) FOR BENDING DIAM.  
DIMENSIONS ARE OUT TO OUT



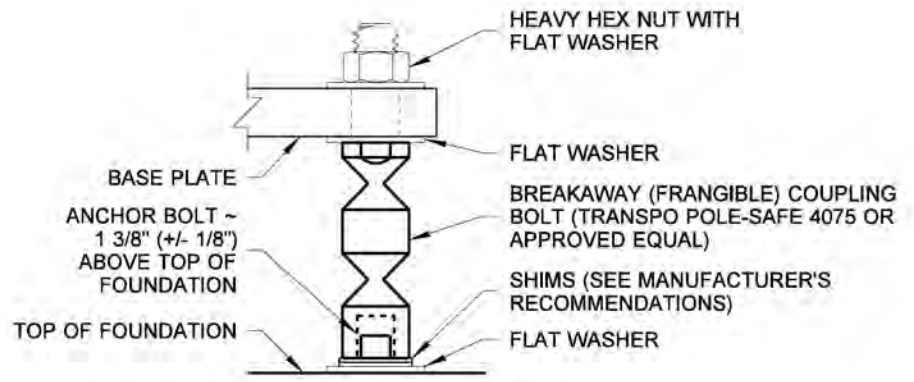
**ELEVATION  
FLAT FOUNDATION DETAIL**

**NOTES**

1. Round foundations require five reinforcing steel hoops at ~ 10" spacing. Square foundations require three reinforcing steel hoops at ~ 1' - 3 1/2" spacing.
2. Nuts for anchor bolts shall be **ASTM A563** Grade A, D, or DH. Washers for anchor bolts shall meet ASTM F436.
3. Supplemental grounding conductor shall be non-insulated #4 AWG stranded copper and shall be clamped to vertical rebar and anchor bolt with connectors suitable for use embedded in concrete. Supplemental ground shall be verified intact by Contracting Agency Inspector before placing concrete.
4. Junction box serving the Standard shall preferably be located 5' - 0" (10' - 0" Max.) from the Standard.
5. Provide cable tie at wiring entering the junction box ~ See **Detail A, Standard Plan J-28.70**.
6. See **Standard Plan J-20.16, J-21.15, J-21.16, or J-22.15** as applicable for pole details above this point.



**DETAIL C**



**BREAKAWAY COUPLING DETAIL**



Jun 20, 2024

**TYPE PS, TYPE 1, RM  
& FB SIGNAL STANDARD  
FOUNDATION DETAILS  
STANDARD PLAN J-21.10-05**

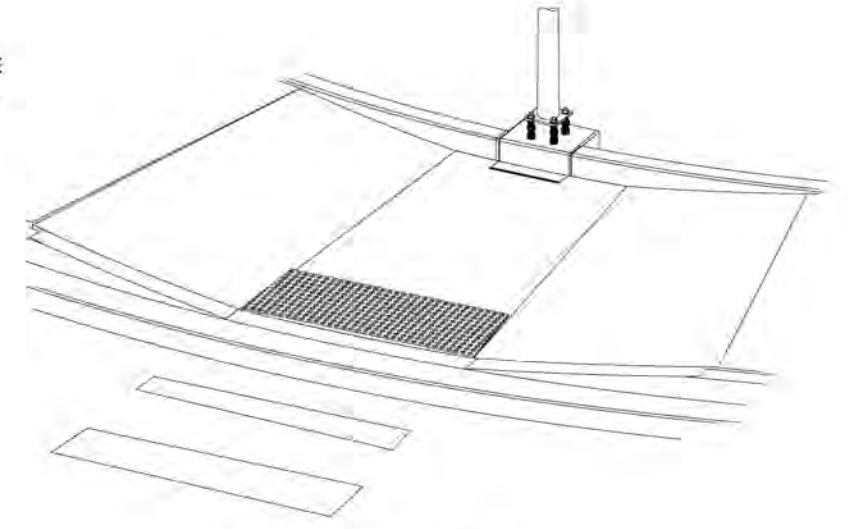
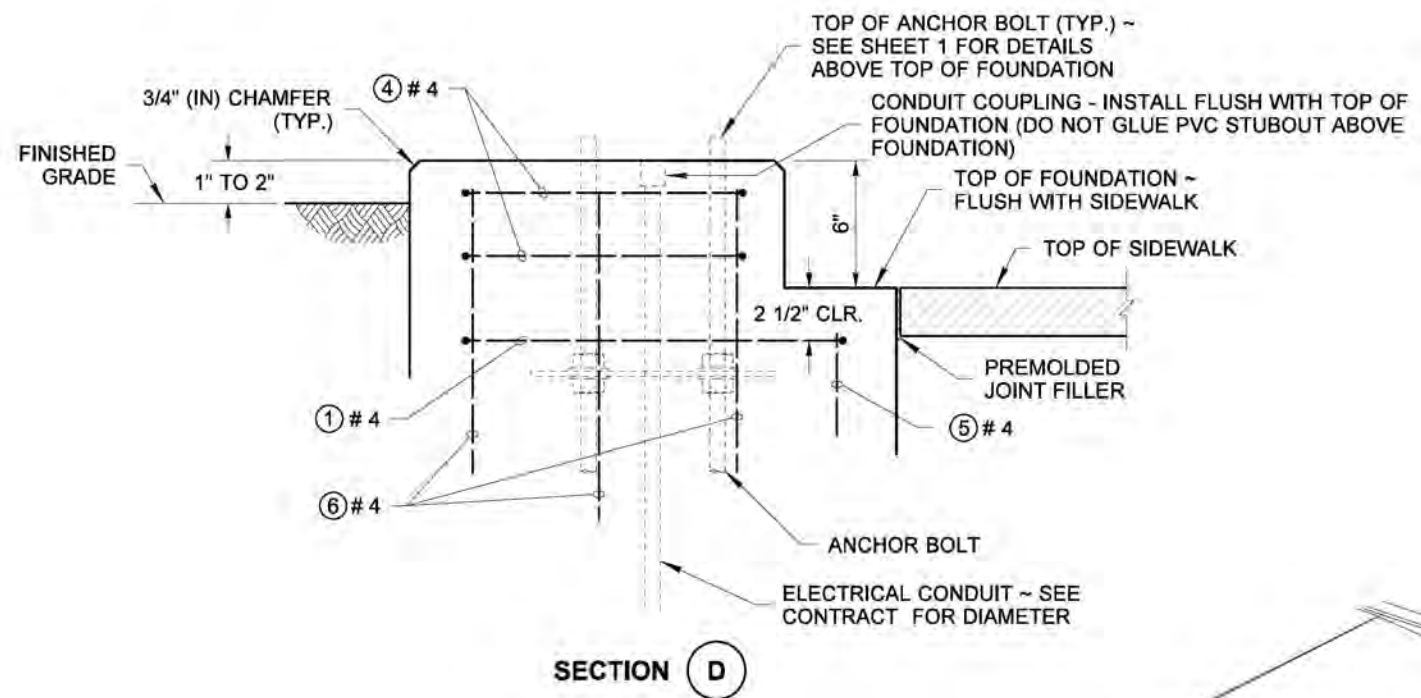
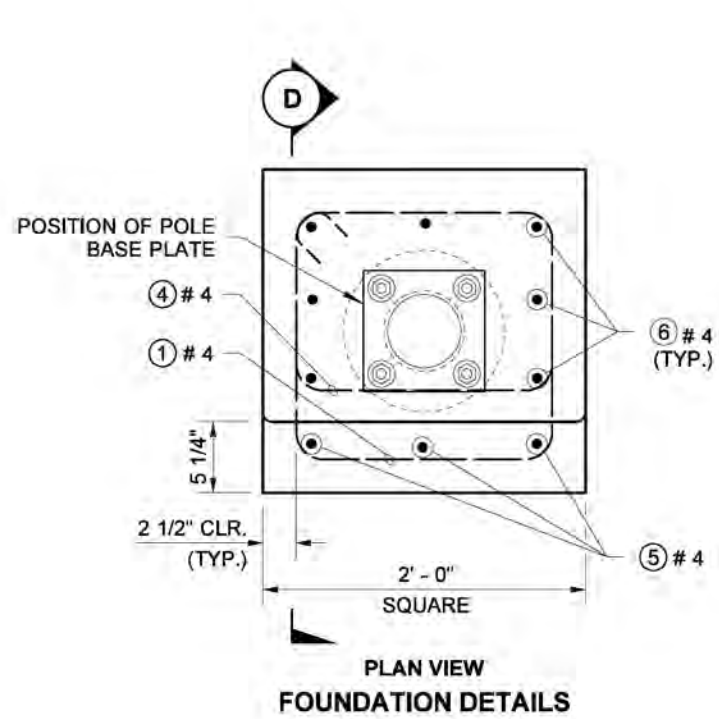
SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION

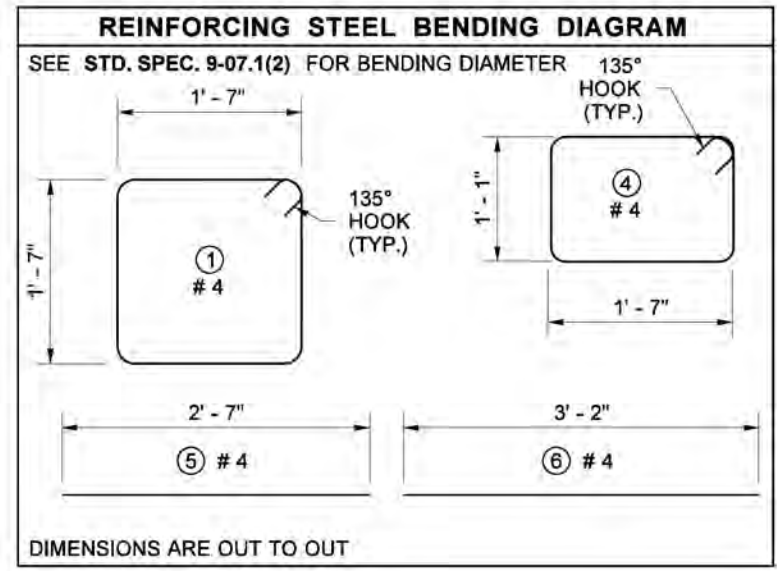
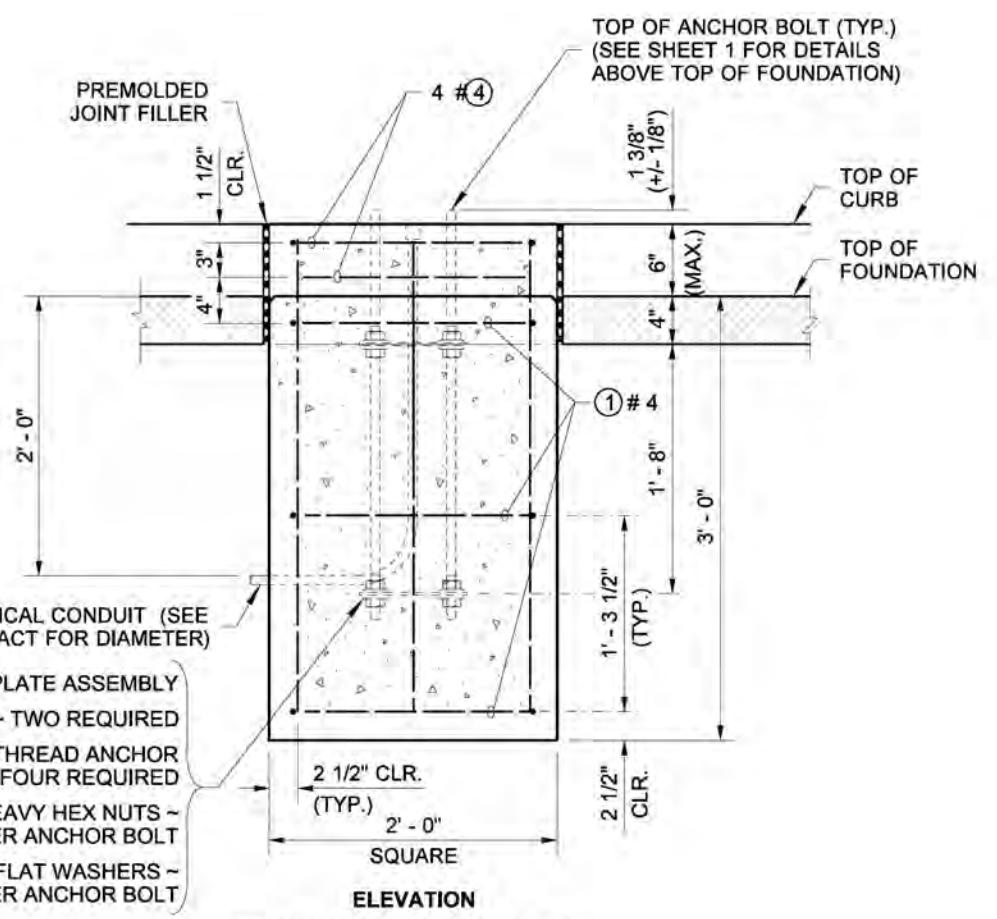
*Mark A. Powers* Jun 21, 2024  
STATE DESIGN ENGINEER







REINFORCING STEEL QUANTITIES LIST				
MARK	①	④	⑤	⑥
QTY.	3	2	3	7



Jun 20, 2024

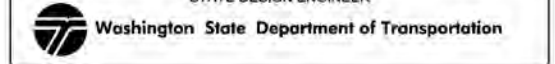
**TYPE PS, TYPE 1, RM & FB SIGNAL STANDARD FOUNDATION DETAILS**  
**STANDARD PLAN J-21.10-05**

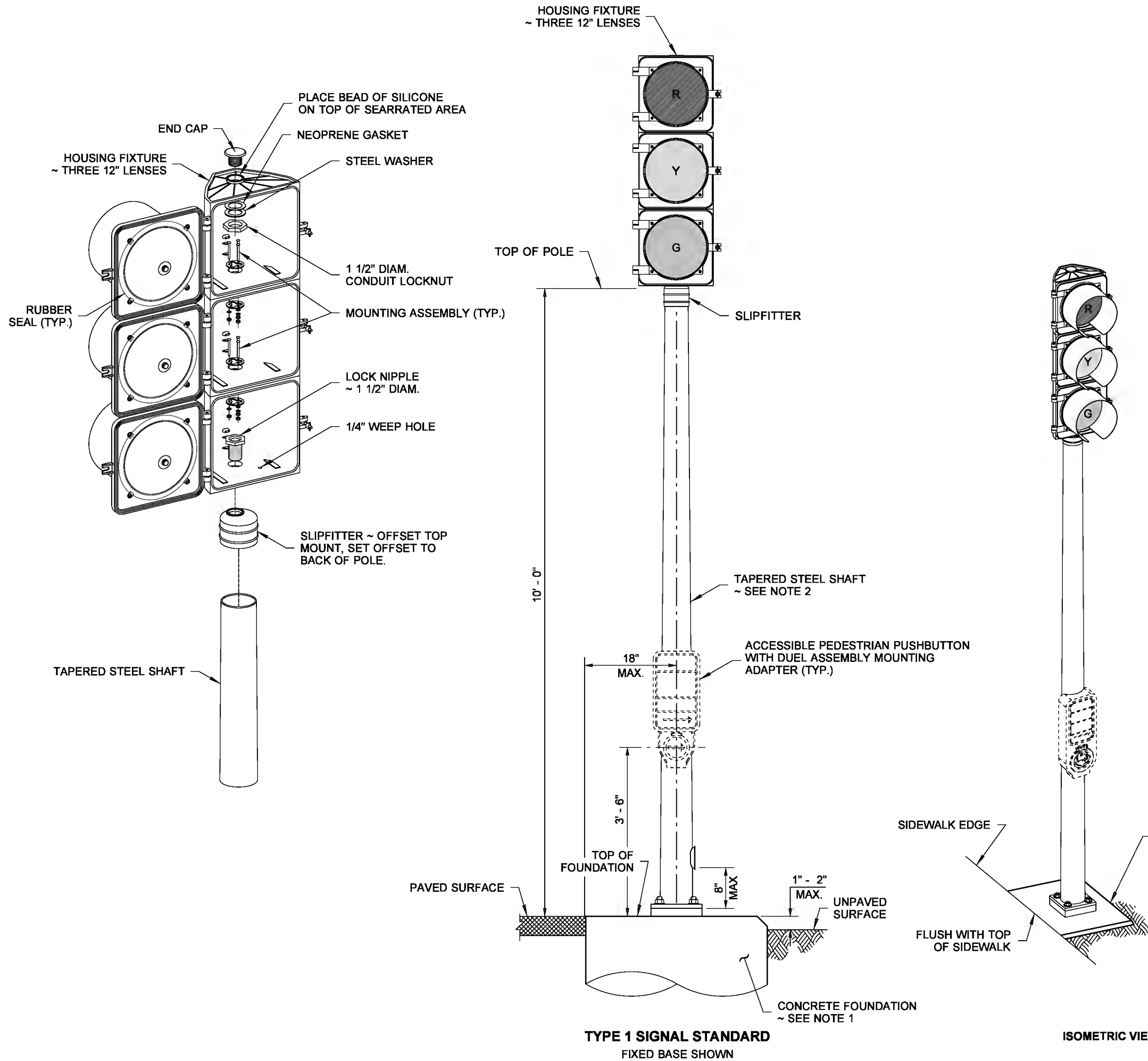
SHEET 2 OF 2 SHEETS

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*Mark A. Davis* Jun 21, 2024

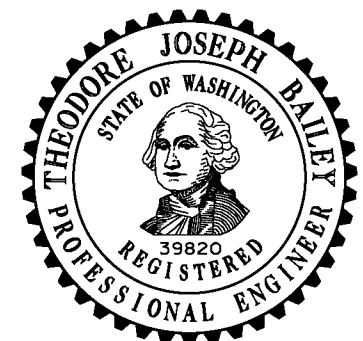
STATE DESIGN ENGINEER





**NOTES**

1. See **Standard Plan J-21.10** for Signal Standard Foundation with Fixed Base and Slip Base details.
2. Steel shaft shall be tapered either round or dodecagon (12 sided), 11 gage, 4 1/2" O.D. at slipfitter. Taper shall be 0.14 inches per foot.
3. All poles shall be hot dip galvanized per AASHTO M111.
4. Welding of structures shall be in accordance with the latest edition of the AWS D1.1 Structural Welding Code - Steel. All butt welds shall be ground flush with base metal.
5. See **Standard Plan J-21.20** for Electrical details.
6. Pedestrian signal displays mounted on the side of an octagonal (8 sided) traffic signal pole with a pole attachment angle other than 0°, 45°, 90°, 135°, 180°, 225°, 270°, or 315° shall utilize:
  - Type A mounting when two pedestrian heads are installed on the same signal pole.
  - Type B mounting when only one pedestrian signal head is mounted on a signal pole.
7. Junction Box serving the Standard shall preferably be located 5' - 0" (10' - 0" Max.) from the Standard.



NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT UNLESS IT IS USED IN CONJUNCTION WITH THE ORIGINAL SET BY THE ENGINEER WHO DESIGNED IT. FOR MORE INFORMATION, CONTACT THE ENGINEER OR THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

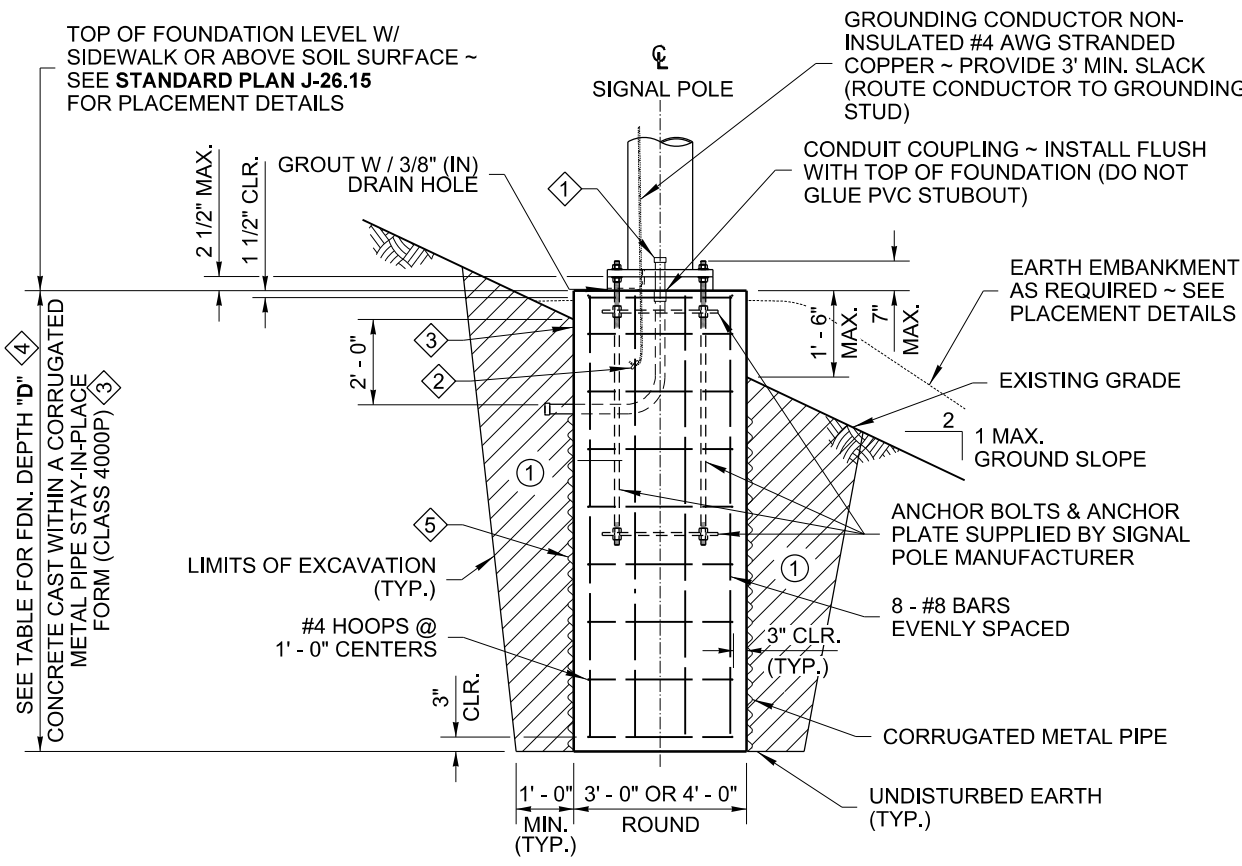
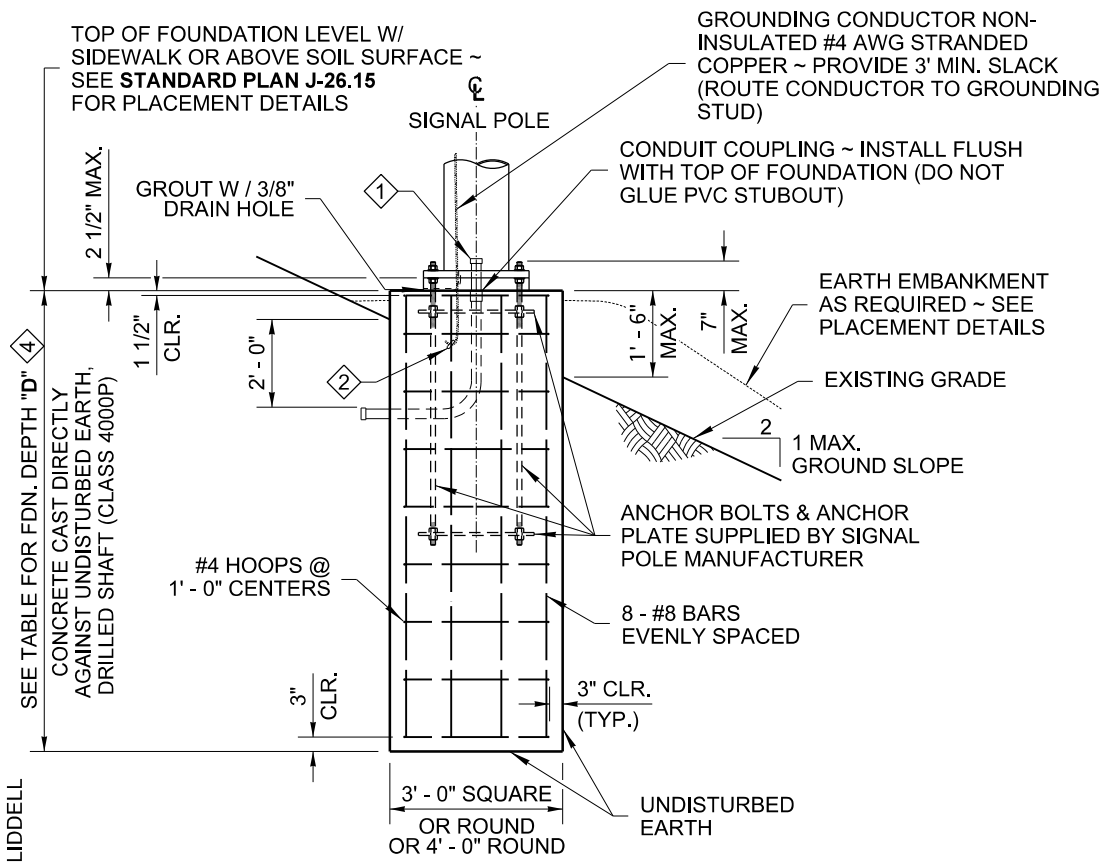
**TYPE 1 SIGNAL  
STANDARD DETAILS**  
**STANDARD PLAN J-21.15-01**

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

**Pasco Bakotich III**      **6/10/13**  
STATE DESIGN ENGINEER      DATE





**NOTES**

1. This structure has been designed according to the Fifth Edition 2009 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. Basic wind velocity is 90 mph, Design Life/Recurrence Interval 50 years, and Fatigue Category III.
2. Foundations are designed for Type II, III, and SD Signal Standards with a maximum mast arm length of 65'.
3. Foundations are designed for Single Mast Arm Standards and Double Mast Arm Standards with 90° between arms. Special foundation design is required for Double Arm Standards where the angle between mast arms is other than 90°. For Double Mast Arm Standards with 90° between arms, use larger XYZ value for foundation depth selection.
4. Foundations not within the parameters of this standard require Special Design. Contact the **WSDOT Bridge and Structures Office** through the Engineer for Special Foundation Designs.
5. Where a foundation is constructed within a Media Filter Drain, the foundation depth shown in the Contract Plans shall be increased by the depth of the Media Filter Drain.
6. The top 2 feet of the foundation shall use a smooth form (such as paper or cardboard). After the concrete has cured, this entire form shall be removed.
7. For design parameters between the values listed in Table, depth requirements may be interpolated between the values provided.
8. Install Signal Foundation Identification Tag. See **Standard Plan J-26.15** for details.

DRAWN BY: FERN LIDDELL

**FOUNDATION REINFORCEMENT DETAIL**  
CONCRETE CAST DIRECTLY AGAINST UNDISTURBED EARTH, DRILLED SHAFT

**ALTERNATE # 1**

**FOUNDATION REINFORCEMENT AND BACKFILL DETAIL**  
CONCRETE CAST WITHIN A CORRUGATED METAL PIPE STAY-IN-PLACE FORM

**ALTERNATE # 2**

- ① CONDUIT SIZE AND QUANTITY AS SHOWN IN THE CONTRACT; CAP BOTH ENDS.
- ② CLAMP CONDUCTOR TO STEEL REINFORCING WITH LISTED CONNECTOR SUITABLE FOR USE EMBEDDED IN CONCRETE

- ③ PAPER OR CARDBOARD FORM SHALL NOT STAY-IN-PLACE
- ④ SEE NOTE 5

**ALTERNATE #2 - CONSTRUCTION METHOD**  
**METAL (SUBSURFACE) FORM REQUIRED**

FOUNDATION DEPTH "D" TABLE																			
ALTERNATE # 1 DRILLED SHAFT-TYPE CONSTRUCTION																			
FOR LATERAL BEARING PRESSURE = 2500 PSF & Ø = 34°, 1500 PSF & Ø = 28°, 1000 PSF & Ø = 26°																			
GROUND SLOPE = 3H : 1V OR FLATTER										GROUND SLOPE = GREATER THAN 3H : 1V TO 2H : 1V									
ALLOWABLE LATERAL BEARING PRESSURE	FOUNDATION TYPE	XYZ (FT³)								ALLOWABLE LATERAL BEARING PRESSURE	FOUNDATION TYPE	XYZ (FT³)							
		700	900	1350	1500	1900	2300	2600	3000			700	900	1350	1500	1900	2300	2600	3000
1000 PSF	3' - 0" ROUND	10' - 0"	10' - 0"	11' - 0"	11' - 0"	15' - 0"	18' - 0"	20' - 0"	20' - 0"	1000 PSF	3' - 0" ROUND	SPECIAL FOUNDATION TYPE							
	3' - 0" SQUARE	8' - 0"	8' - 0"	9' - 0"	9' - 0"	10' - 0"	11' - 0"	12' - 0"	12' - 0"		3' - 0" SQUARE	SPECIAL FOUNDATION TYPE							
	4' - 0" ROUND	8' - 0"	8' - 0"	9' - 0"	9' - 0"	10' - 0"	11' - 0"	12' - 0"	12' - 0"		4' - 0" ROUND	SPECIAL FOUNDATION TYPE							
1500 PSF	3' - 0" ROUND	8' - 0"	8' - 0"	9' - 0"	11' - 0"	13' - 0"	15' - 0"	18' - 0"	18' - 0"	1500 PSF	3' - 0" ROUND	11' - 0"	11' - 0"	12' - 0"	14' - 0"	16' - 0"	18' - 0"	21' - 0"	21' - 0"
	3' - 0" SQUARE	7' - 0"	7' - 0"	7' - 0"	8' - 0"	8' - 0"	9' - 0"	10' - 0"	10' - 0"		3' - 0" SQUARE	10' - 0"	10' - 0"	10' - 0"	11' - 0"	11' - 0"	12' - 0"	13' - 0"	13' - 0"
	4' - 0" ROUND	7' - 0"	7' - 0"	7' - 0"	8' - 0"	8' - 0"	9' - 0"	10' - 0"	10' - 0"		4' - 0" ROUND	10' - 0"	10' - 0"	10' - 0"	11' - 0"	11' - 0"	12' - 0"	13' - 0"	13' - 0"
2500 PSF OR GREATER	3' - 0" ROUND	6' - 0"	6' - 0"	7' - 0"	8' - 0"	9' - 0"	11' - 0"	15' - 0"	15' - 0"	2500 PSF OR GREATER	3' - 0" ROUND	9' - 0"	9' - 0"	10' - 0"	12' - 0"	12' - 0"	14' - 0"	18' - 0"	18' - 0"
	3' - 0" SQUARE	6' - 0"	6' - 0"	6' - 0"	6' - 0"	7' - 0"	7' - 0"	8' - 0"	8' - 0"		3' - 0" SQUARE	9' - 0"	9' - 0"	9' - 0"	9' - 0"	10' - 0"	10' - 0"	11' - 0"	11' - 0"
	4' - 0" ROUND	6' - 0"	6' - 0"	6' - 0"	6' - 0"	7' - 0"	7' - 0"	8' - 0"	8' - 0"		4' - 0" ROUND	9' - 0"	9' - 0"	9' - 0"	9' - 0"	10' - 0"	10' - 0"	11' - 0"	11' - 0"
ALTERNATE # 2 CORRUGATED METAL PIPE TYPE CONSTRUCTION																			
FOR LATERAL BEARING PRESSURE = 2500 PSF & Ø = 23°, 1500 PSF & Ø = 18°, 1000 PSF & Ø = 17°																			
GROUND SLOPE = 3H : 1V OR FLATTER										GROUND SLOPE = GREATER THAN 3H : 1V TO 2H : 1V									
ALLOWABLE LATERAL BEARING PRESSURE	FOUNDATION TYPE	XYZ (FT³)								ALLOWABLE LATERAL BEARING PRESSURE	FOUNDATION TYPE	XYZ (FT³)							
		700	900	1350	1500	1900	2300	2600	3000			700	900	1350	1500	1900	2300	2600	3000
1000 PSF	3' - 0" ROUND	10' - 0"	10' - 0"	11' - 0"	15' - 0"	20' - 0"	25' - 0"	28' - 0"	28' - 0"	1000 PSF	3' - 0" ROUND	SPECIAL FOUNDATION TYPE							
	4' - 0" ROUND	8' - 0"	8' - 0"	9' - 0"	12' - 0"	13' - 0"	14' - 0"	15' - 0"	15' - 0"		4' - 0" ROUND	SPECIAL FOUNDATION TYPE							
1500 PSF	3' - 0" ROUND	8' - 0"	8' - 0"	11' - 0"	15' - 0"	18' - 0"	21' - 0"	25' - 0"	25' - 0"	1500 PSF	3' - 0" ROUND	11' - 0"	11' - 0"	14' - 0"	18' - 0"	21' - 0"	24' - 0"	28' - 0"	23' - 0"
	4' - 0" ROUND	7' - 0"	7' - 0"	7' - 0"	8' - 0"	10' - 0"	13' - 0"	15' - 0"	15' - 0"		4' - 0" ROUND	10' - 0"	10' - 0"	10' - 0"	11' - 0"	13' - 0"	16' - 0"	18' - 0"	18' - 0"
2500 PSF OR GREATER	3' - 0" ROUND	6' - 0"	6' - 0"	7' - 0"	11' - 0"	13' - 0"	18' - 0"	20' - 0"	20' - 0"	2500 PSF OR GREATER	3' - 0" ROUND	9' - 0"	9' - 0"	10' - 0"	14' - 0"	16' - 0"	21' - 0"	23' - 0"	23' - 0"
	4' - 0" ROUND	6' - 0"	6' - 0"	6' - 0"	6' - 0"	7' - 0"	9' - 0"	9' - 0"	9' - 0"		4' - 0" ROUND	9' - 0"	9' - 0"	9' - 0"	9' - 0"	10' - 0"	12' - 0"	12' - 0"	12' - 0"

When the existing soil will not retain a vertical face, over-excavate the foundation area and install a 36" or 48" diameter corrugated metal (pipe) form. The top of the corrugated metal form shall terminate 1 foot below final grade. Continue forming to full height using paper or cardboard form to achieve a smooth finish on final exposed cement concrete. Support the form as necessary to remain plumb.

Place the concrete foundation.

After concrete has cured, remove the entire paper or cardboard form portion.

- ① Shoring or Extra Excavation as required. Excavated area shall be backfilled with Controlled-Density Fill (CDF), or with soil in accordance with **Standard Specification Section 8-20.3(2)** and Compaction Method 1 of **Standard Specification Section 2-09.3(1)E**.



**TRAFFIC SIGNAL STANDARD FOUNDATION**

**STANDARD PLAN J-26.10-03**

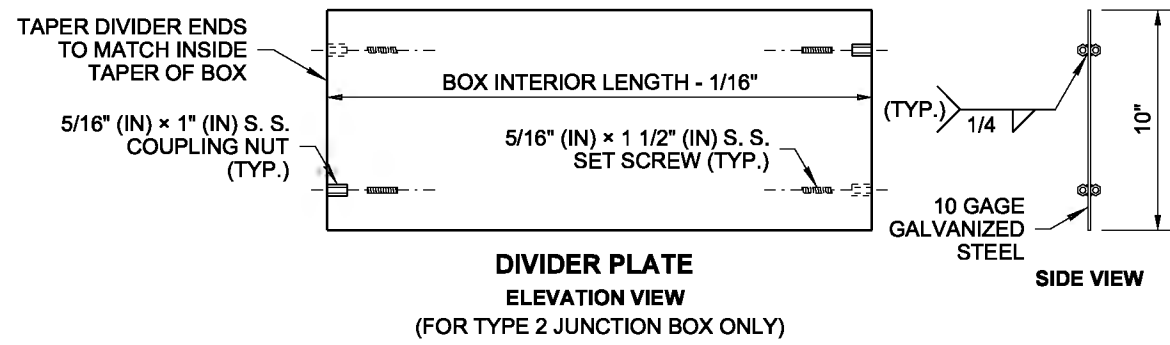
SHEET 1 OF 1 SHEET

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Washington State Department of Transportation



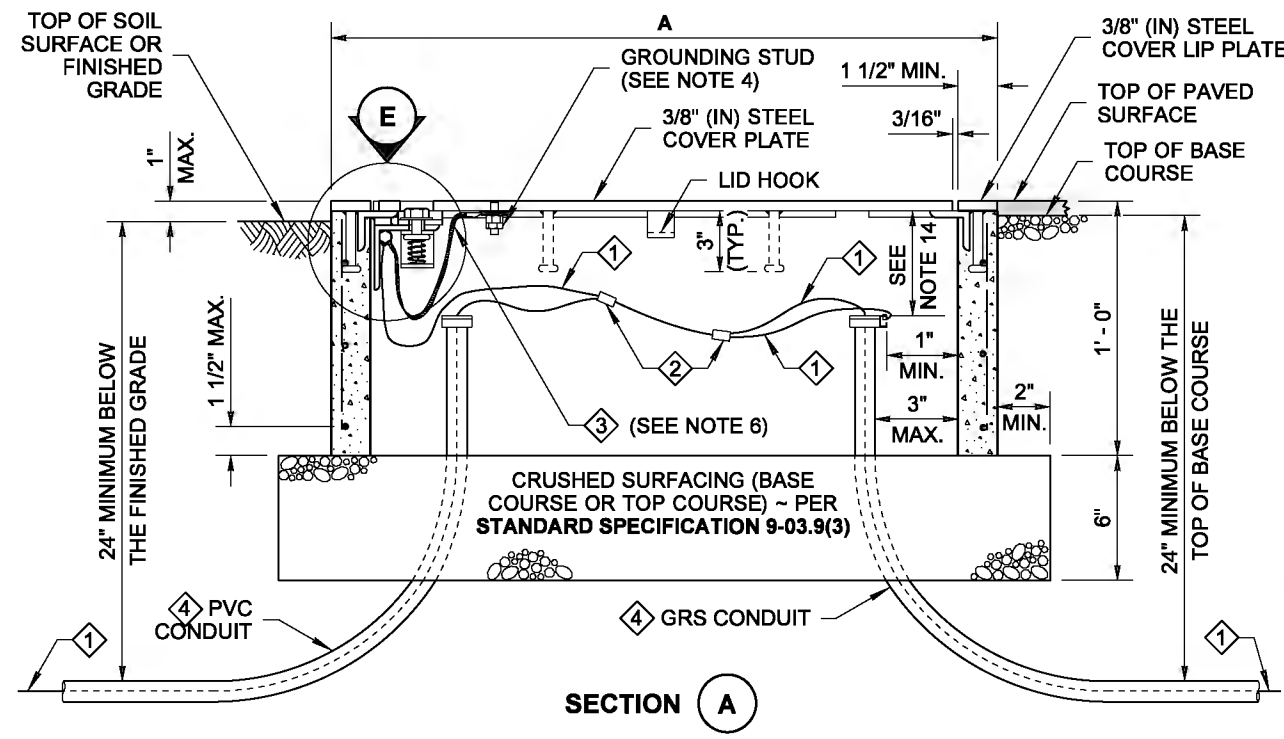
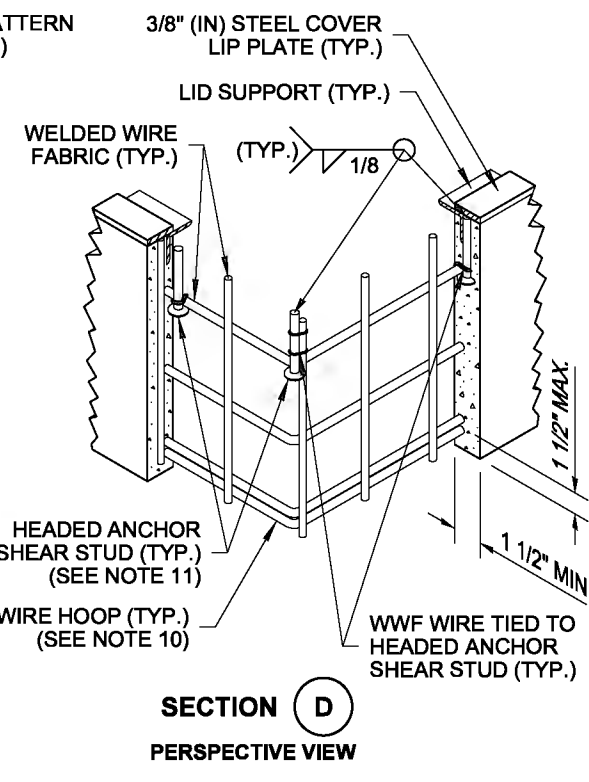
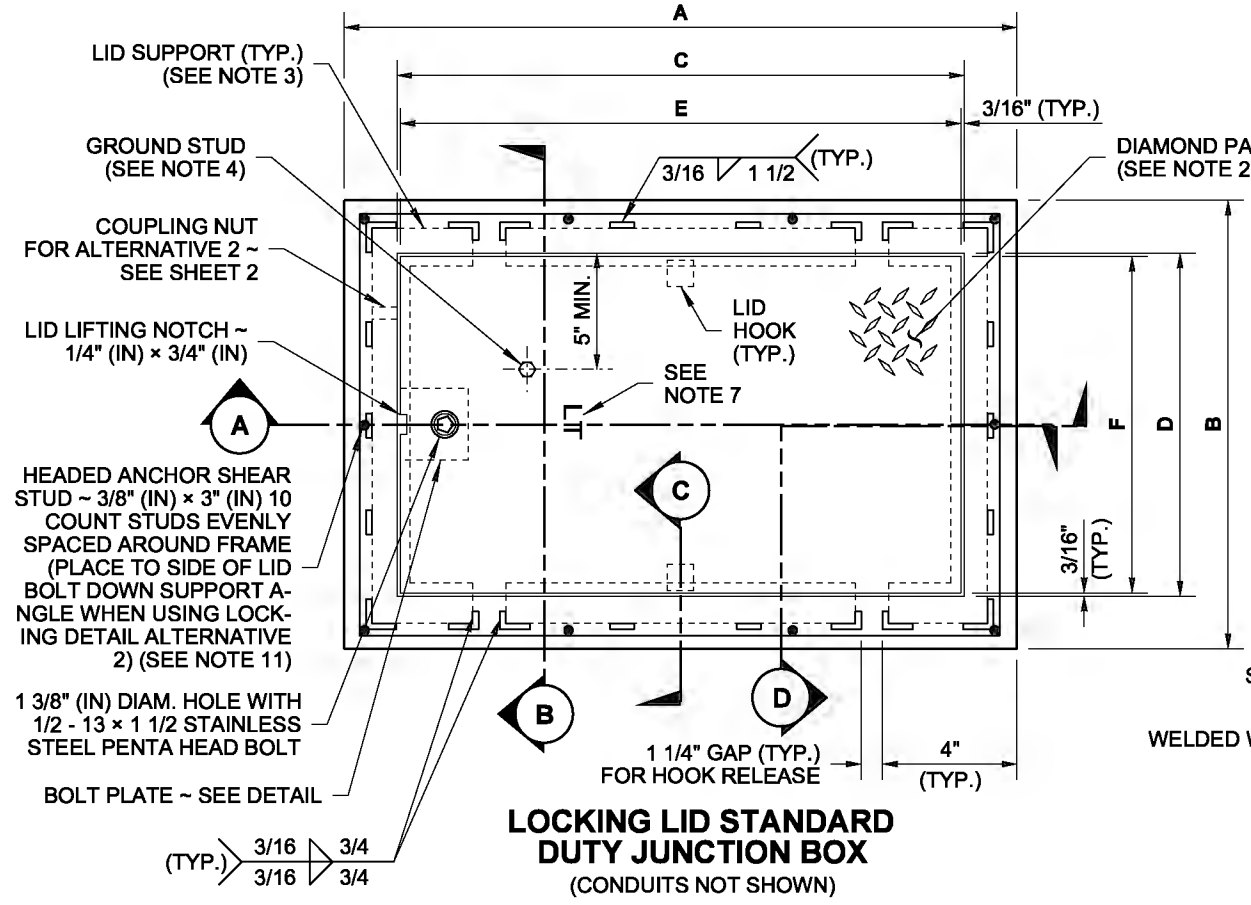
DRAWN BY: LISA CYFORD



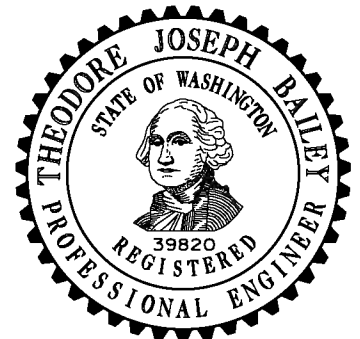
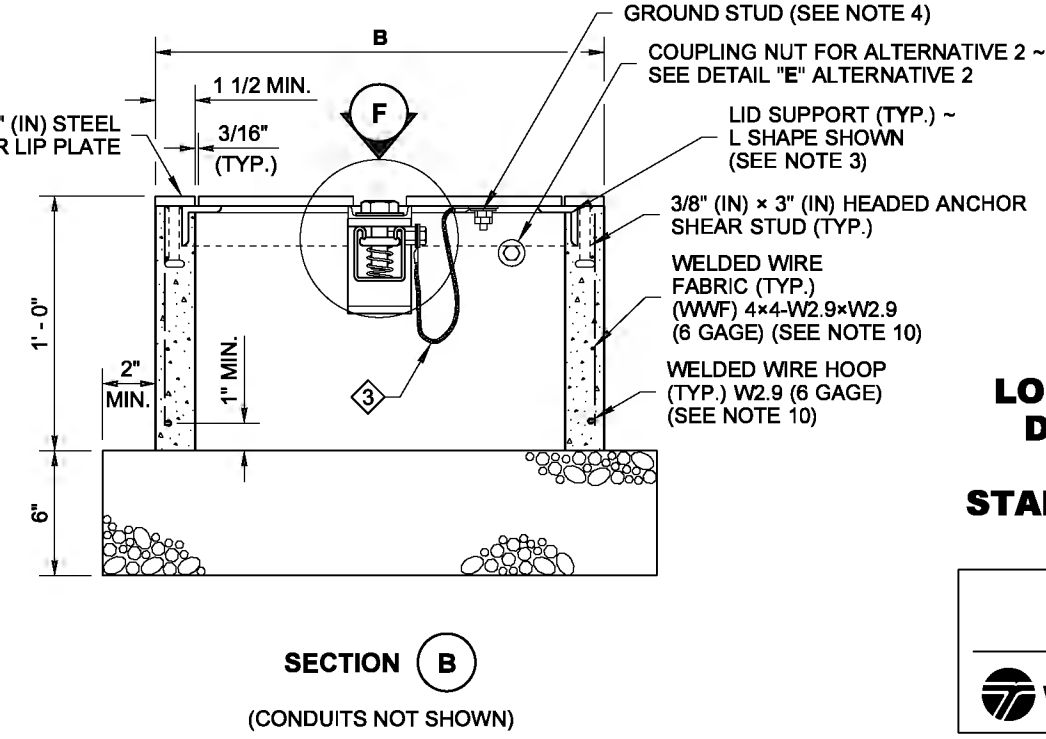
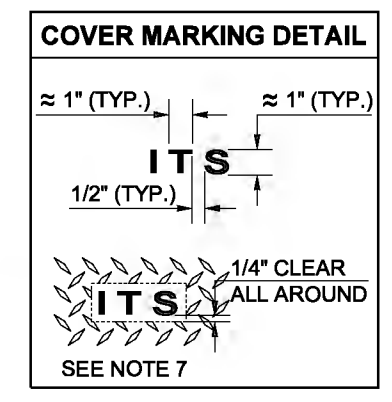
JUNCTION BOX DIMENSION TABLE			
MARK	ITEM	BOX TYPE	
		TYPE 1	TYPE 2
A	OUTSIDE LENGTH OF JUNCTION BOX	22"	33"
B	OUTSIDE WIDTH OF JUNCTION BOX	17"	22 1/2"
C	INSIDE LENGTH OF JUNCTION BOX	18" ~ 19"	28" ~ 29"
D	INSIDE WIDTH OF JUNCTION BOX	13" ~ 14"	17" ~ 18"
E	LID LENGTH	17 5/8"	28 5/8"
F	LID WIDTH	12 5/8"	18 1/8"
CAPACITY ~ CONDUIT DIAMETER		6"	12"

**NOTES**

- All box dimensions are approximate. Exact configurations vary among manufacturers.
- Minimum lid thickness shown. Junction Boxes installed in sidewalks, walkways, and shared-use paths shall have a slip-resistant coating on the lid and lip cover plate, and shall be installed with the surface flush with and matched to the grade of the sidewalk, walkway, or shared-use path. The non-slip lid shall be identified with permanent markings on the underside, indicating the type of surface treatment (see Contract Documents for details) and the year of manufacture. The permanent marking shall be 1/8" (in) line thickness formed with a mild steel weld bead and shall be placed prior to hot-dip galvanizing.
- Lid support members shall be 3/16" (in) minimum thick steel C, L, or T shape, welded to the frame.
- A 1/4-20 NC x 3/4" (in) stainless steel ground stud shall be welded to the bottom of the lid; include (2) stainless steel nuts and (2) stainless steel flat washers.
- Bolts and nuts shall be liberally coated with anti-seize compound.
- Equipment Bonding Jumper shall be # 8 AWG min. x 4' (ft) of tinned braided copper.
- The System Identification letters shall be 1/8" (in) line thickness formed with a mild steel weld bead. See Cover Marking detail. Grind off diamond pattern before forming letters. For System Identification details, see **Standard Specification 9-29.2(4)**.
- When required in the Contract, provide a 10" (in) x 27 1/2" (in), 10 gage divider plate, complete, with fasteners, in each Type 2 Junction Box where specified.
- When required in Contract, provide a 12" (in) deep extension for each Type 2 Junction Box where specified.
- See the **Standard Specifications** for alternative reinforcement and class of concrete.
- Headed Anchor Shear Studs must be welded to the Steel Cover Lip Plate and wire tied in two places to the vertical Welded Wire Fabric when in contact with each other. Wire tie all other Headed Anchor Shear Studs to the horizontal Welded Wire Fabric.
- Lid Bolt Down Attachment Tab provides a method of retrofitting by using a mechanical process in lieu of welding. Attachment Tab shown depicts a typical component arrangement; actual configurations of assembly will vary among manufacturers. See approved manufacturers' shop drawings for specifics.
- Unless otherwise noted in the plans or approved by the Engineer, Junction Boxes, Cable Vaults, and Pull Boxes shall not be placed within the sidewalks, walkways, shared use paths, traveled ways or paved shoulders. All Junction Boxes, Cable Vaults, and Pull Boxes placed within the traveled way or paved shoulders shall be Heavy-Duty.
- Distance between the top of the conduit and the bottom of the Junction Box lid shall be 6" (in) min. to 8" (in) max. for final grade of new construction only. See **Standard Specification 8-20.3(5)**. Where adjustments are to be made to existing Junction Boxes, or for interim construction stages during the contract, the limits shall be from 6" (in) min. to 10" (in) max. See **Standard Specification 8-20.3(6)**.

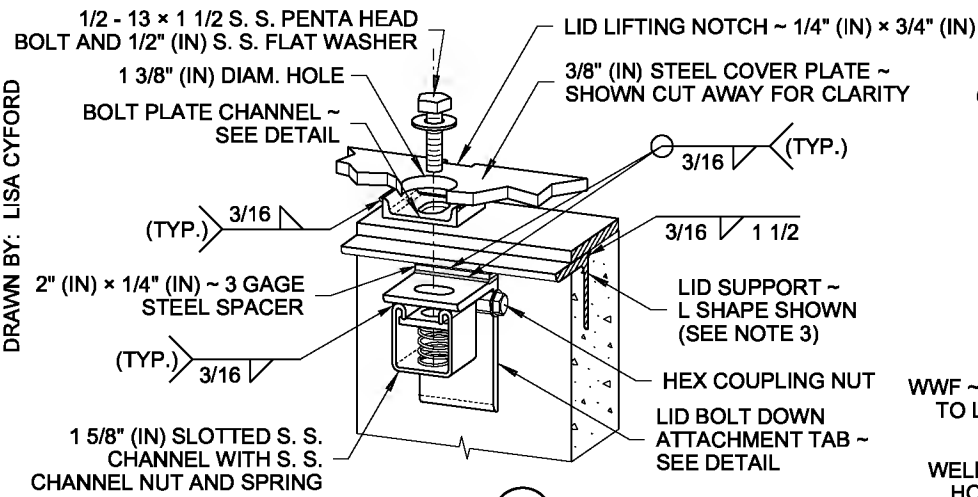


- ① Equipment Grounding Conductor
- ② Copper Solderless Crimp Connector
- ③ Equipment Bonding Jumper (See Note 6)
- ④ See Contract for conduit size and number



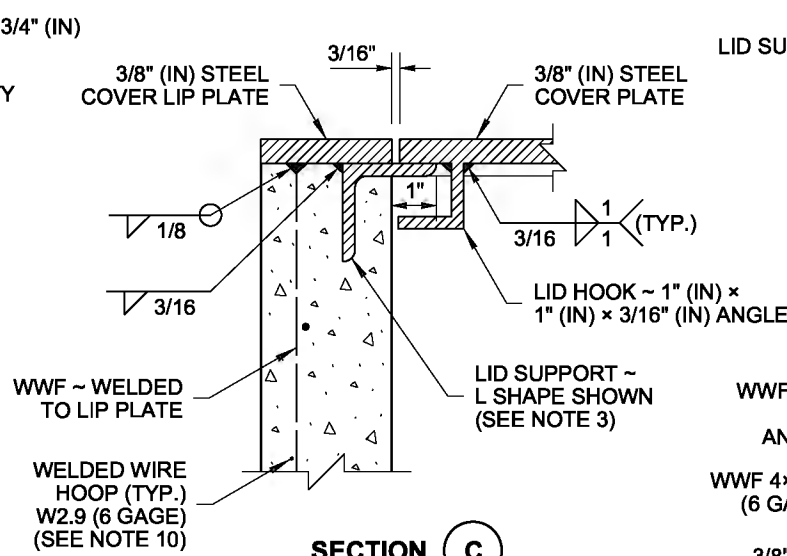
**LOCKING LID STANDARD DUTY JUNCTION BOX TYPES 1 & 2**  
**STANDARD PLAN J-40.10-04**

DRAWN BY: LISA CYFORD

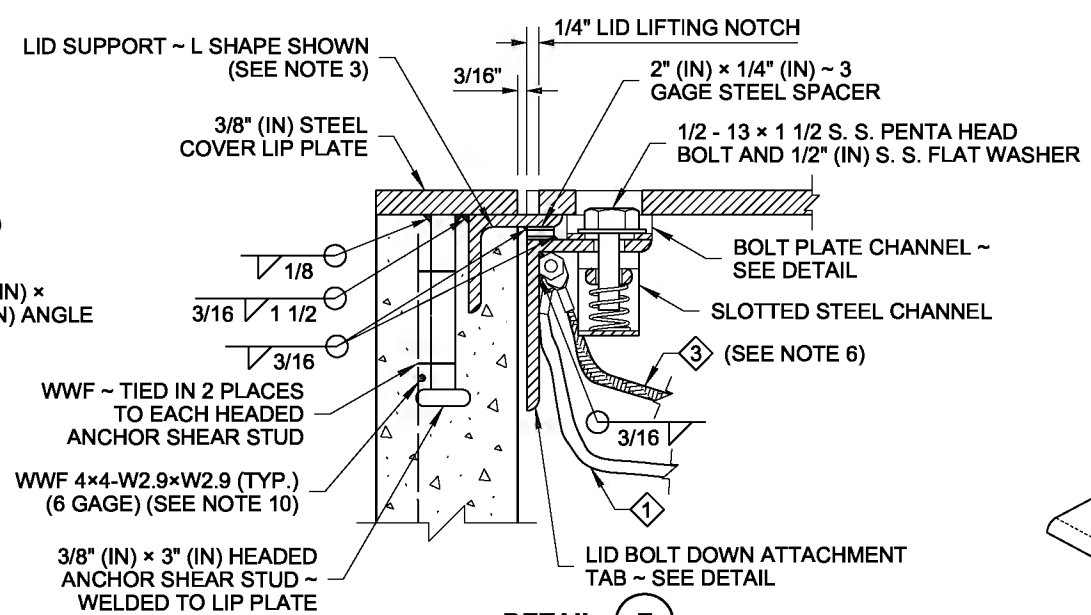


DETAIL F

ALTERNATIVE 1 SHOWN PERSPECTIVE VIEW

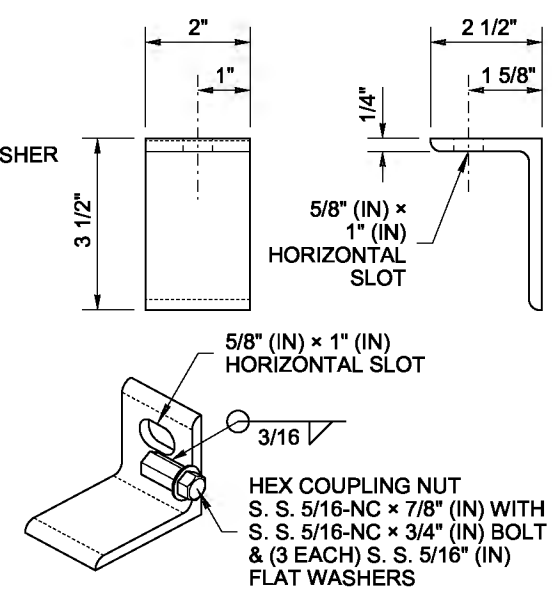


SECTION C

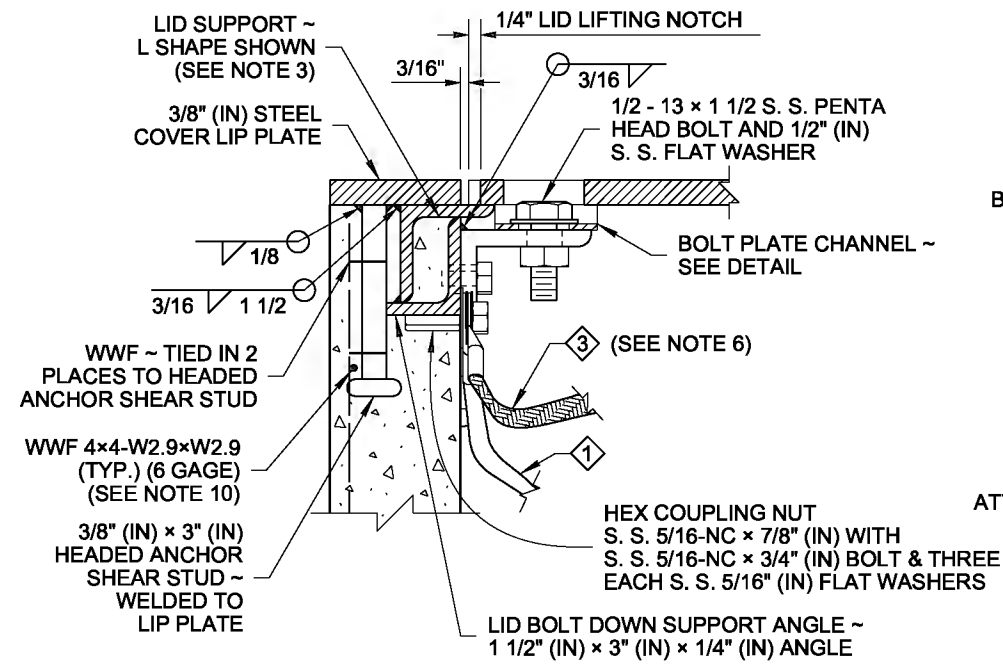


DETAIL E

ALTERNATIVE 1 SHOWN

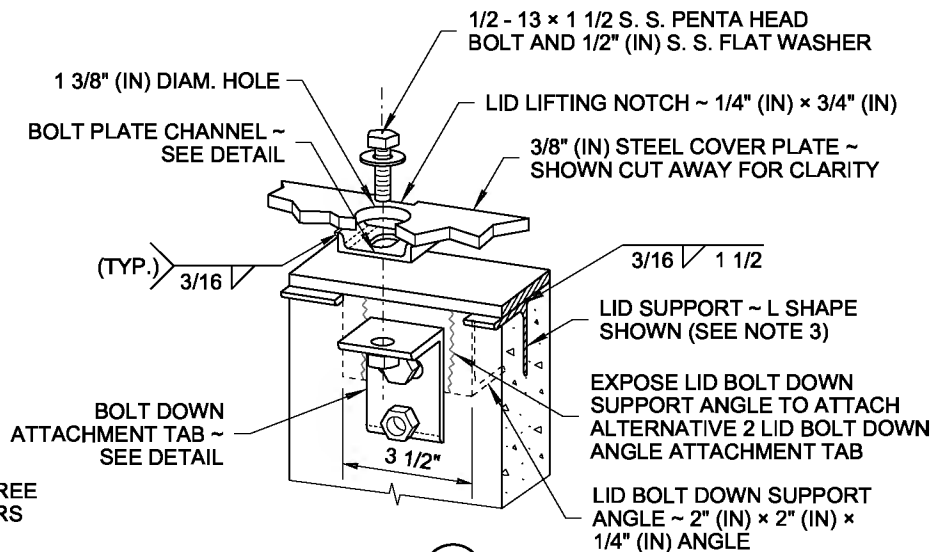


ALTERNATIVE 1 LID BOLT DOWN ATTACHMENT TAB (SEE NOTE 12)



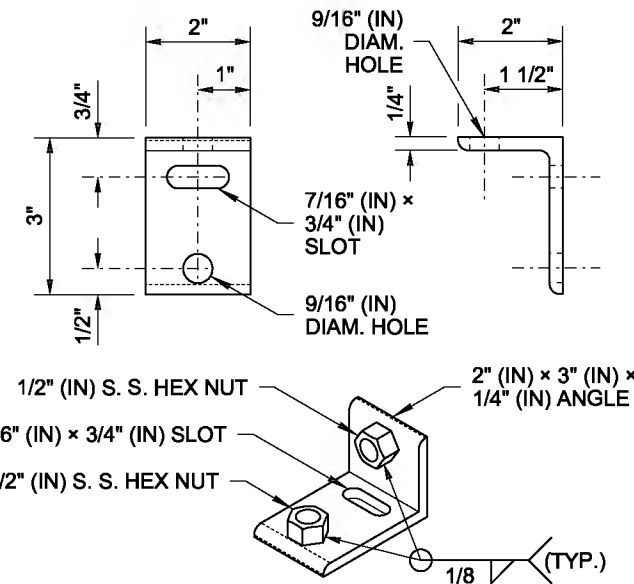
DETAIL E

ALTERNATIVE 2 SHOWN

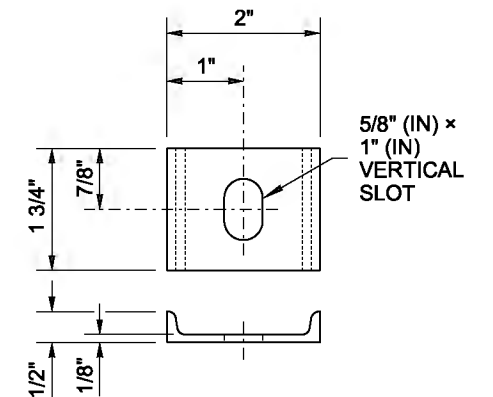


DETAIL F

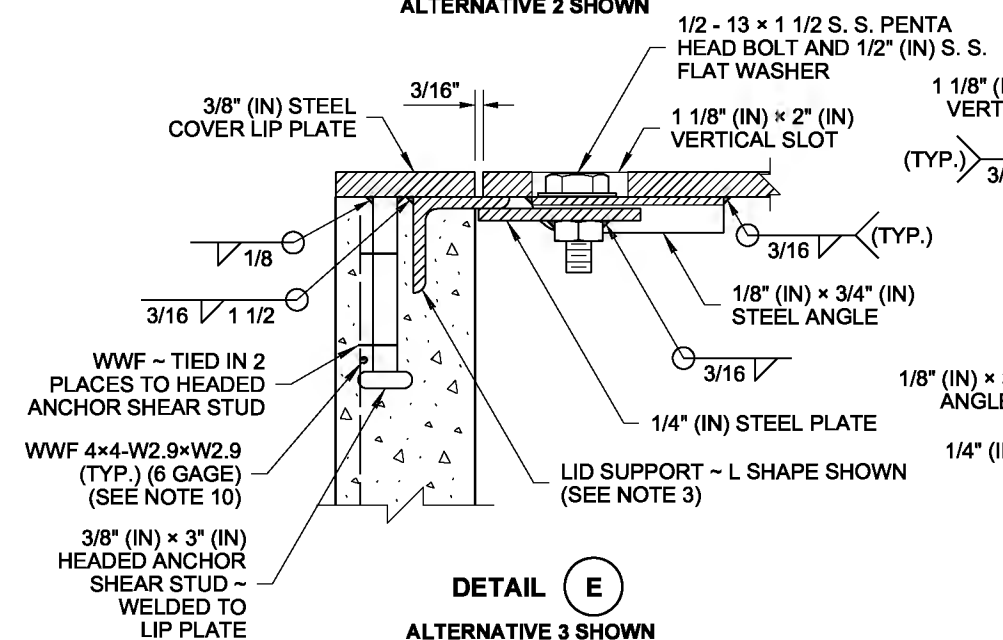
ALTERNATIVE 2 SHOWN PERSPECTIVE VIEW



ALTERNATIVE 2 LID BOLT DOWN ATTACHMENT TAB (SEE NOTE 12)

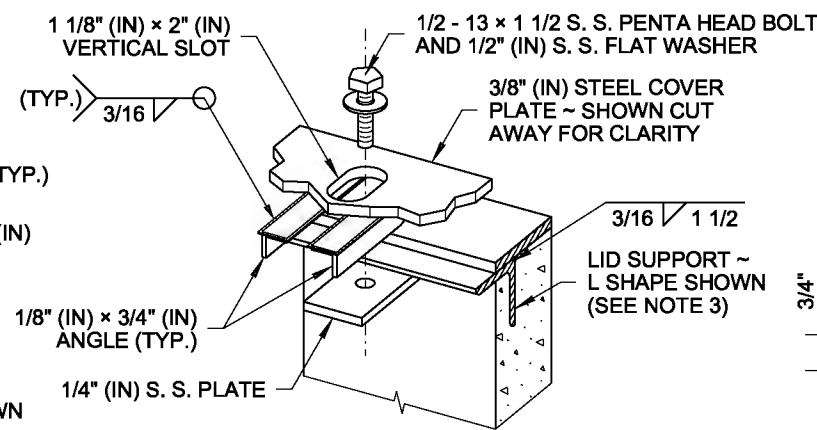


BOLT PLATE CHANNEL



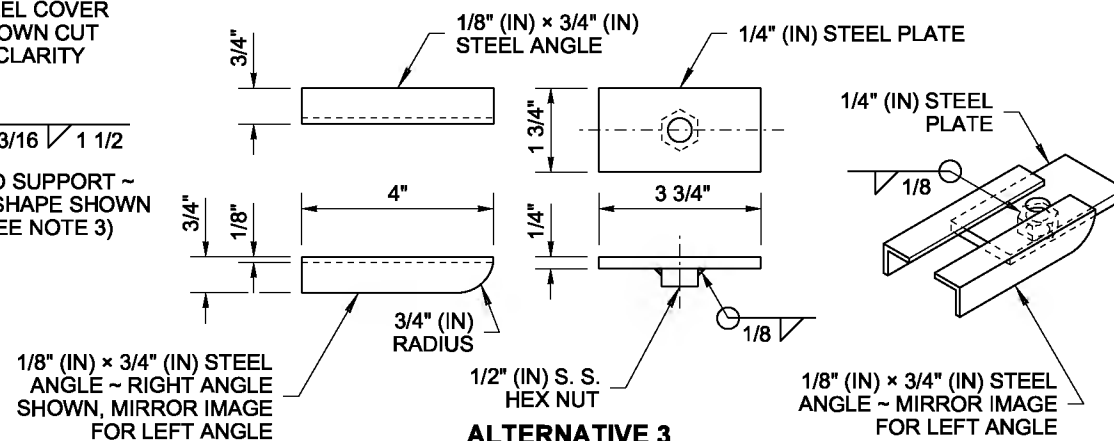
DETAIL E

ALTERNATIVE 3 SHOWN

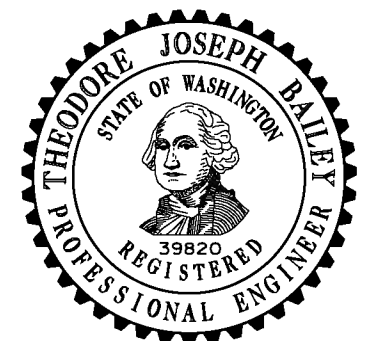


DETAIL F

ALTERNATIVE 3 SHOWN PERSPECTIVE VIEW



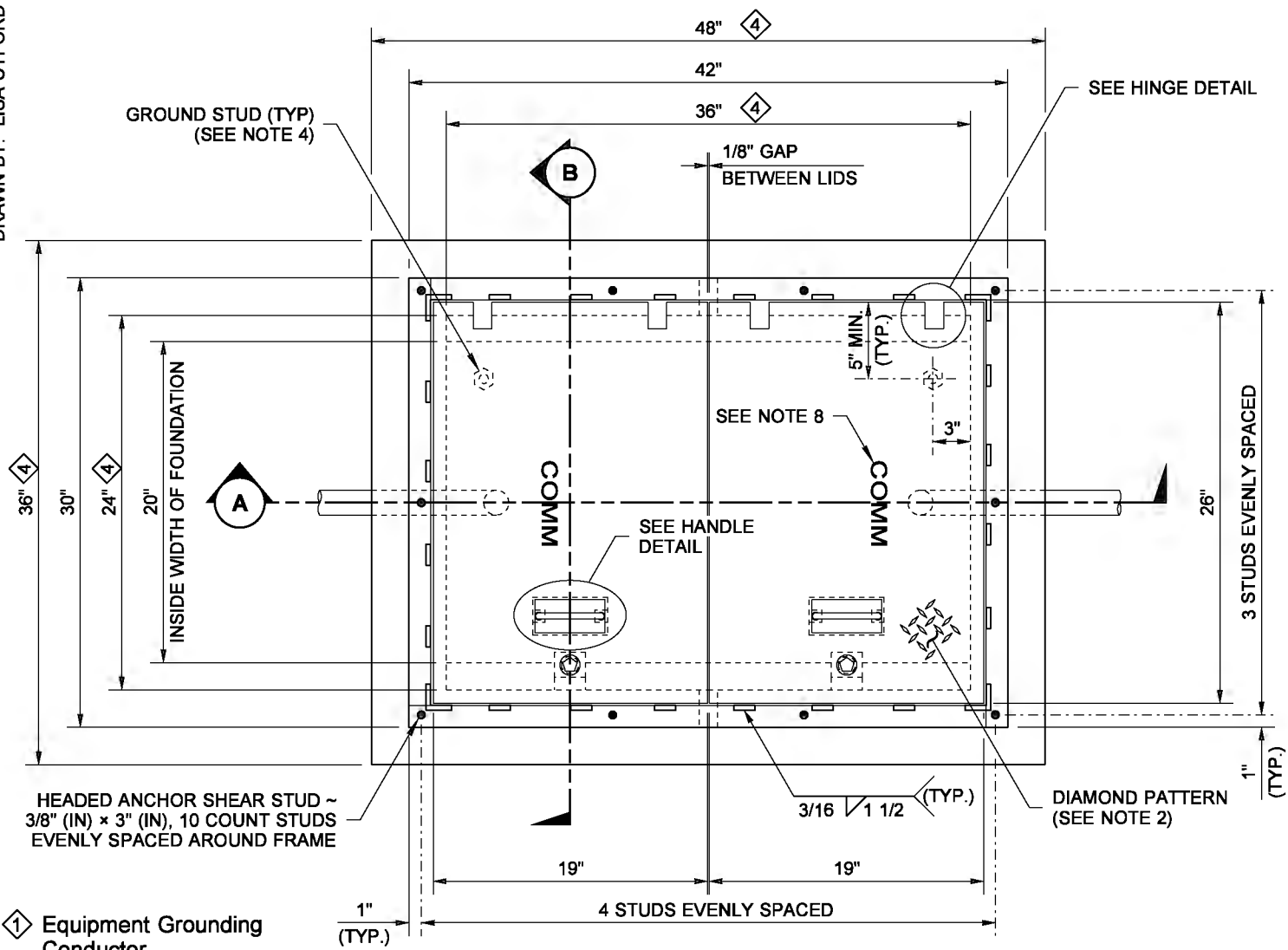
ALTERNATIVE 3 LID BOLT DOWN ATTACHMENT TAB (SEE NOTE 12)



**LOCKING LID STANDARD DUTY JUNCTION BOX TYPES 1 & 2 STANDARD PLAN J-40.10-04**

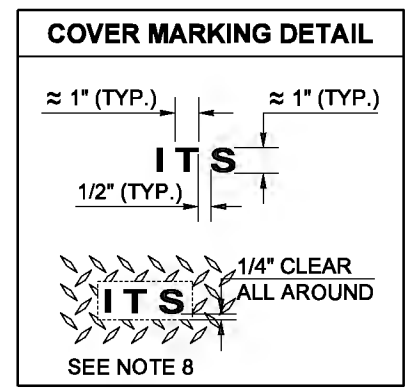
SHEET 2 OF 2 SHEETS

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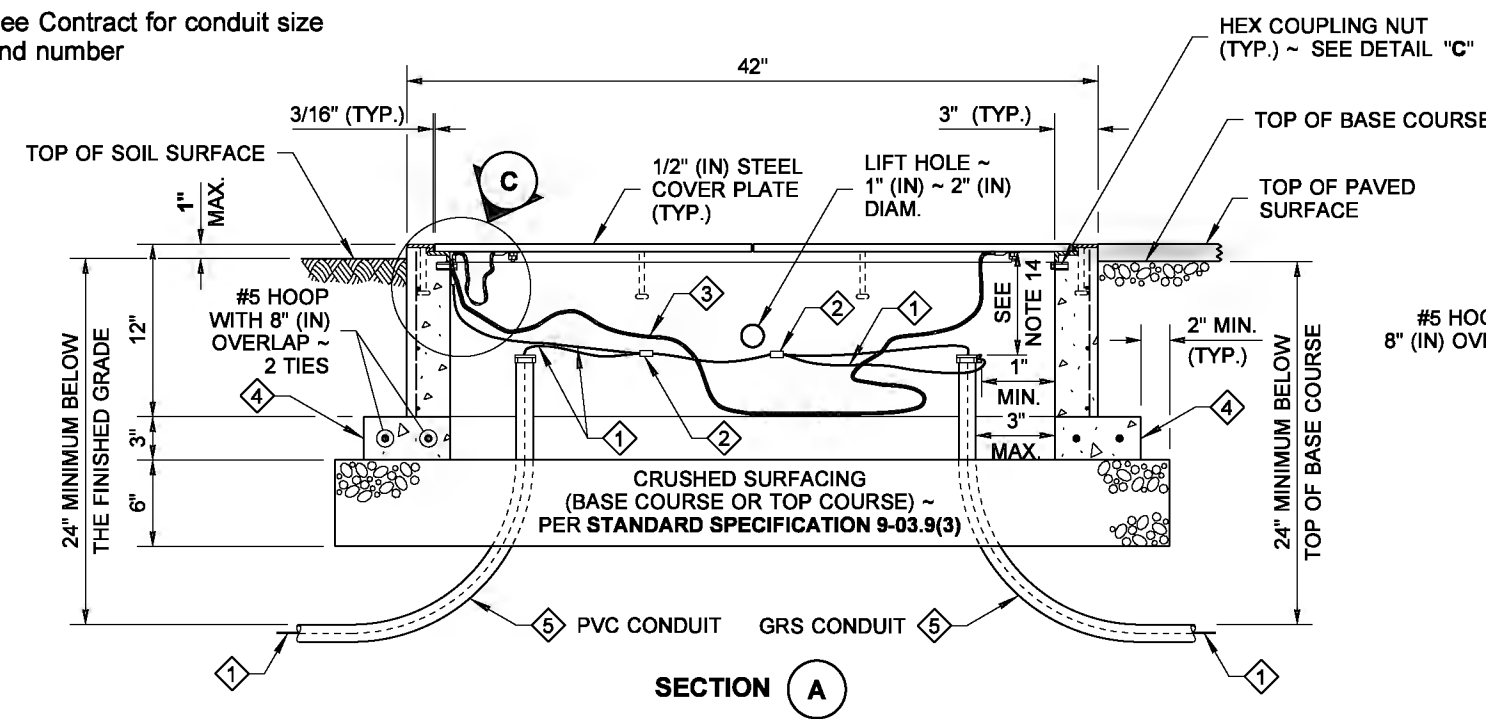
**LOCKING LID STANDARD DUTY JUNCTION BOX**

- ① Equipment Grounding Conductor
- ② Copper Solderless Crimp Connector
- ③ Equipment Bonding Jumper
- ④ Foundation
- ⑤ See Contract for conduit size and number

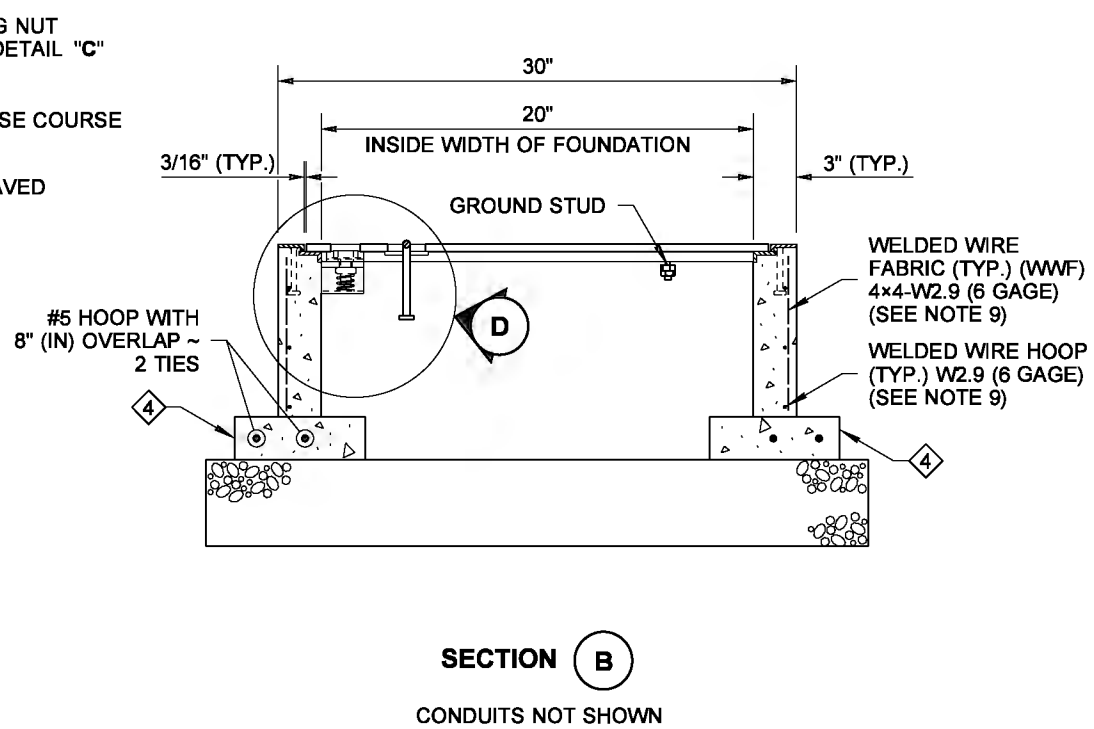


**NOTES**

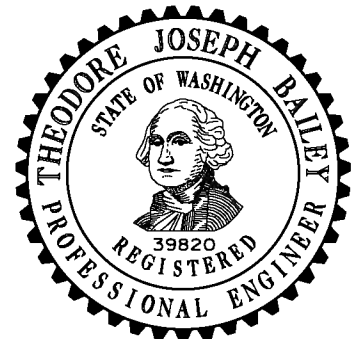
1. All box dimensions are approximate. Exact configurations vary among manufacturers.
2. Minimum lid thicknesses are shown. Junction Boxes installed in sidewalks, walkways, and shared-use paths shall have a slip-resistant coating on the lid and lip cover plate and shall be installed with the surface flush with and matched to the grade of the sidewalk, walkway, or shared-use path. The non-slip lid shall be identified with permanent markings on the underside, indicating the type of surface treatment (see Contract Documents for details) and the year of manufacture. The permanent marking shall be 1/8" (in) line thickness formed with a mild steel weld bead and shall be placed prior to hot-dip galvanizing.
3. Lid support members shall be 3/16" (in) min. thick steel C, L, or T shape, welded to the frame. Exact configurations vary among manufacturers.
4. A 1/4-20 NC x 3/4" (in) S. S. ground stud shall be welded to the bottom of each lid; include (2) S. S. nuts and (2) S. S. flat washers.
5. The hinges shall allow the lids to open 180°.
6. Bolts and nuts shall be liberally coated with anti-seize compound.
7. Connect Equipment Bonding Jumper to ground stud on lid. As an alternative to the ground stud connection, the Equipment Bonding Jumper shall be attached to the front face of the hinge pocket with a 5/16-20 NC x 3/4" (in) S. S. bolt, (2) each S. S. nuts, and (2) each S. S. flat washers. Equipment Bonding Jumper shall be #8 AWG min. x 4' (ft) of tinned braided copper.
8. The System Identification letters shall be 1/8" (in) line thickness formed by a mild steel weld bead. See Cover Marking detail. Grind off diamond pattern before forming letters. See **Standard Specification 9-29.2(4)** for details.
9. See the **Standard Specifications** for alternative reinforcement and class of concrete.
10. See **Standard Plan J-40.10** for Welded Wire Fabric and Headed Anchor Shear Stud attachment details.
11. Capacity ~ conduit diameter = 24" (in)
12. Lid Bolt Down Attachment Tab provides a method of retrofitting by using a mechanical process in lieu of welding. Attachment Tab shown depicts a typical component arrangement; actual configurations of assembly will vary among manufacturers. See approved manufacturers' shop drawing for specifics.
13. Unless otherwise noted in the plans or approved by the Engineer, Junction Boxes, Cable Vaults and Pull Boxes shall not be placed within the sidewalk, walkway, shared use path, traveled way or paved shoulders. All Junction Boxes, Cable Vaults, and Pull Boxes placed within the traveled way or paved shoulders shall be Heavy-Duty.
14. Distance between the top of the conduit and the bottom of the Junction Box lid shall be 6" (in) min. to 8" (in) max. for final grade of new construction only. See **Standard Specification 8-20.3(5)**. Where adjustments are to be made to existing Junction Boxes, or for interim construction stages during the contract, the limits shall be from 6" (in) min. to 10" (in) max. See **Standard Specification 8-20.3(6)**.



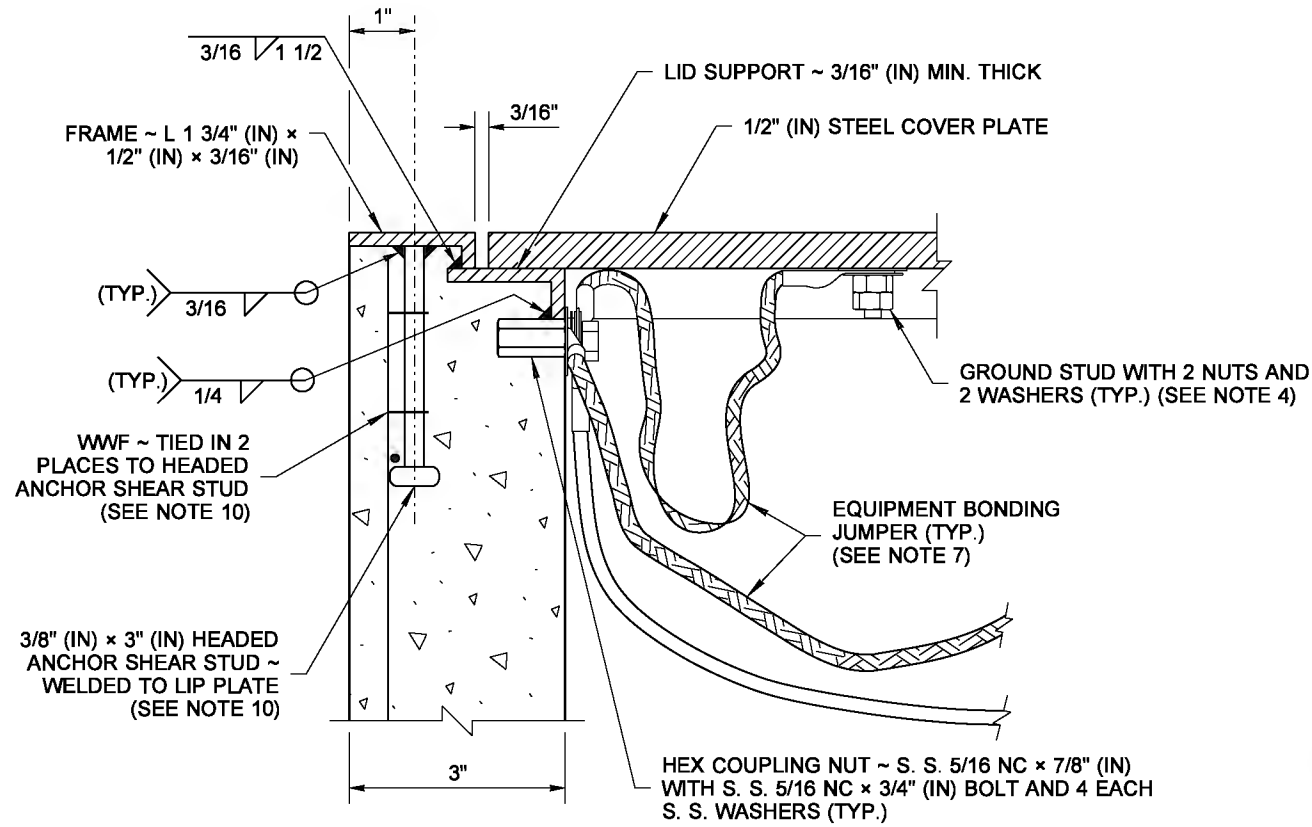
**SECTION A**



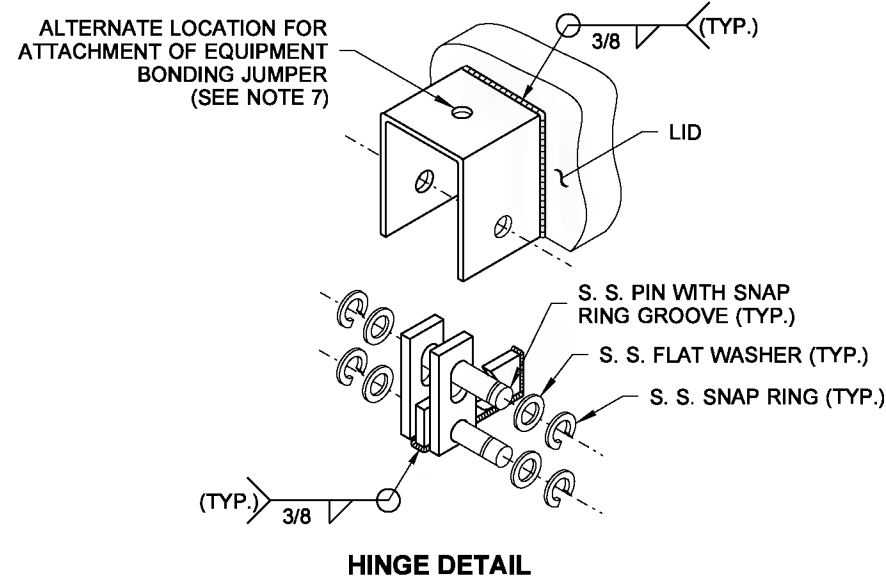
**SECTION B**  
CONDUITS NOT SHOWN



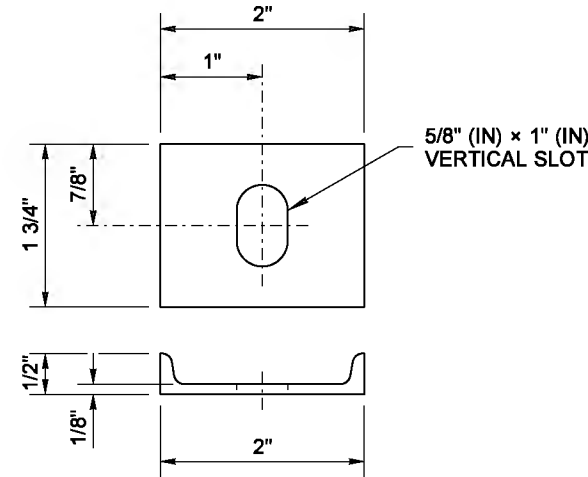
**LOCKING LID STANDARD DUTY JUNCTION BOX TYPE 8**  
**STANDARD PLAN J-40.30-04**



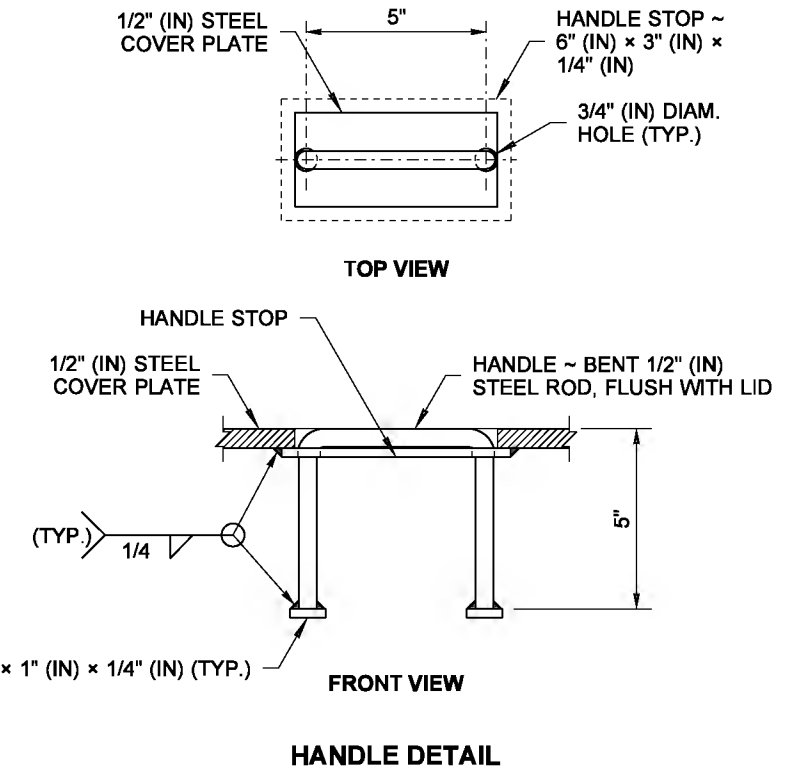
**DETAIL C**



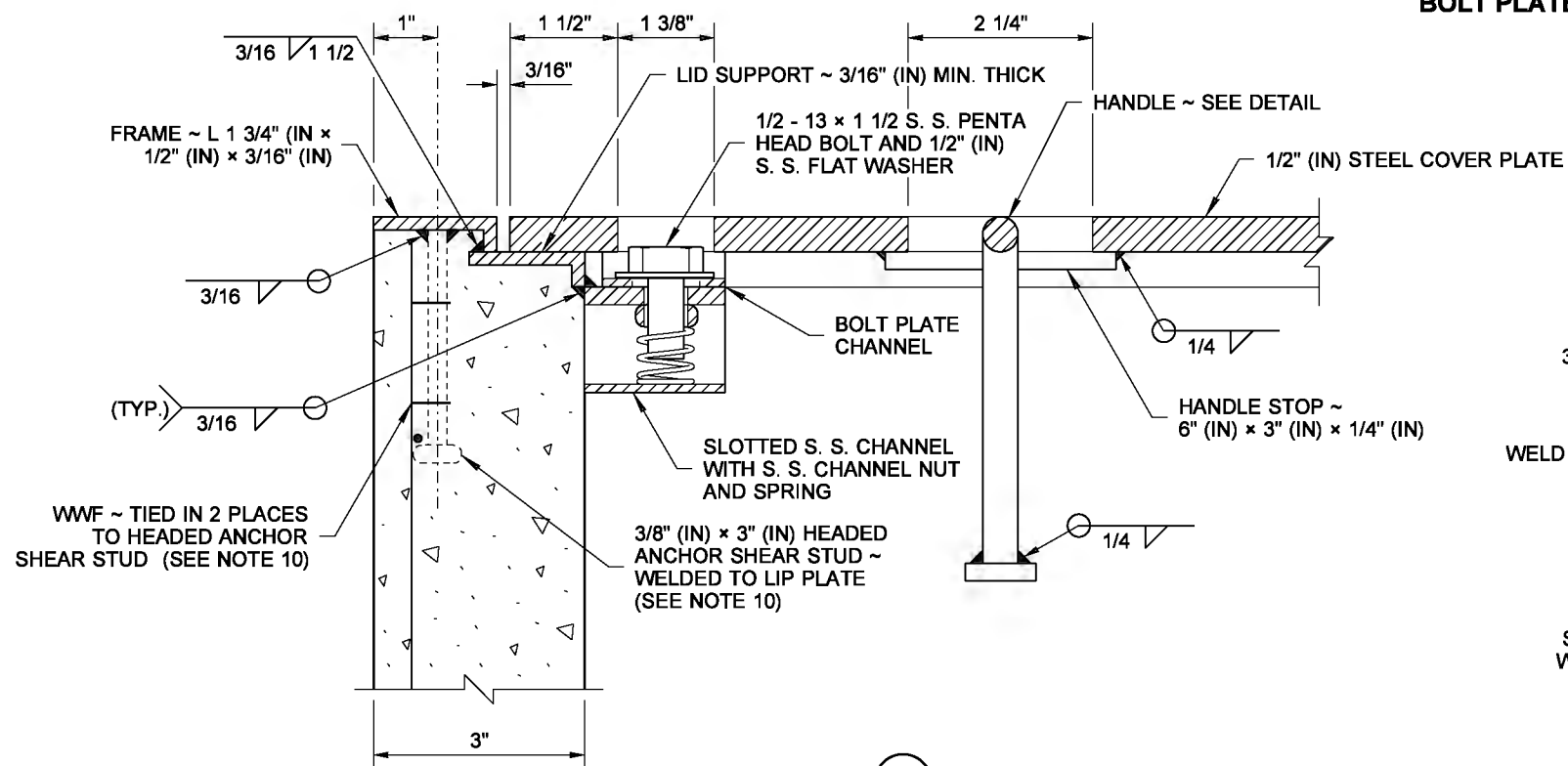
**HINGE DETAIL**



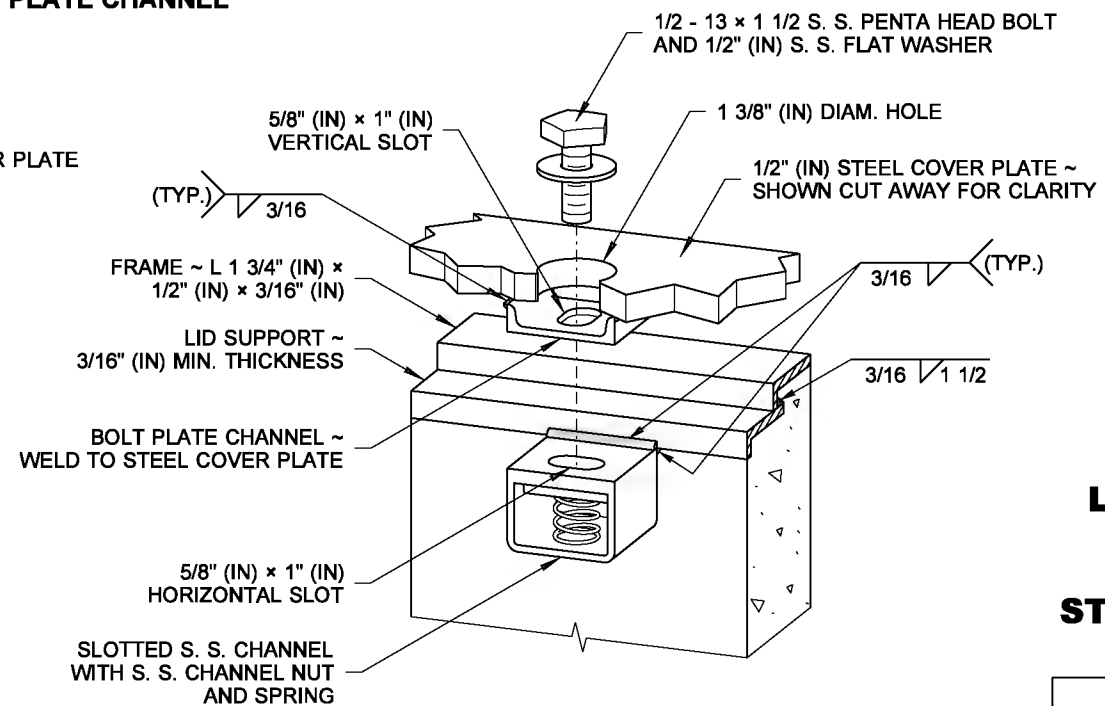
**BOLT PLATE CHANNEL**



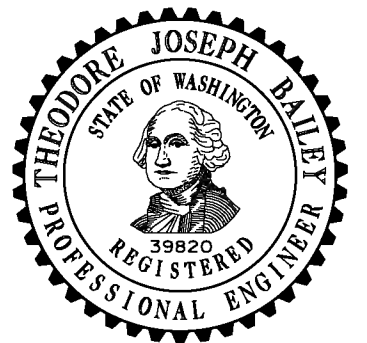
**HANDLE DETAIL**



**DETAIL D**



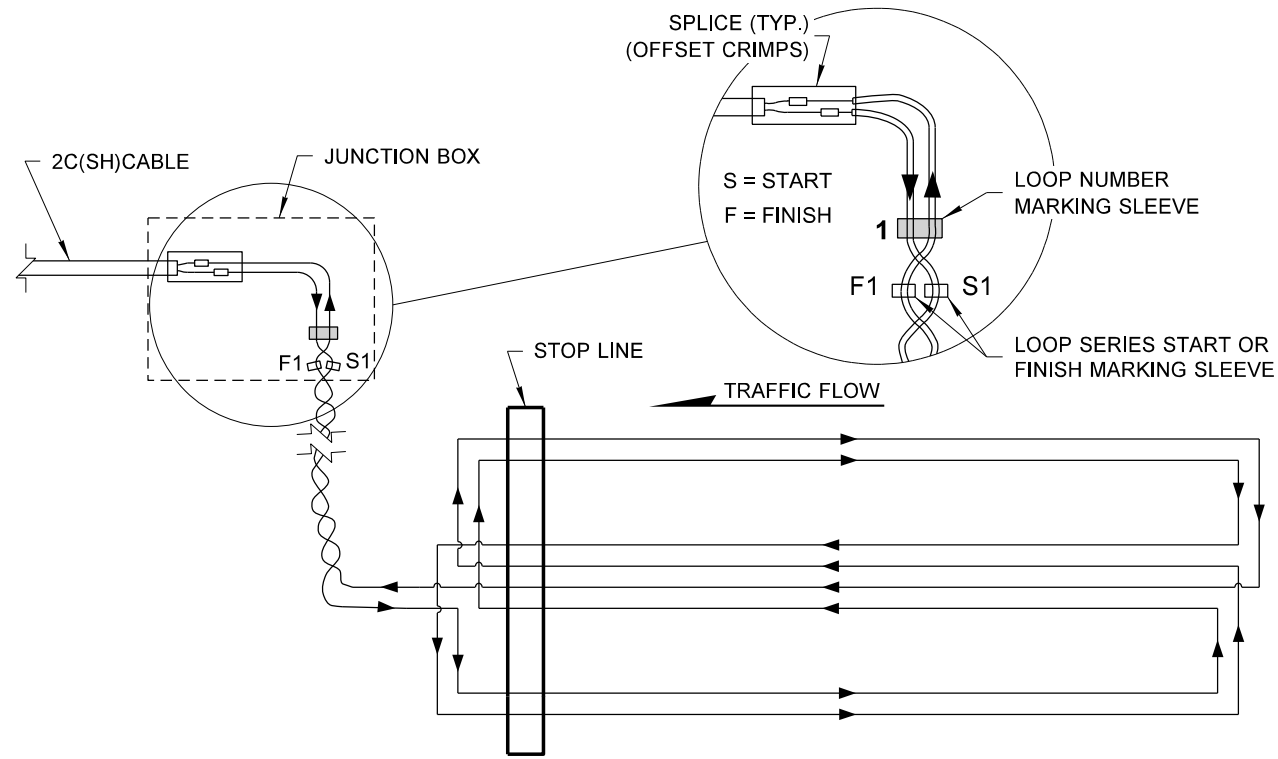
**DETAIL D**  
**ISOMETRIC VIEW**



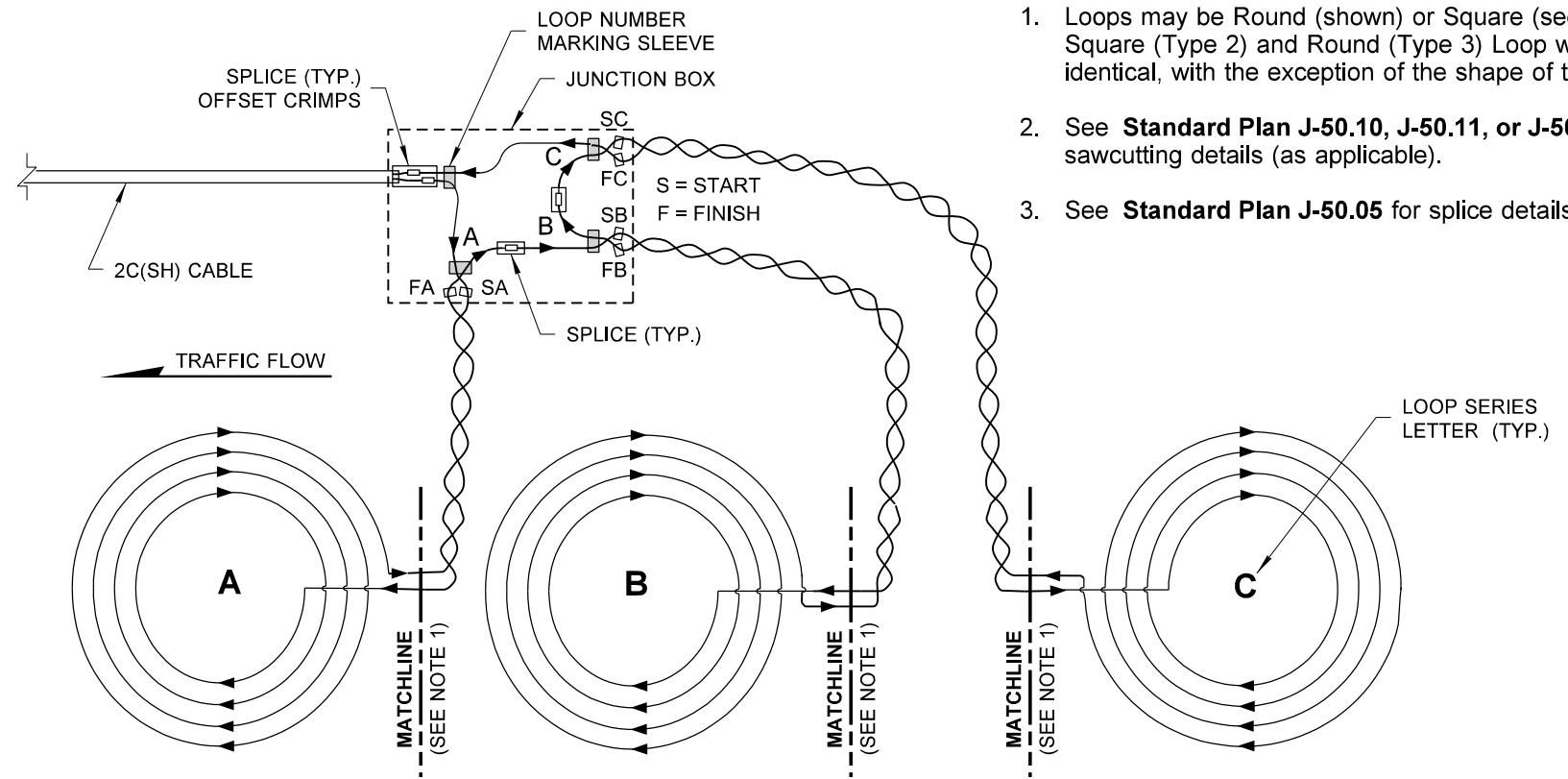
**LOCKING LID STANDARD  
DUTY JUNCTION BOX  
TYPE 8  
STANDARD PLAN J-40.30-04**

SHEET 2 OF 2 SHEETS

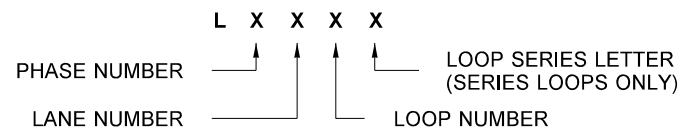
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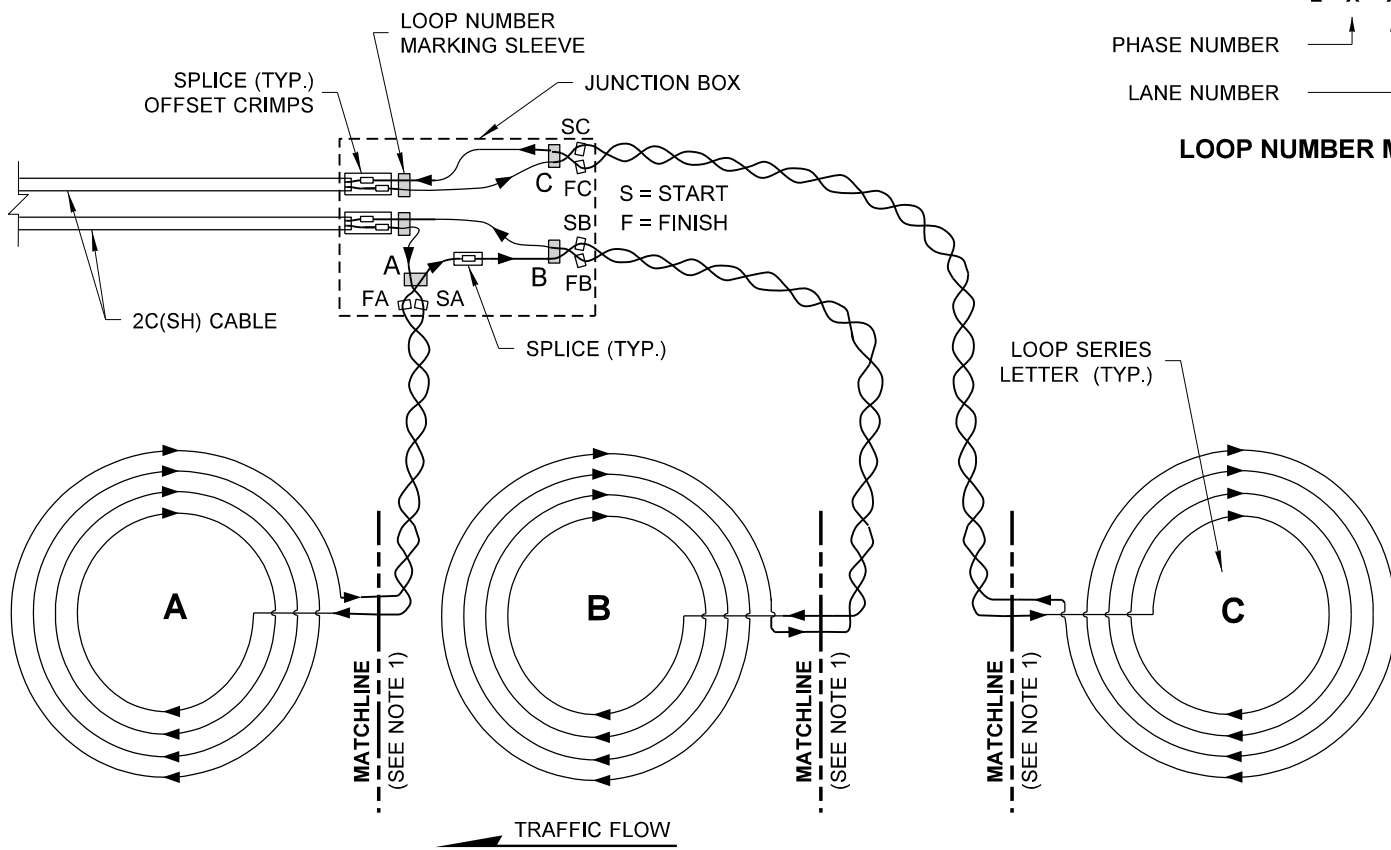
**TYPE 1 STOP LINE (QUADRAPOLE) LOOP WIRING DIAGRAM**



**TYPE 2S OR 3S (STOP LINE) LOOP ARRAY WIRING DIAGRAM**

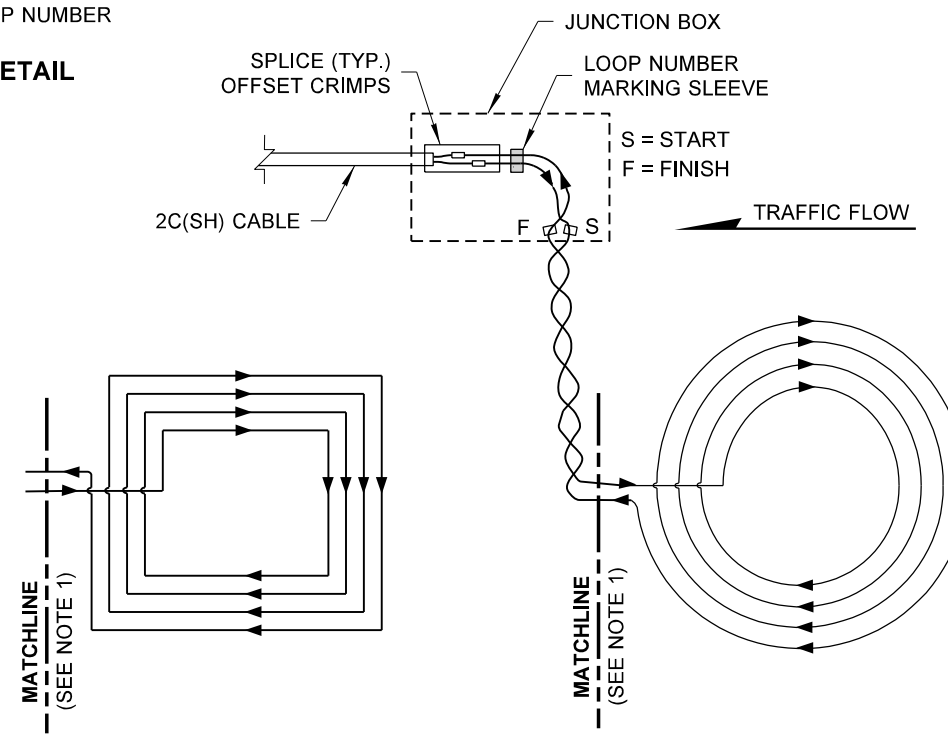


**LOOP NUMBER MARKING DETAIL**



**TYPE 2S-ALT OR 3S-ALT (STOP LINE - ALTERNATE) WIRING DIAGRAM**

2-1 SERIES SPLIT SHOWN

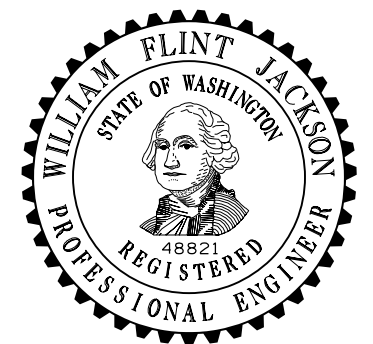


**SQUARE LOOP ALTERNATIVE (SEE NOTE 1)**

**TYPE 2A OR 3A (ADVANCE) LOOP WIRING DIAGRAM**

**NOTES**

1. Loops may be Round (shown) or Square (see detail). Square (Type 2) and Round (Type 3) Loop wiring is identical, with the exception of the shape of the sawcuts.
2. See **Standard Plan J-50.10, J-50.11, or J-50.12** for sawcutting details (as applicable).
3. See **Standard Plan J-50.05** for splice details.



**INDUCTION LOOP WIRING DETAILS**

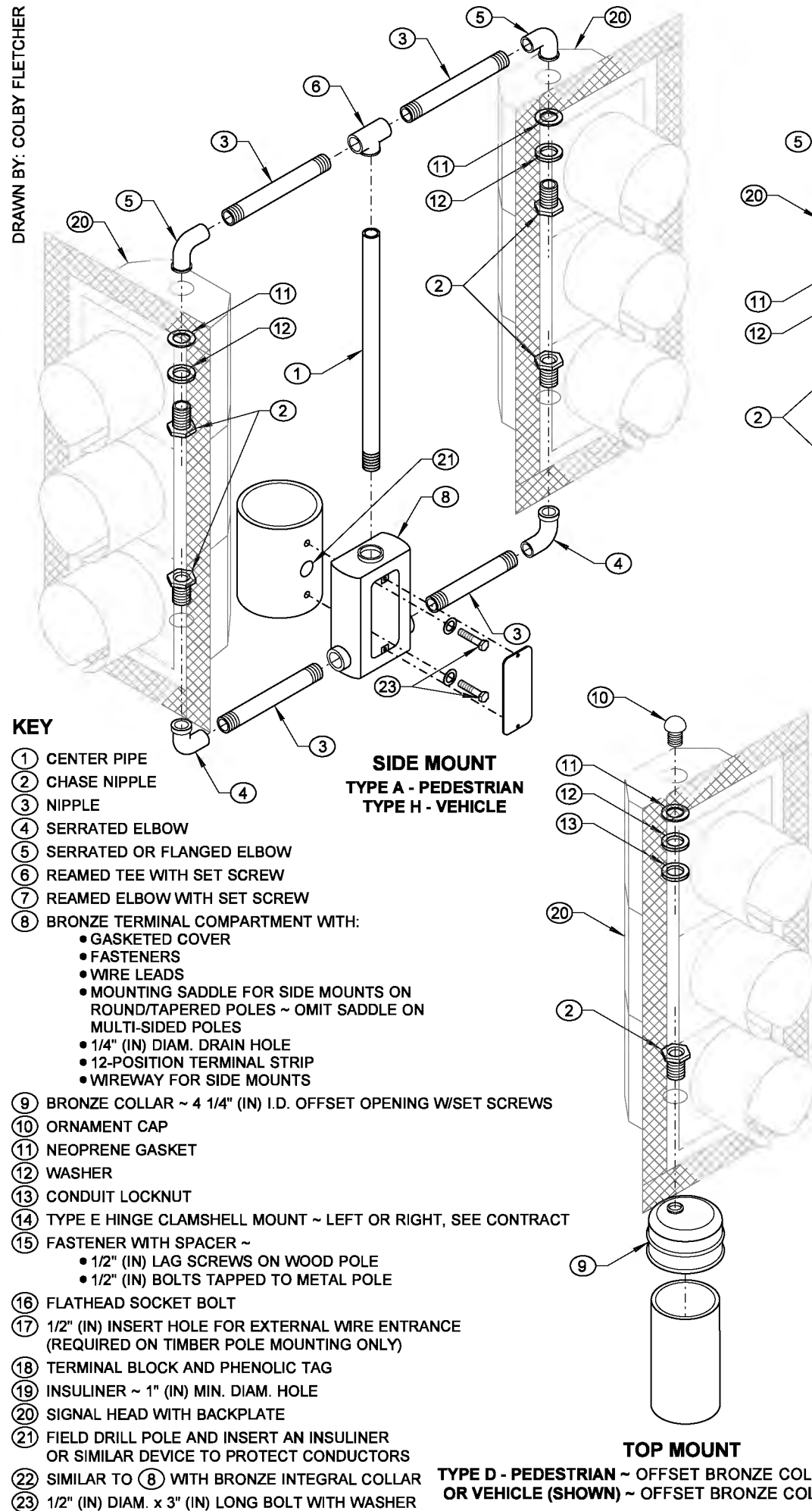
**STANDARD PLAN J-50.18-00**

SHEET 1 OF 1 SHEET

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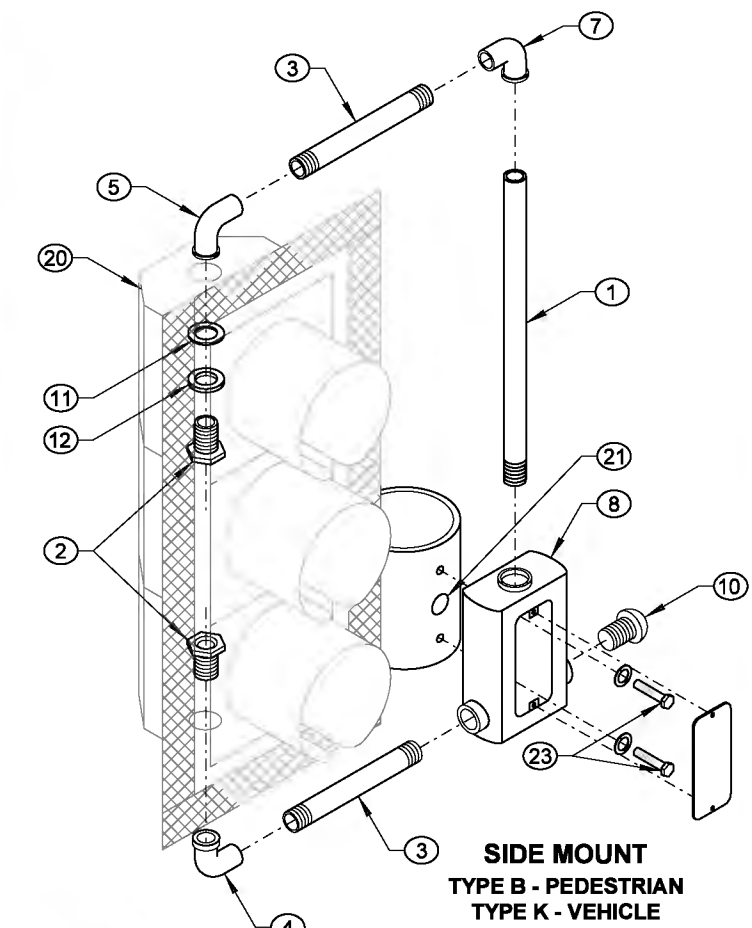
STATE DESIGN ENGINEER  
 Washington State Department of Transportation

DRAWN BY: COLBY FLETCHER

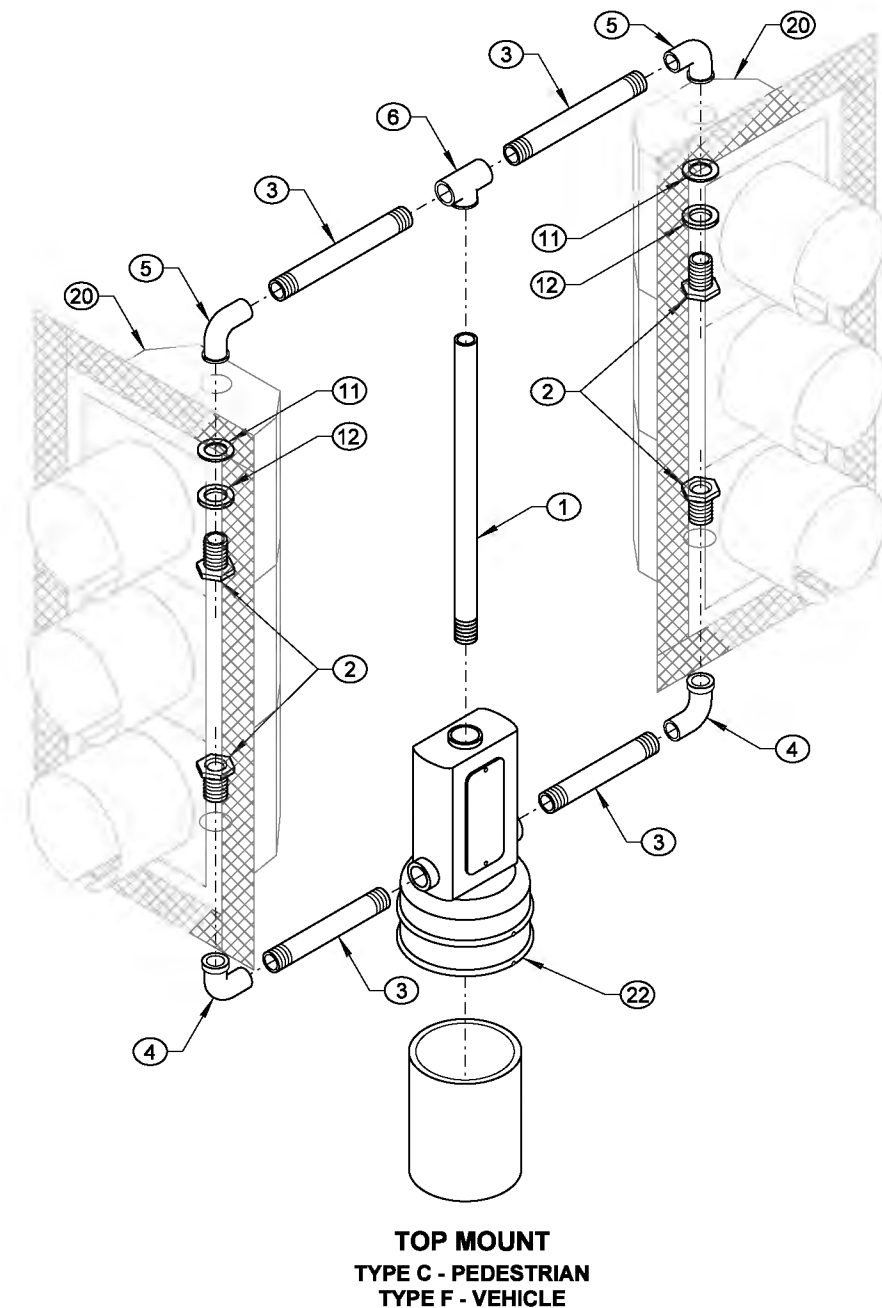


**KEY**

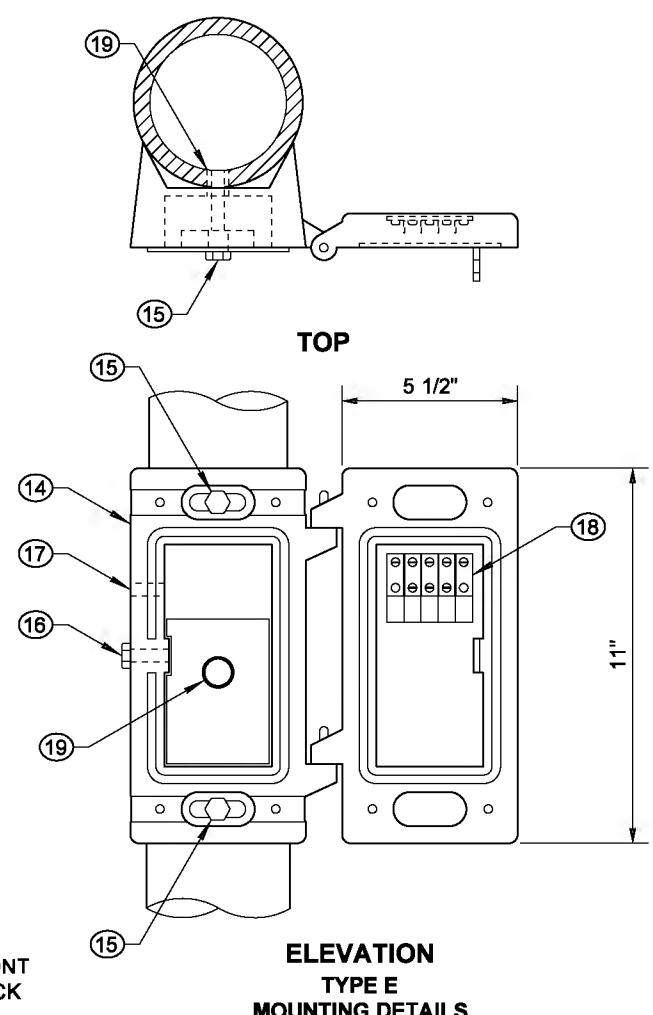
- ① CENTER PIPE
- ② CHASE NIPPLE
- ③ NIPPLE
- ④ SERRATED ELBOW
- ⑤ SERRATED OR FLANGED ELBOW
- ⑥ REAMED TEE WITH SET SCREW
- ⑦ REAMED ELBOW WITH SET SCREW
- ⑧ BRONZE TERMINAL COMPARTMENT WITH:
  - GASKETED COVER
  - FASTENERS
  - WIRE LEADS
  - MOUNTING SADDLE FOR SIDE MOUNTS ON ROUND/TAPERED POLES ~ OMIT SADDLE ON MULTI-SIDED POLES
  - 1/4" (IN) DIAM. DRAIN HOLE
  - 12-POSITION TERMINAL STRIP
  - WIREWAY FOR SIDE MOUNTS
- ⑨ BRONZE COLLAR ~ 4 1/4" (IN) I.D. OFFSET OPENING W/SET SCREWS
- ⑩ ORNAMENT CAP
- ⑪ NEOPRENE GASKET
- ⑫ WASHER
- ⑬ CONDUIT LOCKNUT
- ⑭ TYPE E HINGE CLAMSHELL MOUNT ~ LEFT OR RIGHT, SEE CONTRACT
- ⑮ FASTENER WITH SPACER ~
  - 1/2" (IN) LAG SCREWS ON WOOD POLE
  - 1/2" (IN) BOLTS TAPPED TO METAL POLE
- ⑯ FLATHEAD SOCKET BOLT
- ⑰ 1/2" (IN) INSERT HOLE FOR EXTERNAL WIRE ENTRANCE (REQUIRED ON TIMBER POLE MOUNTING ONLY)
- ⑱ TERMINAL BLOCK AND PHENOLIC TAG
- ⑲ INSULINER ~ 1" (IN) MIN. DIAM. HOLE
- ⑳ SIGNAL HEAD WITH BACKPLATE
- ㉑ FIELD DRILL POLE AND INSERT AN INSULINER OR SIMILAR DEVICE TO PROTECT CONDUCTORS
- ㉒ SIMILAR TO ⑧ WITH BRONZE INTEGRAL COLLAR
- ㉓ 1/2" (IN) DIAM. x 3" (IN) LONG BOLT WITH WASHER



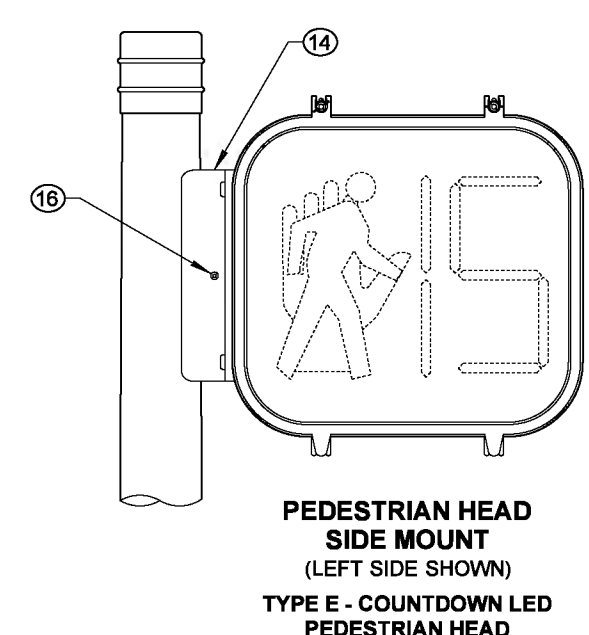
**SIDE MOUNT  
TYPE B - PEDESTRIAN  
TYPE K - VEHICLE**



**TOP MOUNT  
TYPE C - PEDESTRIAN  
TYPE F - VEHICLE**



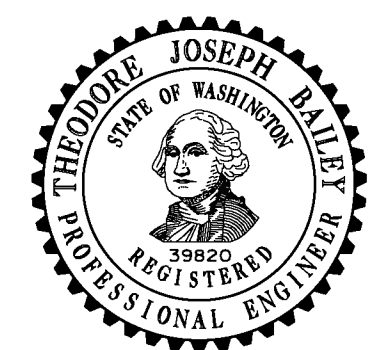
**ELEVATION  
TYPE E  
MOUNTING DETAILS**



**PEDESTRIAN HEAD  
SIDE MOUNT  
(LEFT SIDE SHOWN)  
TYPE E - COUNTDOWN LED  
PEDESTRIAN HEAD**

**NOTES**

1. See Contract for head type, mounting height, and orientation.
2. All nipples, fittings, and center pipes shall be 1 1/2" (in) diameter.
3. Install neoprene gasket inside head when flanged elbows are supplied.
4. Extend wire sheath a minimum of 1" (in) inside all signal and sign housings and terminal compartments.
5. Apply bead of silicone to the serrated ring and around the perimeter of all top openings prior to installation of fittings.
6. See **Standard Specification 9-29.16** for backplate requirements. Where required, prismatic sheeting shall be applied in accordance with the manufacturer's recommendations. The application surface of the backplate shall be cleaned, degreased with isopropyl alcohol, and dried prior to application of the sheeting.
7. Drill a 1/4" (in) drain hole in the bottom of each signal display assembly, and one in the bottom of each pedestrian head. When signal display assembly is mounted horizontally, drill a 1/4" (in) drain hole at the lowest point of each section of the signal assembly.

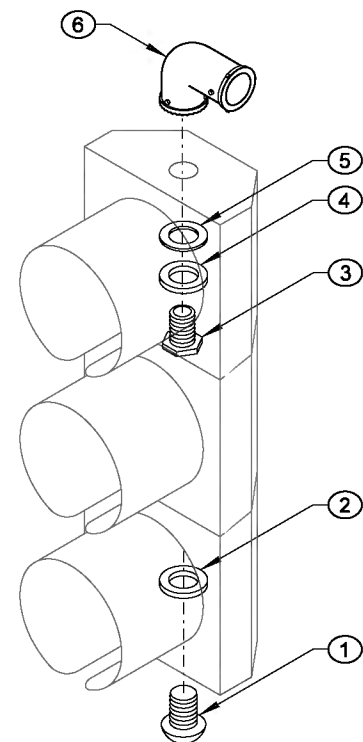


**SIGNAL HEAD MOUNTING  
DETAILS ~ POLE AND POST  
TOP MOUNTINGS  
STANDARD PLAN J-75.10-02**

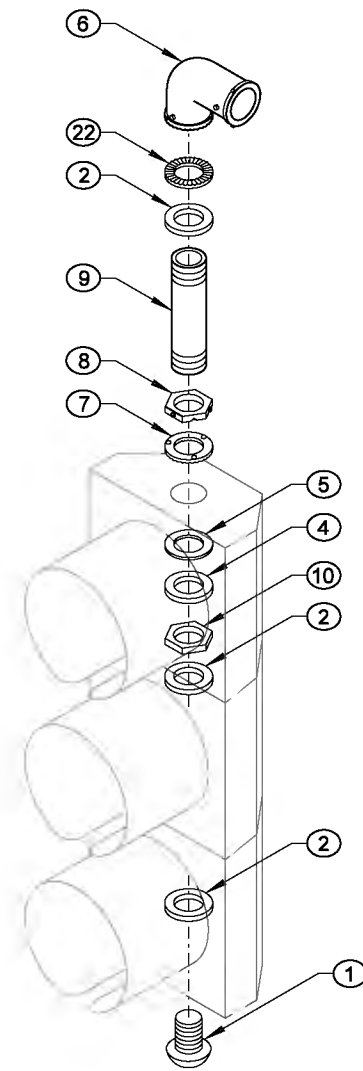
SHEET 1 OF 1 SHEET

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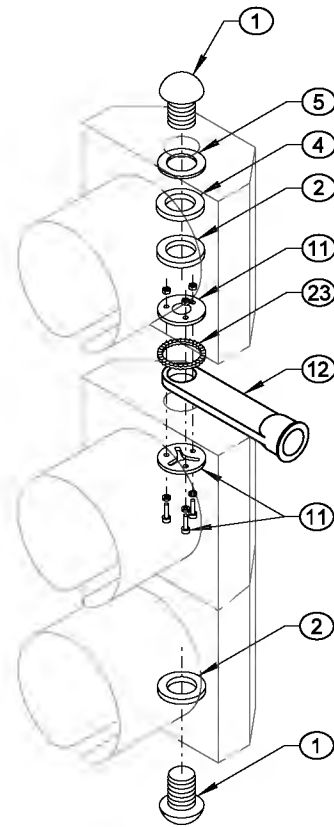




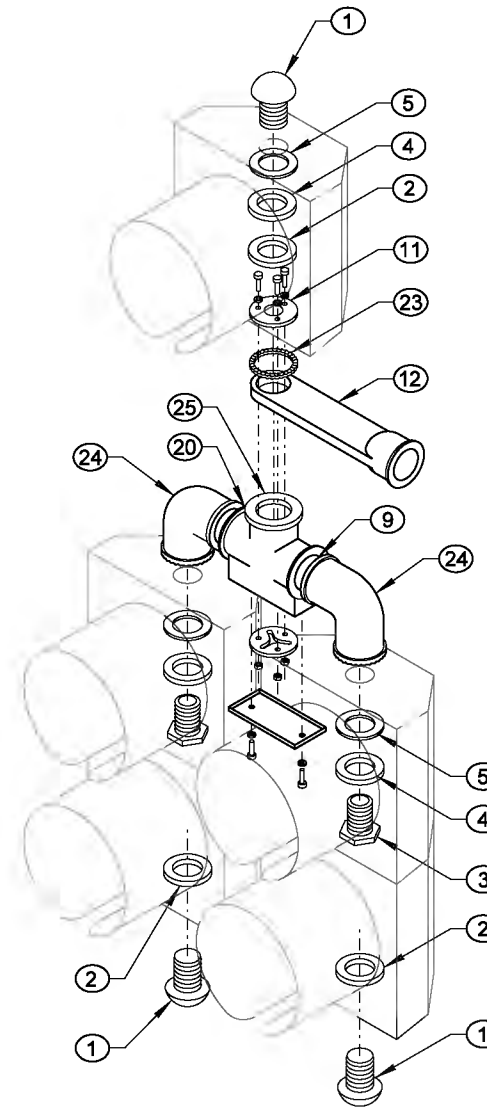
**ARM MOUNT  
TYPE L**



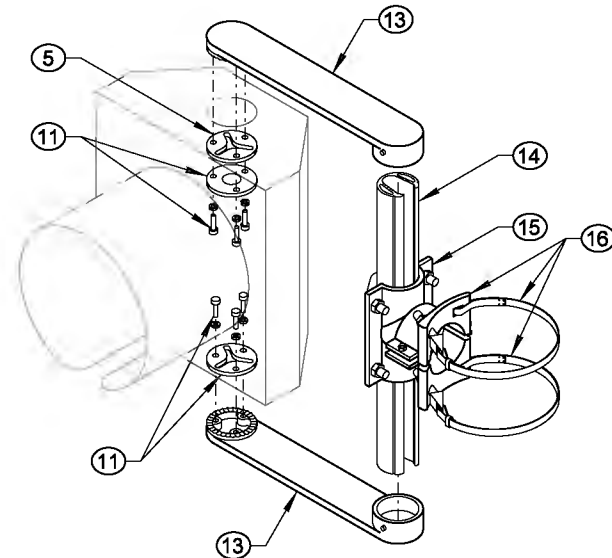
**ARM MOUNT  
TYPE LE**



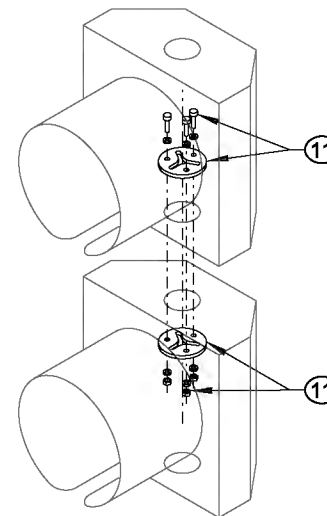
**ARM MOUNT  
TYPE M**



**ARM MOUNT  
TYPE M-5S  
(TYPE M WITH  
5-SECTION HEAD)**



**ARM MOUNT  
TYPE N**



**HOUSING FIXTURE  
CONNECTION DETAIL**

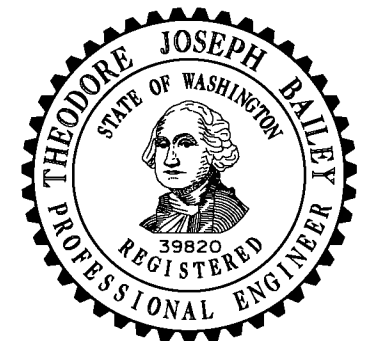
**KEY**

- ① END CAP
- ② 1 1/2" (IN) DIAM. CONDUIT LOCKNUT
- ③ 1 1/2" (IN) DIAM. CHASE NIPPLE
- ④ STEEL WASHER
- ⑤ NEOPRENE GASKET
- ⑥ BRONZE SERRATED ELL FITTING WITH:
  - 3/8" (IN) STAINLESS STEEL THROUGH BOLT AND NUTS
  - THREE STAINLESS STEEL SET SCREWS AT SLIPFITTER CONNECTION
  - THREE ALLEN HEAD STAINLESS STEEL SET SCREWS AT CONDUIT NIPPLE CONNECTION
- ⑦ SERRATED RING WITH PINS
- ⑧ HEX LOCKNUT WITH:
  - TWO ALLEN HEAD STAINLESS STEEL SET SCREWS
  - PIN RECEPTACLES
- ⑨ 1 1/2" (IN) DIAM. CONDUIT NIPPLE
- ⑩ 1 1/2" (IN) DIAM. HEX LOCKNUT
- ⑪ MOUNTING ASSEMBLY
- ⑫ BRONZE ELEVATOR PLUMBIZER WITH 3/8" (IN) STAINLESS STEEL THROUGH BOLT, WASHERS, AND TWO NUTS
- ⑬ ALUMINUM ARM WITH SET SCREW
- ⑭ SLOTTED TUBE WITH CLOSURE STRIP
- ⑮ 2 1/2" (IN) I.D. MIN. TUBE CLAMP
- ⑯ INTERNALLY THREADED CLAMP ASSEMBLY WITH:
  - TWO SET SCREWS
  - 1/2" (IN) × 0.045" (IN) STAINLESS STEEL BANDS
  - 7/16" (IN) SCREW BUCKLES WITH SWIVELS, NUTS, AND WASHERS
  - BAND CLIPS WITH ALLEN HEAD STAINLESS STEEL SET SCREWS
- ⑰ BRONZE MESSENGER HANGER WITH:
  - 1/2" (IN) DIAM. J-BOLTS
  - CABLE LOCK BAR
  - RIVET
  - COTTER KEY
- ⑱ BRONZE INTERNALLY THREADED WIRE ENTRANCE WITH:
  - BUSHING INSERT OR RUBBER GROMMET
  - ALLEN HEAD STAINLESS STEEL SET SCREW
- ⑲ BRONZE BALANCE ADJUSTER (WHERE REQUIRED)
- ⑳ MULTI-HEAD MOUNTING ASSEMBLY
- ㉑ LOWER ARM ASSEMBLY
- ㉒ SERRATED RING WITH NO PINS
- ㉓ SERRATED WASHER
- ㉔ 1 1/2" (IN) DIAM. SERRATED OR FLANGED ELBOW
- ㉕ CENTER SUPPORT WITH 1 1/2" (IN) DIAM. HUBS WITH COVER AND GASKET
- ㉖ 1 1/2" (IN) DIAM. SERRATED COUPLING
- ㉗ 1 1/2" (IN) BREAKAWAY TETHER ASSEMBLY WITH OPTIONAL EXTENDER BAR
- ㉘ SERRATED CROSS

**NOTES**

1. Type M mounting shall have "O" ring groove and seal on top and bottom of signal attachment.
2. Type M mounting for conventional heads shall have a 2" (in) diameter opening at the signal attachment.
3. Type M mounting for optically programmed heads shall have a 3 1/2" (in) diameter opening at the signal attachment.
4. Type N mounting with optically programmed heads shall be installed with 14" (in) nominal arms.
5. See **Standard Plan J-75.30** for tether wire and backplate requirements.
6. Apply bead of silicone around the perimeter of all top end cap openings prior to installation of the end cap assembly.
7. See **Standard Specification 9-29.16** for backplate requirements. Where required, prismatic sheeting shall be applied in accordance with the manufacturer's recommendations. The application surface of the backplate shall be cleaned, degreased with isopropyl alcohol, and dried prior to application of the sheeting.
8. Drill a 1/4" (in) drain hole in the bottom of each signal assembly. When signal display assembly is mounted horizontally, drill a 1/4" (in) drain hole at the lowest point of each section of the signal assembly.

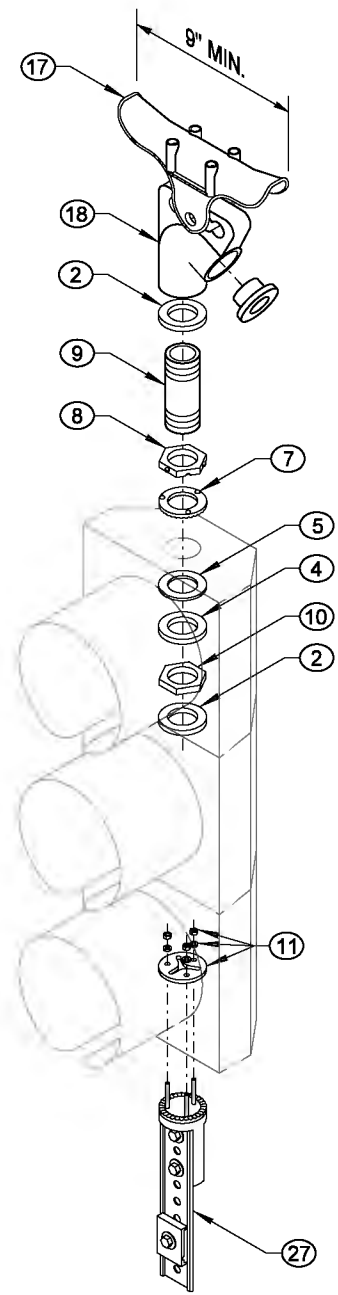
**NOTE: BACKPLATES NOT SHOWN FOR CLARITY**



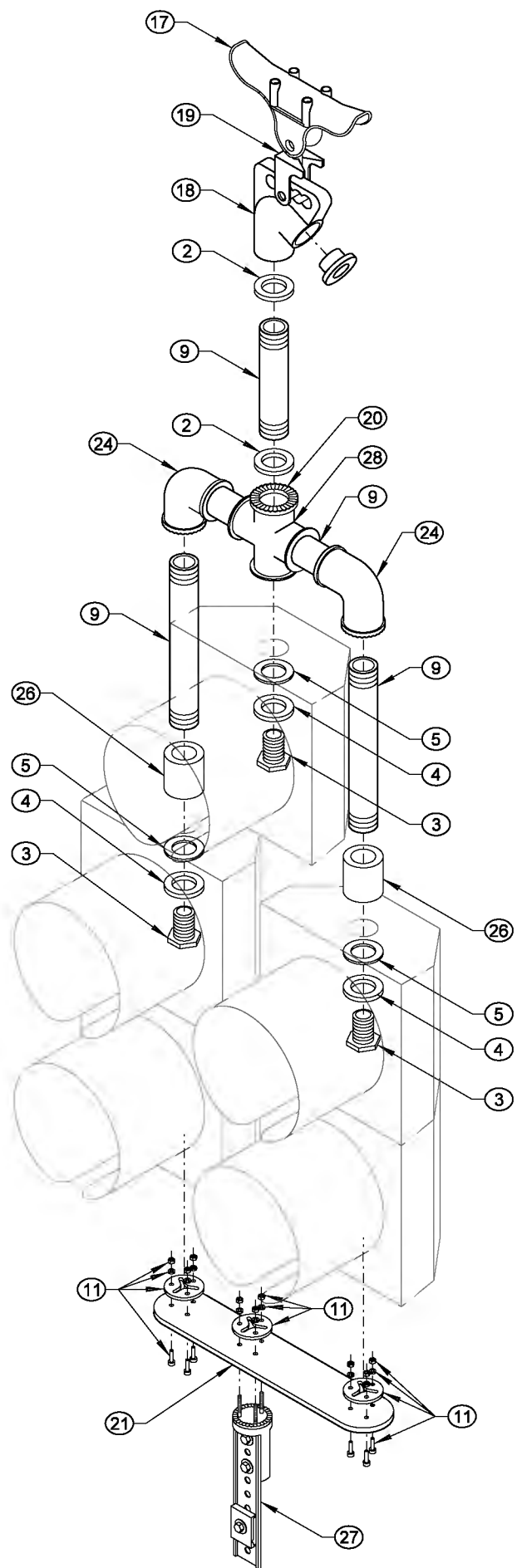
**SIGNAL HEAD MOUNTING  
DETAILS ~ MAST ARM AND  
SPAN WIRE MOUNTINGS  
STANDARD PLAN J-75.20-01**

SHEET 1 OF 2 SHEETS

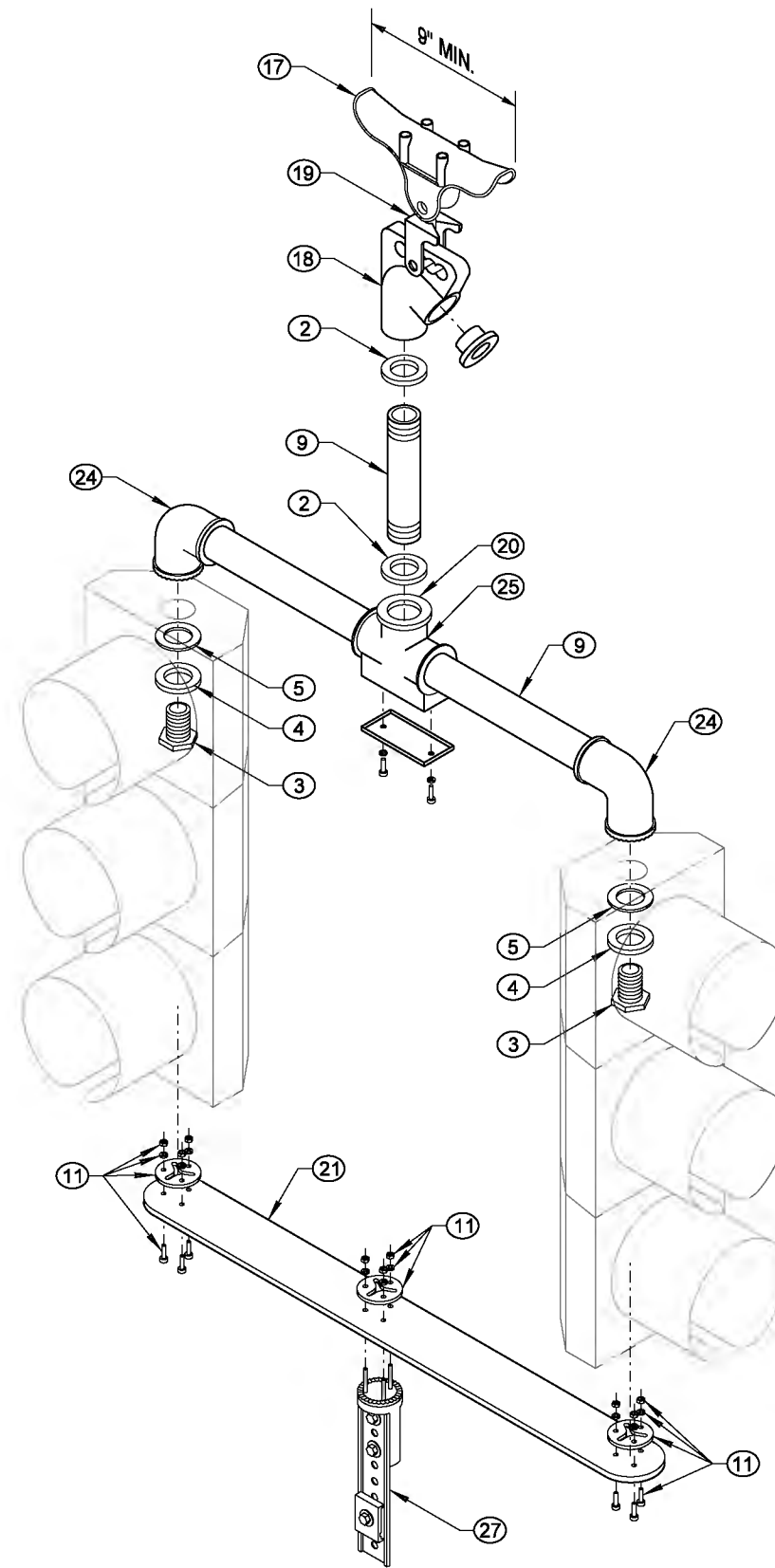
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**SPAN WIRE  
TYPE P (1 HEAD)**

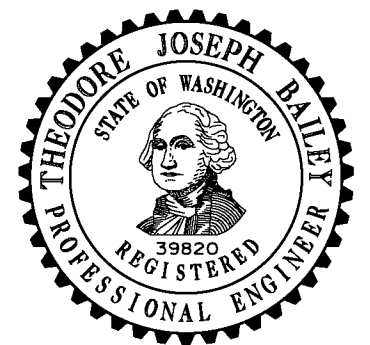


**SPAN WIRE  
TYPE P-5S  
(TYPE P WITH 5-SECTION HEAD)**



**SPAN WIRE  
TYPE Q (2 HEADS)  
TYPE R (3 HEADS)  
TYPE S (4 HEADS)**

**NOTE: BACKPLATES NOT SHOWN  
FOR CLARITY**

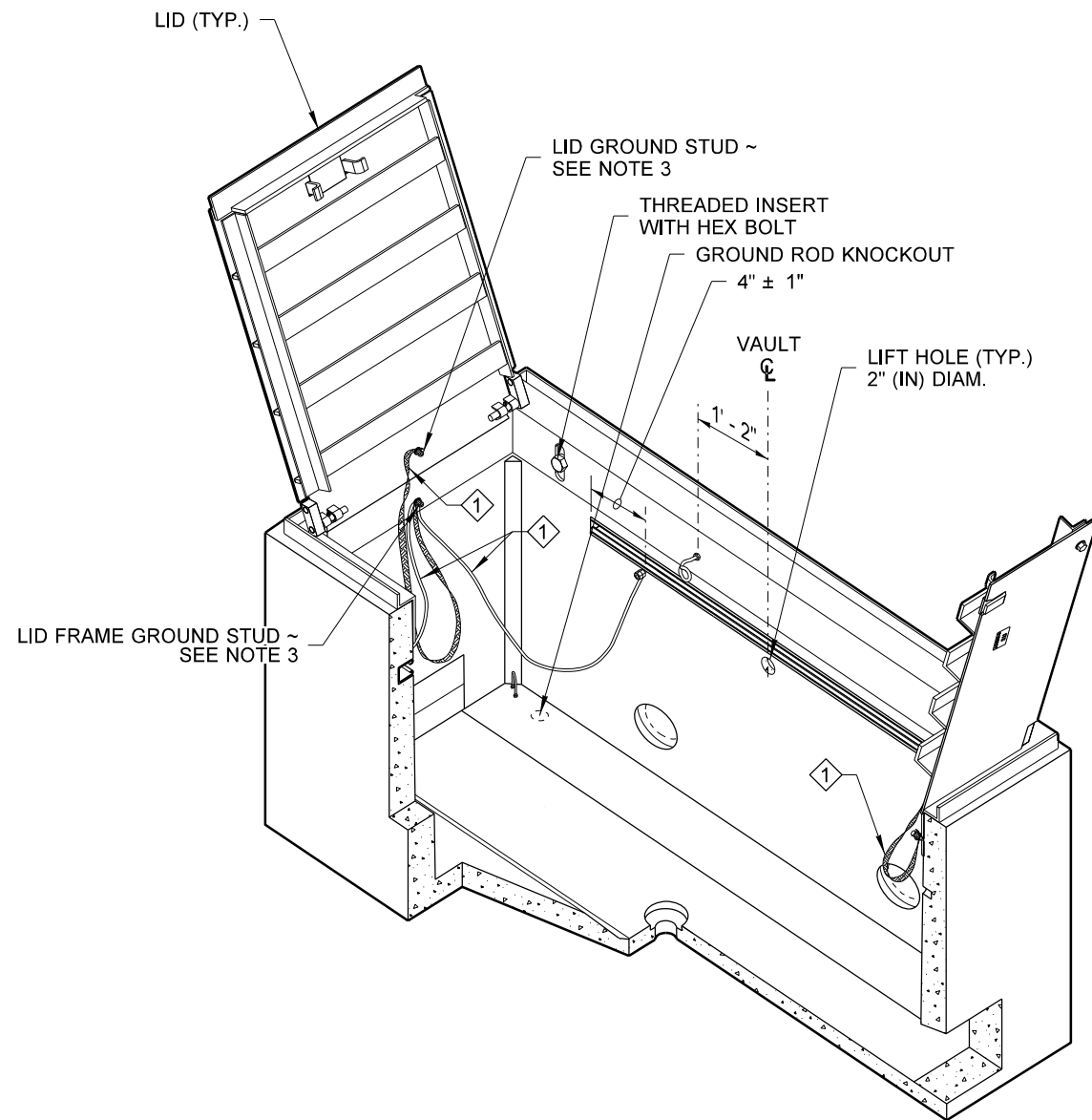
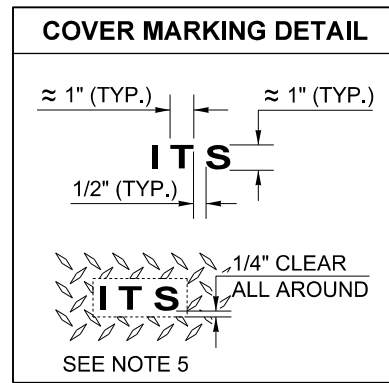


**SIGNAL HEAD MOUNTING  
DETAILS ~ MAST ARM AND  
SPAN WIRE MOUNTINGS  
STANDARD PLAN J-75.20-01**

SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION





**ISOMETRIC CUTAWAY  
ASSEMBLY**

**NOTES**

1. The diamond pattern shall be a minimum of 3/32" (in) thick.
2. Slip-resistant lids shall be identified with a permanent marking on the underside of the lid, indicating the type of surface treatment (see Contract Documents for details) and the year of manufacture. The marking shall use 1/8" (in) thick lines formed with a weld bead, and shall be placed prior to galvanizing.
3. A 1/4 - 20 UNC x 1" (in) ground stud with three nuts and two flat washers shall be welded to each lid and coated with anti-seize compound. A 1/4 - 20 UNC x 1" (in) ground stud with three nuts and four washers shall be welded to the frame and coated with anti-seize compound. See **Standard Plan J-90.50** for grounding and bonding details.
4. The bonding jumper between the lid and the frame shall be #8 AWG (min.) x 4' (ft) tinned braided copper.
5. The system identification letters shall be 1/8" (in) line thickness formed with a mild steel weld bead. See **COVER MARKING DETAIL, See Standard Specification Section 9-29.2(4)**.
6. Cement concrete shall be Class 4000.
7. Conduit Capacity = 40 inches (sum total of all conduit diameters).
8. Typical Small Cable Vault features and arrangement shown. Reinforcing not shown. Dimensions and arrangements will vary slightly by manufacturer. See Approved shop drawings.
9. Small Cable Vaults for WSDOT Projects shall only be installed with the lid frame bearing on the concrete portion of cable vault.

\* BOLTS, NUTS AND WASHERS ~  
ASTM F593 OR A193,  
TYPE 304 OR TYPE 316  
STAINLESS STEEL (S.S.)

① EQUIPMENT BONDING JUMPER (SEE NOTE 4)



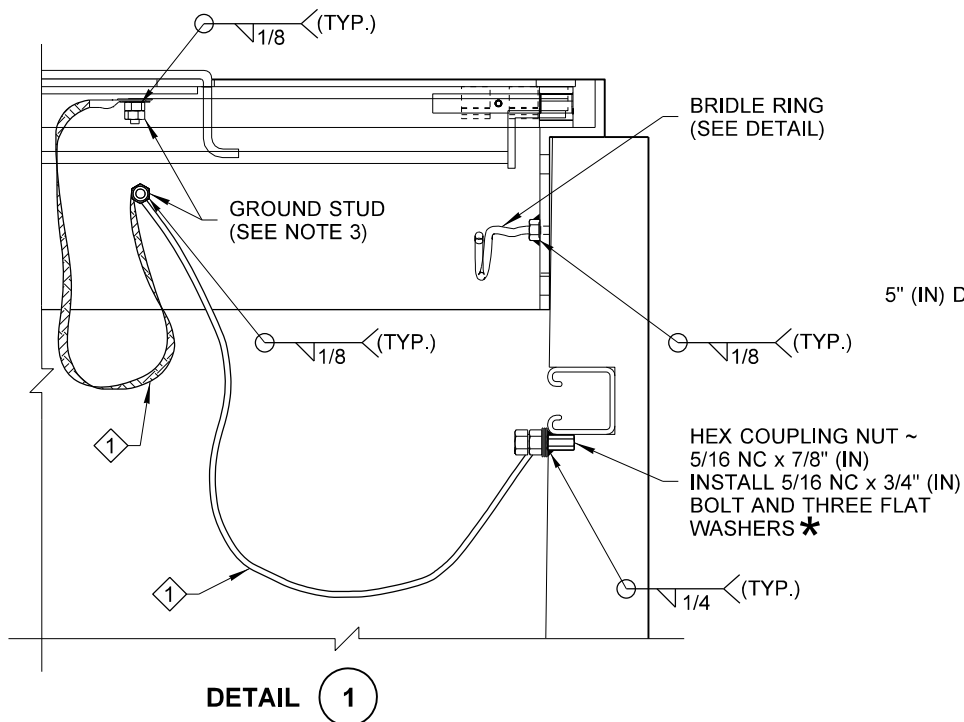
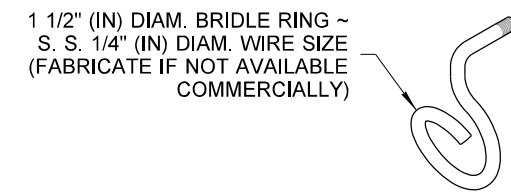
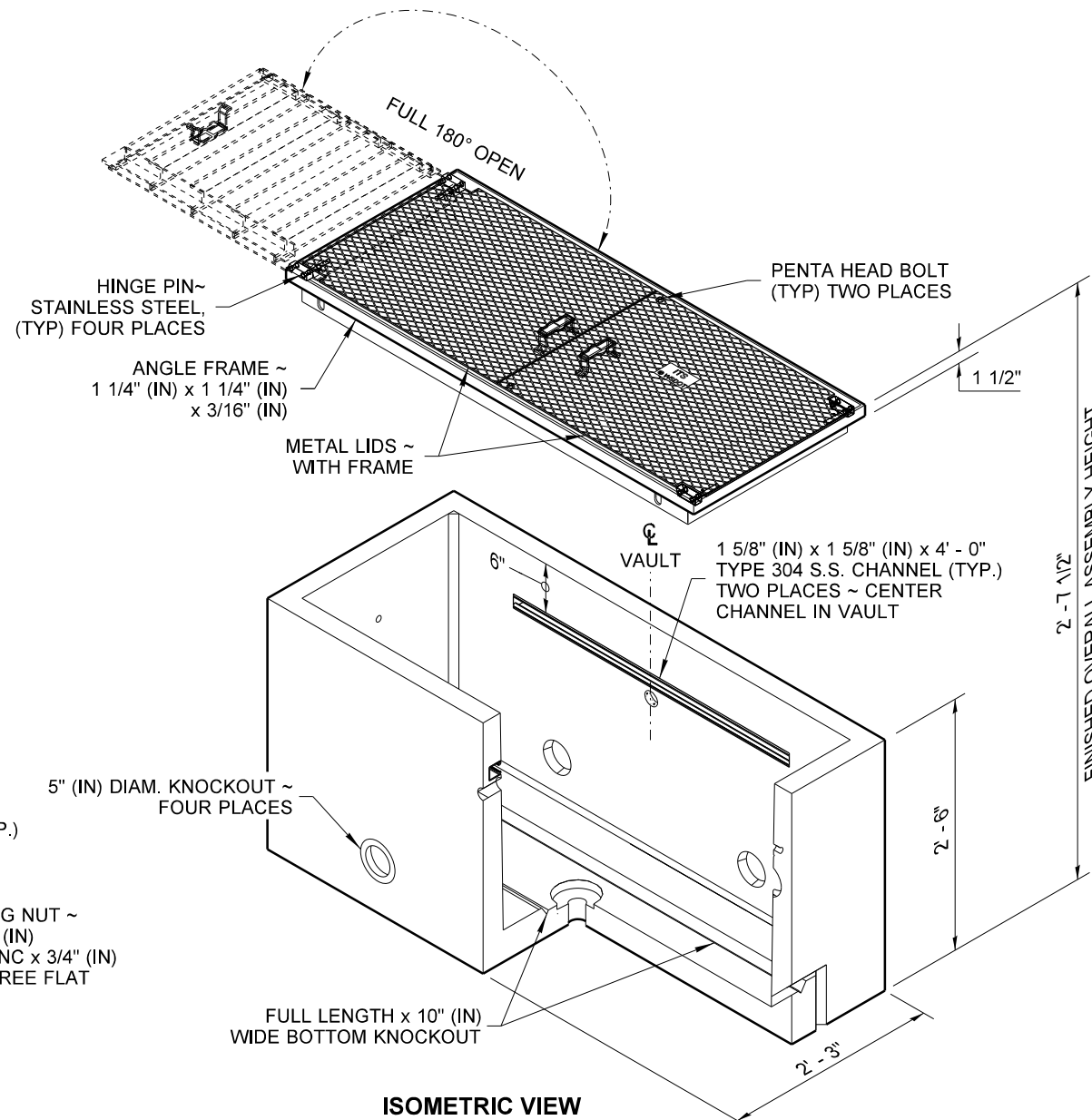
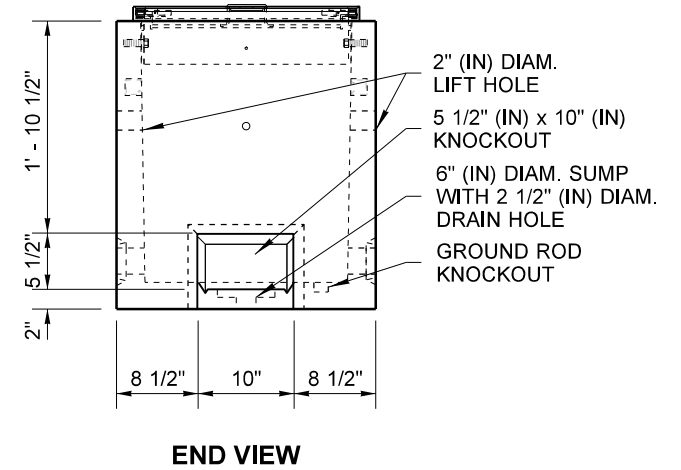
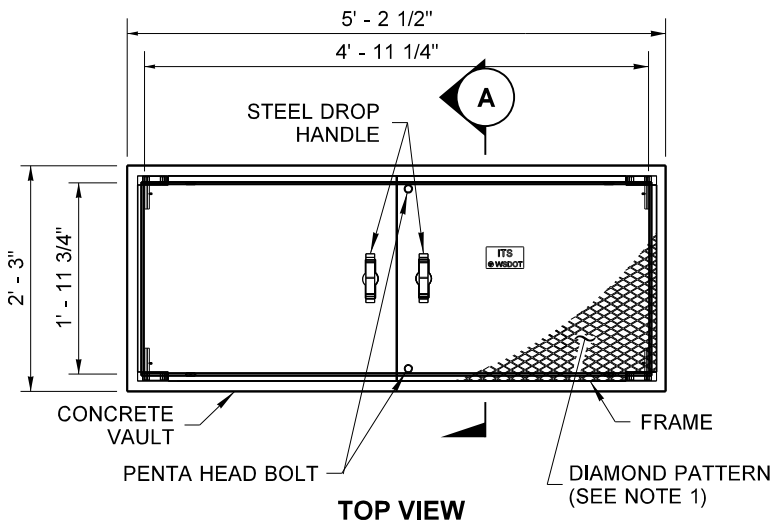
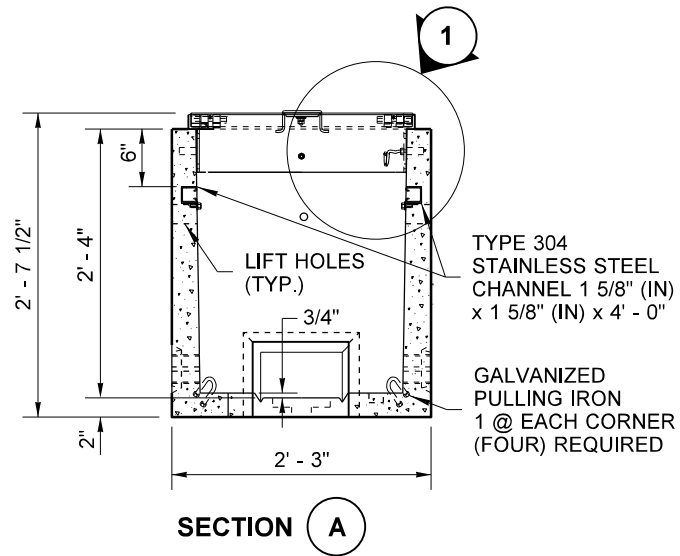
**SMALL CABLE VAULT  
STANDARD PLAN J-90.21-02**

SHEET 1 OF 2 SHEETS

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Washington State Department of Transportation

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SEE ISOMETRIC CUTAWAY ASSEMBLY ~ SHEET 1, FOR DIMENSIONS NOT SHOWN



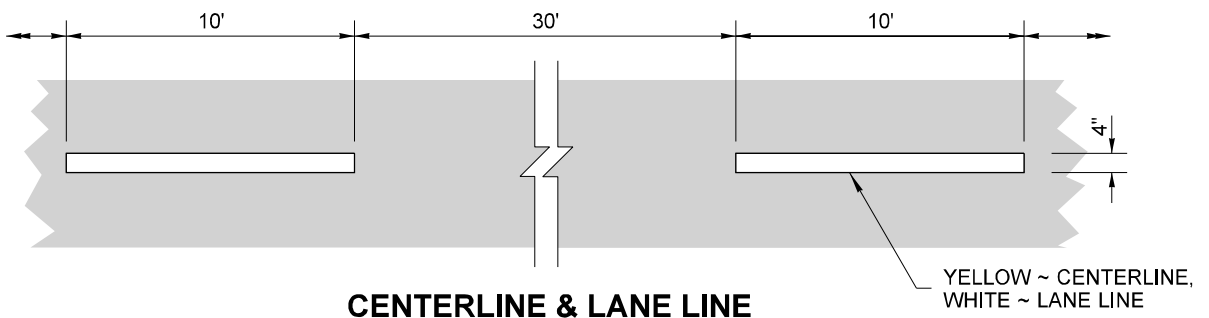
**SMALL CABLE VAULT**  
**STANDARD PLAN J-90.21-02**

SHEET 2 OF 2 SHEETS

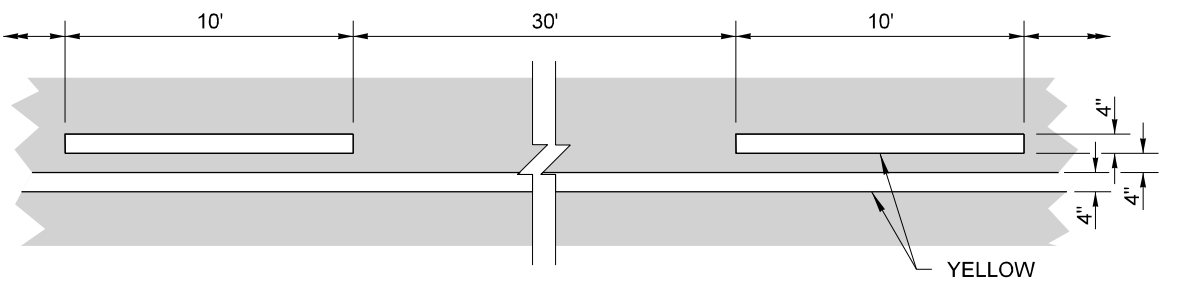
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STATE DESIGN ENGINEER  
Washington State Department of Transportation

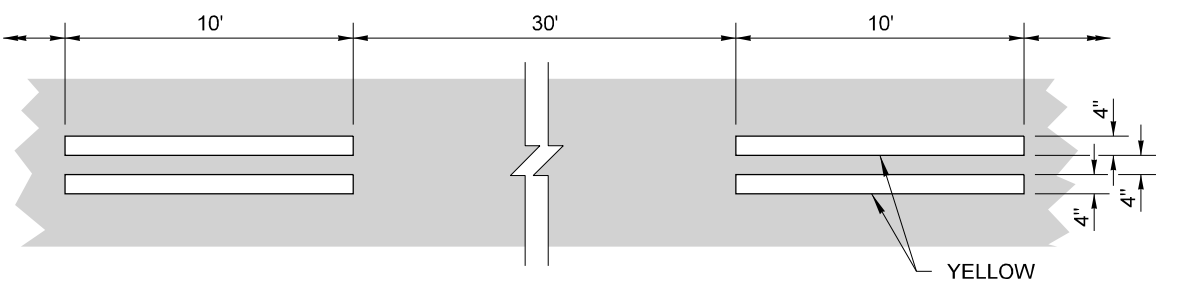
DRAWN BY: FERN LIDDELL



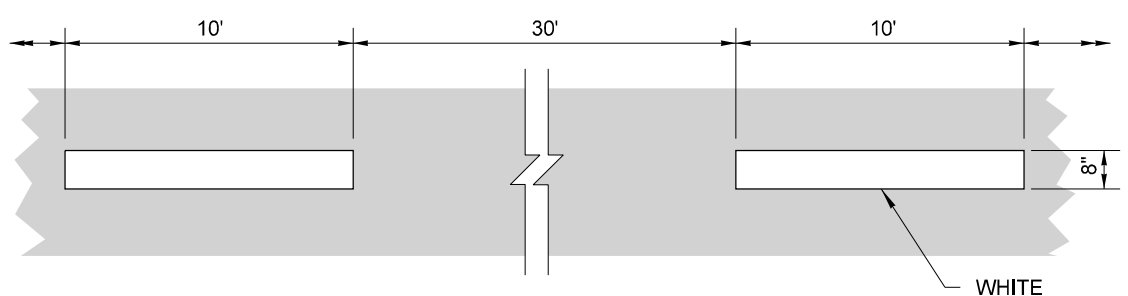
**CENTERLINE & LANE LINE**



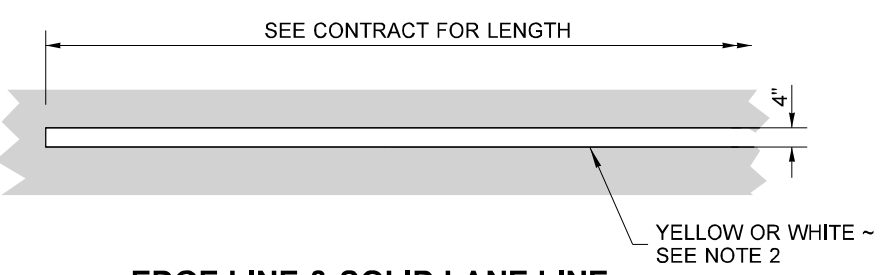
**NO-PASS LINE & TWO-WAY LEFT-TURN CENTERLINE**



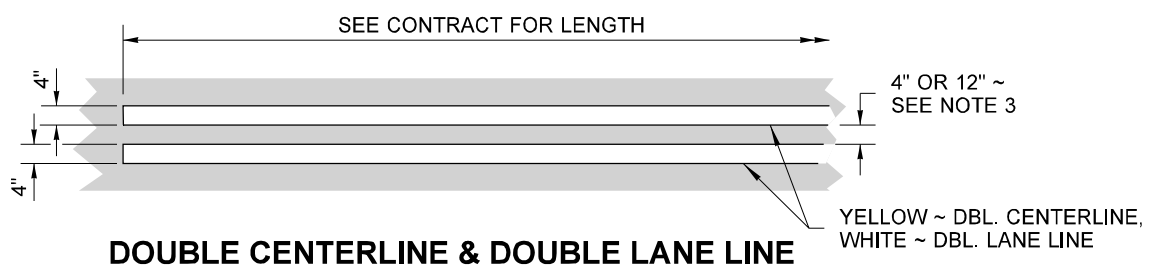
**REVERSIBLE LANE LINE**



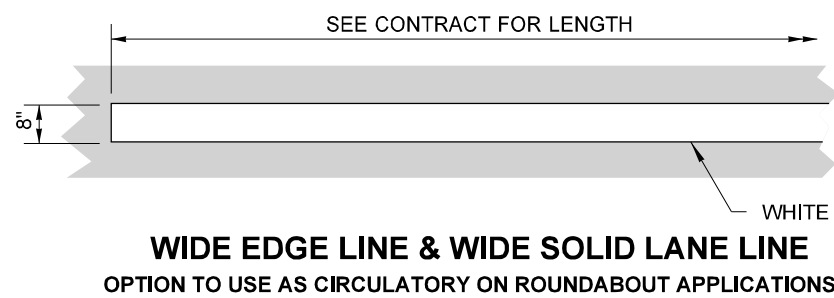
**WIDE BROKEN LANE LINE**



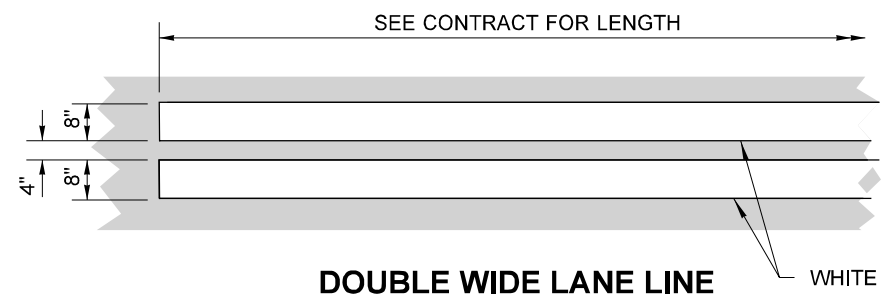
**EDGE LINE & SOLID LANE LINE**



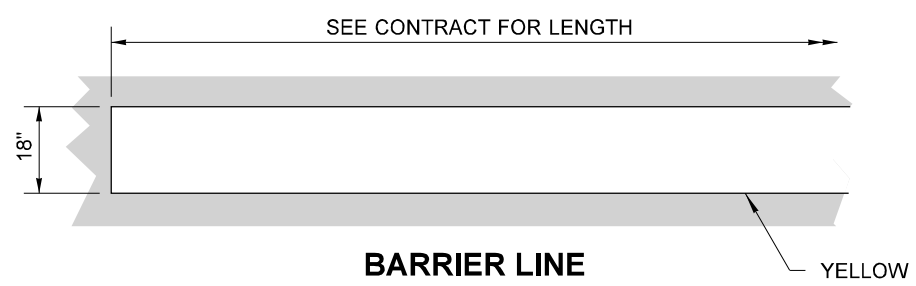
**DOUBLE CENTERLINE & DOUBLE LANE LINE**



**WIDE EDGE LINE & WIDE SOLID LANE LINE**  
OPTION TO USE AS CIRCULATORY ON ROUNDABOUT APPLICATIONS



**DOUBLE WIDE LANE LINE**



**BARRIER LINE**

**NOTES**

1. Dotted Extension Line shall be the same color as the line it is extending.
2. Edge Line shall be white on the right edge of traveled way, and yellow on the left edge of traveled way (on one-way roadways). Solid Lane Line shall be white.
3. The distance between the lines of the Double Centerline shall be 12" everywhere, except 4" for left-turn channelization and narrow roadways with lane widths of 10 feet or less. Local Agencies (on non-state routes) may specify a 4" distance for all locations.  
The distance between the lines of the Double Lane Line shall be 4".



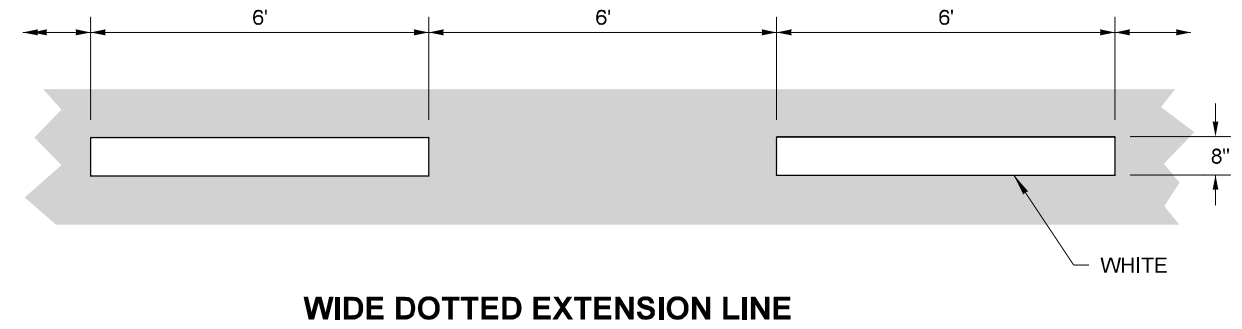
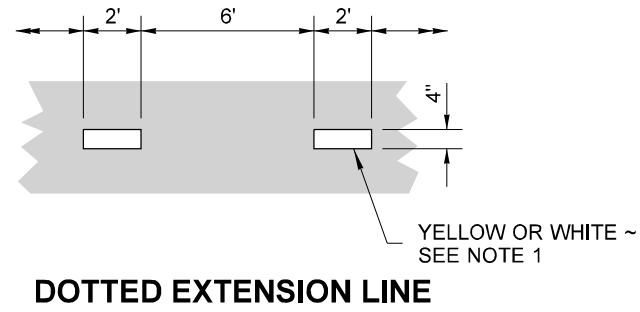
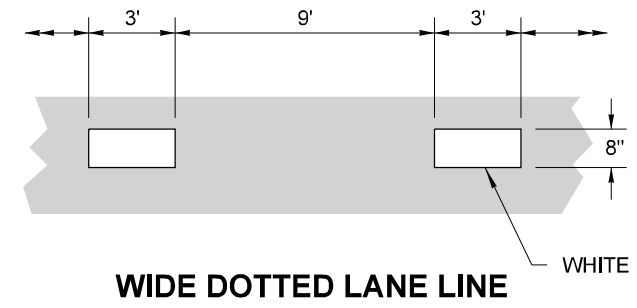
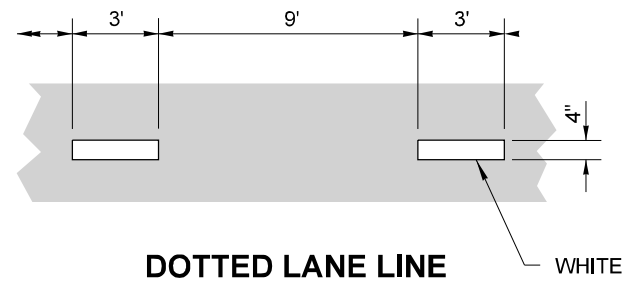
Aug 1, 2022

**LONGITUDINAL MARKING PATTERNS**  
**STANDARD PLAN M-20.10-04**  
 SHEET 1 OF 4 SHEETS

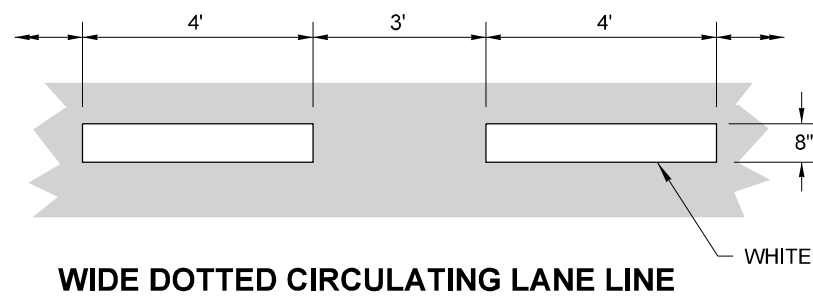
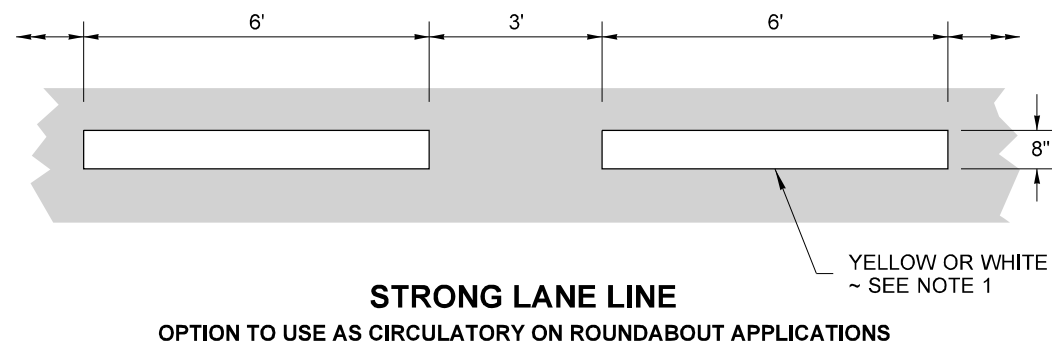
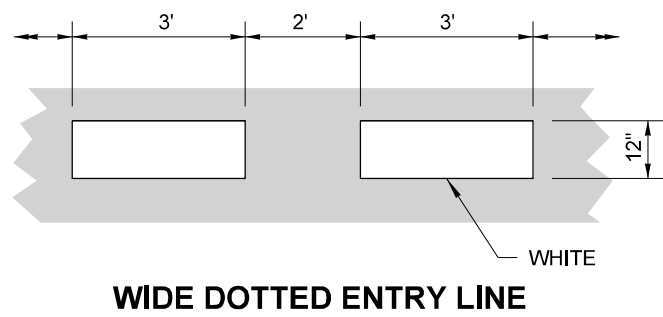
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 Mark Gaines (Aug 2, 2022 10:17 PDT)  
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 Washington State Department of Transportation

Aug 2, 2022

DRAWN BY: FERN LIDDELL



**ROUNDAOBT SPECIFIC LINES**



Aug 1, 2022

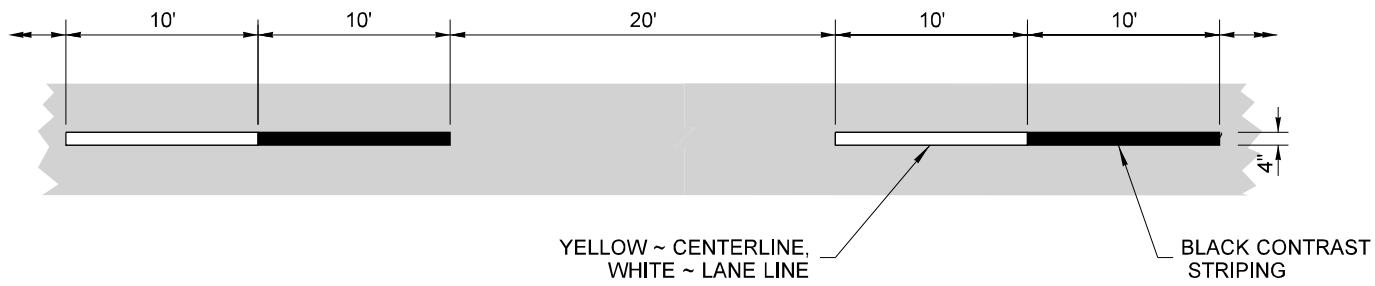
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**STANDARD PLAN M-20.10-04**  
 SHEET 2 OF 4 SHEETS

APPROVED FOR PUBLICATION  
*Mark Gaines*  
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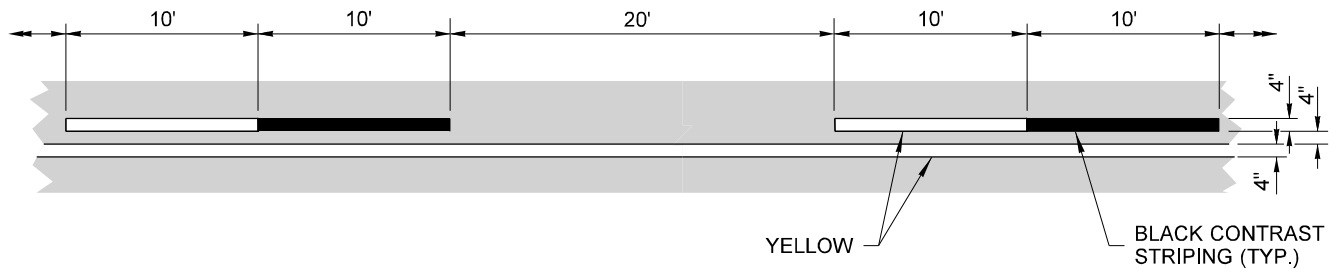
Aug 2, 2022

DRAWN BY: FERN LIDDELL

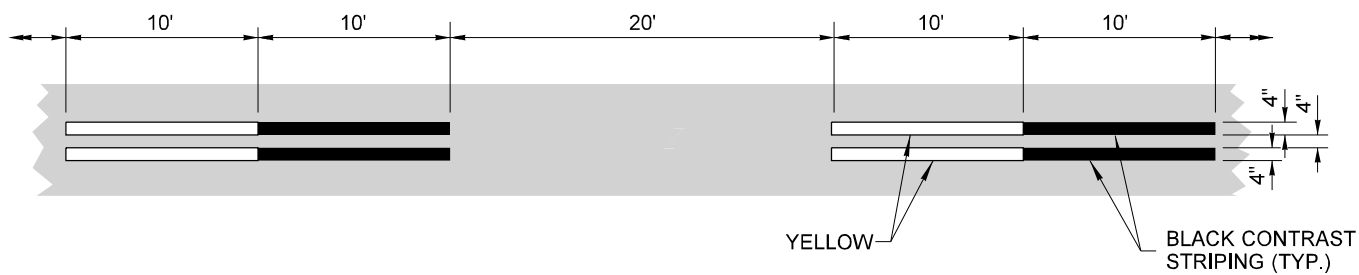
DIRECTION OF TRAFFIC  
(TYPICAL)



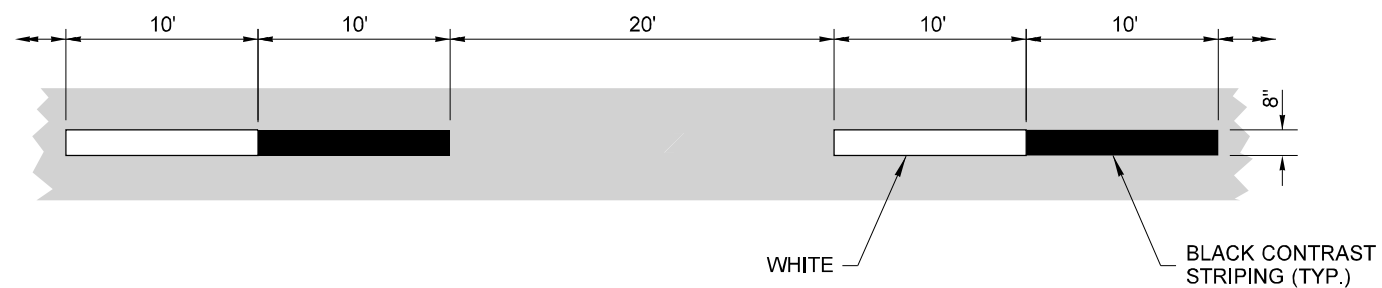
**CENTERLINE & LANE LINE**



**NO-PASS LINE & TWO-WAY LEFT-TURN CENTERLINE**



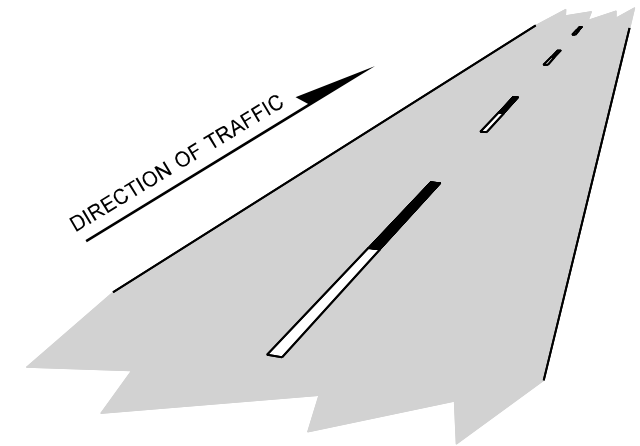
**REVERSIBLE LANE LINE**



**WIDE BROKEN LANE LINE**

**NOTE**

- 1. Dotted Extension Line shall be the same color as the line it is extending.



**ISOMETRIC VIEW**



Aug 1, 2022

**LONGITUDINAL MARKING PATTERNS**  
**STANDARD PLAN M-20.10-04**

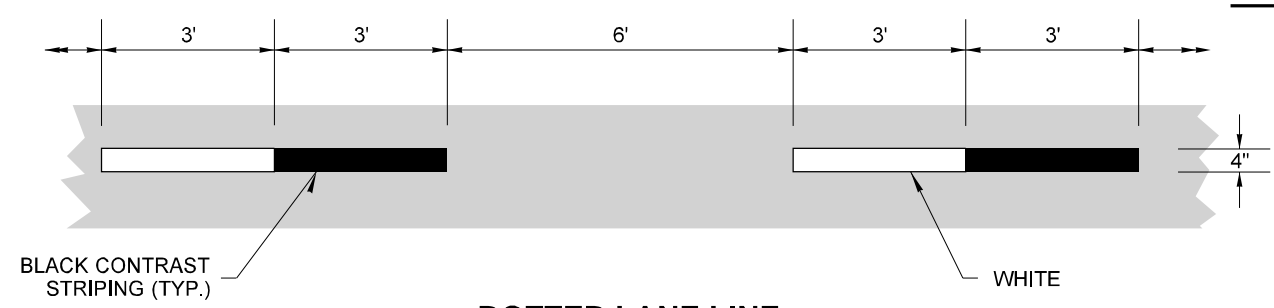
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 Mark Gaines (Aug 2, 2022 10:17 PDT)  
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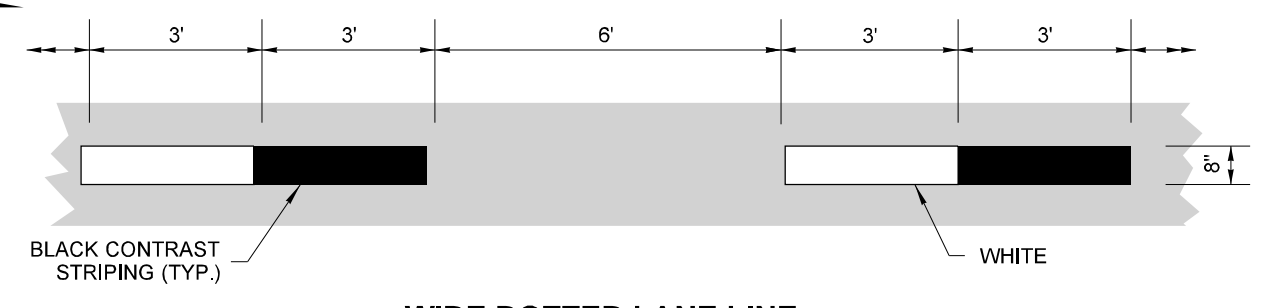
Aug 2, 2022

DRAWN BY: FERN LIDDELL

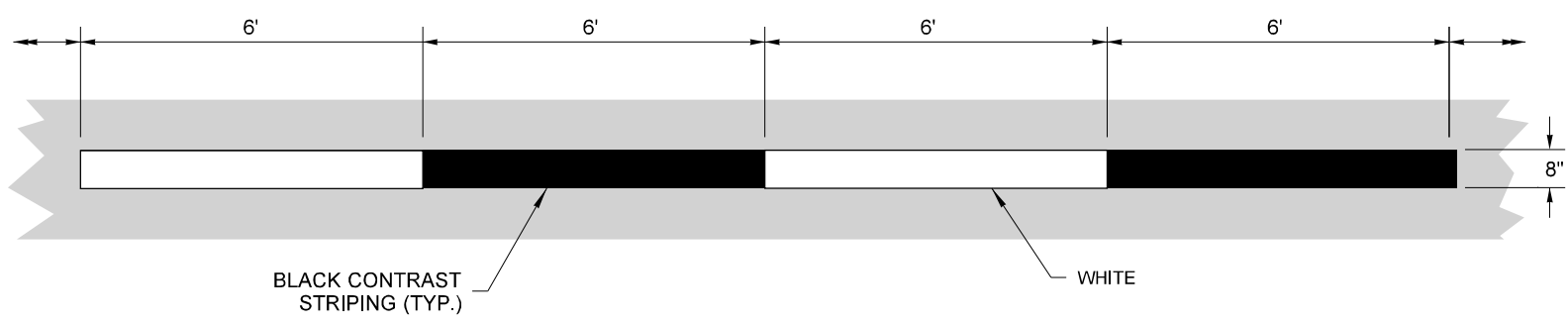
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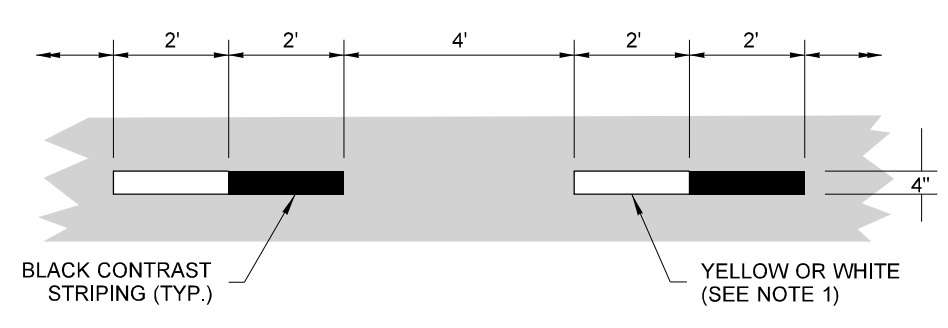
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**WIDE DOTTED LANE LINE**

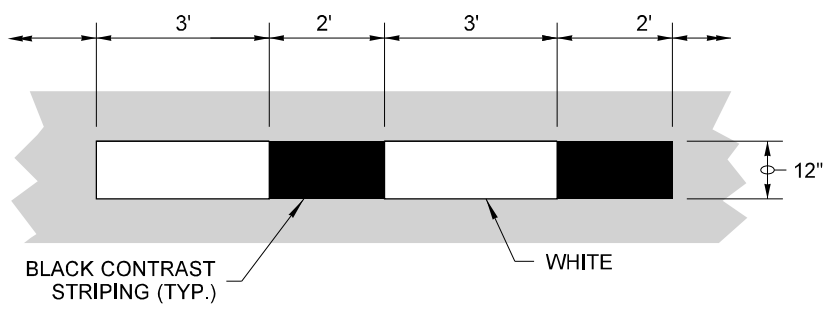


**WIDE DOTTED EXTENSION LINE**

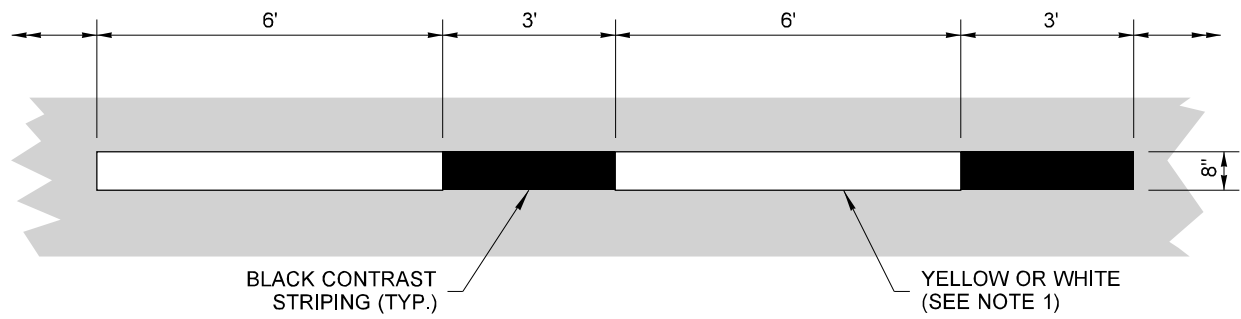


**DOTTED EXTENSION LINE**

**ROUNDAABOUT SPECIFIC LINES**

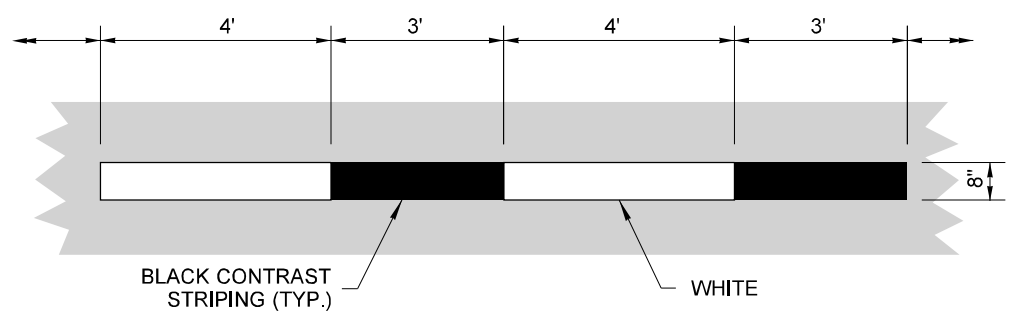


**WIDE DOTTED ENTRY LINE**



**STRONG LANE LINE**

OPTION TO USE AS CIRCULATORY ON ROUNDABOUT APPLICATIONS



**WIDE DOTTED CIRCULATING LANE LINE**



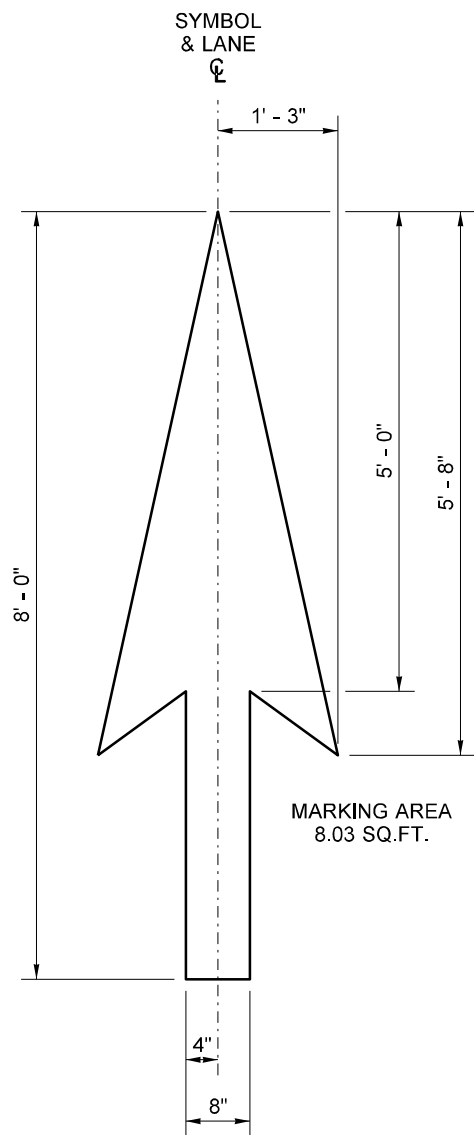
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**LONGITUDINAL MARKING PATTERNS**  
**STANDARD PLAN M-20.10-04**

SHEET 4 OF 4 SHEETS

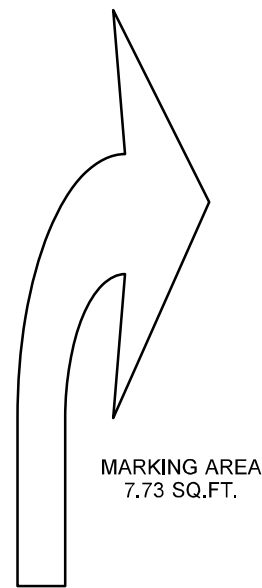
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Aug 2, 2022



**TYPE 1S  
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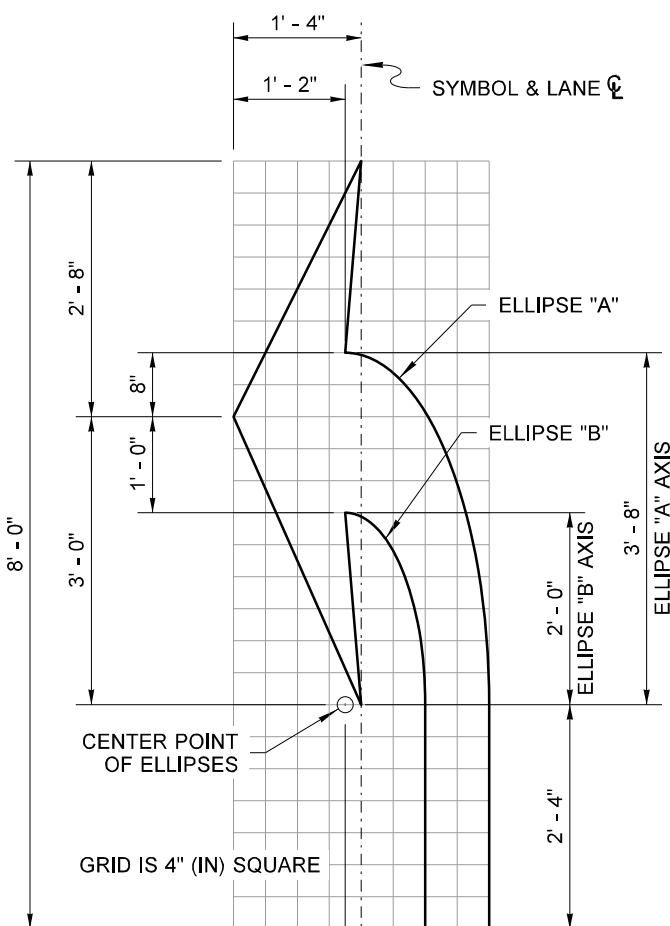
MARKING AREA  
8.03 SQ.FT.



MARKING AREA  
7.73 SQ.FT.

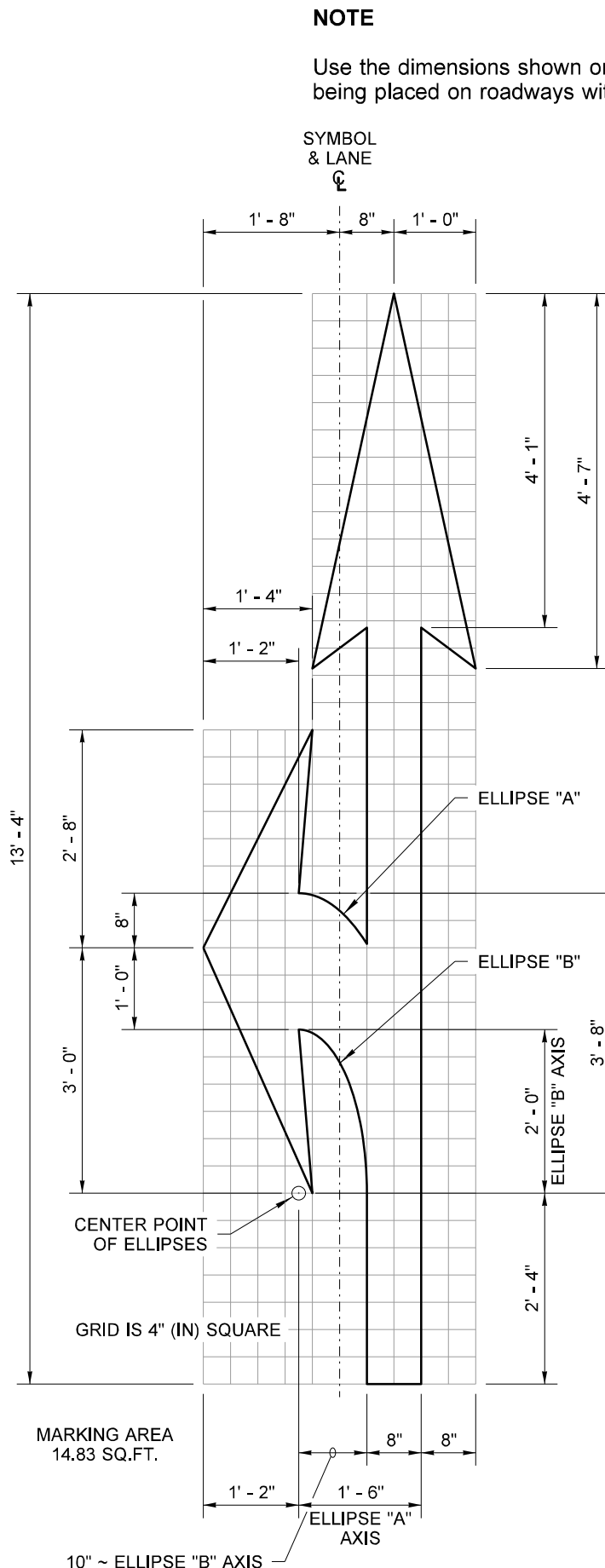
**TYPE 2SR (RIGHT)  
TRAFFIC ARROW**

MIRROR IMAGE OF  
TYPE 2SL TRAFFIC ARROW  
(SHOWN AT REDUCED SCALE)



MARKING AREA  
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**TYPE 2SL (LEFT) TRAFFIC ARROW**

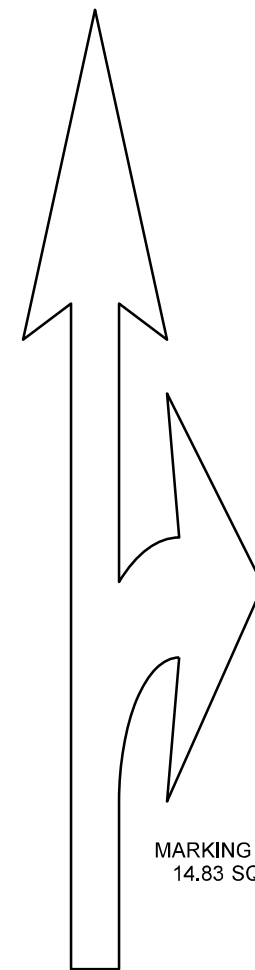


MARKING AREA  
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**TYPE 3SL (LEFT) TRAFFIC ARROW**

**NOTE**

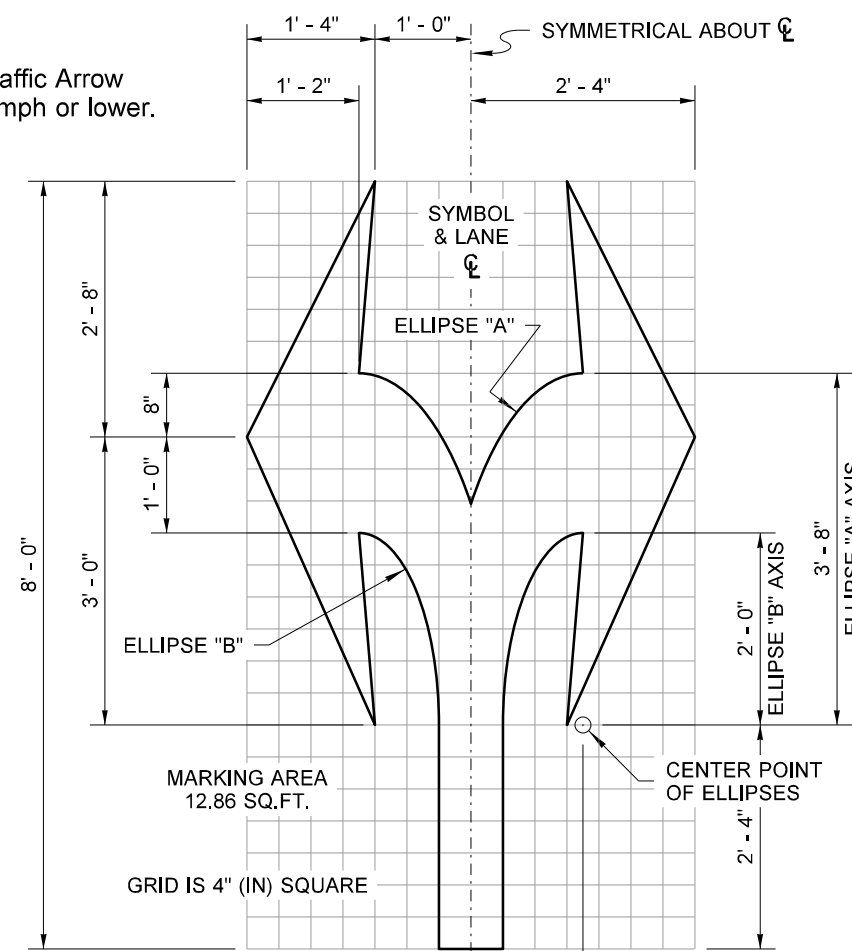
Use the dimensions shown on this plan for each type of Traffic Arrow being placed on roadways with a posted speed limit of 40 mph or lower.



MARKING AREA  
14.83 SQ.FT.

**TYPE 3SR (RIGHT)  
TRAFFIC ARROW**

MIRROR IMAGE OF  
TYPE 3SL TRAFFIC ARROW  
(SHOWN AT REDUCED SCALE)



MARKING AREA  
12.86 SQ.FT.

**TYPE 4S  
TRAFFIC ARROW**



Walsh, Brian  
Apr 16 2015 2:21 PM

**SYMBOL MARKINGS ~  
TRAFFIC ARROWS FOR  
LOW-SPEED ROADWAYS  
STANDARD PLAN M-24.40-02**

SHEET 1 OF 2 SHEETS

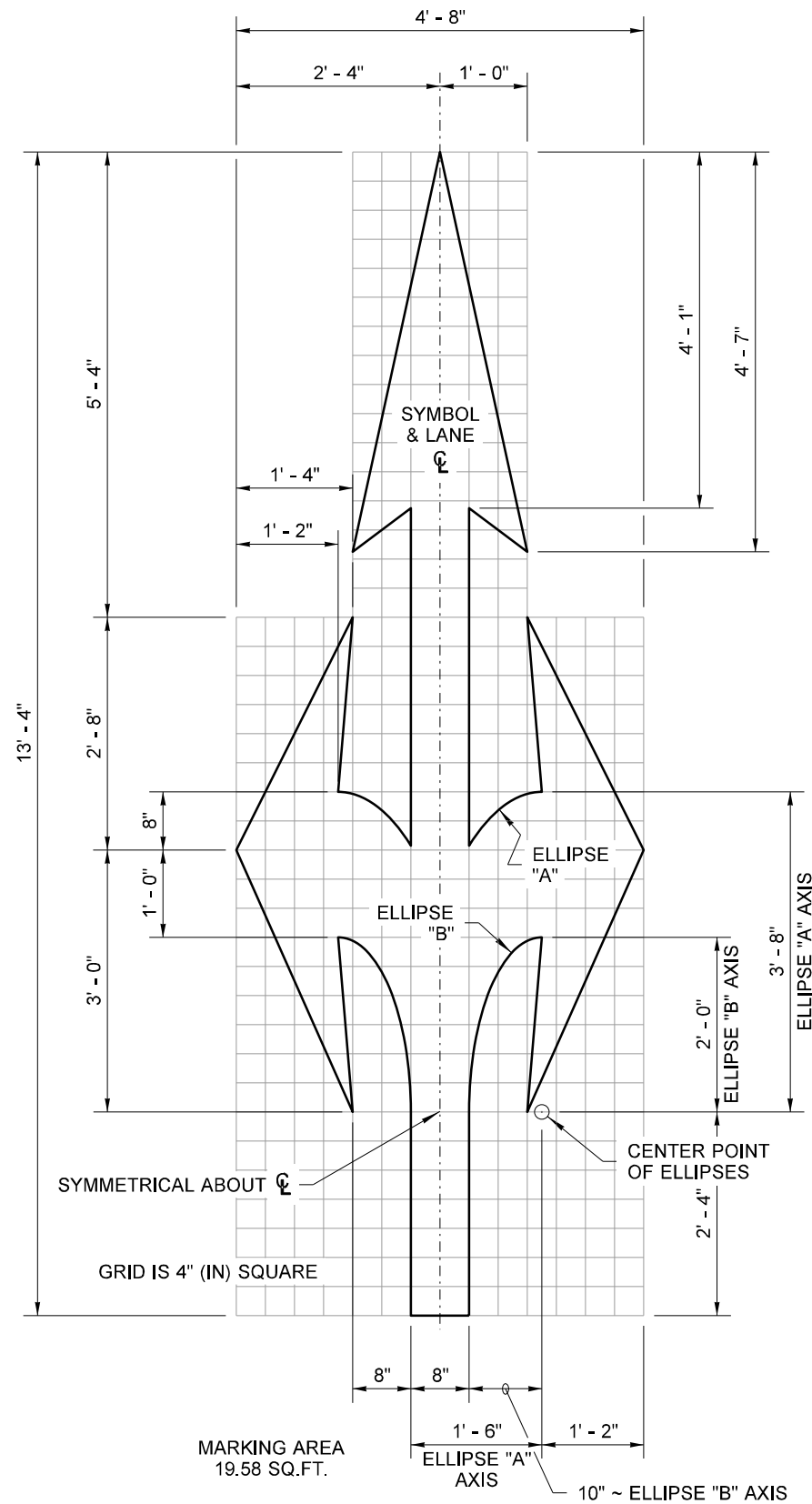
APPROVED FOR PUBLICATION

Bakotic, Pasco  
Apr 20 2015 10:11 AM

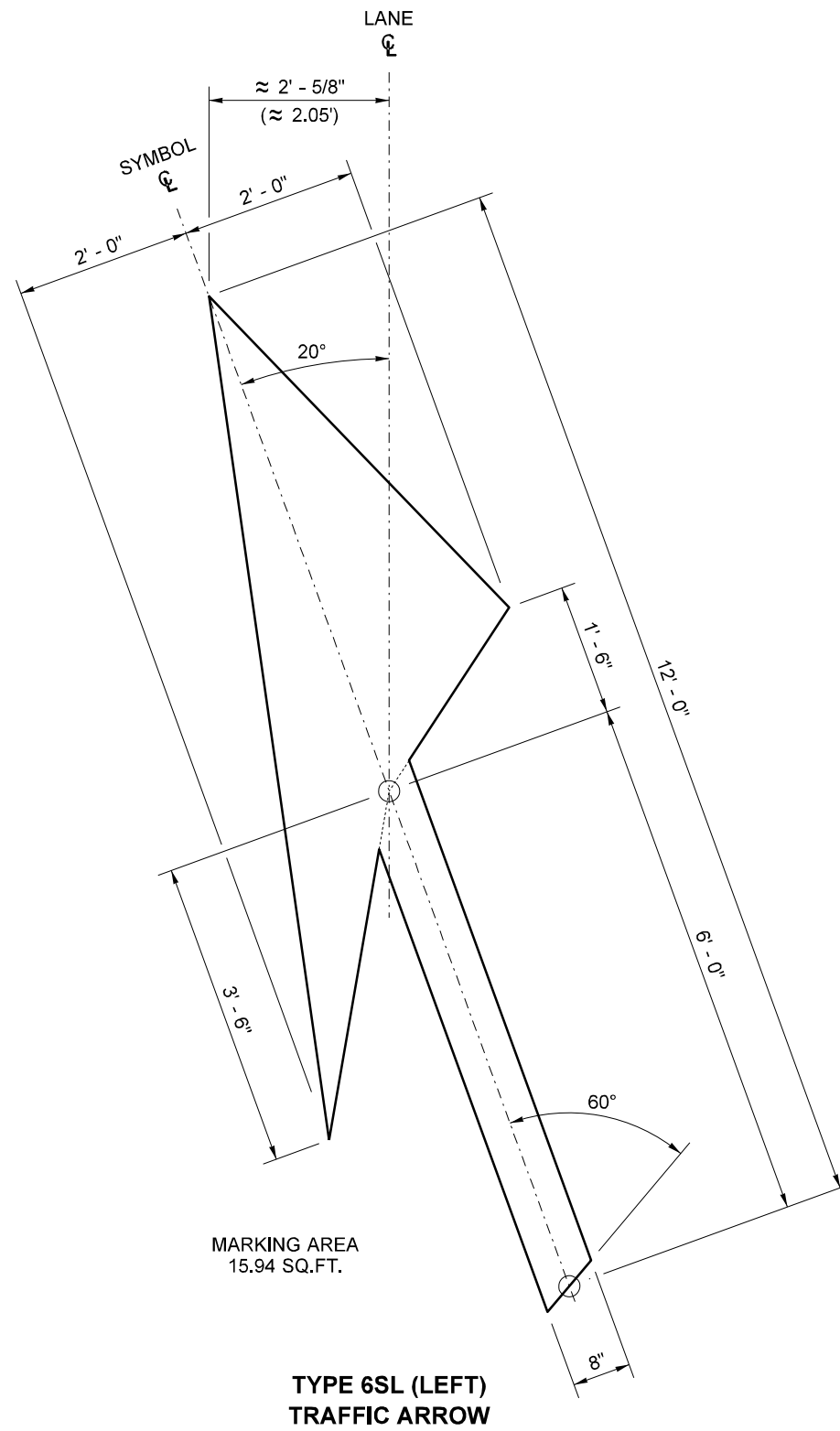
STATE DESIGN ENGINEER

Washington State Department of Transportation

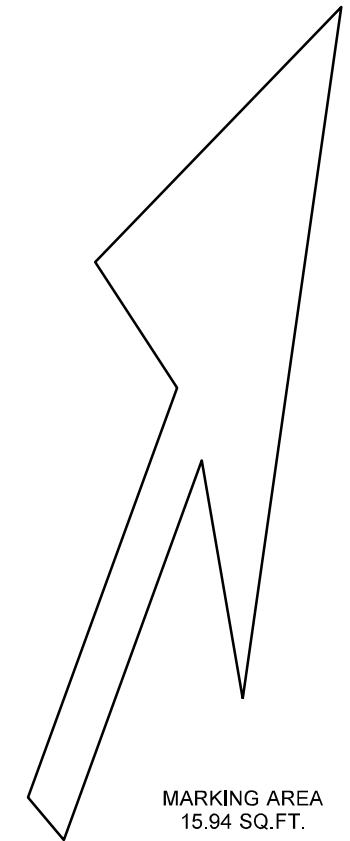
DRAWN BY: COLBY FLETCHER



**TYPE 7S TRAFFIC ARROW**



**TYPE 6SL (LEFT) TRAFFIC ARROW**



**TYPE 6SR (RIGHT) TRAFFIC ARROW**  
MIRROR IMAGE OF TYPE 6SL  
(MIRRORED ABOUT LANE CENTERLINE)  
(SHOWN AT REDUCED SCALE)



Walsh, Brian  
Apr 16 2015 2:21 PM

**SYMBOL MARKINGS ~  
TRAFFIC ARROWS FOR  
LOW-SPEED ROADWAYS  
STANDARD PLAN M-24.40-02**

SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

Bakotich, Pasco  
Apr 20 2015 10:11 AM

STATE DESIGN ENGINEER

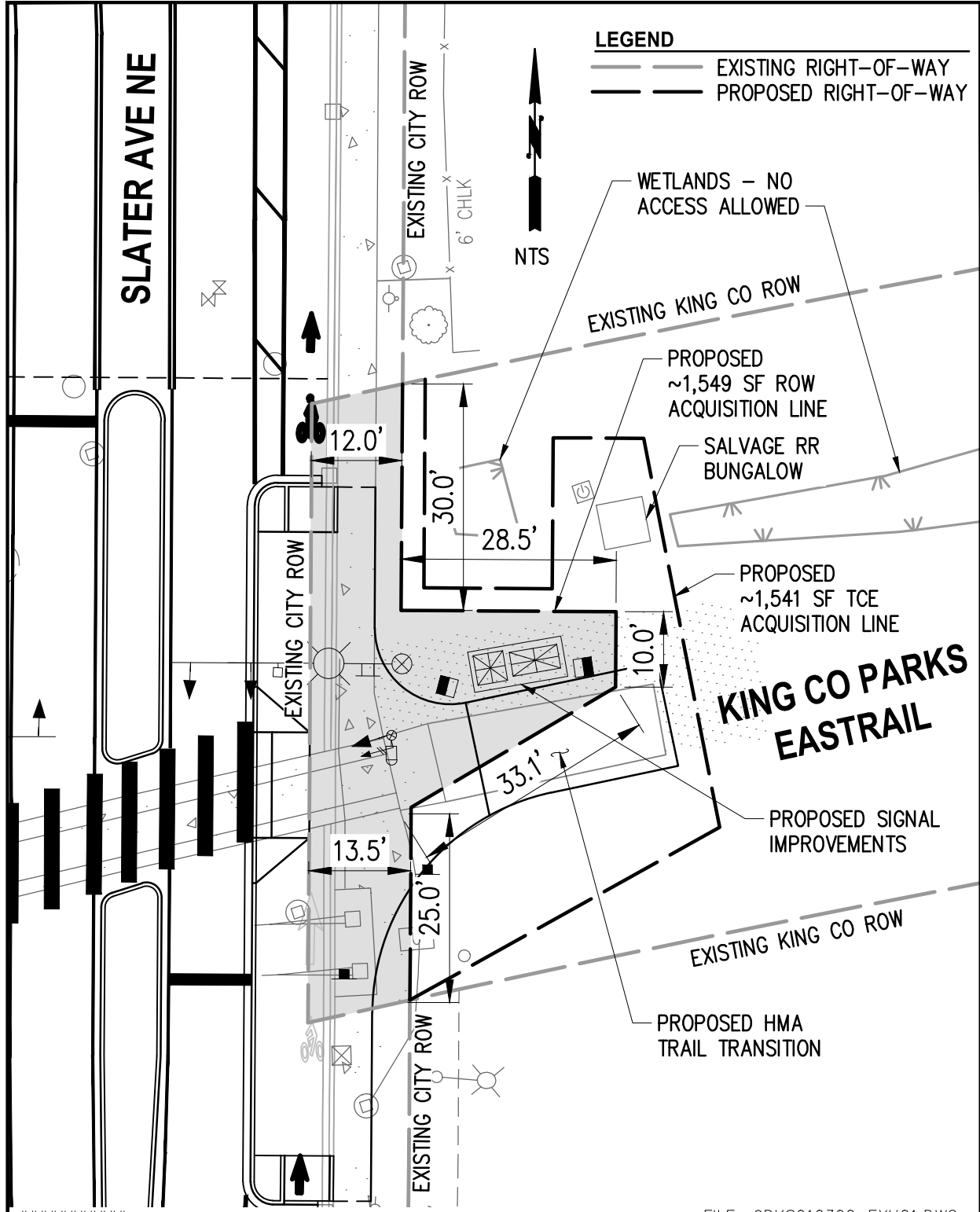




**APPENDIX C**

**RIGHT-OF-WAY**

**COMMITMENT FILES**



FILE: 9DKS010300\_EXH01.DWG

#####

**KPG**  
PSOMAS

Tacoma  
2502 Jefferson Avenue  
Tacoma, WA 98402 253.627.0720  
Seattle | Wenatchee | KPG.com

EXHIBIT A  
PARCEL # 2826059202  
PROPOSED IMPROVEMENTS

**LEGEND**

— · — PROPOSED TEMPORARY  
CONSTRUCTION EASEMENT (TCE)



NTS

PROPOSED ~219 SF  
TCE ACQUISITION LINE

PROPOSED BACK  
OF SIDEWALK

EXISTING TREES  
TO REMAIN

EXISTING SIDEWALK REMOVAL

EXISTING CITY ROW

**CROSS KIRKLAND  
CORRIDOR**

4' WOOD

**SLATER AVENUE**

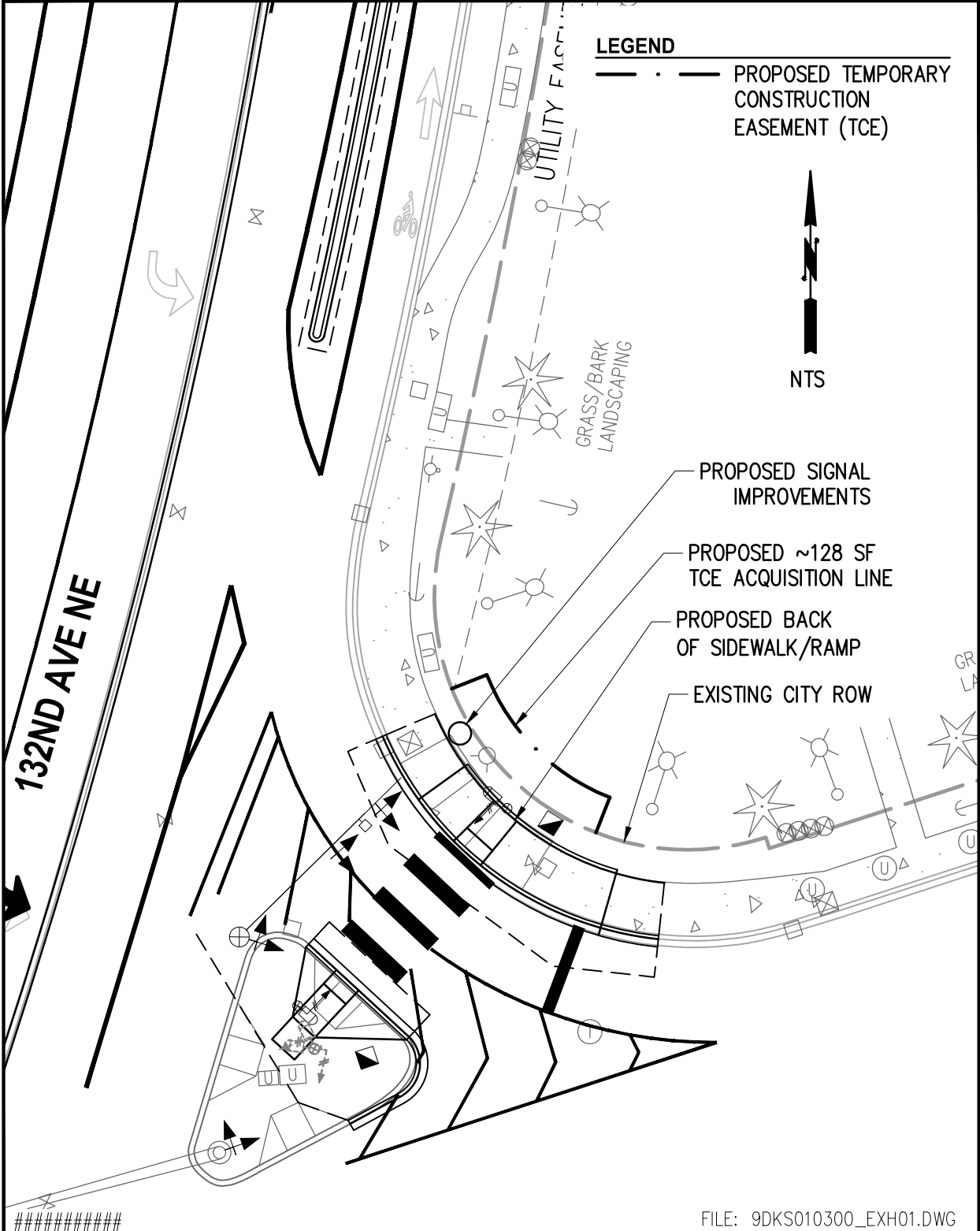
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FILE: 9DKS010300\_EXH01.DWG



**Tacoma**  
2502 Jefferson Avenue  
Tacoma, WA 98402 253.627.0720  
Seattle | Wenatchee | KPG.com

EXHIBIT B  
PARCEL # 8663350010  
PROPOSED IMPROVEMENTS



#####

FILE: 9DKS010300\_EXH01.DWG

**KPG**  
**PSOMAS**  
 Tacoma  
 2502 Jefferson Avenue  
 Tacoma, WA 98402 253.627.0720  
 Seattle | Wenatchee | KPG.com

EXHIBIT C  
 PARCEL # 2726059074  
 PROPOSED IMPROVEMENTS

**APPENDIX D**

**STORMWATER TIR**



CKC/SLATER AVE NE AND NE 124<sup>TH</sup> ST/SLATER AVE NE  
PEDESTRIAN CROSSING IMPROVEMENTS PROJECT

Surface Water Technical  
Information Report

100%

Prepared for:

City of Kirkland  
123 Fifth Avenue  
Kirkland, WA 98033

Prepared by:



3131 Elliott Avenue, Suite 400  
Seattle, WA 98121  
206-286-1640

April 2024



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- B – Figures
- C – Kirkland Flow Control Map
- D – Soils Information
- E – Flow Control Design



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# 1. Project Overview

## 1.1 Project Description

The project, located in Kirkland, Washington, entails creating a safe trail crossing for pedestrians and cyclists at the 132nd Ave NE and the Eastrail/Cross Kirkland Corridor (CKC) intersection as well as the replacement of two pedestrian access ramps and new signal at the NE 124th St and 132nd Ave NE intersection. The existing roadway corridor width will be reduced using curb extensions to provide pedestrian access ramps, bike ramps, and concrete planters. The existing railroad signal equipment, tracks, and concrete crossing pad will be removed and replaced with a crosswalk, pedestrian refuge island, and two HAWK signals. The existing median curb will be removed and replaced with an additional 90' feet of length to prohibit vehicles from turning across oncoming traffic. A concrete median will be installed on the northbound side of the road for lane reduction and additional bike lane protection purposes. Existing channelization will be removed and replaced between NE 124th St and NE 126th Pl to accommodate the new roadway layout.

The existing surface conditions of the site are very flat. The area of improvements presently drains to existing facilities and will not require the replacement of storm utilities. Wetlands will not be impacted on this project. The project is located within the Juanita Creek Drainage Basin, which is tributary to Juanita Creek and, ultimately, Lake Washington.

The site under existing conditions generally slopes toward the intersection of 132<sup>nd</sup> Ave NE and CKC. Most of the site is impervious surface, including the existing four-lane roadway and pedestrian walkways. Vegetation on the site consists mainly of grass and shrubs. Designated wetland buffers exist within the Site. Soils consist of Everett very gravelly sandy loam, Indianola loamy sand, and Kitsap silt loam.

## 1.2 Design Standards

This project is subject to the following surface water requirements:

- *2021 King County Surface Water Design Manual (KCSWDM)*,
- *2021 City of Kirkland Addendum to the 2021 KCSWDM (COK Policy D-10)*

Threshold discharge areas (TDAs) are defined for projects with multiple storm drainage discharge points. A TDA is defined as an onsite area that drains to a single natural discharge location, or multiple natural discharge locations that combine within one-quarter mile downstream (as determined by the shortest flow path). The project consists of a single TDA.

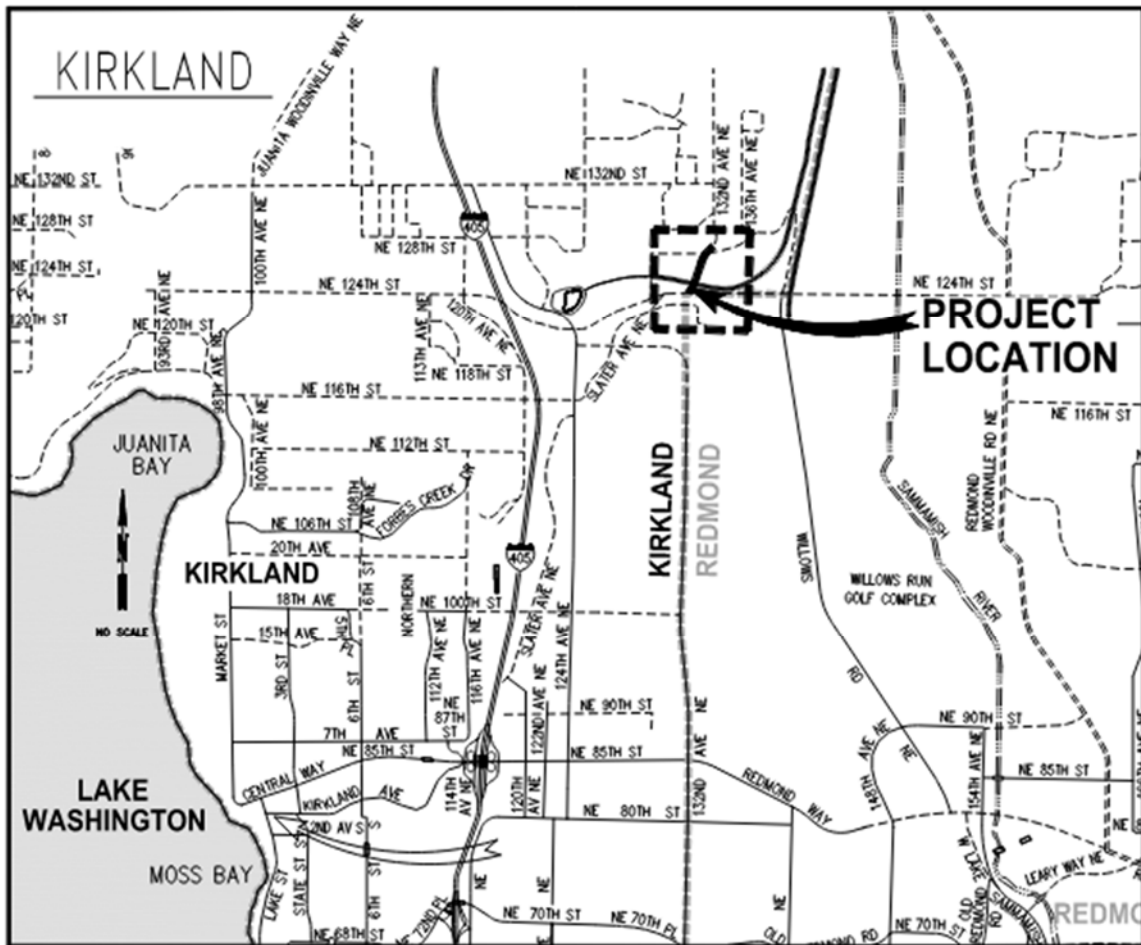


Figure 1. Project Location

## 2. Conditions and Requirements Summary

### 2.1 Applicability of Drainage Requirements

Kirkland Municipal Code Chapter 15.52 requires storm drainage design for all land-use, land surface modification and building permits. All projects must collect and convey stormwater runoff in a manner that does not create a drainage problem (or aggravate an existing problem) on adjacent properties.

The type of drainage review required for a project is based on project and site characteristics. Consistent with the Kirkland Public Works Pre-Approved Plans Policy D-3, a Full Drainage Review is required because the project results in 2,000 square feet or more of new plus replaced impervious surface. The project is a redevelopment project since the existing impervious surface area is greater than 35% of the project site area which is defined as the full width of the right of way for the entire length of the transportation project.

Table 1 below contains project-specific information that has been used to determine applicability of drainage requirements. Project area maps showing existing and new impervious surfaces areas are provided in Appendix B as Figure 3 – Existing Conditions and Figure 4 – Proposed Conditions, respectively.

**Table 1 – Existing Project Area Summary**

Site Area <sup>1</sup>	0.417 AC (18,154 SF)
Existing Pervious Surface	0.038 AC (1,636 SF)
Existing Impervious Surface	0.351 AC (15,313 SF)
Percent Existing Hard Surface	84%
Notes:	
1. Site Area = Based on existing ROW and required restoration extents.	

**Table 2 – Proposed Project Area Summary**

Total New Impervious <sup>1</sup>	0.012 AC (537 SF)
New PGIS <sup>2,3</sup> (for CR #6)	0 AC (0 SF)
New NPGIS <sup>2</sup>	0.012 AC (537 SF)
Total Replaced Impervious	0.308 AC (13,435 SF)
Total New plus Replaced Impervious	0.320 AC (13,972 SF)
Notes:	
1. The category of New Impervious Surface includes pervious areas being converted to impervious areas.	
2. (N)PGIS = (Non) Pollution-Generating Impervious Surface.	
3. The category of new PGIS includes proposed areas of NPGIS being converted to PGIS as well as pervious areas being converted to PGIS.	

---

## 2.2 Core and Special Requirements

This section summarizes how each of the Core and Special Requirements of the 2021 KCSWDM is being addressed for this project. Where necessary, a more detailed description of design elements is discussed later in this report.

Per the 2021 KCSWDM, five special drainage requirements exist that may apply to a proposed project depending on its location or site-specific characteristics. Projects subject to a Full Drainage Review must consider applicability of all Special Requirements.

### 2.2.1 Core Requirement 1 – Discharge at the Natural Location

Core Requirement #1 will be fulfilled by maintaining existing drainage patterns. See Figure 2.

### 2.2.2 Core Requirement 2 – Offsite Analysis

This project adds less than 2,000 square feet of new impervious surface, less than 0.75 acres of new pervious surface, and does not construct or modify a drainage pipe or ditch that is more than 12 inches in size or depth that receives runoff from a pipe or ditch more than 12 inches in size per Exemption #2 in KCSWDM Section 1.2.2. Thus, this project is exempt from Core Requirement #2.

### 2.2.3 Core Requirement 3 – Flow Control

The Flow Control requirement must be considered for this project as it generates more than 5,000 square feet of new plus replaced impervious surface. This project lies within a Conservation Flow Control Area with Level 2 Flow Control, and thus is excepted from Core Requirement #3 if the target surfaces (new impervious and new pervious surfaces) will generate no more than a 0.15-cfs increase from *existing conditions* using 15-minute time steps.

The project is a transportation redevelopment project that does not add more than 5,000 square feet of new impervious surface and the new impervious surface does not total 50% or more of the existing impervious surfaces within the project limits, therefore, replaced impervious surfaces are not a target surface, please see Appendix A for KCSWDM Figure 1.1.2.A.

Since this project generates little new impervious or new pervious surfaces, there will not be an increase in flows greater than 0.15-cfs from existing conditions. WWHM was used to model this increase in flow from existing to proposed, the increase will be 0.008616 cfs. Please see Appendix E for the WWHM results. Thus, the exception applies, and **flow control facility requirement is waived**.

As previously noted, the area of improvements drains to existing stormwater detention facilities. No additional flow control facilities are proposed.

### 2.2.4 Core Requirement 4 – Conveyance System

---

In accordance with the 2021 KCSWDM and COK Policy D-10, new pipe systems are required to be designed with sufficient capacity to convey and retain the 25-year peak flow. This project does not propose any new stormwater infrastructure.

### 2.2.5 Core Requirement 5 – Erosion and Sediment Control

The construction contractor is responsible for creating the CSWPPP. In addition, the construction contractor will designate an erosion and sediment control supervisor and will be responsible for modifying the plan to accommodate changing site conditions and to ensure site discharges are in accordance with the State of Washington Construction Stormwater General Permit.

### 2.2.6 Core Requirement 6 – Maintenance and Operations

Since this is a public project, all drainage structures will be maintained by the City of Kirkland in accordance with the City's operation and maintenance procedures.

### 2.2.7 Core Requirement 7 – Financial Guarantees and Liability

As a public project, financial guarantee and liability requirements are not applicable.

### 2.2.8 Core Requirement 8 – Water Quality

Proposed projects, including redevelopment projects, must provide water quality (WQ) facilities to treat surface runoff from new and replaced pollution-generating impervious surfaces and new pollution-generating pervious surfaces targeted for treatment. An exemption exists for transportation redevelopment projects or any TDA within, whose total new impervious surface is less than 50% of the existing impervious AND less than 5,000 sf of PGIS that is not fully dispersed is added (KCSWDM 1.2.8). Per Table 2, the project meets the criteria for this exemption. Thus, **a water quality facility is not required.**

As previously noted, the area of improvements drains to existing stormwater water quality facilities. No additional water quality facilities are proposed.

### 2.2.9 Core Requirement 9 – Flow Control BMPs

The project must provide onsite FCBMPs to mitigate the impacts of storm and surface water runoff generated by new impervious surfaces, new pervious surfaces, existing impervious surfaces, and replaced impervious surfaces, either to supplement flow control facilities proposed under Core Requirement #3 or to provide additional mitigation where flow control is not required. An exemption exists for the single case of a project proposing less than 2,000 sf of new plus replaced impervious surface AND less than 7,000 sf of land disturbing activity; however, any impervious surface served by an infiltration facility designed in accordance with the flow control facility is exempt from the FCBMPs requirement. All new and replaced impervious surfaces and new pervious surfaces must be analyzed for FCBMPs for all TDAs.

For the application of FCBMPs, the project is categorized as a Small Road Improvement and Urban Road Improvement Project, as it is a road improvement project that is within the Urban Growth Area (UGA) and its extents measure fewer than 5 acres in size. The City's 2021 KCSWDM Addendum, Policy D-10, includes a list approach to evaluating BMPs within right-of-way to the maximum extent feasible. Feasibility is summarized below.

Sidewalk (that is a target surface):

1. Slope sidewalk (5') to landscape strip (4.5'): infeasible as landscape strips are not provided.
2. Bioretention: infeasible as available areas are within a critical area (wetland) buffer.
3. Pervious Concrete: infeasible due to numerous critical utilities beneath the sidewalk.
4. Limited Infiltration: infeasible as available areas are within a critical area (wetland) buffer.

Road Widening (that is a target surface):

1. Bioretention—infeasible as available areas are within a critical area (wetland) buffer.
2. Porous Concrete Parking Strip (if applicable)- not applicable
3. Limited Infiltration—infeasible as available areas are within a critical area (wetland) buffer.
4. Porous Asphalt—infeasible as the roadway has an average daily traffic volume greater than 400.

As none of the BMPs are feasible, Core Requirement #9 is satisfied by this evaluation.

## 2.2.10 Special Requirement 1 – Other Adopted Area-Specific Requirements

Additional impacts mitigations is required for projects existing within the following areas (or requiring the following plans):

- Critical Drainage Area (CDA)
- Master Drainage Plan
- Basin Plans
- Salmon Conservation Plans
- Stormwater Compliance Plans
- Lake Management Plans
- Flood Hazard Management Plans
- Shared Facility Drainage Plans

None of the items on this list appear to apply to this project. A landslide hazard potential area is mapped on the west side of 132<sup>nd</sup> Ave NE, at the intersection of CKC, but currently the KCSWDM Reference 2 has no listed CDAs, and so the site is not considered to be within a CDA.

## 2.2.11 Special Requirement 2 – Flood Hazard Area Delineation

---

According to Kirkland GIS mapping and FEMA flood maps, no flood hazards exist on or near the site. Special Requirement #2 does not apply.

### 2.2.12 Special Requirement 3 – Flood Protection Facilities

The project will not modify or rely on an existing flood protection facility, nor will it construct a new flood protection facility. Special Requirement #3 does not apply.

### 2.2.13 Special Requirement 4 – Source Controls

The project does not require a commercial building or commercial site development permit. Special Requirement #4 does not apply.

### 2.2.14 Special Requirement 5 – Oil Control

As the project is proposing primarily proposes pedestrian improvements, it is excluded from the definition of a “high-use site” and does not need to provide Oil Control. Special Requirement #5 does not apply.

## 2.3 Soils

Per the NCRS designation, the soils on site are classified as Everett very gravelly sandy loam, with 8 to 15 percent slopes, Indianola loamy sand, with 5 to 15 percent slopes, and Kitsap silt loam, 2 to 8 percent slopes. This soil type is classified by the KCSWDM as a Hydrologic Soil Group Types A and D. NCRS Web Soil Survey mapping of the site and Kirkland GIS is provided in Appendix D.

## 2.4 Existing Site Drainage Conditions

The project is located entirely within the Moss Bay drainage basin, which is tributary to Lake Washington. The project site consists of one intersection along Kirkland Ave that totals approximately 0.717 acres. The south leg of the intersection drains toward Kirkland Avenue, where runoff is collected in catch basins and conveyed to the existing 48-inch culvert. The east and west legs of the intersection drain to the 48-inch culvert as well, which discharges into Moss Bay.

## 2.5 Upstream Tributary Areas

No adjacent areas contribute run-on to the project site. However, multiple existing piped systems convey stormwater to the site. The existing upstream conveyance system will not be hydraulically altered by the project.

## 2.6 Downstream Analysis

Runoff from the TDA is conveyed west in a ditch that transforms into a 24-inch diameter

---

reinforced concrete pipe to a stream along the Eastrail for a quarter of a mile. The downstream system is shown in Appendix B, Figure 2 – Storm Drainage Map.

## ***2.7 Existing and Predicted Drainage Problems***

There are no nearby drainage complains according to the City of Kirkland GIS.

## **3. Offsite Analysis**

As discussed in Section 2.2.2, an offsite analysis will not be conducted for this project since there will be no change to the rate, volume, duration, or location of discharges to and from the project site.

## **4. Flow Control Analysis and Design**

The requirement for a Flow Control facility and Flow Control BMPs for this project is described in Section 2.2.3 and Section 2.2.9, respectively. The following sections summarize the project requirements and document the analysis and design of the required facility and BMPs (if feasible).

### ***4.1 Flow Control Threshold Modeling***

As discussed in Section 2.2.3, The TDA is within a Level 2 Flow Control area. As the project generates more than 5,000 square feet of new plus replaced hard surface, the Flow Control requirement must be met unless the project generates a runoff increase of less than 0.15 cfs. As the Target Surface Areas for Basic Flow Control include New Impervious and New Pervious Surfaces, and the project generates small enough New Impervious and New Pervious Surfaces. Please see Appendix E for the WWHM Flow Control calculations showing an increase less than 0.15 cfs.

### ***4.2 Flow Control BMPs***

Flow control BMPs (FCBMPs) are required to be installed to the maximum extent feasible on roadway projects within the Urban Growth Area (UGA) per Section 1.2.9.1 of the 2021 KCSWDM. A FCBMP feasibility analysis has been prepared using the Small Road and Urban Road Improvement Project BMP Requirement lists outlined in 1.2.9 of the COK Policy D-10 and the design and infeasibility criteria for each FCBMP provided in KCSWDM Section C2.

Target surfaces for this analysis include new impervious surfaces, new pervious surfaces, replaced impervious surfaces, new pervious surfaces, and any existing surfaces added on or after January 8, 2001, not already mitigated with an approved FCBMP. A summary of the surfaces for evaluation is provided below:

- Replaced impervious surfaces – 0.316 acres
- New impervious surfaces– 0.012 acres



- New pervious surfaces (i.e., converted vegetated areas)—0 acres
- Existing hard surfaces added on or after January 8, 2001—0 acres

As stated in Section 2.2.9, no Flow Control BMPs are proposed. See below discussion of the feasibility and infeasibility of FCBMPs to demonstrate an understanding of the forthcoming analytic process to meet this requirement. FCBMPs for each type of surface are evaluated for feasibility in the following paragraphs.

#### 4.2.1 Sidewalk

##### **Slope Sidewalk (5') to landscape strip (4.5')**

The sidewalks slope toward the bike lanes on the east side, not to the landscape strips.

##### **Bioretention**

Done to the maximum extent feasible, bioretention can be used to satisfy Core Requirement #9. Infeasibility criteria includes: site being partially located within a moderate and high susceptibility landslide area and there is a lack of usable space within the existing public right-of-way. Bioretention is infeasible for this project due to a lack of usable space within the public right-of-way.

##### **Pervious Concrete**

Pervious concrete is expected to be infeasible for this project, the site is partially located within moderate and high susceptibility landslide areas.

##### **Limited Infiltration**

Infiltration trenches are infeasible due to insufficient space to achieve the required bottom width and 5' setback from property lines, especially where existing utilities are present.

Drywells are infeasible due to lack of space and utility conflicts.

Limited infiltration is infeasible for this project.

#### 4.2.2 Road Replacement

##### **Bioretention**

Bioretention is infeasible due to a lack of usable space within the existing public right-of-way.

##### **Porous Concrete Parking Strip (if applicable)**

A porous concrete parking strip is infeasible for the reasons outlined in Section 4.2.1 "Pervious Concrete".

### **Limited Infiltration**

Limited infiltration is infeasible for the reasons outlined in Section 4.2.1 “Limited Infiltration”.

### **Porous Asphalt**

Porous asphalt is not feasible for the roadway area because the roadway has a traffic volume exceeding 400 ADT.

### **4.2.3 Basic Dispersion BMPs**

Basic Dispersion is required for target impervious surfaces not mitigated by Full Dispersion, Infiltration, or Bioretention BMPs. However, basic dispersion is not feasible for this project because there is insufficient space for a gravel trench and/or vegetated flow path.

All Flow Control BMPs are expected to be infeasible per the List Approach; therefore, Core Requirement # 9 is satisfied.

## **5. Conveyance System Analysis and Design**

The existing conveyance system will remain in place, and no new conveyance will be installed.

## **6. Special Reports and Studies**

No special reports or studies will be conducted with regard to stormwater for this project.

## **7. Other Permits**

A NPDES Construction Stormwater General Permit – Notice of Intent is not required to be obtained prior to construction, as this project does not disturb 1 acre or more of surface area.

## **8. CSWPPP Analysis and Design**

A Construction Stormwater Pollution Prevention Plan (CSWPPP) consists of two parts: an Erosion and Sediment Control (ESC) plan and a Stormwater Pollution Prevention and Spill (CWPPS) plan. As required, the CSWPPP will be prepared by the Contractor, as stated in the Scope of Work.

## **9. Bond Quantities, Facility Summaries, and Declaration of Covenant**

All storm drainage facilities will be publicly-maintained, therefore bond quantities, facility summaries, and declarations of covenant are not required.

## **APPENDIX A – Drainage Review Requirements**

**FIGURE 1.1.2.A FLOW CHART FOR DETERMINING TYPE OF DRAINAGE REVIEW REQUIRED**

Is the project a **single family residential** or **agricultural project** that results in  $\geq 2,000$  sf of **new plus replaced impervious surface** or  $\geq 7,000$  sf of **land disturbing activity**, results in less than 5,000 square feet of new plus replaced pollution generating impervious surface, results in less than  $\frac{3}{4}$  acre of pollution generating pervious surfaces AND meets one of the following criteria?

- The project meets the Basic Exemption from flow control in Core Requirement #3. *Note the Basic Exemption thresholds are applied by project site.*
- *For projects inside the Urban Growth Area on predominately till soils:*  
The project results in no more than 7,947 square feet of target impervious surfaces\* as defined in Section 1.1.2.1 AND proposed pervious area is equal to or less than 14,941 – 1.88 x (total target impervious surfaces)
- *For projects inside the Urban Growth Area on predominately outwash soils:*  
The project results in no more than 6,872 square feet of target impervious surfaces\* as defined in Section 1.1.2.1 AND proposed pervious area is equal to or less than 20,343 – 2.96 x (total target impervious surfaces)
- *For outside the Urban Growth Area on predominately till soils:*  
The project results in no more than 5,074 square feet of target impervious surfaces\* as defined in Section 1.1.2.1 AND proposed pervious area is equal to or less than 11,570 – 2.28 x (total target impervious surfaces)
- *For outside the Urban Growth Area on predominately outwash soils:*  
The project results in no more than 4,000 square feet of target impervious surfaces\* as defined in Section 1.1.2.1 AND proposed pervious area is equal to or less than 10,720 – 2.68 x (total target impervious surfaces)
- *Is an agricultural project that qualifies for the "Impervious Surface Percentage Exemption For Agricultural Projects" detailed in Core Requirement 3*

No

Yes

SIMPLIFIED DRAINAGE REVIEW  
Section 1.1.2.1  
*Note: The project may also be subject to Targeted Drainage Review as determined below.*

Is the project a **single family residential** or **agricultural project** that results in  $\geq 2,000$  sf of **new plus replaced impervious surface** or  $\geq 7,000$  sf of **land disturbing activity** AND is not subject to Large Project Drainage Review as defined in Section 1.1.2.5?

Yes

DIRECTED DRAINAGE REVIEW  
Section 1.1.2.3

No

Does the project result in  $\geq 2,000$  sf of **new plus replaced impervious surface** or  $\geq 7,000$  sf of **land disturbing activity**?

Yes

No

Does the project have the characteristics of one or more of the following categories of projects (see more detailed threshold language on p. 1-15)?

1. Projects containing or adjacent to a **flood, erosion, or steep slope hazard area**; or projects within a **Critical Drainage Area** or Landslide Hazard Drainage Area.
2. Projects proposing to **construct or modify** a drainage pipe/ditch that is 12" or larger or receives runoff from a 12" or larger drainage pipe/ditch.
3. **Redevelopment projects** proposing  $\geq \$100,000$  in improvements to an existing **high-use site**.

No

Reassess whether drainage review is required per Section 1.1.1 (p. 1-9).

Yes

TARGETED DRAINAGE REVIEW  
Section 1.1.2.2

Is the project an Urban Planned Development (UPD), OR does it result in  $\geq 50$  acres of **new impervious surface** within a subbasin or multiple subbasins that are hydraulically connected, OR does it have a **project site**  $\geq 50$  acres within a **critical aquifer recharge area**?

Yes

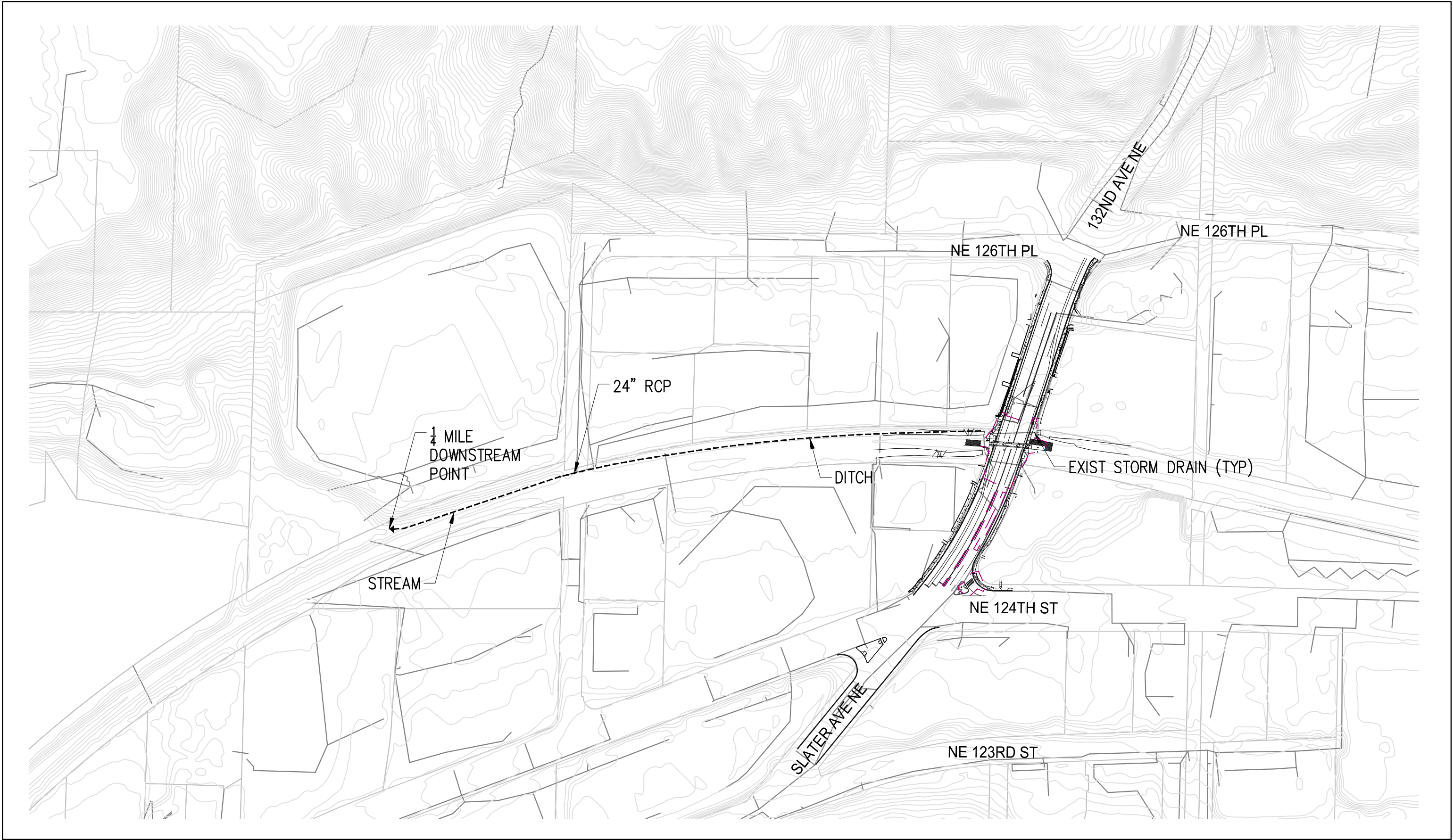
No

FULL DRAINAGE REVIEW  
Section 1.1.2.4

LARGE PROJECT DRAINAGE REVIEW  
Section 1.1.2.5

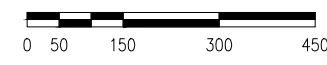
## **APPENDIX B – Figures**

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--- TDA/SITE BOUNDARY      ← -- -- DOWNSTREAM PATH

**FIGURE 2- DOWNSTREAM BASIN MAP**  
 CKC/SLATER AVE NE AND NE 124TH ST/SLATER AVE NE PEDESTRIAN  
 CROSSING IMPROVEMENTS PROJECT



**KPG**  
**PSOMAS**  
 Tacoma  
 2502 Jefferson Avenue  
 Tacoma, WA 98402 253.627.0720  
 Seattle | Wenatchee | KPG.com

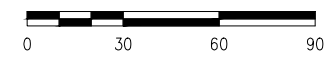


k:\DKS\9DKS010300-Kirkland-NE 124th St Slater\DESIGN\Working Dwgs\Storm\9DKS010300-Fig-3-Existing\_Surfaces\_100%.dwg 4/3/2024 2:33 PM



- EXISTING PGIS
- EXISTING NPGIS
- EXISTING PERVIOUS
- PROJECT SITE BOUNDARY
- GRIND AND OVERLAY

**FIGURE 3- EXISTING SURFACES MAP**  
 CKC/SLATER AVE NE AND NE 124TH/SLATER AVE NE  
 PEDESTRIAN CROSSING IMPROVEMENTS PROJECT

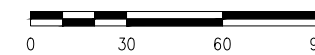


K:\DKS\9DKS010300-Kirkland-NE 124th St Slater\DESIGN\Working Dwgs\Storm\9DKS010300-Fig-4-Proposed\_Surfaces\_100%.dwg 4/3/2024 2:32 PM



- REPLACED PGIS
- PGIS TO NPGIS
- REPLACED NPGIS
- GRIND AND OVERLAY
- NEW NPGIS
- PROJECT SITE BOUNDARY

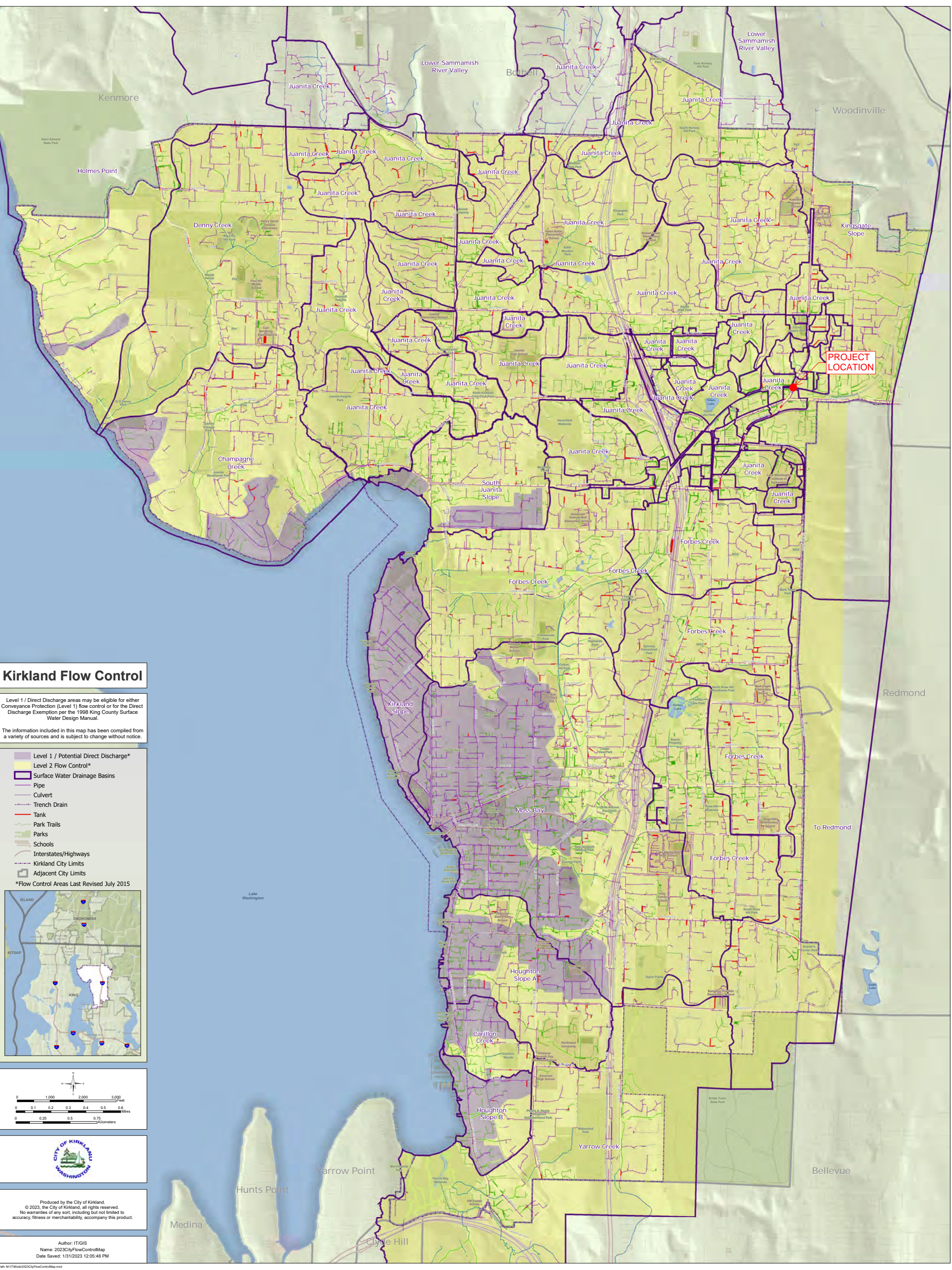
**FIGURE 4- TARGET SURFACES MAP**  
CKC/SLATER AVE NE AND NE 124TH/SLATER AVE NE  
PEDESTRIAN CROSSING IMPROVEMENTS PROJECT





## **APPENDIX C – Kirkland Flow Control Map**





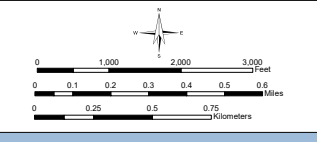
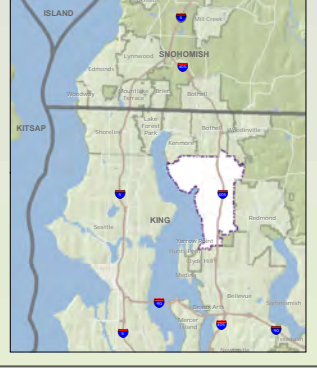
### Kirkland Flow Control

Level 1 / Direct Discharge areas may be eligible for either Conveyance Protection (Level 1) flow control or for the Direct Discharge Exemption per the 1998 King County Surface Water Design Manual.

The information included in this map has been compiled from a variety of sources and is subject to change without notice.

- Level 1 / Potential Direct Discharge\*
- Level 2 Flow Control\*
- Surface Water Drainage Basins
- Pipe
- Culvert
- Trench Drain
- Tank
- Park Trails
- Parks
- Schools
- Interstates/Highways
- Kirkland City Limits
- Adjacent City Limits

\*Flow Control Areas Last Revised July 2015



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Author: IT/GIS  
 Name: 2023CityFlowControlMap  
 Date Saved: 1/31/2023 12:05:46 PM

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## **APPENDIX D – Soils Information**

# NRCS Soils Map

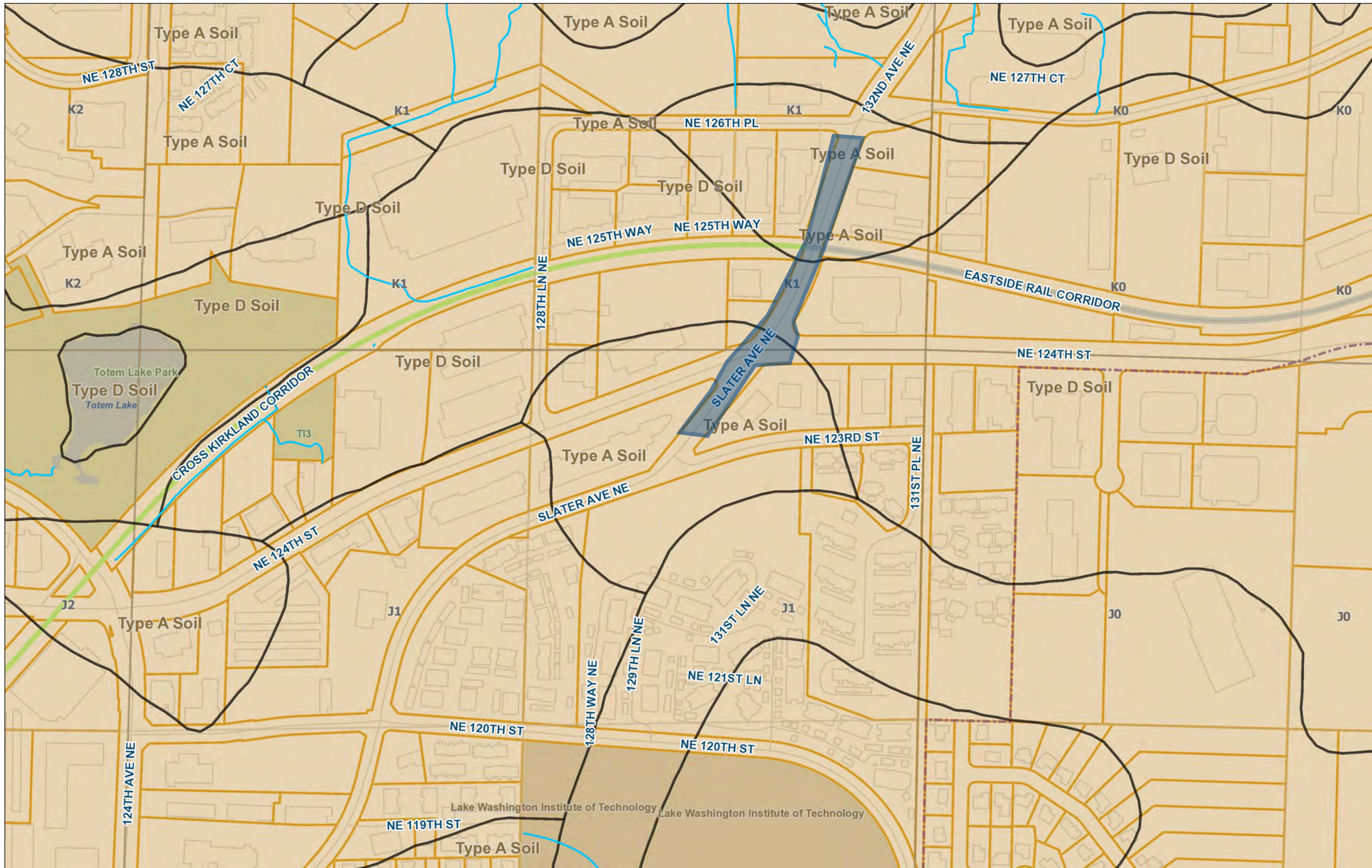


**King County Area, Washington (WA633)**

King County Area, Washington (WA633)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EvC	Everett very gravelly sandy loam, 8 to 15 percent slopes	0.2	11.9%
InC	Indianola loamy sand, 5 to 15 percent slopes	0.8	46.8%
KpB	Kitsap silt loam, 2 to 8 percent slopes	0.7	41.3%
<b>Totals for Area of Interest</b>		<b>1.7</b>	<b>100.0%</b>





**Legend**

- Streams
  - Open
  - Pipe
- Soil Type
- City Limits
- Grid
- QQ Grid
- Regional Rail Corridor
- Cross Kirkland Corridor
- Streets
- Parcels
- Buildings
- Lakes
- Parks
- Schools

1: 4,052

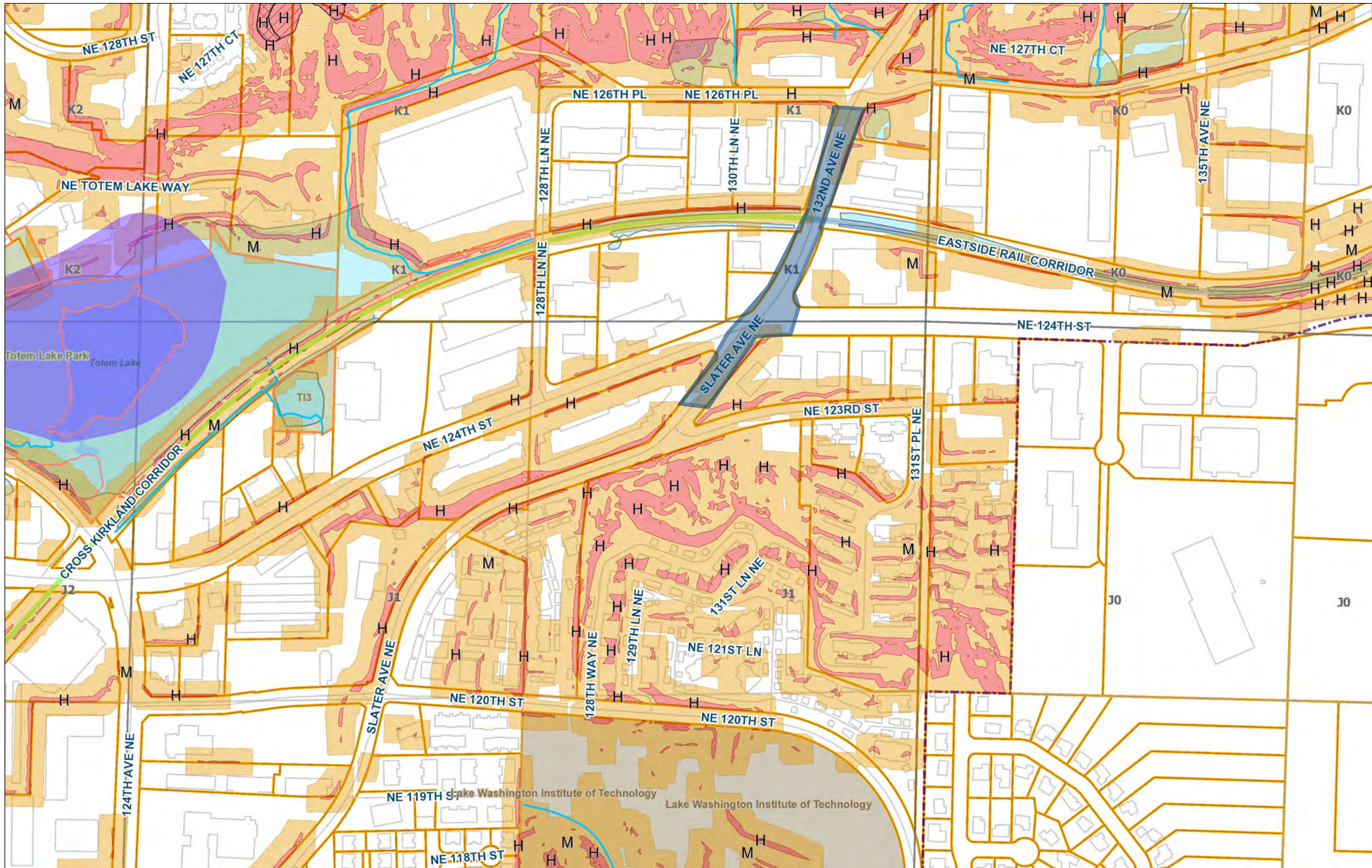


NAD\_1983\_StatePlane\_Washington\_North\_FIPS\_4601\_Feet

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**Notes**  
This map was automatically generated using Geocortex Essentials.





- Legend**
- Streams
    - Open
    - Pipe
  - Wind Exposure Zone
    - Exposure D Zone
    - Exposure C Zone
  - Restoration Management Unit
  - Floodplain
  - Landslide
    - Deposit Areas
    - Head Scarps
    - High Susceptibility
    - Moderate Susceptibility
  - Wetlands
  - City Limits
  - Grid
  - QQ Grid
  - Regional Rail Corridor
  - Cross Kirkland Corridor
  - Streets
  - Parcels
  - Buildings
  - Lakes
  - Parks
  - Schools

1: 4,052



NAD\_1983\_StatePlane\_Washington\_North\_FIPS\_4601\_Feet

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**Notes**  
This map was automatically generated using Geocortex Essentials.



## **APPENDIX E – Flow Control Design**

**WWHM2012**  
**PROJECT REPORT**



# General Model Information

Project Name: FF Threshold 90%  
Site Name:  
Site Address:  
City:  
Report Date: 1/23/2024  
Gage: Seatac  
Data Start: 1948/10/01  
Data End: 2009/09/30  
Timestep: 15 Minute  
Precip Scale: 1.000  
Version Date: 2019/09/13  
Version: 4.2.17

## POC Thresholds

---

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

---

## Landuse Basin Data

### Predeveloped Land Use

#### New Imp - Historic

Bypass: No

GroundWater: No

Pervious Land Use acre

A B, Forest, Flat 0.0113

C, Forest, Flat 0.0003

Pervious Total 0.0116

Impervious Land Use acre

Impervious Total 0

Basin Total 0.0116

#### Element Flows To:

Surface

Interflow

Groundwater

*Mitigated Land Use*

New Imp - Developed

Bypass: No

GroundWater: No

Pervious Land Use acre

Pervious Total 0

Impervious Land Use acre

SIDEWALKS FLAT 0.0112

Impervious Total 0.0112

Basin Total 0.0112

Element Flows To:  
Surface

Interflow

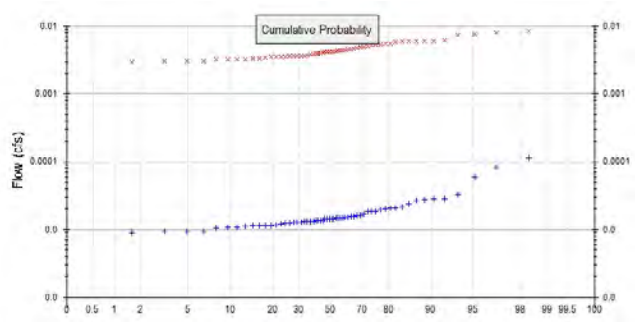
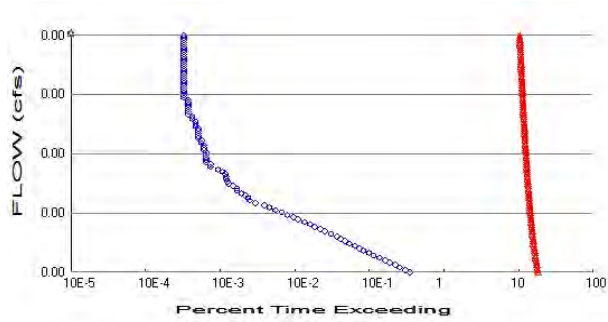
Groundwater

*Routing Elements*  
*Predeveloped Routing*

## *Mitigated Routing*

# Analysis Results

## POC 1



+ Predeveloped    x Mitigated

### Predeveloped Landuse Totals for POC #1

Total Pervious Area: 0.0116  
 Total Impervious Area: 0

### Mitigated Landuse Totals for POC #1

Total Pervious Area: 0  
 Total Impervious Area: 0.0112

Flow Frequency Method: Log Pearson Type III 17B

### Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	Flow(cfs)
2 year	0.000015
5 year	0.000023
10 year	0.000031
25 year	0.000042
50 year	0.000053
100 year	0.000065

### Flow Frequency Return Periods for Mitigated. POC #1

Return Period	Flow(cfs)
2 year	0.00427
5 year	0.005394
10 year	0.006157
25 year	0.007147
50 year	0.007905
100 year	0.008681

Developed condition is less than 0.15 cfs more than existing condition

## Annual Peaks

### Annual Peaks for Predeveloped and Mitigated. POC #1

Year	Predeveloped	Mitigated
1949	0.000	0.006
1950	0.000	0.006
1951	0.000	0.003
1952	0.000	0.003
1953	0.000	0.003
1954	0.000	0.003
1955	0.000	0.004
1956	0.000	0.004
1957	0.000	0.004
1958	0.000	0.004

1959	0.000	0.004
1960	0.000	0.004
1961	0.000	0.004
1962	0.000	0.003
1963	0.000	0.004
1964	0.000	0.004
1965	0.000	0.005
1966	0.000	0.003
1967	0.000	0.005
1968	0.000	0.006
1969	0.000	0.004
1970	0.000	0.004
1971	0.000	0.005
1972	0.000	0.005
1973	0.000	0.003
1974	0.000	0.004
1975	0.000	0.005
1976	0.000	0.003
1977	0.000	0.004
1978	0.000	0.004
1979	0.000	0.006
1980	0.000	0.005
1981	0.000	0.004
1982	0.000	0.006
1983	0.000	0.005
1984	0.000	0.003
1985	0.000	0.004
1986	0.000	0.004
1987	0.000	0.006
1988	0.000	0.004
1989	0.000	0.005
1990	0.000	0.008
1991	0.000	0.006
1992	0.000	0.003
1993	0.000	0.003
1994	0.000	0.003
1995	0.000	0.004
1996	0.000	0.004
1997	0.000	0.004
1998	0.000	0.004
1999	0.000	0.008
2000	0.000	0.004
2001	0.000	0.005
2002	0.000	0.005
2003	0.000	0.004
2004	0.000	0.008
2005	0.000	0.004
2006	0.000	0.003
2007	0.000	0.007
2008	0.000	0.006
2009	0.000	0.006

### Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	0.0001	0.0085
2	0.0001	0.0079
3	0.0001	0.0076

4	0.0000	0.0074
5	0.0000	0.0063
6	0.0000	0.0061
7	0.0000	0.0061
8	0.0000	0.0060
9	0.0000	0.0060
10	0.0000	0.0060
11	0.0000	0.0059
12	0.0000	0.0055
13	0.0000	0.0055
14	0.0000	0.0055
15	0.0000	0.0054
16	0.0000	0.0052
17	0.0000	0.0051
18	0.0000	0.0050
19	0.0000	0.0049
20	0.0000	0.0047
21	0.0000	0.0046
22	0.0000	0.0045
23	0.0000	0.0045
24	0.0000	0.0045
25	0.0000	0.0045
26	0.0000	0.0044
27	0.0000	0.0044
28	0.0000	0.0043
29	0.0000	0.0042
30	0.0000	0.0042
31	0.0000	0.0042
32	0.0000	0.0041
33	0.0000	0.0041
34	0.0000	0.0041
35	0.0000	0.0040
36	0.0000	0.0040
37	0.0000	0.0039
38	0.0000	0.0039
39	0.0000	0.0039
40	0.0000	0.0038
41	0.0000	0.0036
42	0.0000	0.0036
43	0.0000	0.0036
44	0.0000	0.0036
45	0.0000	0.0036
46	0.0000	0.0036
47	0.0000	0.0035
48	0.0000	0.0035
49	0.0000	0.0035
50	0.0000	0.0035
51	0.0000	0.0034
52	0.0000	0.0033
53	0.0000	0.0033
54	0.0000	0.0032
55	0.0000	0.0032
56	0.0000	0.0032
57	0.0000	0.0031
58	0.0000	0.0030
59	0.0000	0.0030
60	0.0000	0.0030
61	0.0000	0.0028





## Duration Flows

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0000	7540	391843	5196	Fail
0.0000	6560	386923	5898	Fail
0.0000	5499	381362	6935	Fail
0.0000	4795	376871	7859	Fail
0.0000	4036	370454	9178	Fail
0.0000	3489	366604	10507	Fail
0.0000	2930	362112	12358	Fail
0.0000	2425	357621	14747	Fail
0.0000	2112	354412	16780	Fail
0.0000	1788	350349	19594	Fail
0.0000	1585	347354	21915	Fail
0.0000	1359	343718	25291	Fail
0.0000	1160	340296	29335	Fail
0.0000	1015	337515	33252	Fail
0.0000	877	334307	38119	Fail
0.0000	787	331954	42179	Fail
0.0000	656	328960	50146	Fail
0.0000	538	325965	60588	Fail
0.0000	476	323826	68030	Fail
0.0000	395	321046	81277	Fail
0.0000	345	318907	92436	Fail
0.0000	291	316340	108707	Fail
0.0000	238	313774	131837	Fail
0.0000	206	311849	151383	Fail
0.0000	170	309496	182056	Fail
0.0000	143	307785	215234	Fail
0.0000	117	305432	261052	Fail
0.0000	98	303293	309482	Fail
0.0000	84	301582	359026	Fail
0.0000	63	299657	475646	Fail
0.0000	54	297946	551751	Fail
0.0000	51	295807	580013	Fail
0.0000	46	294096	639339	Fail
0.0000	41	292599	713656	Fail
0.0000	36	290674	807427	Fail
0.0000	36	289177	803269	Fail
0.0000	32	287465	898328	Fail
0.0000	28	285754	1020550	Fail
0.0000	27	284471	1053596	Fail
0.0000	26	282760	1087538	Fail
0.0000	26	281477	1082603	Fail
0.0000	25	279766	1119064	Fail
0.0000	23	278268	1209860	Fail
0.0000	20	276985	1384925	Fail
0.0000	16	275488	1721800	Fail
0.0000	16	274204	1713775	Fail
0.0000	14	272707	1947907	Fail
0.0000	14	271210	1937214	Fail
0.0000	14	270141	1929578	Fail
0.0000	14	268643	1918878	Fail
0.0000	14	267788	1912771	Fail
0.0000	13	266291	2048392	Fail
0.0000	13	265221	2040161	Fail
0.0000	13	263938	2030292	Fail

0.0000	12	262654	2188783	Fail
0.0000	12	261585	2179875	Fail
0.0000	11	260302	2366381	Fail
0.0000	11	259232	2356654	Fail
0.0000	11	258163	2346936	Fail
0.0000	11	256879	2335263	Fail
0.0000	11	256024	2327490	Fail
0.0000	10	254741	2547410	Fail
0.0000	10	253885	2538850	Fail
0.0000	10	252816	2528160	Fail
0.0000	9	251532	2794800	Fail
0.0000	9	250677	2785300	Fail
0.0000	8	249607	3120087	Fail
0.0000	8	248752	3109400	Fail
0.0000	8	247682	3096025	Fail
0.0000	8	246613	3082662	Fail
0.0000	8	245757	3071962	Fail
0.0000	8	244688	3058600	Fail
0.0000	8	244046	3050575	Fail
0.0000	7	242977	3471100	Fail
0.0000	7	241907	3455814	Fail
0.0000	7	241052	3443600	Fail
0.0000	7	240196	3431371	Fail
0.0000	7	239555	3422214	Fail
0.0000	7	238485	3406928	Fail
0.0000	7	237630	3394714	Fail
0.0000	7	236774	3382485	Fail
0.0000	7	235918	3370257	Fail
0.0000	7	235063	3358042	Fail
0.0000	7	234207	3345814	Fail
0.0000	7	233352	3333600	Fail
0.0000	7	232710	3324428	Fail
0.0000	7	231855	3312214	Fail
0.0000	7	231213	3303042	Fail
0.0000	7	230357	3290814	Fail
0.0000	7	229502	3278600	Fail
0.0000	7	228646	3266371	Fail
0.0000	7	228005	3257214	Fail
0.0000	7	227363	3248042	Fail
0.0001	7	226507	3235814	Fail
0.0001	7	225652	3223600	Fail
0.0001	7	225010	3214428	Fail
0.0001	7	224155	3202214	Fail
0.0001	7	223513	3193042	Fail
0.0001	7	222657	3180814	Fail
0.0001	7	222016	3171657	Fail

The development has an increase in flow durations from 1/2 Predeveloped 2 year flow to the 2 year flow or more than a 10% increase from the 2 year to the 50 year flow.

The development has an increase in flow durations for more than 50% of the flows for the range of the duration analysis.

## Water Quality

Water Quality BMP Flow and Volume for POC #1

On-line facility volume: 0 acre-feet

On-line facility target flow: 0 cfs.

Adjusted for 15 min: 0 cfs.

Off-line facility target flow: 0 cfs.

Adjusted for 15 min: 0 cfs.

# LID Report

LID Technique	Used for Treatment ?	Total Volume Needs Treatment (ac-ft)	Volume Through Facility (ac-ft)	Infiltration Volume (ac-ft)	Cumulative Volume Infiltration Credit	Percent Volume Infiltrated	Water Quality	Percent Water Quality Treated	Comment
Total Volume Infiltrated		0.00	0.00	0.00		0.00	0.00	0%	No Treat Credit
Compliance with LID Standard 8% of 2-yr to 50% of 2-yr									Duration Analysis Result = Failed

## *Model Default Modifications*

Total of 0 changes have been made.

### *PERLND Changes*

No PERLND changes have been made.

### *IMPLND Changes*

No IMPLND changes have been made.

*Appendix*  
*Predeveloped Schematic*



New Imp -  
Historic  
0.01ac

Mitigated Schematic



New Imp -  
Developed



# Predeveloped UCI File

RUN

GLOBAL

WWMH4 model simulation  
START 1948 10 01 END 2009 09 30  
RUN INTERP OUTPUT LEVEL 3 0  
RESUME 0 RUN 1 UNIT SYSTEM 1  
END GLOBAL

FILES

<File> <Un#> <-----File Name----->\*\*\*  
<-ID-> \*\*\*  
WDM 26 FF Threshold 90%.wdm  
MESSU 25 PreFF Threshold 90%.MES  
27 PreFF Threshold 90%.L61  
28 PreFF Threshold 90%.L62  
30 POCFF Threshold 90%.dat

END FILES

OPN SEQUENCE

INGRP INDELT 00:15  
PERLND 1  
PERLND 10  
COPY 501  
DISPLY 1  
END INGRP

END OPN SEQUENCE

DISPLY

DISPLY-INFO1

# - #<-----Title----->\*\*\*TRAN PIVL DIG1 FIL1 PYR DIG2 FIL2 YRND  
1 New Imp - Historic MAX 1 2 30 9

END DISPLY-INFO1

END DISPLY

COPY

TIMESERIES

# - # NPT NMN \*\*\*  
1 1 1  
501 1 1

END TIMESERIES

END COPY

GENER

OPCODE

# # OPCD \*\*\*

END OPCODE

PARM

# # K \*\*\*

END PARM

END GENER

PERLND

GEN-INFO

<PLS ><-----Name----->NBLKS Unit-systems Printer \*\*\*  
# - # User t-series Engl Metr \*\*\*  
in out \*\*\*

1 A/B, Forest, Flat 1 1 1 1 27 0  
10 C, Forest, Flat 1 1 1 1 27 0

END GEN-INFO

\*\*\* Section PWATER\*\*\*

ACTIVITY

<PLS > \*\*\*\*\* Active Sections \*\*\*\*\*  
# - # ATMP SNOW PWAT SED PST PWG PQAL MSTL PEST NITR PHOS TRAC \*\*\*  
1 0 0 1 0 0 0 0 0 0 0 0  
10 0 0 1 0 0 0 0 0 0 0 0

END ACTIVITY

PRINT-INFO

<PLS > \*\*\*\*\* Print-flags \*\*\*\*\* PIVL PYR  
# - # ATMP SNOW PWAT SED PST PWG PQAL MSTL PEST NITR PHOS TRAC \*\*\*\*\*

```
1 0 0 4 0 0 0 0 0 0 0 0 0 1 9
10 0 0 4 0 0 0 0 0 0 0 0 0 1 9
END PRINT-INFO
```

```
PWAT-PARM1
<PLS > PWATER variable monthly parameter value flags ***
# - # CSNO RTOP UZFG VCS VUZ VNN VIFW VIRC VLE INFC HWT ***
1 0 0 0 0 0 0 0 0 0 0 0
10 0 0 0 0 0 0 0 0 0 0 0
END PWAT-PARM1
```

```
PWAT-PARM2
<PLS > PWATER input info: Part 2 ***
# - # ***FOREST LZSN INFILT LSUR SLSUR KVARY AGWRC
1 0 5 2 400 0.05 0.3 0.996
10 0 4.5 0.08 400 0.05 0.5 0.996
END PWAT-PARM2
```

```
PWAT-PARM3
<PLS > PWATER input info: Part 3 ***
# - # ***PETMAX PETMIN INFEXP INFILD DEEPFR BASETP AGWETP
1 0 0 2 2 0 0 0
10 0 0 2 2 0 0 0
END PWAT-PARM3
```

```
PWAT-PARM4
<PLS > PWATER input info: Part 4 ***
# - # CEPSC UZSN NSUR INTFW IRC LZETP ***
1 0.2 0.5 0.35 0 0.7 0.7
10 0.2 0.5 0.35 6 0.5 0.7
END PWAT-PARM4
```

```
PWAT-STATE1
<PLS > *** Initial conditions at start of simulation
ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
# - # *** CEPS SURS UZS IFWS LZS AGWS GWVS
1 0 0 0 0 3 1 0
10 0 0 0 0 2.5 1 0
END PWAT-STATE1
```

END PERLND

IMPLND

```
GEN-INFO
<PLS ><-----Name-----> Unit-systems Printer ***
# - # User t-series Engl Metr ***
in out ***
END GEN-INFO
*** Section IWATER***
```

```
ACTIVITY
<PLS > ***** Active Sections *****
# - # ATMP SNOW IWAT SLD IWG IQAL ***
END ACTIVITY
```

```
PRINT-INFO
<ILS > ***** Print-flags ***** PIVL PYR
# - # ATMP SNOW IWAT SLD IWG IQAL *****
END PRINT-INFO
```

```
IWAT-PARM1
<PLS > IWATER variable monthly parameter value flags ***
# - # CSNO RTOP VRS VNN RTLI ***
END IWAT-PARM1
```

```
IWAT-PARM2
<PLS > IWATER input info: Part 2 ***
# - # *** LSUR SLSUR NSUR RETSC
END IWAT-PARM2
```

IWAT-PARM3

```

<PLS >          IWATER input info: Part 3          ***
# - # ***PETMAX    PETMIN
END IWAT-PARM3

IWAT-STATE1
<PLS > *** Initial conditions at start of simulation
# - # *** RETS      SURS
END IWAT-STATE1

END IMPLND

SCHEMATIC
<-Source->          <--Area-->          <-Target->      MBLK      ***
<Name> #           <-factor->          <Name> #      Tbl#      ***
New Imp - Historic***
PERLND  1           0.0113            COPY  501      12
PERLND  1           0.0113            COPY  501      13
PERLND  10          0.0003            COPY  501      12
PERLND  10          0.0003            COPY  501      13

*****Routing*****
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member-> ***
<Name> #      <Name> # #<-factor->strg <Name> # #      <Name> # #      ***
COPY  501 OUTPUT MEAN  1 1  48.4      DISPLY  1      INPUT TIMSER 1

<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member-> ***
<Name> #      <Name> # #<-factor->strg <Name> # #      <Name> # #      ***
END NETWORK

RCHRES
GEN-INFO
RCHRES      Name      Nexits      Unit Systems      Printer      ***
# - #<-----><-----> User T-series Engl Metr LKFG      ***
                                in out      ***
END GEN-INFO
*** Section RCHRES***

ACTIVITY
<PLS > ***** Active Sections *****
# - # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUGF PKFG PHFG ***
END ACTIVITY

PRINT-INFO
<PLS > ***** Print-flags ***** PIVL  PYR
# - # HYDR ADCA CONS HEAT SED  GQL  OXRX NUTR PLNK PHCB PIVL  PYR *****
END PRINT-INFO

HYDR-PARM1
RCHRES      Flags for each HYDR Section      ***
# - # VC A1 A2 A3 ODFVFG for each *** ODGTFG for each      FUNCT for each
                FG FG FG FG possible exit *** possible exit      possible exit
                * * * * * * * * * * * * * * * * * * * * * *
END HYDR-PARM1

HYDR-PARM2
# - # FTABNO      LEN      DELTH      STCOR      KS      DB50      ***
<-----><-----><-----><-----><-----><-----><-----><----->      ***
END HYDR-PARM2

HYDR-INIT
RCHRES      Initial conditions for each HYDR section      ***
# - # *** VOL      Initial value of COLIND      Initial value of OUTDGT
                *** ac-ft      for each possible exit      for each possible exit
<-----><----->      <-----><-----><-----><-----><----->      *** <-----><-----><-----><----->
END HYDR-INIT
END RCHRES

```

SPEC-ACTIONS  
 END SPEC-ACTIONS  
 FTABLES  
 END FTABLES

EXT SOURCES

<-Volume->	<Member>	SsysSgap	<--Mult-->	Tran	<-Target vols>	<-Grp>	<-Member->	***
<Name>	#	<Name>	#	tem strg	<-factor->	strg	<Name>	# # ***
WDM	2	PREC		ENGL	1		PERLND	1 999 EXTNL PREC
WDM	2	PREC		ENGL	1		IMPLND	1 999 EXTNL PREC
WDM	1	EVAP		ENGL	0.76		PERLND	1 999 EXTNL PETINP
WDM	1	EVAP		ENGL	0.76		IMPLND	1 999 EXTNL PETINP

END EXT SOURCES

EXT TARGETS

<-Volume->	<-Grp>	<-Member->	<--Mult-->	Tran	<-Volume->	<Member>	Tsys	Tgap	Amd	***	
<Name>	#	<Name>	#	#<-factor->	strg	<Name>	#	<Name>	tem strg	strg***	
COPY	501	OUTPUT	MEAN	1	1	48.4	WDM	501	FLOW	ENGL	REPL

END EXT TARGETS

MASS-LINK

<Volume>	<-Grp>	<-Member->	<--Mult-->	<Target>	<-Grp>	<-Member->	***
<Name>	#	<Name>	#	#<-factor->	<Name>	#	#***
MASS-LINK			12				
PERLND	PWATER	SURO		0.083333	COPY	INPUT	MEAN
END MASS-LINK			12				
MASS-LINK			13				
PERLND	PWATER	IFWO		0.083333	COPY	INPUT	MEAN
END MASS-LINK			13				

END MASS-LINK

END RUN

# Mitigated UCI File

RUN

GLOBAL

```
WVHM4 model simulation
START      1948 10 01      END      2009 09 30
RUN INTERP OUTPUT LEVEL   3      0
RESUME     0 RUN          1
UNIT SYSTEM 1
```

END GLOBAL

FILES

```
<File> <Un#> <-----File Name----->***
<-ID->                                     ***
WDM      26      FF Threshold 90%.wdm
MESSU    25      MitFF Threshold 90%.MES
          27      MitFF Threshold 90%.L61
          28      MitFF Threshold 90%.L62
          30      POCFF Threshold 90%.dat
```

END FILES

OPN SEQUENCE

```
INGRP          INDELT 00:15
  IMPLND        8
  COPY          501
  DISPLY        1
```

END INGRP

END OPN SEQUENCE

DISPLY

DISPLY-INFO1

```
# - #<-----Title----->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
1      New Imp - Developed          MAX          1    2    30    9
```

END DISPLY-INFO1

END DISPLY

COPY

TIMESERIES

```
# - # NPT NMN ***
1      1    1
501    1    1
```

END TIMESERIES

END COPY

GENER

OPCODE

```
#      # OPCD ***
```

END OPCODE

PARM

```
#      #          K ***
```

END PARM

END GENER

PERLND

GEN-INFO

```
<PLS ><-----Name----->NBLKS  Unit-systems  Printer ***
# - #          User t-series Engl Metr ***
          in out          ***
```

END GEN-INFO

\*\*\* Section PWATER\*\*\*

ACTIVITY

```
<PLS > ***** Active Sections *****
# - # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
```

END ACTIVITY

PRINT-INFO

```
<PLS > ***** Print-flags ***** PIVL  PYR
# - # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC *****
```

END PRINT-INFO

PWAT-PARM1

```
<PLS > PWATER variable monthly parameter value flags ***
# - # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
```

```

END PWAT-PARM1

PWAT-PARM2
<PLS > PWATER input info: Part 2 ***
# - # ***FOREST LZSN INFILT LSUR SLSUR KVARY AGWRC
END PWAT-PARM2

PWAT-PARM3
<PLS > PWATER input info: Part 3 ***
# - # ***PETMAX PETMIN INFEXP INFILD DEEPFR BASETP AGWETP
END PWAT-PARM3

PWAT-PARM4
<PLS > PWATER input info: Part 4 ***
# - # CEPSC UZSN NSUR INTFW IRC LZETP ***
END PWAT-PARM4

PWAT-STATE1
<PLS > *** Initial conditions at start of simulation
ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
# - # *** CEPS SURS UZS IFWS LZS AGWS GWVS
END PWAT-STATE1

END PERLND

IMPLND
GEN-INFO
<PLS ><-----Name-----> Unit-systems Printer ***
# - # User t-series Engl Metr ***
in out ***
8 SIDEWALKS/FLAT 1 1 1 27 0
END GEN-INFO
*** Section IWATER***

ACTIVITY
<PLS > ***** Active Sections *****
# - # ATMP SNOW IWAT SLD IWG IQAL ***
8 0 0 1 0 0 0
END ACTIVITY

PRINT-INFO
<ILS > ***** Print-flags ***** PIVL PYR
# - # ATMP SNOW IWAT SLD IWG IQAL *****
8 0 0 4 0 0 0 1 9
END PRINT-INFO

IWAT-PARM1
<PLS > IWATER variable monthly parameter value flags ***
# - # CSNO RTOP VRS VNN RTLI ***
8 0 0 0 0 0
END IWAT-PARM1

IWAT-PARM2
<PLS > IWATER input info: Part 2 ***
# - # *** LSUR SLSUR NSUR RETSC
8 400 0.01 0.1 0.1
END IWAT-PARM2

IWAT-PARM3
<PLS > IWATER input info: Part 3 ***
# - # ***PETMAX PETMIN
8 0 0
END IWAT-PARM3

IWAT-STATE1
<PLS > *** Initial conditions at start of simulation
# - # *** RETS SURS
8 0 0
END IWAT-STATE1

END IMPLND

```

```

SCHEMATIC
<-Source->          <--Area-->      <-Target->      MBLK      ***
<Name> #           <-factor->      <Name> #      Tbl#      ***
New Imp - Developed***
IMPLND  8           0.0112         COPY   501     15

*****Routing*****
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member-> ***
<Name> #     <Name> # #<-factor->strg <Name> # #     <Name> # #     ***
COPY   501 OUTPUT MEAN  1 1  48.4         DISPLY  1     INPUT TIMSER 1

<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member-> ***
<Name> #     <Name> # #<-factor->strg <Name> # #     <Name> # #     ***
END NETWORK

RCHRES
GEN-INFO
RCHRES      Name      Nexits      Unit Systems      Printer      ***
# - #<-----><----> User T-series Engl Metr LKFG      ***
                               in out      ***

END GEN-INFO
*** Section RCHRES***

ACTIVITY
<PLS > ***** Active Sections *****
# - # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFQ PKFG PHFG ***
END ACTIVITY

PRINT-INFO
<PLS > ***** Print-flags ***** PIVL  PYR
# - # HYDR ADCA CONS HEAT SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR *****
END PRINT-INFO

HYDR-PARM1
RCHRES      Flags for each HYDR Section      ***
# - #      VC A1 A2 A3  ODFVFG for each *** ODGTFG for each      FUNCT for each
          FG FG FG FG  possible exit *** possible exit      possible exit
          * * * *      * * * *      * * * *      * * * *      ***

END HYDR-PARM1

HYDR-PARM2
# - #      FTABNO      LEN      DELTH      STCOR      KS      DB50      ***
<-----><-----><-----><-----><-----><-----><----->      ***
END HYDR-PARM2

HYDR-INIT
RCHRES      Initial conditions for each HYDR section      ***
# - # *** VOL      Initial value of COLIND      Initial value of OUTDGT
          *** ac-ft      for each possible exit      for each possible exit
<-----><----->      <---><---><---><---><---> *** <---><---><---><---><--->
END HYDR-INIT
END RCHRES

SPEC-ACTIONS
END SPEC-ACTIONS
FTABLES
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member-> ***
<Name> # <Name> # tem strg<-factor->strg <Name> # #     <Name> # #     ***
WDM      2 PREC      ENGL      1           PERLND  1 999 EXTNL  PREC
WDM      2 PREC      ENGL      1           IMPLND  1 999 EXTNL  PREC
WDM      1 EVAP      ENGL      0.76        PERLND  1 999 EXTNL  PETINP
WDM      1 EVAP      ENGL      0.76        IMPLND  1 999 EXTNL  PETINP

```

END EXT SOURCES

EXT TARGETS

```
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name> # <Name> # #<-factor->strg <Name> # <Name> tem strg strg***
COPY 1 OUTPUT MEAN 1 1 48.4 WDM 701 FLOW ENGL REPL
COPY 501 OUTPUT MEAN 1 1 48.4 WDM 801 FLOW ENGL REPL
END EXT TARGETS
```

MASS-LINK

```
<Volume> <-Grp> <-Member-><--Mult--> <Target> <-Grp> <-Member->***
<Name> <Name> # #<-factor-> <Name> <Name> # #***
MASS-LINK 15
IMPLND IWATER SURO 0.083333 COPY INPUT MEAN
END MASS-LINK 15
```

END MASS-LINK

END RUN



*Predeveloped HSPF Message File*

*Mitigated HSPF Message File*

## *Disclaimer*

### *Legal Notice*

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**APPENDIX E**

**CRITICAL AREAS REPORT**



## **CRITICAL AREA STUDY**

**FOR**

## **SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS**

*Wetland Resources, Inc. Project #23155*

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August 14, 2023

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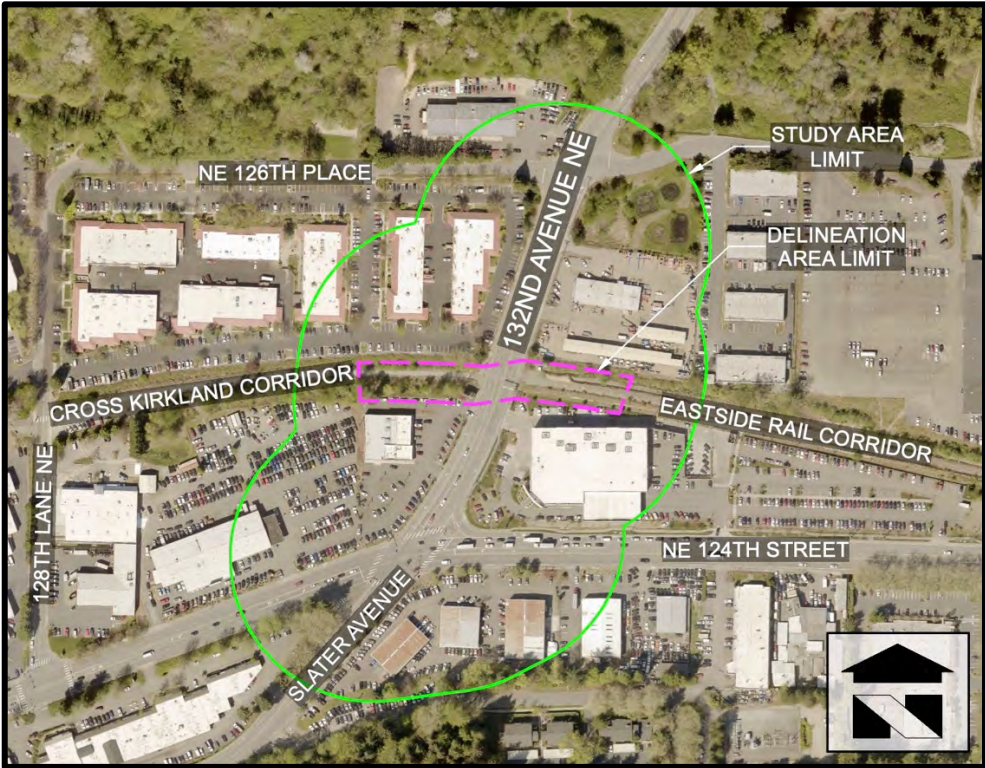
APPENDIX A: CORPS OF ENGINEERS WETLAND DETERMINATION DATA FORMS

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**1.0 INTRODUCTION**

*Wetland Resources, Inc. (WRI)* conducted a site investigation on July 18, 2023, to locate and evaluate jurisdictional wetlands and streams on and in the vicinity of the intersection of the Slater Trail and 132nd Avenue NE, north of NE 124th Street. The project area is the City of Kirkland, WA, and located within Section 26, Township 26, Range 5, W.M.



**Figure 1** - Aerial of the approximate study area.

**1.1 PROJECT AREA DESCRIPTION**

The Slater Trail Pedestrian Improvement Project area is along Slater Avenue/132nd Street NE between NE 124th Street and NE 126th Place. Surrounding land use includes a belt of commercial and industrial buildings along NE 124th Street and Slater Avenue/132nd Street NE, with single-family residential developments to the north and multi-family residential developments to the south. The project area is entirely within the rights-of-way of the various streets, the Cross Kirkland Corridor (CKC), and the Eastside Rail Corridor (ERC). The project area is within the Lake Washington subbasin, Watershed Resources Inventory Area (WRIA) 8.

Five wetlands (Wetlands A-E) were identified within the investigation area. Wetlands A, B, C, D, and E are all classified as Category III wetlands with low (3-5) habitat scores and require buffers of 60 feet per Kirkland Zoning Code (KZC) 90.55. These features are detailed further in Section 3.4 below and their locations are shown on the *Critical Area Study Maps* in Appendix C.

## 2.0 REVIEW OF EXISTING INFORMATION

Prior to conducting the site investigation, public resource information was reviewed to gather background information on the subject property and the surrounding area in regard to wetlands, streams, and other critical areas. These sources included the USFWS National Wetlands Inventory (NWI), USDA-NRCS Web Soil Survey, King County iMap, City of Kirkland interactive mapping tool, WDFW SalmonScape mapping tool, WDFW Priority Habitat and Species (PHS) Interactive Map, and WDNR Forest Practices Application Mapping Tool (FPAMT).

- The National Wetlands Inventory maps a linear excavated wetland (PSSCx) along the south side of the CKC and along 132nd Avenue NE. East of 132nd Avenue NE a linear riverine (R4SBC) feature is shown on the northern side of the CKC.
- NRCS identifies the study area as being underlain by Indianola loamy sand, 5 to 15 percent slopes and Kitsap silt loam, 2 to 8 percent slopes.
- King County iMap does not depict any critical areas within the study area.
- The City of Kirkland interactive map displays five wetlands within the project study area, including linear features extending east and west along the northern and southern edges of the CKC, bisected by 132nd Avenue NE. Four stormwater ponds and one wetland are shown on the property east of 132nd Avenue NE and south of NE 126th Place.
- SalmonScape maps a stream along the CKC that connects to Totem Lake. No salmonids are shown to use this feature.
- PHS maps a wetland in approximately the same location shown by NWI along the southern side of the CKC. No other features are depicted in the vicinity of the project area.
- FPAMT shows an “unknown/untyped” stream flowing along the CKC in approximately the same location depicted by SalmonScape.

## 3.0 WETLAND AND STREAM DETERMINATION

### 3.1 LIMIT OF STUDY

The study area includes the area within 300 feet from the proposed Slater Trail Pedestrian Crossing Improvement project. Wetland Resources, Inc. (WRI) staff identified all wetlands and streams within the study area and delineated those within public rights-of-way. Wetland and stream boundaries depicted outside of public rights-of-way are based on visual observation from the edge of legal access, publicly available resources, fine-scale elevation contours, and using best professional judgment.



## **3.2 ORDINARY HIGH WATER MARK DETERMINATION METHODOLOGY**

The ordinary high water mark (OHWM) of streams, if present, are determined using the methodology described in the Washington Department of Ecology’s publication, *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson, et al. 2016).

## **3.3 WETLAND DETERMINATION METHODOLOGY**

Wetland conditions are evaluated and delineated using routine methodology described in the *Corps of Engineers Wetlands Delineation Manual (Final Report; January 1987)*, except where superseded by the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*, referred to as 2010 Regional Supplement). WRI findings are consistent with these manuals. The following criteria descriptions were used in the boundary determination:

- 1.) Examination of the site for hydrophytic vegetation (species present and percent cover);
- 2.) Examination of the site for hydric soils;
- 3.) Determining the presence of wetland hydrology

### **3.3.1 Hydrophytic Vegetation Criteria**

The manuals define hydrophytic vegetation as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. One of the most common indicators for hydrophytic vegetation is when more than 50 percent of a plant community consists of species rated “Facultative” and wetter on lists of plant species that occur in wetlands.

### **3.3.2 Soils Criteria and Mapped Description**

The manuals define hydric soils as those that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Field indicators are used for determining whether a given soil meets the definition for hydric soils.

### **3.3.3 Hydrology Criteria**

The 2010 Regional Supplement defines wetland hydrology as “areas that are inundated (flooded or ponded) or the water table is less than or equal to 12 inches below the soil surface for 14 or more consecutive days during the growing season at a minimum frequency of 5 years in 10.” During the early growing season, wetland hydrology determinations are made based on physical observation of surface water, a high water table, or saturation in the upper 12 inches. Outside of the early growing season, wetland hydrology determinations are made based on physical evidence of recent inundation or saturation (i.e. water marks, surface soil cracks, water-stained leaves).

### 3.4 CRITICAL AREA DETERMINATION FINDINGS

As required by the Kirkland Zoning Code (KZC) 90.55, the wetlands were classified using the *Washington State Department of Ecology Wetland Rating System for Western Washington: 2014 Update*. Wetlands were also classified according to the U.S. Fish and Wildlife Service (USFWS) *Classifications of Wetlands and Deepwater Habitats of the United States*, also known as the Cowardin Classification System. Five wetlands (Wetland A, B, C, D, and E) were identified within the study area. The locations of these features are depicted on the attached *Critical area Study Map* (See appendix C). No streams or other critical areas were identified within the vicinity of the project area.

#### 3.4.1 Wetland A

**HGM Class:** Depressional

**Cowardin Classification:** Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded

**Rating Category/Habitat Score:** Category III/3 points

**Kirkland Buffer Requirement:** 60 feet

Wetland A is a linear depressional wetland that runs along the south side of the CKC, west of 132nd Avenue NE. A stormwater outfall is located at the east end of the wetland, adjacent to 132nd Avenue NE. This wetland is seasonally ponded, and water flows out of this wetland via a culvert under the CKC and into Wetland B.

Vegetation within Wetland A includes a canopy of black cottonwood (*Populus balsamifera*; FAC), red alder (*Alnus rubra*; FAC) and willow (*Salix spp.*; FACW), with an understory of twinberry (*Lonicera involucrata*; FAC), hardhack (*Spiraea douglasii*; FACW), salmonberry (*Rubus spectabilis*; FAC), Himalayan blackberry (*Rubus armeniacus*; FAC), reed canarygrass (*Phalaris arundinacea*; FACW), and giant horsetail (*Equisetum telmateia*; FACW). Dominant vegetation within the wetland is rated as facultative (FAC) or wetter and therefore constitutes a hydrophytic plant community.



**Figure 2** Ground cover of eastern portion of Wetland A, facing east.



**Figure 3** Forested eastern portion of Wetland A, facing west.

Soils within Wetland A are typically a very dark gray (10YR 3/1) sandy loam with approximately five percent of dark yellowish-brown (10YR 3/6) redoximorphic concentrations throughout the entire observed soil profile to a depth of 16 inches. This soil profile meets the criteria for the hydric soil indicator Redox Dark Surface (F6). Soils within Wetland A were moist at the time of the July 2023 investigation and water marks were observed on the trunks of trees within the wetland (primary hydrology indicator B1).

### 3.4.2 Wetland B

**HGM Class:** Depressional

**Cowardin Classification:** Palustrine, Forested, Broad-leaved Deciduous, Permanently Flooded

**Rating Category/Habitat Score:** Category III/4 points

**Kirkland Buffer Requirement:** 60 feet

Wetland B is a linear depressional feature that runs along the north side of CKC, west of 132<sup>nd</sup> Avenue NE. Water flows to Wetland B from multiple culverts adjacent to 132<sup>nd</sup> Street NE, flows to the west, and exits the wetland through a culvert adjacent to 128<sup>th</sup> Lane NE.

Vegetation within Wetland B includes a small portion of canopy coverage of red alder (*Alnus rubra*; FAC), Pacific willow (*Salix lasiandra*; FACW), and black locust (*Robinia pseudoacacia*) rooted along the wetland boundary. The majority of the wetland includes Himalayan blackberry (*Rubus armeniacus*; FAC), hardhack (*Spiraea douglasii*; FACW), sweet nightshade (*Solanum dulcamara*; FAC), and reed canarygrass (*Phalaris arundinacea*; FACW). The western half of the wetland is permanently ponded and is dominated by broadleaf cattail (*Typha latifolia*; OBL). Vegetation within the wetland is rated as facultative (FAC) or wetter and therefore constitutes a hydrophytic plant community.



**Figure 4** - Emergent/Flooded western portion of Wetland B.



**Figure 5** - Forested/Saturated eastern portion of Wetland B.

Soils in Wetland B are typically a black (10YR 2/1) silt loam from the surface to a depth of eight inches. This upper layer contains layers of decaying leaves mixed within the matrix. From a depth of eight to 18 inches below the surface, soils are a very dark gray (2.5Y 3/1) silt loam with approximately 10 percent of dark yellowish-brown (10YR 3/6) redoximorphic concentrations.



This soil profile meets the criteria for the hydric soil indicator Redox Dark Surface (F6). Soils were saturated to the surface, and standing water was present within the western portion of the wetland during the July 2023 investigation.

### 3.4.3 Wetland C

**HGM Class:** Depressional

**Cowardin Classification:** Palustrine, Emergent Wetland, Non-persistent, Permanently Flooded

**Rating Category/Habitat Score:** Category III/3 points

**Kirkland Buffer Requirement:** 60 feet

Wetland C is a very small depressional wetland located on the north side of the ERC, east of 132nd Avenue NE. This wetland receives water from Wetland D to the east, and drains west under 132nd Avenue NE into Wetland B.

Vegetation within this wetland is dominated by reed canarygrass (*Phalaris arundinacea*; FACW) and bird's-foot trefoil (*Lotus corniculatus*; FAC) with small amounts of Himalayan blackberry (*Rubus armeniacus*; FAC) encroaching from outside the wetland boundary. Vegetation within the wetland is rated as facultative (FAC) or wetter and therefore constitutes a hydrophytic plant community.



**Figure 6** - Wetland C.

Soils within Wetland B are a very dark gray (10YR 3/1) sandy loam from the surface to a depth of at least six inches, where a restrictive layer of gravel was present. Though no soil indicators were met, a present of 1-chroma soil color throughout the entire profile is indicative of prolonged inundation. Soil throughout the entire wetland was saturated at the surface, and 0.5 inches of surface ponding was present in the center during the July 2023 inspection.

#### **3.4.4 Wetland D**

**HGM Class:** Depressional

**Cowardin Classification:** Palustrine, Forested, Broad-leaved Deciduous, Permanently Flooded

**Rating Category/Habitat Score:** Category III/4 points

**Kirkland Buffer Requirement:** 60 feet

Wetland D is a long, depressional feature located along the northern side of the ERC, east of 132nd Avenue NE and Wetland C. Water in this wetland flows to the west, through a pipe into Wetland C, and continues west under 132nd Avenue NE.

This wetland has intermittent canopy coverage containing Pacific willow (*Salix lasiandra*; FACW) and red alder (*Alnus rubra*; FAC). The understory and the majority of the wetland, including non-forested portions, are dominated by Himalayan blackberry (*Rubus armeniacus*; FAC), hardhack (*Spiraea douglasii*; FACW), reed canarygrass (*Phalaris arundinacea*; FACW), giant horsetail (*Equisetum telmateia*; FACW), bird's-foot trefoil (*Lotus corniculatus*; FAC), and sweet nightshade (*Solanum dulcamara*; FAC). Vegetation within the wetland is rated as facultative (FAC) or wetter and therefore constitutes a hydrophytic plant community.

Soils within the surface layer of Wetland D are typically a very dark brown (10YR 2/2) sandy loam to a depth of approximately six inches. The sublayer is a very dark gray (10YR 3/1) sandy loam with approximately 10 percent of dark yellowish-brown (10YR 3/6) redoximorphic concentrations appearing from a depth of six to 17 inches below the surface. From approximately 12 to 17 inches below the surface, five percent of olive gray (5Y 5/2) depletions occur. This soil profile meets the criteria for the hydric soil indicator Redox Dark Surface (F6). Soils were saturated at a depth of 16 inches below the surface. This wetland meets secondary hydrology indicators Dry-Season Water Table (C2) and Geomorphic Position (D2).

#### **3.4.5 Wetland E**

**HGM Class:** Depressional

**Cowardin Classification:** Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded

**Rating Category/Habitat Score:** Category III/5 points

**Kirkland Buffer Requirement:** 60 feet

Wetland E is a depressional wetland located on the property east of 132nd Avenue NE and south of NE 126th Place. This wetland receives water from the two stormwater ponds to the east. Water exits the south end of the wetland, where it enters a series of stormwater pipes, and eventually flows into Wetland B.

This wetland has intermittent canopy coverage containing black cottonwood (*Populus balsamifera*; FACW), red alder (*Alnus rubra*; FAC), and willow (*Salix* sp.). The understory includes Himalayan blackberry (*Rubus armeniacus*; FAC), hardhack (*Spiraea douglasii*; FACW), and reed canarygrass (*Phalaris arundinacea*; FACW). Vegetation within the wetland is rated as facultative (FAC) or wetter and therefore constitutes a hydrophytic plant community. Soils within Wetland E were not sampled, as it is outside of the public right-of-way.

### **3.4.6 Non-Wetland Areas**

A majority of the non-wetland areas surrounding Wetlands A-E contain unvegetated impervious surfaces. Vegetated non-wetland areas are typically composed of highly maintained ornamentals, pioneer species, and invasive species. Tree coverage includes, but is not limited to, black cottonwood (*Populus balsamifera*; FAC), red alder (*Alnus rubra*; FAC), and black locust (*Robinia pseudoacacia*; FACU). Vegetated ground coverage is dominated by highly maintained Himalayan blackberry (*Rubus armeniacus*; FAC), English holly (*Ilex aquifolium*; FACU), maintained bentgrass (*Agrostis* sp.; FAC), reed canarygrass (*Phalaris arundinacea*; FACW), and giant horsetail (*Equisetum telmateia*; FACW).

Soils within non-wetland areas are textured as sandy loam and have Munsell colors ranging from very dark grayish-brown (10YR 3/2) to dark brown (10YR 3/3), with no observed redoximorphic features. Soils were very dry and no wetland hydrology indicators were observed during the July 2023 investigation.

### **3.5 LIMITED BUFFER WAIVER**

The buffer widths provided in this report, and shown on the figures in Appendix C, are the standard buffer widths required in KZC 90.55. Per KZC 90.120, an interrupted buffer waiver may be applied when a portion of a wetland or stream buffer is isolated from the critical area by an improved right-of-way. With the adjacent arterials, CKC, and ERC rights-of-way crossing through the wetland buffers, the interrupted buffer waiver may apply to the wetland buffers within the study area.

### **3.6 WILDLIFE**

The vegetated wetlands and associated buffers within the project vicinity provide features that are beneficial to wildlife including resources such as food, water, thermal cover, and hiding cover in close proximity. No threatened or endangered species or eagle nests are known to be associated with this site.

#### **3.6.1 Avian**

Species of birds that may use the project area include house sparrow (*Passer domesticus*), American robin (*Turdus migratorius*), black-capped chickadee (*Poecile atricapillus*), common crow (*Corvus brachyrhynchos*), Steller's jay (*Cyanocitta stellari*), rufous-sided towhee (*Pipilo erythrophthalmus*), dark eyed junco (*Junco hyemalis*), and house finch (*Carpodacus mexicanus*).

### 3.6.2 Mammals

Mammalian species that may utilize this site include eastern cottontail rabbits (*Sylvilagus floridanus*), mountain beavers (*Aplodontia rufa*), shrews (*Sorex* spp.), moles (*Scapanus* spp.), bats (*Myotis* spp.), raccoons (*Procyon lotor*), skunks (*Mephitis* spp.), squirrels (*Sciurus carolinensis*, *Tamiasciurus douglasii*), deer mice (*Peromyscus maniculatus*), coyote (*Canis latrans*), black-tailed deer (*Odocoileus hemionus columbianus*), and Virginia opossums (*Didelphis virginiana*).

### 3.6.3 Amphibia

Other wildlife expected to use this site include Pacific tree frog (*Hyla regilla*), northwestern salamander (*Ambystoma gracile*), and rough-skinned newt (*Taricha granulosa*).

These lists are not meant to be all-inclusive and may omit species that currently utilize or could utilize the site.

## 4.0 USE OF THIS REPORT

This Critical Area Study is supplied to DKS Associates as a means of describing jurisdictional wetlands and streams, as required by the City of Kirkland during the permitting process. This report is based largely on readily observable conditions and to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions. Reports may be adversely affected due to the physical condition of the site and the difficulty of access, which may lead to observation or probing difficulties.

The laws applicable to wetlands are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of care employed by wetland ecologists. No other representation or warranty is made concerning the work or this report, and any implied representation or warranty is disclaimed.

*Wetland Resources, Inc.*



Alex Wachter  
*Associate Ecologist*



Meryl Kamowski, PWS  
*Senior Ecologist*

## 5.0 REFERENCES

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APPENDIX A

USACE WETLAND DETERMINATION DATA FORMS

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Slater Trail Pedestrian Crossing Improvements City/County: City of Kirkland Sampling Date: 7/18/2023  
 Applicant/Owner: City of Kirkland State: WA Sampling Point: S1  
 Investigator(s): MK, AW Section, Township, Range: Sec 28, Twp 26N, Rge 05E, W.M.  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): ~1%  
 Subregion (LRR): LRR A Lat: 47.7125 Long: -122.1660 Datum: NAD83  
 Soil Map Unit Name: Kitsap silt loam, 2 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: WRA1 - In	

## VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 5m <sup>2</sup> )					
1. <u>Populus balsamifera</u>		25	Y	FAC	
2. _____					
3. _____					
4. _____					
		25	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 3m <sup>2</sup> )					
1. <u>Spirea douglasii</u>		15	Y	FACW	
2. <u>Rubus armeniacus</u>		10	Y	FAC	
3. _____					
4. _____					
5. _____					
		25	= Total Cover		
<b>Herb Stratum</b> (Plot size: 1m <sup>2</sup> )					
1. <u>Equisetum telmateia</u>		25	Y	FACW	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
		25	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 3m <sup>2</sup> )					
1. <u>None</u>					
2. _____					
		0	= Total Cover		
<b>% Bare Ground in Herb Stratum</b> _____					

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)  
 Total Number of Dominant Species Across All Strata: 4 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species \_\_\_\_\_ x 3 = 0  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

<b>Hydrophytic Vegetation Present?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Remarks:

**SOIL**

Sampling Point: S1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-16	10YR 3/1	95	10YR 3/4	5	C	M	Sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

2 cm Muck (A10)  
 Red Parent Material (TF2)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Slater Trail Pedestrian Crossing Improvements City/County: City of Kirkland Sampling Date: 7/18/2023  
 Applicant/Owner: City of Kirkland State: WA Sampling Point: S2  
 Investigator(s): MK, AW Section, Township, Range: Sec 28, Twp 26N, Rge 05E, W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): ~3%  
 Subregion (LRR): LRR A Lat: 47.7125 Long: -122.1660 Datum: NAD83  
 Soil Map Unit Name: Kitsap silt loam, 2 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: WRA1- Out	

## VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 5m <sup>2</sup> )					
1. <u>Populus balsamifera</u>		25	Y	FAC	
2. _____					
3. _____					
4. _____					
		25	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 3m <sup>2</sup> )					
1. <u>Spirea douglasii</u>		10	Y	FACW	
2. <u>Rubus armeniacus</u>		10	Y	FAC	
3. _____					
4. _____					
5. _____					
		20	= Total Cover		
<b>Herb Stratum</b> (Plot size: 1m <sup>2</sup> )					
1. <u>Equisetum telmateia</u>		10	Y	FACW	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
		10	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 3m <sup>2</sup> )					
1. <u>None</u>					
2. _____					
		0	= Total Cover		
<b>% Bare Ground in Herb Stratum</b> _____					

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)  
 Total Number of Dominant Species Across All Strata: 4 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species \_\_\_\_\_ x 3 = 0  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

<b>Hydrophytic Vegetation Present?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Remarks:

**SOIL**

Sampling Point: S2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-4	10YR 3/2	100					Sandy loam	
4-8	10YR 3/3	100					Sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

2 cm Muck (A10)  
 Red Parent Material (TF2)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: hardpan, rock \_\_\_\_\_  
 Depth (inches): 8" \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> )	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> )
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )	<input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Slater Trail Pedestrian Crossing Improvements City/County: City of Kirkland Sampling Date: 7/18/2023  
 Applicant/Owner: City of Kirkland State: WA Sampling Point: S1  
 Investigator(s): MK, AW Section, Township, Range: Sec 28, Twp 26N, Rge 05E, W.M.  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): ~1%  
 Subregion (LRR): LRR A Lat: 47.7125 Long: -122.1660 Datum: NAD83  
 Soil Map Unit Name: Kitsap silt loam, 2 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: WLBB2- In	

## VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 5m <sup>2</sup> )					
1. <u>*Robinia pseudoacacia</u>		85	*N	FACU	
2. _____					
3. _____					
4. _____					
		85	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 3m <sup>2</sup> )					
1. <u>Rubus americanus</u>		15	Y	FAC	
2. _____					
3. _____					
4. _____					
5. _____					
		15	= Total Cover		
<b>Herb Stratum</b> (Plot size: 1m <sup>2</sup> )					
1. <u>Solanum dulcamara</u>		40	Y	FAC	
2. <u>Convolvulus arvensis</u>		25	Y	FACU	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
		65	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 3m <sup>2</sup> )					
1. <u>None</u>					
2. _____					
		0	= Total Cover		
% Bare Ground in Herb Stratum _____					

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species \_\_\_\_\_ x 3 = 0  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 \*Black locust is not rooted in wetland, however provides canopy cover.

**SOIL**

Sampling Point: S1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-8	10YR 2/1	100					Silt loam	
8-18	2.5Y 3/1	90	10YR 3/6	10	C	M	Silt loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

2 cm Muck (A10)  
 Red Parent Material (TF2)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			

Remarks:

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Slater Trail Pedestrian Crossing Improvements City/County: City of Kirkland Sampling Date: 7/18/2023  
 Applicant/Owner: City of Kirkland State: WA Sampling Point: S4  
 Investigator(s): MK, AW Section, Township, Range: Sec 28, Twp 26N, Rge 05E, W.M.  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): ~1%  
 Subregion (LRR): LRR A Lat: 47.7125 Long: -122.1660 Datum: NAD83  
 Soil Map Unit Name: Kitsap silt loam, 2 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: WLC In	

## VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>5m<sup>2</sup></u> )				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )				
1. <u>Rubus americanus</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
	<u>15</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>1m<sup>2</sup></u> )				
1. <u>Phalaris arundinacea</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Lotus corniculatus</u>	<u>20</u>	<u>N</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>110</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>3m<sup>2</sup></u> )				
1. <u>None</u>				
2. _____				
	<u>0</u>	= Total Cover		
<b>% Bare Ground in Herb Stratum</b> _____				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species \_\_\_\_\_ x 3 = 0  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:



**SOIL**

Sampling Point: S4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-6	10YR 3/1	100					Sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

2 cm Muck (A10)  
 Red Parent Material (TF2)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: riprap  
 Depth (inches): <sup>6</sup>

**Hydric Soil Present?** Yes  No

Remarks:  
 Although no indicators met, 1-chroma soils throughout entire accessible profile is indicative of prolonged inundation.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)

<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)	<p><b>Field Observations:</b></p> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 0.5" Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): Surface (includes capillary fringe)
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**Wetland Hydrology Present?** Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Slater Trail Pedestrian Crossing Improvements City/County: City of Kirkland Sampling Date: 7/18/2023  
 Applicant/Owner: City of Kirkland State: WA Sampling Point: S5  
 Investigator(s): MK, AW Section, Township, Range: Sec 28, Twp 26N, Rge 05E, W.M.  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): ~1%  
 Subregion (LRR): LRR A Lat: 47.7125 Long: -122.1660 Datum: NAD83  
 Soil Map Unit Name: Kitsap silt loam, 2 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: WLD In, by trail sign	

## VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 5m <sup>2</sup> )					
1. <u>None</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____					
3. _____					
4. _____					
_____					
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 3m <sup>2</sup> )					
1. <u>Rubus americanus</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>		
2. <u>Spirea douglasii</u>					
3. _____					
4. _____					
5. _____					
<u>15</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: 1m <sup>2</sup> )					
1. <u>Phalaris arundinacea</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>		
2. <u>Equisetum telmateia</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>		
3. <u>Lotus corniculatus</u>	<u>20</u>	<u>N</u>	<u>FAC</u>		
4. <u>Solanum dulcamara</u>	<u>15</u>	<u>N</u>	<u>*FAC</u>		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
<u>125</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: 3m <sup>2</sup> )					
1. <u>None</u>					
2. _____					
<u>0</u> = Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks:

**SOIL**

Sampling Point: S5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 2/2	100					Sandy loam	
6-12	10YR 3/1	90	10YR 3/6	10	C	M	Sandy loam	
12-17	10YR 3/1	85	10YR 3/6	10	C	M	Sandy loam	
			5Y 5/2	5	D	M		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

2 cm Muck (A10)  
 Red Parent Material (TF2)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 16"	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX B

DEPARTMENT OF ECOLOGY (2014)  
WETLAND RATING FORMS AND FIGURES

Wetland name or number A

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 7/18/23

Rated by MK,AW Trained by Ecology?  Yes  No Date of training 3/15,6/22

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes?  Y  N

**NOTE: Form is not complete without the figures requested (figures can be combined).**

Source of base aerial photo/map ESRI, King Co.

**OVERALL WETLAND CATEGORY III** (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

           Category I – Total score = 23 - 27

           Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

           Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> M <input type="checkbox"/> L	H <input type="checkbox"/> M <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> M <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Landscape Potential	<input checked="" type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L	<input checked="" type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L	H <input type="checkbox"/> M <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Value	<input checked="" type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> M <input type="checkbox"/> L	H <input type="checkbox"/> M <input type="checkbox"/> <input checked="" type="checkbox"/> L	<b>TOTAL</b>
<b>Score Based on Ratings</b>	<b>8</b>	<b>6</b>	<b>3</b>	<b>17</b>

**Score for each function based on three ratings (order of ratings is not important)**

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	<input checked="" type="checkbox"/>

Wetland name or number A

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number A

## HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

**NO** – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

**NO** – **Saltwater Tidal Fringe (Estuarine)**

**YES** – **Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

**NO** – go to 3

**YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

\_At least 30% of the open water area is deeper than 6.6 ft (2 m).

**NO** – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

\_The wetland is on a slope (*slope can be very gradual*),

\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

\_The water leaves the wetland **without being impounded**.

**NO** – go to 5

**YES** – The wetland class is **Slope**

**NOTE:** Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

\_The overbank flooding occurs at least once every 2 years.

Wetland name or number   A  **NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7

**YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
Slope + Riverine	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*



Wetland name or number A

<b>DEPRESSIONAL AND FLATS WETLANDS</b>			
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>			
<b>D 1.0. Does the site have the potential to improve water quality?</b>			
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u>			
<input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		<b>2</b>	
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2			
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1			
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1			
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 <u>No = 0</u>		<b>0</b>	
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u>			
<input type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5		<b>1</b>	
<input type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3			
<input checked="" type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1			
<input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0			
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i>			
<input checked="" type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4		<b>4</b>	
<input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2			
<input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0			
Total for D 1		Add the points in the boxes above	<b>7</b>

**Rating of Site Potential** If score is: 12-16 = H  6-11 = M 0-5 = L Record the rating on the first page

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>			
D 2.1. Does the wetland unit receive stormwater discharges?	<u>Yes = 1</u> No = 0	<b>1</b>	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	<u>Yes = 1</u> No = 0	<b>1</b>	
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 <u>No = 0</u>	<b>0</b>	
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source <u>Ped trail</u>	<u>Yes = 1</u> No = 0	<b>1</b>	
Total for D 2		Add the points in the boxes above	<b>3</b>

**Rating of Landscape Potential** If score is:  3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first page

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>			
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	<u>Yes = 1</u> No = 0	<b>1</b>	
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	<u>Yes = 1</u> No = 0	<b>1</b>	
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality ( <i>answer YES if there is a TMDL for the basin in which the unit is found</i> )?	Yes = 2 <u>No = 0</u>	<b>0</b>	
Total for D 3		Add the points in the boxes above	<b>2</b>

**Rating of Value** If score is:  2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number A**DEPRESSIONAL AND FLATS WETLANDS****Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream degradation

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
<input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	<b>2</b>
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
<b>D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</b>		
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	<b>3</b>
<input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
<input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> The wetland is a "headwater" wetland	points = 3	
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water	points = 1	
<input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in)	points = 0	
<b>D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</b>		
<input type="checkbox"/> The area of the basin is less than 10 times the area of the unit	points = 5	<b>0</b>
<input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit	points = 3	
<input checked="" type="checkbox"/> The area of the basin is more than 100 times the area of the unit	points = 0	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
<b>Total for D 4</b>	<b>Add the points in the boxes above</b>	<b>5</b>

**Rating of Site Potential** If score is: 12-16 = H 6-11 = M  0-5 = L

Record the rating on the first page

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
<b>D 5.1. Does the wetland receive stormwater discharges?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>Total for D 5</b>	<b>Add the points in the boxes above</b>	<b>3</b>

**Rating of Landscape Potential** If score is:  3 = H 1 or 2 = M 0 = L

Record the rating on the first page

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</b> The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
<input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	<b>1</b>
<input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.	points = 1	
<input type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
<input type="checkbox"/> There are no problems with flooding downstream of the wetland.	points = 0	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>		
	Yes = 2 <input type="checkbox"/> No = 0	<b>0</b>
<b>Total for D 6</b>	<b>Add the points in the boxes above</b>	<b>1</b>

**Rating of Value** If score is: 2-4 = H  1 = M 0 = L

Record the rating on the first page

Wetland name or number  A

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- Aquatic bed 4 structures or more: points = 4
  - Emergent 3 structures: points = 2
  - Scrub-shrub (areas where shrubs have > 30% cover) **2 structures: points = 1**
  - Forested (areas where trees have > 30% cover) 1 structure: points = 0
- If the unit has a Forested class, check if:*
- The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

**1**

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only **1 type present: points = 0**
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

**0**

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

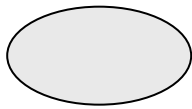
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

- If you counted:
- > 19 species points = 2
  - 5 - 19 species** **points = 1**
  - < 5 species points = 0

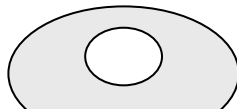
**1**

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



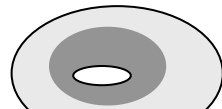
**None = 0 points**



**Low = 1 point**

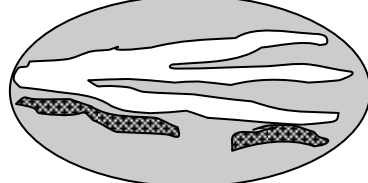
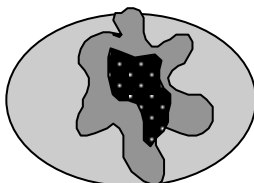
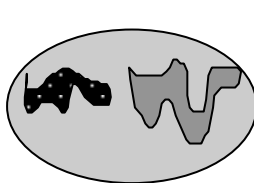


**Moderate = 2 points**



**0**

All three diagrams in this row are **HIGH** = 3points



Wetland name or number A

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		<b>2</b>
Total for H 1	Add the points in the boxes above	<b>4</b>

**Rating of Site Potential** If score is: 15-18 = H 7-14 = M  0-6 = L

Record the rating on the first page

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input checked="" type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>11</u> + [(% moderate and low intensity land uses)/2] <u>5</u> = <u>16</u> %</p> <p><input type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input checked="" type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>1</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input checked="" type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>-2</b>
Total for H 2	Add the points in the boxes above	<b>-1</b>

**Rating of Landscape Potential** If score is: 4-6 = H 1-3 = M  < 1 = L

Record the rating on the first page

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p><input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p><input type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p><input checked="" type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		<b>0</b>

**Rating of Value** If score is: 2 = H 1 = M  0 = L

Record the rating on the first page

Wetland name or number A

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha ) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number A**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt Yes – Go to <b>SC 1.1</b> <b>No = Not an estuarine wetland</b>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = <b>Category I</b> No - Go to <b>SC 1.2</b>	<b>Cat. I</b>
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	<b>Cat. I</b>  <b>Cat. II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to <b>SC 2.2</b> <b>No – Go to SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = <b>Category I</b> <b>No = Not a WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> No = <b>Not a WHCV</b> SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>
<b>SC 3.0. Bogs</b> Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to <b>SC 3.3</b> <b>No – Go to SC 3.2</b> SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to <b>SC 3.3</b> <b>No = Is not a bog</b> SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b> <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = <b>Is a Category I bog</b> No = <b>Is not a bog</b>	<b>Cat. I</b>

Wetland name or number A

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</p> <p><input type="checkbox"/> <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</p> <p style="text-align: right;">Yes = <b>Category I</b>    <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>    <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>    <b>No = not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = <b>Category I</b>    No – Go to <b>SC 6.2</b></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = <b>Category II</b>    No – Go to <b>SC 6.3</b></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = <b>Category III</b>    No = <b>Category IV</b></p>	<b>Cat I</b>  <b>Cat. II</b>  <b>Cat. III</b>  <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>




DKS ASSOCIATES - SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
WETLAND RATING FIGURE 1- WETLAND A

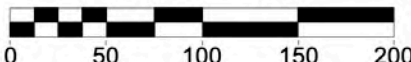


**LEGEND**

-  FORESTED VEGETATION
-  SEASONALLY FLOODED
-  150' FROM WL BOUNDARY



**Scale 1" = 100'**



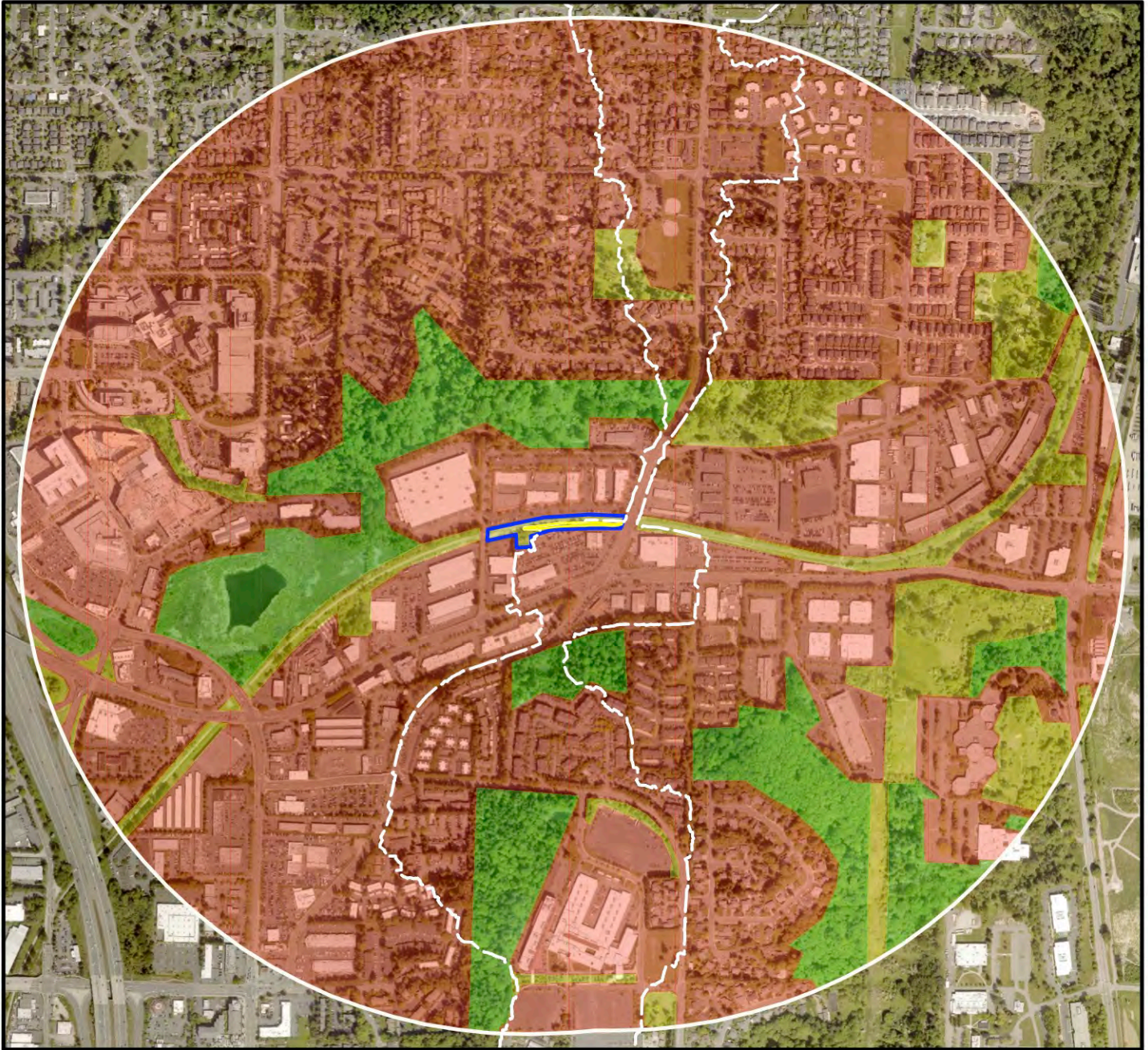
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9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
Phone: (425) 337-3174  
Fax: (425) 337-3045  
Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland A**








Figure A-1  
WRI Job # 23155  
Rated by: AW



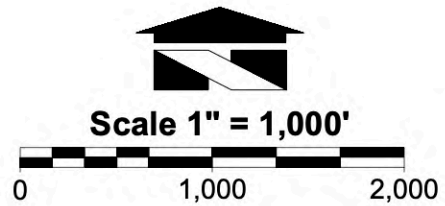
SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
 WETLAND RATING FIGURE 2- WETLAND A



**LEGEND**

-  RELATIVELY UNDISTURBED
-  LOW/MOD. INTENSITY
-  HIGH INTENSITY
-  ACCESSIBLE HABITAT
-  WETLAND
-  1 KM FROM WETLAND
-  CONTRIBUTING BASIN

**CONTRIBUTING BASIN  
 AREA RELATIVE TO  
 WETLAND UNIT IS 677:1**



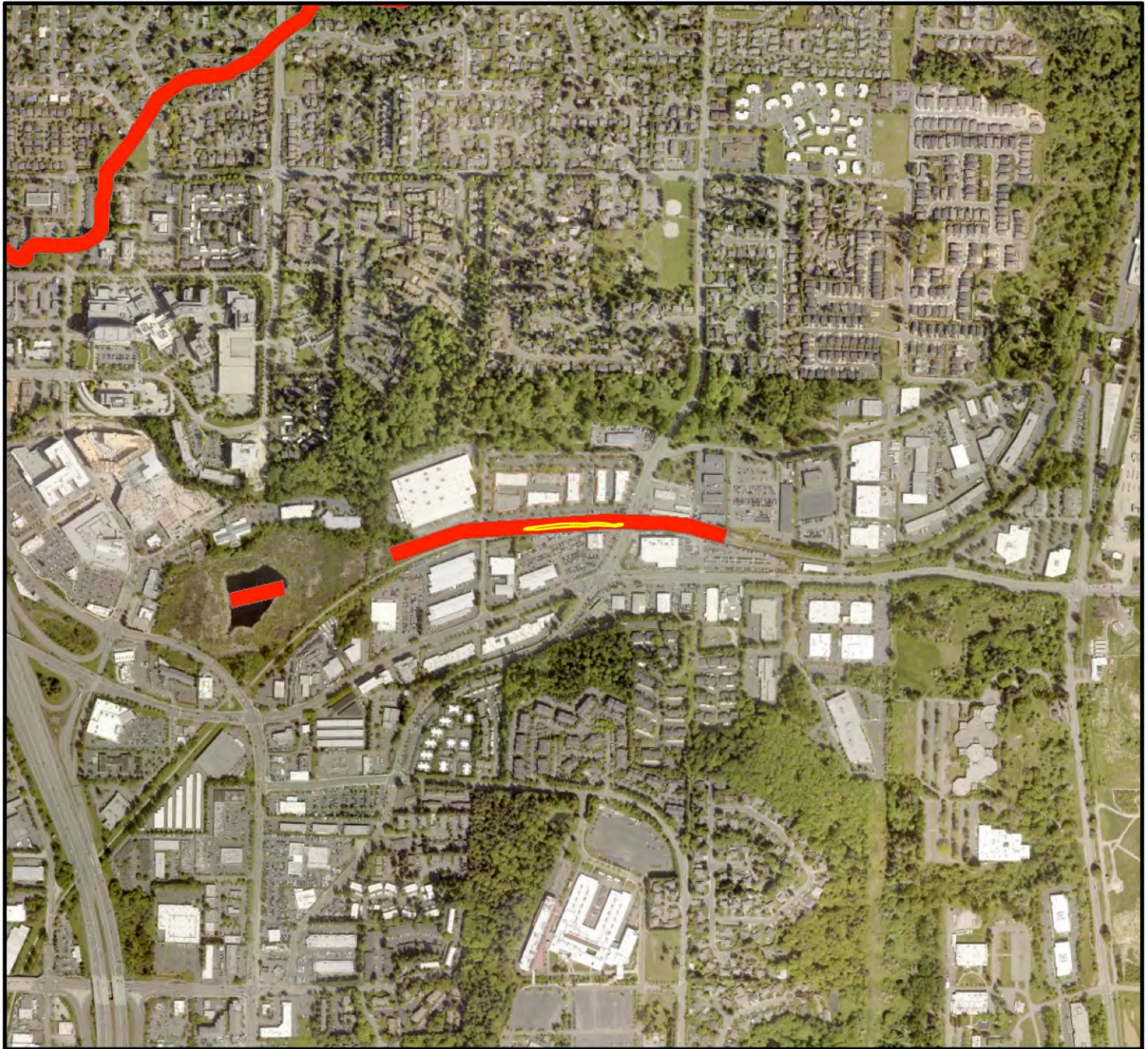
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 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING  
 Wetland A**

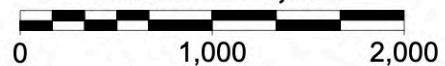
Figure A-2  
 WRI Job # 23155  
 Rated by: AW



SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
WETLAND RATING FIGURE 3- WETLAND A



Scale 1" = 1,000'



**LEGEND**



WETLAND



AQUATIC RESOURCES  
ON THE 303(d) LIST



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Fax: (425) 337-3045  
Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland A**

Figure A-3  
WRI Job # 23155  
Rated by: AW



# SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS

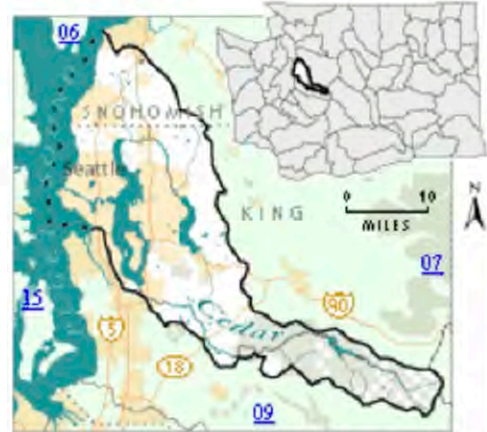
## WETLAND RATING FIGURE 4- WETLAND A

### WRIA 8: Cedar-Sammamish

The following table lists overview information for water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area (WRIA). Please use links (where available) for more information on a project.

#### Counties

- [King](#)
- [Snohomish](#)



Waterbody Name	Pollutants	Status**	TMDL Lead
<a href="#">Ballinger Lake</a>	Total Phosphorus	Approved by EPA	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Bear-Evans Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
	Dissolved Oxygen Temperature	Approved by EPA	
<a href="#">Cottage Lake</a>	Total Phosphorus	Approved by EPA Has an implementation plan	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Issaquah Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Little Bear Creek</a> Tributaries:  Trout Stream Great Dane Creek Cutthroat Creek	Fecal Coliform	Approved by EPA	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">North Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Pipers Creek</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Sammamish River</a>	Dissolved Oxygen Temperature	Field work starts summer 2015	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Swamp Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036

\*\* **Status** will be listed as one of the following: *Approved by EPA, Under Development or Implementation*

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 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland A**

Figure A-4  
 WRI Job # 23155  
 Rated by: AW

Wetland name or number B

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B Date of site visit: 7/18/23

Rated by MK,AW Trained by Ecology?  Yes  No Date of training 3/15,6/22

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes?  Y  N

**NOTE: Form is not complete without the figures requested (figures can be combined).**

Source of base aerial photo/map ESRI, King Co.

**OVERALL WETLAND CATEGORY III** (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

           Category I – Total score = 23 - 27

           Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

           Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Landscape Potential	<input checked="" type="checkbox"/> M L	<input checked="" type="checkbox"/> M L	H M <input type="checkbox"/> L	
Value	<input checked="" type="checkbox"/> M L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H M <input type="checkbox"/> L	<b>TOTAL</b>
<b>Score Based on Ratings</b>	<b>8</b>	<b>7</b>	<b>4</b>	<b>19</b>

**Score for each function based on three ratings (order of ratings is not important)**

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I    II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I    II
Interdunal	I   II   III   IV
None of the above	<input checked="" type="checkbox"/>

Wetland name or number B

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number **B**\_\_\_\_\_

## HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

**NO** – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

**NO** – **Saltwater Tidal Fringe (Estuarine)**

**YES** – **Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

**NO** – go to 3

**YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

\_At least 30% of the open water area is deeper than 6.6 ft (2 m).

**NO** – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

\_The wetland is on a slope (*slope can be very gradual*),

\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

\_The water leaves the wetland **without being impounded**.

**NO** – go to 5

**YES** – The wetland class is **Slope**

**NOTE:** Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

\_The overbank flooding occurs at least once every 2 years.

Wetland name or number  B **NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7

**YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
Slope + Riverine	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	Treat as ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

Wetland name or number B

<b>DEPRESSIONAL AND FLATS WETLANDS</b>			
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>			
<b>D 1.0. Does the site have the potential to improve water quality?</b>			
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u>			
<input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		<b>2</b>	
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2			
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1			
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1			
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 <input type="checkbox"/> No = 0		<b>0</b>	
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u>			
<input type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5		<b>1</b>	
<input type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3			
<input checked="" type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1			
<input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0			
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i>			
<input checked="" type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4		<b>4</b>	
<input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2			
<input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0			
Total for D 1		Add the points in the boxes above	<b>7</b>

**Rating of Site Potential** If score is: 12-16 = H  6-11 = M 0-5 = L Record the rating on the first page

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>			
D 2.1. Does the wetland unit receive stormwater discharges?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 <input type="checkbox"/> No = 0	<b>0</b>	
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source <u>Ped trail</u>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
Total for D 2		Add the points in the boxes above	<b>3</b>

**Rating of Landscape Potential** If score is:  3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first page

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>			
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality ( <i>answer YES if there is a TMDL for the basin in which the unit is found</i> )?	Yes = 2 <input type="checkbox"/> No = 0	<b>0</b>	
Total for D 3		Add the points in the boxes above	<b>2</b>

**Rating of Value** If score is:  2-4 = H 1 = M 0 = L Record the rating on the first page

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Wetland name or number B**DEPRESSIONAL AND FLATS WETLANDS****Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream degradation

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
<input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	<b>2</b>
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
<b>D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</b>		
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	<b>5</b>
<input checked="" type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
<input type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> The wetland is a "headwater" wetland	points = 3	
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water	points = 1	
<input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in)	points = 0	
<b>D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</b>		
<input type="checkbox"/> The area of the basin is less than 10 times the area of the unit	points = 5	<b>0</b>
<input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit	points = 3	
<input checked="" type="checkbox"/> The area of the basin is more than 100 times the area of the unit	points = 0	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
<b>Total for D 4</b>		<b>7</b>

Add the points in the boxes above

**Rating of Site Potential** If score is: 12-16 = H  6-11 = M 0-5 = L

Record the rating on the first page

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
<b>D 5.1. Does the wetland receive stormwater discharges?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>Total for D 5</b>		<b>3</b>

Add the points in the boxes above

**Rating of Landscape Potential** If score is:  3 = H 1 or 2 = M 0 = L

Record the rating on the first page

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</b> The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
<input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	<b>1</b>
<input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.	points = 1	
<input type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
<input type="checkbox"/> There are no problems with flooding downstream of the wetland.	points = 0	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>		
	Yes = 2 <input type="checkbox"/> No = 0	<b>0</b>
<b>Total for D 6</b>		<b>1</b>

Add the points in the boxes above

**Rating of Value** If score is: 2-4 = H  1 = M 0 = L

Record the rating on the first page

Wetland name or number B

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- Aquatic bed 4 structures or more: points = 4
- Emergent 3 structures: points = 2
- Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1
- Forested (areas where trees have > 30% cover) 1 structure: points = 0
- If the unit has a Forested class, check if:*
- The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

**4**

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

**1**

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

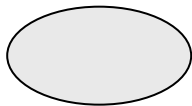
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

- If you counted:
- > 19 species points = 2
  - 5 - 19 species points = 1
  - < 5 species points = 0

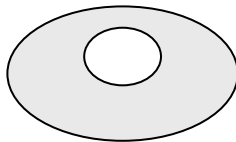
**1**

H 1.4. Interspersion of habitats

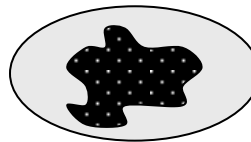
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



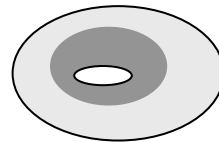
**None = 0 points**



**Low = 1 point**



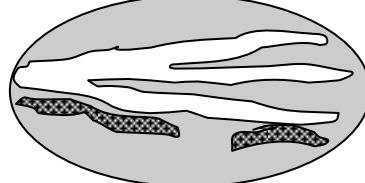
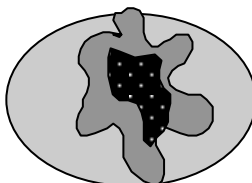
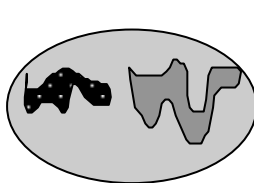
**Moderate = 2 points**



**3**

All three diagrams in this row are

**HIGH = 3points**



Wetland name or number B

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input checked="" type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		<b>2</b>
Total for H 1	Add the points in the boxes above	<b>11</b>

**Rating of Site Potential** If score is: 15-18 = H  7-14 = M  0-6 = L

Record the rating on the first page

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input checked="" type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>11</u> + [(% moderate and low intensity land uses)/2] <u>4</u> = <u>15</u> %</p> <p><input type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input checked="" type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>1</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input checked="" type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>-2</b>
Total for H 2	Add the points in the boxes above	<b>-1</b>

**Rating of Landscape Potential** If score is: 4-6 = H  1-3 = M  < 1 = L

Record the rating on the first page

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p><input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p><input type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p><input checked="" type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		<b>0</b>

**Rating of Value** If score is: 2 = H  1 = M  0 = L

Record the rating on the first page

Wetland name or number B

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha ) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number B**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt Yes – Go to <b>SC 1.1</b> <b>No = Not an estuarine wetland</b>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = <b>Category I</b> No - Go to <b>SC 1.2</b>	<b>Cat. I</b>
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	<b>Cat. I</b>  <b>Cat. II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to <b>SC 2.2</b> <b>No – Go to SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = <b>Category I</b> <b>No = Not a WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> No = <b>Not a WHCV</b> SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>
<b>SC 3.0. Bogs</b> Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to <b>SC 3.3</b> <b>No – Go to SC 3.2</b> SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to <b>SC 3.3</b> <b>No = Is not a bog</b> SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b> <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = <b>Is a Category I bog</b> No = <b>Is not a bog</b>	<b>Cat. I</b>

Wetland name or number B

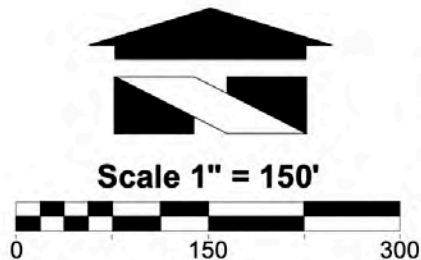
<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</p> <p><input type="checkbox"/> <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</p> <p style="text-align: right;">Yes = <b>Category I</b>    <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>    <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>    <b>No = not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = <b>Category I</b>    No – Go to <b>SC 6.2</b></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = <b>Category II</b>    No – Go to <b>SC 6.3</b></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = <b>Category III</b>    No = <b>Category IV</b></p>	<b>Cat I</b>  <b>Cat. II</b>  <b>Cat. III</b>  <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>

**DKS ASSOCIATES - SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
WETLAND RATING FIGURE 1- WETLAND B**



**LEGEND**

- SCRUB-SHRUB
- EMERGENT VEGETATION
- FORESTED VEGETATION
- SEASONALLY FLOODED
- PERMANENTLY FLOODED
- 150' FROM WL BOUNDARY



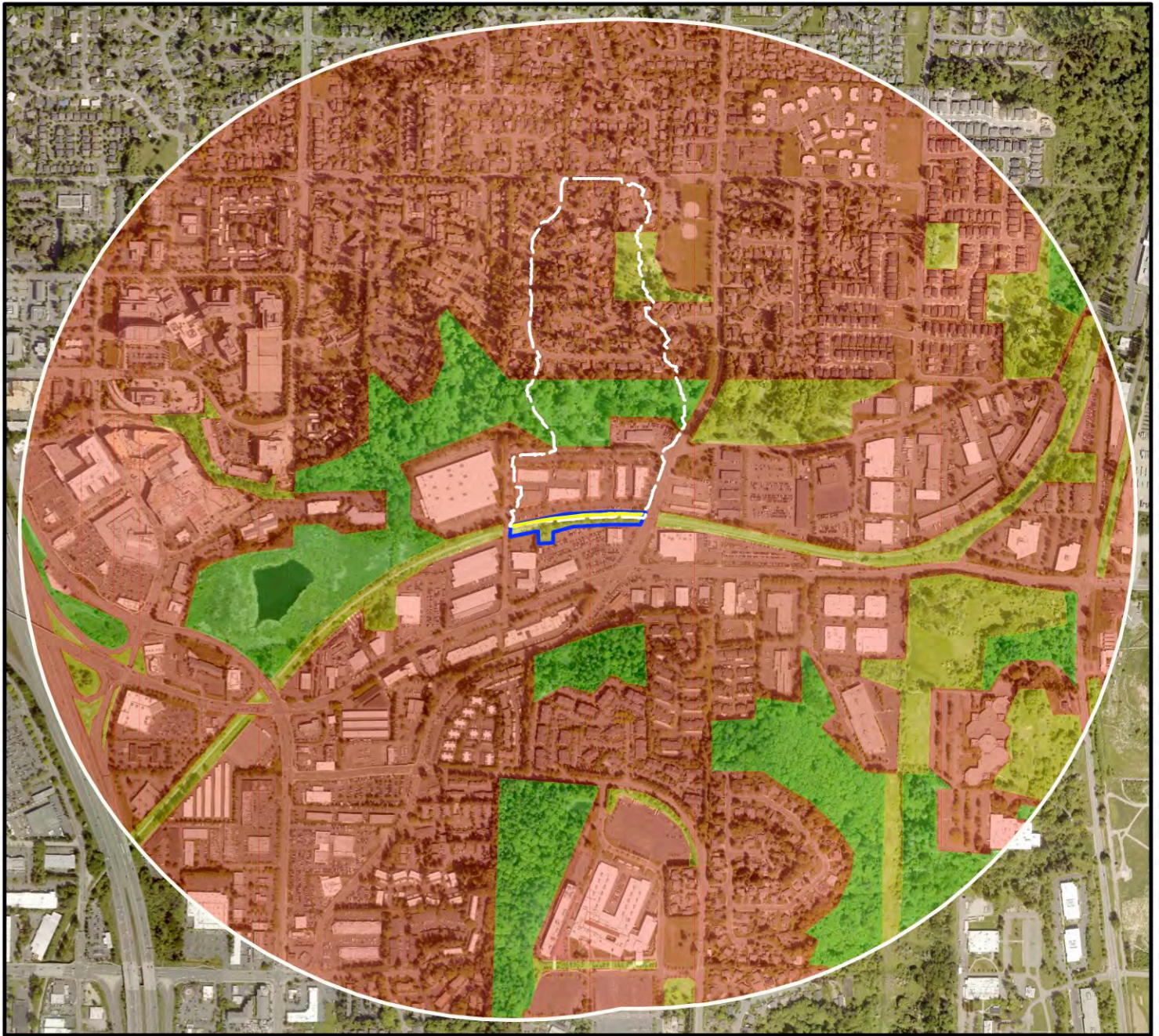
***Wetland Resources, Inc.***  
Delimitation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING  
Wetland B**

Figure B-1  
WRI Job # 23155  
Rated by: AW



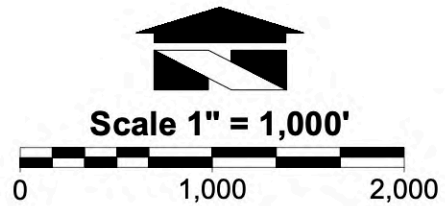
SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
 WETLAND RATING FIGURE 2- WETLAND B



**LEGEND**

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN  
 AREA RELATIVE TO  
 WETLAND UNIT IS 254:1**



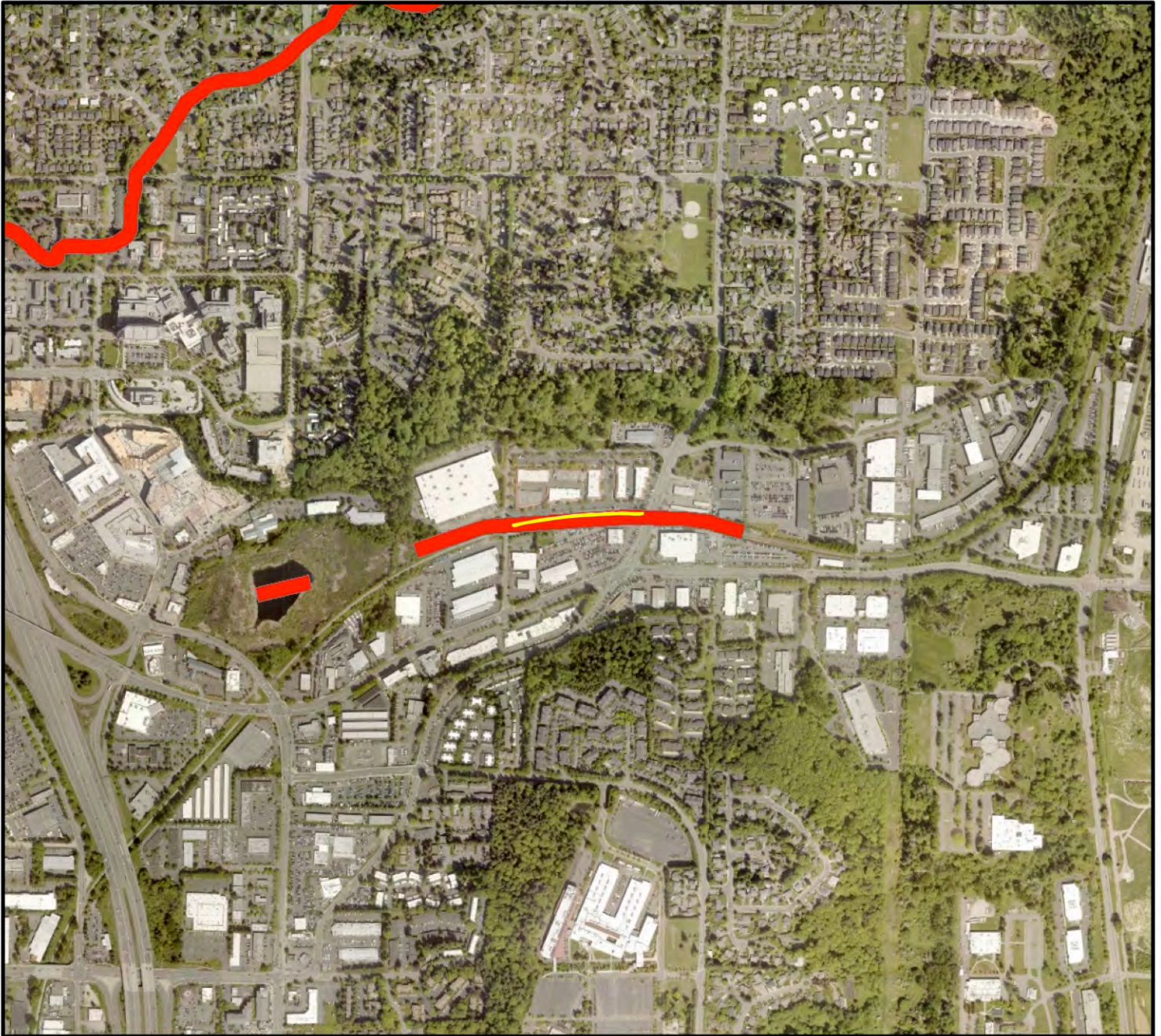
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**WETLAND RATING  
 Wetland B**

Figure B-2  
 WRI Job # 23155  
 Rated by: AW



SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
WETLAND RATING FIGURE 3- WETLAND B



Scale 1" = 1,000'



**LEGEND**



WETLAND



AQUATIC RESOURCES  
ON THE 303(d) LIST

*Wetland Resources, Inc.*  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
Phone: (425) 337-3174  
Fax: (425) 337-3045  
Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland B**

Figure B-3  
WRI Job # 23155  
Rated by: AW



# SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS

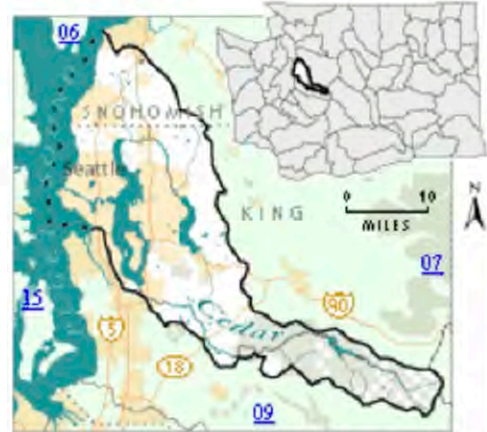
## WETLAND RATING FIGURE 4- WETLAND B

### WRIA 8: Cedar-Sammamish

The following table lists overview information for water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area (WRIA). Please use links (where available) for more information on a project.

**Counties**

- [King](#)
- [Snohomish](#)



Waterbody Name	Pollutants	Status**	TMDL Lead
<a href="#">Ballinger Lake</a>	Total Phosphorus	Approved by EPA	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Bear-Evans Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
	Dissolved Oxygen Temperature	Approved by EPA	
<a href="#">Cottage Lake</a>	Total Phosphorus	Approved by EPA Has an implementation plan	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Issaquah Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Little Bear Creek</a> Tributaries:  Trout Stream Great Dane Creek Cutthroat Creek	Fecal Coliform	Approved by EPA	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">North Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Pipers Creek</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Sammamish River</a>	Dissolved Oxygen Temperature	Field work starts summer 2015	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Swamp Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036

\*\* **Status** will be listed as one of the following: *Approved by EPA, Under Development or Implementation*

*Wetland Resources, Inc.*  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
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 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland B**

Figure B-4  
WRI Job # 23155  
Rated by: AW

Wetland name or number C

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland C Date of site visit: 7/18/23

Rated by MK,AW Trained by Ecology?  Yes  No Date of training 3/15,6/22

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes?  Y  N

**NOTE: Form is not complete without the figures requested (figures can be combined).**

Source of base aerial photo/map ESRI, King Co.

**OVERALL WETLAND CATEGORY III** (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

           Category I – Total score = 23 - 27

           Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

           Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
<i>Circle the appropriate ratings</i>										
Site Potential	H	M	<input type="checkbox"/> L	H	<input type="checkbox"/> M	L	H	M	<input type="checkbox"/> L	
Landscape Potential	<input type="checkbox"/> H	M	L	<input type="checkbox"/> H	M	L	H	M	<input type="checkbox"/> L	
Value	<input type="checkbox"/> H	M	L	H	<input type="checkbox"/> M	L	H	M	<input type="checkbox"/> L	
<b>Score Based on Ratings</b>	<b>7</b>			<b>7</b>			<b>3</b>			<b>17</b>

**Score for each function based on three ratings (order of ratings is not important)**

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I    II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I    II
Interdunal	I   II   III   IV
None of the above	<input checked="" type="checkbox"/>

Wetland name or number C

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number C

## HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

**NO** – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

**NO** – **Saltwater Tidal Fringe (Estuarine)**

**YES** – **Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

**NO** – go to 3

**YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

\_At least 30% of the open water area is deeper than 6.6 ft (2 m).

**NO** – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

\_The wetland is on a slope (*slope can be very gradual*),

\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

\_The water leaves the wetland **without being impounded**.

**NO** – go to 5

**YES** – The wetland class is **Slope**

**NOTE:** Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

\_The overbank flooding occurs at least once every 2 years.

Wetland name or number  C **NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7

**YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
Slope + Riverine	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number C

<b>DEPRESSIONAL AND FLATS WETLANDS</b>		
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>D 1.0. Does the site have the potential to improve water quality?</b>		
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u> <input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 <input type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 <input checked="" type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	<b>1</b>	
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 <input type="checkbox"/> No = 0	<b>0</b>	
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u> <input type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5 <input type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3 <input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1 <input checked="" type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0	<b>0</b>	
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> <input checked="" type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4 <input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2 <input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0	<b>4</b>	
<b>Total for D 1</b>	Add the points in the boxes above	<b>5</b>

**Rating of Site Potential** If score is: 12-16 = H 6-11 = M  0-5 = L Record the rating on the first page

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
D 2.1. Does the wetland unit receive stormwater discharges?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 <input type="checkbox"/> No = 0	<b>0</b>
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source <u>Ped trail</u>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>Total for D 2</b>	Add the points in the boxes above	<b>3</b>

**Rating of Landscape Potential** If score is:  3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first page

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality ( <i>answer YES if there is a TMDL for the basin in which the unit is found</i> )?	Yes = 2 <input type="checkbox"/> No = 0	<b>0</b>
<b>Total for D 3</b>	Add the points in the boxes above	<b>2</b>

**Rating of Value** If score is:  2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number C**DEPRESSIONAL AND FLATS WETLANDS****Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream degradation

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
<input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	<b>0</b>
<input type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
<input checked="" type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
<b>D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</b>		
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	<b>5</b>
<input checked="" type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
<input type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> The wetland is a "headwater" wetland	points = 3	
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water	points = 1	
<input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in)	points = 0	
<b>D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</b>		
<input checked="" type="checkbox"/> The area of the basin is less than 10 times the area of the unit	points = 5	<b>5</b>
<input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit	points = 3	
<input type="checkbox"/> The area of the basin is more than 100 times the area of the unit	points = 0	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
<b>Total for D 4</b>		<b>10</b>

Add the points in the boxes above

**Rating of Site Potential** If score is: 12-16 = H  6-11 = M 0-5 = L

Record the rating on the first page

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
<b>D 5.1. Does the wetland receive stormwater discharges?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>Total for D 5</b>		<b>3</b>

Add the points in the boxes above

**Rating of Landscape Potential** If score is:  3 = H 1 or 2 = M 0 = L

Record the rating on the first page

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</b> The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
<input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	<b>1</b>
<input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.	points = 1	
<input type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
<input type="checkbox"/> There are no problems with flooding downstream of the wetland.	points = 0	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>		
	Yes = 2 <input type="checkbox"/> No = 0	<b>0</b>
<b>Total for D 6</b>		<b>1</b>

Add the points in the boxes above

**Rating of Value** If score is: 2-4 = H  1 = M 0 = L

Record the rating on the first page



Wetland name or number C

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- |   |                                  |          |
|---|----------------------------------|----------|
| <input type="checkbox"/> Aquatic bed  | 4 structures or more: points = 4 | <b>0</b> |
| <input checked="" type="checkbox"/> Emergent  | 3 structures: points = 2         |          |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover)  | 2 structures: points = 1         |          |
| <input type="checkbox"/> Forested (areas where trees have > 30% cover)  | <b>1 structure: points = 0</b>   |          |
| <i>If the unit has a Forested class, check if:</i>  |                                  |          |
| <input type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon |                                  |          |

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- |  |                                     |          |
|--|-------------------------------------|----------|
| <input checked="" type="checkbox"/> Permanently flooded or inundated                         | 4 or more types present: points = 3 | <b>1</b> |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated                          | 3 types present: points = 2         |          |
| <input type="checkbox"/> Occasionally flooded or inundated                                   | <b>2 types present: points = 1</b>  |          |
| <input type="checkbox"/> Saturated only  | 1 type present: points = 0          |          |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland |                                     |          |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland           |                                     |          |
| <input type="checkbox"/> <b>Lake Fringe wetland</b>  | <b>2 points</b>                     |          |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>                                     | <b>2 points</b>                     |          |

H 1.3. Richness of plant species

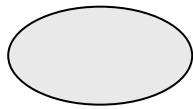
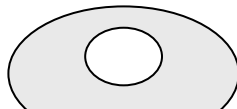
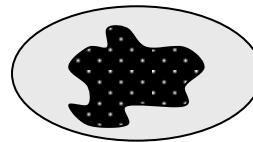
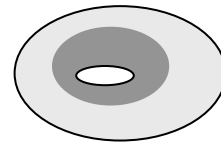
Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

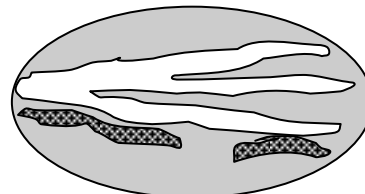
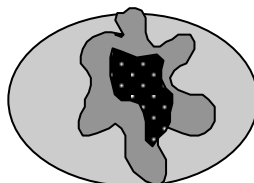
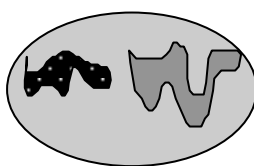
- |                              |                   |          |
|------------------------------|-------------------|----------|
| If you counted: > 19 species | points = 2        | <b>0</b> |
| 5 - 19 species               | points = 1        |          |
| <b>&lt; 5 species</b>        | <b>points = 0</b> |          |

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*

**None = 0 points****Low = 1 point****Moderate = 2 points****0**

All three diagrams in this row are **HIGH** = 3points



Wetland name or number C

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		<b>0</b>
Total for H 1	Add the points in the boxes above	<b>1</b>

**Rating of Site Potential** If score is: 15-18 = H 7-14 = M  0-6 = L

Record the rating on the first page

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>1</u> = <u>1</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input checked="" type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>13</u> + [(% moderate and low intensity land uses)/2] <u>5</u> = <u>18</u> %</p> <p><input type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input checked="" type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>1</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input checked="" type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>-2</b>
Total for H 2	Add the points in the boxes above	<b>-1</b>

**Rating of Landscape Potential** If score is: 4-6 = H 1-3 = M  < 1 = L

Record the rating on the first page

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p><input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p><input type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p><input checked="" type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		<b>0</b>

**Rating of Value** If score is: 2 = H 1 = M  0 = L

Record the rating on the first page

Wetland name or number C

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha ) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

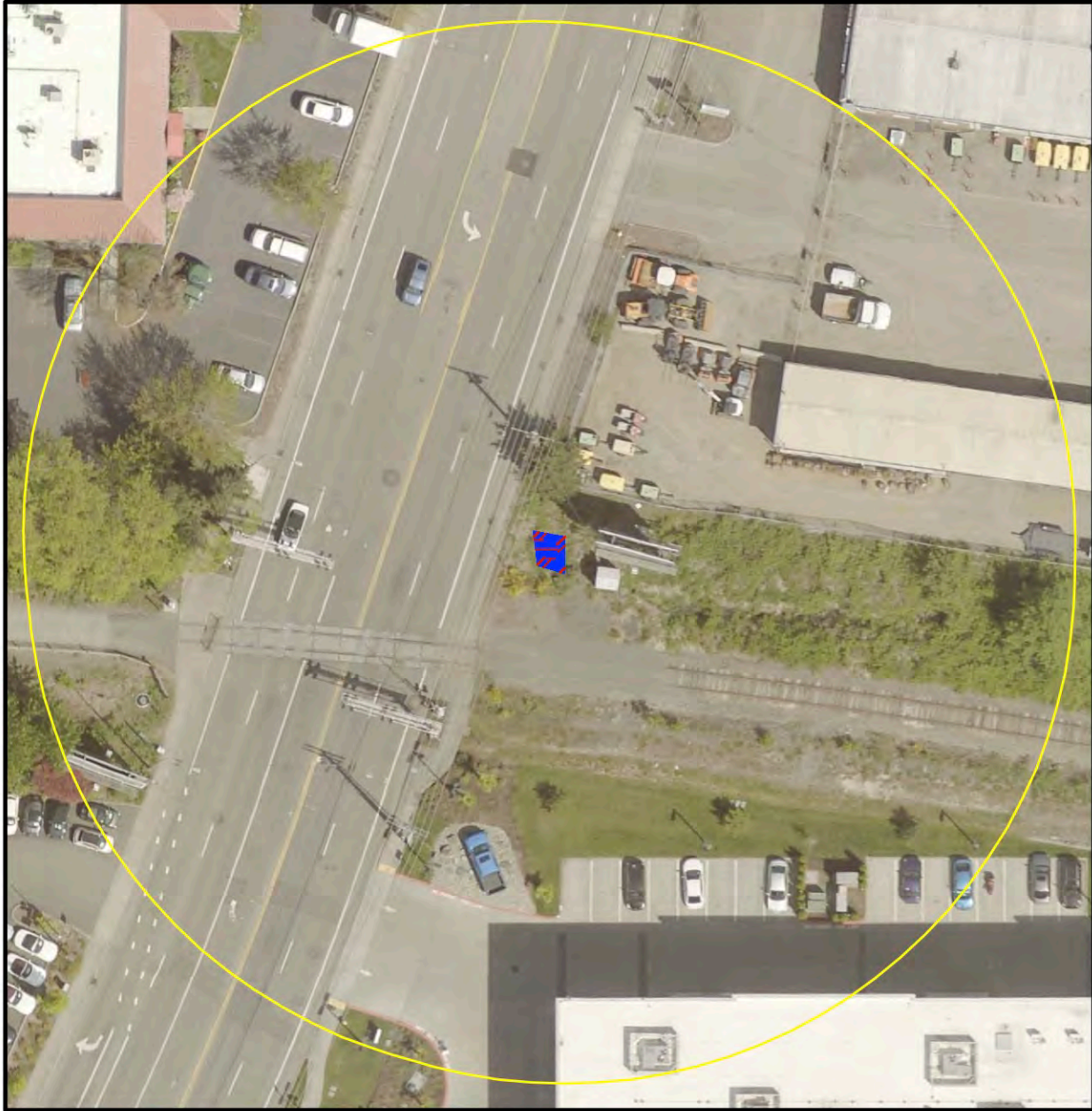
Wetland name or number C**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt Yes – Go to <b>SC 1.1</b> No = <b>Not an estuarine wetland</b>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = <b>Category I</b> No - Go to <b>SC 1.2</b>	<b>Cat. I</b>
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	<b>Cat. I</b>  <b>Cat. II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to <b>SC 2.2</b> No – Go to <b>SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = <b>Category I</b> No = <b>Not a WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> No = <b>Not a WHCV</b> SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>
<b>SC 3.0. Bogs</b> Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to <b>SC 3.3</b> No – Go to <b>SC 3.2</b> SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to <b>SC 3.3</b> No = <b>Is not a bog</b> SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b> <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = <b>Is a Category I bog</b> No = <b>Is not a bog</b>	<b>Cat. I</b>





Wetland name or number C

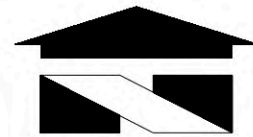
<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</p> <p><input type="checkbox"/> <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</p> <p style="text-align: right;">Yes = <b>Category I</b>    <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>    <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>    <b>No = not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = <b>Category I</b>    No – Go to <b>SC 6.2</b></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = <b>Category II</b>    No – Go to <b>SC 6.3</b></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = <b>Category III</b>    No = <b>Category IV</b></p>	<b>Cat I</b>  <b>Cat. II</b>  <b>Cat. III</b>  <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>

SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
 WETLAND RATING FIGURE 1- WETLAND C

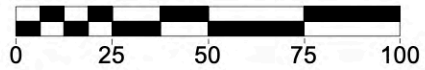


**LEGEND**

-  EMERGENT VEGETATION
-  SEASONALLY FLOODED
-  PERMANENTLY FLOODED
-  150' FROM WL BOUNDARY



Scale 1" = 50'



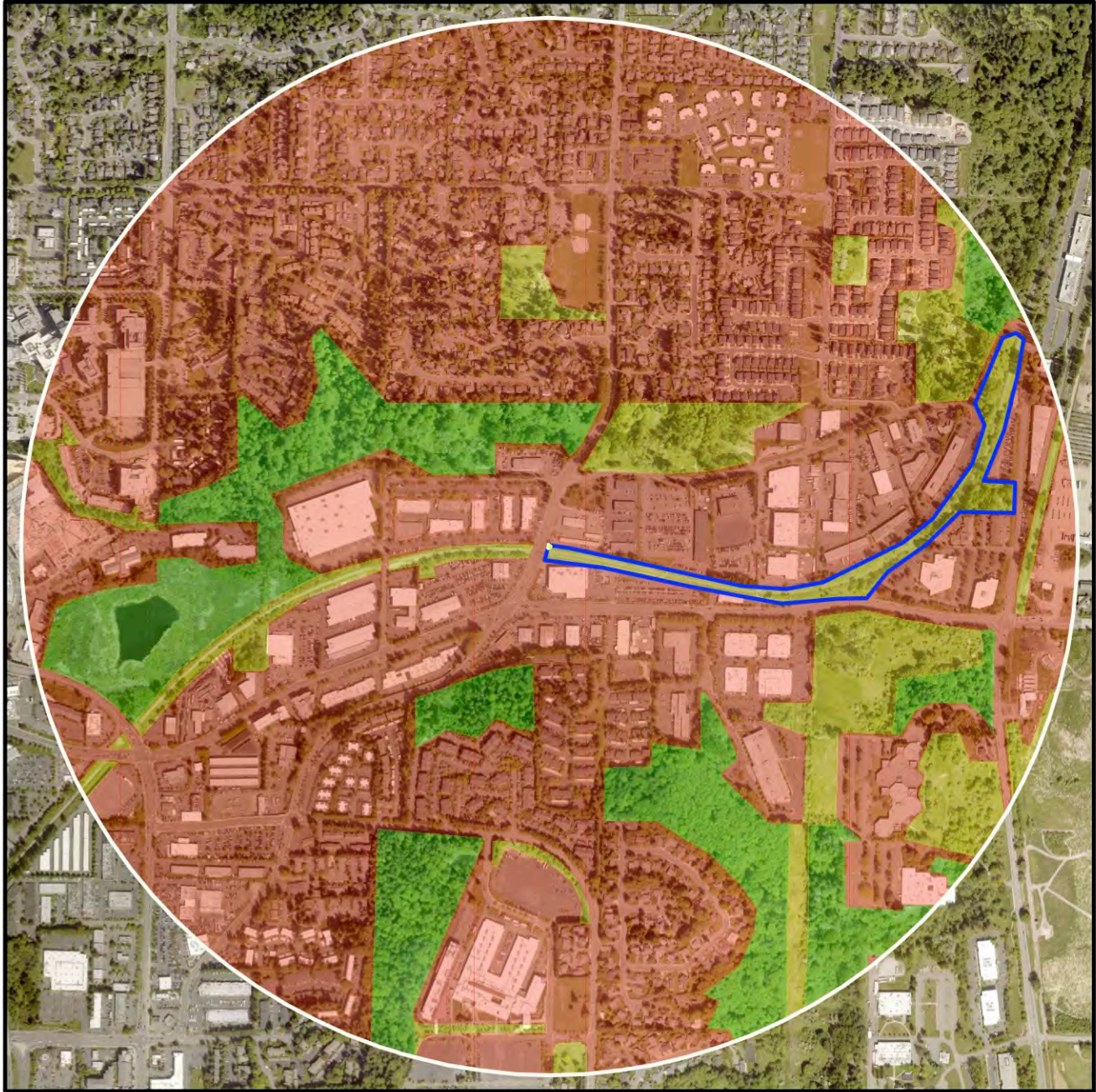
*Wetland Resources, Inc.*  
 Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland C**

Figure C-1  
 WRI Job # 23155  
 Rated by: AW



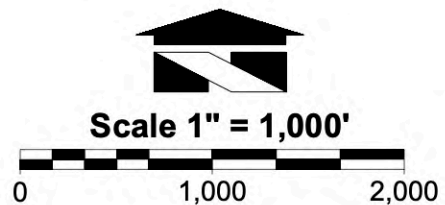
SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
WETLAND RATING FIGURE 2- WETLAND C



**LEGEND**

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN  
AREA RELATIVE TO  
WETLAND UNIT IS 3:1**



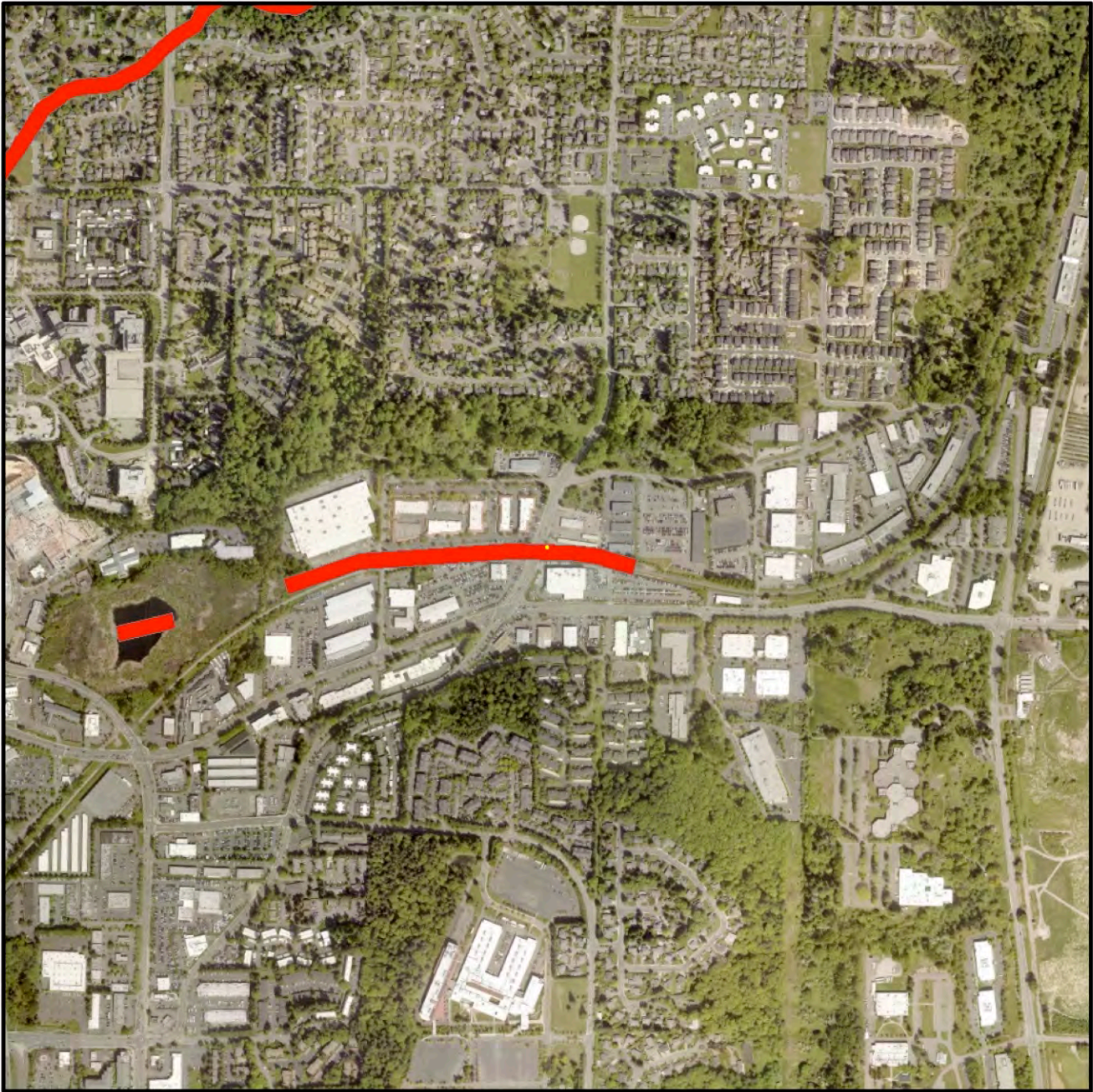
*Wetland Resources, Inc.*  
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**WETLAND RATING  
Wetland C**

Figure C-2  
WRI Job # 23155  
Rated by: AW



SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
WETLAND RATING FIGURE 3- WETLAND C



Scale 1" = 1,000'



**LEGEND**



WETLAND



AQUATIC RESOURCES  
ON THE 303(d) LIST

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**WETLAND RATING**  
**Wetland C**

Figure C-3  
WRI Job # 23155  
Rated by: AW



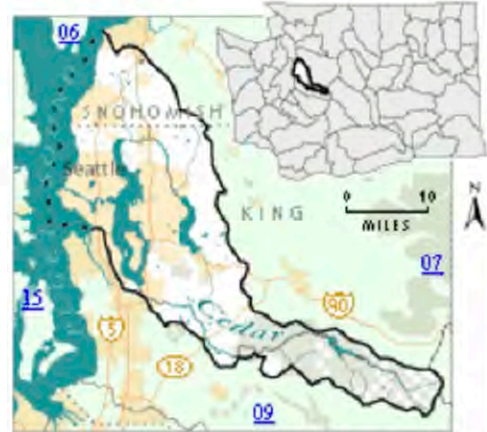
**SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
WETLAND RATING FIGURE 4- WETLAND C**

**WRIA 8: Cedar-Sammamish**

The following table lists overview information for water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area (WRIA). Please use links (where available) for more information on a project.

**Counties**

- [King](#)
- [Snohomish](#)



Waterbody Name	Pollutants	Status**	TMDL Lead
<a href="#">Ballinger Lake</a>	Total Phosphorus	Approved by EPA	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Bear-Evans Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
	Dissolved Oxygen Temperature	Approved by EPA	
<a href="#">Cottage Lake</a>	Total Phosphorus	Approved by EPA Has an implementation plan	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Issaquah Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Little Bear Creek</a> Tributaries:  Trout Stream Great Dane Creek Cutthroat Creek	Fecal Coliform	Approved by EPA	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">North Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Pipers Creek</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Sammamish River</a>	Dissolved Oxygen Temperature	Field work starts summer 2015	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Swamp Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036

\*\* **Status** will be listed as one of the following: *Approved by EPA, Under Development or Implementation*

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**WETLAND RATING  
Wetland C**

Figure C-4  
WRI Job # 23155  
Rated by: AW

Wetland name or number D

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland D Date of site visit: 7/18/23

Rated by MK,AW Trained by Ecology?  Yes  No Date of training 3/15,6/22

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes?  Y  N

**NOTE: Form is not complete without the figures requested (figures can be combined).**

Source of base aerial photo/map ESRI, King Co.

**OVERALL WETLAND CATEGORY III** (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

           Category I – Total score = 23 - 27

           Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

           Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H M <input type="checkbox"/> L	H <input checked="" type="checkbox"/> L	
Landscape Potential	<input checked="" type="checkbox"/> M L	<input checked="" type="checkbox"/> M L	H M <input type="checkbox"/> L	
Value	<input checked="" type="checkbox"/> M L	H <input checked="" type="checkbox"/> L	H M <input type="checkbox"/> L	<b>TOTAL</b>
<b>Score Based on Ratings</b>	<b>8</b>	<b>6</b>	<b>4</b>	<b>18</b>

**Score for each function based on three ratings (order of ratings is not important)**

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	<input checked="" type="checkbox"/>

Wetland name or number D

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number D

## HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

**NO** – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

**NO – Saltwater Tidal Fringe (Estuarine)**

**YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

**NO** – go to 3

**YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

\_At least 30% of the open water area is deeper than 6.6 ft (2 m).

**NO** – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

\_The wetland is on a slope (*slope can be very gradual*),

\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

\_The water leaves the wetland **without being impounded**.

**NO** – go to 5

**YES** – The wetland class is **Slope**

**NOTE:** Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

\_The overbank flooding occurs at least once every 2 years.

Wetland name or number  D **NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7

**YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
Slope + Riverine	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number D

<b>DEPRESSIONAL AND FLATS WETLANDS</b>			
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>			
<b>D 1.0. Does the site have the potential to improve water quality?</b>			
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u>			
<input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		<b>2</b>	
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2			
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1			
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1			
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 <input type="checkbox"/> No = 0		<b>0</b>	
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u>			
<input type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5		<b>3</b>	
<input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3			
<input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1			
<input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0			
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i>			
<input checked="" type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4		<b>4</b>	
<input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2			
<input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0			
Total for D 1		Add the points in the boxes above	<b>9</b>

**Rating of Site Potential** If score is: 12-16 = H  6-11 = M 0-5 = L Record the rating on the first page

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>			
D 2.1. Does the wetland unit receive stormwater discharges?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 <input type="checkbox"/> No = 0	<b>0</b>	
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source <u>Ped trail</u>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
Total for D 2		Add the points in the boxes above	<b>3</b>

**Rating of Landscape Potential** If score is:  3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first page

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>			
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>	
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality ( <i>answer YES if there is a TMDL for the basin in which the unit is found</i> )?	Yes = 2 <input type="checkbox"/> No = 0	<b>0</b>	
Total for D 3		Add the points in the boxes above	<b>2</b>

**Rating of Value** If score is:  2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number D**DEPRESSIONAL AND FLATS WETLANDS****Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream degradation

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
<input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	<b>2</b>
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
<b>D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</b>		
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	<b>0</b>
<input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
<input type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> The wetland is a "headwater" wetland	points = 3	
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water	points = 1	
<input checked="" type="checkbox"/> Marks of ponding less than 0.5 ft (6 in)	points = 0	
<b>D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</b>		
<input type="checkbox"/> The area of the basin is less than 10 times the area of the unit	points = 5	<b>0</b>
<input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit	points = 3	
<input checked="" type="checkbox"/> The area of the basin is more than 100 times the area of the unit	points = 0	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
<b>Total for D 4</b>	<b>Add the points in the boxes above</b>	<b>2</b>

**Rating of Site Potential** If score is: 12-16 = H 6-11 = M  0-5 = L

Record the rating on the first page

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
<b>D 5.1. Does the wetland receive stormwater discharges?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>Total for D 5</b>	<b>Add the points in the boxes above</b>	<b>3</b>

**Rating of Landscape Potential** If score is:  3 = H 1 or 2 = M 0 = L

Record the rating on the first page

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</b> The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
<input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	<b>1</b>
<input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.	points = 1	
<input type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
<input type="checkbox"/> There are no problems with flooding downstream of the wetland.	points = 0	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>		
	Yes = 2 <input type="checkbox"/> No = 0	<b>0</b>
<b>Total for D 6</b>	<b>Add the points in the boxes above</b>	<b>1</b>

**Rating of Value** If score is: 2-4 = H  1 = M 0 = L

Record the rating on the first page

Wetland name or number D

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- Aquatic bed 4 structures or more: points = 4
  - Emergent 3 structures: points = 2
  - Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1
  - Forested (areas where trees have > 30% cover) 1 structure: points = 0
- If the unit has a Forested class, check if:*
- The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

**4**

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

**1**

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

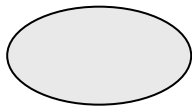
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

- If you counted: > 19 species points = 2
- 5 - 19 species points = 1
- < 5 species points = 0

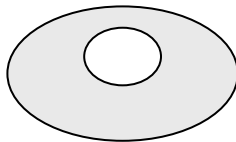
**1**

H 1.4. Interspersion of habitats

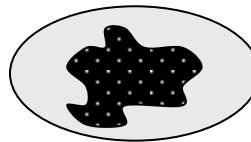
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



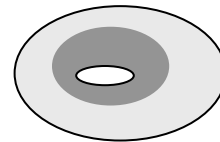
**None = 0 points**



**Low = 1 point**



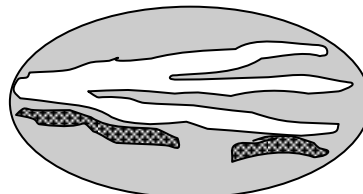
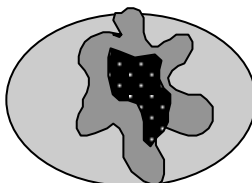
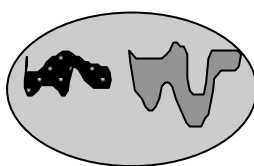
**Moderate = 2 points**



**3**

All three diagrams in this row are

**HIGH = 3points**





Wetland name or number D

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input checked="" type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		<b>3</b>
Total for H 1	Add the points in the boxes above	<b>12</b>

**Rating of Site Potential** If score is: 15-18 = H  7-14 = M  0-6 = L

Record the rating on the first page

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>1</u> = <u>1</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input checked="" type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>13</u> + [(% moderate and low intensity land uses)/2] <u>9</u> = <u>22</u> %</p> <p><input type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input checked="" type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>1</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input checked="" type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>-2</b>
Total for H 2	Add the points in the boxes above	<b>-1</b>

**Rating of Landscape Potential** If score is: 4-6 = H  1-3 = M  < 1 = L

Record the rating on the first page

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p><input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p><input type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p><input checked="" type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		<b>0</b>

**Rating of Value** If score is: 2 = H  1 = M  0 = L

Record the rating on the first page

Wetland name or number D

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha ) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number D**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> <b>No= Not an estuarine wetland</b>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = <b>Category I</b> No - Go to <b>SC 1.2</b>	<b>Cat. I</b>
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	<b>Cat. I</b>  <b>Cat. II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to <b>SC 2.2</b> <b>No – Go to SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = <b>Category I</b> <b>No = Not a WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> No = <b>Not a WHCV</b> SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>
<b>SC 3.0. Bogs</b> Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to <b>SC 3.3</b> <b>No – Go to SC 3.2</b> SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to <b>SC 3.3</b> <b>No = Is not a bog</b> SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b> <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = <b>Is a Category I bog</b> No = <b>Is not a bog</b>	<b>Cat. I</b>







Wetland name or number D


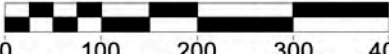
<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</p> <p><input type="checkbox"/> <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</p> <p style="text-align: right;">Yes = <b>Category I</b>    <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>    <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>    <b>No = not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = <b>Category I</b>    No – Go to <b>SC 6.2</b></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = <b>Category II</b>    No – Go to <b>SC 6.3</b></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = <b>Category III</b>    No = <b>Category IV</b></p>	<b>Cat I</b>  <b>Cat. II</b>  <b>Cat. III</b>  <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>

DKS ASSOCIATES - SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
 WETLAND RATING FIGURE 1- WETLAND D



**LEGEND**

-  SCRUB-SHRUB
-  EMERGENT VEGETATION
-  FORESTED VEGETATION
-  SEASONALLY FLOODED
-  PERMANENTLY FLOODED
-  150' FROM WL BOUNDARY

  
**Scale 1" = 200'**  


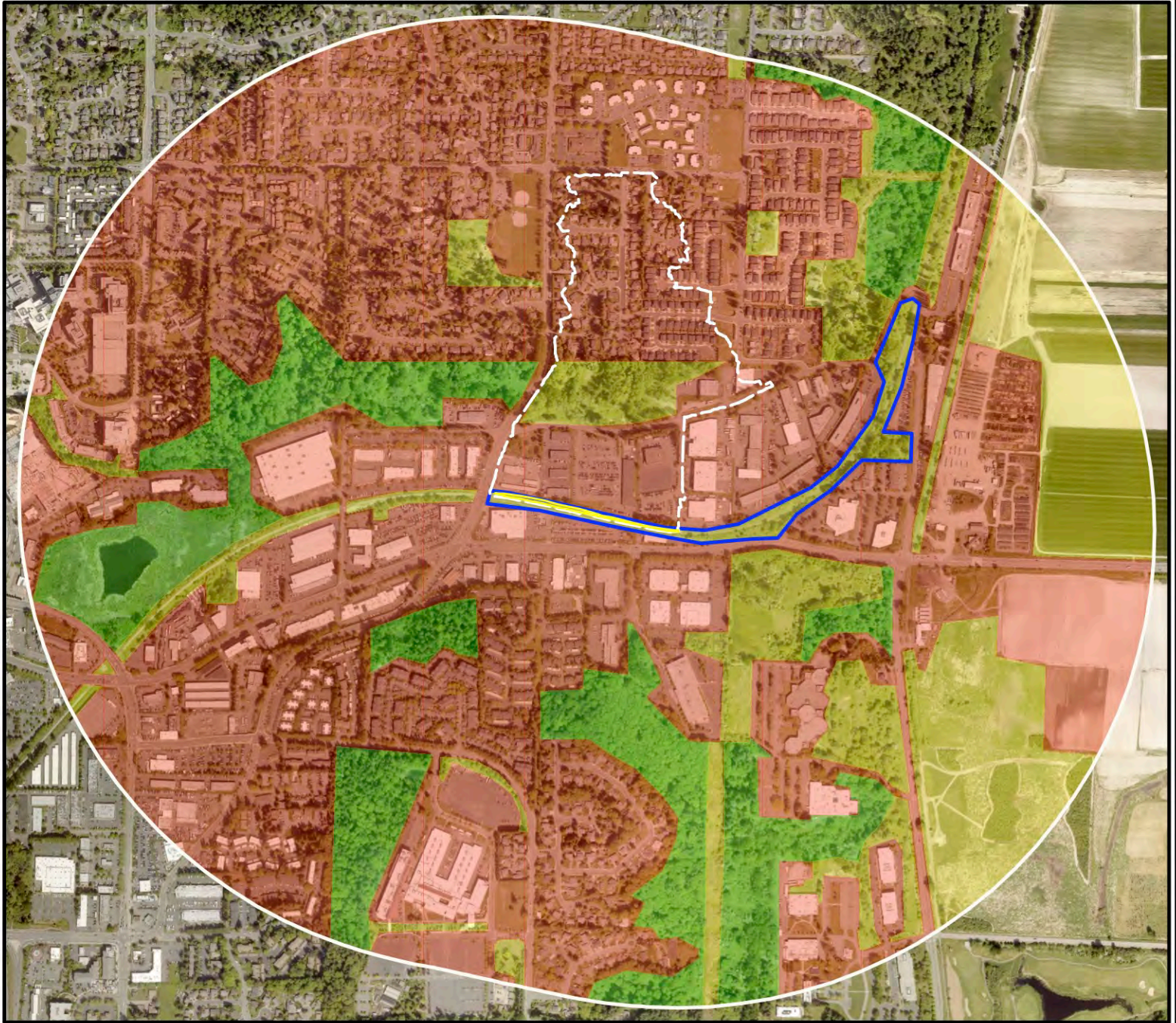

**Wetland Resources, Inc.**  
Delocation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland D**

Figure D-1  
 WRI Job # 23155  
 Rated by: AW



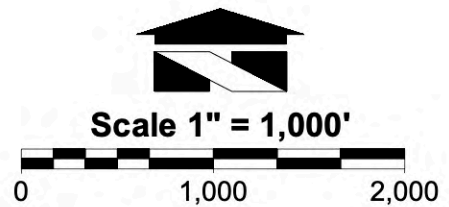
SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
 WETLAND RATING FIGURE 2- WETLAND D



**LEGEND**

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN  
 AREA RELATIVE TO  
 WETLAND UNIT IS 133:1**



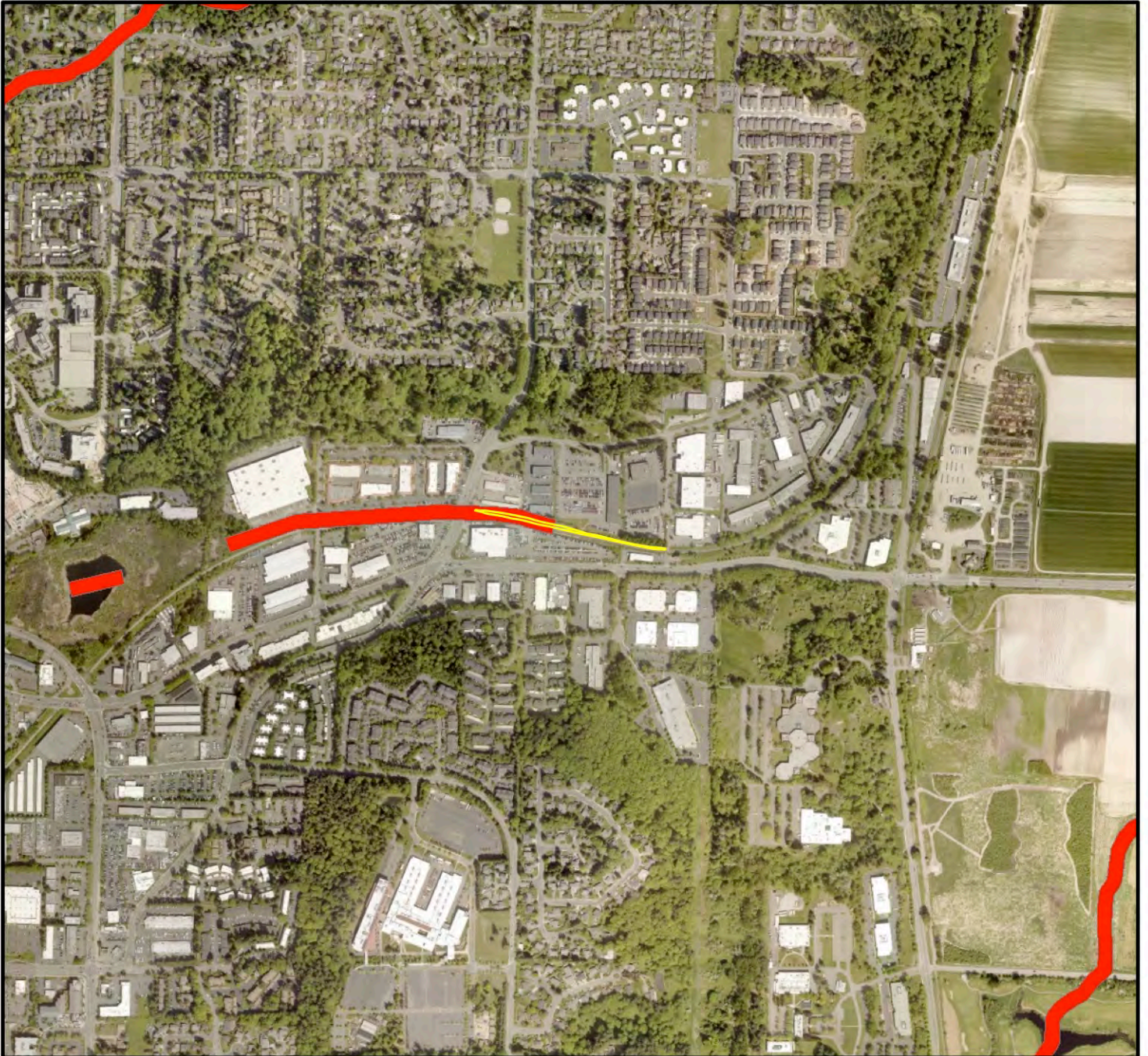
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**WETLAND RATING  
 Wetland D**

Figure D-2  
 WRI Job # 23155  
 Rated by: AW



SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
WETLAND RATING FIGURE 3- WETLAND D



**LEGEND**



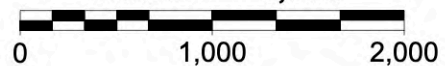
WETLAND



AQUATIC RESOURCES  
ON THE 303(d) LIST



Scale 1" = 1,000'



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Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
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**WETLAND RATING**  
**Wetland D**

Figure D-3  
WRI Job # 23155  
Rated by: AW



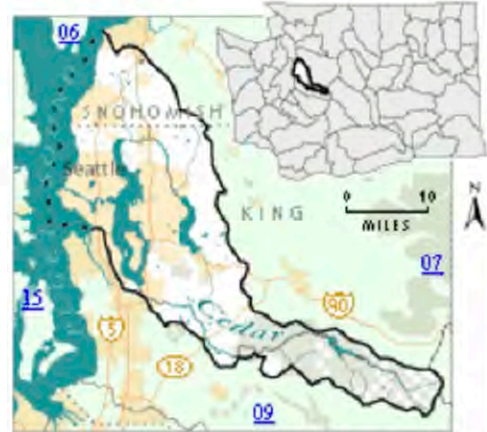
**SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
WETLAND RATING FIGURE 4- WETLAND D**

**WRIA 8: Cedar-Sammamish**

The following table lists overview information for water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area (WRIA). Please use links (where available) for more information on a project.

**Counties**

- [King](#)
- [Snohomish](#)



Waterbody Name	Pollutants	Status**	TMDL Lead
<a href="#">Ballinger Lake</a>	Total Phosphorus	Approved by EPA	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Bear-Evans Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
	Dissolved Oxygen Temperature	Approved by EPA	
<a href="#">Cottage Lake</a>	Total Phosphorus	Approved by EPA Has an implementation plan	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Issaquah Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Little Bear Creek</a> Tributaries:  Trout Stream Great Dane Creek Cutthroat Creek	Fecal Coliform	Approved by EPA	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">North Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Pipers Creek</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Sammamish River</a>	Dissolved Oxygen Temperature	Field work starts summer 2015	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Swamp Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036

\*\* **Status** will be listed as one of the following: *Approved by EPA, Under Development or Implementation*

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**WETLAND RATING  
Wetland D**

Figure D-4  
WRI Job # 23155  
Rated by: AW



Wetland name or number E

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland E Date of site visit: 7/18/23

Rated by MK,AW Trained by Ecology?  Yes  No Date of training 3/15,6/22

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes?  Y  N

**NOTE: Form is not complete without the figures requested (figures can be combined).**

Source of base aerial photo/map ESRI, King Co.

**OVERALL WETLAND CATEGORY III** (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

           Category I – Total score = 23 - 27

           Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

           Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Landscape Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	<input checked="" type="checkbox"/> M L	H M <input type="checkbox"/> <input checked="" type="checkbox"/> L	
Value	<input checked="" type="checkbox"/> M L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> L	<b>TOTAL</b>
<b>Score Based on Ratings</b>	<b>7</b>	<b>7</b>	<b>5</b>	<b>19</b>

**Score for each function based on three ratings (order of ratings is not important)**

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	<input checked="" type="checkbox"/>

Wetland name or number E

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number E

## HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

**NO** – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

**NO – Saltwater Tidal Fringe (Estuarine)**

**YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

**NO** – go to 3

**YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

- \_ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
- \_ At least 30% of the open water area is deeper than 6.6 ft (2 m).

**NO** – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

- \_ The wetland is on a slope (*slope can be very gradual*),
- \_ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
- \_ The water leaves the wetland **without being impounded**.

**NO** – go to 5

**YES** – The wetland class is **Slope**

**NOTE:** Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

- \_ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
- \_ The overbank flooding occurs at least once every 2 years.

Wetland name or number  E **NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7

**YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide).** Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
Slope + Riverine	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number E

<b>DEPRESSIONAL AND FLATS WETLANDS</b>		
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>D 1.0. Does the site have the potential to improve water quality?</b>		
D 1.1. <b>Characteristics of surface water outflows from the wetland:</b>		
<input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		<b>2</b>
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2		
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1		
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		
D 1.2. <b>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</b> Yes = 4 <input type="checkbox"/> No = 0		<b>0</b>
D 1.3. <b>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</b>		
<input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5		<b>5</b>
<input type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3		
<input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1		
<input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0		
D 1.4. <b>Characteristics of seasonal ponding or inundation:</b> <i>This is the area that is ponded for at least 2 months. See description in manual.</i>		
<input checked="" type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4		<b>4</b>
<input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2		
<input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0		
<b>Total for D 1</b>	Add the points in the boxes above	<b>11</b>

**Rating of Site Potential** If score is: 12-16 = H  6-11 = M 0-5 = L Record the rating on the first page

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
D 2.1. Does the wetland unit receive stormwater discharges?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 <input type="checkbox"/> No = 0	<b>0</b>
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source _____	Yes = 1 <input type="checkbox"/> No = 0	<b>0</b>
<b>Total for D 2</b>	Add the points in the boxes above	<b>2</b>

**Rating of Landscape Potential** If score is: 3 or 4 = H  1 or 2 = M 0 = L Record the rating on the first page

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 <input type="checkbox"/> No = 0	<b>0</b>
<b>Total for D 3</b>	Add the points in the boxes above	<b>2</b>

**Rating of Value** If score is:  2-4 = H 1 = M 0 = L Record the rating on the first page

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Wetland name or number E**DEPRESSIONAL AND FLATS WETLANDS****Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream degradation

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
<input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	<b>2</b>
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
<b>D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</b>		
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	<b>3</b>
<input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
<input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> The wetland is a "headwater" wetland	points = 3	
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water	points = 1	
<input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in)	points = 0	
<b>D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</b>		
<input checked="" type="checkbox"/> The area of the basin is less than 10 times the area of the unit	points = 5	<b>5</b>
<input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit	points = 3	
<input type="checkbox"/> The area of the basin is more than 100 times the area of the unit	points = 0	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
<b>Total for D 4</b>	<b>Add the points in the boxes above</b>	<b>10</b>

**Rating of Site Potential** If score is: 12-16 = H  6-11 = M 0-5 = L

Record the rating on the first page

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
<b>D 5.1. Does the wetland receive stormwater discharges?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>Total for D 5</b>	<b>Add the points in the boxes above</b>	<b>3</b>

**Rating of Landscape Potential** If score is:  3 = H 1 or 2 = M 0 = L

Record the rating on the first page

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</b> The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
<input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	<b>1</b>
<input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.	points = 1	
<input type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
<input type="checkbox"/> There are no problems with flooding downstream of the wetland.	points = 0	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>		
	Yes = 2 <input type="checkbox"/> No = 0	<b>0</b>
<b>Total for D 6</b>	<b>Add the points in the boxes above</b>	<b>1</b>

**Rating of Value** If score is: 2-4 = H  1 = M 0 = L

Record the rating on the first page

Wetland name or number E

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- Aquatic bed 4 structures or more: points = 4
- Emergent 3 structures: points = 2
- Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1
- Forested (areas where trees have > 30% cover) 1 structure: points = 0
- If the unit has a Forested class, check if:*
- The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

**4**

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

**1**

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

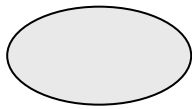
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

- If you counted: > 19 species points = 2
- 5 - 19 species points = 1
- < 5 species points = 0

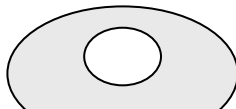
**1**

H 1.4. Interspersion of habitats

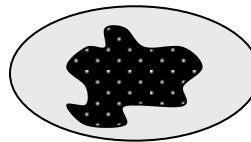
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



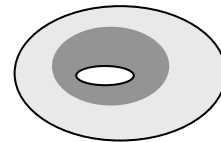
None = 0 points



Low = 1 point

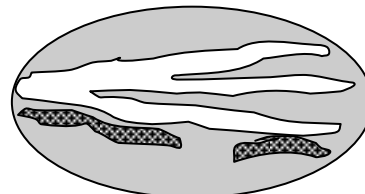
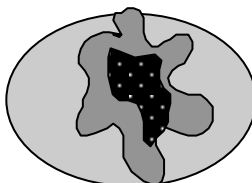
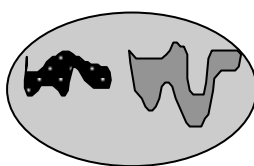


Moderate = 2 points



**2**

All three diagrams in this row are **HIGH** = 3points



Wetland name or number E

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input checked="" type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		<b>3</b>
Total for H 1	Add the points in the boxes above	<b>11</b>

**Rating of Site Potential** If score is: 15-18 = H  7-14 = M  0-6 = L

Record the rating on the first page

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>1</u> = <u>1</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input checked="" type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>13</u> + [(% moderate and low intensity land uses)/2] <u>5</u> = <u>18</u> %</p> <p><input type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input checked="" type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>1</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input checked="" type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>-2</b>
Total for H 2	Add the points in the boxes above	<b>-1</b>

**Rating of Landscape Potential** If score is: 4-6 = H  1-3 = M  < 1 = L

Record the rating on the first page

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p><input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p><input checked="" type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p><input type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		<b>1</b>

**Rating of Value** If score is: 2 = H  1 = M  0 = L

Record the rating on the first page



Wetland name or number E

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha ) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number E**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> <b>No= Not an estuarine wetland</b>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = <b>Category I</b> No - Go to <b>SC 1.2</b>	<b>Cat. I</b>
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = <b>Category I</b> No = <b>Category II</b>	<b>Cat. I</b>  <b>Cat. II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to <b>SC 2.2</b> <b>No – Go to SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = <b>Category I</b> <b>No = Not a WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> No = <b>Not a WHCV</b> SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = <b>Category I</b> No = <b>Not a WHCV</b>	<b>Cat. I</b>
<b>SC 3.0. Bogs</b> Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to <b>SC 3.3</b> <b>No – Go to SC 3.2</b> SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to <b>SC 3.3</b> <b>No = Is not a bog</b> SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b> <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = <b>Is a Category I bog</b> No = <b>Is not a bog</b>	<b>Cat. I</b>

Wetland name or number E

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</p> <p><input type="checkbox"/> <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</p> <p style="text-align: right;">Yes = <b>Category I</b>    <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>    <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>    <b>No = not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = <b>Category I</b>    No – Go to <b>SC 6.2</b></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = <b>Category II</b>    No – Go to <b>SC 6.3</b></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = <b>Category III</b>    No = <b>Category IV</b></p>	<b>Cat I</b>  <b>Cat. II</b>  <b>Cat. III</b>  <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>

DKS ASSOCIATES - SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
 WETLAND RATING FIGURE 1- WETLAND E

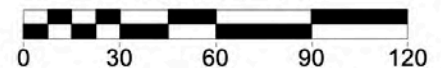


**LEGEND**

-  SCRUB-SHRUB
-  EMERGENT VEGETATION
-  FORESTED VEGETATION
-  SATURATED ONLY
-  SEASONALLY FLOODED
-  150' FROM WL BOUNDARY



Scale 1" = 60'



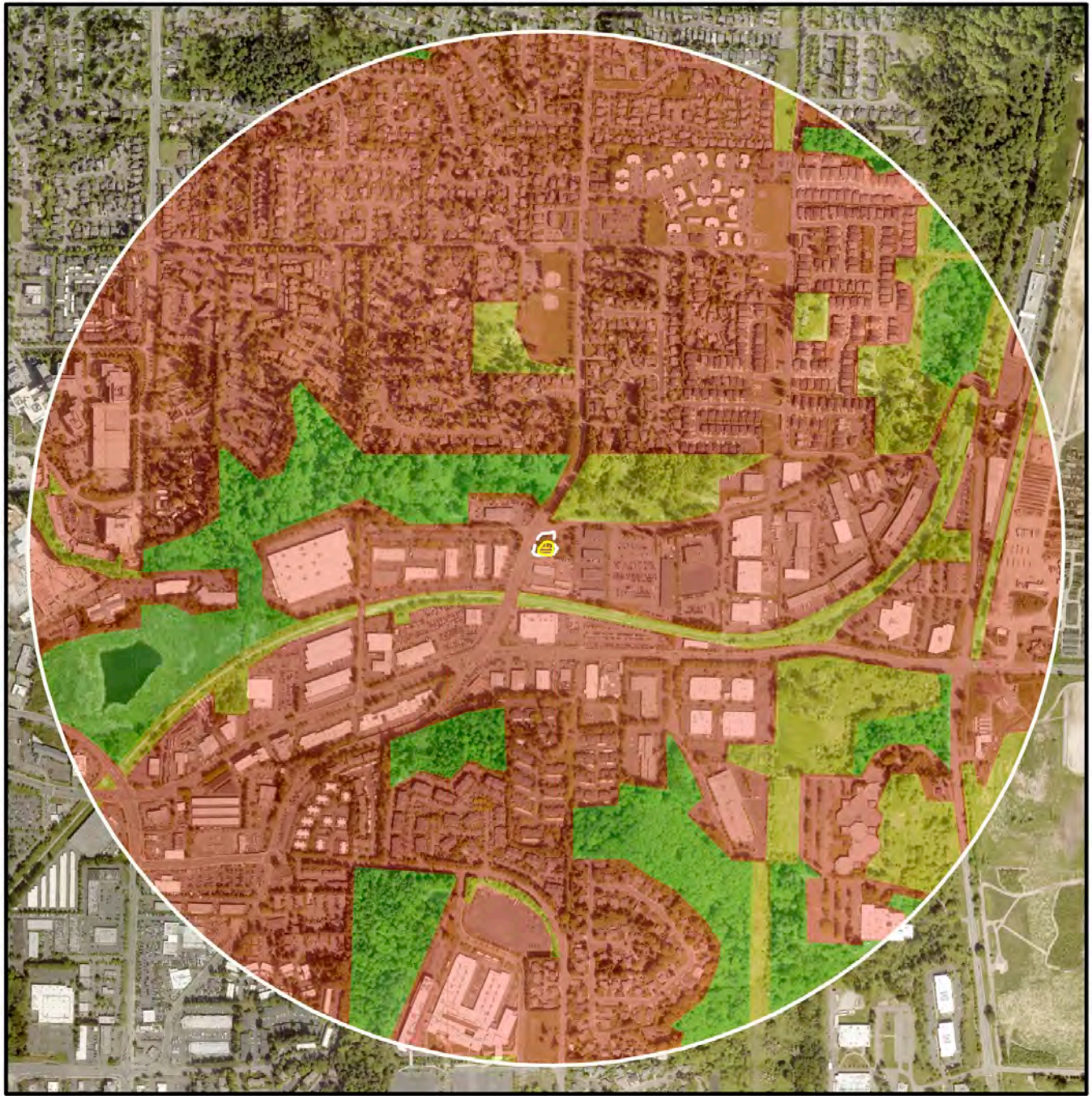
*Wetland Resources, Inc.*  
 Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland E**

Figure E-1  
 WRI Job # 23155  
 Rated by: AW



DKS ASSOCIATES - SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
 WETLAND RATING FIGURE 2- WETLAND E



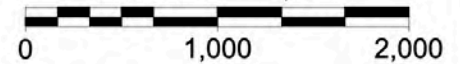
**LEGEND**

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN  
 AREA RELATIVE TO  
 WETLAND UNIT IS 2.6:1**



**Scale 1" = 1,000'**



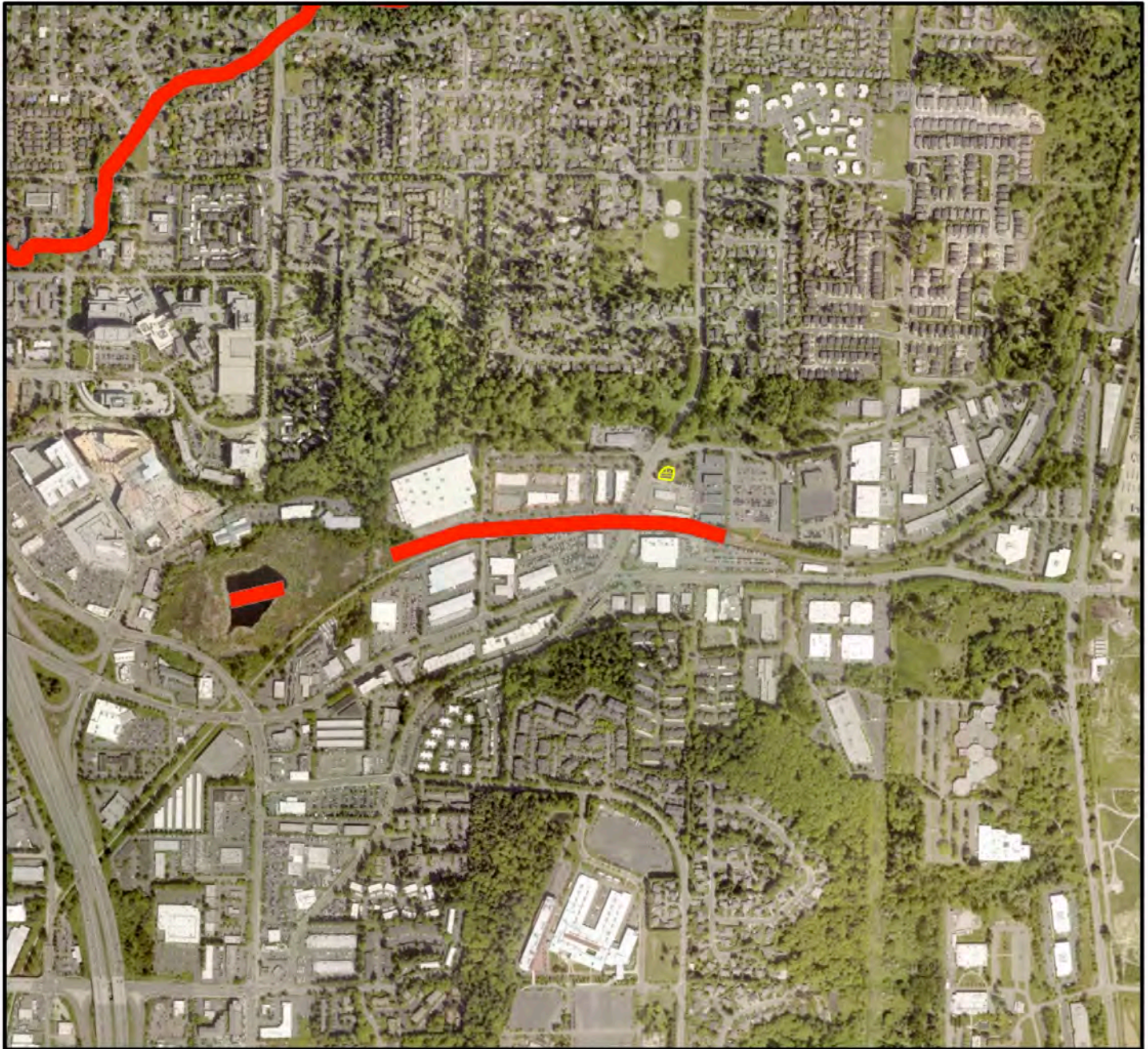
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**WETLAND RATING  
 Wetland E**

Figure E-2  
 WRI Job # 23155  
 Rated by: AW



DKS ASSOCIATES - SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS  
WETLAND RATING FIGURE 3- WETLAND E



**LEGEND**



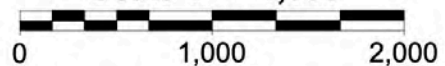
WETLAND



AQUATIC RESOURCES  
ON THE 303(d) LIST



Scale 1" = 1,000'



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**WETLAND RATING**  
**Wetland E**

Figure E-3  
WRI Job # 23155  
Rated by: AW



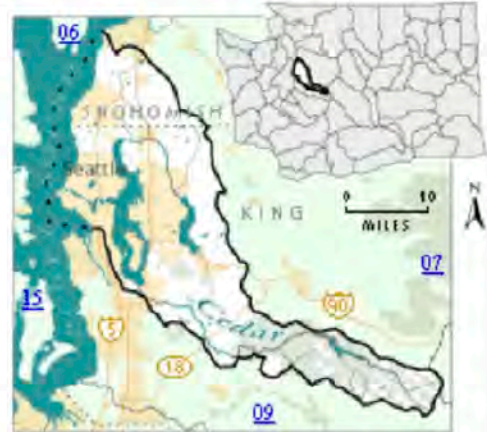
## WETLAND RATING FIGURE 4- WETLAND E

### WRIA 8: Cedar-Sammamish

The following table lists overview information for water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area (WRIA). Please use links (where available) for more information on a project.

**Counties**

- [King](#)
- [Snohomish](#)



Waterbody Name	Pollutants	Status**	TMDL Lead
<a href="#">Ballinger Lake</a>	Total Phosphorus	Approved by EPA	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Bear-Evans Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
	Dissolved Oxygen Temperature	Approved by EPA	
<a href="#">Cottage Lake</a>	Total Phosphorus	Approved by EPA Has an implementation plan	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Issaquah Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Little Bear Creek</a> Tributaries:  Trout Stream Great Dane Creek Cutthroat Creek	Fecal Coliform	Approved by EPA	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">North Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Pipers Creek</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Sammamish River</a>	Dissolved Oxygen Temperature	Field work starts summer 2015	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Swamp Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036

\*\* **Status** will be listed as one of the following: *Approved by EPA, Under Development or Implementation*

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**WETLAND RATING  
Wetland E**

Figure E-4  
WRI Job # 23155  
Rated by: AW

APPENDIX C

CRITICAL AREA STUDY MAP



**CRITICAL AREA STUDY MAP**  
**DKS ASSOCIATES - SLATER TRAIL PEDESTRIAN CROSSING IMPROVEMENTS**

PORTION OF SECTION 26, TOWNSHIP 26N, RANGE 05E, W.M.



**LEGEND**

- STUDY AREA LIMIT
- DELINEATION AREA LIMIT
- WETLAND
- ESTIMATED WETLAND
- STANDARD BUFFER
- S1 DATA SITES (S1-S5)

**PLEASE NOTE:** THIS MAP DOES NOT REPRESENT A PROFESSIONAL SURVEY. WETLAND DELINEATION FLAGS WERE LOCATED USING A GPS. STANDARD WETLAND BUFFERS ARE DEPICTED PER KZC 90.55 AND MAY BE SUBJECT TO A LIMITED BUFFER WAIVER PER KZC 90.120.

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CRITICAL AREA STUDY MAP  
**SLATER TRAIL PEDESTRIAN**  
**CROSSING IMPROVEMENTS**  
 CITY OF KIRKLAND, WA

DKS Associates Sheet 1/1  
 Attn: Jerry Liu WRI #: 23155  
 1050 SW 6th Avenue, #600 Drawn by: AW  
 Portland, OR 97204 Date: 08/16/2023



# **APPENDIX F**

## **CULTURAL RESOURCES INADVERTENT DISCOVERY PLAN (IDP)**

September 13, 2023

Kim Jimenez, P.E.  
Project Engineer  
City of Kirkland Public Works Department  
123 5<sup>th</sup> Ave.  
Kirkland, WA 98033

VIA EMAIL  
[kjimenez@kirklandwa.gov](mailto:kjimenez@kirklandwa.gov)

Subject: Cultural Resources Assessment and Memorandum for the Cross Kirkland Corridor/Slater Avenue NE and NE 124<sup>th</sup> Street/Slater Avenue NE Pedestrian Crossing Project in the City of Kirkland, Washington

Dear Mrs. Jimenez:

The purpose of this memorandum (memo) is to provide the cultural resources (i.e., archaeological and built environment) results for the Cross Kirkland Corridor/Slater Avenue NE and NE 124<sup>th</sup> Street/Slater Avenue NE Pedestrian Crossing Project (hereinafter referred to as the “Project”) located in the city of Kirkland (City) within King County, Washington.

The Project involves the installation of a Pedestrian Hybrid Beacon (PHB) at Cross Kirkland Corridor (CKC) trail across Slater Avenue NE, re-channelization of Slater Avenue NE, and signal modifications at the intersections of NE 124<sup>th</sup> Street and Slater Avenue NE/132<sup>nd</sup> Avenue NE.

The PHB is proposed where the CKC meets Slater Ave NE/132nd Ave NE. The PHB includes two signal mast arm poles, each with one or two new overhead luminaires, two PHB signal heads, and signing. The PHB will also include a pedestrian signal head and bicycle signal head for users crossing Slater Ave NE/132nd Ave NE. The project installs a new signal controller cabinet east of Slater Ave NE/132nd Ave NE. The improvements will illuminate crossing pedestrians/bicyclists and provide warning to motorists. The project will also interconnect the PHB with the City's central traffic system via fiber optic cable. The rails, rail crossing structure, and associated infrastructure at the crossing location will be removed. The civil improvements associated with the PHB include building curb bulb outs to reduce pedestrian/bicyclist crossing length across Slater Ave NE/132nd Ave NE. The bulb out will include ramps for bicyclists traveling north or south on 132nd Ave NE to efficiently get onto the CKC and ADA compliant ramps to cross Slater Ave NE/132nd Ave NE. Median islands are also proposed at the crossing to provide additional protection.

Specifically, this memo analyzes the impacts that would occur to archaeological and built environment resources on the Project site resulting from the activities described above.

**Area of Potential Effects**

The area of potential effects (APE) established for the Project site includes the area that will be directly affected by the proposed Project, as well as areas surrounding the site (Exhibit 1). The APE consists of the maximum extent of proposed areas of ground disturbance. The

3131 Elliott Ave  
Suite 400  
Seattle, WA 98121

Tel 206.286.1640  
[www.Psomas.com](http://www.Psomas.com)

horizontal APE is 224 feet by 180 feet. The vertical APE ranges between 1.5 feet to 10 feet below the surface with the deepest excavations occurring at the south entrance of the nearby school. It is within this geographical extent where impacts to cultural resources resulting from the Project could reasonably be expected.

**Methods**

An archival and literature review was conducted through the Washington State Department of Archaeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD).

The review consisted of an examination of the proposed Project site to determine if any sites are recorded on or if any cultural resources studies have been conducted on or within a ½-mile radius of the subject property. Data sources consulted at the WISSARD included archaeological records, Historic Property Inventories (HPI), and listings listings for the National Register of Historic Places (NRHP).

The literature review from the WISSARD identified four cultural resources studies within a 0.8 km (0.5-mile) radius of the Project site. The studies were completed between 1998 and 2018. The four studies consisted of cultural resources survey reports and a historic structures survey report. Three of the four studies traversed the Project site. The prior studies are listed in Table 1 below.

**TABLE 1  
 CULTURAL RESOURCE STUDIES WITHIN 0.8 KM (0.5-MILE) OF THE PROJECT SITE**

<b>NADB</b>	<b>Document Type</b>	<b>Title</b>	<b>Year</b>	<b>Author</b>	<b>Proximity to Project</b>
720416	Survey Report	Cultural Resources Assessment for the RC 124 <sup>th</sup> LLC Project, Kirkland, King County, Washington	2018	Berger, M.	Within
1685038	Survey Report	Letter to Ross Widener RE: Cultural Resources Review of the Cross Kirkland Corridor Trail	2014	Baldwin, G.	Within
1691393	Survey Report	Historic and Cultural Resources Eastside Rail Corridor Regional Trail Master Plan Project	2015	Master Plan	Within
1340492	Historic Structures Survey Report	A 1998 Inventory of 165 Historic Properties Within the City of Redmond	1998	Emerson, S.	Outside

The WISSARD records search also identified 11 previously recorded cultural resources within a 0.8 km (0.5-mile) radius of the Project site. The previously recorded cultural resources (Table 2) include 10 historic buildings and one segment of a historic railway. Of those 11 cultural resources, one resource – 45KIO1274 – is located within the Project site. Cultural resource 45KIO1274 is an abandoned segment of the Northern Pacific Railway Lake Washington Beltline railway. No precontact cultural resources were identified within the 0.8 km (0.5-mile) search radius; however, the WISSARD search did identify the area as being within the ancestral territory of several Native American communities and a predictive model for the region has assigned the area highly sensitive for both precontact and historic cultural resources.

**TABLE 2  
 CULTURAL RESOURCES WITHIN 0.8 KM (0.5-MILE) OF THE PROJECT SITE**

<b>Resource I.D.</b>	<b>Address</b>	<b>Description</b>	<b>Year Recorded</b>	<b>Recorder</b>	<b>Eligibility Status</b>	<b>Proximity to Project</b>
720416	12509 130 <sup>th</sup> Lane NE	Historic: Modern Office Building (1983)	2019	Perrin, N.	Potentially Eligible	Outside
45KIO1274	-	Historic: Abandoned Segment of Northern Pacific Railway Lake Washington Beltline (1891)	2016	Thomas, J.	Potentially Eligible	Within
710040	12415 Slater Avenue NE	Historic: Commercial Building (1981)	2017	Provost, E.	Potentially Eligible	Outside
710041	12502 Slater Avenue NE	Historic: Commercial Building (1980)	2017	Provost, E.	Potentially Eligible	Outside
720417	13209 NE 126 <sup>th</sup> PL	Historic: Commercial Building (1984)	2019	Perrin, N.	Potentially Eligible	Outside
710038	12828 NE 124 <sup>th</sup> St.	Historic: Commercial Building (1979)	2017	Provost, E.	Potentially Eligible	Outside
710043	13225 NE 126 <sup>th</sup> PL	Historic: Commercial Building (1974)	2017	Provost, E.	Potentially Eligible	Outside
720440	13211 NE 123 <sup>rd</sup> St.	Historic: Puget Sound Energy (PSE) Substation (1981)	2019	Perrin, N.	Potentially Eligible	Outside
720419	13131 NE 124 <sup>th</sup> St.	Historic: Commercial Building (1974)	2019	Perrin, N.	Potentially Eligible	Outside
720420	13205 NE 124 <sup>th</sup> St.	Historic: Commercial Building (1983)	2019	Perrin, N.	Potentially Eligible	Outside
720421	13325 NE 124 <sup>th</sup> St.	Historic: Commercial Building (1973)	2019	Perrin, N.	Potentially Eligible	Outside

**Cultural Resources Assessment and Expectations**

KPG Psomas conducted a desktop analysis for cultural resources within the proposed Project site. The main goal of the investigation was to gather and analyze information needed to determine if the Project would have a significant impact and/or adverse effect on cultural resources eligible for the NRHP. The results of the WISSARD search identified 11 previously recorded resources within 0.8 km (0.5-mile) of the Project site. The previously recorded resources include 10 historic buildings and one abandoned segment of the historic Northern Pacific Railway Lake Washington Beltline railway. All 11 resources appear to meet criteria for the NRHP, are located within a potential historic district, and may contribute to a historic district.

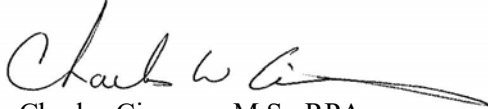
None of this historic building are located within the Project site; therefore, the Project will not have an adverse effect on the buildings. The segment of the Northern Pacific Railway Lake Washington Beltline railway within the Project site is located at the pedestrian trail crossing at 132<sup>nd</sup> Avenue. This short segment of the Northern Pacific Railway Lake Washington Beltline railway railroad line was constructed in 1891 as a spur line connecting Bellevue to the major Northern Pacific line in Renton and initially served as a means of transporting coal and iron from mines east of Puget Sound to industrial plants and

Kirkland Corridor/Slater Avenue NE and NE 124<sup>th</sup> Street/Slater Avenue NE Pedestrian Crossing Project  
September 13, 2023  
Page 4

the steel mill at Kirkland. The railroad and its associated features were determined eligible for listing in the NRHP by DAHP in 2007. However, the segment of the railroad within the Project site was subsequently abandoned and the rail ties removed, leaving nothing but portion of the ballast within the avenue. Therefore, the improvements described above are not anticipated to significantly impact and/or have an adverse effect on cultural resources or contributing components to historic districts. Nevertheless, an Inadvertent Discovery Plan (IDP) will be prepared for the Project due the cultural resource sensitivity for the area.

Sincerely,

**P S O M A S**



Charles Cisneros, M.S., RPA  
Senior Archaeologist

Attachments: Exhibit 1 – APE Map  
1 – Inadvertent Discovery Plan



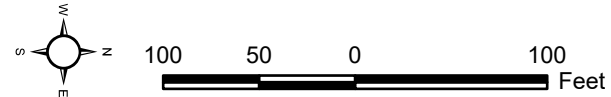
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Aerial Source: NearMap 2023

### APE Map

Cross Kirkland Corridor/Slater Avenue NE and NE 124th Street/Slater Avenue NE Pedestrian Crossing Project



### Exhibit 1



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**ATTACHMENT 1**  
**INADVERTENT DISCOVERY PLAN**



# Cultural Resources Inadvertent Discovery Plan

## Cross Kirkland Corridor/Slater Avenue NE and NE 124<sup>th</sup> Street/Slater Avenue NE Pedestrian Crossing Project, City of Kirkland, King County, Washington

Prepared for | City of Kirkland  
Public Works Department  
123 5<sup>th</sup> Avenue  
Kirkland, Washington 98033

Prepared by | Psomas  
3131 Elliott Avenue  
Seattle, Washington 98121  
206.286.1640.

September 2023

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## **1.0 INTRODUCTION**

Psomas contracted with the City of Kirkland (City), to provide cultural resources support services for the Cross Kirkland Corridor/Slater Avenue NE and NE 124<sup>th</sup> Street/Slater Avenue NE Pedestrian Crossing Project (Project). This document is intended to serve as the Inadvertent Discovery Plan (IDP) for the Project and outlines procedures to follow, in accordance with state and federal laws, if archaeological materials or human remains are discovered during ground disturbance activities.

### **1.1 AREA OF POTENTIAL EFFECTS**

The area of potential effects (APE) established for the Project site includes the area that will be directly affected by the proposed Project, as well as areas surrounding the site (Exhibit 1). The APE consists of the maximum extent of proposed areas of ground disturbance. The horizontal APE is 224 feet by 180 feet. The vertical APE ranges between 1.5 feet to 10 feet below the surface with the deepest excavations occurring at the south entrance of the nearby school. It is within this geographical extent where impacts to cultural resources resulting from the Project could reasonably be expected.

### **1.2 REGULATORY ENVIRONMENT**

This Project does not require federal funds or permitting and is, therefore, not subject to Section 106 of the National Historic Preservation Act (NHPA) of 1966. The City is funding the Project with local funds.

Relevant Code of Washington (RCW) State laws also address archaeological sites (precontact and historic) and Native American burials. The Archaeological Sites and Resources Act [RCE 27.53] prohibits the disturbance of known precontact and historic archaeological sites on public or private lands. The Indian Graves and Record Act [RCW 27.44] prohibits the disturbance of Native American graves and provides that inadvertent disturbance through construction or other activity requires re-internment under the supervision of the Native American tribe. The Project will also comply with the Abandoned and Historic Cemeteries and Historic Graves [RCW 68.60] State law.

### **1.3 PROJECT DESCRIPTION**

The Project involves the installation of a Pedestrian Hybrid Beacon (PHB) at Cross Kirkland Corridor (CKC) trail across Slater Avenue NE, re-channelization of Slater Avenue NE, and signal modifications at the intersections of NE 124<sup>th</sup> Street and Slater Avenue NE/132<sup>nd</sup> Avenue NE.

The PHB is proposed where the CKC meets Slater Ave NE/132<sup>nd</sup> Ave NE. The PHB includes two signal mast arm poles, each with one or two new overhead luminaires, two PHB signal heads, and signing. The PHB will also include a pedestrian signal head and bicycle signal head for users crossing Slater Ave NE/132<sup>nd</sup> Ave NE. The Project installs a new signal controller cabinet east of Slater Ave NE/132<sup>nd</sup> Ave NE. The improvements will illuminate crossing pedestrians/bicyclists and provide warning to motorists. The Project will also interconnect the PHB with the City's central traffic system via fiber optic cable. The rails, rail crossing structure, and associated infrastructure at the crossing location will be removed. The civil improvements associated with the PHB include building curb bulb outs to reduce pedestrian/bicyclist crossing length across Slater Ave NE/132<sup>nd</sup> Ave NE. The bulb out will include ramps for bicyclists traveling north or south on 132<sup>nd</sup> Ave NE to efficiently get onto the CKC and ADA compliant ramps to cross Slater Ave NE/132<sup>nd</sup> Ave NE. Median islands are also proposed at the crossing to provide additional protection.



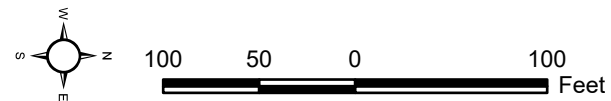
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Aerial Source: NearMap 2023

### APE Map

Cross Kirkland Corridor/Slater Avenue NE and NE 124th Street/Slater Avenue NE Pedestrian Crossing Project



### Exhibit 1



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## **2.0 ARCHAEOLOGICAL RESOURCES IDENTIFICATION**

As defined by the Washington State Department of Archaeology and Historic Preservation (DAHP), an archaeological site, including both precontact and historic period sites, is defined in Washington State Law. Generally, an archaeological site is defined as a geographic locality that contains artifacts and/or features of human construction. Definitions are found in the RCW 27.53.030 and RCW 27.53.040 discussed below.

### **2.1 RCW 27.53.030**

Archaeological Site and Resources Act defines the protected resources as: “Archaeological Site” means a geographic locality in Washington, including but not limited to, submerged and submersible lands and the bed of sea within the state’s jurisdiction, that contains archaeological objects. “Archaeological Object” means an object that comprises the physical evidence of an indigenous and subsequent culture including materials remains of past human life including monuments, symbols, tools, facilities, and technological by-products. RCW 27.53.30 also defines “Historic Archaeological Sites” as properties which are listed in or eligible for listing in the Washington State Register of Historic Places (RCW 27.34.220) or the National Register of Historic Places (NRHP) as defined in the NHPA (Title 1, Sec. 101, Public Law 89-665; 8- Stat. 915; 16 U.S.C. Sec 470).

### **2.2 RCW 27.53.040**

RCW 27.53.040 declares as examples: All sites, objects, structures, artifacts, implements, and locations of precontact or archaeological interest, whether previously recorded or still unrecognized, including, but not limited to, those pertaining to precontact and historic American.

Native American or indigenous burials and cemeteries, campsites, dwellings, and habitation sites, including rock shelters and caves, their artifacts and implements of culture such as Projectile points (arrow heads), skeletal remains, grave goods, basketry, pestles, mauls and grinding stones, knives, scrapers, rock carvings and paintings, and other implements and artifacts of any material that are located in, on, or under the surface of any lands or waters owned by or under the possession, custody, or control of the state of Washington or any county, city, or political subdivision of the state are hereby declared to be archaeological resources.

### **2.3 EXAMPLES OF ARCHAEOLOGICAL RESOURCES**

All the resource types included below are considered archaeological materials that are older than 50 years, and if inadvertently discovered, are presumed to require recordation. These are broadly divided into two categories. The first category are archaeological resources associated with the precontact periods, and the second category are archaeological resources associated with the historic period.

The images of examples provided in this section are a sampling of the types of cultural resources commonly found throughout the Pacific Northwest, including the area where the Project site is located. This is not an exhaustive list of known resource types. These images are meant to familiarize personnel with types of precontact and historic-era cultural resources that have been identified throughout the region. All images for precontact artifacts in this IDP are reproductions made from locally available materials and by professional archaeologists with extensive experience in the North American precontact lithic technologies.

### 2.3.1 Precontact Archaeological Resources

#### ***Lithics and Lithic Technology***

The term *lithic* is derived from the Greek word *lithikos*, meaning stone or pertaining to stone. Lithic technology is a technique of stone tool production and manufacture and is embedded in human organizational strategies involving subsistence, settlement, and land use. The following are images of known lithic artifacts found in Washington State and throughout the Pacific Northwest.

#### **Projectile Points**

Projectile points (**Figure 1**) are archaeological artifacts defined as a biface—tool that is bifacial, per *Merriam-Webster*, “having opposite sides or faces worked on to form an edge for cutting or scraping”—that contains a haft area (attachment area) and is used as a projectile tip. These artifacts are often identified as an arrow, dart, or spear and come in a variety of shapes and styles, which vary according to chronological periods, cultural identities, and intended functions. All the cultural resources in the image below are reproductions of projectile points found throughout the Pacific Northwest.



**FIGURE 1: LEFT TO RIGHT. CLOVIS. KENNEWICK. CALAPOOYA. COLUMBIA PLATEAU**

The second image (**Figure 2**) is a reproduction of an arrow-shaft straightener made from soapstone. Arrow-shaft straighteners were stone tools used in the production and maintenance of arrows. The tool was a flat or rounded stone, with a small groove carved out of the center. The stone would be heated in a fire, and then a wooden arrow shaft would be run through the groove with a combination of heat and pressure used to straighten the shaft.



**FIGURE 2: ARROW SHAFT STRAIGHTNER**

### **Ground Stone**

Ground Stone tools are artifacts produced through abrasive action and typically refer to tools intentionally shaped with abrasion, such as slate knives and stone pipes, and to artifacts shaped through use as, for example, a grinding stone.

### **Hand Stones and Grinding Slabs**

The hand stone and grinding slab are together used for food processing —by holding the hand stone in one hand and pounding and grinding items against the grinding slab—and were used by Native Americans as early as 8,000 years ago, for processing seeds, nuts, plants, and other food items. It is believed the introduction of the mano and metate into the Pacific Northwest and other parts of the country was a result of people adapting to new subsistence practices that became more reliant upon local wild plants and seeds for subsistence because of a warming climate.

### **Mortars and Pestles**

A mortar and pestle (**Figure 3**), like the hand stone and grinding slab, were used together for pounding and grinding edible items, with its historical use in the Pacific Northwest stretching back more than 5,000 years ago. The pestle is a club-shaped object, and the mortar is a bowl; both are typically made of hard stone. The ingredients or substances to be ground, which may be wet or dry, is placed in the mortar, then a person uses the pestle to pound or flatten the substance (rotating the pestle back and forth) until the desired texture is achieved, for instance, to prepare ingredients (e.g., seeds) or substances (e.g., ochre) into a fine paste or powder.





**FIGURE 3: HERB MORTAR AND PESTLE**

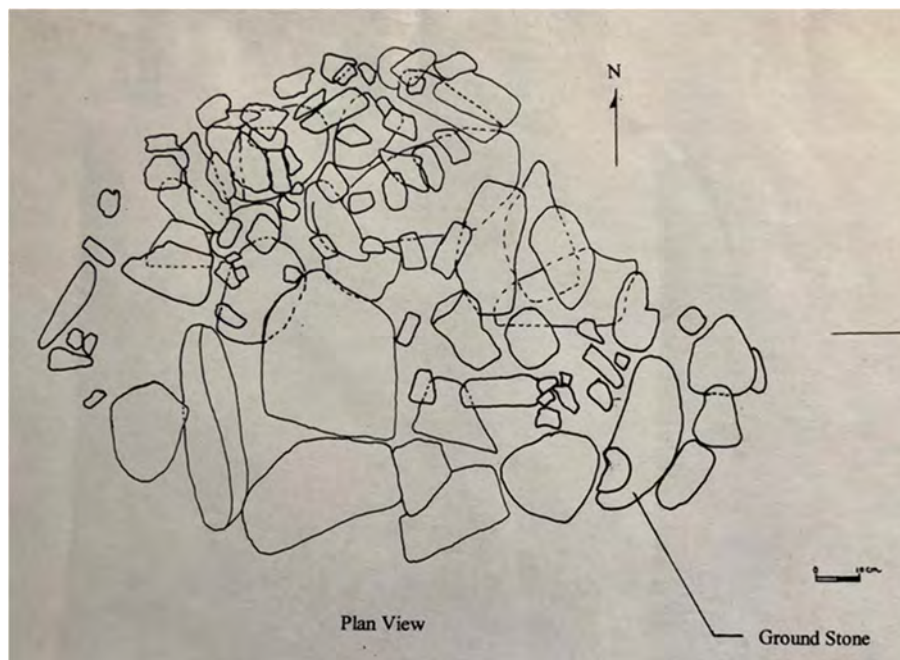
**Fire-Affected Rock**

Fire-Affected Rock (FAR) is a rock of any type that has been altered and split because of deliberate heating. It is a feature of many archaeological sites in the Pacific Northwest. In many cases, FAR results when stones (**Figure 4** and **Figure 5**) were used to line hearths and earth ovens or were heated to provide a longer-lasting heat source. In other cases, FAR results from stones being heated and dropped directly into water to heat or boil it. Some, held in containers made from a combination of ground stone bowls or baskets, are known as hopper mortars. On some sites, FAR is an indicator of burials on the property.



**FIGURE 4: FIRE-AFFECTED ROCK FROM HEARTH FEATURE**





**FIGURE 5: PLAN VIEW OF HEARTH FEATURE**

### **Other Types of Precontact Archaeological Resources Requiring Documentation**

Other types of precontact archaeological resources requiring DAHP documentation and not provide with an image include the following:

- River mussel shell middens; charcoal concentrations and darkened earth;
- Wooden posts (house posts, food drying racks);
- Fishhooks; and
- Basketry or fiber objects (cedar twine ropes, woven mats, cedar twine fishing nets)

### **2.3.2 Examples of Historic Archaeological Resources**

Historical archaeology in Washington contributes to local history by describing and interpreting (1) Washington's historically changing role in the 18th and 19th centuries as a frontier of European and American states and (2) the regional impact of industrial capitalism and the consumer revolution. Washington is a key repository of archaeological and documentary information about the changing social and cultural frontiers of the American West in the 18th and 19th centuries. Cultural resources associated with these periods in Washington history help us understand the use, function, and meaning of Washington households, the rise of social hierarchies, and local ethnic groups. Common items found from this era include bottles (**Figure 6**), ceramics (e.g., china), horseshoes (**Figure 7**), and discarded cans that once held food (e.g., meats and beans) and liquids (e.g., condensed milk).



**FIGURE 6: MEDICINE BOTTLES. LATE 1800S/EARLY 1900S**



**FIGURE 7: HISTORIC HORSESHOE**

### **2.3.3 Materials Not Requiring DAHP Documentation**

The following materials are presumed not significant and would not require DAPH recordation:

- Isolated (single) cans or bottles;
- Materials less than 50 years in age; and
- Abandoned utilities.

### **3.0 PROCEDURES FOR NOTIFICATION**

Prior to beginning construction and/or ground disturbance, the contractor shall review this IDP.

If human remains are observed, the contractor will follow the procedures detailed in the Section 4 below. If potentially significant cultural resources are observed (See Section X above), the contractor will temporarily suspend further ground disturbance and immediately contact the Project archaeologist or immediately contract with a Project archaeologist. The contractor will provide the Project archaeologist with photographs and descriptions.

Based on the provided information, the IDP will recommend the following notification procedure to be followed.

1. The discovery is less than 50 years old, and therefore, in non-archaeological. In this case, the contractor shall be allowed to continue work without restriction.
2. The discovery is older than 50 years, but no additional documentation is feasible at the time (for example, in a deep excavation or boring). In this case, the contractor shall ensure that clear photos are taken of any artifacts or features, and that cultural materials are reburied. The contractor shall provide copies of notes and photos to a Project archaeologist. The City shall confirm that the Project archaeologist's determination and approach are acceptable before the contractor resumes ground disturbance.
3. The discovery is older than 50 years and additional documentation is needed (for example, a test unit or shovel probes). In this case, the contractor shall protect the discovery location until the Project archaeologist is able to conduct an on-site investigation. The purpose of the on-site investigation shall be to collect information needed to communicate and coordinate with regulatory agencies.

#### **4.0 INADVERTENT DISCOVERY OF HUMAN REMAINS**

If any human remains are inadvertently discovered, all work adjacent to the discovery shall cease immediately. A 100-foot work stoppage area shall be established around the discovery. Vehicles, equipment, and unauthorized personnel shall not be permitted to traverse or enter the discovery site.

The City will be notified by the contractor responsible for the discovery without delay. If the contractor is unsure if the skeletal material is human remains, they contract the Project archaeologist. Once the discovery is confirmed as human remains, or is suspected as such by the Project archaeologist, the City will then notify the King County Medical Examiner and local law enforcement via the non-emergency telephone number without delay. Personnel making the discovery shall not leave the discovery unattended prior to the arrival of local law enforcement or county medical examiner/coroner.

The following text is the DAHP's preferred language regarding the inadvertent discovery protocols (DAHP 2019):

If ground disturbing activities encounter human skeletal remains during the course of construction, then all activity will cease that may cause further disturbance to those remains. The area of the find will be secured and protected from further disturbance until the State provides notice to proceed. The finding of human skeletal remains will be reported to the county medical examiner/coroner and local law enforcement in the most expeditious manner possible. The remains will not be touched, moved, or further disturbed. The county medical examiner/coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the county medical examiner/coroner determines the remains are non-forensic, then they will report that finding to the Department of Archaeology and Historic Preservation (DAHP) who will then take jurisdiction over the remains. The DAHP will notify any appropriate cemeteries and all affected tribes of the find. The State Physical Anthropologist will make a determination of whether the remains are Indian or Non-Indian and report that finding to any appropriate cemeteries and the affected tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

## **5.0 CONTACT INFORMATION**

### **5.1.1 City of Kirkland**

Kim Jimenez, P.E.  
Project Engineer  
City of Kirkland Public Works Department  
[kjimenez@kirklandwa.gov](mailto:kjimenez@kirklandwa.gov)  
425.587.3244

### **5.1.2 King County Medical Examiner**

Dr. Andrew Seidel  
State Forensic Anthropologist  
[stateanthro.meo@kingcounty.gov](mailto:stateanthro.meo@kingcounty.gov)  
206.731.3232.

### **5.1.3 Kirkland Sherriff (non-emergency number)**

Kirkland Police Department  
425.587.3400.

## **Inadvertent Discovery Protocol**

### **Protocols for Discovery of Archaeological Resources**

In the event that archaeological resources are encountered during construction, the following actions will be taken:

In the find location, all ground disturbing activity will stop. The find location will be secured from any additional impacts and the supervisor will be informed.

The project proponent will immediately contact the agencies with jurisdiction over the lands where the discovery is located, if appropriate. The appropriate agency archaeologist or the proponent's contracting archaeologist will determine the size of the work stoppage zone or discovery location in order to sufficiently protect the resource until further decisions can be made regarding the work site

The project proponent will consult with DAHP regarding the evaluation of the discovery and the appropriate protection measures, if applicable. Once the consultation has been completed, the project proponent will request written concurrence from the agency or tribe(s) that the protection and mitigation measures have been fulfilled. Upon notification of concurrence from the appropriate parties, the project proponent will proceed with the project.

Within six months after completion of the above steps, the project proponent will provide for preparation of final written report of the discovery. The report will include a description of the contents of the discovery, a summary of consultation, and a description of the treatment or mitigation measures.

### **Protocols for Discovery of Human Remains**

If human remains are found within the project, the project proponent, its contractors or permit-holders, the following actions will be taken, consistent with Washington State RCWs 68.50.645, 27.44.055, and 68.60.055.

If ground-disturbing activities encounter human skeletal remains during the course of construction then all activity will cease that may cause further disturbance to those remains. The area of the find will be secured and protected from further disturbance. The project proponent will prepare a plan for securing and protecting exposed human remains and retain consultants to perform these services. The finding of human skeletal remains will be reported to the county medical examiner/coroner and local law enforcement in the most expeditious manner possible. The remains will not be touched, moved, or further disturbed. The county medical examiner/coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the county medical examiner/coroner determines the remains are non-forensic, then they will report that finding to DAHP, which will then take jurisdiction over the remains. DAHP will notify any appropriate cemeteries and all affected tribes of the find. The State Physical Anthropologist will make a determination of whether the remains are Indian or Non-Indian and report that finding to any appropriate cemeteries and the affected tribes. DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

## **Primary Contacts**

### **Washington Department of Archeology and Historic Preservation**

Address: PO Box 48343, Olympia, WA 98504-8343

Primary Contact: Rob Whitlam, State Archaeologist

Phone Number/Email: (360) 586-3080, Rob.Whitlam@dahp.wa.gov

Primary Contact for Human Remains: Guy Tasa, State Physical Anthropologist

Phone Number/Email: (360) 586-3534 or (360) 790-1633, Guy.Tasa@dahp.wa.gov

### **Washington State Department of Commerce Program Contact**

Address: 1011 Plum Street SE, PO Box 42525, Olympia, WA 98504-2525

Primary Contact: Michael Cady

Phone Number/Email: 360-628-7076, michael.cady@commerce.wa.gov

### **Tribes**

Name of Tribe: Muckleshoot

Address: 39015 172nd Avenue SE, Auburn, WA 98092

Primary Contact: Jaison Elkins

Phone Number/Email: jaison.elkins@muckleshoot.nsn.us

Name of Tribe: Snoqualmie

Address: PO Box 969, Snoqualmie, WA 98065

Primary Contact: Robert de los Angeles

Phone Number/Email: bobde@snoqualmietribe.us

Name of Tribe: Stillaguamish

Address: 3322 236th Street NE, PO Box 277, Arlington, WA 98223

Primary Contact: Eric White

Phone Number/Email: ewhite@stillaguamish.com

Name of Tribe: Squaxin Island

Address: 10 SE Squaxin Ln, Shelton, WA 98584

Primary Contact: Rhonda Foster

Phone Number/Email: rfoster@squaxin.us

### **Local Sheriff's Office**

Address: 11750 NE 118th St., Kirkland, WA 98034

Primary Contact: Cherie Harris

Phone Number/Email: police@kirklandwa.gov

### **Local Medical Examiner's Office**

Address: 908 Jefferson St #2, Seattle, WA 98104

Primary Contact: Dr. Andrew Seidel

Phone Number/Email: 206-731-3232, stateanthro.meo@kingcounty.gov

## **Additional Contacts**

### **Tribes**

Name of Tribe: Suquamish  
Address: PO Box 498, Suquamish, WA 98392-0498  
Primary Contact: Leonard Forsman  
Phone Number/Email: lforsman@suquamish.nsn.us

Name of Tribe: Tulalip  
Address: 6406 Marine Drive, Tulalip, WA 98271  
Primary Contact: Teri Gobin  
Phone Number/Email: trgobin@tulaliptribes-nsn.gov

Name of Tribe: \_\_\_\_\_  
Address: \_\_\_\_\_  
Primary Contact: \_\_\_\_\_  
Phone Number/Email: \_\_\_\_\_

Name of Tribe: \_\_\_\_\_  
Address: \_\_\_\_\_  
Primary Contact: \_\_\_\_\_  
Phone Number/Email: \_\_\_\_\_



**APPENDIX G**

**POTHOLE RESULTS**



# TEST HOLE DATA SHEET

APPLIED PROFESSIONAL SERVICES INC.

Job #	6829
Lead:	Spencer

Overlay Thickness (in):	
Asphalt (in):	NA
Concrete (in):	
Brick (in):	
soil type:	Native

Pothole Number:	900
-----------------	-----

Date:	3/14/2024
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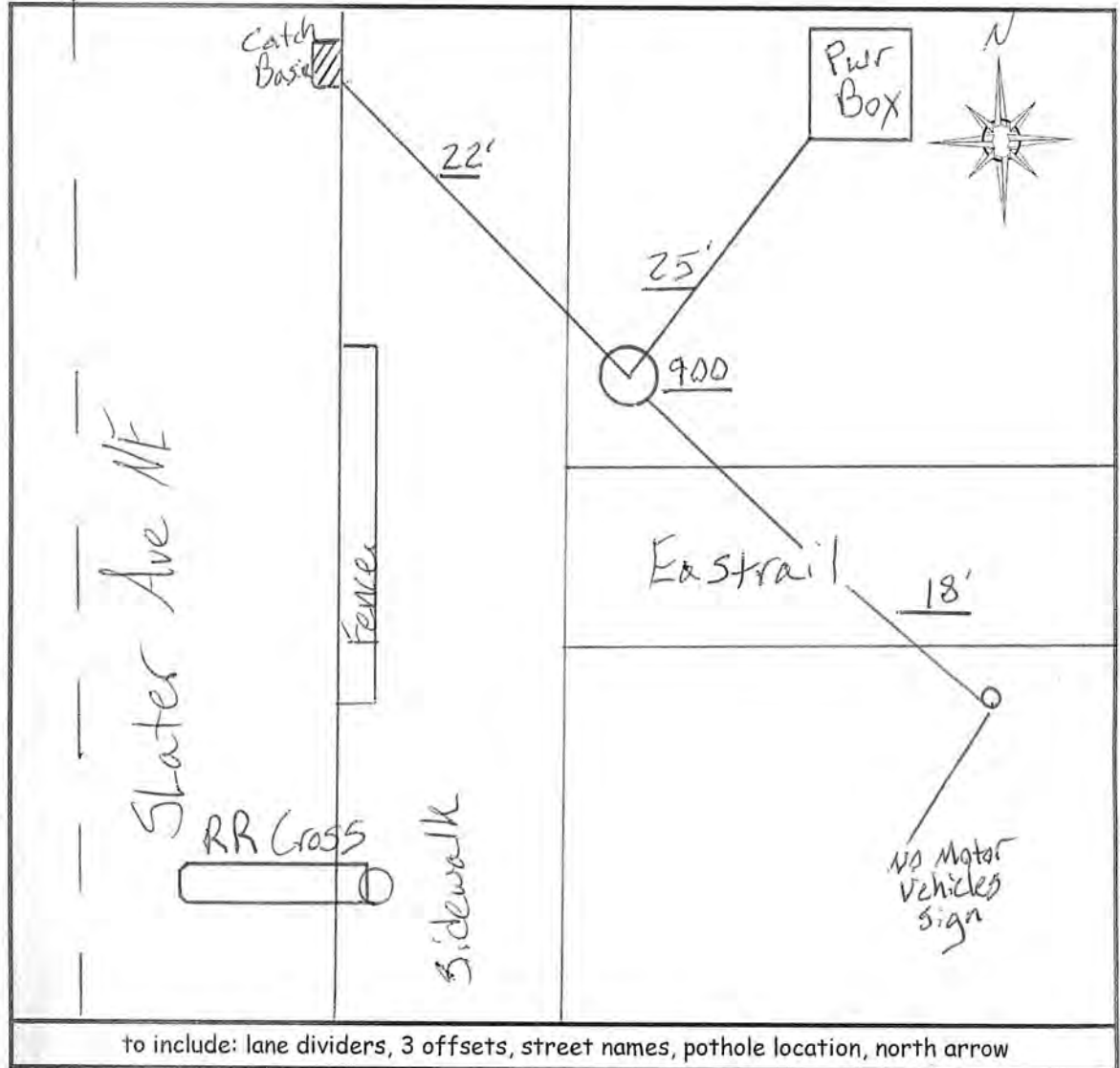
### Notes:

Found 4" Fiber encasement out 46" deep.  
 Moved hole 18" south clear to 12'

Target Utility:	CLR
Utility Type:	Com
Size:	4"
Top (in):	46
Bottom (in):	50
Width (in):	
Thickness (in):	
Pipe Direction:	ETW
Material:	PVC/FIB.

Additional Utility:	
Utility Type:	
Size:	
Top (in):	
Bottom (in):	
Width (in):	
Thickness (in):	
Pipe Direction:	
Material:	

Utility Config Facing:	East





TEST HOLE DATA SHEET  
APPLIED PROFESSIONAL SERVICES INC.

Job # 6829  
Lead: Spencer

Overlay Thickness (in):  
Asphalt (in): NA  
Concrete (in): ↓  
Brick (in): ↓  
soil type: Native

Pothole Number: 901

Date: 3/15/24

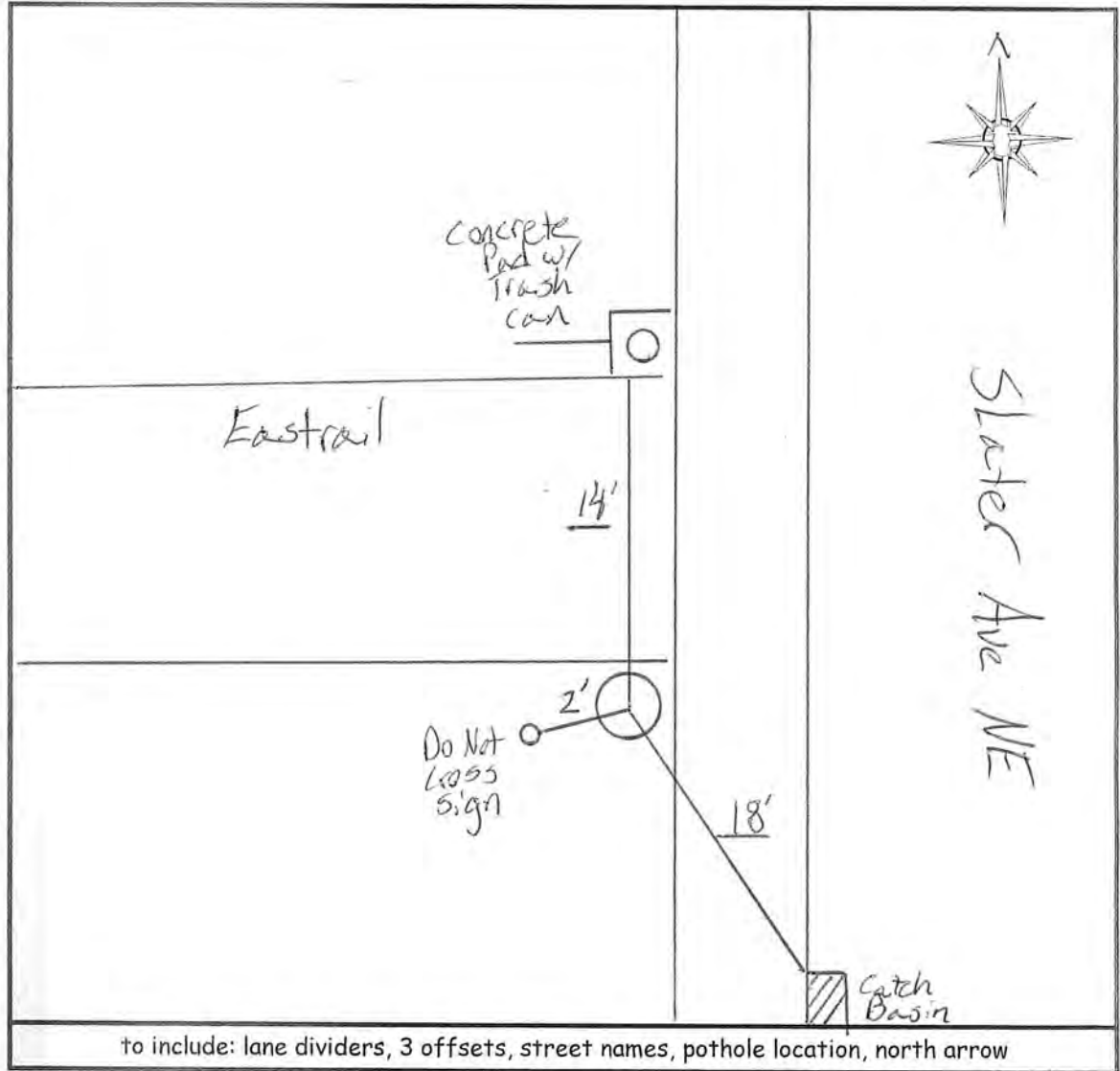
Notes:

Clear 3' x 12'  
Pothole

Target Utility: CLR  
Utility Type: NA  
Size:  
Top (in):  
Bottom (in):  
Width (in):  
Thickness (in):  
Pipe Direction:  
Material: ↓

Additional Utility:  
Utility Type:  
Size:  
Top (in):  
Bottom (in):  
Width (in):  
Thickness (in):  
Pipe Direction:  
Material:

Utility Config Facing:



to include: lane dividers, 3 offsets, street names, pothole location, north arrow



# TEST HOLE DATA SHEET

APPLIED PROFESSIONAL SERVICES INC.

Job #	6829
Lead:	Spencer

Overlay Thickness (in):	
Asphalt (in):	NA
Concrete (in):	↓
Brick (in):	↓
soil type:	Native

Pothole Number:	402
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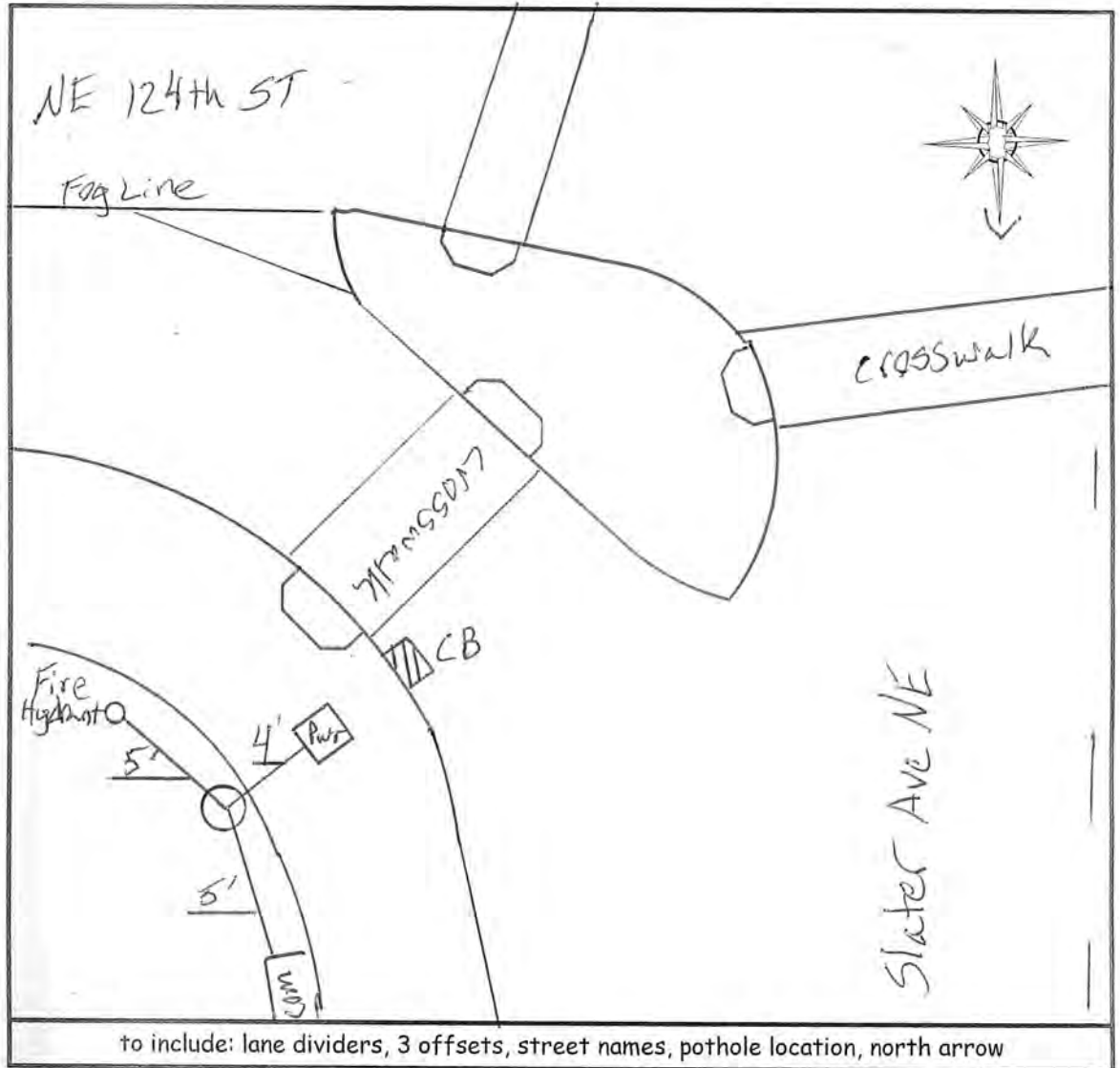
Date:	3/14/24
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Target Utility:	CLR
Utility Type:	Com
Size:	4
Top (in):	41
Bottom (in):	45
Width (in):	
Thickness (in):	
Pipe Direction:	N/S
Material:	

**Notes:**  
 Broken 1" irrigation line @ 8" deep  
 4" Presumed com pvc in middle of pothole @ 41" deep.  
 Client moved hole.

Additional Utility:	
Utility Type:	
Size:	
Top (in):	
Bottom (in):	
Width (in):	
Thickness (in):	
Pipe Direction:	
Material:	

Utility Config Facing:	
------------------------	--







# TEST HOLE DATA SHEET

APPLIED PROFESSIONAL SERVICES INC.

Job #
Lead: <u>Chris</u>

Overlay Thickness (in):
Asphalt (in): <u>4</u>
Concrete (in):
Brick (in):
soil type:

Pothole Number: <u>903</u>
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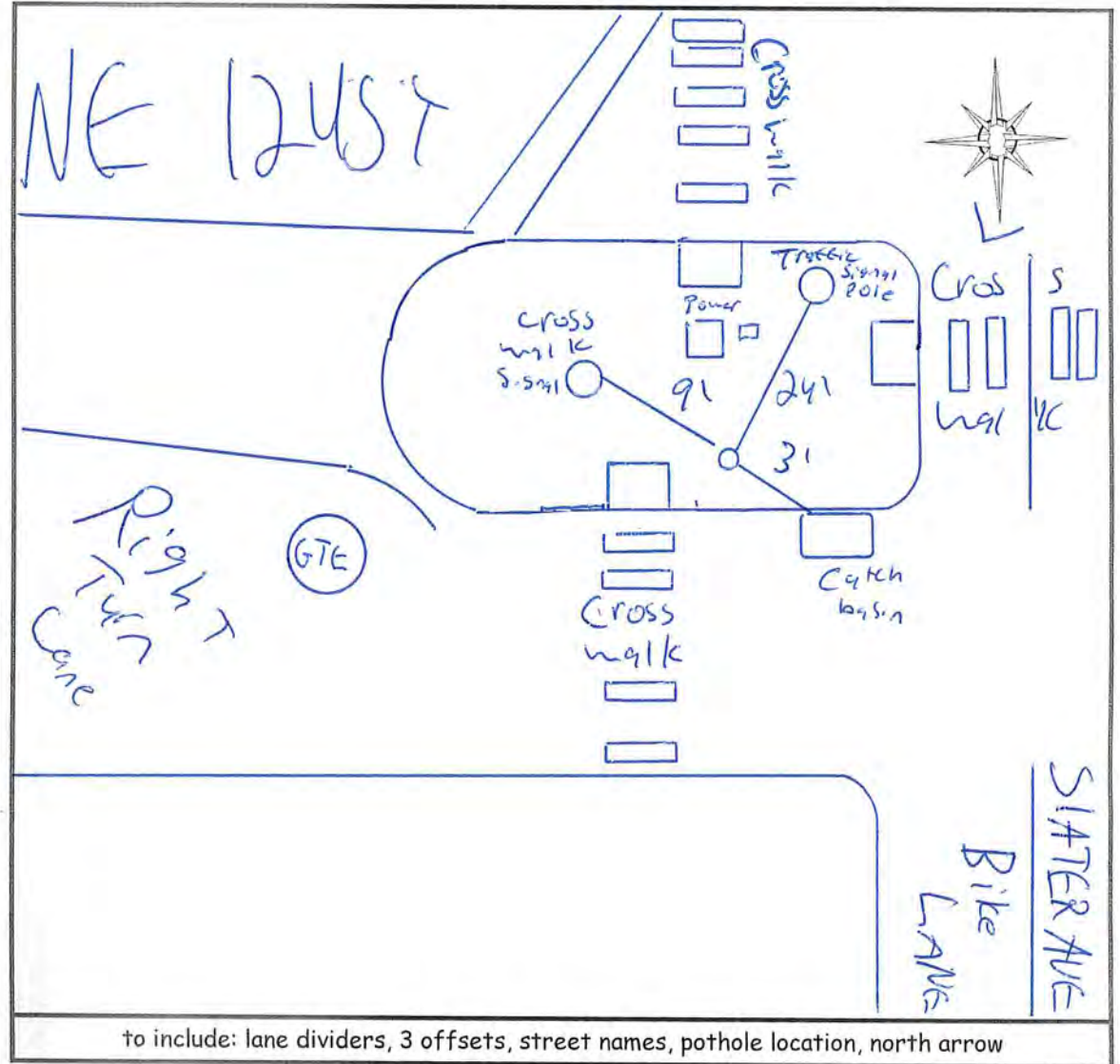
Date: <u>3/20</u>
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Target Utility:
Utility Type: <u>Clear</u>
Size:
Top (in):
Bottom (in):
Width (in):
Thickness (in):
Pipe Direction:
Material:

Notes:
<u>Clear to 12ft by 3ft wide</u>

Additional Utility:
Utility Type:
Size:
Top (in):
Bottom (in):
Width (in):
Thickness (in):
Pipe Direction:
Material:

Utility Config Facing:
------------------------











POTHOLE #900



POTHOLE #900





POTHOLE #900



POTHOLE #901









POTHOLE #901



POTHOLE #902









POTHOLE #902



POTHOLE #902









POTHOLE #903

# **APPENDIX H**

## **FAIRFIELD SLATER MIXED USE OFF-SITE IMPROVEMENTS**

## WATER CONSERVATION STATEMENT

WATER CONSERVATION CONCEPT STATEMENT/ LANDSCAPE DOCUMENTATION PACKAGE  
FAIRFIELD SLATER MIXED USE  
12045 SLATER AVENUE NORTH EAST  
KIRKLAND, WA 98034

### IRRIGATION WATER CONSERVATION STATEMENT

THE IRRIGATION SYSTEM FOR THE ABOVE PROJECT HAS BEEN DESIGNED TO IRRIGATE THE PROPOSED LOW/MEDIUM WATER USE TYPE LANDSCAPE ON THE GROUND AND UPPER LEVELS OF THE PODIUM PROJECT UTILIZING DRIP IRRIGATION. THE SHRUBS AND GROUND COVERS USED IN THIS PROJECT CAN BE CATEGORIZED AS LOW TO MEDIUM WATER USE AND ARE SPACED TO ACCOMMODATE FUTURE GROWTH. A 3-INCH THICK LAYER OF SHREDDED BARK MULCH IS USED TO FURTHER ENHANCE WATER RETENTION IN THE SOIL AND TO REDUCE WEED SEED GERMINATION. TREES HAVE BEEN SPECIFIED IN AREAS WHERE THEY WILL EVENTUALLY PROVIDE SHADE BELOW REDUCING THE WATER NEEDS OF THE SHRUBS AND GROUND COVERS UNDER THE DEVELOPING CANOPY. LANDSCAPING AT GROUND LEVEL PLANTERS AND SLOPES ARE LOW WATER USE PLANTINGS IRRIGATED WITH DRIP IRRIGATION. AREAS REFLECTING DIFFERING SOLAR ASPECTS ARE VALVED SEPARATELY. ALL TREES ARE VALVED SEPARATELY WITH DEDICATED BUBBLER SYSTEMS. FLOW SENSING AND A RAIN SHUT OFF DEVICE ARE UTILIZED TO FURTHER REDUCE WATER USAGE.

SOIL TESTS HAVE BEEN SPECIFIED FOR THE CONTRACTOR TO PERFORM TO AID IN DEVELOPING THE PROPER BACK-FILL AND FERTILIZER REQUIREMENTS TO ENHANCE PROPER GROWTH OF ALL PLANT MATERIAL. SUBSEQUENT TO ROUGH GRADING, SOIL SAMPLES OF REPRESENTATIVE PLANTING AREAS THAT OCCUR AT GRADE WILL BE TAKEN TO VERIFY SOILS TYPE. LIGHTWEIGHT LOAM SOILS ARE SPECIFIED FOR POTS AND RAISED PLANTERS ON SLAB. THESE SOILS WILL EXHIBIT VERY GOOD DRAINAGE AND SOIL RETENTION.

THE IRRIGATION SYSTEM AT THE RAISED DECK PODIUM PLANTERS ARE TO BE IRRIGATED VIA DRIP IRRIGATION. THE DRIP IRRIGATION SYSTEM WILL BE BURIED UNDER SOIL. THIS WILL VIRTUALLY ELIMINATE ANY OVERSPRAY ONTO ANY WALKS, PLANTER WALLS OR BUILDING WALLS. EACH OF THE PLANTERS HAS SOIL (FINISH GRADE) SET 4" BELOW TOP OF WALL TO ALLOW THE PLANTER TO ACCEPT WATER DURING A RAINSTORM AND NOT OVERFLOW. EACH PLANTER IS DRAINED VIA SITE DRAINAGE SYSTEM PER THE CIVIL ENGINEER. QUICK COUPLERS ARE PROVIDED TO ALLOW FOR HAND WATERING DURING THE ESTABLISHMENT PERIOD. QUICK COUPLERS HAVE BEEN SPACED TO ENSURE THAT ALL LANDSCAPE AREAS ARE ACCESSIBLE. ALL POTS WITHIN THE PROJECT ARE IRRIGATED VIA DEDICATED DRIP SYSTEMS. THE IRRIGATION CONTROLLER IS CAPABLE OF UTILIZING CURRENT ENVIRONMENTAL CONDITIONS TO ADJUST IRRIGATION RUN TIMES OF VALVES. IT CAN BE ADJUSTED BY PERCENTAGE AS WELL TO ENHANCE THE USER'S CAPABILITIES TO FINE TUNE THE SYSTEM. THERE IS A FLOW SENSOR WATER METER/ MASTER VALVE USED AS WELL TO ENHANCE THE USER'S CAPABILITIES TO ENSURE THAT MINIMAL WATER IS LOST DUE TO MAINLINE OR LATERAL LINE BREAKAGE.

THERE IS NO TURF SPECIFIED WITHIN THIS PROJECT. ALL LANDSCAPE SHRUBS AND GROUND COVERS IN RAISED PLANTERS AND WITHIN POTS IS IRRIGATED VIA DRIP TUBING. TREES SPECIFIED ARE ALSO IRRIGATED WITH DEDICATED BUBBLER HEADS SO AS TO FACILITATE FINE TUNING OF SYSTEM AS LANDSCAPE MATURES. THE ONLY AREA THAT UTILIZES AN OVERHEAD SPRAY SYSTEM IS THE SYNTHETIC TURF AREAS. THESE AREAS WILL BE SPRAYED OR WASHED DOWN AS NEEDED TO CLEAN THE SURFACE. THE AMOUNT OF WATER USED IS MINIMAL. THE WASH DOWNS WOULD OCCUR DURING EVENING OR EARLY MORNING HOURS WHEN WINDS ARE LOW AND CHANCES OF WIND DRIFT ARE MINIMAL.

EVEN THOUGH THERE ONLY ONE OVERHEAD DELIVERY SYSTEM, THE IRRIGATION SYSTEM WILL BE OPERATED ONLY DURING THE EARLY MORNING HOURS. THIS IS DONE TO LOAD THE SOIL WITH MOISTURE PRIOR TO THE HEAT OF THE DAY. LEAVES ARE KEPT DRY FURTHER ENHANCING PROBLEMS WITH FUNGI.

ALL PLANTER AREAS ON PODIUM ARE LEVEL. SLOPES OCCUR ONLY AT SURROUNDING GROUND LEVEL LANDSCAPE.

LANDSCAPE ARCHITECT/ IRRIGATION DESIGNER: WARREN ARATA, CA LAND ARCH LIC # 3420  
ANIL VERMA ASSOCIATES  
448 SOUTH OLYMPIA STREET, SUITE 1088  
LOS ANGELES, CA 90071

## LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

WATER CONSERVATION CONCEPT STATEMENT  
 SEE THIS SHEET.

MAXIMUM APPLIED WATER ALLOWANCE,  
115,460 GALLONS PER YEAR  
 SEE THIS SHEET FOR CALCULATIONS.

ESTIMATED APPLIED WATER USE CALCULATION,  
96,641 GALLONS PER YEAR  
 SEE THIS SHEET FOR CALCULATIONS.

ESTIMATED AMOUNT OF WATER EXPECTED FROM EFFECTIVE PRECIPITATION,  
0 GALLONS PER YEAR  
 SEE THIS SHEET FOR STATEMENT.

LANDSCAPE PLANTING DESIGN PLAN  
 SEE SHEETS L005, L006, L007, L008, L009

LANDSCAPE IRRIGATION DESIGN PLAN  
 SEE SHEETS L002

IRRIGATION SCHEDULE  
 SEE SHEET L761 FOR MATURED, L762 FOR ESTABLISHMENT PERIOD - SHEETS WITHIN ON-SITE PACKAGE

MAINTENANCE SCHEDULE  
 SEE SHEET L001

LANDSCAPE IRRIGATION AUDIT SCHEDULE  
 SEE SHEET L001

GRADING DESIGN PLAN  
 REFER TO CIVIL ENGINEERING PLANS

SOIL ANALYSIS  
 SOIL AGRONOMIC AND PERCOLATION TESTS SHALL BE PERFORMED AFTER ROUGH GRADING IS COMPLETE.

## INSPECTION NOTES

THE FOLLOWING ARE REQUIRED INSPECTIONS/ APPROVALS FROM OWNER/ LANDSCAPE ARCHITECT. FAILURE TO OBTAIN APPROVALS OR HAVING UP TO DATE AS-BUILTS UPON CONSTRUCTION INSPECTION BY LANDSCAPE ARCHITECT MAY RESULT IN OWNER SUSPENDING WORK.

- PRE-CONSTRUCTION MEETING.
- STATIC PRESSURE VERIFICATION AT POINT OF CONNECTION.
- MAINLINE LAYOUT AND DELIVERY OF DIGITAL PHOTOS SHOWING AS-BUILT LOCATIONS OF EXISTING UTILITIES.
- TRENCHING.
- MAINLINE PRESSURE TEST.
- IRRIGATION VALVE BOX INSPECTION.
- INSPECTION FOR RELEASE TO MAINTENANCE PERIOD.
- FINAL INSPECTION TO RELEASE FROM MAINTENANCE PERIOD.

### NOTES:

- IRRIGATION PLANS WERE DEVELOPED FROM ENGINEER'S BASE PROVIDED BY OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF DIMENSIONS OF ALL PLANTERS, LOCATIONS OF EXISTING UTILITIES, ETC. ANY DISCREPANCIES IN MEASUREMENTS OR AS-BUILT CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND LANDSCAPE ARCHITECT PRIOR TO WORK.
- CONTRACTOR SHALL CONTACT DIG ALERT PRIOR TO ANY TRENCHING IN THE RIGHT OF WAY.

## WATER AUDIT NOTE

THE CONTRACTOR WILL CONDUCT AN IRRIGATION AUDIT USING A CERTIFIED IRRIGATION AUDITOR. AFTER THE FINAL FIELD OBSERVATION HAS BEEN COMPLETED AND ALL IRRIGATION COMPONENTS ARE INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND THE IRRIGATION SYSTEM IS ACCEPTED BY THE PROJECT ARCHITECT FOR MAINTENANCE.

THE IRRIGATION AUDIT WILL BE CONDUCTED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE.

- TAKE READINGS OF FLOW WHEN VALVES OPEN. RECORD FLOW READINGS.
- NOTE HOW MANY BUBBLER HEADS ARE ON EACH VALVE.
- COMPARE ACTUAL FLOW READING AND CALCULATED FLOW.
- MEASURE HEAD PRESSURE AT CLOSEST AND FURTHEST HEAD IN EACH ZONE AND RECORD RESULTS.
- AFTER COMPLETING ZONE ADVANCE TO NEXT ZONE AND REPEAT PROCEDURE.
- SUBMIT THE RESULTS OF THE AUDIT TO THE PROJECT ARCHITECT.

THE IRRIGATION MAINTENANCE SCHEDULE TASKS LISTED BELOW ARE INTENDED AS MINIMUM STANDARDS AND MORE FREQUENT ATTENTION MAY BE REQUIRED DEPENDING ON THE PARTICULAR SITE CONDITIONS.

### MAINTENANCE TASK.

- CONTROLLER CABINET – OPEN CABINET AND CLEAN OUT DEBRIS AND REPLACE BATTERY AS NECESSARY. CHECK WIRING AND REPAIR AS NEEDED AND CHECK CLOCK AND RESET IF NECESSARY. QUARTERLY
- IRRIGATION SCHEDULE – ADJUST SCHEDULE FOR SEASONAL VARIATIONS AND OTHER CONDITIONS WHICH MAY AFFECT THE AMOUNT OF WATER NEEDED TO MAINTAIN PLANT HEALTH ADJUST AS NECESSARY. MONTHLY
- POC – VISUALLY INSPECT COMPONENTS FOR LEAKS, PRESSURE SETTINGS, SETTLEMENT OR OTHER DAMAGE AFFECTING THE OPERATION OF A COMPONENT REPAIR AS NEEDED. QUARTERLY
- REMOTE CONTROL VALVES, ISOLATION VALVES AND QUICK COUPLER VALVES VISUALLY INSPECT FOR LEAKS, SETTLEMENT, WIRE CONNECTIONS AND PRESSURE SETTINGS. REPAIR OR ADJUST AS NEEDED. QUARTERLY
- MAINLINE & LATERALS VISUALLY INSPECT FOR LEAKS OR SETTLEMENT OF TRENCH. QUARTERLY
- ABOVE GRADE BUBBLER HEADS: VISUALLY CHECK FOR ANY BROKEN MISALIGNED OR CLOGGED HEADS. BELOW GRADE BUBBLER COVERS ON DEEP BUBBLER ASSEMBLY AND VISUALLY INSPECT HEAD AND CHECK FOR DAMAGE AND FLOW. REPAIR AS NEEDED. WEEKLY
- FILTERS AND STRAINERS VISUALLY CHECK FOR LEAKS, BROKEN FITTING CLEAN AND FLUSH SCREENS. MONTHLY

AUDIT SHALL BE IN ACCORDANCE WITH THE LATEST STATE OF CALIFORNIA LANDSCAPE WATER MANAGEMENT PROGRAM AS DESCRIBED IN THE LATEST LANDSCAPE IRRIGATION AUDITOR HANDBOOK. THE LANDSCAPE IRRIGATION AUDITS TO BE CONDUCTED BY A QUALIFIED INDIVIDUAL AND THE AUDIT SCHEDULE SHALL BE CONDUCTED AT LEAST ONCE EVERY FIVE YEARS IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 20, DIVISION 1 OF THE LOS ANGELES COUNTY CODE.

## IRRIGATION NOTES

- THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE AND THE MAXIMUM FLOW DEMAND SHOWN ON THE IRRIGATION DRAWINGS AT EACH POINT OF CONNECTION. THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO EACH CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S REPRESENTATIVE. IN THE EVENT PRESSURE DIFFERENCES ARE NOT REPORTED PRIOR TO THE START OF CONSTRUCTION, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
- ALL ABOVE GRADE BUBBLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
- REQUIRED POWER SOURCE FOR THE CONTROLLER(S) AND PUMP SHALL BE PROVIDED PER ELECTRICAL ENGINEER'S PLANS AND SPECIFICATIONS. REFER TO ELECTRICAL ENGINEER'S PLANS FOR EXACT LOCATION OF STUBS FOR POWER. CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING CABLE FROM ENGINEER'S PROVIDED STUB TO CONTROLLER. CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS FROM THE ELECTRICAL SOURCE TO THE CONTROLLER PER LOCAL CODES AND ORDINANCES.
- PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SHALL BE PERMITTED BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF SAID REJECTION.
- ALL EQUIPMENT INSTALLED IN VALVE BOXES SHALL BE INSTALLED PER DETAIL DRAWINGS WITHOUT CUTTING SIDE WALLS OF THE VALVE BOX. CUT VALVE BOXES WILL BE REPLACED WITH NEW VALVE BOXES AS INSPECTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE AT THE CONTRACTOR'S OWN EXPENSE.
- ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECS.

## PVC PIPE SIZE SCHEDULE

GPM	PIPE SIZE	SCH 40	GPM	PIPE SIZE	SCH 40
1~4	1/2"	SCH 40	13~22	1-1/4"	SCH 40
5~8	3/4"	SCH 40	23~30	1-1/2"	SCH 40
9~12	1"	SCH 40	31~42	2"	CL 315

## MAINTENANCE SCHEDULES:

- A REGULAR MAINTENANCE SCHEDULE SATISFYING THE FOLLOWING CONDITIONS SHALL BE SUBMITTED AS PART OF THE LANDSCAPE DOCUMENTATION PACKAGE. (ORD. 99-0040 72 (PART), 1999.)
- LANDSCAPE SHALL BE MAINTAINED TO ENSURE WATER EFFICIENCY. A REGULAR MAINTENANCE SCHEDULE SHALL INCLUDE, BUT NOT BE LIMITED TO, CHECKING, ADJUSTING, AND REPAIRING IRRIGATION EQUIPMENT, RESETING THE AUTOMATIC CONTROLLER, REPLISHING MULCH, FERTILIZING, PRUNING, AND WEEDING IN ALL LANDSCAPE AREAS.
- WHENEVER POSSIBLE, REPAIR OF IRRIGATION EQUIPMENT SHALL BE DONE WITH THE ORIGINALLY SPECIFIED MATERIALS OR THEIR EQUIVALENTS.
- A LANDSCAPE IRRIGATION AUDIT SCHEDULE AS REQUIRED IN CHAPTER 20.09 OF TITLE 20 MAY BE RECOMMENDED. THE MAXIMUM PERIOD BETWEEN AUDITS SHALL BE FIVE YEARS.

## LANDSCAPE IRRIGATION AUDIT SCHED:

- A SCHEDULE OF LANDSCAPE IRRIGATION AUDITS OF AT LEAST EVERY FIVE YEARS MUST BE ESTABLISHED, FOR ALL BUT SINGLE-FAMILY RESIDENCES, AND OTHER PROJECTS WITH A LANDSCAPE AREA LESS THAN 1 ACRE (0.405 ha). AS REQUIRED IN CHAPTER 20.09 OF THE TITLE 20 (UTILITY CODES), AND AUDIT SATISFYING THE FOLLOWING CONDITIONS SHALL BE SUBMITTED TO THE COUNTY AS PART OF THE LANDSCAPE DOCUMENTATION PACKAGE.
- AT A MINIMUM, AUDITS SHALL BE IN ACCORDANCE WITH THE LATEST STATE OF CALIFORNIA LANDSCAPE WATER MANAGEMENT PROGRAM AS DESCRIBED IN THE LANDSCAPE IRRIGATION AUDITOR HANDBOOK, PREPARED FOR THE CALIFORNIA DEPARTMENT OF WATER RESOURCES, WATER CONSERVATION OFFICE, THE ENTIRE DOCUMENT, WHICH IS HEREBY INCORPORATED BY REFERENCE.
- THE SCHEDULE SHALL PROVIDE FOR LANDSCAPE IRRIGATION AUDITS TO BE CONDUCTED BY A QUALIFIED INDIVIDUAL AS DETERMINED BY THE DIRECTOR AT LEAST ONCE EVERY FIVE YEARS IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 20, DIVISION 1 OF THE CITY OF SAN JOSE CODE.

## IRRIGATION SCHEDULING:

- REFER TO PROJECT SITE PLANS FOR IRRIGATION SCHEDULES WHICH INCLUDE VALVES A-4 AND A-9 WHICH SERVICE STREET TREE BUBBLER IRRIGATION.

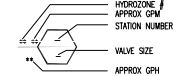
## WATER USE:

- REFER TO PROJECT SITE PLANS FOR IRRIGATION WATER USE CALCULATIONS WHICH INCLUDE VALVES A-4 AND A-9 WHICH SERVICE STREET TREE BUBBLER IRRIGATION.

## IRRIGATION LEGEND

SYMBOLS	DESCRIPTION	MFGR.	NOZZLE NO.	PSI	GPM	R.
<b>HEADS</b>						
▽	ABOVE GRADE BUBBLER	RAIN BIRD	1401 ABOVE GRADE	30	25	-
	SUB-GRADE BUBBLER	RAIN BIRD	RWS - B - 1401	30	25	-
▽	TREE BUBBLER ASSEMBLY. EACH SYMBOL REPRESENTS (2) SUB GRADE AND (2) ABOVE GRADE BUBBLERS.					INSTALL (2) SUB-GRADE AND (2) ABOVE GRADE BUBBLERS AT EACH TREE IN 4'X6' STREET TREE PLANTERS. REFER TO BUBBLER DETAIL FOR ARRANGEMENT.
<b>VALVES</b>						
⊕	ELECTRIC REMOTE CONTROL VALVE RAIN BIRD FE5E-PR5 SERIES	RAIN BIRD				PRESSURE REGULATING RCV. SIZE AS NOTED ON PLANS. REFER TO DETAIL FOR INSTALLATION. DOCUMENT LOCATION OF VALVE ON AS-BUILT PLANS. INSTALL VALVES ADJACENT TO AND FLUSH WITH ADJACENT PAVEMENT. ALIGN TO MAXIMIZE DISTANCE FROM PROPOSED TREE ROOT
⊕	GATE VALVE					NIBCO SERIES T-113 OR APPROVED EQUIVALENT.  T-113 SERIES OR APPROVED EQUIVALENT. PROVIDE BRONZE GATE VALVE WITH NON-RISING STEM. LINE SIZE. REFER TO DETAIL FOR INSTALLATION. USE ISOLATE SECTIONS OF MAINLINE AS SHOWN ON PLANS.
NO SYM. SEE DETAIL.	BALL VALVE					NIBCO LINE SIZE BALL VALVE MODEL T-585-70. TWO PIECE BRONZE BODY. FULL PORT. BALL VALVES SHALL BE USED WITHIN REMOTE CONTROL VALVE MANIFOLD IF SHOWN ON DETAIL.
<b>PIPE</b>						
—	SCH 40 PVC (NON-PRESSURE) LATERAL LINE PIPE (1-1/2" AND SMALLER)					
—	CLASS 315 PVC (NON-PRESSURE) LATERAL LINE PIPE (2" AND LARGER)					
—	CLASS 315 PVC (PRESSURE) MAINLINE PIPE (2" AND LARGER)					
—	SCH 40 PVC (PRESSURE) MAINLINE PIPE (1-1/2" & SMALLER)					
—	SCHEDULE 40 PVC WIRE CONDUIT. SIZE AS REQ.					
—	SCHEDULE 40 PVC IRRIGATION SLEEVE					SIZE: TWICE THE SIZE OF THE PIPE TO BE SLEEVED.

NOTE: DRAWINGS ARE DIAGRAMMATIC. EQUIPMENT SHOWN IN PAVED AREAS AND BUILDING AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED WITHIN PLANTED AREAS.



## HUNTER 2 WIRE NOTES

TWO WIRE PATH CONNECTIONS AND RULES:

- THE OUTPUT OF THE EZ-DM WIRE PATHS IS 24VAC, 60 HZ. VOLTAGE IS ONLY PRESENT ON THE PATHS WHEN STATIONS ARE ACTIVE.
- THE RED AND BLUE WIRE PATH TERMINALS ON THE EZ-DM INDICATE THAT THEY ARE CONNECTED TO THE EZ-1 DECODER RED AND BLUE WIRES, BUT THE WIRE THAT EXTENDS THE TWO-WIRE PATH DOES NOT NEED TO BE COLOR-CODED. IT DOES NOT MATTER IF THE DECODER "RED" CONNECTS TO THE TERMINAL "BLUE".
- THERE IS NO POLARITY ON THE EZ DECODER SYSTEM. USE DIRECT BURIAL-RATED IRRIGATION WIRE.
- THE SIZE OF THE WIRE DETERMINES THE EFFECTIVE DISTANCE OF THE TWO-WIRE PATH.
- SEE THE WIRING TABLE FOR DISTANCE SPECIFICATIONS WITH VARIOUS WIRE SIZES.
- USE IRRIGATION-GRADE WIRE CONNECTORS FOR ALL SPLICES. THEY CAN BE OF THE SAME TYPE USED FOR SOLENOID CONNECTIONS.

TEE-SPLICING THE TWO-WIRE PATHS:

- TEE-SPLICING THE TWO-WIRE PATH IS PERMISSIBLE. USE WATERPROOF CONNECTORS IN A VALVE BOX AND ADEQUATE SLACK AT THE SPLICES; (5 FEET MINIMUM) TO ENSURE A RELIABLE CONNECTION. SIZE THE WIRE FOR THE MOST DISTANT DECODER FROM THE CONTROLLER.

EARTH GROUNDING:

- EARTH GROUNDING IS NOT REQUIRED IN THE TWO-WIRE PATH. HOWEVER, IT MAY BE ADDED IN HIGH LIGHTNING AREAS FOR ADDITIONAL PROTECTION. USE HUNTER MODEL DUAL-S SURGE ARRESTORS AND CONNECT THE SURGE ARRESTOR GROUND WIRE TO EARTH GROUND HARDWARE. EARTH GROUNDING HARDWARE WOULD CONSIST OF A 8" COPPER-CLAD ROD, OR A COPPER PLATE, INSTALLED AT LEAST 8' AWAY FROM THE TWO-WIRE PATH.
- THE I022 OR H02 CONTROLLER SHOULD BE GROUND TO EARTH WITH THE GROUND ATTACHMENT ON THE SIDE OF THE TRANSFORMER COVER, TO APPROVED EARTH GROUND HARDWARE, IDEALLY TO A RESISTANCE OF 100OHMS OR LESS, AS SHOWN IN THE CONTROLLER INSTALLATION INSTRUCTIONS.

### WIRING TABLE

AMERICAN WIRE GAUGE	DISTANCE (FEET)	INTERNATIONAL WIRE mm²	DISTANCE (METERS)
18 GAUGE	908	0.8 mm²	267
16 GAUGE	1,446	1.0 mm²	333
14 GAUGE	2,292	1.5 mm²	500
12 GAUGE	3,650	2.5 mm²	833
		4.0 mm²	1,333

NOTE: DISTANCES IN THE WIRING TABLE ARE CALCULATED BASED ON 60 HZ FOR AMERICAN WIRE GAUGE, AND 50 HZ FOR INTERNATIONAL, WITH WIRE TEMPERATURE OF 122°F (50°C), AND A 10% SAFETY FACTOR

POST INSTALLATION INSPECTION (CHECK INDICATING SUBSTANTIAL COMPLETION)	
<input type="checkbox"/>	PLANTS INSTALLED AS SPECIFIED.
<input type="checkbox"/>	IRRIGATION SYSTEM INSTALLED AS DESIGNED.
<input type="checkbox"/>	MINIMAL OVER-SPRAY / RUN-OFF.
<input type="checkbox"/>	LANDSCAPE IRRIGATION AUDIT PERFORMED.
<input type="checkbox"/>	PROJECT SUBMITTAL PACKAGE AND COPY OF THIS CERTIFICATION HAS BEEN PROVIDED TO OWNER AND LOCAL WATER AGENCY.
I CERTIFY THAT THE WORK PERFORMED HAS BEEN COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.	
LANDSCAPE ARCHITECT, LIC NUMBER	DATE
POST INSTALLATION INSPECTION (SUBSEQUENT TO PRESCRIBED MAINTENANCE PERIOD)	
I WE CERTIFY THAT BASED UPON PERIODIC SITE OBSERVATION, THE WORK HAS BEEN SUBSTANTIALLY COMPLETED IN ACCORDANCE WITH THE WATER EFFICIENT LANDSCAPE ORDINANCE AND THAT THE LANDSCAPE PLANTING AND IRRIGATION INSTALLATION CONFORM WITH THE APPROVED PLANS AND SPECIFICATIONS.	
LANDSCAPE ARCHITECT, LIC NUMBER	DATE
MAINTENANCE RESPONSIBILITY	
I WE CERTIFY THAT I/WE HAVE RECEIVED ALL OF THE CONTRACTOR DOCUMENTS AND THAT IT IS OUR RESPONSIBILITY TO SEE THAT THE PROJECT IS MAINTAINED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.	
AUTHORIZED SIGNATURE	DATE

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APPROVED PLAN SET  
Permit No. LSM21-05890  
May 6, 2022 (FAS)  
Kirkland Public Works Dept.

FAIRFIELD  
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GL16.22 AGENCY SUBMITTAL

ISSUES

NOT FOR CONSTRUCTION

PROJECT NO:

FILE NAME:

DRAWN BY: CHECKED BY:

FILE DATE: 02/19/22

TITLE:

Irrigation Legends, Notes, and Calculations

DRAWING NO:

L001



Undergroud Service Alert  
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TWO WORKING DAYS BEFORE YOU DIG



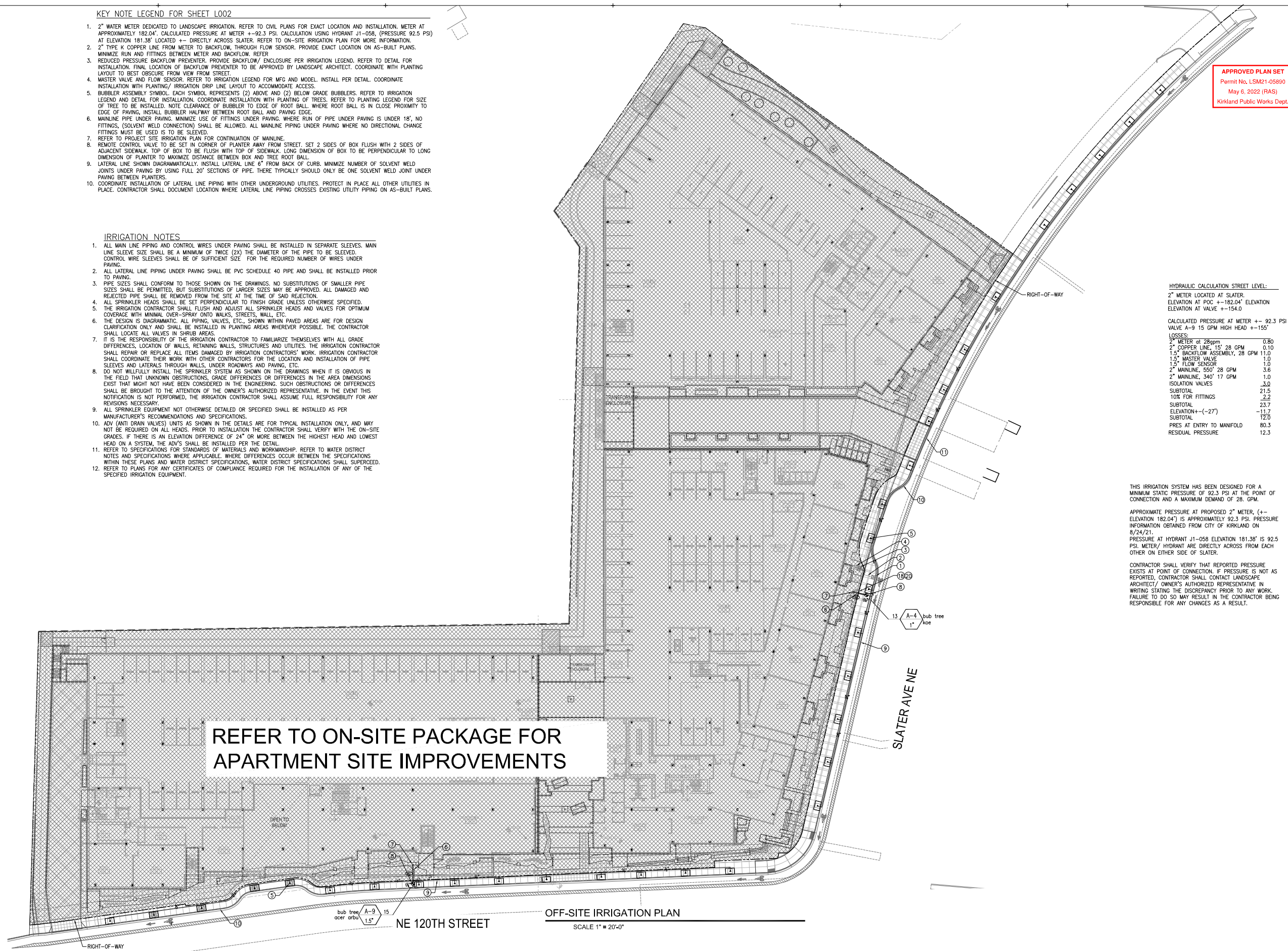
KEY NOTE LEGEND FOR SHEET L002

- 2" WATER METER DEDICATED TO LANDSCAPE IRRIGATION. REFER TO CIVIL PLANS FOR EXACT LOCATION AND INSTALLATION. METER AT APPROXIMATELY 182.04'. CALCULATED PRESSURE AT METER +-92.3 PSI. CALCULATION USING HYDRANT J1-05B, (PRESSURE 92.5 PSI) AT ELEVATION 181.38' LOCATED +- DIRECTLY ACROSS SLATER. REFER TO ON-SITE IRRIGATION PLAN FOR MORE INFORMATION.
- 2" TYPE K COPPER LINE FROM METER TO BACKFLOW THROUGH FLOW SENSOR. PROVIDE EXACT LOCATION ON AS-BUILT PLANS. MINIMIZE RUN AND FITTINGS BETWEEN METER AND BACKFLOW. REFER
- REDUCED PRESSURE BACKFLOW PREVENTER. PROVIDE BACKFLOW/ ENCLOSURE PER IRRIGATION LEGEND. REFER TO DETAIL FOR INSTALLATION. FINAL LOCATION OF BACKFLOW PREVENTER TO BE APPROVED BY LANDSCAPE ARCHITECT. COORDINATE WITH PLANTING LAYOUT TO BEST OBSERVE FROM VIEW FROM STREET.
- MASTER VALVE AND FLOW SENSOR. REFER TO IRRIGATION LEGEND FOR MFG AND MODEL. INSTALL PER DETAIL. COORDINATE INSTALLATION WITH PLANTING/ IRRIGATION DRIP LINE LAYOUT TO ACCOMMODATE ACCESS.
- BUBBLER ASSEMBLY SYMBOL. EACH SYMBOL REPRESENTS (2) ABOVE AND (2) BELOW GRADE BUBBLERS. REFER TO IRRIGATION LEGEND AND DETAIL FOR INSTALLATION. COORDINATE INSTALLATION WITH PLANTING OF TREES. REFER TO PLANTING LEGEND FOR SIZE OF TREE TO BE INSTALLED. NOTE CLEARANCE OF BUBBLER TO EDGE OF ROOT BALL. WHERE ROOT BALL IS IN CLOSE PROXIMITY TO EDGE OF PAVING, INSTALL BUBBLER HALF WAY BETWEEN ROOT BALL AND PAVING EDGE.
- MAINLINE PIPE UNDER PAVING. MINIMIZE USE OF FITTINGS UNDER PAVING. WHERE RUN OF PIPE UNDER PAVING IS UNDER 18", NO FITTINGS, (SOLVENT WELD CONNECTION) SHALL BE ALLOWED. ALL MAINLINE PIPING UNDER PAVING WHERE NO DIRECTIONAL CHANGE FITTINGS MUST BE USED IS TO BE SLEAVED.
- REFER TO PROJECT SITE IRRIGATION PLAN FOR CONTINUATION OF MAINLINE.
- REMOTE CONTROL VALVE TO BE SET IN CORNER OF PLANTER AWAY FROM STREET. SET 2 SIDES OF BOX FLUSH WITH 2 SIDES OF ADJACENT SIDEWALK. TOP OF BOX TO BE FLUSH WITH TOP OF SIDEWALK. LONG DIMENSION OF BOX TO BE PERPENDICULAR TO LONG DIMENSION OF PLANTER TO MAXIMIZE DISTANCE BETWEEN BOX AND TREE ROOT BALL.
- LATERAL LINE SHOWN DIAGRAMMATICALLY. INSTALL LATERAL LINE 6" FROM BACK OF CURB. MINIMIZE NUMBER OF SOLVENT WELD JOINTS UNDER PAVING BY USING FULL 20' SECTIONS OF PIPE. THERE TYPICALLY SHOULD ONLY BE ONE SOLVENT WELD JOINT UNDER PAVING BETWEEN PLANTERS.
- COORDINATE INSTALLATION OF LATERAL LINE PIPING WITH OTHER UNDERGROUND UTILITIES. PROTECT IN PLACE ALL OTHER UTILITIES IN PLACE. CONTRACTOR SHALL DOCUMENT LOCATION WHERE LATERAL LINE PIPING CROSSES EXISTING UTILITY PIPING ON AS-BUILT PLANS.

IRRIGATION NOTES

- ALL MAIN LINE PIPING AND CONTROL WIRES UNDER PAVING SHALL BE INSTALLED IN SEPARATE SLEEVES. MAIN LINE SLEEVE SIZE SHALL BE A MINIMUM OF TWICE (2X) THE DIAMETER OF THE PIPE TO BE SLEAVED. CONTROL WIRE SLEEVES SHALL BE OF SUFFICIENT SIZE FOR THE REQUIRED NUMBER OF WIRES UNDER PAVING.
- ALL LATERAL LINE PIPING UNDER PAVING SHALL BE PVC SCHEDULE 40 PIPE AND SHALL BE INSTALLED PRIOR TO PAVING.
- PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF SAID REJECTION.
- ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
- THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS AND VALVES FOR OPTIMUM COVERAGE WITH MINIMAL OVER-SPRAY ONTO WALKS, STREETS, WALL, ETC.
- THE DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE. THE CONTRACTOR SHALL LOCATE ALL VALVES IN SHRUB AREAS.
- IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE THEMSELVES WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, STRUCTURES AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY IRRIGATION CONTRACTORS' WORK. IRRIGATION CONTRACTOR SHALL COORDINATE THEIR WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS THROUGH WALLS, UNDER ROADWAYS AND PAVING, ETC.
- DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
- ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
- ADV (ANTI DRAIN VALVES) UNITS AS SHOWN IN THE DETAILS ARE FOR TYPICAL INSTALLATION ONLY, AND MAY NOT BE REQUIRED ON ALL HEADS. PRIOR TO INSTALLATION THE CONTRACTOR SHALL VERIFY WITH THE ON-SITE GRADES. IF THERE IS AN ELEVATION DIFFERENCE OF 24" OR MORE BETWEEN THE HIGHEST HEAD AND LOWEST HEAD ON A SYSTEM, THE ADV'S SHALL BE INSTALLED PER THE DETAIL.
- REFER TO SPECIFICATIONS FOR STANDARDS OF MATERIALS AND WORKMANSHIP. REFER TO WATER DISTRICT NOTES AND SPECIFICATIONS WHERE APPLICABLE. WHERE DIFFERENCES OCCUR BETWEEN THE SPECIFICATIONS WITHIN THESE PLANS AND WATER DISTRICT SPECIFICATIONS, WATER DISTRICT SPECIFICATIONS SHALL SUPERSEDE. REFER TO PLANS FOR ANY CERTIFICATES OF COMPLIANCE REQUIRED FOR THE INSTALLATION OF ANY OF THE SPECIFIED IRRIGATION EQUIPMENT.

REFER TO ON-SITE PACKAGE FOR APARTMENT SITE IMPROVEMENTS



APPROVED PLAN SET  
Permit No. LSM21-05890  
May 6, 2022 (RAS)  
Kirkland Public Works Dept.

HYDRAULIC CALCULATION STREET LEVEL:

2" METER LOCATED AT SLATER.  
ELEVATION AT POC +-182.04' ELEVATION  
ELEVATION AT VALVE +-154.0

CALCULATED PRESSURE AT METER +- 92.3 PSI  
VALVE A-9 15 GPM HIGH HEAD +-155'

LOSSES:

2" METER at 28gpm	0.80
2" COPPER LINE, 15' 28 GPM	0.10
1.5" BACKFLOW ASSEMBLY, 28 GPM	11.0
1.5" MASTER VALVE	1.0
1.5" FLOW SENSOR	1.0
2" MAINLINE, 550' 28 GPM	3.6
2" MAINLINE, 340' 17 GPM	1.0
ISOLATION VALVES	3.0
SUBTOTAL	21.5
10% FOR FITTINGS	2.2
SUBTOTAL	23.7
ELEVATION+(-27')	-11.7
SUBTOTAL	12.0
PRES AT ENTRY TO MANHOLE	80.3
RESIDUAL PRESSURE	12.3

THIS IRRIGATION SYSTEM HAS BEEN DESIGNED FOR A MINIMUM STATIC PRESSURE OF 92.3 PSI AT THE POINT OF CONNECTION AND A MAXIMUM DEMAND OF 28. GPM.

APPROXIMATE PRESSURE AT PROPOSED 2" METER, (+- ELEVATION 182.04') IS APPROXIMATELY 92.3 PSI. PRESSURE INFORMATION OBTAINED FROM CITY OF KIRKLAND ON 8/24/21.

PRESSURE AT HYDRANT J1-05B ELEVATION 181.38' IS 92.5 PSI. METER/ HYDRANT ARE DIRECTLY ACROSS FROM EACH OTHER ON EITHER SIDE OF SLATER.

CONTRACTOR SHALL VERIFY THAT REPORTED PRESSURE EXISTS AT POINT OF CONNECTION. IF PRESSURE IS NOT AS REPORTED, CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT/ OWNER'S AUTHORIZED REPRESENTATIVE IN WRITING STATING THE DISCREPANCY PRIOR TO ANY WORK. FAILURE TO DO SO MAY RESULT IN THE CONTRACTOR BEING RESPONSIBLE FOR ANY CHANGES AS A RESULT.

cutlerjohnson + culture  
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Anil Verma Associates, Inc.  
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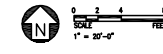
PROJECT NO: 090209  
FILE NAME:  
DRAWN BY: J. Korman  
CHECKED BY: J. Korman  
PLOT DATE: 02/16/22  
TITLE:

Irrigation Plan (Off-Site)

DRAWING NO:

L002

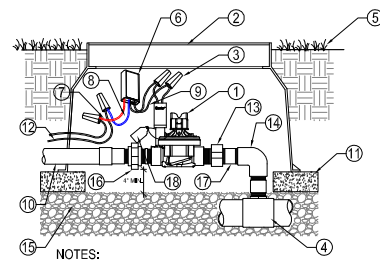
- NOTES:
- REFER TO ON-SITE APARTMENT PROJECT PLANS FOR IRRIGATION SCHEDULES, WATER USE CALCULATIONS AND SPECIFICATIONS.
  - REFER TO L001 FOR IRRIGATION LEGEND, HYDRAULIC CALCULATIONS, WATER USE STATEMENTS, NOTES
  - REFER TO L003 FOR IRRIGATION DETAILS.



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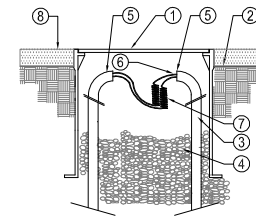
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- NOTES:**
- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  - INSTALL NO MULTIPLE ASSEMBLIES.
  - INSTALL 12" FROM AND PERPENDICULAR TO PAVEMENT.
  - USE TEFLON TAPE ON ALL THREADED FITTINGS.
- LEGEND**
- REMOTE CONTROL VALVE. VALVE DEPTH: 6" MIN. 12" MAX BELOW FINISH GRADE.
  - 12" X 17" PLASTIC BOX AND LOCKABLE COVER (MARKED "IRRIGATION & REMOTE CONTROL VALVE NUMBER") - GREEN
  - WATERPROOF WIRE CONNECTOR
  - MAINLINE SCH 40 PVC FITTING WITH SOLVENT WELD OUTLET
  - FINISH GRADE. SET BOX 2" ABOVE FINISH GRADE.
  - HUNTER EZ DECODER.
  - RED WIRE AT DECODER.
  - BLUE WIRE AT DECODER.
  - BLACK WIRES (2) AT DECODER TO SOLENOID CONTROL WIRES.
  - PVC LATERAL PIPE TO SPRINKLERS.
  - COMMON BRICK, (4) REQUIRED.
  - HUNTER JACKETED DIK-8100 OR APPROVED EQUIVALENT CABLE DAISY CHAINED TO NEXT VALVE OR CONTROLLER. REFER TO LEGEND.
  - SCH 40 PVC MALE ADAPTER, (2) REQUIRED.
  - SCH 40 PVC ELL.
  - 3/4" ROCK, MIN. 8" DEEP.
  - SCH 40 PVC UNION.
  - PVC SCH 80 NIPPLES.
  - ID TAG.

**REMOTE CONTROL VALVE**

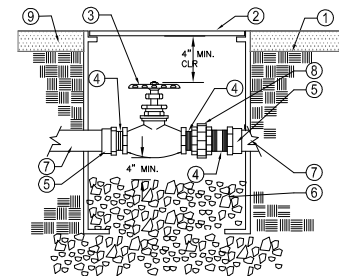
Scale: N.T.S. det-rcv-rcv



- NOTES:**
- SEAL PIPE OPENING WITH SILICON SEALANT TO PREVENT INTRUSION OF DIRT, WATER AND INSECTS.
  - WHERE PULL BOX MUST BE INSTALLED IN PAVEMENT, CONCRETE BOX WITH CAST IRON LID MUST BE USED. TOP OF BOX TO LAY FLUSH WITH ADJACENT PAVING.
- LEGEND**
- CARSON PLASTIC VALVE BOX W/GREEN LID OR APPROVED EQUIVALENT. INSTALL SIZE AS REQ. HEAT BRAND LID "PB"
  - FINISH GRADE. SET 1" BELOW TOP OF BOX IN SHRUB AREAS. PULL BOXES INSTALLED IN PAVING SHALL BE CONCRETE WITH STEEL LID. ADD BOX EXTENSIONS AS NEEDED.
  - PVC CONDUIT RISER. SIZE AS REQ.
  - MINIMUM 1.5 CUBIC FEET OF 3/4" GRAVEL.
  - PVC SWEEP ELL. SIZE AS REQ.
  - SEAL ENDS OF SWEEP ELLS TO PREVENT WATER, DIRT AND INSECT INTRUSION.
  - 24" COIL OF RCV WIRES
  - SHREDDED MULCH LAYER. REFER TO PLANTING PLAN FOR DEPTH REQUIREMENTS. MULCH TO LAY FLUSH WITH TOP OF BOX.

**PULL BOX**

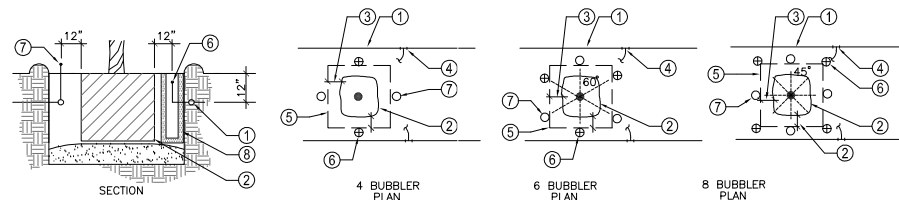
Scale: N.T.S. det-rcv-pull-box



- LEGEND**
- FINISH GRADE. INSTALL BOX 2" ABOVE FINISH GRADE IN SHRUB AREAS. REFER TO PLANTING PLAN FOR MULCH DEPTH REQUIREMENTS. TOP OF MULCH SHALL BE FLUSH WITH TOP OF BOX.
  - 12" DIAMETER PLASTIC ROUND VALVE BOX. WITH STAINLESS STEEL LOCK DOWN BOLT. HEAT BRAND "GV" ON BOX LID. INSTALL PLASTIC VALVE BOX IN FINISH GRADE AREA ONLY. IF GATE VALVE MUST BE INSTALLED IN CONCRETE, INSTALL CONCRETE VALVE BOX WITH CAST IRON DIAMOND PLATE LOCKING LID.
  - GATE VALVE WITH HAND WHEEL OR OPERATING NUT. REFER TO LEGEND FOR MAKE AND MODEL.
  - INSTALL SCH 80 PVC NIPPLES, LENGTH AS REQUIRED. SIZE SHALL MATCH SIZE OF VALVE.
  - PVC SCH 40 ADAPTER, 2 REQUIRED.
  - MINIMUM 1 CUBIC FOOT OF 3/4" GRAVEL COMPACTED. INSTALL FILTER FABRIC BETWEEN GRAVEL AND SUB-GRADE.
  - PVC MAINLINE. REFER TO PLAN FOR SIZE. REFER TO DETAIL/ SPEC FOR REQUIRED PIPE DEPTH.
  - PVC SCH 80 UNION.
  - SHREDDED BARK MULCH. REFER TO PLANTING PLAN FOR REQUIREMENTS.

**THREADED GATE VALVE**

Scale: N.T.S. GATE VALVES 2" AND SMALLER det-rcv-gate valve

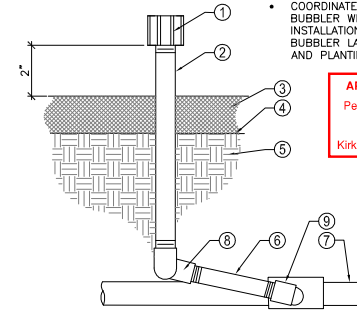


- LEGEND**
- LATERAL.
  - ROOTBALL.
  - HOLD BUBBLER 12" CLEAR OF ROOTBALL.
  - PVC TEE.
  - PLANT PIT. REFER TO TREE PLANTING DETAIL.
  - SUB-GRADE RAIN BIRD RWS BUBBLER ASSEMBLY. REFER TO DETAIL FOR INSTALLATION OF SUB-GRADE BUBBLER.
  - ABOVE GRADE BUBBLER. REFER TO DETAIL FOR INSTALLATION OF ABOVE GRADE BUBBLER.
  - 4" THICK GRAVEL ALL AROUND. REFER TO RAIN BIRD RWS SUB-GRADE BUBBLER.
  - ALTERNATE ABOVE GRADE/ SUB GRADE BUBBLERS IF BOTH ARE CALLED FOR.
  - REFER TO PLAN FOR LATERAL LINE LAYOUT.
- TREE BUBBLER QUANTITIES:**
- INSTALL 4 BUBBLERS PER TREE FOR TREE BOX SIZES 48" BOX SIZE AND SMALLER.
- TREE BUBBLER ARRANGEMENTS:**
- WHERE TREES OCCUR IN TURF, ALL BUBBLERS SHALL BE INSTALLED SUB-GRADE.
  - WHERE TREES OCCUR IN SHRUB PLANTERS WHERE IRRIGATION IS SPRAY/ ROTOR HEADS, INSTALL ALL BUBBLERS SUB-GRADE.
  - WHERE TREES OCCUR IN SHRUB PLANTERS, (IN MULCH OR DECOMPOSED GRANITE) WHERE IRRIGATION IS BUBBLER, INSTALL HALF SUB-GRADE AND HALF ABOVE GRADE.
  - WHERE TREES ARE IN TREE WELLS WITH TREE GRATES INSTALL ALL BUBBLERS SUB-GRADE. COORDINATE SUB-GRADE BUBBLER INSTALLATION WITH FLAT WORK AS REQUIRED.
  - WHERE TREES ARE IN SHRUB PLANTERS WHERE DRIP IRRIGATION IS USED INSTALL HALF ABOVE GRADE AND HALF BELOW GRADE.

**TREE BUBBLER LAYOUT**

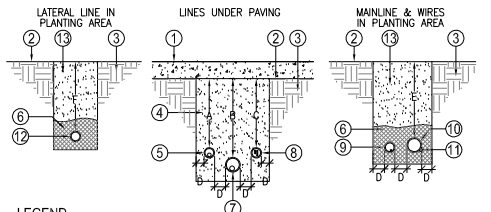
Scale: N.T.S. det-rcv-bubbler-layout

- LEGEND**
- BUBBLER NOZZLE. REFER TO IRRIGATION LEGEND.
  - 1/2" PVC SCHEDULE 80 RISER, LENGTH AS REQUIRED.
  - MULCH. REFER TO PLANTING PLAN FOR DEPTH REQUIREMENT.
  - FINISH GRADE
  - SITE SOIL.
  - SCH 80 PVC NIPPLE - 6" LONG
  - PVC SCH 40 LATERAL LINE AND TEE OR ELL FITTING.
  - MARLEX 90 DEGREE STREET ELLS.
  - PVC TXT 90 DEGREE ELL
- NOTE:**
- USE TEFLON TAPE ON ALL NON MARLEX MALE PIPE THREADS.
  - COORDINATE LOCATION OF BUBBLER WITH TREE INSTALLATION. REFER TO BUBBLER LAYOUT DETAIL AND PLANTING PLAN.



**BUBBLER ON RISER**

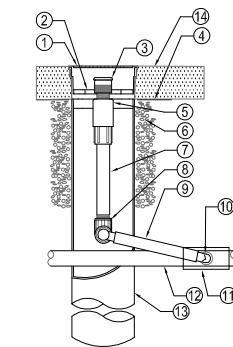
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- LEGEND**
- PAVING SURFACE.
  - EARTH SURFACE/ FINISH GRADE.
  - SITE SOIL.
  - SAND BACKFILL.
  - SLEEVED LATERAL LINE.
  - FINE BACKFILL, 2" UNDER & OVER PIPE.
  - SLEEVED MAINLINE.
  - CONTROL WIRES OR COMMUNICATION CABLE IN CONDUIT.
  - COMMUNICATION CABLE IN CONDUIT.
  - MAINLINE.
  - TAPE CONTROL WIRES TO MAINLINE EVERY 10'.
  - LATERAL LINE.
  - FINE (1/2" MAX. DIA.) GRANULAR BACKFILL.
- | LINE SIZE | DEPTH |     |     |     |     |     |
|-----------|-------|-----|-----|-----|-----|-----|
|           | A     | B   | C   | D   | E   | F   |
| 2" ID     | 24"   | 24" | 24" | 18" | -   | -   |
| 3" ID     | 30"   | 30" | 30" | 24" | 12" | -   |
| 4" ID     | 36"   | 36" | 36" | 30" | 18" | -   |
| 6" ID     | 48"   | 48" | 48" | 36" | 24" | 12" |
| 8" ID     | 60"   | 60" | 60" | 48" | 36" | 24" |
| 10" ID    | 72"   | 72" | 72" | 60" | 48" | 36" |
- NOTE:**
- TRENCHES SHALL BE WIDE ENOUGH TO ALLOW 4" MINIMUM HORIZONTAL CLEARANCE BETWEEN PARALLEL PIPES.
  - SNAKE PLASTIC PIPES FROM SIDE TO SIDE WITHIN TRENCH TO ALLOW FOR MOVEMENT.
  - TI A 20" LOOP IN ALL WIRING AT CHANGES IN DIRECTION. UNITE PRIOR TO BACKFILLING TRENCHES.

**TRENCH DEPTH/ LINE SPACING**

Scale: N.T.S. 02800-01



- LEGEND**
- 4" GRATE INCLUDED IN RWS ASSEMBLY.
  - RAIN BIRD ROOT WATERING SYSTEM, (RWS) ASSEMBLY. REFER TO IRRIGATION LEGEND.
  - BUBBLER INCLUDED IN RWS ASSEMBLY. REFER TO LEGEND.
  - FINISH GRADE.
  - CHECK VALVE INCLUDED IN RWS ASSEMBLY.
  - PEA GRAVEL. INSTALL 4" THICK MIN. ALL AROUND.
  - 1/2" SCH 80 PVC RISER. INCLUDED IN RWS ASSEMBLY.
  - 1/2" MARLEX ELLS. INCLUDED IN RWS ASSEMBLY.
  - RAIN BIRD 12" SWING PIPE ASSEMBLY INCLUDED IN RWS ASSEMBLY.
  - 1/2" MALE NPT INLET
  - PVC SCHEDULE 40 TEE OR ELL.
  - PVC SCH 40 LATERAL LINE.
  - RAIN BIRD 4" DIAMETER BASKET WEAVE CONTAINER INCLUDED IN RWS ASSEMBLY.
  - SHREDDED BARK MULCH. REFER TO PLANTING PLAN FOR DEPTH REQUIREMENT.
- NOTES:**
- REFER TO IRRIGATION LEGEND.
  - REFER TO BUBBLER LAYOUT FOR ABOVE AND SUB GRADE BUBBLER ARRANGEMENT.
  - COORDINATE LOCATION OF BUBBLERS WITH TREE LOCATION, ROOT BALL.

**SUB-GRADE BUBBLER**

Scale: no scale M VALVE

**ANIL VERMA ASSOCIATES, INC.**  
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DATE: 02/16/22 AGENCY SUBMITTAL

ISSUES:

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PROJECT NO: 584220  
 FILE NAME:  
 DRAWN BY: CHECKED BY:  
 PLOT DATE: 02/16/22  
 TITLE:  
 Irrigation Details

DRAWING NO: L003

TREE LEGEND - Sunset Western Garden Zone 4

SYMBOLS	BOTANIC NAME	COMMON NAME	SIZE	SPACING	QUANTITY	WUCOLS COEFFICIENT	WATER USAGE	SOIL pH PREFERENCE	REMARKS
	AU Arbutus unedo 'Marino'	Strawberry Tree	B&B: 12'-14" HT X 48"-60" SPRD, 2"-3-1/2" CALIPER	Per Plan	5	.2	Low	Sandy/Loam (pH 5.0-6.5)	Multi-trunk Accent
	AM Acer macrophyllum	Big Leaf Maple	B&B: 8'-10" HT X 36"-48" SPRD, 1-1/2"-2-1/2" CALIPER	Per Plan	10	.5	Med	Sandy/Loam (pH 6.5-7.5)	Standard
	KP Koeleruteria paniculata	Golden Rain Tree	B&B: 10'-12" HT X 36"-48" SPRD, 2" CALIPER	Per Plan Keep trees 4' from edge of pavements	13	.5	Medium	Sandy/Loam (pH 5.2-7.5)	Single Trunk

Note:

Contractor shall take extra care in transporting, moving and planting Arbutus. Root ball is very sensitive.

GENERAL PLANTING NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES OR STRUCTURES.
- DO NOT WILLFULLY PROCEED WITH PLANTING OPERATIONS AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING THE DESIGN PROCESS. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO THE FAILURE TO GIVE SUCH NOTIFICATION PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
- REFER TO THE SPECIFICATIONS FOR PLANTING REQUIREMENTS, MATERIALS AND EXECUTION.
- IF CONFLICTS ARISE BETWEEN THE ACTUAL SIZE OF AREAS ON THE SITE AND THE DRAWINGS, CONTACT THE GENERAL CONTRACTOR FOR RESOLUTION. UNLESS OTHERWISE DIRECTED, THE CONTRACTOR SHALL ASSUME THE MORE EXPENSIVE OF THE TWO OPTIONS.
- ALL TREES WITHIN A SPECIES SHALL HAVE MATCHING FORM, UNLESS NOTED OTHERWISE ON PLANTING PLAN.
- THE CONTRACTOR SHALL HAVE SOIL SAMPLES TAKEN OF EACH SHIPMENT OF IMPORT SOIL TO THE SITE, EVEN SAMPLES BROUGHT FROM OTHER LOCATIONS ON SITE. THE SAMPLES SHALL BE TESTED BY A QUALIFIED SOILS TESTING LABORATORY FOR SOIL FERTILITY, AGRICULTURAL SUITABILITY, AND SOIL PREPARATION RECOMMENDATIONS. EACH SOIL SAMPLE SHALL CONTAIN APPROXIMATELY ONE (1) QUART OF SOIL. THE CONTRACTOR MAY BE REQUESTED TO AMEND THE SOIL TO CONFORM TO THESE RECOMMENDATIONS.
- THE CONTRACTOR SHALL HAVE SOIL SAMPLES TAKEN FROM THE TWO (2) AREAS IDENTIFIED IN THE DRAWINGS. THE SAMPLES SHALL BE TESTED BY WALLACE LABORATORIES, EL SEGUNDO, FOR SOIL FERTILITY, AGRICULTURAL SUITABILITY, N-P-K, pH, EC, SOIL TEXTURE (SILT, CLAY, SAND) AND SOIL PREPARATION RECOMMENDATIONS. THE CONTRACTOR MAY BE REQUESTED TO AMEND THE SOIL TO CONFORM TO THESE RECOMMENDATIONS. ANY AMENDMENT HOWEVER, WOULD BE REQUESTED OF THE CONTRACTOR ONLY UPON WRITTEN RECEIPT OF CHANGE ORDER FROM THE OWNER. THE RESULTS AND RECOMMENDATIONS OF THE SOIL TESTING LABORATORY SHALL BE SUBMITTED TO AND APPROVED BY THE OWNER. THE APPROVED RECOMMENDATIONS FOR AMENDMENTS AND BACKFILL SHALL BE INCORPORATED INTO THE LANDSCAPE PLANTS PRIOR TO THE START OF CONSTRUCTION AND SHALL BECOME PART OF THE APPROVED PLANS.
- 24" BOX & 36" BOX SIZE TREES TO BE DOUBLE STAKED. 48" BOX SIZED TREES AND LARGER ARE TO BE EITHER GUYED OR DOUBLE STAKED UPON DIRECTION FROM THE OWNER'S AUTHORIZED REPRESENTATIVE.
- PLANT QUANTITIES LABELED ON ALL PLANS ARE FOR IN-HOUSE REFERENCE PURPOSES ONLY. THE PLANT SPACING SHOWN ON THE PLANTING LEGEND SHALL TAKE PRECEDENCE DURING BIDDING AND CONSTRUCTION PHASES. THE ONUS IS UPON THE CONTRACTOR TO CALCULATE FINAL PLANT QUANTITIES.
- AT LOCATIONS WHERE EXISTING PAVING/SLABS ARE REMOVED AND INSTALLATION OF NEW PLANTING AREAS IS INDICATED, CONTRACTOR SHALL REMOVE THE TOP 24 INCHES (DEPTH) OF SOIL BELOW BASE AND REPLACE TO A 24 INCH DEPTH WITH TESTED AND OAR APPROVED IMPORTED PLANTING SOIL.
- LANDSCAPE IRRIGATION SYSTEM SHALL BE DESIGNED AND MAINTAINED TO PREVENT SPRAY ON STRUCTURES. (Title 31, Section 5.407.2.1)

SOIL TESTING

- SEE SPECIFICATIONS.
- CONDUCT ON-SITE SOIL TESTS AT LOCATIONS SHOWN ON DRAWINGS WITH THIS SYMBOL: SOIL TEST  
CONDUCT 2 TESTS PER LOCATION:  
1) SAMPLE TAKEN FROM FINISH GRADE SURFACE  
2) SAMPLE TAKEN FROM AN 18" SOIL DEPTH
- FOR IMPORTED SOIL, CONDUCT 2 (TWO) TESTS PER SOURCE.

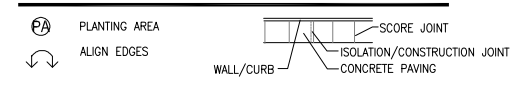
PAVING SCHEDULE

SYMBOL	DETAIL	DESCRIPTION	PATTERN	COLOR	FINISH	JOINT	REINFORCEMENT	COMMENTS
P2	REFER TO CIVIL DETAILS	CONCRETE PAVING (ON GRADE) (NORTH OF BLDG C ON STRUCT)	PER PLANS	NATURAL GRAY	TOP-CAST 25	SAWCUT	PER CIVIL DWGS	VEHICULAR GARAGE ENTRY ON NE 120TH ST
P3		CONCRETE PEDESTRIAN PAVING (ON GRADE AND ON STRUCTURE)	PER PLANS	NATURAL GRAY	MEDIUM BROOM	TOOLED	PER CIVIL DWGS	NE 120TH ST, SLATER AVE
P4					HEAVY SANDBLAST			
P19	1/ L004	DECORATIVE COBBLE (AT TREES) (OG)	EARTHSTONEROCK.COM	BEACH PEBBLE MIXED COLOR 1	NA	NA	NA	STREET LEVEL

COORDINATION AND REFERENCE NOTES

SYMBOL	REFERENCE	DESCRIPTION
①	PROPERTY LINE	PER CIVIL ENGINEER'S DWGS
②	EXISTING SIDEWALK	EXISTING TO REMAIN PER CIVIL ENGINEER'S DWGS
③	PROPOSED CURB	PER CIVIL ENGINEER'S DWGS
④	BIKE LANE	PER CIVIL ENGINEER'S DWGS
⑤	CURB RAMP	PER CIVIL ENGINEER'S DWGS
⑥	PUBLIC RIGHT-OF-WAY	PER CIVIL ENGINEER'S DWGS
⑦	LIGHT POLE	PER ELECTRICAL ENGINEER'S DWGS
⑧	VEHICULAR LOADING ZONE	PER CIVIL ENGINEER'S DWGS
⑨	UNDERGROUND STRUCTURAL WALL	PER CIVIL DRAWINGS
⑩	ISOLATION JOINT AT UNDERGROUND STRUCTURAL WALL	PER CIVIL DRAWINGS

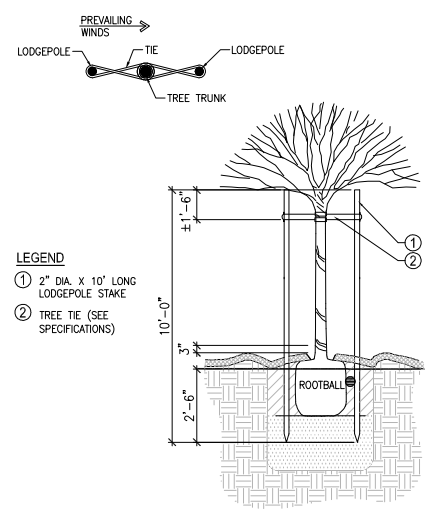
SYMBOL LEGEND



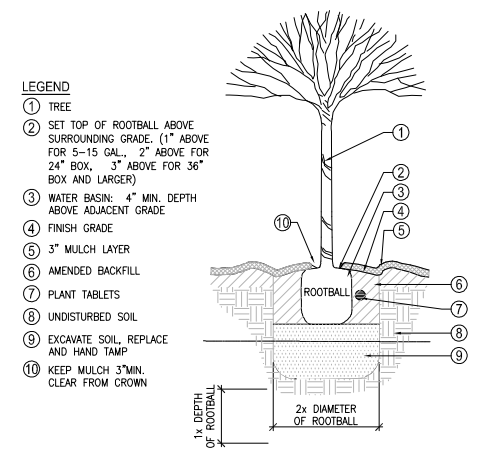
MANUFACTURERS AND SUPPLIERS

- PAVING**
- INTEGRAL COLOR CONCRETE - DAVIS COLORS: (800) 356-4848
  - DECORATIVE COBBLE - KRC ROCK: (760) 744-1036 OR APPROVED EQUAL
- GENERAL NOTES:**
- CONSTRUCTION SHALL COMPLY WITH THE PLANS OR APPLICABLE LOCAL BUILDING CODES & ORDINANCES WHERE THEIR REQUIREMENTS ARE MORE SPECIFIC OR STRINGENT
  - EXISTING DRAWINGS & SITE VISITATION: CONTRACTOR SHALL VISIT THE SITE, EXAMINE THE EXISTING CONDITIONS OF THE NEW CONSTRUCTION & DETERMINE TO THEIR SATISFACTION THE METHODS & PROCEDURE, REMOVAL & STORAGE OF MATERIALS, SEQUENCING OF OPERATIONS AND CONDITIONS WHICH AFFECT ITS WORK & PROBLEMS ATTENDANT HERETO. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY TO THE CONTRACTOR FOR ATTENDANT HERETO AND/OR FOR ERRORS THROUGH NEGLIGENCE IN EXAMINING SITE CONDITIONS
  - COORDINATE HARDSCAPE WORK W/ ALL DISCIPLINES FOR SLEEVEING, CONDUITS, ANCHOR BOLTS, ETC.
  - DIMENSIONS ARE FROM OUTSIDE FACE OF PAVING, WALLS, ETC., UNLESS OTHERWISE INDICATED
  - ALL JUNCTION & VALVE BOXES SHALL BE IN PLANTING AREAS AS APPROVED BY OWNER. STAKE LOCATIONS BEFORE INSTALLATION FOR APPROVAL BY OWNER

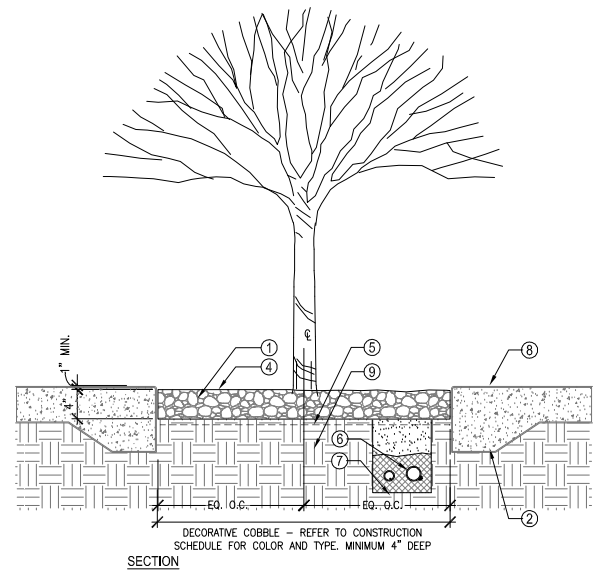
NOTES:  
1. REFER TO ON-SITE APARTMENT PROJECT PLANS FOR IRRIGATION SPECIFICATIONS



DOUBLE TREE STAKING  
Scale: 1" = 1'-0"  
planting\_doublestake 3



TREE PLANTING  
Scale: 1" = 1'-0"  
planting\_tree 2

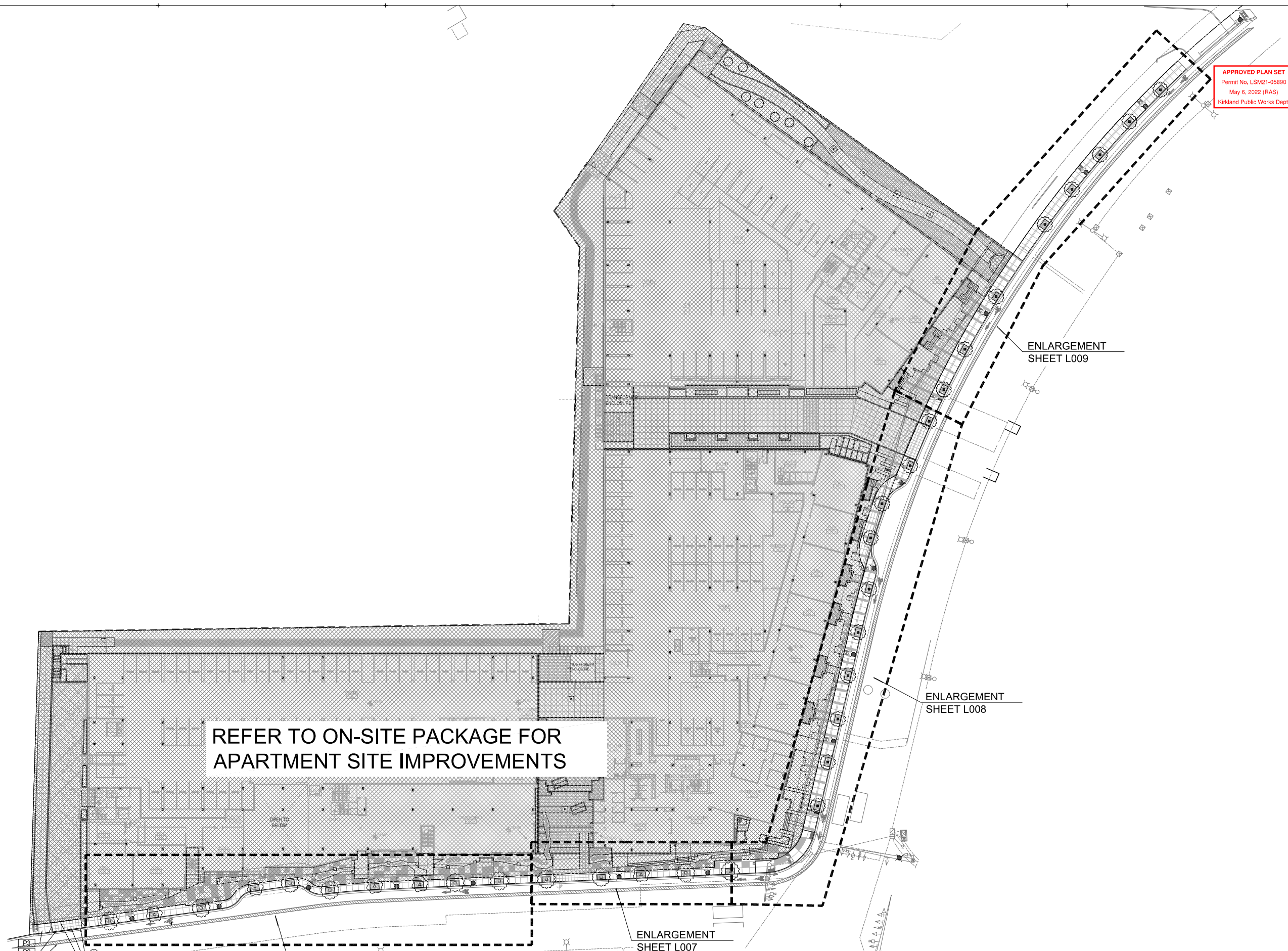


DECORATIVE COBBLE ON GRADE AT TREE WELLS  
Scale: 1-1/2" = 1'-0"  
pav\_gravel3 bush\_log 1

ALL IDEAS, DESIGN ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THIS DRAWING ARE OWNED BY AND THE PROPERTY OF CARRIER JOHNSON + CULTURE AND WERE CREATED, DEVELOPED AND/OR REVISED FOR USE ON AND IN CONNECTION WITH THIS PROJECT. NONE OF SUCH IDEAS, DESIGN ARRANGEMENTS, OR PLANS SHALL BE USED BY OR DISCLOSED TO ANY PERSON, FIRM, OR CORPORATION FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF CARRIER JOHNSON + CULTURE. FILING THESE DRAWINGS OR SPECIFICATIONS WITH ANY PUBLIC AGENCY IS NOT A PUBLICATION OF SAME. NO COPYING, REPRODUCTION OR USE THEREOF IS PERMISSIBLE WITHOUT THE CONSENT OF CARRIER JOHNSON.



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REFER TO ON-SITE PACKAGE FOR APARTMENT SITE IMPROVEMENTS

APPROVED PLAN SET  
Permit No. LSM21-05890  
May 6, 2022 (RAS)  
Kirkland Public Works Dept.

CARRIER JOHNSON + CULTURE  
architectural • interior • landscape • brand strategy • graphics

Anil Verma Associates, Inc.  
44 10TH AVENUE, SUITE 200, LOS ANGELES, CA 90017  
PH: 310.441.4444, FAX: 310.441.1144, WWW.AVASSOCIATES.COM

FAIRFIELD  
RESIDENTIAL

# FAIRFIELD SLATER MIXED USE 12045 SLATER AVE NE, KIRKLAND, 98034 OFF-SITE IMPROVEMENTS

THIS SET OF DOCUMENTS HAS BEEN PREPARED FOR THE CONSTRUCTION OF AN APARTMENT PROJECT. THEREFORE, THESE DOCUMENTS ARE NOT SUITABLE FOR USE AS OR CONVERSION TO A CONFORMING PROJECT.

02.16.22 AGENCY SUBMITTAL

ISSUES:

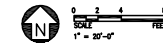
NOT FOR CONSTRUCTION

PROJECT NO: 094203  
FILE NAME:  
DRAWN BY: S. Kennedy  
CHECKED BY: J. Keenan  
PLOT DATE: 02/16/22  
TITLE:

Overall Landscape Plan (Off-Site)

L005

NOTES:  
1. REFER TO L004 FOR CONSTRUCTION SCHEDULE, PLANTING LEGEND, NOTES, AND DETAILS





THIS SET OF DOCUMENTS HAS BEEN PREPARED FOR THE CONSTRUCTION OF AN APARTMENT PROJECT. THEREFORE, IT IS PROHIBITED FROM THESE DOCUMENTS ARE NOT SUITABLE FOR USE AS OR CONVERSION TO A CONFORMING PROJECT.

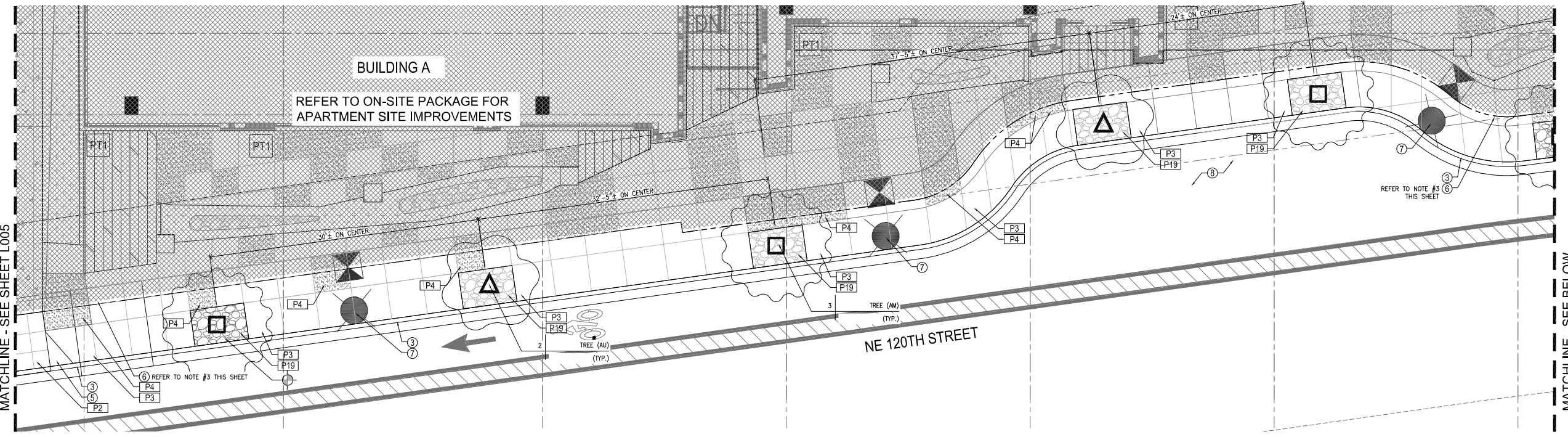
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FILE NAME:	
DRAWN BY:	Checked By:
PLOT DATE:	21/02/2022 5:09 PM
TITLE:	

NOT FOR CONSTRUCTION

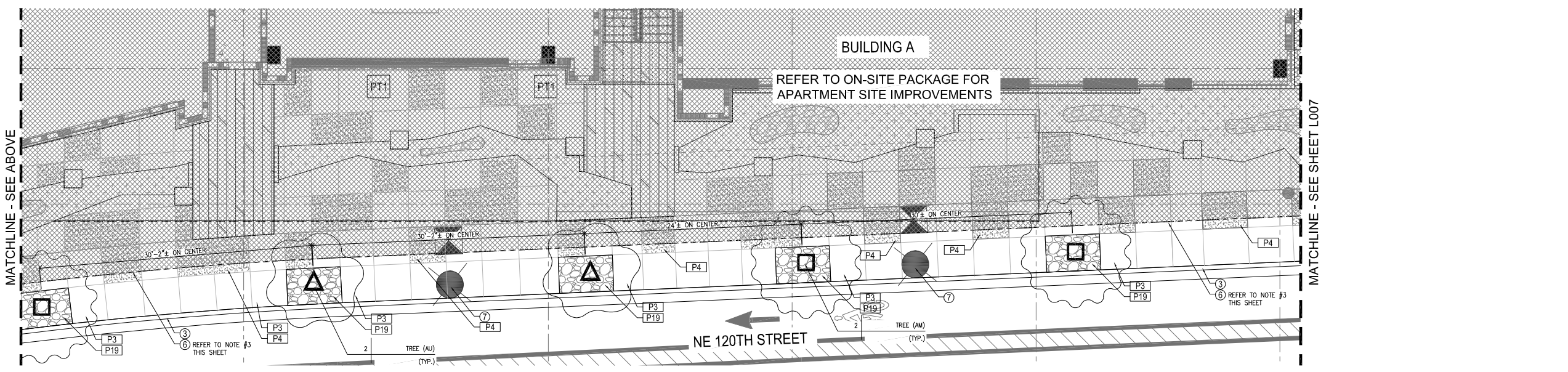
Enlarged  
 Landscape Plan  
 (Off-Site)

DRAWING NO: L-006

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ENLARGEMENT  
 SCALE 1/4" = 1'-0"

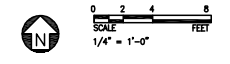


ENLARGEMENT  
 SCALE 1/4" = 1'-0"

**SYMBOL LEGEND**

	PLANTING AREA		SCORE JOINT
	ALIGN EDGES		ISOLATION / CONSTRUCTION JOINT
	RIGHT OF WAY		CONCRETE PAVING
			CONCRETE CURB

- NOTES:**
- REFER TO L004 FOR CONSTRUCTION SCHEDULE, PLANTING LEGEND, NOTES, AND DETAILS
  - PROVIDE (2) 1" SLIP DOWELS AT INTERFACE BETWEEN EXISTING WALK AND PROPOSED WALK
  - REFER TO ON-SITE PACKAGE FOR ALL APARTMENT IMPROVEMENTS





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2.11.22 CITY RE-SUBMITTAL  
 ISSUES:

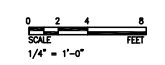
NOT FOR CONSTRUCTION

PROJECT NO: 094203  
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 DRAWN BY: S. Kennedy  
 CHECKED BY: J. Keenan  
 PLOT DATE: 2/10/2022 5:09 PM  
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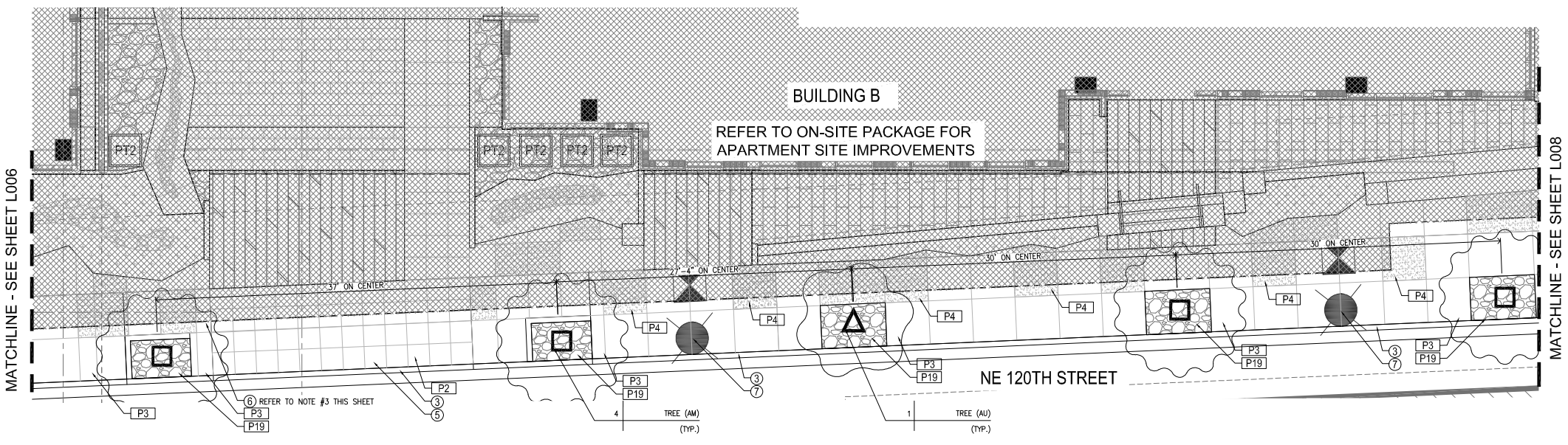
Enlarged Landscape Plan (Off-Site)

DRAWING NO: L-007

Underground Service Alert  
 Call: TOLL FREE 1-800-227-2600  
 TWO WORKING DAYS BEFORE YOU DIG



- NOTES:
- REFER TO L004 FOR CONSTRUCTION SCHEDULE, PLANTING LEGEND, NOTES, AND DETAILS
  - PROVIDE (2) 18" SLIP DOWELS AT INTERFACE BETWEEN EXISTING WALK AND PROPOSED WALK
  - REFER TO ON-SITE PACKAGE FOR ALL APARTMENT IMPROVEMENTS



ENLARGEMENT  
 SCALE 1/4" = 1'-0"

SYMBOL LEGEND

	PLANTING AREA		SCORE JOINT
	ALIGN EDGES		ISOLATION / CONSTRUCTION JOINT
	RIGHT OF WAY		CONCRETE PAVING
			CONCRETE CURB

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APPROVED PLAN SET  
Permit No. LSM21-05890  
May 6, 2022 (RAS)  
Kirkland Public Works Dept.

CARRIER JOHNSON + CULTURE  
ARCHITECTURE + LANDSCAPE ARCHITECTURE

Anil Verma Associates, Inc.  
44 50th Avenue, Suite 300, Los Angeles, CA 90011  
Tel: 310-816-1000, Fax: 310-816-1100, www.anilverma.com

FAIRFIELD  
RESIDENTIAL

# FAIRFIELD SLATER MIXED USE

12045 SLATER AVE NE, KIRKLAND, 98034

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DRAWN BY:	Checked By: J. Korman
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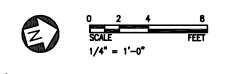
NOT FOR CONSTRUCTION

PROJECT NO:	090200
FILE NAME:	
DRAWN BY:	Checked By: J. Korman
PLOT DATE:	2/10/2022 5:00 PM
TITLE:	

Enlarged Landscape Plan (Off-Site)

DRAWING NO: L-008

Underground Service Alert  
Call: TOLL FREE 1-800-227-2600  
TWO WORKING DAYS BEFORE YOU DIG

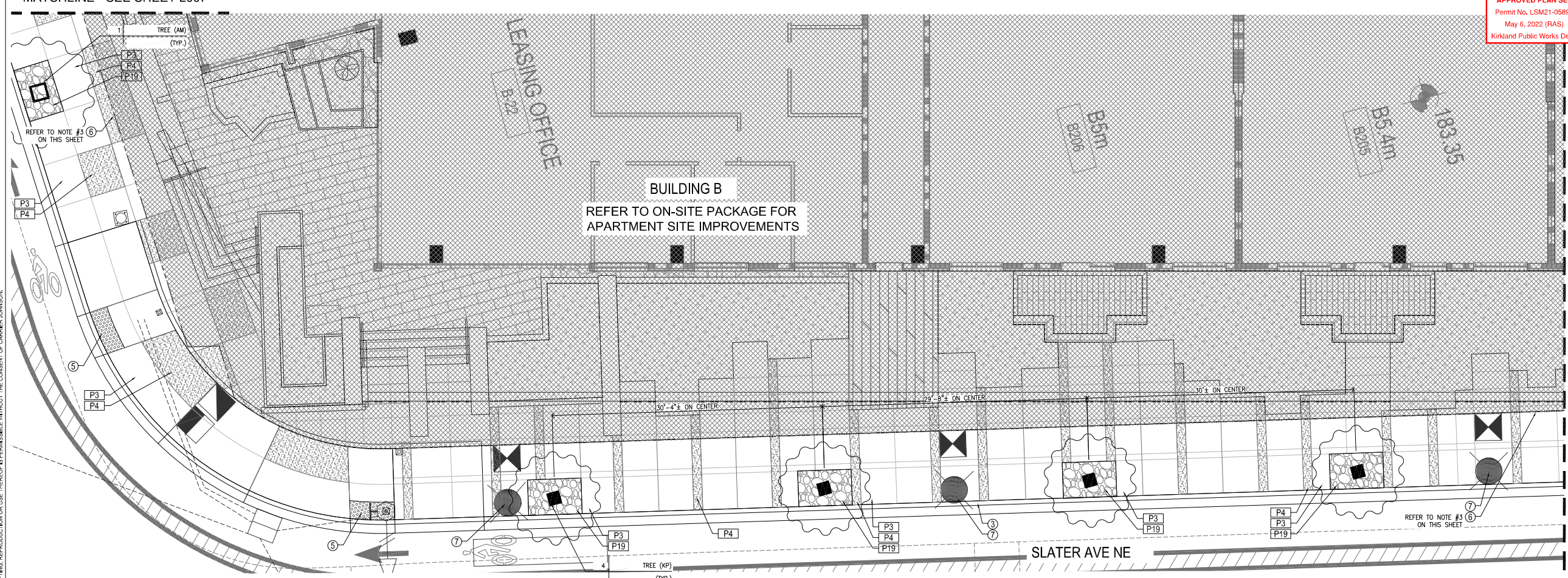


- NOTES:**
1. REFER TO L004 FOR CONSTRUCTION SCHEDULE, PLANTING LEGEND, NOTES, AND DETAILS
  2. PROVIDE (2) 1" SLIP DOWELS AT INTERFACE BETWEEN EXISTING WALK AND PROPOSED WALK
  3. REFER TO ON-SITE PACKAGE FOR ALL APARTMENT IMPROVEMENTS

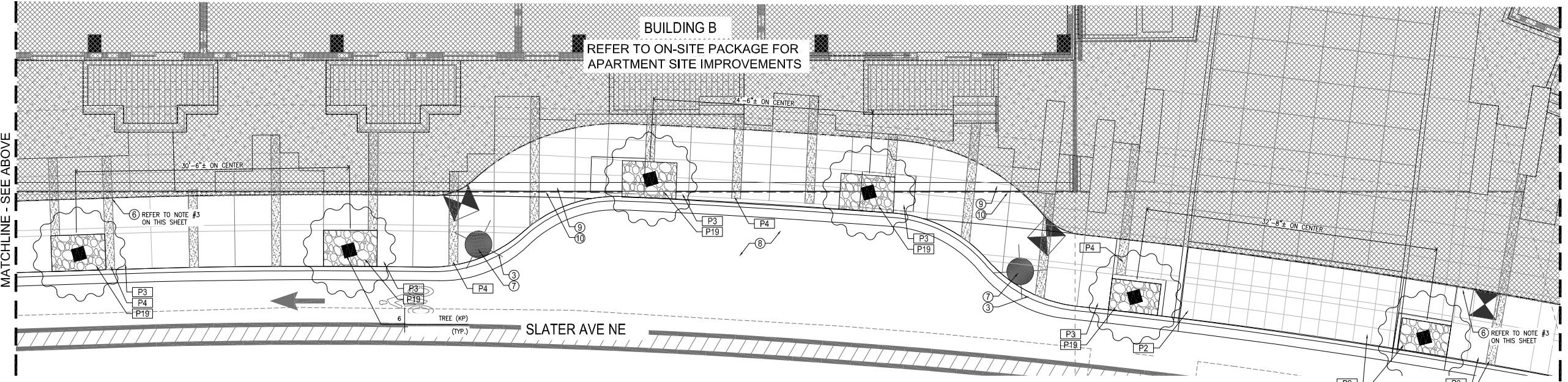
MATCHLINE - SEE SHEET L007

MATCHLINE - SEE BELOW

MATCHLINE - SEE SHEET L009



ENLARGEMENT  
SCALE 1/4" = 1'-0"



ENLARGEMENT  
SCALE 1/4" = 1'-0"

### SYMBOL LEGEND

	PLANTING AREA		SCORE JOINT
	ALIGN EDGES		ISOLATION / CONSTRUCTION JOINT
	RIGHT OF WAY		CONCRETE PAVING
			CONCRETE CURB

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FAIRFIELD SLATER MIXED USE  
 12045 SLATER AVE NE, KIRKLAND, 98034  
 OFF-SITE IMPROVEMENTS

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02.16.22 AGENCY SUBMITTAL

ISSUES:

NOT FOR CONSTRUCTION

PROJECT NO: 094203  
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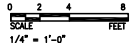
DRAWN BY: J. Korman  
 CHECKED BY: J. Korman  
 PLOT DATE: 02-16-22

TITLE:

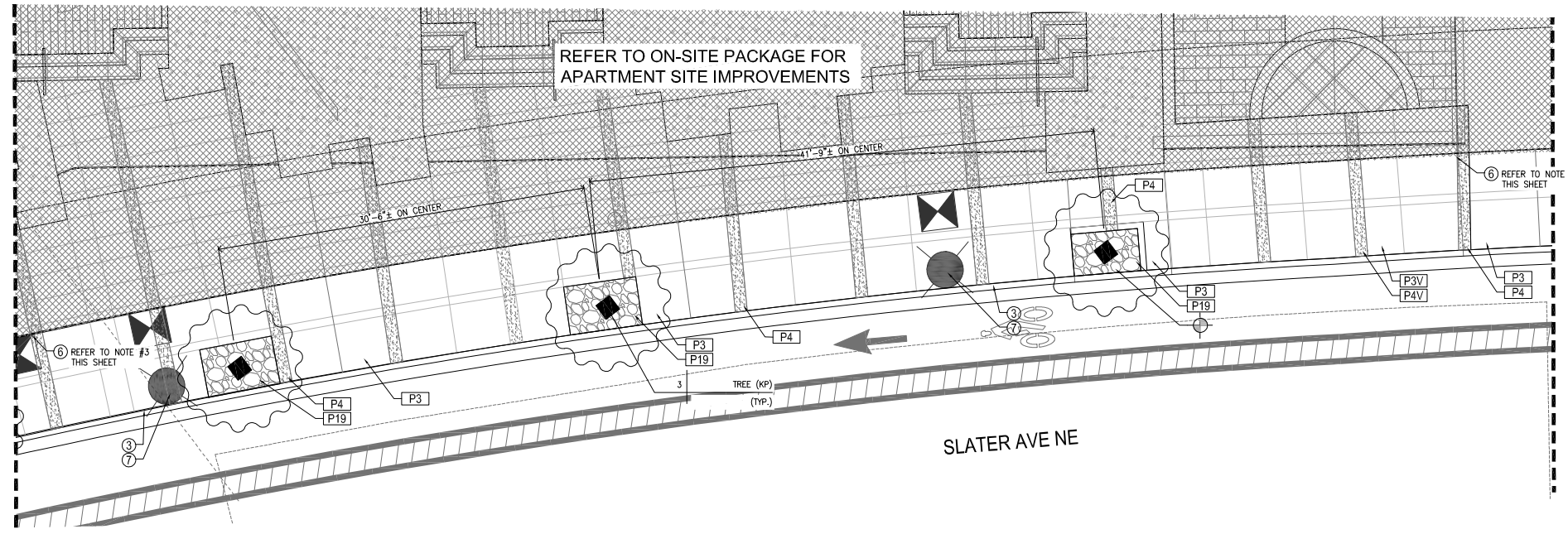
Enlarged  
 Landscape Plan  
 (Off-Site)

DRAWING NO: L-009

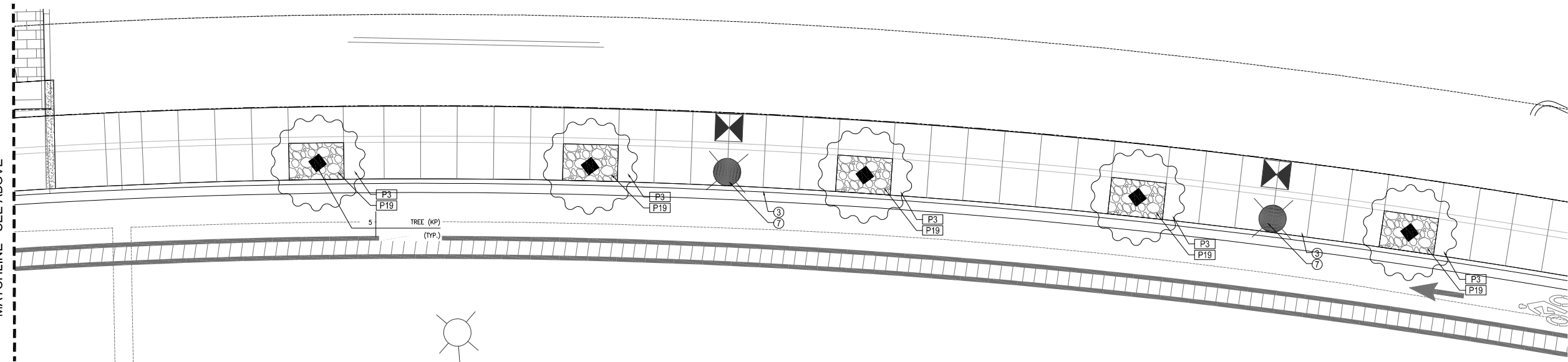
Underground  
 Service Alert  
 Call: TOLL FREE  
 1-800  
 227-2600  
 TWO WORKING DAYS BEFORE YOU DIG



- NOTES:
1. REFER TO L004 FOR CONSTRUCTION SCHEDULE, PLANTING LEGEND, NOTES, AND DETAILS
  2. PROVIDE (2) 1" SLIP DOWELS AT INTERFACE BETWEEN EXISTING WALK AND PROPOSED WALK
  3. REFER TO ON-SITE PACKAGE FOR ALL APARTMENT IMPROVEMENTS



ENLARGEMENT  
 SCALE 1/4" = 1'-0"



ENLARGEMENT  
 SCALE 1/4" = 1'-0"

SYMBOL LEGEND

- |  |               |  |                                |
|--|---------------|--|--------------------------------|
|  | PLANTING AREA |  | SCORE JOINT                    |
|  | ALIGN EDGES   |  | ISOLATION / CONSTRUCTION JOINT |
|  | RIGHT OF WAY  |  | CONCRETE PAVING                |
|  |               |  | CONCRETE CURB                  |

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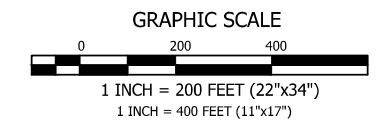
MATCHLINE - SEE SHEET L008

MATCHLINE - SEE BELOW

SLATER AVE NE

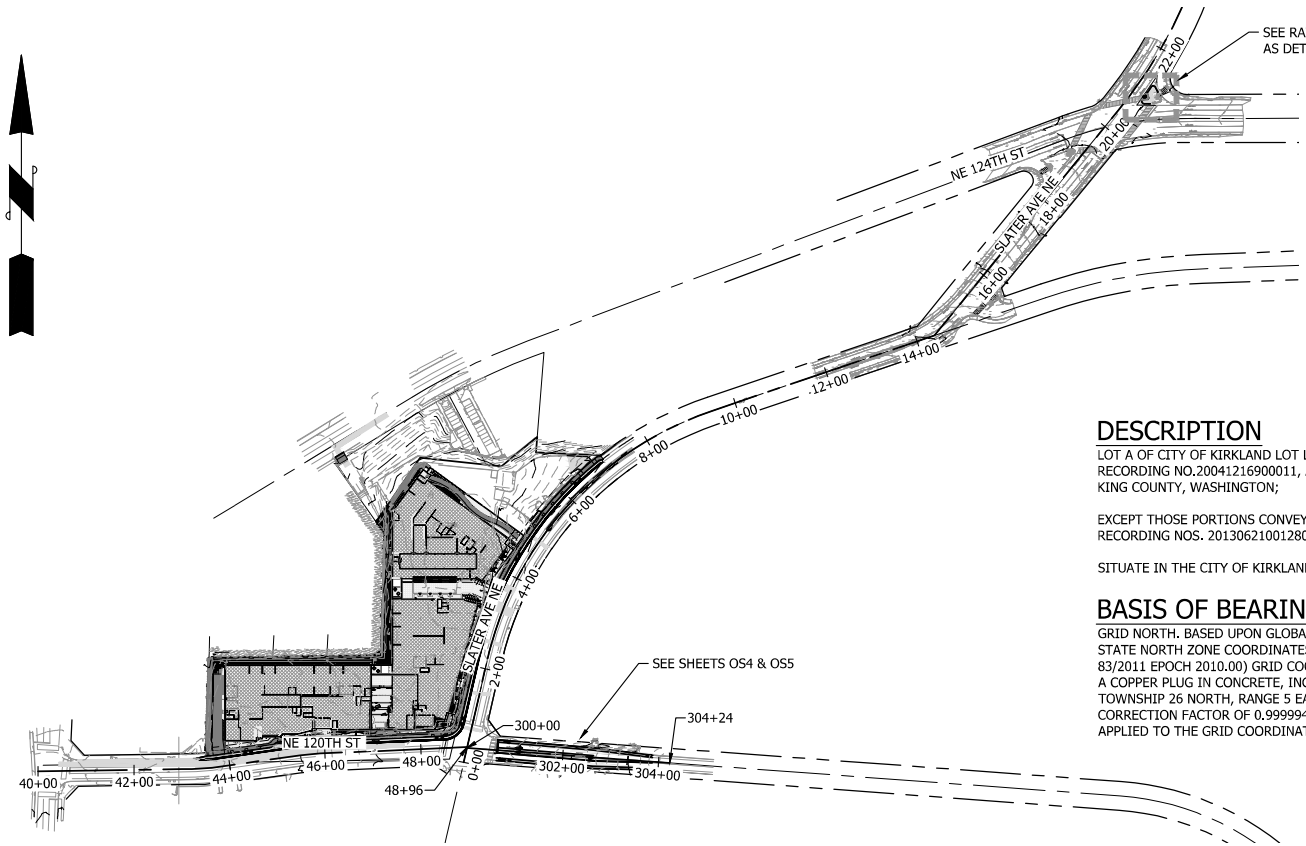


**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.



## SLATER AVE MIXED-USE OFF-SITE IMPROVEMENTS

A PORTION OF THE NW 1/4 OF THE SE 1/4 OF SECTION 28, TOWNSHIP 26N, RANGE 5E, W.M.,  
 CITY OF KIRKLAND, KING COUNTY, WASHINGTON



### DESCRIPTION

LOT A OF CITY OF KIRKLAND LOT LINE ADJUSTMENT NO. LLA-04-00011, RECORDED UNDER RECORDING NO. 20041216900011, AS AMENDED UNDER RECORDING NO. 20101018000207, IN KING COUNTY, WASHINGTON;

EXCEPT THOSE PORTIONS CONVEYED TO THE CITY OF KIRKLAND BY DEEDS RECORDED UNDER RECORDING NOS. 20130621001280 AND 20150508001554.

SITUATE IN THE CITY OF KIRKLAND, COUNTY OF KING, STATE OF WASHINGTON.

### BASIS OF BEARING

GRID NORTH, BASED UPON GLOBAL POSITIONING SYSTEM (GPS) LAMBERT GRID WASHINGTON STATE NORTH ZONE COORDINATES. THE NORTH AMERICAN DATUM OF 1983/2011 (NAD 83/2011 EPOCH 2010.00) GRID COORDINATES WERE FOUND TO BE 259666.15 / 1309890.14 AT A COPPER PLUG IN CONCRETE, INCASED, AT THE SOUTH QUARTER CORNER OF SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 EAST, W.M., THE ELEVATION OF BOTH THE SEA LEVEL CORRECTION FACTOR OF 0.9999941300 AND THE GRID SCALE FACTOR OF 0.999982034 WAS APPLIED TO THE GRID COORDINATES FOR SHOWN GROUND DISTANCES.

### VERTICAL DATUM

BASE: CITY OF KIRKLAND BENCHMARK NO. 42  
 BASE: ELEVATION: 201.064' (NAVD 88)

### TITLE REPORT NOTES

- FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT ORDER NO. NCS-943525-SA1
- 1-9) TITLE COMPANY CONCERNS. NON-SURVEY RELATED ITEMS.
  - 10-12) ITEMS CONCERNING FISCAL RESPONSIBILITY IN THE PROPERTY. NON-SURVEY RELATED.
  - 13) A SLOPE EASEMENT RECORDED UNDER RECORDING NO. 4853544. SHOWN HEREON.
  - 14) A RESTRICTIVE COVENANT RECORDED UNDER RECORDING NO. 9508070767. NON-SURVEY RELATED ITEM.
  - 15) A SLOPE EASEMENT RECORDED UNDER RECORDING NO. 20010622000860. SHOWN HEREON.
  - 16) ITEM CONCERNING LOT LINE ALTERATION NO. LLA-04-00011 RECORDED UNDER RECORDING NO. 20041216900011, MODIFIED UNDER RECORDING NO. 20101018000207, CREATING THE NORTHERLY LINE OF LOT A. SHOWN HEREON.
  - 17) A 5' SANITARY SEWER EASEMENT AND A 5' STORM DRAINAGE EASEMENT RECORDED UNDER RECORDING NO. 20050324000524. SAID SANITARY SEWER EASEMENT WAS MODIFIED UNDER RECORDING NO. 20160902000982. SHOWN HEREON.
  - 18) A WATER EASEMENT RECORDED UNDER RECORDING NO. 20120110000849. SHOWN HEREON.
  - 19) AN UNRECORDED LEASE RECORDED UNDER RECORDING NO. 20180324001333. NON-SURVEY RELATED ITEM.
  - 20) UTILITY AND ACCESS EASEMENTS RECORDED UNDER RECORDING NO. 20180327001334. SHOWN HEREON.
  - 21-25) TITLE COMPANY CONCERNS. NON-SURVEY RELATED ITEMS.

### SURVEY NOTES

- 1) THE MONUMENT CONTROL SHOWN FOR THIS SITE WAS ACCOMPLISHED BY FIELD TRAVERSE UTILIZING A ONE (1) SECOND THEODOLITE WITH INTEGRAL ELECTRONIC DISTANCE MEASURING METER (GEODIMETER 600) AND REAL TIME KINEMATIC (RTK) / STATIC GLOBAL POSITIONING SYSTEM (GPS TRIMBLE R8). LINEAR AND ANGULAR CLOSURE OF THE TRAVERSES MEET THE STANDARDS OF WAC 332-130-090.
- 2) UTILITIES OTHER THAN THOSE SHOWN MAY EXIST ON THIS SITE. ONLY THOSE WHICH ARE VISIBLE OR HAVING VISIBLE EVIDENCE OF THEIR INSTALLATION ARE SHOWN HEREON.
- 3) THIS SURVEY REPRESENTS PHYSICAL IMPROVEMENT CONDITIONS AS THEY EXISTED APRIL 12, 2019, THE DATE OF THIS FIELD SURVEY.
- 4) FULL RELIANCE FOR LEGAL DESCRIPTIONS AND RECORDED EASEMENTS HAVE BEEN PLACED ON THE TITLE REPORT FROM FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT ORDER NO. NCS-943525-SA1 DATED, MARCH 6, 2019. NO ADDITIONAL RESEARCH HAS BEEN ATTEMPTED.
- 5) OFFSET DIMENSIONS SHOWN HEREON ARE MEASURED PERPENDICULAR TO PROPERTY LINES.
- 6) ELEVATION CONTOURS SHOWN HEREON ARE DERIVED FROM FIELD MEASUREMENTS AND MEET OR EXCEED THE MINIMUM ACCURACY CRITERIA OF THE NATIONAL MAPPING STANDARD, BEING ONE-HALF THE CONTOUR INTERVAL.
- 7) THE PURPOSE OF THIS SURVEY IS TO DETERMINE THE BOUNDARY OF LOT A OF CITY OF KIRKLAND LOT LINE ADJUSTMENT NO. LLA-04-00011 AND SHOW VISIBLE TOPOGRAPHY.
- 8) IN ACCORDANCE WITH TABLE A, ITEM 16, THERE WAS NO EVIDENCE OF EARTH MOVING WORK OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.
- 9) IN ACCORDANCE WITH TABLE A, ITEM 17, THERE WAS NO EVIDENCE OF CURRENT STREET AND SIDEWALK CONSTRUCTION OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.
- 10) THERE IS NO EVIDENCE OF WETLAND OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.

### FILL SPECIFICATION

FILL MATERIAL SHALL NOT CONTAIN PETROLEUM PRODUCTS, OR SUBSTANCES WHICH ARE HAZARDOUS, DANGEROUS, TOXIC, OR WHICH OTHERWISE VIOLATE ANY STATE, FEDERAL, OR LOCAL LAW ORDINANCE, CODE, REGULATION, RULE, ORDER, OR STANDARD. ONLY EARTH MATERIAL SHALL BE PLACED IN FILLS.

### UTILITY NOTES

EXISTING UTILITY INFORMATION DEPICTED ON THESE PLANS WAS OBTAINED FROM BEST AVAILABLE SOURCES AT THE TIME OF DESIGN. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE RELOCATION OF EXISTING UNDERGROUND CONFLICTING UTILITIES DEPICTED OR NOT DEPICTED ON THESE PLANS.

### TRENCH NOTE

IF WORKERS ENTER ANY TRENCH OR OTHER EXCAVATION FOUR OR MORE FEET IN DEPTH THAT DOES NOT MEET THE OPEN PIT REQUIREMENTS OF WSDOT SECTION 2-09.3(3)B, IT SHALL BE SHORED AND CRIBBED. THE CONTRACTOR IS ALONE RESPONSIBLE FOR WORKER SAFETY. ALL TRENCH SAFETY SYSTEMS SHALL MEET THE REQUIREMENTS OF THE WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT, CHAPTER 49.17 RCW.

### PROJECT INFORMATION

PARCEL #: 2826059181  
 SITE ADDRESS: 12055 SLATER AVE NE  
 ZONING: TL 6A, COMMERCIAL  
 SETBACKS: 10-FT FRONT  
 TOTAL PARCEL AREA: 4.78 ACRES  
 TOTAL SITE/EASEMENT AREA: 4.32 ACRES

TOTAL NEW AND/OR REPLACED HARD SURFACE: 4.05 ACRES

### OWNER/APPLICANT

FF REALTY IV LLC  
 5355 MIRO SORRENTO PL, SUITE 100  
 SAN DIEGO, CA 92121  
 TELEPHONE: (619) 787-6100  
 EMAIL: JMARTIN2@FFRES.COM  
 CONTACT: JASON MARTIN

### ENGINEER/SURVEY

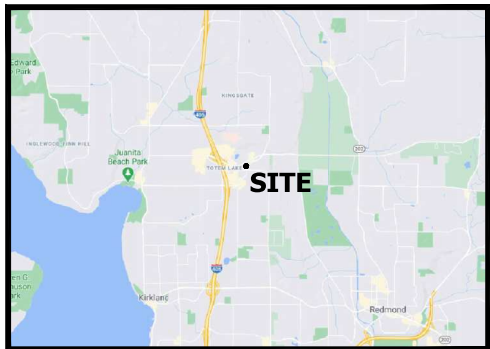
CONTOUR ENGINEERING, LLC  
 P.O. BOX 949  
 GIG HARBOR, WA 98335  
 TELEPHONE: (253) 857-5454  
 EMAIL: JEREMY.HAUG@CONTOURENGINEERINGLLC.COM  
 CONTACT: JEREMY HAUG, P.E.

### GEOTECHNICAL ENGINEER

PANGE0, INC.  
 3213 EASTLAKE AVE E, SUITE B  
 SEATTLE, WA 98102  
 TELEPHONE: (206) 262-0370  
 CONTACT: SIEW TAN, P.E.

### TRAFFIC CONSULTANT

TRANSPORTATION ENGINEERING AND DESIGN NW  
 11400 E 8TH ST, SUITE 200  
 BELLEVUE, WA 98004  
 TELEPHONE: (425) 466-7072  
 CONTACT: AMY WASSERMAN



VICINITY MAP  
 NOT TO SCALE

### LEGEND

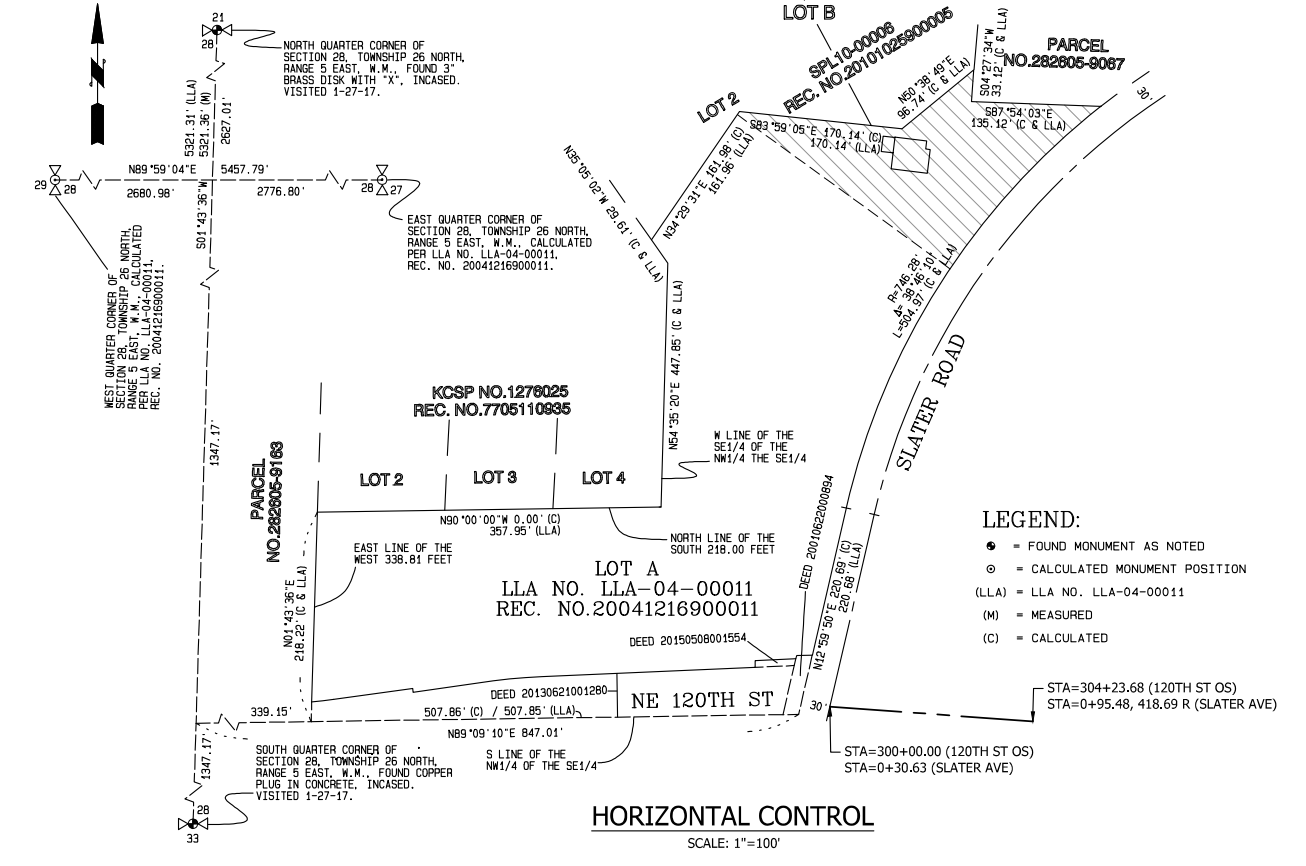
SURVEY	PROPOSED
	CONTOURS
	PROPERTY LINE/RIGHT-OF-WAY
	RIGHT-OF-WAY DEDICATION
	RIGHT-OF-WAY CENTERLINE
	EASEMENT
	BUILDING SETBACK
	STORM DRAIN LINE
	SANITARY SEWER LINE
	ROOF DRAIN LINE
	SANITARY SEWER FORCE MAIN LINE
	COMMON UTILITY TRENCH
	OVERHEAD POWER LINE
	UNDERGROUND POWER LINE
	GAS LINE
	WATER LINE
	TYPE 2 CATCHBASIN
	TYPE 1/TYPE 1L CATCHBASIN
	STORM DRAIN CLEANOUT (SDCO)
	SANITARY SEWER MANHOLE
	SANITARY SEWER CLEANOUT (SSCO)
	HYDRANT
	WATER VALVE
	WATER METER
	GAS MARKING POST
	GAS METER (GM)
	GAS VALVE (GV)
	MONUMENT
	POWER POLE (PP)
	GUY WIRE (GW)
	WATER MARKING POST (WMP)
	LIGHT STANDARD/YARD LIGHT (LS/YL)
	POWER MANHOLE (PMH)
	POWER VAULT
	SIGN
	ASPHALT
	CONCRETE
	GRAVEL

### VERIFICATION NOTE

ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

**CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG**

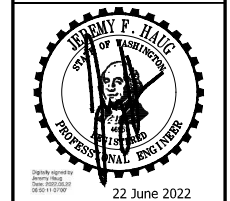


### HORIZONTAL CONTROL

SCALE: 1"=100'

BY	DATE	DESCRIPTION	REVISION

**CONTOUR ENGINEERING • LLC**  
 CIVIL ENGINEERS • SURVEYORS • LAND PLANNERS  
 Phone: 253-857-5454 ~ Fax: 253-509-0044 ~ info@contourllc.com  
 Mailing Address: P.O. Box 949, Gig Harbor, WA 98335  
 Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



22 June 2022

SHEET TITLE: COVER SHEET

SLATER AVE MIXED-USE OFF-SITE IMPROVEMENTS

CLIENT: FF REALTY IV LLC  
 5355 MIRO SORRENTO PLACE, SUITE 100  
 SAN DIEGO, CA 92121

CONTACT: JASON MARTIN  
 PHONE: (619) 787-6100

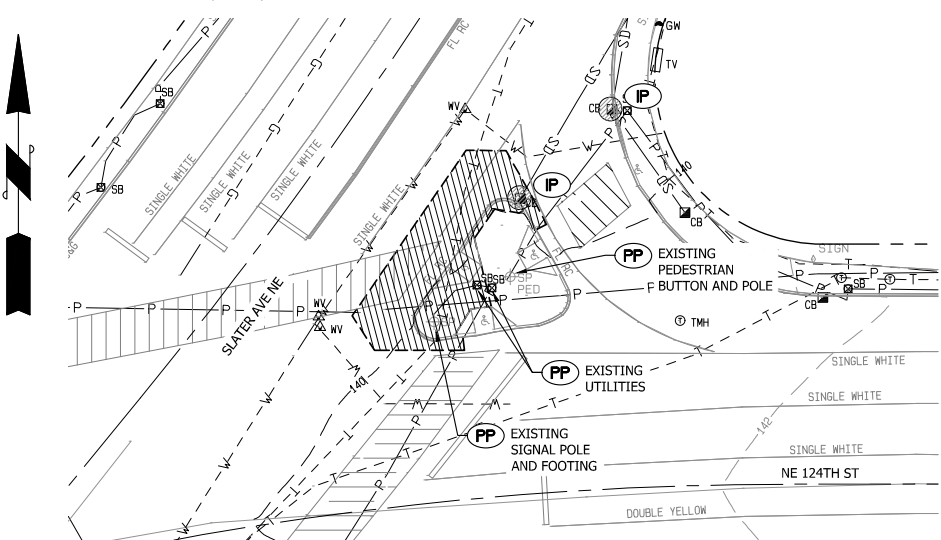
DESIGNER: K. MAUREN	ENGINEER: J. HAUG
DRAWN: J. RAUSCH	S 28 T 26N R 5E WM
DATE: 2022.01.31	REVISED: 2022.05.31
PROJECT: 19-031	DWG NAME: 19-031-C
SHEET	REV.
OS1	
1 OF 23	



# SLATER AVE MIXED-USE OFF-SITE IMPROVEMENTS

A PORTION OF THE NW 1/4 OF THE SE 1/4 OF SECTION 28, TOWNSHIP 26N, RANGE 5E, W.M.,  
CITY OF KIRKLAND, KING COUNTY, WASHINGTON

## GRAPHIC SCALE



## TESC LEGEND

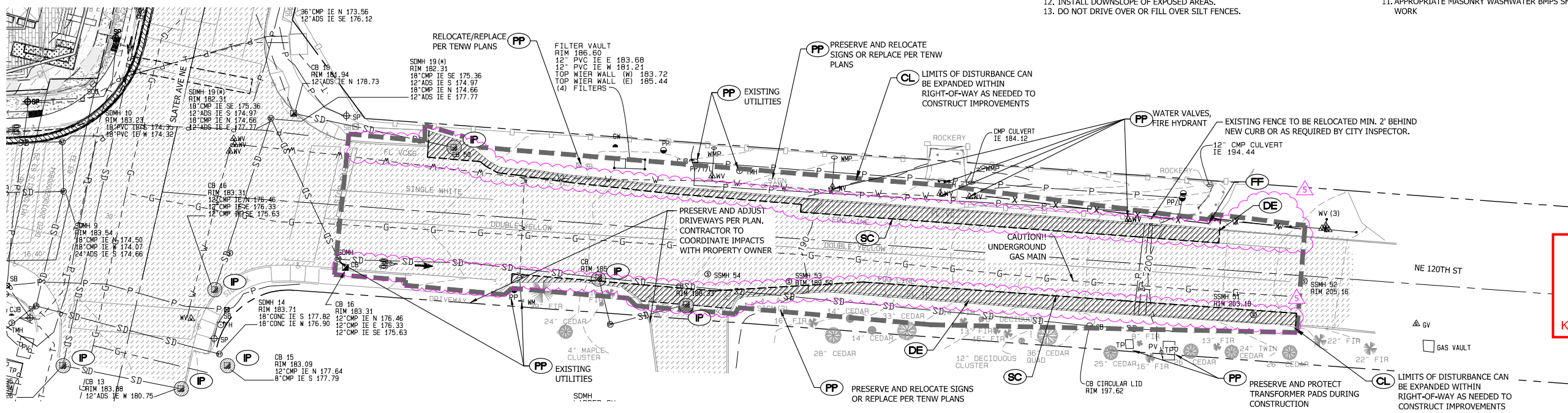
	CL	CLEARING/DISTURBANCE LIMITS (0.343 ACRES)
	PP	PRESERVE AND PROTECT AS NOTED
	FF	SILT FENCE SEE DETAIL 1 OS3
	P	INLET PROTECTION SEE DETAIL 2 OS3
	TP	TREE PROTECTION FENCE SEE DETAIL 3 OS3
	DE	DEMOLISH AND REMOVE AS NOTED
	SC	SAWCUT LINE

## SILT FENCE NOTES

1. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY FASTENED AT BOTH ENDS TO POSTS.
2. POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 30 INCHES).
3. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 8 INCHES WIDE AND 12 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER. THIS TRENCH SHALL BE BACKFILLED WITH WASHED GRAVEL.
4. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, THE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 24 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
5. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 24 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
6. WHEN EXTRA-STRENGTH FILTER FABRIC AND CLOSER POST SPACING IS USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ABOVE NOTES APPLYING.
7. FILTER FABRIC FENCES SHALL NOT BE REMOVED BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
8. FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
9. SILT FENCES WILL BE INSTALLED PARALLEL TO ANY SLOPE CONTOURS.
10. CONTRIBUTING LENGTH TO FENCE WILL NOT BE GREATER THAN 100 FEET.
11. DO NOT INSTALL BELOW AN OUTLET PIPE OR WEIR.
12. INSTALL DOWNSLOPE OF EXPOSED AREAS.
13. DO NOT DRIVE OVER OR FILL OVER SILT FENCES.

## CONTRACTOR NOTES

1. INLET PROTECTION SHALL BE INSTALLED IN ANY RIGHT-OF-WAY AREAS AND ANY INLETS DOWNSTREAM THAT COULD RECEIVE ANY CONSTRUCTION RUNOFF OR AS REQUIRED BY THE CITY INSPECTOR.
2. ORANGE CONSTRUCTION FENCE PER WSDOT I-10.10-01 CAN BE UTILIZED IN PLACE OF FILTER FABRIC FENCE ONLY IN AREAS WHERE THE GRADES DO NOT ALLOW THE POTENTIAL FOR ANY STORMWATER FROM LEAVING THE SITE.
3. ALL DEMOLISHED MATERIALS (BUILDING, CONCRETE, PAVEMENT, TREES, DECKS, ETC.) SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT A CITY APPROVED LOCATION AND IN A MANNER CONSISTENT WITH CURRENT REGULATIONS AND REQUIREMENTS.
4. ALL AREAS THAT WILL BE UNWORKED FOR MORE THAN SEVEN (7) DAYS DURING THE DRY SEASON SHALL BE COVERED WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR OTHER EQUIVALENT PER CURRENT CITY STANDARDS.
5. FILTER FABRIC FENCE LOCATION SHALL BE ADJUSTED AS NEEDED DURING CONSTRUCTION TO ENSURE THAT NO SEDIMENT IS ALLOWED TO LEAVE THE SITE. FENCE SHALL BE MAINTAINED UNTIL SITE IS FULLY STABILIZED AND AS ALLOWED BY THE CITY INSPECTOR.
6. CONTRACTOR SHALL DESIGNATE A WASHINGTON DEPT OF ECOLOGY CERTIFIED EROSION CONTROL LEAD PERSON, AND AS NEEDED, THEY SHALL AMEND THIS CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN (SWPPP) BASED ON SITE AND FIELD CONDITIONS, AND AS CONSTRUCTION ACTIVITIES ADVANCE.
7. SEDIMENT LADEN RUNOFF SHALL NOT BE ALLOWED TO DISCHARGE BEYOND THE LIMITS OF THE IMPROVEMENTS. ADDITIONAL MEASURES SHALL BE INSTALLED AS NEEDED.
8. AT ANY TIME DURING CONSTRUCTION IT IS DETERMINED BY THE CITY THAT MUD AND DEBRIS ARE BEING TRACKED ONTO PUBLIC STREETS WITH INSUFFICIENT CLEANUP, ALL WORK SHALL CEASE ON THE PROJECT UNTIL THIS CONDITION IS CORRECTED. THE CONTRACTOR AND/OR THE OWNER SHALL IMMEDIATELY TAKE ALL STEPS NECESSARY TO PREVENT FUTURE TRACKING OF MUD AND DEBRIS INTO THE PUBLIC ROW.
9. CONTRACTOR SHALL CONVEY STORMWATER BY ANY MEANS NECESSARY BASED ON SITE AND FIELD CONDITIONS, TOPOGRAPHY AND CONSTRUCTION ACTIVITIES.
10. SECONDARY CONTAINMENT IS REQUIRED FOR ANY HAZARDOUS MATERIALS USED OR STORED ON SITE, AS WELL AS FOR ANY POWER GENERATORS
11. APPROPRIATE MASONRY WASHWATER BMPs SHALL BE UTILIZED FOR SUCH WORK



**APPROVED**  
**POST-REVISION #5**  
Permit No. LSM21-05890  
July 8, 2022 (RAS)  
Kirkland Public Works Dept.

## CONSTRUCTION SEQUENCE

1. OBTAIN REQUIRED PERMITS AND HOLD A PRE-CONSTRUCTION MEETING WITH THE CITY.
2. HOLD A PRE-CONSTRUCTION WITH ALL UTILITY PURVEYORS.
3. FIELD LOCATE AND VERIFY ALL EXISTING SERVICES AND UTILITIES WITHIN PROJECT AREA. SEE VERIFICATION NOTE. FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES AND UTILITY CONNECTIONS, AND PROVIDE INFORMATION TO PROJECT ENGINEER.
4. ESTABLISH CLEARING AND GRADING LIMITS PER PLAN AS ACTIVITIES PROGRESS.
5. CONSTRUCT PERIMETER SILT FENCES, CONSTRUCTION FENCING AND OTHER EROSION CONTROL MEASURES AS NEEDED AND AS REQUIRED BY PROJECT CESC.
6. SCHEDULE AN EROSION CONTROL INSPECTION WITH THE CITY AS NEEDED OR REQUIRED BY PERMIT.
7. STABILIZE ALL EXPOSED SOILS AS NEEDED THROUGHOUT ALL ACTIVITIES.
8. EXCAVATE AND GRADE SITE PER PLANS.
9. CONSTRUCT IMPROVEMENTS PER PLAN.
10. FLUSH STORM DRAINAGE SYSTEM AND REMOVE SEDIMENT FROM CATCHBASIN Sumps.
11. SILTATION FENCE TO REMAIN UNTIL CONSTRUCTION HAS BEEN COMPLETED AND THE SITE HAS BEEN STABILIZED TO THE APPROVAL OF THE CITY INSPECTOR.
12. ARRANGE FINAL INSPECTION WITH THE CITY.
13. REMOVE TESC MEASURES WHEN ALLOWED BY THE CITY INSPECTOR.

THE CONSTRUCTION SEQUENCE SHALL BE REVIEWED BY THE CONTRACTOR. ALL ADJUSTMENTS SHALL BE COORDINATED WITH THE PROJECT ENGINEER AND APPROVED BY THE CITY OF KIRKLAND. SEQUENCE SHOWN IS A BASIC OUTLINE AND SHALL BE ADJUSTED AND MODIFIED AS NEEDED TO ACHIEVE PROJECT COMPLETION. SEQUENCE WILL BE FURTHER MODIFIED AS OTHER PERMITS ARE OBTAINED.

## DEMOLITION NOTE

ALL DEMOLITION MATERIAL, INCLUDING BUT NOT LIMITED TO WOOD WASTE, SHEETROCK, ROOFING MATERIAL, AND CONCRETE, MUST GO TO A LICENSED SOLID WASTE HANDLING OR DISPOSAL FACILITY.

ASBESTOS CONTAINING MATERIAL MUST BE REMOVED PRIOR TO DEMOLITION AND DISPOSED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PUGET SOUND CLEAN AIR AGENCY, AND WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES.

## MULCHING NOTES

1. MULCH MATERIALS USED SHALL BE CHIPPED SITE VEGETATION. AVERAGE SIZE SHALL BE SEVERAL INCHES WITH GRADATIONS FROM FINES TO 6" IN LENGTH FOR TEXTURE, VARIATION, AND INTERLOCKING PROPERTIES. IT SHALL BE PLACED AT A MINIMUM DEPTH OF 2".
2. MULCHES SHALL BE APPLIED IN ALL AREAS WITH EXPOSED SLOPES GREATER THAN 2:1.
3. MULCHING SHALL BE USED IMMEDIATELY AFTER SEEDING OR IN AREAS WHICH CANNOT BE SEEDING BECAUSE OF THE SEASON.
4. ALL AREAS NEEDING MULCH SHALL BE COVERED BY NOVEMBER 1.

## SOIL AMENDMENT NOTE

SOIL AMENDMENTS ARE REQUIRED FOR ALL DISTURBED AREAS IN ACCORDANCE WITH BMP L613: POST-CONSTRUCTION SOIL QUALITY AND DEPTH OF THE 2016 STORMWATER MANAGEMENT MANUAL.

## PERMANENT STABILIZATION NOTES

1. ALL EXPOSED SLOPES SHALL BE SEEDING AFTER CONSTRUCTION HAS BEEN COMPLETED. SILT FENCE, IF DEEMED APPROPRIATE, SHALL REMAIN FOR A MINIMUM OF 30 DAYS AFTER THE FINAL STABILIZATION OF THE SLOPES HAS OCCURRED.
2. ALL TEMPORARY EROSION CONTROL BMPs SHALL BE REMOVED 30 DAYS AFTER FINAL STABILIZATION HAS OCCURRED.
3. SEDIMENT SHALL BE REMOVED FROM ALL CATCH BASINS.

## PLASTIC COVERING NOTES

1. PLASTIC SHEETING SHALL HAVE A MINIMUM THICKNESS OF 6 MILS AND SHALL MEET THE REQUIREMENTS OF THE STATE STANDARD SPECIFICATIONS SECTION 9-14.5.
2. COVERING SHALL BE INSTALLED AND MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10-FOOT GRID SPACING IN ALL DIRECTIONS. ALL SEAMS SHALL BE TAPED OR WEIGHTED DOWN FULL LENGTH AND THERE SHALL BE A LEAST A 12 INCH OVERLAP OF ALL SEAMS.
3. CLEAR PLASTIC COVERING SHALL BE INSTALLED IMMEDIATELY ON AREAS SEEDING BETWEEN NOVEMBER 1 AND MARCH 31 AND REMAIN UNTIL VEGETATION IS FIRMLY ESTABLISHED.
4. WHEN THE COVERING IS USED ON UN-SEEDING SLOPES, IT SHALL BE KEPT IN PLACE UNTIL THE NEXT SEEDING PERIOD.
5. PLASTIC COVERING SHEETS SHALL BE BURIED TWO FEET AT THE TOP OF SLOPES IN ORDER TO PREVENT SURFACE WATER FLOW BENEATH SHEETS PROPER MAINTENANCE INCLUDES REGULAR CHECKS FOR RIPS AND DISLODGED ENDS.

## SEEDING NOTES

1. SEED MIXTURE SHALL BE AS BELOW OR AS APPROVED BY THE CITY OF TACOMA AND SHALL BE APPLIED AT THE RATE RECOMMENDED BY THE SUPPLIER.

GERMINATION REDTOP (AGROSTIS ALBA)	10%
ANNUAL RYE (LOLIUM MULTIFLORUM)	40%
CHEWING FESCUE (FESTUCA RUBRA COMMUTATA)	40%
WHITE DUTCH CLOVER (TRIFOLIUM REPENS)	10%

SEED BEDS PLANTED BETWEEN MAY 1 AND OCTOBER 31 WILL REQUIRE IRRIGATION AND OTHER MAINTENANCE AS NECESSARY TO FOSTER AND PROTECT THE ROOT STRUCTURE.
2. FOR SEED BEDS PLANTED BETWEEN OCTOBER 31 AND APRIL 30, ARMORING OF THE SEED BED WILL BE NECESSARY. (E.G., GEOTEXTILES, JUTE MAT, CLEAR PLASTIC COVERING).
3. BEFORE SEEDING, INSTALL NEEDED SURFACE RUNOFF CONTROL MEASURES SUCH AS GRADIENT TERRACES, INTERCEPTOR DIKES, SWALES, LEVEL SPREADERS AND SEDIMENT BASIN.
4. THE SEEDBED SHALL BE FIRM WITH A FAIRLY FINE SURFACE, FOLLOWING SURFACE ROUGHENING. PERFORM ALL OPERATIONS ACROSS OR AT RIGHT ANGLES TO THE SLOPE.
5. FERTILIZERS ARE TO BE USED ACCORDING TO SUPPLIER'S RECOMMENDATIONS. AMOUNTS USED SHOULD BE MINIMIZED, ESPECIALLY ADJACENT TO WATER BODIES AND WETLANDS.

## VEGETATION REMOVAL NOTE

VEGETATION REMOVAL SHALL BE LIMITED AS MUCH AS POSSIBLE, AND NO VEGETATION SHALL BE REMOVED OUTSIDE OF THE CLEARING LIMITS SHOWN. CITY'S ARBORIST OR OTHER TREE ASSESSMENT PROFESSIONAL SHALL REVIEW AND ASSESS TREES WITHIN ROW ALONG PROJECT LIMITS, AND DETERMINE IF ANY POSE A HAZARD AND SHOULD BE REMOVED.

## INLET PROTECTION NOTE

PLACE INLET PROTECTION IN ALL CATCHBASINS LOCATED WITHIN 500-FT OF THE PROJECT SITE.

## VERIFICATION NOTE

ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

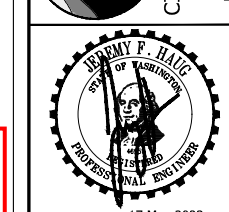
PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

**CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG**

BY	DATE	DESCRIPTION
KMH	5/16/2023	CURB AND CANALIZATION REVISION

REVISION	DATE	DESCRIPTION
5		

**CONTOUR ENGINEERING • L.L.C.**  
CIVIL ENGINEERS • SURVEYORS • LAND PLANNERS  
Phone: 253-857-5454 ~ Fax: 253-508-0044 ~ info@contourllc.com  
Mailing Address: P.O. Box 949, Gig Harbor, WA 98335  
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



17 May 2023

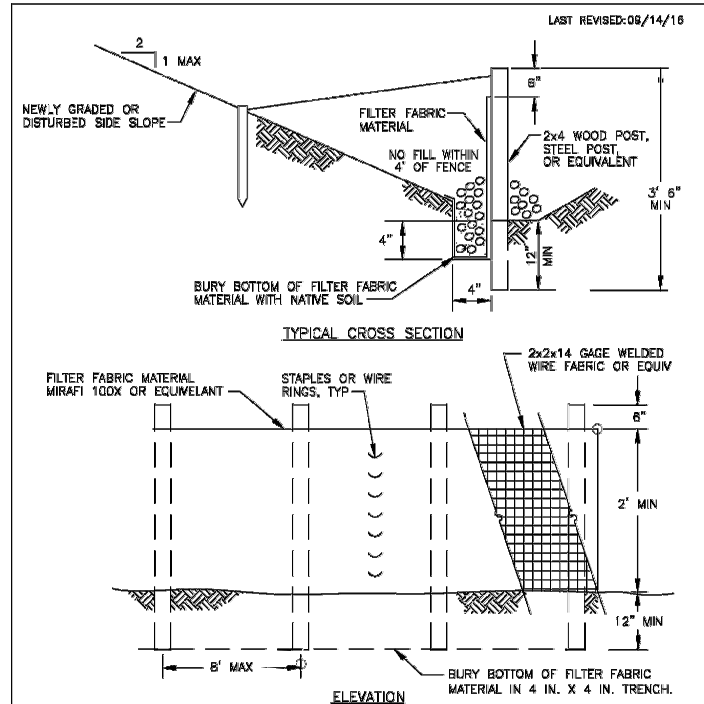
SHEET TITLE: TESC PLAN - OFF-SITE IMPROVEMENTS  
SLATER AVE MIXED-USE OFF-SITE IMPROVEMENTS  
CLIENT: FF REALTY IV LLC  
5355 MIRA SORRENTO PLACE, SUITE 100  
SAN DIEGO, CA 92121  
CONTACT: JASON MARTIN  
PHONE: (619) 787-6100

DESIGNER: K. MAUREN	ENGINEER: J. HAUG
DRAWN: J. RAUSCH	S28 T26N R5E WM
DATE: 2022.01.31	REVISED: 2022.05.31
PROJECT: 19-031	DWG NAME: 19-031-C
SHEET	REV.
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2 OF 23	



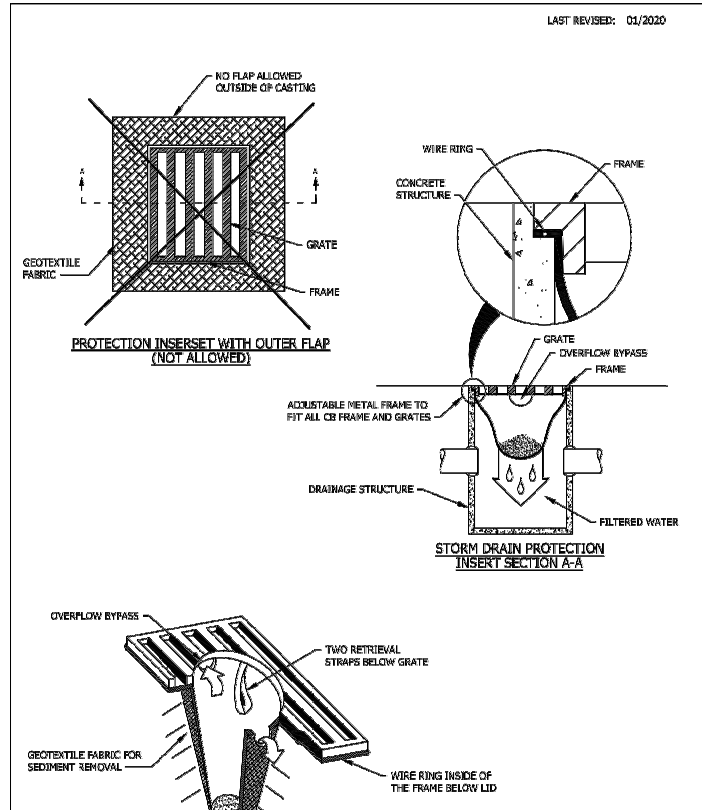
**SLATER AVE MIXED-USE OFF-SITE IMPROVEMENTS**  
 A PORTION OF THE NW 1/4 OF THE SE 1/4 OF SECTION 28, TOWNSHIP 26N, RANGE 5E, W.M.,  
 CITY OF KIRKLAND, KING COUNTY, WASHINGTON

**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.



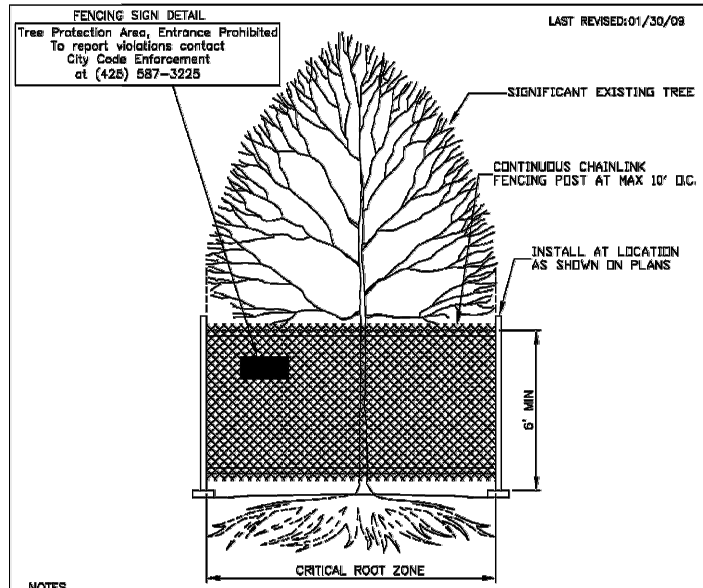
CITY OF KIRKLAND	
PLAN NO. CK-E.03	
	<b>SILT FENCE</b>

**1** SILT FENCE  
 NOT TO SCALE  
 COK PLAN NO. CK-E.03



CITY OF KIRKLAND	
PLAN NO. CK-E.11	
	<b>STORM DRAIN PROTECTION INSERT</b>

**2** STORM DRAIN INLET PROTECTION  
 NOT TO SCALE  
 COK PLAN NO. CK-E.11



CITY OF KIRKLAND	
PLAN NO. CK-R.49	
	<b>TREE PROTECTION</b>

**3** TREE PROTECTION FENCING  
 NOT TO SCALE  
 COK PLAN NO. CK-R.49

**CITY OF KIRKLAND EROSION/SEDIMENTATION CONTROL NOTES**

- THE APPROVED CONSTRUCTION SEQUENCE SHALL BE AS FOLLOWS:
  - CONDUCT PRE-CONSTRUCTION MEETING.
  - FLAG OR FENCE CLEARING LIMITS.
  - POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
  - INSTALL CATCH BASIN PROTECTION DOWNSTREAM AND AS DETERMINED BY THE CITY INSPECTOR.
  - GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
  - INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
  - CONSTRUCT SEDIMENT PONDS AND TRAPS.
  - GRADE AND STABILIZE CONSTRUCTION ROADS.
  - CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
  - MAINTAIN EROSION CONTROL MEASURE IN ACCORDANCE WITH CITY OF KIRKLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
  - RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY TESC MINIMUM REQUIREMENTS.
  - COVER ALL AREAS WITHIN THE SPECIFIED TIME FRAME WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, CRUSHED ROCK OR EQUIVALENT.
  - STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
  - SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
  - UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.
- CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS CLEAN AND FREE OF CONTAMINANTS AT ALL TIMES AND FOR PREVENTING AN ILLICIT DISCHARGE (KMC 15.52) INTO THE MUNICIPAL STORM DRAIN SYSTEM. IF YOUR CONSTRUCTION PROJECT CAUSES AN ILLICIT DISCHARGE TO THE MUNICIPAL STORM DRAIN SYSTEM, THE CITY OF KIRKLAND STORM MAINTENANCE DIVISION WILL BE CALLED TO CLEAN THE PUBLIC STORM SYSTEM, AND OTHER AFFECTED PUBLIC INFRASTRUCTURE. THE CONTRACTOR(S), PROPERTY OWNER, AND ANY OTHER RESPONSIBLE PARTY MAY BE CHARGED ALL COSTS ASSOCIATED WITH THE CLEAN-UP AND MAY ALSO BE ASSESSED MONETARY PENALTIES (KMC 1.12.200). THE MINIMUM PENALTY IS \$500. A FINE FOR A REPEAT VIOLATION SHALL BE A MULTIPLIED BY THE NUMBER OF VIOLATIONS. A FINE MAY BE REDUCED OR WAIVED FOR PERSONS WHO IMMEDIATELY SELF-REPORT VIOLATION TO THE CITY AT 425-587-3900. A FINAL INSPECTION OF YOUR PROJECT WILL NOT BE GRANTED UNTIL ALL COSTS ASSOCIATED WITH THE CLEAN-UP, AND PENALTIES, ARE PAID TO THE CITY OF KIRKLAND.
- CONSTRUCTION DEWATERING DISCHARGES SHALL ALWAYS MEET WATER QUALITY GUIDELINES LISTED IN COK POLICY E-1. SPECIFICALLY, DISCHARGES TO THE PUBLIC STORMWATER DRAINAGE SYSTEM MUST BE BELOW 25 NTU, AND NOT CONSIDERED AN ILLICIT DISCHARGE (PER KMC 15.52.090). TEMPORARY DISCHARGES TO SANITARY SEWER REQUIRE PRIOR AUTHORIZATION AND PERMIT FROM KING COUNTY INDUSTRIAL WASTE PROGRAM (206-263-3000) AND NOTIFICATION TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR.

- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF KIRKLAND STANDARDS AND SPECIFICATIONS.
- THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
- APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
- THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
- A COPY OF THE APPROVED ESC PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS, WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
- THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY OF KIRKLAND INSPECTOR.
- THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE ESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS MAY BE NEEDED.
- THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF ESC FACILITIES.
- THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED FOR A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.
- STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

- ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:
  - MAY 1 TO SEPTEMBER 30 - SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
  - OCTOBER 1 TO APRIL 30 - SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
  - STABILIZE ALL SOILS AT THE END OF THE WORKDAY PRIOR TO A WEEKEND, HOLIDAY, OR PREDICTED RAIN EVENT.
- THE LONG-TERM USE OF PLASTIC COVERING ON A SITE SHALL BE LIMITED TO ONE WET SEASON (OCTOBER 1 TO APRIL 30). AFTER THAT, THE SITE WILL BE REQUIRED TO HYDROSEED OR INSTALL OTHER TESC METHODS AS APPROVED BY THE PUBLIC WORKS DEPARTMENT.
- WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
- WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".
- ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 6' HIGH TEMPORARY CONSTRUCTION FENCE (CHAIN LINK WITH PIER BLOCKS) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF THE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAINING IN PLACE UNTIL THE PLANNING DEPARTMENT AUTHORIZES REMOVAL.
- CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6-FT. HIGH CHAIN LINK FENCE ADJACENT TO THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR-FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.
- OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.
- ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40%-70% PASSING; 2"-4" ROCK/30%-40% PASSING; AND 1"-2" ROCK/10%-20% PASSING. RECYCLED CONCRETE SHALL NOT BE USED FOR EROSION PROTECTION, INCLUDING CONSTRUCTION ENTRANCE OR TEMPORARY STABILIZATION ELSEWHERE ON THE SITE.
- IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.
- ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.
- AT NO TIME SHALL MORE THAN 1' OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED IMMEDIATELY FOLLOWING REMOVAL OF EROSION CONTROL BMPs. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

- ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.
- ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDED 6" MUST HAVE A PERIMETER FENCE WITH A MINIMUM HEIGHT OF 3'.
- THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY OF KIRKLAND. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.
- PRIOR TO THE OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.
- ANY AREA TO BE USED FOR INFILTRATION OR PVIOUS PAVEMENT (INCLUDED A 5-FOOT BUFFER) MUST BE SURROUNDED BY SILT FENCE PRIOR TO CONSTRUCTION AND UNTIL FINAL STABILIZATION OF THE SITE TO PREVENT SOIL COMPACTION AND SILTATION BY CONSTRUCTION ACTIVITIES.
- IF THE TEMPORARY CONSTRUCTION ENTRANCE OR ANY OTHER AREA WITH HEAVY VEHICLE LOADING IS LOCATED IN THE SAME AREA TO BE USED FOR INFILTRATION OR PVIOUS PAVEMENT, 6" OF SEDIMENT BELOW THE GRAVEL SHALL BE REMOVED PRIOR TO INSTALLATION OF THE INFILTRATION FACILITY OR PVIOUS PAVEMENT (TO REMOVE FINES ACCUMULATED DURING CONSTRUCTION).
- ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE ADEQUATE PROTECTION FROM SEDIMENT. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "STORM DRAIN PROTECTION INSERT" OR EQUIVALENT.
- IF A SEDIMENT POND IS NOT PROPOSED, A BAKER TANK OR OTHER TEMPORARY GROUND AND/OR SURFACE WATER STORAGE TANK MAY BE REQUIRED DURING CONSTRUCTION, DEPENDING ON WEATHER CONDITIONS.
- DO NOT FLUSH CONCRETE BY-PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE-CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE-LAYING THE STORM LINE.
- RECYCLED CONCRETE SHALL NOT BE STOCKPILED ON SITE, UNLESS FULLY COVERED WITH NO POTENTIAL FOR RELEASE OF RUNOFF.

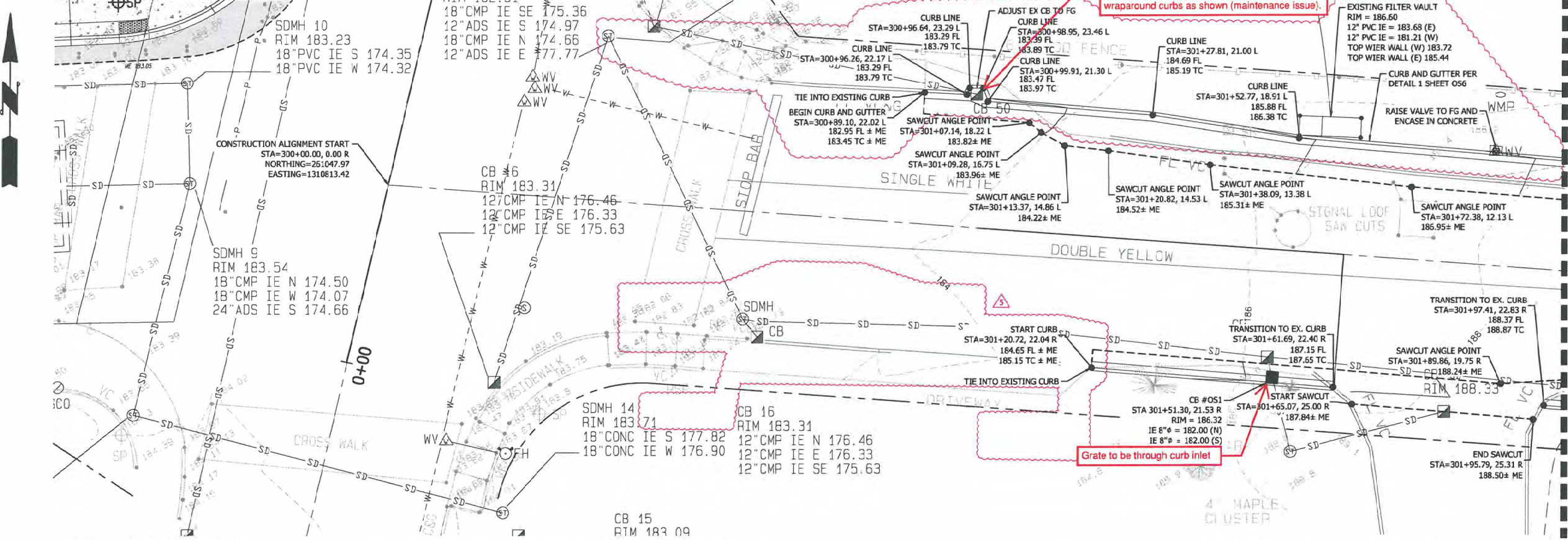
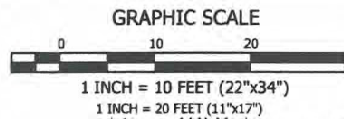
BY	
DATE	
DESCRIPTION	
REVISION	
SHEET TITLE: TESC NOTES AND DETAILS SLATER AVE MIXED-USE OFF-SITE IMPROVEMENTS CLIENT: FF REALTY IV LLC 5355 MIRA SORRENTO PLACE, SUITE 100 SAN DIEGO, CA 92121 CONTACT: JASON MARTIN PHONE: (619) 787-6100	
DESIGNER:	K. MAUREN
ENGINEER:	J. HAUG
DRAWN:	J. RAUSCH
S 28 T 26N R 5E WM	
DATE:	2022.01.31
REVISED:	2022.05.31
PROJECT:	19-031
DWG NAME:	19-031-C
SHEET	REV.
<b>OS3</b>	A
3 OF 23	

**ERNTON**  
**ENGINEERING • LLC**  
 CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS  
 Phone: 253-857-5454 ~ Fax: 253-509-0044 ~ info@ernton.com  
 Mailing Address: P.O. Box 949, Gig Harbor, WA 98335  
 Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332



# SLATER AVE MIXED-USE OFF-SITE IMPROVEMENTS

A PORTION OF THE NW 1/4 OF THE SE 1/4 OF SECTION 28, TOWNSHIP 26N, RANGE 5E W M  
CITY OF KIRKLAND, KING COUNTY, WASHINGTON

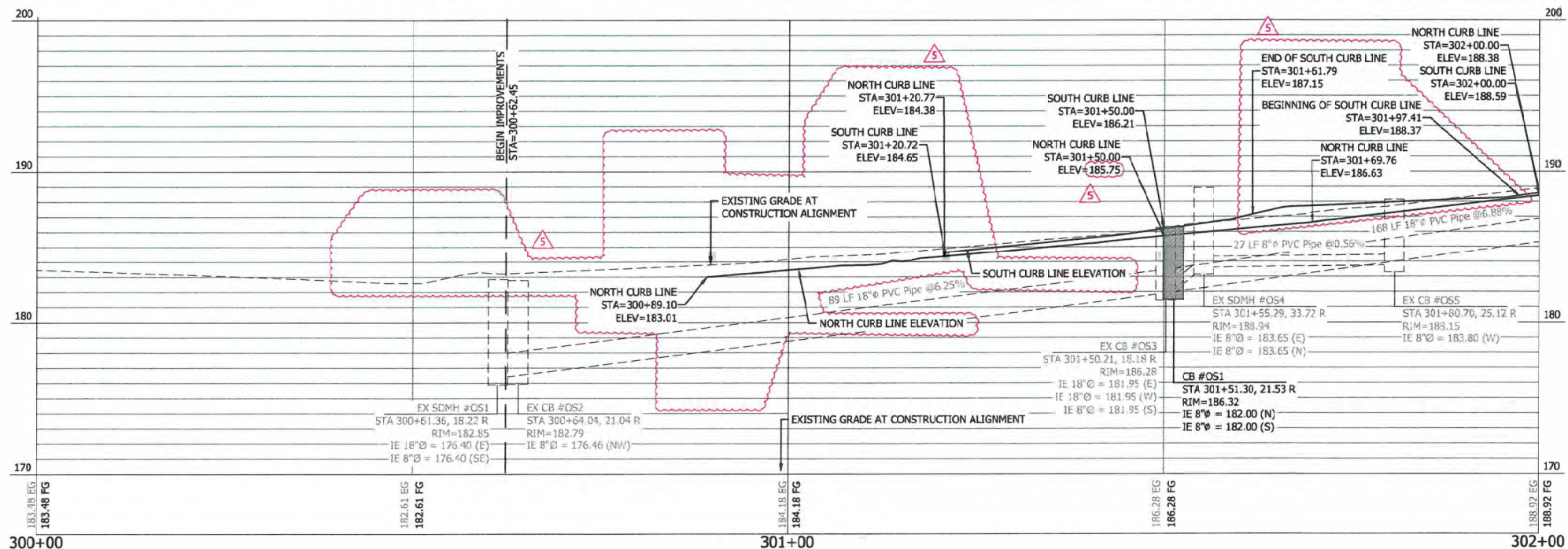


Replace grate with through curb inlet and locate in curb line. Coordinate curb and CB layout with PW inspector. The City does not allow wraparound curbs as shown (maintenance issue).

Grate to be through curb inlet

MATCH LINE SHEET OSS  
STA=302+00.00

**CHANNELIZATION NOTE**  
REFERENCE TENW PLANS FOR CHANNELIZATION INFORMATION



**120TH STREET PROFILE**

HORIZONTAL SCALE: 1"=10'  
VERTICAL SCALE: 1"=5'

**VERIFICATION NOTE**  
ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.  
  
PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

**CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG**

**APPROVED**  
**POST-REVISION #5**  
Permit No. LSM21-05890  
July 8, 2022 (RAS)  
Kirkland Public Works Dept.

BY	MM
DATE	5/16/2023
DESCRIPTION	CURB AND CHANNELIZATION REVISION
REVISION	5

**J. HAUG ENGINEERING, L.L.C.**  
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS  
Phone: 253-857-9454 ~ Fax: 253-509-0044 ~ info@contourplc.com  
Mailing Address: P. O. Box 949, Gig Harbor, WA 98335  
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332

17 May 2023

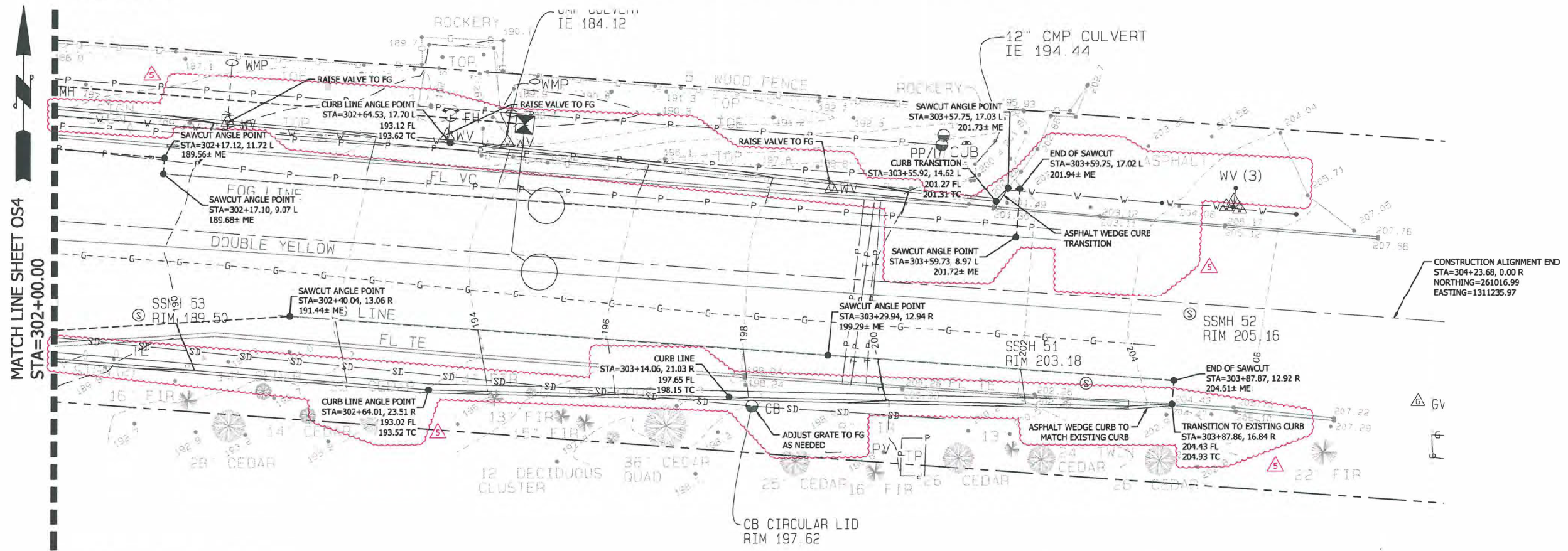
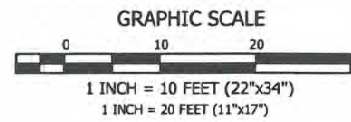
**SHEET TITLE: 120TH IMPROVEMENTS PLAN AND PROFILE**  
SLATER AVE MIXED-USE OFF-SITE IMPROVEMENTS  
CLIENT: FF REALTY IV LLC  
5355 MIRA SORRENTO PLACE, SUITE 100  
SAN DIEGO, CA 92121  
CONTACT: JASON MARTIN  
PHONE: (619) 787-6100

DESIGNER: K. MAUREN  
ENGINEER: J. HAUG  
DRAWN: J. RAUSCH  
S28 T26N R5E WM  
DATE: 2022.01.31  
REVISED: 2022.05.31  
PROJECT: 19-031  
DWG NAME: 19-031-C

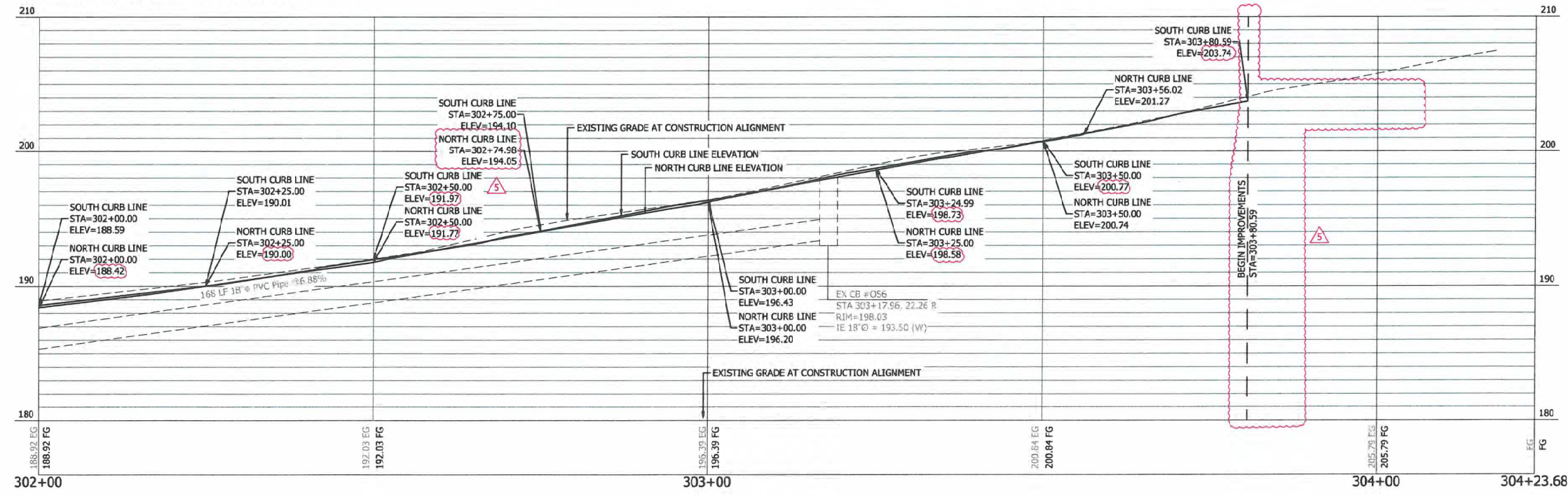
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4 OF 23	



**SLATER AVE MIXED-USE OFF-SITE IMPROVEMENTS**  
 A PORTION OF THE NW 1/4 OF THE SE 1/4 OF SECTION 28, TOWNSHIP 26N, RANGE 5E, W.M.,  
 CITY OF KIRKLAND, KING COUNTY, WASHINGTON



**CHANNELIZATION NOTE**  
 REFERENCE TENW PLANS FOR CHANNELIZATION INFORMATION



**120TH STREET PROFILE**  
 HORIZONTAL SCALE: 1"=10'  
 VERTICAL SCALE: 1"=5'

**APPROVED**  
**POST-REVISION #5**  
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 PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

**CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG**

REVISION	DESCRIPTION	DATE	BY
5	CURB AND CANALIZATION REVISION	5/16/2023	RPM

**CONTOUR ENGINEERING . LLC**  
 CIVIL ENGINEERS SURVEYORS LAND PLANNERS  
 Phone: 253-857-5454 ~ Fax: 253-509-0044 ~ info@contourllc.com  
 Mailing Address: P.O. Box 949, Gig Harbor, WA 98335  
 Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332

**PROFESSIONAL ENGINEER**  
 JEREMY F. HAUG  
 17 May 2023

**SHEET TITLE: 120TH STREET PLAN**

CLIENT: FF REALTY IV LLC  
 5355 MIRIA SORRENTO PLACE, SUITE 100  
 SAN DIEGO, CA 92121

CONTACT: JASON MARTIN  
 PHONE: (619) 787-6100

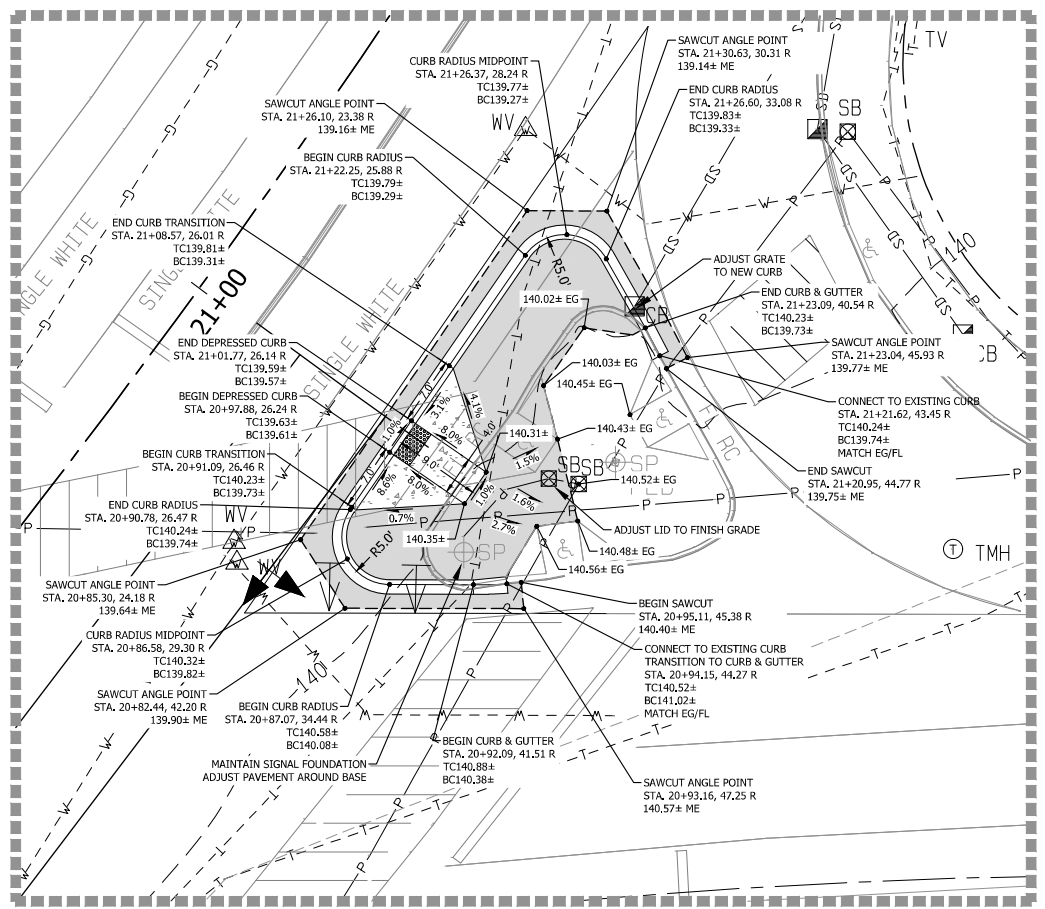
DESIGNER: K. MAUREN  
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 S28 T26N R5E WM  
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 DWG NAME: 19-031-C

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5 OF 23	

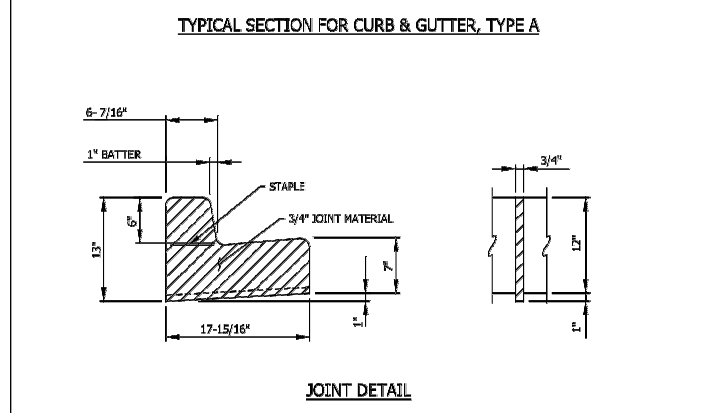
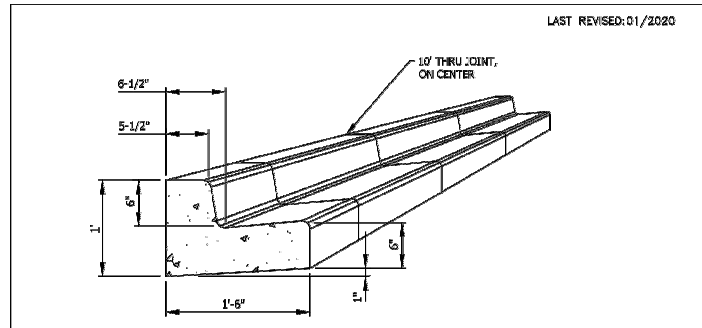


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 CITY OF KIRKLAND, KING COUNTY, WASHINGTON

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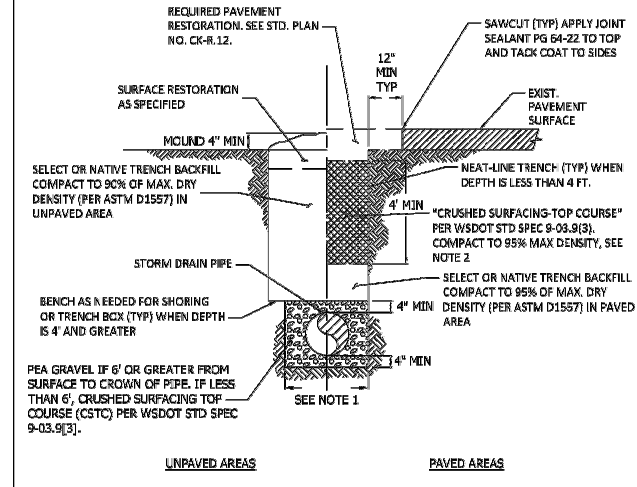


**4 RAISED ISLAND GRADING DETAIL**  
 SCALE: 1" = 10'



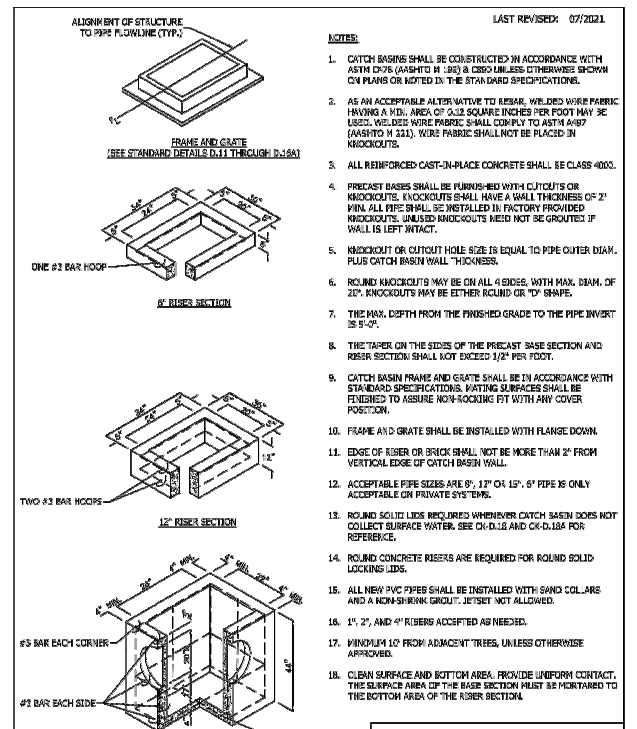
**1 CONCRETE CURB AND GUTTER**  
 NOT TO SCALE  
 CITY OF KIRKLAND  
 PLAN NO. CK - R.17  
 CONCRETE CURB AND GUTTER, TYPE "A"

- NOTES:**
- FORMS SHALL BE STEEL AND SET TRUE TO LINE AND GRADE (INSPECTION IS REQUIRED PRIOR TO PLACEMENT OF CONCRETE) UNLESS SPECIFIED DIFFERENTLY BY CITY PROJECT ENGINEER.
  - CONCRETE SHALL BE CEMENT CONCRETE CLASS 4000.
  - BASE COURSE SHALL BE 4" OF 5/8" MINUS CRUSHED ROCK.
  - SURVEY REQUIRED FOR CURB ALIGNMENT.



**3 PIPE BEDDING**  
 NOT TO SCALE  
 CITY OF KIRKLAND  
 PLAN NO. CK - D.02  
 STORM TRENCH DETAIL

- NOTES:**
- MAXIMUM WIDTH OF TRENCH AT TOP OF PIPE \* 30" FOR PIPE UP TO AND INCLUDING 12" NOMINAL DIAMETER. \* CID PLUS 16" FOR PIPE LARGER THAN 12" NOMINAL DIAMETER.
  - WHERE TRENCH IS PERPENDICULAR TO TRAVELED LANES, BACKFILL FULL DEPTH WITH CRUSHED SURFACING-TOP COURSE. WHERE TRENCH IS PARALLEL TO TRAVELED LANES, BACKFILL THE TOP 4" OF TRENCH TO SUBGRADE WITH CRUSHED SURFACING-TOP COURSE. SUITABLE EXCAVATED MATERIAL MAY BE USED PROVIDED 95% MAX. COMPACTION DENSITY (ASTM D1557) CAN BE ACHIEVED.
  - SEE OVERLAY POLICY R-7.
  - USE OF RECYCLED CONCRETE IS PROHIBITED, UNLESS APPROVED BY THE CITY. SEE POLICY D-16.



**2 TYPE 1 CATCH BASIN**  
 NOT TO SCALE  
 CITY OF KIRKLAND  
 PLAN NO. CK - D.07  
 CATCH BASIN TYPE 1

- NOTES:**
- CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM D78 (ASHTO M 193) & C90 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE STANDARD SPECIFICATIONS.
  - AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.02 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A675 (ASHTO M 211). WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.
  - ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000.
  - PRECAST BASINS SHALL BE FURNISHED WITH 4 CATCH BASIN OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNLINED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT.
  - THE HOLE SIZE OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED 1/2" PER FOOT.
  - CATCH BASIN FRAME AND GRATE SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS. FINISH SURFACES SHALL BE FINISHED TO ASSURE NON-SKIDING FIT WITH ANY COVER POSITION.
  - FRAME AND GRATE SHALL BE INSTALLED WITH FLANGE DOWN.
  - EDGE OF RISER OR BRICK SHALL NOT BE MORE THAN 2" FROM VERTICAL EDGE OF CATCH BASIN WALL.
  - ACCEPTABLE PIPE SIZES ARE 6", 8", 10", 12", 15", 18" PIPE IS ONLY ACCEPTABLE FOR PRIVATE SYSTEMS.
  - ROUND SOLID LIDS REQUIRED WHENEVER CATCH BASIN DOES NOT COLLECT SURFACE WATER. SEE CH-D.03 AND CH-D.04 FOR REFERENCE.
  - ROUND CONCRETE RISERS ARE REQUIRED FOR ROUND SOLID LOCKING LIDS.
  - ALL NEW PVC PIPES SHALL BE INSTALLED WITH SAND COLLARS AND NON-SHRINKING GROUT. JETSET NOT ALLOWED.
  - MINIMUM 10' FROM ADJACENT TREES, UNLESS OTHERWISE APPROVED.
  - CLEAN SURFACE AND BOTTOM AREA, PROVIDE UNIFORM CONTACT. THE SURFACE AREA OF THE BASER SECTION MUST BE HORIZONTAL TO THE BOTTOM AREA OF THE RISER SECTION.

**CHANNELIZATION NOTE**  
 REFERENCE TENW PLANS FOR CHANNELIZATION INFORMATION

**CITY OF KIRKLAND STORM DRAINAGE NOTES**

- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
- BEFORE ANY CONSTRUCTION MAY OCCUR, THE CONTRACTOR SHALL HAVE PLANS WHICH HAVE BEEN SIGNED AND APPROVED BY THE CITY OF KIRKLAND PUBLIC WORKS DEPARTMENT, OBTAINED ALL CITY, COUNTY, STATE, FEDERAL AND OTHER REQUIRED PERMITS, AND HAVE POSTED ALL REQUIRED BONDS.
- ALL STORM DRAINAGE IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF KIRKLAND PUBLIC WORKS PRE-APPROVED PLANS AND POLICIES AND THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, PREPARED BY WSDOT AND THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA).
- ANY DEVIATION FROM THE APPROVED PLANS WILL REQUIRE WRITTEN APPROVAL. ALL CHANGES SHALL BE SUBMITTED TO THE CITY.
- A COPY OF THE APPROVED STORM WATER PLAN MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- ALL DISTURBED AREAS SHALL BE SEEDER AND MULCHED OR SIMILARLY STABILIZED TO THE SATISFACTION OF THE CITY OF KIRKLAND DEPARTMENT OF PUBLIC WORKS FOR THE PREVENTION OF ON-SITE EROSION AFTER THE COMPLETION OF CONSTRUCTION.
- MINIMUM COVER OVER STORM DRAINAGE PIPES IN ROW OR VEHICULAR PATH SHALL BE SUBJECT TO PRE-APPROVED PLAN CK-D.01, UNLESS OTHER DESIGN IS APPROVED.
- STEEL PIPE SHALL HAVE ASPHALT TREATMENT #1 OR BETTER INSIDE AND OUTSIDE.
- ALL CATCH BASINS SHALL BE TYPE I UNLESS OTHERWISE NOTED. CATCH BASINS WITH A DEPTH OF OVER FIVE FEET (5') TO THE PIPE INVERT SHALL BE A TYPE II CATCH BASIN. TYPE II CATCH BASINS EXCEEDING FIVE FEET (5') IN DEPTH SHALL HAVE A STANDARD LADDER INSTALLED, UNLESS APPROVED BY CITY OF KIRKLAND ENGINEER.
- ALL STORM DRAINAGE MAIN EXTENSIONS WITHIN THE PUBLIC RIGHT-OF-WAY OR IN EASEMENTS MUST BE STAKED FOR LINE AND GRADE PRIOR TO STARTING CONSTRUCTION.
- ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF ONE FOOT (1') AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40%-70% PASSING; 2"-4" ROCK/30%-40% PASSING; 2"-MINUS ROCK/10%-20% PASSING. RECYCLED CONCRETE SHALL NOT BE USED FOR EROSION PROTECTION, INCLUDING FOR CONSTRUCTION ENTRANCE OR TEMPORARY STABILIZATION ELSEWHERE ON SITE.
- ALL PIPE, MANHOLES, CATCH BASINS, AND APPURTENANCES SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION IN ACCORDANCE WITH THE CURRENT STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (WSDOT). THIS SHALL INCLUDE NECESSARY LEVELING OF THE TRENCH BOTTOM OR THE TOP OF THE FOUNDATION MATERIAL AS WELL AS PLACEMENT AND COMPACTION OF REQUIRED BEDDING MATERIAL TO UNIFORM GRADE SO THAT THE ENTIRE LENGTH OF THE PIPE WILL BE SUPPORTED ON A UNIFORMLY DENSE, UNYIELDING BASE. IF THE NATIVE MATERIAL IN THE BOTTOM OF THE TRENCH MEETS THE REQUIREMENTS FOR "GRAVEL BACKFILL FOR PIPE BEDDING," THE FIRST LIFT OF PIPE BEDDING MAY BE OMITTED PROVIDED THE MATERIAL IN THE BOTTOM OF THE TRENCH IS LOOSENEED, REGRADED, AND COMPACTED TO FORM A DENSE UNYIELDING BASE. ALL PIPE BEDDING SHALL BE APWA CLASS B, TYPE I, OR BETTER. PIPE SHALL NOT BE INSTALLED ON SOD, FROZEN EARTH, LARGE BOULDERS, OR ROCK. PIPE BEDDING FOR FLEXIBLE PIPES SHALL BE PEA GRAVEL TO THE SPRINGLINE OF THE PIPE.
- CONSTRUCTION OF DEWATERING DISCHARGES SHALL ALWAYS MEET WATER QUALITY GUIDELINES LISTED IN COK POLICY E-1. SPECIFICALLY, DISCHARGES TO THE PUBLIC STORMWATER DRAINAGE SYSTEM MUST BE BELOW 25NTU, AND NOT CONSIDERED A PROHIBITED DISCHARGE (PER KMC 15.52.090). TEMPORARY DISCHARGES TO SANITARY SEWER REQUIRE PRIOR AUTHORIZATION AND PERMIT FROM KING COUNTY INDUSTRIAL WASTE PROGRAM (206-263-3000) AND NOTIFICATION TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. ISSUANCE OF A BUILDING OR LAND SURFACE MODIFICATION PERMIT BY THE CITY OF KIRKLAND DOES NOT RELIEVE THE OWNER OF THE CONTINUING LEGAL OBLIGATION AND/OR LIABILITY CONNECTED WITH STORM SURFACE WATER DISPOSITION. FURTHER, THE CITY OF KIRKLAND DOES NOT ACCEPT ANY OBLIGATION FOR THE PROPER FUNCTIONING AND MAINTENANCE OF THE SYSTEM DURING OR FOLLOWING CONSTRUCTION EXCEPT AS OUTLINED IN THE CITY OF KIRKLAND PUBLIC WORKS STANDARDS.
- ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95 PERCENT DENSITY IN ROADWAYS, ROADWAY SHOULDERS, ROADWAY PRISM AND DRIVEWAYS, AND 85 PERCENT DENSITY IN UNPAVED AREAS. ALL PIPE ZONE COMPACTION SHALL BE 95 PERCENT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, CONFIRMED SPACE PROTECTION, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE A TRAFFIC CONTROL PLAN APPROVED BY THE CITY OF KIRKLAND. ALL SECTIONS OF THE WSDOT STANDARD SPECIFICATIONS, TRAFFIC CONTROL, AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL APPLY.
- NO FINAL CUT OR FILL SLOPE SHALL EXCEED SLOPES OF TWO (2) HORIZONTAL TO ONE (1) VERTICAL WITHOUT STABILIZATION BY ROCKERY OR BY A STRUCTURAL RETAINING WALL.
- ALL MANHOLE LADDERS SHALL BE FIRMLY ATTACHED AND EXTEND TO WITHIN 1' OF THE BOTTOM OF THE STRUCTURE.
- APPROXIMATE LOCATIONS OF EXISTING UTILITIES HAVE BEEN OBTAINED FROM AVAILABLE RECORDS AND ARE SHOWN FOR CONVENIENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING UTILITY LOCATIONS WHETHER OR NOT THESE UTILITIES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL EXERCISE ALL CARE TO AVOID DAMAGE TO ANY UTILITY. IF CONFLICTS WITH EXISTING UTILITIES ARISE DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY CONSTRUCTION INSPECTOR AND ANY CHANGES REQUIRED SHALL BE APPROVED BY THE DEVELOPMENT ENGINEER PRIOR TO COMMENCEMENT OF RELATED CONSTRUCTION ON THE PROJECT.
- THE UNDERGROUND UTILITY LOCATION SERVICE SHALL BE CONTACTED FOR FIELD LOCATION OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. THE OWNER OR HIS REPRESENTATIVE SHALL BE CONTACTED IF A UTILITY CONFLICT EXISTS. FOR UTILITY LOCATION IN KING COUNTY, CALL 1-800-424-5575. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT UTILITY LOCATES ARE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS, WIDTHS, THICKNESSES, AND ELEVATIONS OF ALL EXISTING PAVEMENTS AND STRUCTURES THAT ARE TO INTERFACE WITH NEW WORK. PROVIDE ALL TRIMMING, CUTTING, SAW CUTTING, GRADING, LEVELING, SLOPING, COATING, AND OTHER WORK, INCLUDING MATERIALS AS NECESSARY, TO CAUSE THE INTERFACE WITH EXISTING WORKS TO BE PROPER, ACCEPTABLE TO THE ENGINEER AND THE CITY OF KIRKLAND, COMPLETE IN PLACE AND READY TO USE.
- ALL INLET, MANHOLE, AND CATCH BASIN FRAMES AND GRATES SHALL NOT BE ADJUSTED TO GRADE UNTIL IMMEDIATELY PRIOR TO FINAL PAVING. ALL CATCH BASIN GRATES SHALL BE SET 0.10' BELOW PAVEMENT LEVEL.
- OPEN CUT ROAD CROSSINGS FOR UTILITY TRENCHES ON EXISTING TRAVELED ROADWAY SHALL BE BACKFILLED ONLY WITH 5/8" MINUS CRUSHED ROCK AND MECHANICALLY COMPACTED (UNLESS OTHERWISE APPROVED BY THE CITY). FOR STREETS CLASSIFIED AS ARTERIALS OR COLLECTORS, BACKFILL FOR CROSSINGS SHALL BE CDF. CUTS INTO THE EXISTING ASPHALT SHALL BE NEAT LINE CUT WITH SAW OR JACKHAMMER IN A CONTINUOUS LINE. A TEMPORARY COLD MIX PATCH MUST BE PLACED IMMEDIATELY AFTER BACKFILL AND COMPACTION. A PERMANENT HOT MIX PATCH SHALL BE PLACED WITHIN 30 DAYS AND SHALL BE A MINIMUM OF 1" THICKER THAN THE ORIGINAL ASPHALT WITH A MINIMUM THICKNESS OF 2". SEE STANDARD D.02.
- ALL DAMAGES INCURRED TO PUBLIC AND/OR PRIVATE PROPERTY BY THE CONTRACTOR DURING THE COURSE OF CONSTRUCTION SHALL BE PROMPTLY REPAIRED TO THE SATISFACTION OF THE CITY CONSTRUCTION INSPECTOR BEFORE PROJECT APPROVAL AND/OR THE RELEASE OF THE PROJECT'S PERFORMANCE BOND.
- GROUT ALL SEAMS AND OPENINGS IN ALL INLETS, CATCH BASINS, AND MANHOLES. JETSET GROUT IS NOT ALLOWED.
- WHEN WIDENING AN EXISTING ROADWAY WHERE AN EXISTING TYPE I CATCH BASIN WILL REMAIN IN THE TRAVEL LANE, THE EXISTING FRAME AND COVER SHALL BE REPLACED WITH A ROUND, LOCKING FRAME AND COVER.
- FOR OTHER THAN SINGLE-FAMILY DWELLINGS, ALL EXPOSED OR READILY EXPOSED INDOOR STORM DRAINAGE PIPING/PLUMBING SHALL BE LABELED WITH THE WORDS "STORM DRAIN" WITH MINIMUM 2 INCH HIGH LETTERS.
- RECYCLED CONCRETE SHALL NOT BE USED AROUND STORMWATER FACILITIES, STORM DRAINAGE - PLAN NOTES (CONTINUED).
- ALL FASTENERS (BOLTS, NUTS, WASHERS, ETC.) ON MANHOLE AND CATCH BASIN LIDS TO BE STANDARD SIZE. NO METRIC FASTENERS ALLOWED.

**CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG**

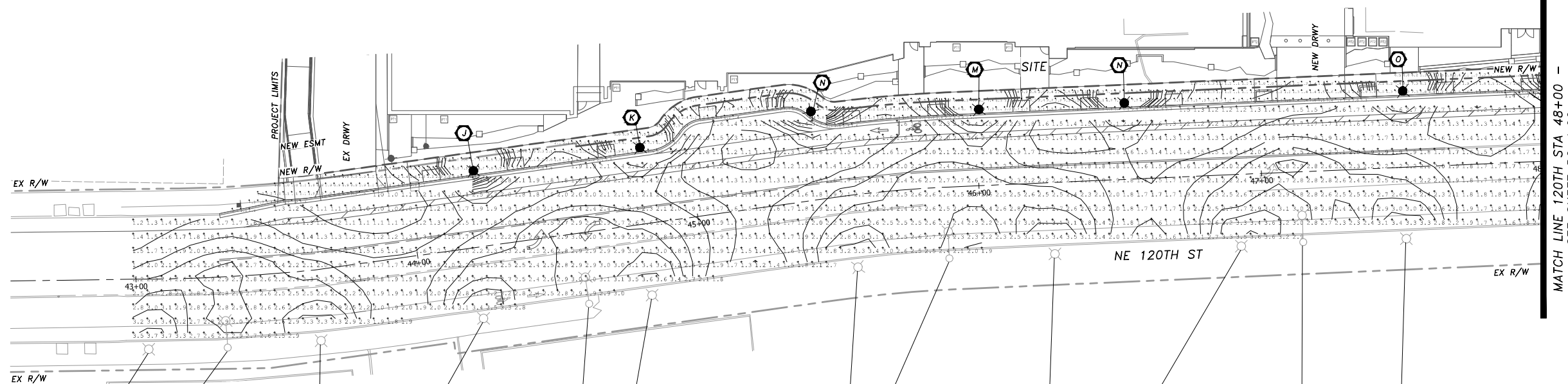
BY					
DATE					
DESCRIPTION					
REVISION					
<p align="center"><b>CONTOUR ENGINEERING, LLC</b>                  CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS                  Phone: 253-857-5954 ~ Fax: 253-509-0044 ~ info@contourllc.com                  Mailing Address: P.O. Box 949, Gig Harbor, WA 98335                  Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332</p>					
<p align="center"><b>JERRY F. HAUG</b>                  CITY OF KIRKLAND                  PROFESSIONAL ENGINEER                  22 June 2022</p>					
<p><b>SHEET TITLE: SLATER &amp; 124TH RAISED ISLAND, NOTES AND DETAILS</b>                  SLATER AVE MIXED-USE OFF-SITE IMPROVEMENTS                  CLIENT: FF REALTY IV LLC                  5355 MIRA SORRENTO PLACE, SUITE 100                  SAN DIEGO, CA 92121                  CONTACT: JASON MARTIN                  PHONE: (619) 787-6700</p>					
<p>DESIGNER: K. MAUREN                  ENGINEER: J. HAUG                  DRAWN: J. RAUSCH                  S28 T26N R5E WM                  DATE: 2022.01.31                  REVISED: 2022.05.31                  PROJECT: 19-031                  DWG NAME: 19-031-C</p>					
SHEET	OS6	REV.			
6 OF 23					

SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.



SCALE 1"=20'

**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.



EX COK PEDESTRIAN LUMINAIRE POLE  
 HEIGHT = 12' EX  
 ARM LENGTH = 0' EX  
 LAMP = 55W LED EX  
 FIXTURE = PHILLIPS LUMEC DOMAS EX  
 DISTRIBUTION = TYPE VS EX  
 INITIAL LUMENS = 4,996 EX  
 LLF = 0.85 EX

EX COK PEDESTRIAN LUMINAIRE POLE  
 HEIGHT = 12' EX  
 ARM LENGTH = 0' EX  
 LAMP = 55W LED EX  
 FIXTURE = PHILLIPS LUMEC DOMAS EX  
 DISTRIBUTION = TYPE VS EX  
 INITIAL LUMENS = 4,996 EX  
 LLF = 0.85 EX

EX COK ROADWAY LUMINAIRE POLE  
 HEIGHT = 40' EX  
 ARM LENGTH = 6' EX  
 LAMP = 135W LED EX  
 FIXTURE = AEL ATBM EX  
 DISTRIBUTION = TYPE III EX  
 INITIAL LUMENS = 17,494 EX  
 LLF = 0.85 EX

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 HEIGHT = 12' EX  
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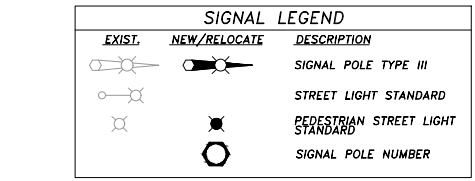
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 INITIAL LUMENS = 4,996 EX  
 LLF = 0.85 EX

CALCULATION AREA	DESIGN CRITERIA	
	MIN. AVG. MAINTAINED (FC)	MAX. UNIFORMITY RATIO (AVG. /MIN.)
NE 120TH ST (WEST LEG) (MINOR ARTERIAL)	1.30 <b>2.15</b>	3.00:1 <b>2.15:1</b>
NE 120TH ST (EAST LEG) (MINOR ARTERIAL)	1.30 <b>1.49</b>	3.00:1 <b>2.98:1</b>
SLATER AVE NE (MINOR ARTERIAL)	1.30 <b>2.16</b>	3.00:1 <b>2.70:1</b>
NE 120TH ST & SLATER AVE NE INTERSECTION	2.60 <b>2.68</b>	3.00:1 <b>2.23:1</b>
NE 120TH ST (SIDEWALK)	0.50 <b>3.09</b>	4.00:1 <b>3.43:1</b>
SLATER AVE NE (SIDEWALK)	0.50 <b>1.93</b>	4.00:1 <b>3.86:1</b>

\*LIGHT LEVEL CRITERIA BASED ON ANSI/IES RP-8-00 STANDARD FOR MAJOR ROADWAY WITH MEDIUM PEDESTRIAN CONFLICT AREA CLASSIFICATION.



LUM. POLE NO.	STREET	STATION	OFFSET*	MOUNT. HEIGHT	VOLTAGE	ARM LENGTH	SERVICE CIRCUIT	WATTAGE /TYPE	LUMINAIRE TYPE - DISTRIBUTION	POLE TYPE	BASE	COMMENT
J	NE 120TH ST	44+23.5	27.0' LT	12'	240	0'	A/ILLUM A	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
K	NE 120TH ST	44+83.0	35.5' LT	12'	240	0'	A/ILLUM A	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
L	NE 120TH ST	45+43.5	27.0' LT	12'	240	0'	A/ILLUM A	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
M	NE 120TH ST	46+01.0	27.0' LT	12'	240	0'	A/ILLUM A	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
N	NE 120TH ST	46+52.5	27.0' LT	12'	240	0'	A/ILLUM A	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
O	NE 120TH ST	47+51.0	27.0' LT	12'	240	0'	A/ILLUM A	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L

\*OFFSETS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY PRIOR TO FOUNDATION INSTALLATION.

REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

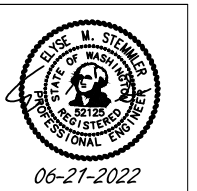
DRAWN BY:  
VNF

APPROVED BY:  
EMS

ISSUE DATE:  
06-21-2022

JOB NO.:  
TENW #2021-195

DRAWING FILE NO.:



**TENW**  
 Transportation Engineering NorthWest  
 Transportation Planning | Design | Traffic Impact & Operations  
 11400 SE 8th St, Suite 200, Bellevue, WA 98004 | Office (425) 889-6747  
 Project Contact: Grant Lewis  
 Phone: 952-270-9089

Fairfield Residential  
 5355 Mira Sorrento Place,  
 Suite 100,  
 San Diego, CA 92121  
 858-626-8263  
 sfinch2@ffres.com  
 Shon Finch

SLATER MIXED-USE  
 ON-SITE IMPROVEMENTS

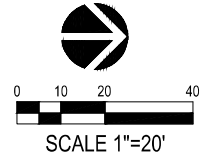
PHOTOMETRIC CALCULATIONS  
 NE 120TH ST

DRAWING NO.:  
PC-1.01

SHEET NO.:  
14  
OF  
17  
SHEETS



SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.

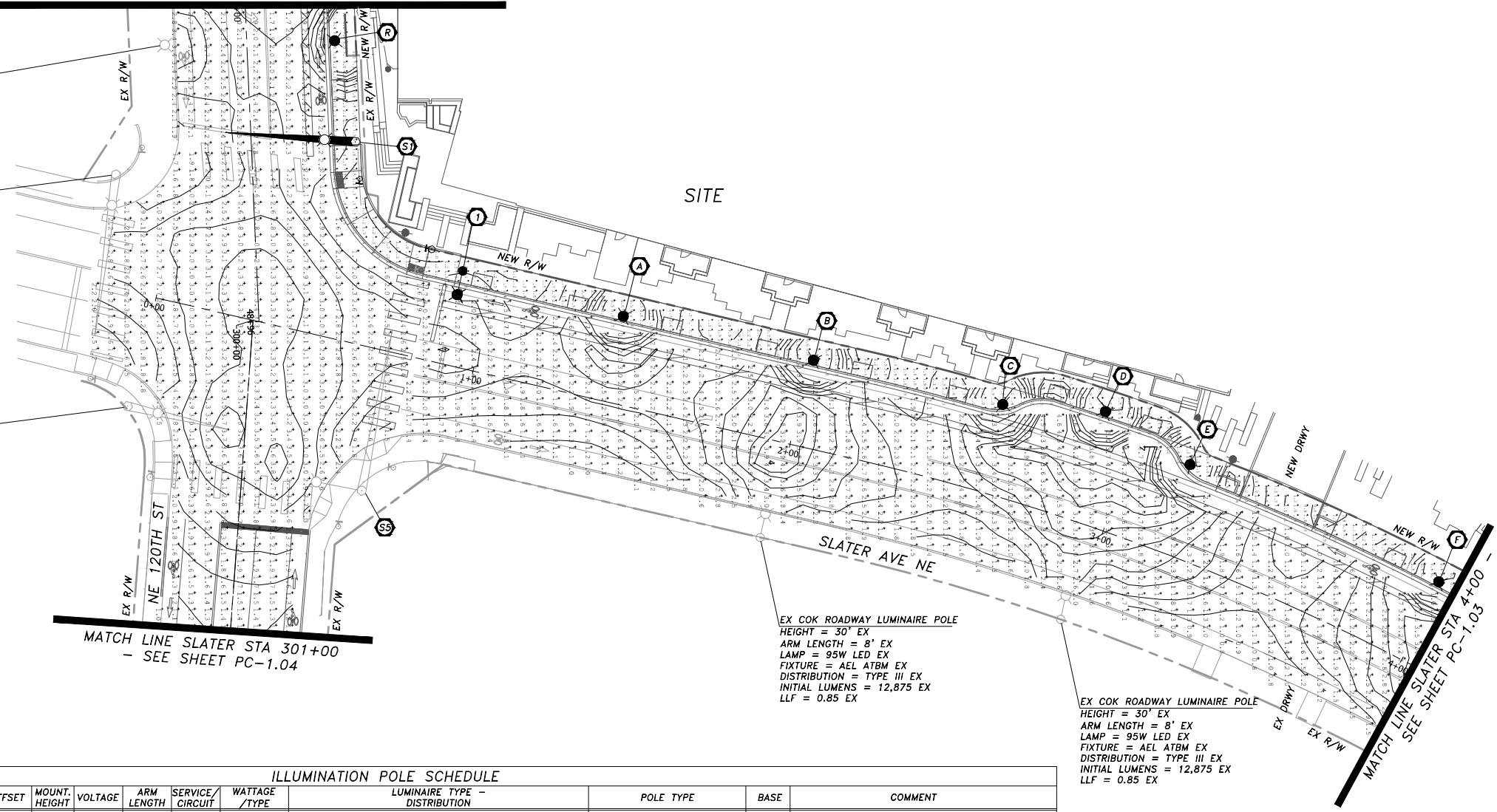


MATCH LINE 120TH STA 48+00 - SEE SHEET PC-1.01

EX COK PEDESTRIAN LUMINAIRE POLE  
 HEIGHT = 12' EX  
 ARM LENGTH = 0' EX  
 LAMP = 55W LED EX  
 FIXTURE = PHILLIPS LUMEC DOMAS EX  
 DISTRIBUTION = TYPE VS EX  
 INITIAL LUMENS = 4,996 EX  
 LLF = 0.85 EX

EX COK MAST ARM POLE  
 HEIGHT = 36' EX  
 ARM LENGTH = 8' EX  
 LAMP = 95W LED EX  
 FIXTURE = AEL ATBM EX  
 DISTRIBUTION = TYPE III EX  
 INITIAL LUMENS = 12,818 EX  
 LLF = 0.85 EX

EX COK MAST ARM POLE  
 HEIGHT = 36' EX  
 ARM LENGTH = 8' EX  
 LAMP = 95W LED EX  
 FIXTURE = AEL ATBM EX  
 DISTRIBUTION = TYPE III EX  
 INITIAL LUMENS = 12,818 EX  
 LLF = 0.85 EX



MATCH LINE SLATER STA 301+00 - SEE SHEET PC-1.04

EX COK ROADWAY LUMINAIRE POLE  
 HEIGHT = 30' EX  
 ARM LENGTH = 8' EX  
 LAMP = 95W LED EX  
 FIXTURE = AEL ATBM EX  
 DISTRIBUTION = TYPE III EX  
 INITIAL LUMENS = 12,875 EX  
 LLF = 0.85 EX

EX COK ROADWAY LUMINAIRE POLE  
 HEIGHT = 30' EX  
 ARM LENGTH = 8' EX  
 LAMP = 95W LED EX  
 FIXTURE = AEL ATBM EX  
 DISTRIBUTION = TYPE III EX  
 INITIAL LUMENS = 12,875 EX  
 LLF = 0.85 EX

CALCULATION AREA	DESIGN CRITERIA	
	MIN. AVG. MAINTAINED (FC)	MAX. UNIFORMITY RATIO (AVG. /MIN.)
NE 120TH ST (WEST LEG) (MINOR ARTERIAL)	1.30 <b>2.15</b>	3.00:1 <b>2.15:1</b>
NE 120TH ST (EAST LEG) (MINOR ARTERIAL)	1.30 <b>1.49</b>	3.00:1 <b>2.98:1</b>
SLATER AVE NE (MINOR ARTERIAL)	1.30 <b>2.16</b>	3.00:1 <b>2.70:1</b>
NE 120TH ST & SLATER AVE NE INTERSECTION	2.60 <b>2.68</b>	3.00:1 <b>2.23:1</b>
NE 120TH ST (SIDEWALK)	0.50 <b>3.09</b>	4.00:1 <b>3.43:1</b>
SLATER AVE NE (SIDEWALK)	0.50 <b>1.93</b>	4.00:1 <b>3.86:1</b>

\*LIGHT LEVEL CRITERIA BASED ON ANSI/IES RP-8-00 STANDARD FOR MAJOR ROADWAY WITH MEDIUM PEDESTRIAN CONFLICT AREA CLASSIFICATION.

**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.

ILLUMINATION POLE SCHEDULE												
SIGNAL POLE NO.	STREET	STATION	OFFSET	MOUNT. HEIGHT	VOLTAGE	ARM LENGTH	SERVICE CIRCUIT	WATTAGE /TYPE	LUMINAIRE TYPE - DISTRIBUTION	POLE TYPE	BASE	COMMENT
S1	NE 120TH ST	48+42.5	32.0' LT	35'	240	8'	EX	95W LED	AEL AUTOBAHN ATBM-P20-MVOLT-R3	MAST ARM POLE	FIXED	INSTALL NEW LUMINAIRE ON NEW SIGNAL POLE.
S5	SLATER AVE NE	EX	EX	EX	EX	EX	EX	EX 95W LED	EX AEL AUTOBAHN	EX MAST ARM POLE	FIXED	ROTATE LUMINAIRE ARM 90 DEGREES TOWARD SOUTH.
I	SLATER AVE NE	0+90.0	29.5' LT	30'	240	8'	A/ILLUM A	95W LED	AEL AUTOBAHN ATBM-P20-MVOLT-R3	ROUND STEEL	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-TS.08.
A	SLATER AVE NE	1+41.0	27.0' LT	12'	240	0'	A/ILLUM A	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
B	SLATER AVE NE	2+01.0	27.0' LT	12'	240	0'	A/ILLUM A	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
C	SLATER AVE NE	2+59.5	27.5' LT	12'	240	0'	A/ILLUM A	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
D	SLATER AVE NE	2+89.0	35.0' LT	12'	240	0'	A/ILLUM A	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
E	SLATER AVE NE	3+17.5	28.5' LT	12'	240	0'	A/ILLUM A	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
F	SLATER AVE NE	3+99.0	26.5' LT	12'	240	0'	A/ILLUM A	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
P	NE 120TH ST	48+11.0	27.0' LT	12'	240	0'	A/ILLUM A	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L

\*OFFSETS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY PRIOR TO FOUNDATION INSTALLATION.

SIGNAL LEGEND		
EXIST.	NEW/RELOCATE	DESCRIPTION
		SIGNAL POLE TYPE III
		STREET LIGHT STANDARD
		PEDESTRIAN STREET LIGHT STANDARD
		SIGNAL POLE NUMBER

REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

DRAWN BY:  
VNF

APPROVED BY:  
EMS

ISSUE DATE:  
06-21-2022

JOB NO.:  
TENW #2021-195

DRAWING FILE NO.:



**TENW**  
 Transportation Engineering NorthWest

Transportation Planning | Design | Traffic Impact & Operations  
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Project Contact: Grant Lewis  
 Phone: 952-270-9089

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 858-626-8263  
 sfinch2@ffres.com  
 Shon Finch

SLATER MIXED-USE  
 ON-SITE IMPROVEMENTS

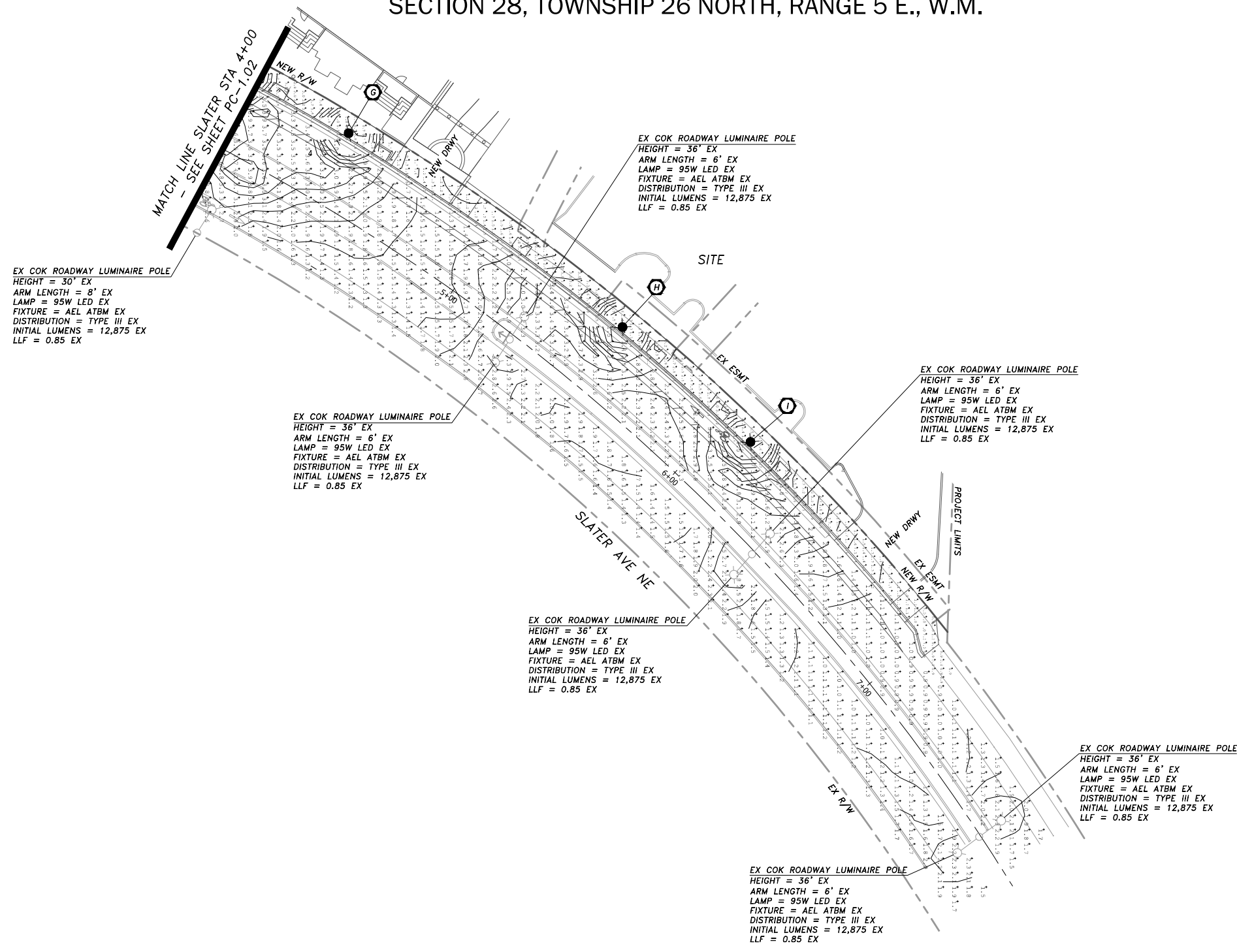
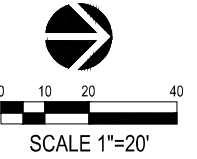
PHOTOMETRIC CALCULATIONS  
 NE 120TH ST & SLATER AVE NE

DRAWING NO.:  
PC-1.02

SHEET NO.:  
15  
OF  
17  
SHEETS



SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.



EX COK ROADWAY LUMINAIRE POLE  
HEIGHT = 30' EX  
ARM LENGTH = 8' EX  
LAMP = 95W LED EX  
FIXTURE = AEL ATBM EX  
DISTRIBUTION = TYPE III EX  
INITIAL LUMENS = 12,875 EX  
LLF = 0.85 EX

EX COK ROADWAY LUMINAIRE POLE  
HEIGHT = 36' EX  
ARM LENGTH = 6' EX  
LAMP = 95W LED EX  
FIXTURE = AEL ATBM EX  
DISTRIBUTION = TYPE III EX  
INITIAL LUMENS = 12,875 EX  
LLF = 0.85 EX

EX COK ROADWAY LUMINAIRE POLE  
HEIGHT = 36' EX  
ARM LENGTH = 6' EX  
LAMP = 95W LED EX  
FIXTURE = AEL ATBM EX  
DISTRIBUTION = TYPE III EX  
INITIAL LUMENS = 12,875 EX  
LLF = 0.85 EX

EX COK ROADWAY LUMINAIRE POLE  
HEIGHT = 36' EX  
ARM LENGTH = 6' EX  
LAMP = 95W LED EX  
FIXTURE = AEL ATBM EX  
DISTRIBUTION = TYPE III EX  
INITIAL LUMENS = 12,875 EX  
LLF = 0.85 EX

EX COK ROADWAY LUMINAIRE POLE  
HEIGHT = 36' EX  
ARM LENGTH = 6' EX  
LAMP = 95W LED EX  
FIXTURE = AEL ATBM EX  
DISTRIBUTION = TYPE III EX  
INITIAL LUMENS = 12,875 EX  
LLF = 0.85 EX

EX COK ROADWAY LUMINAIRE POLE  
HEIGHT = 36' EX  
ARM LENGTH = 6' EX  
LAMP = 95W LED EX  
FIXTURE = AEL ATBM EX  
DISTRIBUTION = TYPE III EX  
INITIAL LUMENS = 12,875 EX  
LLF = 0.85 EX

EX COK ROADWAY LUMINAIRE POLE  
HEIGHT = 36' EX  
ARM LENGTH = 6' EX  
LAMP = 95W LED EX  
FIXTURE = AEL ATBM EX  
DISTRIBUTION = TYPE III EX  
INITIAL LUMENS = 12,875 EX  
LLF = 0.85 EX

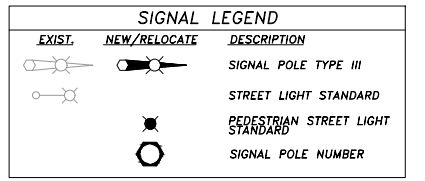
CALCULATION AREA	DESIGN CRITERIA	
	MIN. AVG. MAINTAINED (FC)	MAX. UNIFORMITY RATIO (AVG. /MIN.)
NE 120TH ST (WEST LEG) (MINOR ARTERIAL)	1.30 <b>2.15</b>	3.00:1 <b>2.15:1</b>
NE 120TH ST (EAST LEG) (MINOR ARTERIAL)	1.30 <b>1.49</b>	3.00:1 <b>2.98:1</b>
SLATER AVE NE (MINOR ARTERIAL)	1.30 <b>2.16</b>	3.00:1 <b>2.70:1</b>
NE 120TH ST & SLATER AVE NE INTERSECTION	2.60 <b>2.68</b>	3.00:1 <b>2.23:1</b>
NE 120TH ST (SIDEWALK)	0.50 <b>3.09</b>	4.00:1 <b>3.43:1</b>
SLATER AVE NE (SIDEWALK)	0.50 <b>1.93</b>	4.00:1 <b>3.86:1</b>

\*LIGHT LEVEL CRITERIA BASED ON ANSI/IES RP-8-00 STANDARD FOR MAJOR ROADWAY WITH MEDIUM PEDESTRIAN CONFLICT AREA CLASSIFICATION.

**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.

SIGNAL POLE NO.	STREET	STATION	OFFSET	MOUNT. HEIGHT	VOLTAGE	ARM LENGTH	SERVICE/CIRCUIT	WATTAGE /TYPE	LUMINAIRE TYPE - DISTRIBUTION	POLE TYPE	BASE	COMMENT
G	SLATER AVE NE	4+41.0	26.0' LT	12'	240	0'	A/ILLUM A	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
H	SLATER AVE NE	5+54.0	26.0' LT	12'	240	0'	A/ILLUM A	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
I	SLATER AVE NE	6+11.5	26.0' LT	12'	240	0'	A/ILLUM A	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M

\*OFFSETS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY PRIOR TO FOUNDATION INSTALLATION.



REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

DRAWN BY:  
VNF

APPROVED BY:  
EMS

ISSUE DATE:  
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JOB NO. #:  
TENW #2021-195

DRAWING FILE NO.:



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 sfinch2@ffres.com  
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SLATER MIXED-USE  
 ON-SITE IMPROVEMENTS

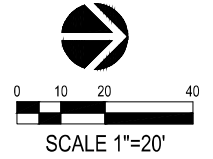
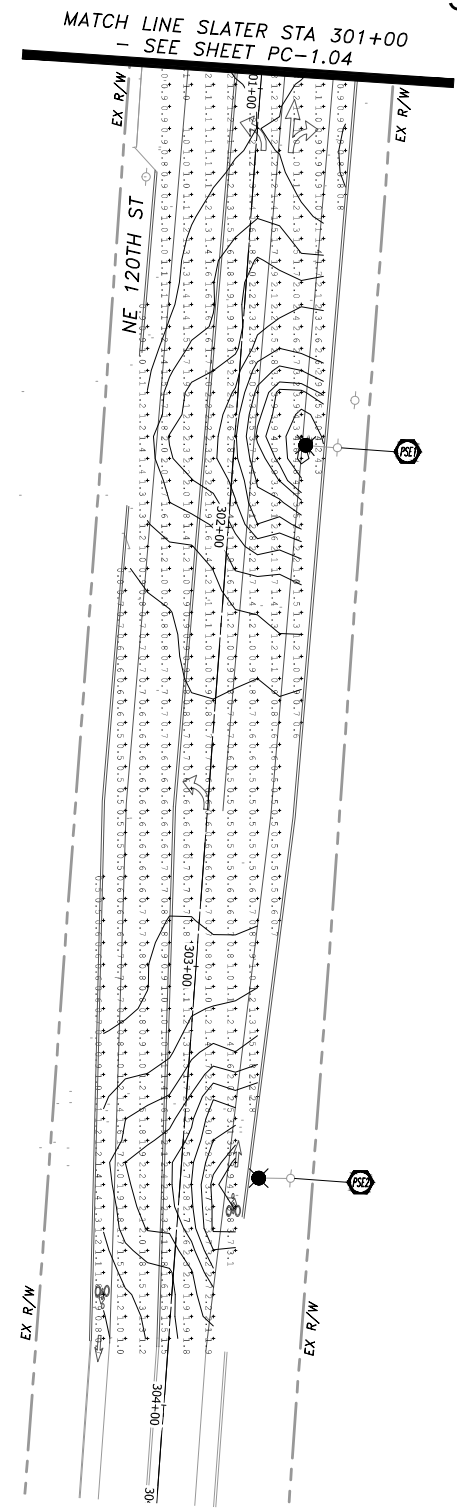
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PHOTOMETRIC CALCULATIONS  
 SLATER AVE NE

DRAWING NO.:  
PC-1.03

SHEET NO. OF SHEETS:  
16 OF 17

SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.



PSE STREET LIGHTING SCOPE OF WORK										
ILLUMINATION POLE SCHEDULE (INSTALLED BY PSE STREET LIGHTING)										
LUM. POLE NO.	STREET	STATION	OFFSET	MOUNTING HEIGHT	ARM LENGTH	POLE	LUMINAIRE TYPE	WATTAGE /TYPE	INITIAL LUMENS	COMMENT
PS1	NE 120TH ST	301+80.0	23.5' LT	EX 25'	EX 6'	EX WOOD UTILITY	GE EVOLVE ERLH_15C340	136W LED	15,000	LUMINAIRE AND ARM INSTALLED BY PSE STREET LIGHTING.
PS2	NE 120TH ST	303+46.5	25.0' LT	EX 25'	EX 6'	EX WOOD UTILITY	GE EVOLVE ERLH_15C340	136W LED	15,000	LUMINAIRE AND ARM INSTALLED BY PSE STREET LIGHTING.

CALCULATION AREA	DESIGN CRITERIA	
	MIN. AVG. MAINTAINED (FC)	MAX. UNIFORMITY RATIO (AVG. /MIN.)
NE 120TH ST (WEST LEG) (MINOR ARTERIAL)	1.30 / 2.15	3.00:1 / 2.15:1
NE 120TH ST (EAST LEG) (MINOR ARTERIAL)	1.30 / 1.49	3.00:1 / 2.98:1
SLATER AVE NE (MINOR ARTERIAL)	1.30 / 2.16	3.00:1 / 2.70:1
NE 120TH ST & SLATER AVE NE INTERSECTION	2.60 / 2.68	3.00:1 / 2.23:1
NE 120TH ST (SIDEWALK)	0.50 / 3.09	4.00:1 / 3.43:1
SLATER AVE NE (SIDEWALK)	0.50 / 1.93	4.00:1 / 3.86:1

\*LIGHT LEVEL CRITERIA BASED ON ANSI/IES RP-8-00 STANDARD FOR MAJOR ROADWAY WITH MEDIUM PEDESTRIAN CONFLICT AREA CLASSIFICATION.

**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.

SIGNAL LEGEND		
EXIST.	NEW/RELOCATE	DESCRIPTION
		SIGNAL POLE TYPE III
		STREET LIGHT STANDARD
		PEDESTRIAN STREET LIGHT STANDARD
		UTILITY POLE MOUNTED LUMINAIRE
		SIGNAL POLE NUMBER

REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

DRAWN BY:  
VNF

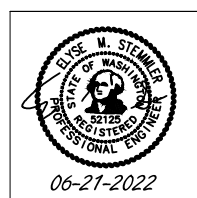
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EMS

ISSUE DATE:  
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JOB NO.:

TENW #2021-195

DRAWING FILE NO.:



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 sfinch2@ffres.com  
 Shon Finch

SLATER MIXED-USE  
ON-SITE IMPROVEMENTS

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PHOTOMETRIC CALCULATIONS  
NE 120TH ST & SLATER AVE NE

DRAWING NO.:  
PC-1.04

SHEET NO.:  
17  
OF  
17  
SHEETS

SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.

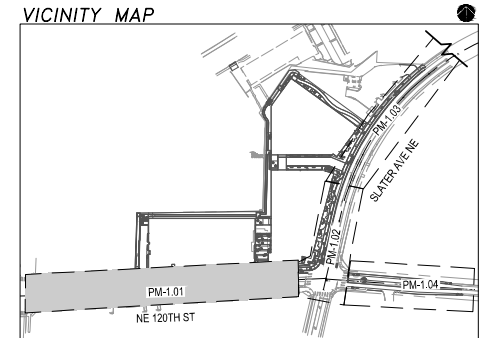
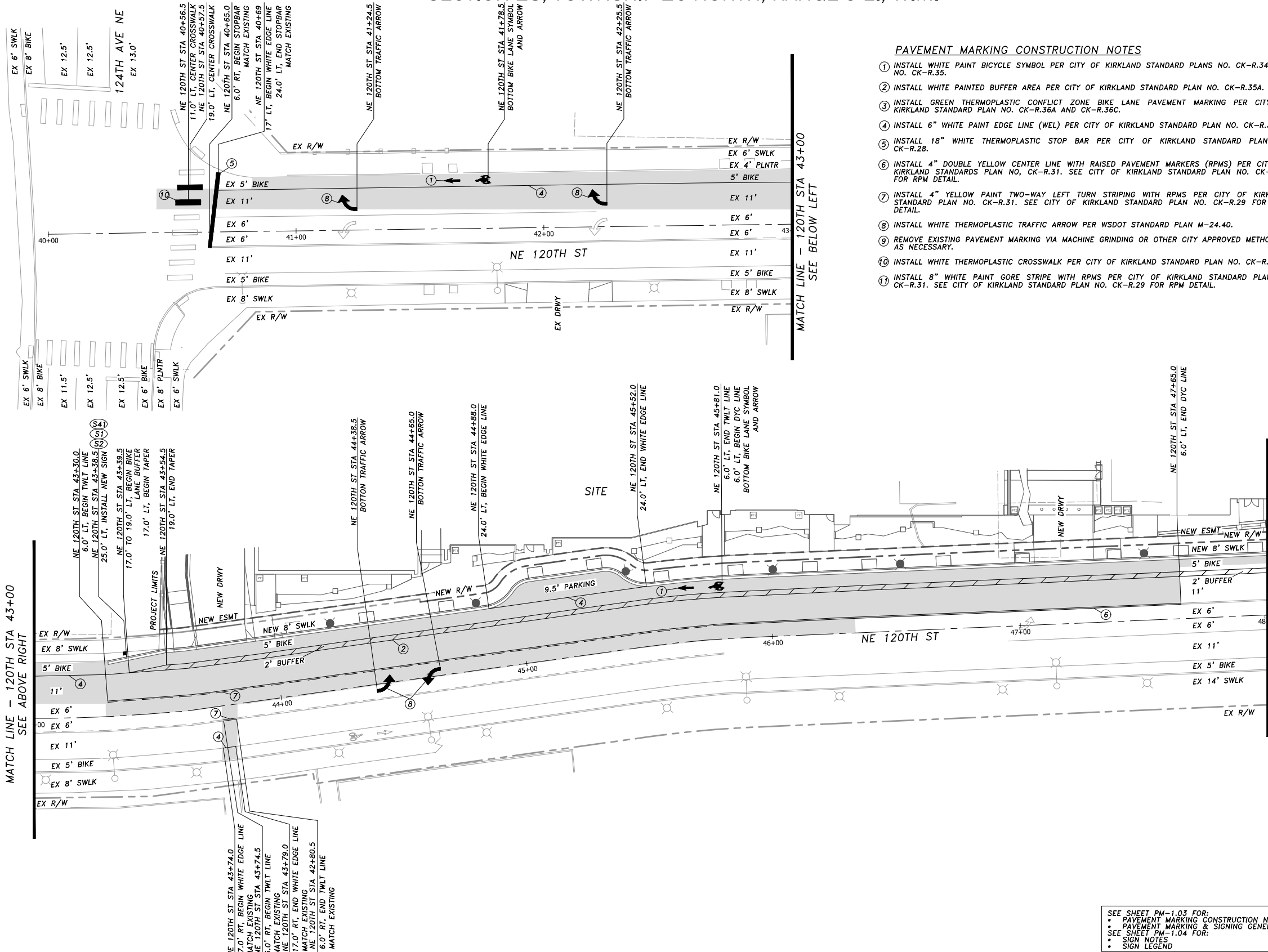


SCALE 1"=20'

**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.

**PAVEMENT MARKING CONSTRUCTION NOTES**

- ① INSTALL WHITE PAINT BICYCLE SYMBOL PER CITY OF KIRKLAND STANDARD PLANS NO. CK-R.34 AND NO. CK-R.35.
- ② INSTALL WHITE PAINTED BUFFER AREA PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.35A.
- ③ INSTALL GREEN THERMOPLASTIC CONFLICT ZONE BIKE LANE PAVEMENT MARKING PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.36A AND CK-R.36C.
- ④ INSTALL 6" WHITE PAINT EDGE LINE (WEL) PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.35.
- ⑤ INSTALL 18" WHITE THERMOPLASTIC STOP BAR PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.28.
- ⑥ INSTALL 4" DOUBLE YELLOW CENTER LINE WITH RAISED PAVEMENT MARKERS (RPMs) PER CITY OF KIRKLAND STANDARDS PLAN NO. CK-R.31. SEE CITY OF KIRKLAND STANDARD PLAN NO. CK-R.29 FOR RPM DETAIL.
- ⑦ INSTALL 4" YELLOW PAINT TWO-WAY LEFT TURN STRIPING WITH RPMs PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.31. SEE CITY OF KIRKLAND STANDARD PLAN NO. CK-R.29 FOR RPM DETAIL.
- ⑧ INSTALL WHITE THERMOPLASTIC TRAFFIC ARROW PER WSDOT STANDARD PLAN M-24.40.
- ⑨ REMOVE EXISTING PAVEMENT MARKING VIA MACHINE GRINDING OR OTHER CITY APPROVED METHOD AS NECESSARY.
- ⑩ INSTALL WHITE THERMOPLASTIC CROSSWALK PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.28.
- ⑪ INSTALL 8" WHITE PAINT GORE STRIPE WITH RPMs PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.31. SEE CITY OF KIRKLAND STANDARD PLAN NO. CK-R.29 FOR RPM DETAIL.



**LEGEND**

EXIST.	NEW/RELOCATE	DESCRIPTION
(Symbol)	(Symbol)	PAVEMENT MARKING NOTE
(Symbol)	(Symbol)	SIGNING NOTE
(Symbol)	(Symbol)	POST MOUNTED SIGN
(Symbol)	(Symbol)	ROADWAY LIGHT STANDARD
(Symbol)	(Symbol)	PEDESTRIAN LIGHT STANDARD
(Symbol)	(Symbol)	LUMINAIRE POLE MOUNTED SIGN
(Symbol)	(Symbol)	OVERLAY/ROAD WIDENING LIMITS
(Symbol)	(Symbol)	GREEN BIKE LANE TREATMENT

SEE SHEET PM-1.03 FOR:  
 • PAVEMENT MARKING CONSTRUCTION NOTES  
 SEE SHEET PM-1.04 FOR:  
 • SIGN NOTES  
 • SIGN LEGEND

REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

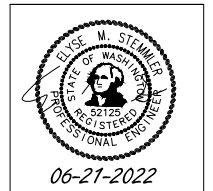
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VNF

APPROVED BY:  
EMS

ISSUE DATE:  
06-21-2022

JOB NO. #:  
TENW #2021-195

DRAWING FILE NO.:



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SLATER MIXED-USE  
 ON-SITE IMPROVEMENTS

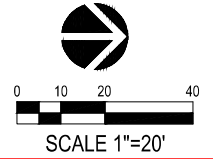
**PAVEMENT MARKING & SIGNING PLAN**  
 NE 120TH ST

DRAWING NO.:  
PM-1.01

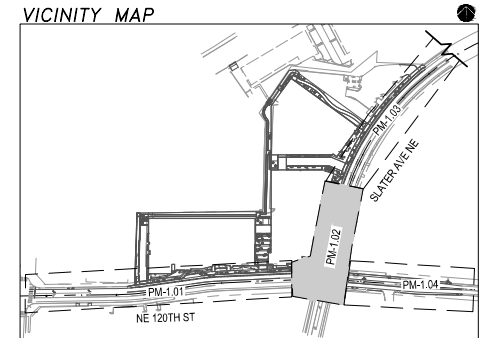
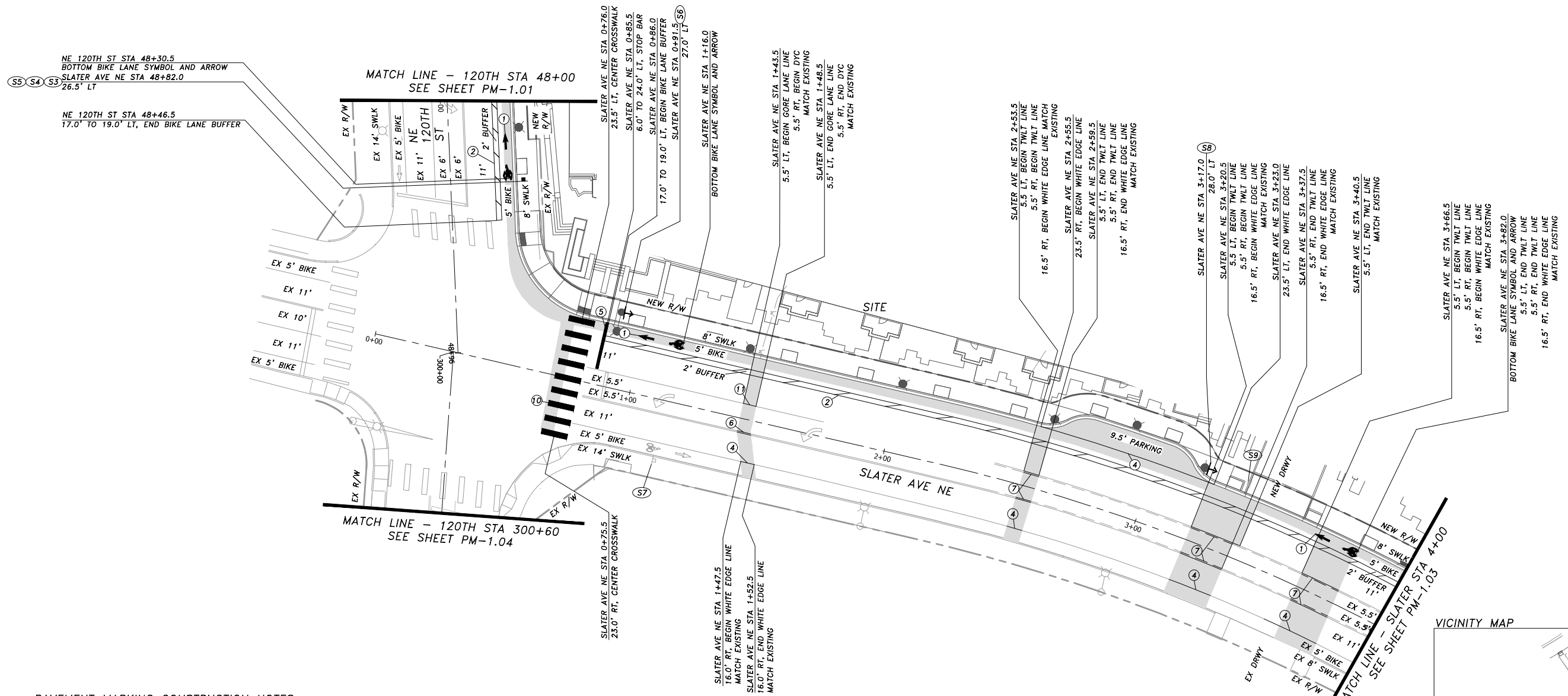
SHEET NO.:  
1  
OF  
17  
SHEETS



SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.



**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.



- PAVEMENT MARKING CONSTRUCTION NOTES**
- ① INSTALL WHITE PAINT BICYCLE SYMBOL PER CITY OF KIRKLAND STANDARD PLANS NO. CK-R.34 AND NO. CK-R.35.
  - ② INSTALL WHITE PAINTED BUFFER AREA PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.35A.
  - ③ INSTALL GREEN THERMOPLASTIC CONFLICT ZONE BIKE LANE PAVEMENT MARKING PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.36A AND CK-R.36C.
  - ④ INSTALL 6" WHITE PAINT EDGE LINE (WEL) PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.35.
  - ⑤ INSTALL 18" WHITE THERMOPLASTIC STOP BAR PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.28.
  - ⑥ INSTALL 4" DOUBLE YELLOW CENTER LINE WITH RAISED PAVEMENT MARKERS (RPMS) PER CITY OF KIRKLAND STANDARDS PLAN NO. CK-R.31. SEE CITY OF KIRKLAND STANDARD PLAN NO. CK-R.29 FOR RPM DETAIL.
  - ⑦ INSTALL 4" YELLOW PAINT TWO-WAY LEFT TURN STRIPING WITH RPMS PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.31. SEE CITY OF KIRKLAND STANDARD PLAN NO. CK-R.29 FOR RPM DETAIL.
  - ⑧ INSTALL WHITE THERMOPLASTIC TRAFFIC ARROW PER WSDOT STANDARD PLAN M-24.40.
  - ⑨ REMOVE EXISTING PAVEMENT MARKING VIA MACHINE GRINDING OR OTHER CITY APPROVED METHOD AS NECESSARY.
  - ⑩ INSTALL WHITE THERMOPLASTIC CROSSWALK PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.28.
  - ⑪ INSTALL 8" WHITE PAINT GORE STRIPE WITH RPMS PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.31. SEE CITY OF KIRKLAND STANDARD PLAN NO. CK-R.29 FOR RPM DETAIL.

SEE SHEET PM-1.03 FOR:  
 • PAVEMENT MARKING CONSTRUCTION NOTES  
 • PAVEMENT MARKING & SIGNING GENERAL NOTES  
 SEE SHEET PM-1.04 FOR:  
 • SIGN NOTES  
 • SIGN LEGEND

EXIST.	NEW/RELOCATE	DESCRIPTION
	○	PAVEMENT MARKING NOTE
	○	SIGNING NOTE
	■	POST MOUNTED SIGN
	■	ROADWAY LIGHT STANDARD
	■	PEDESTRIAN LIGHT STANDARD
	■	LUMINAIRE POLE MOUNTED SIGN
	■	OVERLAY/ROAD WIDENING LIMITS
	■	GREEN BIKE LANE TREATMENT

REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

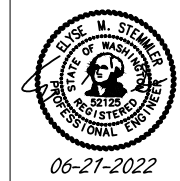
DRAWN BY:  
VNF

APPROVED BY:  
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ISSUE DATE:  
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JOB NO.:  
TENW #2021-195

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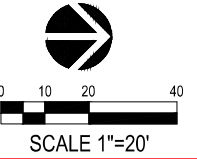
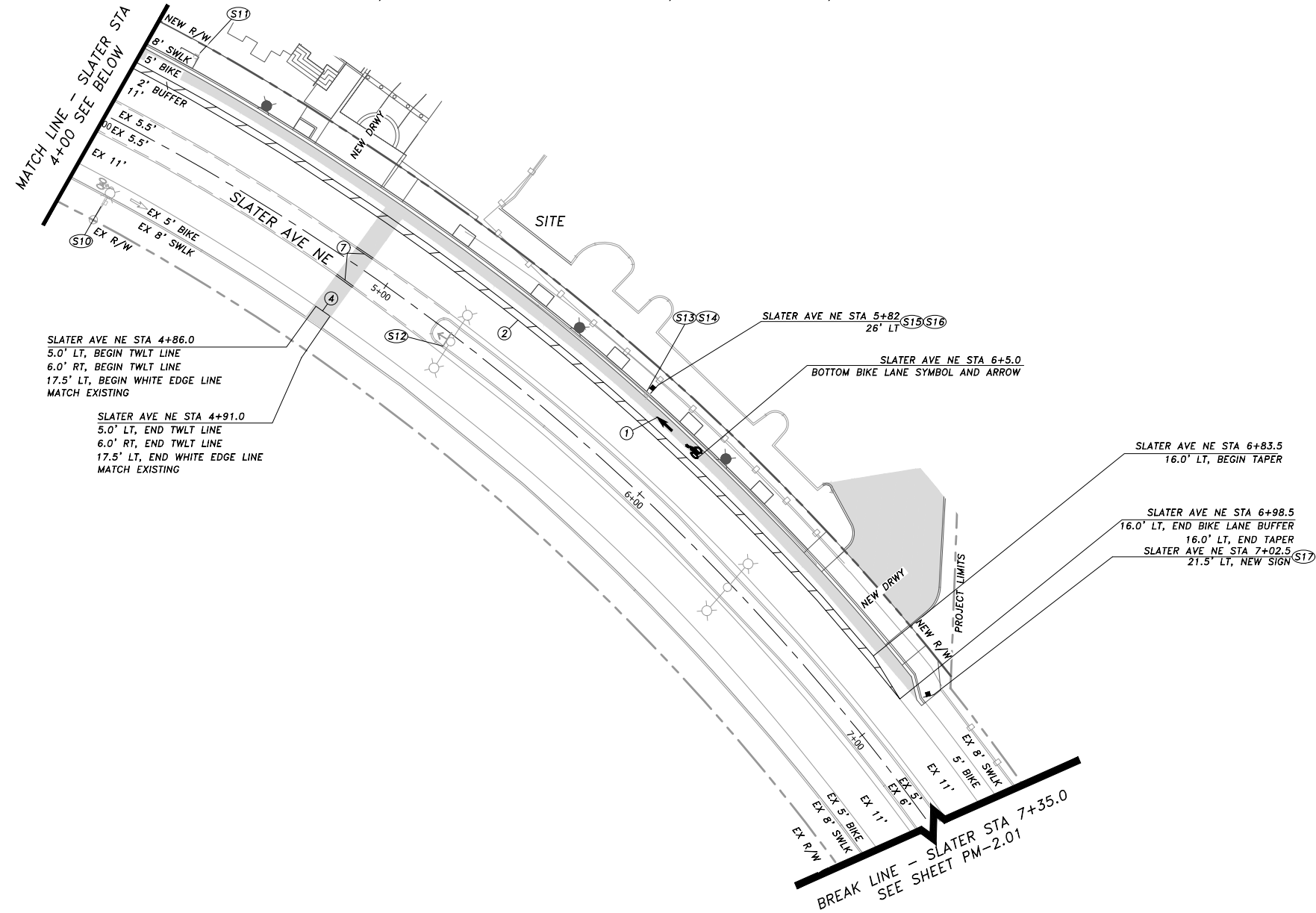
SLATER MIXED-USE  
 ON-SITE IMPROVEMENTS

PAVEMENT MARKING & SIGNING PLAN  
 NE 120TH ST & SLATER AVE NE

DRAWING NO.:  
PM-1.02

SHEET NO.:  
2  
OF  
17  
SHEETS

SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.



**APPROVED**  
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 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.

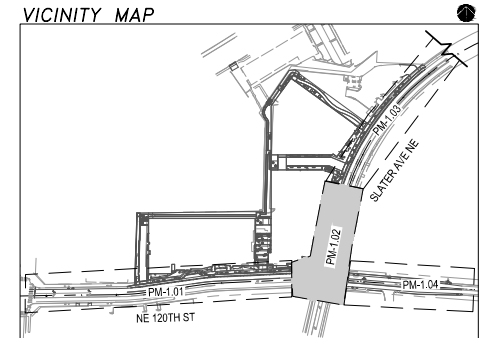
**PAVEMENT MARKING CONSTRUCTION NOTES**

- ① INSTALL WHITE PAINT BICYCLE SYMBOL PER CITY OF KIRKLAND STANDARD PLANS NO. CK-R.34 AND NO. CK-R.35.
- ② INSTALL WHITE PAINTED BUFFER AREA PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.35A.
- ③ INSTALL GREEN THERMOPLASTIC CONFLICT ZONE BIKE LANE PAVEMENT MARKING PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.36A AND CK-R.36C.
- ④ INSTALL 6" WHITE PAINT EDGE LINE (WEL) PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.35.
- ⑤ INSTALL 18" WHITE THERMOPLASTIC STOP BAR PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.28.
- ⑥ INSTALL 4" DOUBLE YELLOW CENTER LINE WITH RAISED PAVEMENT MARKERS (RPMS) PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.31. SEE CITY OF KIRKLAND STANDARD PLAN NO. CK-R.29 FOR RPM DETAIL.
- ⑦ INSTALL 4" YELLOW PAINT TWO-WAY LEFT TURN STRIPING WITH RPMS PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.31. SEE CITY OF KIRKLAND STANDARD PLAN NO. CK-R.29 FOR RPM DETAIL.
- ⑧ INSTALL WHITE THERMOPLASTIC TRAFFIC ARROW PER WSDOT STANDARD PLAN M-24.40.
- ⑨ REMOVE EXISTING PAVEMENT MARKING VIA MACHINE GRINDING OR OTHER CITY APPROVED METHOD AS NECESSARY.
- ⑩ INSTALL WHITE THERMOPLASTIC CROSSWALK PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.28.
- ⑪ INSTALL 8" WHITE PAINT GORE STRIPE WITH RPMS PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.31. SEE CITY OF KIRKLAND STANDARD PLAN NO. CK-R.29 FOR RPM DETAIL.

**PAVEMENT MARKING & SIGNING GENERAL NOTES**

1. ALL WORK SHALL BE IN ACCORDANCE WITH WSDOT/APWA STANDARD PLANS, STANDARD SPECIFICATIONS, CITY OF KIRKLAND STANDARDS, LATEST AMENDMENTS TO SPECIAL PROVISIONS AND THE PLANS. A SET OF APPROVED PLANS SHALL BE KEPT ON-SITE AT ALL TIMES DURING CONSTRUCTION.
2. REMOVE EXISTING CONFLICTING STRIPING AS NECESSARY TO ACCOMMODATE NEW STRIPING. ANY ROADWAY/INTERSECTION SIGN/MARKING REMOVED OR TEMPORARILY MOVED BY THE CONTRACTOR SHALL BE RESTORED BY THE END OF DAY AS TO COMPLY WITH THE CURRENT CITY OF KIRKLAND STANDARDS. CONTRACTOR SHALL COORDINATE STRIPING REMOVE WITH ASPHALT RESTORATION WORK.
3. ALL NEW SIGNS TO BE INSTALLED IN THE PUBLIC RIGHT-OF-WAY MUST BE PURCHASED FROM, AND INSTALLED BY, THE CITY OF KIRKLAND PUBLIC WORKS DEPARTMENT. CONTRACTOR IS REQUIRED TO COORDINATE THE PURCHASE AND INSTALLATION OF THESE SIGNS WITH THE CITY OF KIRKLAND PUBLIC WORKS DEPARTMENT.
4. THE CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS TO THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARTING ANY WORK IN THE RIGHT-OF-WAY REQUIRING TEMPORARY TRAFFIC CONTROL. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CURRENT MUTCD, OR AS APPROVED BY THE ENGINEER.
5. THE LOCATIONS OF FEATURES SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR AS NECESSARY.
6. CONTRACTOR SHALL SUBMIT A REQUEST TO THE INSPECTOR FOR MATERIALS APPROVAL AT THE EARLIEST POSSIBLE DATE.
7. CONTRACTOR SHALL PRUNE ALL VEGETATION IN CONFLICT WITH SIGNS TO ENSURE UNOBSTRUCTED VISIBILITY TO DRIVERS AND PEDESTRIANS.
8. UNLESS OTHERWISE NOTED, INSTALL ALL SIGNS AT 7' ABOVE FINISHED GRADE, AS MEASURED TO THE BOTTOM OF SIGN. ON THE SAME POST, THE LOWEST SIGN SHALL BE 7" ABOVE FINISHED GRADE, AS MEASURED TO THE BOTTOM OF THE SIGN.
9. RELOCATED SIGNS SHALL BE INSTALLED ON NEW GALVANIZED PIPE PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43, EXCEPT METRO BUS SIGNS.

SEE SHEET PM-1.03 FOR:  
 • PAVEMENT MARKING CONSTRUCTION NOTES  
 • PAVEMENT MARKING & SIGNING GENERAL NOTES  
 SEE SHEET PM-1.04 FOR:  
 • SIGN NOTES  
 • SIGN LEGEND



EXIST.	NEW/RELOCATE	DESCRIPTION
○	○	PAVEMENT MARKING NOTE
□	□	SIGNING NOTE
⊕	⊕	POST MOUNTED SIGN
⊙	⊙	ROADWAY LIGHT STANDARD
⊚	⊚	PEDESTRIAN LIGHT STANDARD
⊛	⊛	LUMINAIRE POLE MOUNTED SIGN
▭	▭	OVERLAY/ROAD WIDENING LIMITS
■	■	GREEN BIKE LANE TREATMENT

REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

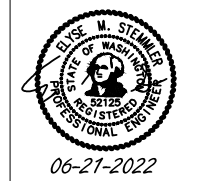
DRAWN BY:  
VNF

APPROVED BY:  
EMS

ISSUE DATE:  
06-21-2022

JOB NO.:  
TENW #2021-195

DRAWING FILE NO.:



**TENW**  
 Transportation Engineering NorthWest  
 Transportation Planning | Design | Traffic Impact & Operations  
 11400 SE 8th St, Suite 200, Bellevue, WA 98004 | Office (425) 889-6747  
 Project Contact: Grant Lewis  
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 858-626-8263  
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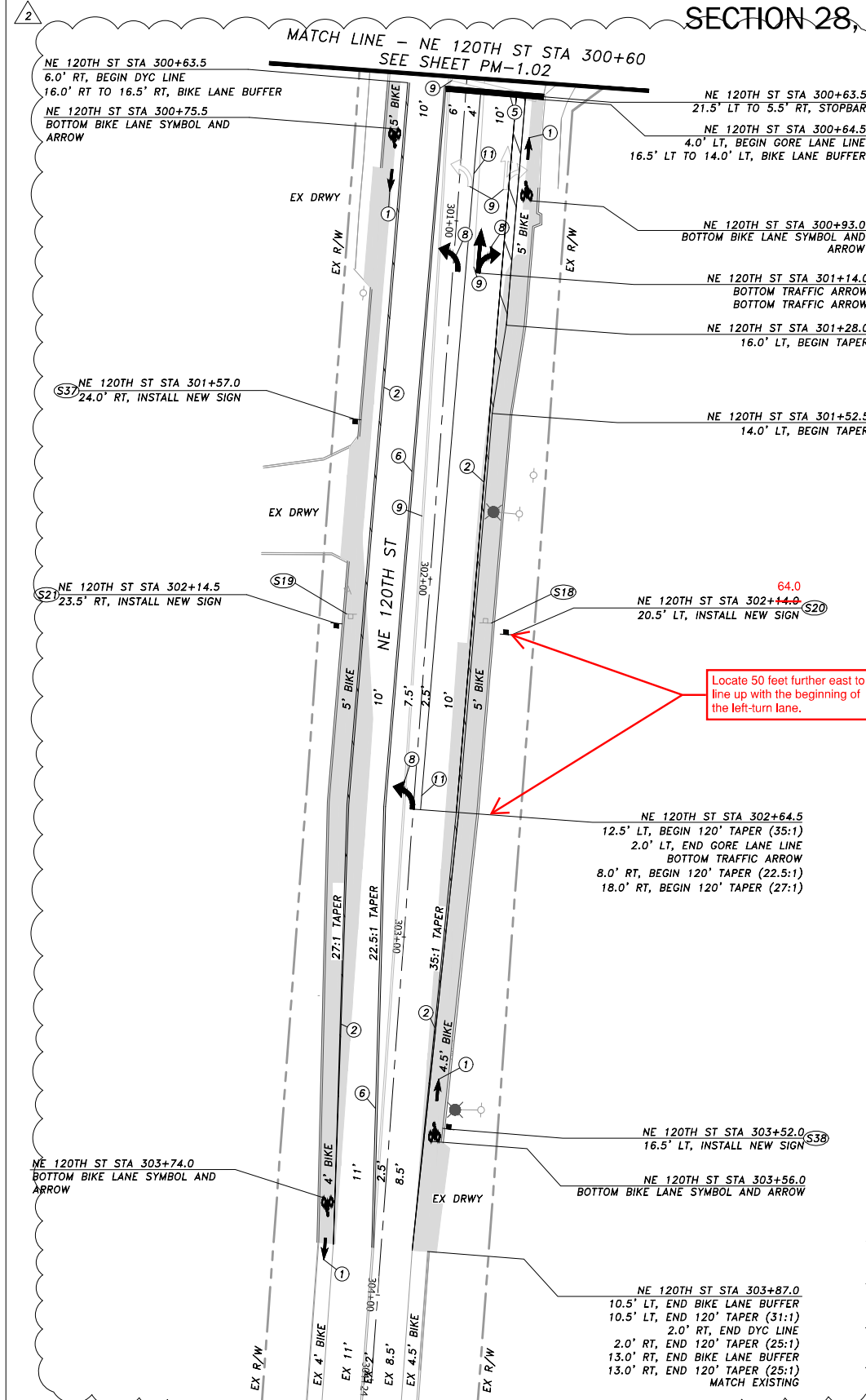
SLATER MIXED-USE  
 ON-SITE IMPROVEMENTS

PAVEMENT MARKING & SIGNING PLAN  
 SLATER AVE NE

DRAWING NO.:  
PM-1.03

SHEET NO.:  
3  
OF  
17  
SHEETS

SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.

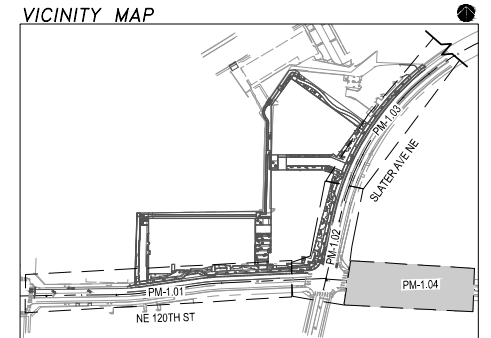


- SIGN NOTES**
- S1 EXISTING 48"x30" R3-8A MOD SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S2 EXISTING 12"x18" R7-101 SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S3 REMOVE EXISTING 12"x18" R7-101 SIGN AND POST.
  - S4 REMOVE EXISTING 24"x30" R3-17 SIGN AND POST.
  - S5 INSTALL NEW 12"x18" R7-9 SIGN TO NEW POST PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43.
  - S6 INSTALL NEW 12"x18" R7-9 SIGN TO NEW LUMINAIRE POLE PER WSDOT STANDARD G-30.10.
  - S7 EXISTING 24"x30" R2-1 SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S8 REMOVE EXISTING CUSTOM 18"x18" LAKE WASHINGTON INSTITUTE OF TECHNOLOGY SIGN AND POST.
  - S9 INSTALL NEW CUSTOM 18"x18" LAKE WASHINGTON INSTITUTE OF TECHNOLOGY SIGN TO NEW POST PER PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43.
  - S10 REMOVE EXISTING CUSTOM "CURB LANE BIKE LANE" SIGN AND POST.
  - S11 EXISTING 24"x30" W1-8 MOD SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S12 EXISTING 24"x30" R4-7 SIGN TO REMAIN. PROTECT DURING CONSTRUCTION
  - S13 REMOVE EXISTING 24"x30 W1-8 MOD SIGN AND POST.
  - S14 REMOVE EXISTING CUSTOM "TRUCKS ENTERING HIGHWAY" SIGN AND POST.
  - S15 INSTALL NEW 24"x30" W1-8 SIGN AND POST TO NEW LOCATION PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43.
  - S16 INSTALL NEW CUSTOM "TRUCKS ENTERING HIGHWAY" SIGN TO NEW LOCATION UNDER S11 SIGN PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43.
  - S17 INSTALL NEW 12"x18" R7-9 SIGN TO NEW POST PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43.
  - S18 REMOVE EXISTING 48"x30" R3-8A (MOD.) SIGN AND POST.
  - S19 REMOVE EXISTING R2-1 SIGN AND POST.
  - S20 INSTALL NEW 48"x30" R3-8A (MOD.) SIGN TO NEW POST PER CITY OF KIRKLAND STANDARD PLAN NO CK-R.43.
  - S21 INSTALL NEW 24"x30" R2-1 SIGN TO NEW POST PER CITY OF KIRKLAND STANDARD PLAN NO CK-R.43.
  - S22 EXISTING 48"x24" W1-8 SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S23 EXISTING 48"x24" W1-8 SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S24 EXISTING 6"x18" D3-1 NE 123RD ST SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S25 EXISTING 6"x18" D3-1 SLATER AVE NE SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S26 EXISTING 30"x30" R1-1 SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S27 EXISTING 24"x24"x24" R1-2 SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S28 EXISTING 48"x24" W1-8 SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S29 EXISTING 48"x24" W1-8 SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S30 INSTALL NEW 36"x30" R4-4 SIGN TO NEW POST PER CITY OF KIRKLAND STANDARD PLAN NO CK-R.43.
  - S31 REMOVE EXISTING CUSTOM "CURB LANE BIKE LANE" SIGN AND POST.
  - S32 EXISTING 30"x30" W1-2R SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S33 EXISTING 18"x18" W13-1P SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S34 EXISTING CUSTOM ADOPT-A-ROAD SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S35 REMOVE EXISTING CUSTOM "CURB LANE BIKE LANE" SIGN AND POST.
  - S36 EXISTING 24"x24" YIELD SIGN TO REMAIN. PROTECT DURING CONSTRUCTION.
  - S37 INSTALL NEW 12"x18" R7-9 SIGN TO NEW POST PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43.
  - S38 INSTALL NEW 12"x18" R7-9 SIGN TO NEW POST PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43.
  - S39 INSTALL NEW 12"x18" R7-9 SIGN TO NEW POST PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43.
  - S40 INSTALL NEW 12"x18" R7-9 SIGN TO NEW POST PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43.
  - S41 INSTALL NEW 12"x18" R7-9 SIGN TO NEW POST PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.43.

- PAVEMENT MARKING CONSTRUCTION NOTES**
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  - 2 INSTALL WHITE PAINTED BUFFER AREA PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.35A.
  - 3 INSTALL GREEN THERMOPLASTIC CONFLICT ZONE BIKE LANE PAVEMENT MARKING PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.36A AND CK-R.36C.
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  - 7 INSTALL 4" YELLOW PAINT TWO-WAY LEFT TURN STRIPING WITH RPMS PER CITY OF KIRKLAND STANDARD PLAN NO. CK-R.31. SEE CITY OF KIRKLAND STANDARD PLAN NO. CK-R.29 FOR RPM DETAIL.
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**SIGN LEGEND**

**APPROVED**  
**POST-REVISION #5**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.



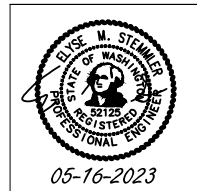
**LEGEND**

EXIST.	NEW/RELOCATE	DESCRIPTION
(Symbol)	(Symbol)	PAVEMENT MARKING NOTE
(Symbol)	(Symbol)	SIGNING NOTE
(Symbol)	(Symbol)	POST MOUNTED SIGN
(Symbol)	(Symbol)	ROADWAY LIGHT STANDARD
(Symbol)	(Symbol)	PEDESTRIAN LIGHT STANDARD
(Symbol)	(Symbol)	LUMINAIRE POLE MOUNTED SIGN
(Symbol)	(Symbol)	OVERLAY/ROAD WIDENING LIMITS
(Symbol)	(Symbol)	GREEN BIKE LANE TREATMENT

SEE SHEET PM-1.03 FOR:  
 • PAVEMENT MARKING CONSTRUCTION NOTES  
 • PAVEMENT MARKING & SIGNING GENERAL NOTES  
 SEE SHEET PM-1.04 FOR:  
 • SIGN NOTES  
 • SIGN LEGEND

REVISION	DATE	BY
1 POST PERMIT REVISION 1	07-07-22	GRL
2 POST PERMIT REVISION 2	05-16-23	GRL

DESIGNED BY: GRL/VNF	ISSUE DATE: 05-16-2023
DRAWN BY: VNF	JOB NO.: TENW #2021-195
APPROVED BY: EMS	DRAWING FILE NO.:



**TENW**  
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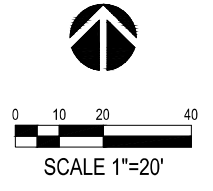
**SLATER MIXED-USE  
 OFF-SITE IMPROVEMENTS**  
**PAVEMENT MARKING & SIGNING PLAN  
 NE 120TH ST**

DRAWING NO.:	PM-1.04
SHEET NO.:	4 OF 17 SHEETS



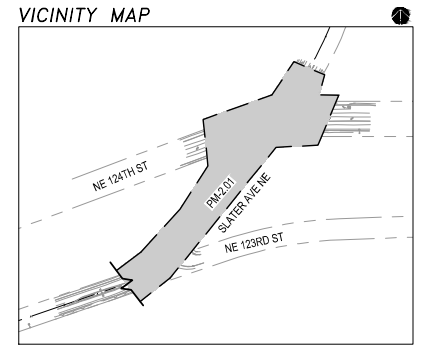
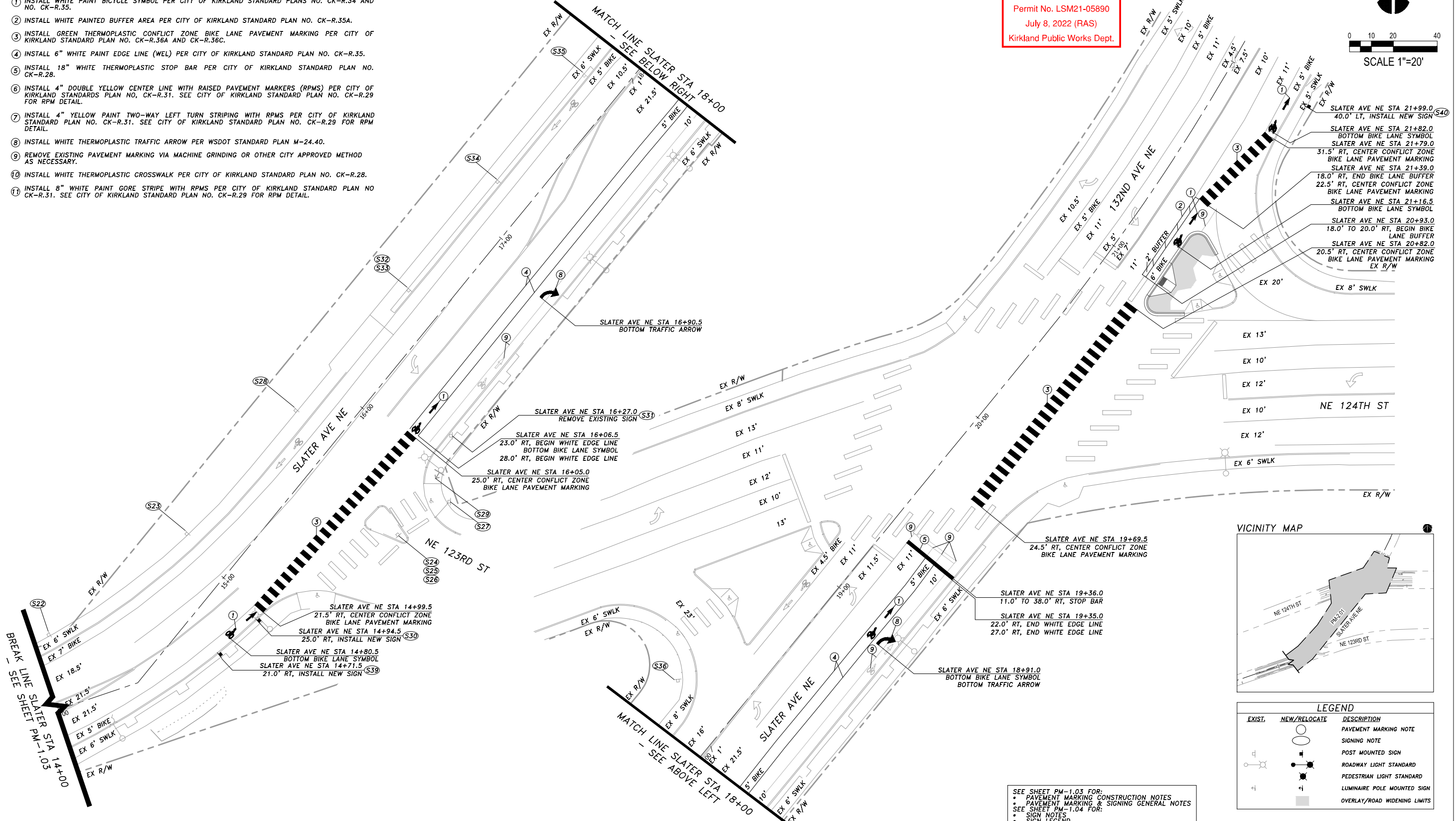
SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.

**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.



**PAVEMENT MARKING CONSTRUCTION NOTES**

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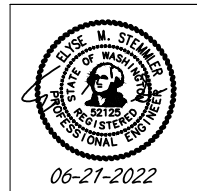
**LEGEND**

EXIST.	NEW/RELOCATE	DESCRIPTION
(Symbol)	(Symbol)	PAVEMENT MARKING NOTE
(Symbol)	(Symbol)	SIGNING NOTE
(Symbol)	(Symbol)	POST MOUNTED SIGN
(Symbol)	(Symbol)	ROADWAY LIGHT STANDARD
(Symbol)	(Symbol)	PEDESTRIAN LIGHT STANDARD
(Symbol)	(Symbol)	LUMINAIRE POLE MOUNTED SIGN
(Symbol)	(Symbol)	OVERLAY/ROAD WIDENING LIMITS

SEE SHEET PM-1.03 FOR:  
 • PAVEMENT MARKING CONSTRUCTION NOTES  
 • PAVEMENT MARKING & SIGNING GENERAL NOTES  
 SEE SHEET PM-1.04 FOR:  
 • SIGN NOTES  
 • SIGN LEGEND

REVISION	DATE	BY

DESIGNED BY: GRL/VNF	ISSUE DATE: 06-21-2022
DRAWN BY: VNF	JOB NO.: TENW #2021-195
APPROVED BY: EMS	DRAWING FILE NO.:



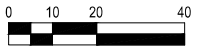
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**SLATER MIXED-USE  
 OFF-SITE IMPROVEMENTS**  
**PAVEMENT MARKING & SIGNING PLAN  
 SLATER AVE NE**

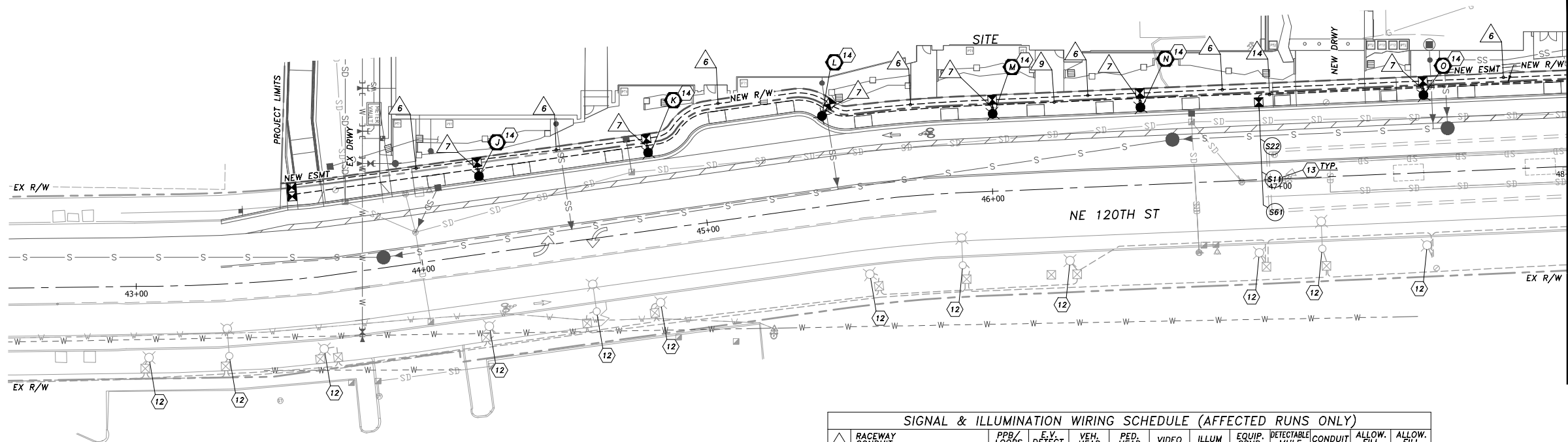
DRAWING NO.:	PM-2.01
SHEET NO.:	5 OF 17 SHEETS

SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.



SCALE 1"=20'

**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.



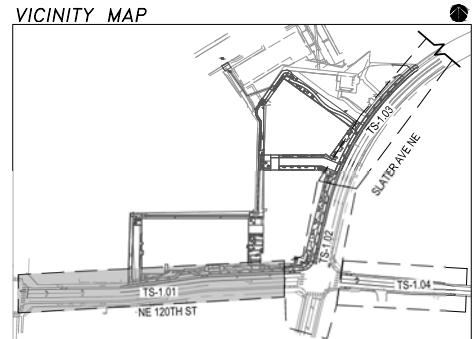
MATCH LINE 120TH STA 48+00 - SEE SHEET TS-1.02

SIGNAL & ILLUMINATION WIRING SCHEDULE (AFFECTED RUNS ONLY)																									
NO.	RACEWAY CONDUIT SIZE	PPB/LOOPS 2C(SH)		E.V. DETECT. 3C(SH)		VEH. HEAD 5C		PED. HEAD 5C		VIDEO 6CDE		ILLUM #8		EQUIP. GRND. (1)		DETECTABLE TAPE		CONDUIT FILL		ALLOW. FILL (NEW)		ALLOW. FILL (EXIST.)			
		EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW		
1	2" SCH80 PVC NEW SPARE																							1.15	
2	1" SCH80 PVC NEW	1																						0.18	0.18
3	2" SCH80 PVC NEW	2																						0.27	0.75
4	3" SCH80 PVC NEW(3)	8		1		2																		1.41	2.58
5	3" SCH80 PVC NEW			1		2		1																0.83	1.68
6	2" SCH80 PVC NEW												2											0.17	0.75
7	1" SCH80 PVC NEW												2											0.17	0.18
8	2" SCH80 PVC NEW			1																				0.43	0.75
9	2" SCH80 PVC NEW SPARE(2)																							---	0.75
10	3" SCH80 PVC EX	8		1		2		2		2		1												1.41	2.58
11	3" SCH80 PVC EX	4	3	2		2	4	2	2	2		1												2.40	2.58
12	3" SCH80 PVC EX	2				2	2	1																2.40	2.58
13	3" SCH80 PVC EX	4	3	2		4	4	2																1.15	2.58
14	2" SCH80 PVC NEW			3		2	1	1																0.83	2.58
15	3" SCH80 PVC EX			3		1		2	2	1														0.36	0.75
16	3" SCH80 PVC EX			2		1		2	2	1														0.97	2.58
17	3" SCH80 PVC EX			2		1		2	2	1														1.15	2.58
18	3" SCH80 PVC EX			1		1		2	2	1														1.06	2.58

- (1) EQUIPMENT GROUND SIZE SHALL BE EQUAL TO OR LARGER THAN THE LARGEST WIRE SIZE IN THE CONDUIT (MIN. WIRE SIZE SHALL BE #8).
- (2) SPARE/EMPTY CONDUIT SHALL CONTAIN ELECTRONICALLY DETECTABLE PULL TAPE AND BE MARKED AS "CITY OF KIRKLAND" CONDUIT.
- (3) OR MATCH EXISTING.

**GENERAL NOTES**

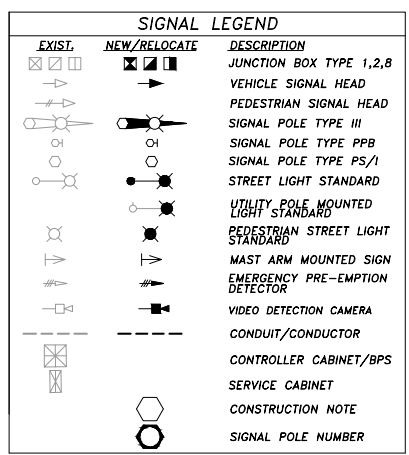
1. ALL JUNCTION BOXES AND CONDUIT RUNS SHALL BE INSTALLED PER WSDOT STANDARD PLANS (LOCATIONS SHOWN ON THE PLANS ARE SCHEMATIC). JUNCTION BOXES SHALL BE PLACED OUTSIDE OF SIDEWALK AND CURB RAMPS UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH CITY OF KIRKLAND STANDARDS AND SPECIFICATIONS.
3. THE LOCATIONS OF FEATURES SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR AS NECESSARY.
4. THE CONTRACTOR SHALL SUBMIT A REQUEST TO THE INSPECTOR FOR MATERIALS APPROVAL PRIOR TO PROCURING ANY MATERIALS. MATERIALS THAT HAVE NOT BEEN APPROVED BY THE CITY OF KIRKLAND SHALL NOT BE ALLOWED ON THE PROJECT SITE.
5. ALL WORK SHALL BE CONSISTENT WITH UTILITY AGENCY REQUIREMENTS. THE CONTRACTOR SHALL CONTACT ALL PERTINENT UTILITY AGENCIES 48 HOURS BEFORE COMMENCING WORK, AND SHALL COORDINATE WITH AFFECTED UTILITY AGENCIES THROUGHOUT THE PROJECT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANY AND CITY OF KIRKLAND IMMEDIATELY UPON DAMAGE.
7. POLE FOUNDATIONS SHALL NOT BE EXCAVATED AND POURED BEFORE POLE LOCATIONS ARE APPROVED BY THE ENGINEER. TOP OF FOUNDATION SHALL BE FLUSH WITH TOP OF SIDEWALK OR SHOULDER.
8. CONTRACTOR SHALL CHECK FOR MAXIMUM AND MINIMUM OVERHEAD CLEARANCE FOR ALL SIGNAL HEADS ABOVE THE STREET PRIOR TO FOUNDATION INSTALLATION.
9. EXISTING FEATURES TO REMAIN UNLESS OTHERWISE NOTED.
10. THE EXISTING TRAFFIC SIGNAL SYSTEM SHALL REMAIN OPERATIONAL UNTIL THE NEW TRAFFIC SIGNAL CONFIGURATION IS FULLY FUNCTIONAL.
11. UTILITY LOCATIONS (DIAL-A-DIG) PRIOR TO CONSTRUCTION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
12. THE TRAFFIC SIGNAL CONTRACTOR SHALL COORDINATE ALL SIGNAL WORK WITH CHANNELIZATION AND ROADWAY IMPROVEMENTS AT THE INTERSECTION. REFER TO CIVIL PLANS. THE SIGNAL SHALL NOT BECOME OPERATIONAL UNTIL CHANNELIZATION AND INTERSECTION IMPROVEMENTS ARE COMPLETE. COORDINATE CONSTRUCTION SEQUENCE/ORDER OF WORK WITH THE ENGINEER.
13. THE CONTRACTOR SHALL CONFIRM THAT 10 FEET MINIMUM CIRCUMFERENTIAL CLEARANCE IS PROVIDED BETWEEN LUMINAIRE AND SIGNAL POLES AND OVERHEAD POWER LINES PRIOR TO FOUNDATION INSTALLATION. IF A CONFLICT IS DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO FOUNDATION INSTALLATION.
14. ALL APS PUSHBUTTONS SHALL BE 42" FROM FINISH GRADE. (MEASURED FROM CENTER OF PUSHBUTTON TO FINISHED GRADE)
15. ALL MAST ARM SIGNAL POLES SHALL BE GALVANIZED STEEL.



**CITY OF KIRKLAND GENERAL CONSTRUCTION NOTES**

1. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
3. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH WSDOT/APWA STANDARD PLANS, STANDARD SPECIFICATIONS, CITY OF KIRKLAND STANDARD, LATEST AMENDMENTS TO SPECIAL PROVISIONS AND THE PLANS.
4. A COPY OF APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE TRAFFIC CONTROL TO ENSURE TRAFFIC SAFETY DURING CONSTRUCTION ACTIVITIES. THEREFORE, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE PUBLIC WORKS DEPARTMENT PRIOR TO STARTING ANY WORK IN THE RIGHT OF WAY. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
6. ANY EXISTING PUBLIC IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED PRIOR TO FINAL INSPECTION.
7. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL PUBLIC STREETS FREE OF MUD AND DEBRIS AT ALL TIMES. THE CONTRACTOR SHALL BE PREPARED TO USE POWER SWEEPERS OR OTHER PIECE OF EQUIPMENT NECESSARY TO KEEP THE ROADWAYS CLEAN.
8. EXISTING SIGNAL SYSTEM TO BE OPERATIONAL UNTIL SWITCH OVER.
9. ALL SIGNAL SYSTEM COORDINATION WITH KIRKLAND TRAFFIC SHALL BE DONE THROUGH KIRKLAND CIP REPRESENTATIVE.
10. ANY ROADWAY/INTERSECTION SIGN/MARKINGS REMOVED OR TEMPORARILY MOVED BY THE CONTRACTOR SHALL BE RESTORED BY THE END OF DAY AS TO COMPLY WITH THE CURRENT CITY OF KIRKLAND STANDARDS.
11. RELOCATED SIGNS SHALL BE INSTALLED ON NEW GALVANIZED PIPE PER COK PLAN NO. CK-R-43 EXCEPT BUS SIGNS.
12. WHEN AN EXISTING ROADWAY IS TO BE WIDENED, THE EXISTING PAVEMENT MUST BE SAWCUT AT LEAST ONE FOOT FROM THE EDGE TO PROVIDE A PROPER MATCH BETWEEN NEW AND EXISTING ASPHALT. HOWEVER WHEN EXISTING PAVEMENT CONTAINS ALLIGATOR AREAS, THOSE AREAS MUST BE REMOVED PRIOR TO WIDENING. ALL SAWCUTS MUST BE PARALLEL OR PERPENDICULAR TO THE RIGHT OF WAY CENTERLINE.
13. BACKFILL IN ALL STREET CUTS ON ARTERIALS WILL BE CONTROL DENSITY FILL (CDF). CONTRACTOR MUST PROVIDE STEEL PLATES TO ALLOW THE CDF TO CURE.
14. WHEN INSTALLING NEW SIDEWALKS, THE AREA BEHIND THE SIDEWALK MUST BE GRADED SO THAT THE YARD DRAINAGE DOES NOT DRAIN OVER THE SIDEWALK.
15. SIDEWALK AND CURB AND GUTTER CANNOT BE POURED MONOLITHICALLY. THERE MUST BE A COLD JOINT OR FULL-DEPTH EXPANSION JOINT BETWEEN THEM.
16. ALL CONCRETE FOR SIDEWALKS AND CURBS AND GUTTERS MUST BE 4000 PSI MINIMUM.

SEE SHEET TS-1.02 FOR:  
 • SIGNAL CONSTRUCTION NOTES  
 SEE SHEET TS-1.03 FOR:  
 • ILLUMINATION POLE SCHEDULE  
 • ILLUMINATION WIRING DIAGRAM  
 SEE SHEET TS-1.04 FOR:  
 • PSE ILLUMINATION SCOPE  
 SEE SHEET TS-1.05 FOR:  
 • SIGNAL WIRING DIAGRAM  
 SEE SHEET TS-1.06 FOR:  
 • SIGNAL STANDARD DETAIL CHART



REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

DRAWN BY:  
VNF

APPROVED BY:  
EMS

ISSUE DATE:  
06-21-2022

JOB NO. #:  
TENW #2021-195

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**TENW**  
 Transportation Engineering NorthWest

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 Phone: 952-270-9089

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 sfinch2@ffres.com  
 Shon Finch

SLATER MIXED-USE  
 ON-SITE IMPROVEMENTS

TRAFFIC SIGNAL & ILLUMINATION PLAN  
 NE 120TH ST

DRAWING NO. TS-1.01

SHEET NO. 6 OF 17 SHEETS

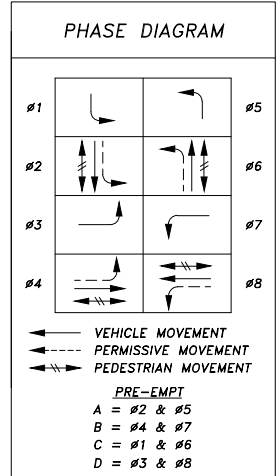
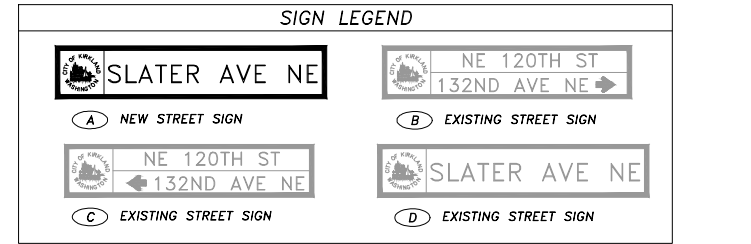
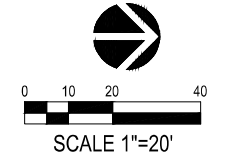
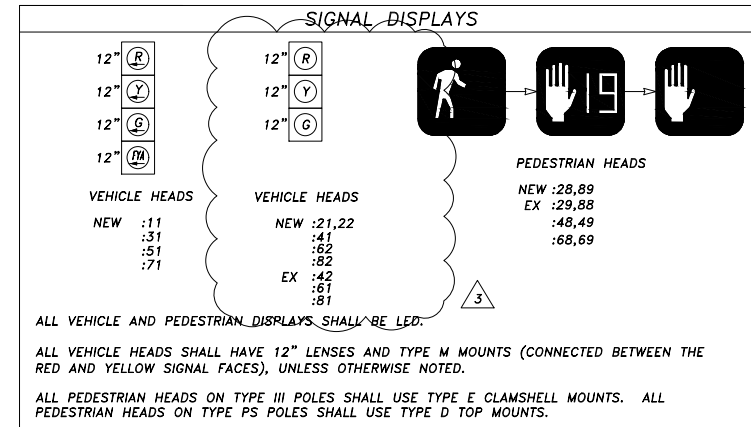
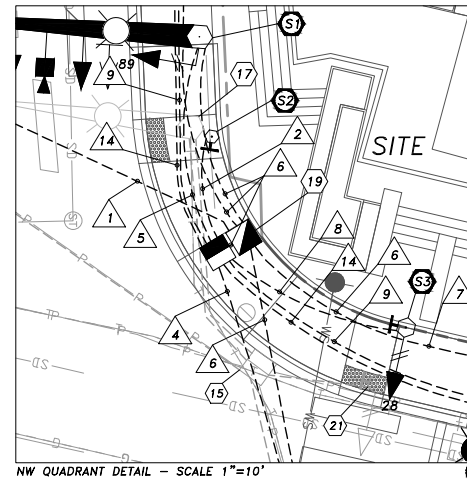


# SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.

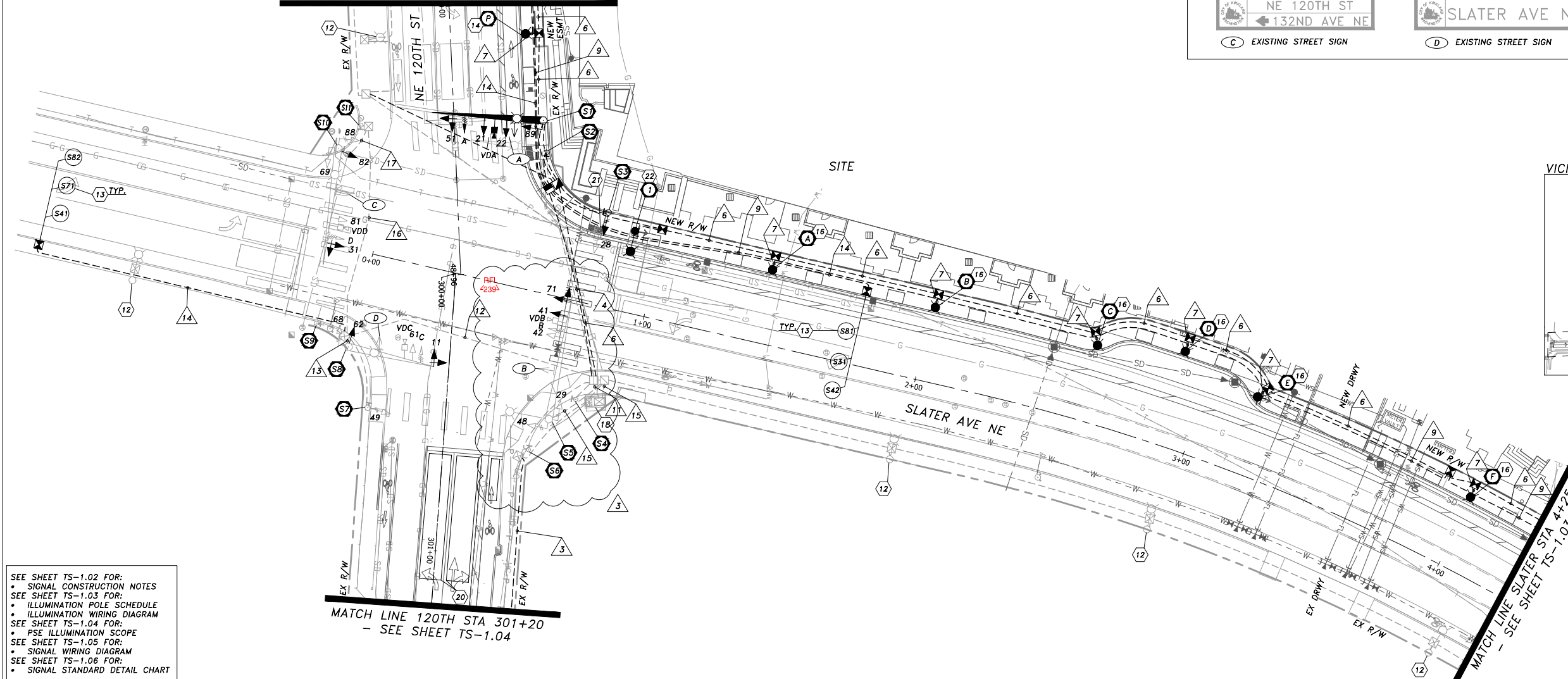
## SIGNAL & ILLUMINATION CONSTRUCTION NOTES

- 12 CONSTRUCT FOUNDATION PER WSDOT STANDARD PLAN J-28.10. FURNISH AND INSTALL NEW TYPE III SIGNAL POLE. INSTALL ONE (1) NEW VIDEO DETECTION CAMERA, ONE (1) NEW R10-Y-Y SIGN AND ONE (1) NEW STREET NAME SIGN ON MAST ARM. INSTALL THREE (3) NEW VEHICLE HEADS ON MAST ARM. INSTALL ONE (1) 95W AEL AUTOBAHN LUMINAIRE ON 8 FT LUMINAIRE ARM. INSTALL ONE (1) PEDESTRIAN SIGNAL HEADS ON SIGNAL POLE.
- 13 CONSTRUCT NEW FOUNDATION PER WSDOT STANDARD PLAN J-20.10. FURNISH AND INSTALL NEW PPB POLE AND PUSHBUTTON. PUSHBUTTON SHALL FACE EAST, PARALLEL TO CROSSWALK.
- 14 CONSTRUCT FOUNDATION PER WSDOT STANDARD J-21.10. FURNISH AND INSTALL NEW PS POLE. INSTALL ONE (1) NEW PEDESTRIAN SIGNAL HEAD AND ONE (1) NEW PUSHBUTTON. PUSHBUTTON SHALL FACE SOUTH PARALLEL TO CROSSWALK.
- 15 EXISTING TYPE PPB POLE TO REMAIN. PROTECT DURING CONSTRUCTION.
- 16 EXISTING TYPE III SIGNAL TO REMAIN. PROTECT DURING CONSTRUCTION. REMOVE EXISTING 4-SECTION SIGNAL HEAD AND EXISTING R10-12 SIGN AND SALVAGE TO THE CITY OF KIRKLAND. INSTALL ONE (2) NEW VEHICLE SIGNAL HEAD ON MAST ARM TO EXISTING TENONS. ROTATE EXISTING LUMINAIRE ARM 90 DEGREES COUNTERCLOCKWISE. CAP HOLES PER CITY APPROVED METHOD.
- 17 EXISTING TYPE PPB POLE TO REMAIN. PROTECT DURING CONSTRUCTION.
- 18 EXISTING TYPE PS POLE TO REMAIN. PROTECT DURING CONSTRUCTION.
- 19 EXISTING TYPE III SIGNAL POLE TO REMAIN. PROTECT DURING CONSTRUCTION. INSTALL ONE (1) NEW VEHICLE SIGNAL HEAD ON MAST ARM AND ONE (1) NEW VEHICLE SIGNAL HEAD ON POLE USING A TYPE K MOUNT. REMOVE EXISTING R10-12 SIGN AND SALVAGE TO THE CITY OF KIRKLAND. INSTALL ONE (1) NEW R10-Y-Y "LEFT TURN YIELD ON FLASHING" SIGN ON MAST ARM.
- 20 EXISTING TYPE PPB POLE TO REMAIN. PROTECT DURING CONSTRUCTION.
- 21 EXISTING TYPE III SIGNAL POLE TO REMAIN. PROTECT DURING CONSTRUCTION. INSTALL ONE (1) NEW VEHICLE SIGNAL HEAD ON MAST ARM TO EXISTING TENON AND ONE (1) NEW VEHICLE SIGNAL HEAD ON POLE USING A TYPE K MOUNT. REMOVE EXISTING R10-12 SIGN AND SALVAGE TO THE CITY OF KIRKLAND.
- 22 EXISTING PPB POLE TO REMAIN. PROTECT DURING CONSTRUCTION.

- 12 EXISTING LUMINAIRE POLE TO REMAIN. PROTECT DURING CONSTRUCTION.
- 13 INSTALL NEW VEHICLE DETECTION LOOPS PER CITY OF KIRKLAND PLAN NUMBER CK-TS.02.
- 14 CONSTRUCT FOUNDATION PER CITY OF KIRKLAND PLAN NUMBER CK-R.47A AND ILLUMINATION POLE SCHEDULE, SHEET TS-1.03. FURNISH AND INSTALL LUMINAIRE POLE PER CITY OF KIRKLAND PLAN NUMBER CK-R.47M AND PER ILLUMINATION POLE SCHEDULE, TS-1.03.
- 15 REMOVE EXISTING TYPE B JUNCTION BOX. FILL AND COMPACT VOID.
- 16 CONSTRUCT FOUNDATION PER CITY OF KIRKLAND PLAN NUMBER CK-R.47A AND ILLUMINATION POLE SCHEDULE, SHEET TS-1.03. FURNISH AND INSTALL LUMINAIRE POLE PER CITY OF KIRKLAND PLAN NUMBER CK-R.47M AND PER ILLUMINATION POLE SCHEDULE, TS-1.03.
- 17 REMOVE EXISTING TYPE III SIGNAL POLE. REMOVE FOUNDATION TO MINIMUM OF 5' BELOW SURFACE GRADE. FILL AND COMPACT VOID.
- 18 EXISTING CONTROLLER AND SERVICE CABINETS TO REMAIN. PROTECT DURING CONSTRUCTION. TERMINATE NEW CONDUCTORS IN EXISTING CONTROLLER CABINET.
- 19 SPlice EXISTING ILLUMINATION CONDUCTORS WITH NEW CONDUCTORS IN NEW JUNCTION BOX WITH CITY APPROVED SPLICE KIT.
- 20 VIRTUAL DETECTION ZONE, SHOWN FOR REFERENCE ONLY. COORDINATE WITH CITY SIGNAL SHOP.
- 21 REMOVE EXISTING PS POLE. REMOVE EXISTING FOUNDATION TO A MINIMUM OF 5' BELOW SURFACE GRADE. FILL AND COMPACT VOID.
- 22 CONSTRUCT FOUNDATION PER WSDOT STANDARD J-28.10 AND ILLUMINATION POLE SCHEDULE, SHEET TS-1.03. FURNISH AND INSTALL LUMINAIRE POLE PER CITY OF KIRKLAND PLAN NUMBER CK-TS.08 AND PER ILLUMINATION POLE SCHEDULE, THIS SHEET.

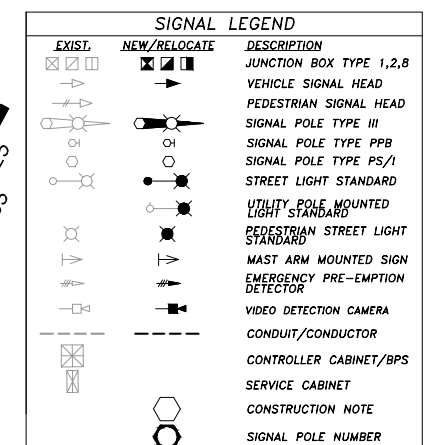
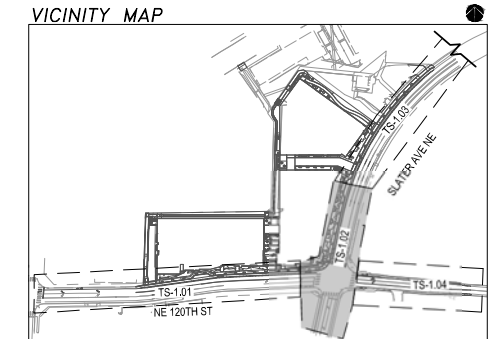


MATCH LINE 120TH STA 48+00 - SEE SHEET TS-1.01



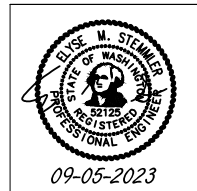
MATCH LINE 120TH STA 301+20 - SEE SHEET TS-1.04

SEE SHEET TS-1.02 FOR:  
 • SIGNAL CONSTRUCTION NOTES  
 SEE SHEET TS-1.03 FOR:  
 • ILLUMINATION POLE SCHEDULE  
 • ILLUMINATION WIRING DIAGRAM  
 SEE SHEET TS-1.04 FOR:  
 • PSE ILLUMINATION SCOPE  
 SEE SHEET TS-1.05 FOR:  
 • SIGNAL WIRING DIAGRAM  
 SEE SHEET TS-1.06 FOR:  
 • SIGNAL STANDARD DETAIL CHART



REVISION	DATE	BY
1 POST PERMIT REVISION 1	07-07-22	GRL
2 POST PERMIT REVISION 2	05-16-23	GRL
3 POST PERMIT REVISION 3	09-05-23	GRL

DESIGNED BY: GRL/VNF	ISSUE DATE: 09-05-2023
DRAWN BY: VNF	JOB NO.: TENW #2021-195
APPROVED BY: EMS	DRAWING FILE NO.:



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 Transportation Planning | Design | Traffic Impact & Operations  
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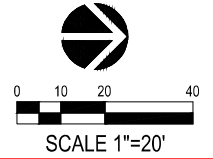
SLATER MIXED-USE  
 ON-SITE IMPROVEMENTS  
 TRAFFIC SIGNAL & ILLUMINATION PLAN  
 NE 120TH ST & SLATER AVE NE

DRAWING NO.:	TS-1.02
SHEET NO.:	7 OF 17 SHEETS

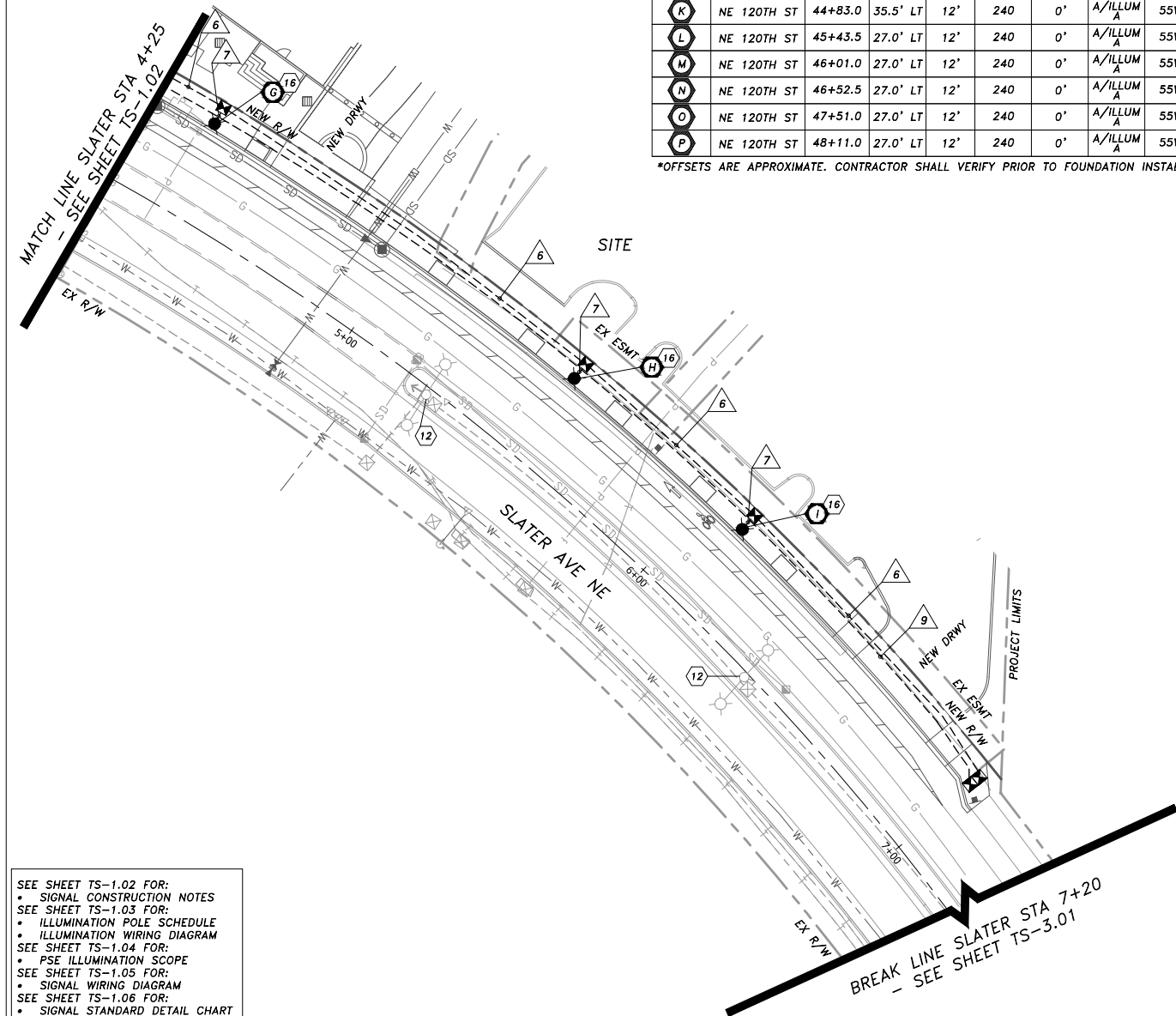
SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.

ILLUMINATION POLE SCHEDULE												
SIGNAL POLE NO.	STREET	STATION	OFFSET	MOUNT. HEIGHT	VOLTAGE	ARM LENGTH	SERVICE / CIRCUIT	WATTAGE / TYPE	LUMINAIRE TYPE - DISTRIBUTION	POLE TYPE	BASE	COMMENT
S1	NE 120TH ST	48+42.5	32.0' LT	35'	240	8'	A/ILLUM	95W LED	AEL AUTOBAHN ATBM-P20-MVOLT-R3	MAST ARM POLE	FIXED	INSTALL NEW LUMINAIRE ON NEW SIGNAL POLE.
SS	SLATER AVE NE	EX	EX	EX	EX	EX	EX	EX 95W LED	EX AEL AUTOBAHN	EX MAST ARM POLE	FIXED	ROTATE LUMINAIRE ARM 90 DEGREES TOWARD SOUTH.
I	SLATER AVE NE	0+90.0	29.5' LT	30'	240	8'	A/ILLUM	95W LED	AEL AUTOBAHN ATBM-P20-MVOLT-R3	ROUND STEEL	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-TS.08.
A	SLATER AVE NE	1+41.0	27.0' LT	12'	240	0'	A/ILLUM	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
B	SLATER AVE NE	2+01.0	27.0' LT	12'	240	0'	A/ILLUM	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
C	SLATER AVE NE	2+59.5	27.5' LT	12'	240	0'	A/ILLUM	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
D	SLATER AVE NE	2+89.0	35.0' LT	12'	240	0'	A/ILLUM	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
E	SLATER AVE NE	3+17.5	28.5' LT	12'	240	0'	A/ILLUM	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
F	SLATER AVE NE	3+99.0	26.5' LT	12'	240	0'	A/ILLUM	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
G	SLATER AVE NE	4+41.0	26.0' LT	12'	240	0'	A/ILLUM	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
H	SLATER AVE NE	5+54.0	26.0' LT	12'	240	0'	A/ILLUM	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
I	SLATER AVE NE	6+11.5	26.0' LT	12'	240	0'	A/ILLUM	65W LED	PHILLIPS LUMEC CANDELA CAND2-65W42LED4K-G2-C-RLE5-240-GN8	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47M
J	NE 120TH ST	44+23.5	27.0' LT	12'	240	0'	A/ILLUM	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
K	NE 120TH ST	44+83.0	35.5' LT	12'	240	0'	A/ILLUM	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
L	NE 120TH ST	45+43.5	27.0' LT	12'	240	0'	A/ILLUM	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
M	NE 120TH ST	46+01.0	27.0' LT	12'	240	0'	A/ILLUM	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
N	NE 120TH ST	46+52.5	27.0' LT	12'	240	0'	A/ILLUM	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
O	NE 120TH ST	47+51.0	27.0' LT	12'	240	0'	A/ILLUM	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L
P	NE 120TH ST	48+11.0	27.0' LT	12'	240	0'	A/ILLUM	55W LED	PHILLIPS LUMEC DOMUS SMALL DOS-55W32LED4K-T-LE3F-240-RD4TX	ALUMINUM, STRAIGHT, ROUND 4"	FIXED	FURNISH AND INSTALL POLE PER CITY OF KIRKLAND PLAN NO. CK-R.47L

\*OFFSETS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY PRIOR TO FOUNDATION INSTALLATION.

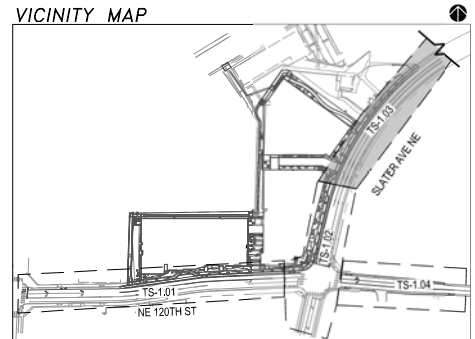
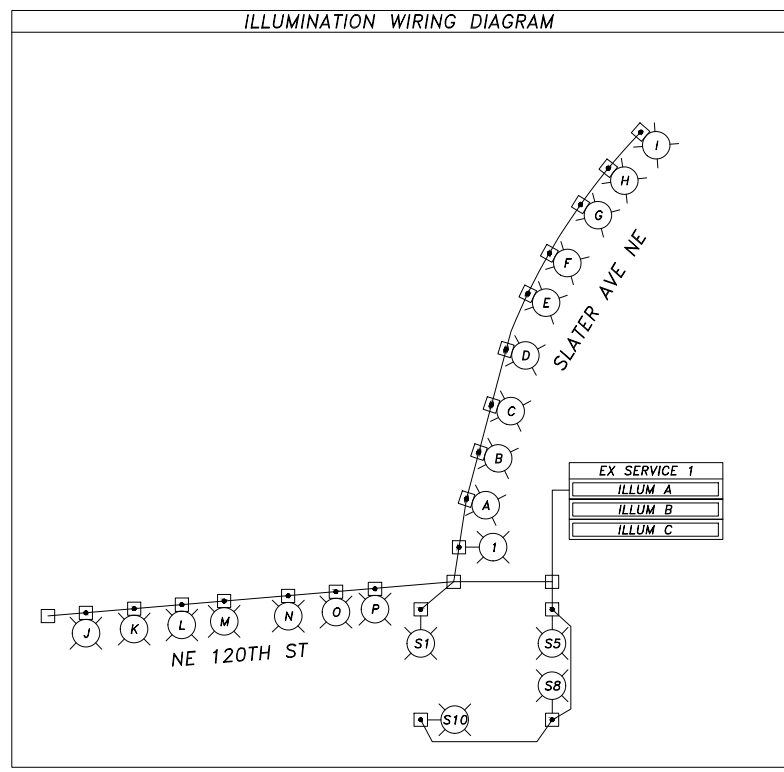


**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.



SEE SHEET TS-1.02 FOR:  
 • SIGNAL CONSTRUCTION NOTES  
 SEE SHEET TS-1.03 FOR:  
 • ILLUMINATION POLE SCHEDULE  
 • ILLUMINATION WIRING DIAGRAM  
 SEE SHEET TS-1.04 FOR:  
 • PSE ILLUMINATION SCOPE  
 SEE SHEET TS-1.05 FOR:  
 • SIGNAL WIRING DIAGRAM  
 SEE SHEET TS-1.06 FOR:  
 • SIGNAL STANDARD DETAIL CHART

SERVICE BREAKER SCHEDULE			
EX SVC AT NE 120TH ST & SLATER AVE NE			
CIRCUIT	VOLTAGE	BREAKER	CONTACTOR
MAIN	120/240	2P-100 AMP	---
ILLUM A	240	2P-20 AMP	30 AMP
ILLUM B	240	2P-20 AMP	30 AMP
ILLUM C	240	2P-20 AMP	30 AMP



SIGNAL LEGEND		
EXIST.	NEW/RELOCATE	DESCRIPTION
[Symbol]	[Symbol]	JUNCTION BOX TYPE 1,2,8
[Symbol]	[Symbol]	VEHICLE SIGNAL HEAD
[Symbol]	[Symbol]	PEDESTRIAN SIGNAL HEAD
[Symbol]	[Symbol]	SIGNAL POLE TYPE III
[Symbol]	[Symbol]	SIGNAL POLE TYPE PPB
[Symbol]	[Symbol]	SIGNAL POLE TYPE PS/I
[Symbol]	[Symbol]	STREET LIGHT STANDARD
[Symbol]	[Symbol]	UTILITY POLE MOUNTED LIGHT STANDARD
[Symbol]	[Symbol]	PEDESTRIAN STREET LIGHT STANDARD
[Symbol]	[Symbol]	MAST ARM MOUNTED SIGN
[Symbol]	[Symbol]	EMERGENCY PRE-EMPTION DETECTOR
[Symbol]	[Symbol]	VIDEO DETECTION CAMERA
[Symbol]	[Symbol]	CONDUIT/CONDUCTOR
[Symbol]	[Symbol]	CONTROLLER CABINET/BPS
[Symbol]	[Symbol]	SERVICE CABINET
[Symbol]	[Symbol]	CONSTRUCTION NOTE
[Symbol]	[Symbol]	SIGNAL POLE NUMBER

REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

DRAWN BY:  
VNF

APPROVED BY:  
EMS

ISSUE DATE:  
06-21-2022

JOB NO.:  
TENW #2021-195

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SLATER MIXED-USE  
 ON-SITE IMPROVEMENTS

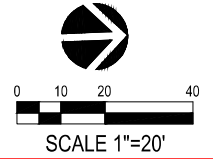
TRAFFIC SIGNAL & ILLUMINATION PLAN  
 SLATER AVE NE

DRAWING NO.:  
TS-1.03

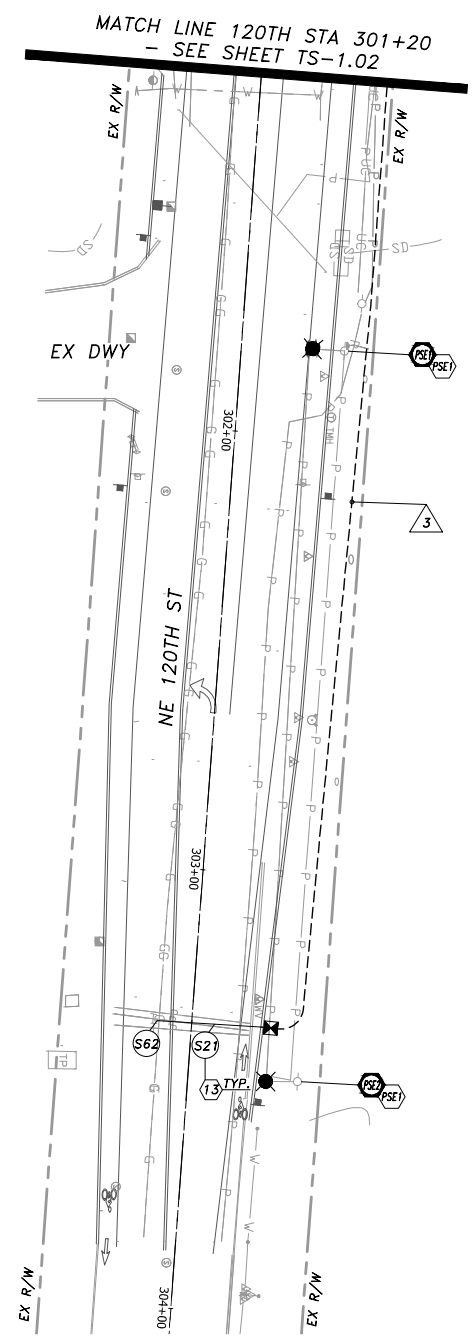
SHEET NO.:  
8  
OF  
17  
SHEETS



SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.



**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.



PSE STREET LIGHTING SCOPE OF WORK										
ILLUMINATION POLE SCHEDULE (INSTALLED BY PSE STREET LIGHTING)										
LUM. POLE NO.	STREET	STATION	OFFSET	MOUNTING HEIGHT	ARM LENGTH	POLE	LUMINAIRE TYPE	WATTAGE /TYPE	INITIAL LUMENS	COMMENT
PSE	NE 120TH ST	301+80.0	23.5' LT	EX 25'	EX 6'	EX WOOD UTILITY	GE EVOLVE ERLH_15C340	136W LED	15,000	LUMINAIRE AND ARM INSTALLED BY PSE STREET LIGHTING.
PSE	NE 120TH ST	303+46.5	25.0' LT	EX 25'	EX 6'	EX WOOD UTILITY	GE EVOLVE ERLH_15C340	136W LED	15,000	LUMINAIRE AND ARM INSTALLED BY PSE STREET LIGHTING.

**PSE STREET LIGHTING CONSTRUCTION NOTE**  
 (PSE) EXISTING POLE TO REMAIN. LUMINAIRE SHALL BE INSTALLED BY PSE STREET LIGHTING PER PSE ILLUMINATION POLE SCHEDULE, THIS SHEET.

**PSE STREET LIGHTING GENERAL NOTE**  
 1. PROJECT CONTRACTOR SHALL COORDINATE WITH PSE STREET LIGHTING TO SCHEDULE INSTALLATION, INCLUDING COMPLETING ALL FORMS, PAYMENT OF ALL FEES, ETC. ASSOCIATED WITH THE INSTALLATION. PSE STREET LIGHTING SHALL FURNISH AND INSTALL ALL MATERIALS BY CONTRACT WITH THE DEVELOPER.

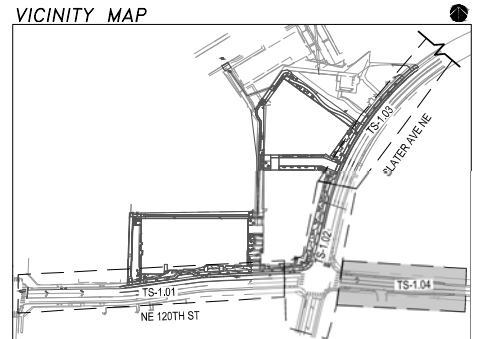
**CITY OF KIRKLAND GENERAL CONSTRUCTION NOTES**

1. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
3. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH WSDOT/APWA STANDARD PLANS, STANDARD SPECIFICATIONS, CITY OF KIRKLAND STANDARD, LATEST AMENDMENTS TO SPECIAL PROVISIONS AND THE PLANS.
4. A COPY OF APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE TRAFFIC CONTROL TO ENSURE TRAFFIC SAFETY DURING CONSTRUCTION ACTIVITIES; THEREFORE, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE PUBLIC WORKS DEPARTMENT PRIOR TO STARTING ANY WORK IN THE RIGHT OF WAY. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
6. ANY EXISTING PUBLIC IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED PRIOR TO FINAL INSPECTION.
7. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL PUBLIC STREETS FREE OF MUD AND DEBRIS AT ALL TIMES. THE CONTRACTOR SHALL BE PREPARED TO USE POWER SWEEPERS OR OTHER PIECE OF EQUIPMENT NECESSARY TO KEEP THE ROADWAYS CLEAN.
8. EXISTING SIGNAL SYSTEM TO BE OPERATIONAL UNTIL SWITCH OVER.
9. ALL SIGNAL SYSTEM COORDINATION WITH KIRKLAND TRAFFIC SHALL BE DONE THROUGH KIRKLAND CIP REPRESENTATIVE.
10. ANY ROADWAY/INTERSECTION SIGN/MARKING REMOVED OR TEMPORARILY MOVED BY THE CONTRACTOR SHALL BE RESTORED BY THE END OF DAY AS TO COMPLY WITH THE CURRENT CITY OF KIRKLAND STANDARDS.
11. RELOCATED SIGNS SHALL BE INSTALLED ON NEW GALVANIZED PIPE PER COK PLAN NO. CK-R.43 EXCEPT BUS SIGNS.
12. WHEN AN EXISTING ROADWAY IS TO BE WIDENED, THE EXISTING PAVEMENT MUST BE SAWCUT AT LEAST ONE FOOT FROM THE EDGE TO PROVIDE A PROPER MATCH BETWEEN NEW AND EXISTING ASPHALT. HOWEVER WHEN EXISTING PAVEMENT CONTAINS ALLIGATORED AREAS, THOSE AREAS MUST BE REMOVED PRIOR TO WIDENING. ALL SAWCUTS MUST BE PARALLEL OR PERPENDICULAR TO THE RIGHT OF WAY CENTERLINE.
13. BACKFILL IN ALL STREET CUTS ON ARTERIALS WILL BE CONTROL DENSITY FILL (CDF). CONTRACTOR MUST PROVIDE STEEL PLATES TO ALLOW THE CDF TO CURE.
14. WHEN INSTALLING NEW SIDEWALKS, THE AREA BEHIND THE SIDEWALK MUST BE GRADED SO THAT THE YARD DRAINAGE DOES NOT DRAIN OVER THE SIDEWALK.
15. SIDEWALK AND CURB AND GUTTER CANNOT BE POURED MONOLITHICALLY. THERE MUST BE A COLD JOINT OR FULL-DEPTH EXPANSION JOINT BETWEEN THEM.
16. ALL CONCRETE FOR SIDEWALKS AND CURBS AND GUTTERS MUST BE 4000 PSI MINIMUM.

**GENERAL NOTES**

1. ALL JUNCTION BOXES AND CONDUIT RUNS SHALL BE INSTALLED PER WSDOT STANDARD PLANS (LOCATIONS SHOWN ON THE PLANS ARE SCHEMATIC). JUNCTION BOXES SHALL BE PLACED OUTSIDE OF SIDEWALK AND CURB RAMPS UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH CITY OF KIRKLAND STANDARDS AND SPECIFICATIONS.
3. THE LOCATIONS OF FEATURES SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR AS NECESSARY.
4. THE CONTRACTOR SHALL SUBMIT A REQUEST TO THE INSPECTOR FOR MATERIALS APPROVAL PRIOR TO PROCURING ANY MATERIALS. MATERIALS THAT HAVE NOT BEEN APPROVED BY THE CITY OF KIRKLAND SHALL NOT BE ALLOWED ON THE PROJECT SITE.
5. ALL WORK SHALL BE CONSISTENT WITH UTILITY AGENCY REQUIREMENTS. THE CONTRACTOR SHALL CONTACT ALL PERTINENT UTILITY AGENCIES 48 HOURS BEFORE COMMENCING WORK, AND SHALL COORDINATE WITH AFFECTED UTILITY AGENCIES THROUGHOUT THE PROJECT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANY AND CITY OF KIRKLAND IMMEDIATELY UPON DAMAGE.
7. POLE FOUNDATIONS SHALL NOT BE EXCAVATED AND POURED BEFORE POLE LOCATIONS ARE APPROVED BY THE ENGINEER. TOP OF FOUNDATION SHALL BE FLUSH WITH TOP OF SIDEWALK OR SHOULDER.
8. CONTRACTOR SHALL CHECK FOR MAXIMUM AND MINIMUM OVERHEAD CLEARANCE FOR ALL SIGNAL HEADS ABOVE THE STREET PRIOR TO FOUNDATION INSTALLATION.
9. EXISTING FEATURES TO REMAIN UNLESS OTHERWISE NOTED.
10. THE EXISTING TRAFFIC SIGNAL SYSTEM SHALL REMAIN OPERATIONAL UNTIL THE NEW TRAFFIC SIGNAL CONFIGURATION IS FULLY FUNCTIONAL.
11. UTILITY LOCATIONS (DIAL-A-DIG) PRIOR TO CONSTRUCTION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
12. THE TRAFFIC SIGNAL CONTRACTOR SHALL COORDINATE ALL SIGNAL WORK WITH CHANNELIZATION AND ROADWAY IMPROVEMENTS AT THE INTERSECTION. REFER TO CIVIL PLANS. THE SIGNAL SHALL NOT BECOME OPERATIONAL UNTIL CHANNELIZATION AND INTERSECTION IMPROVEMENTS ARE COMPLETE. COORDINATE CONSTRUCTION SEQUENCE/ORDER OF WORK WITH THE ENGINEER.
13. THE CONTRACTOR SHALL CONFIRM THAT 10 FEET MINIMUM CIRCUMFERENTIAL CLEARANCE IS PROVIDED BETWEEN LUMINAIRE AND SIGNAL POLES AND OVERHEAD POWER LINES PRIOR TO FOUNDATION INSTALLATION. IF A CONFLICT IS DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO FOUNDATION INSTALLATION.
14. ALL APS PUSHBUTTONS SHALL BE 42" FROM FINISH GRADE. (MEASURED FROM CENTER OF PUSHBUTTON TO FINISHED GRADE)
15. ALL MAST ARM SIGNAL POLES SHALL BE GALVANIZED STEEL.

SEE SHEET TS-1.02 FOR:  
 • SIGNAL CONSTRUCTION NOTES  
 SEE SHEET TS-1.03 FOR:  
 • ILLUMINATION POLE SCHEDULE  
 • ILLUMINATION WIRING DIAGRAM  
 SEE SHEET TS-1.04 FOR:  
 • PSE ILLUMINATION SCOPE  
 SEE SHEET TS-1.05 FOR:  
 • SIGNAL WIRING DIAGRAM  
 SEE SHEET TS-1.06 FOR:  
 • SIGNAL STANDARD DETAIL CHART



SIGNAL LEGEND		
EXIST.	NEW/RELOCATE	DESCRIPTION
		JUNCTION BOX TYPE 1,2,8
		VEHICLE SIGNAL HEAD
		PEDESTRIAN SIGNAL HEAD
		SIGNAL POLE TYPE III
		SIGNAL POLE TYPE PPB
		SIGNAL POLE TYPE PS/I
		STREET LIGHT STANDARD
		UTILITY POLE MOUNTED LIGHT STANDARD
		PEDESTRIAN STREET LIGHT STANDARD
		MAST ARM MOUNTED SIGN
		EMERGENCY PRE-EMPTION DETECTOR
		VIDEO DETECTION CAMERA
		CONDUIT/CONDUCTOR
		CONTROLLER CABINET/BPS
		SERVICE CABINET
		CONSTRUCTION NOTE
		SIGNAL POLE NUMBER

REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

DRAWN BY:  
VNF

APPROVED BY:  
EMS

ISSUE DATE:  
06-21-2022

JOB NO.:  
TENW #2021-195

DRAWING FILE NO.:



**TENW**  
 Transportation Engineering NorthWest

Transportation Planning | Design | Traffic Impact & Operations  
 11400 SE 8th St, Suite 200, Bellevue, WA 98004 | Office (425) 889-6747

Project Contact: Grant Lewis  
 Phone: 952-270-9089

Fairfield Residential  
 5355 Mira Sorrento Place,  
 Suite 100,  
 San Diego, CA 92121  
 858-626-8263  
 sfinch2@ffres.com  
 Shon Finch

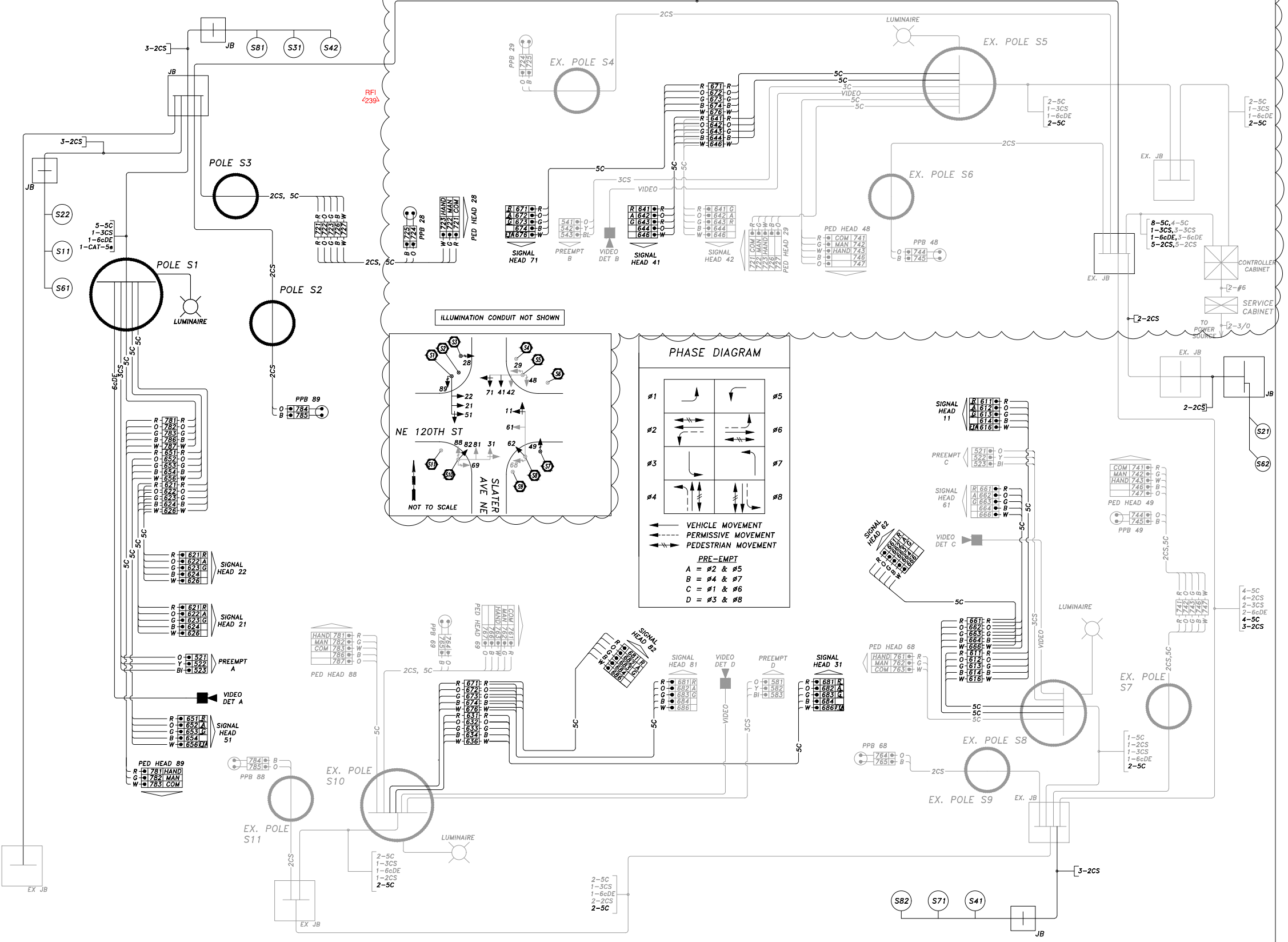
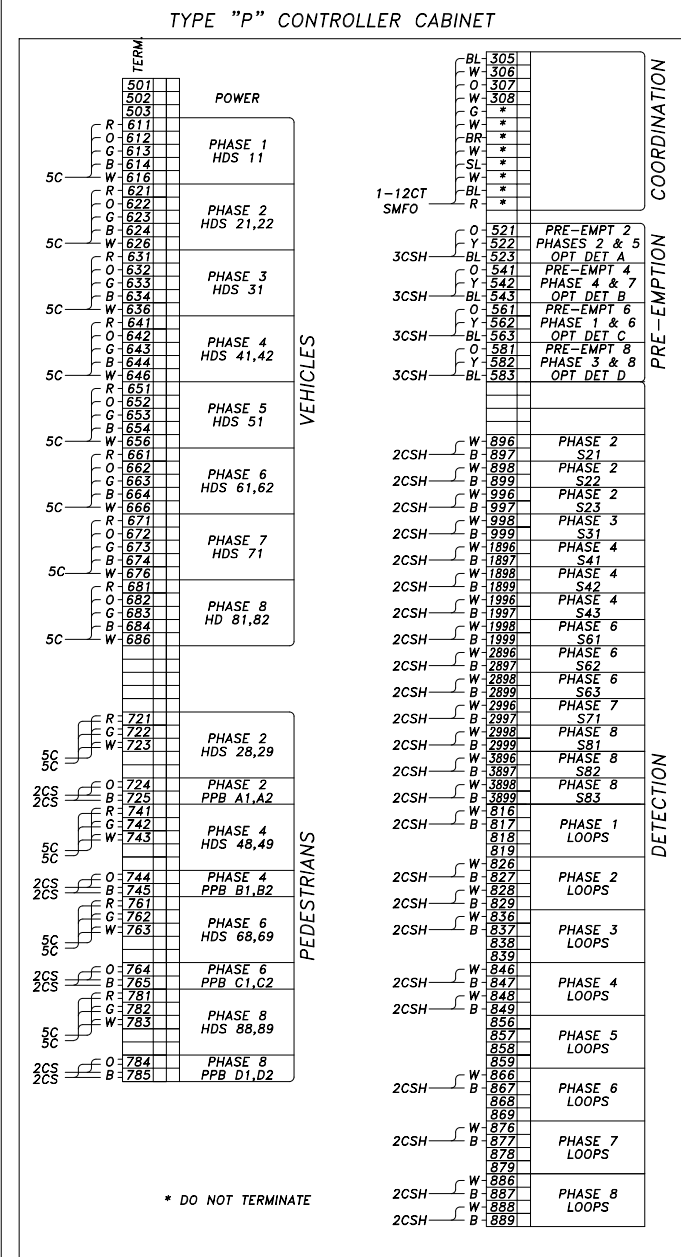
SLATER MIXED-USE  
 OFF-SITE IMPROVEMENTS

TRAFFIC SIGNAL & ILLUMINATION PLAN  
 NE 120TH ST

DRAWING NO.:  
TS-1.04

SHEET NO.:  
9  
OF  
17  
SHEETS

SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.



REVISION	DATE	BY
1 POST PERMIT REVISION 1	07-07-22	GRL
2 POST PERMIT REVISION 2	05-16-23	GRL
3 POST PERMIT REVISION 3	09-05-23	GRL

DESIGNED BY: GRL/VNF  
 DRAWN BY: VNF  
 APPROVED BY: EMS

ISSUE DATE: 09-05-2023  
 JOB NO.: TENW #2021-195  
 DRAWING FILE NO.:



**TENW**  
 Transportation Engineering NorthWest  
 Transportation Planning | Design | Traffic Impact & Operations  
 11400 SE 8th St, Suite 200, Bellevue, WA 98004 | Office (425) 889-6747  
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 Shon Finch

**SLATER MIXED-USE  
 ON-SITE IMPROVEMENTS**

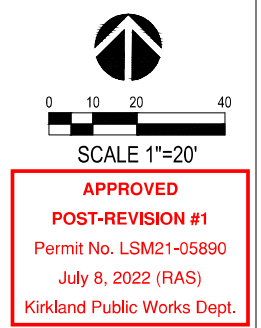
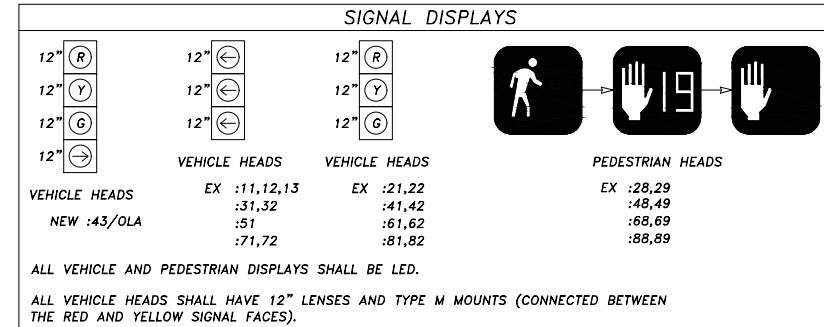
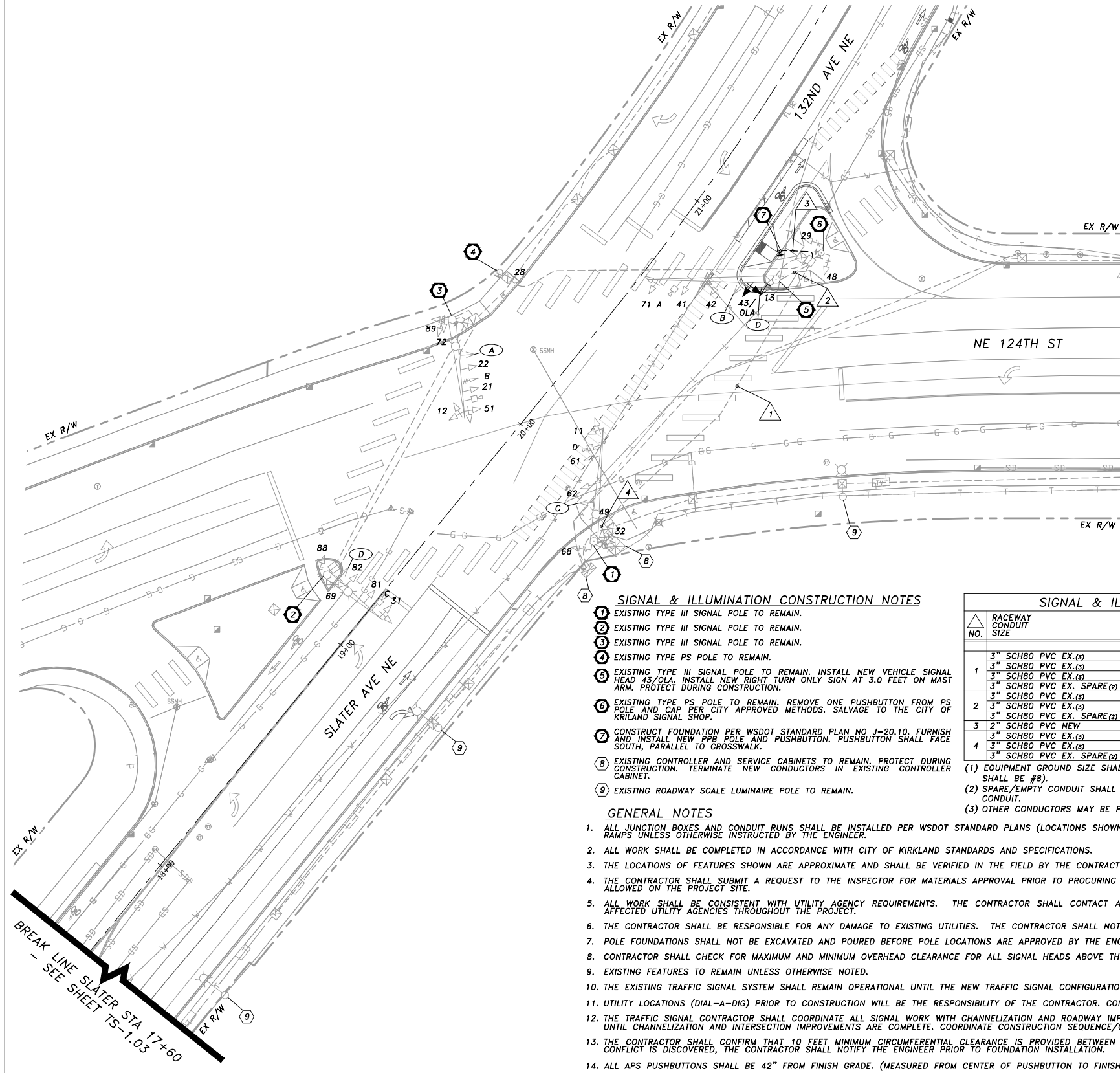
**TRAFFIC SIGNAL PLANS  
 WIRING DIAGRAM  
 NE 120TH ST & SLATER AVE NE**

DRAWING NO.: TS-1.05  
 SHEET NO.: 10 OF 17 SHEETS

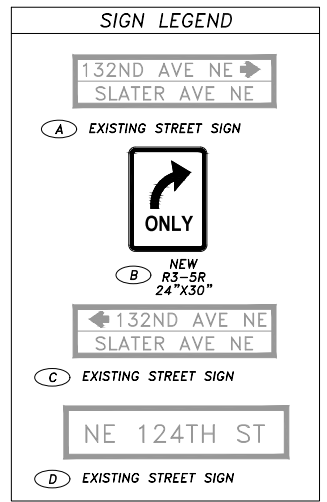
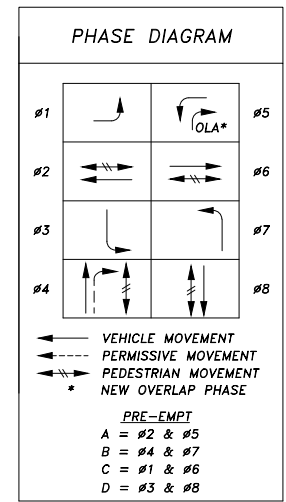




SECTION 28, TOWNSHIP 26 NORTH, RANGE 5 E., W.M.



**APPROVED**  
**POST-REVISION #1**  
 Permit No. LSM21-05890  
 July 8, 2022 (RAS)  
 Kirkland Public Works Dept.



**SIGNAL & ILLUMINATION CONSTRUCTION NOTES**

- EXISTING TYPE III SIGNAL POLE TO REMAIN.
- EXISTING TYPE III SIGNAL POLE TO REMAIN.
- EXISTING TYPE III SIGNAL POLE TO REMAIN.
- EXISTING TYPE PS POLE TO REMAIN.
- EXISTING TYPE III SIGNAL POLE TO REMAIN. INSTALL NEW VEHICLE SIGNAL HEAD 43/OLA. INSTALL NEW RIGHT TURN ONLY SIGN AT 3.0 FEET ON MAST ARM. PROTECT DURING CONSTRUCTION.
- EXISTING TYPE PS POLE TO REMAIN. REMOVE ONE PUSHBUTTON FROM PS POLE AND CAP PER CITY APPROVED METHODS. SALVAGE TO THE CITY OF KIRKLAND SIGNAL SHOP.
- CONSTRUCT FOUNDATION PER WSDOT STANDARD PLAN NO J-20.10. FURNISH AND INSTALL NEW PPB POLE AND PUSHBUTTON. PUSHBUTTON SHALL FACE SOUTH, PARALLEL TO CROSSWALK.
- EXISTING CONTROLLER AND SERVICE CABINETS TO REMAIN. PROTECT DURING CONSTRUCTION. TERMINATE NEW CONDUCTORS IN EXISTING CONTROLLER CABINET.
- EXISTING ROADWAY SCALE LUMINAIRE POLE TO REMAIN.

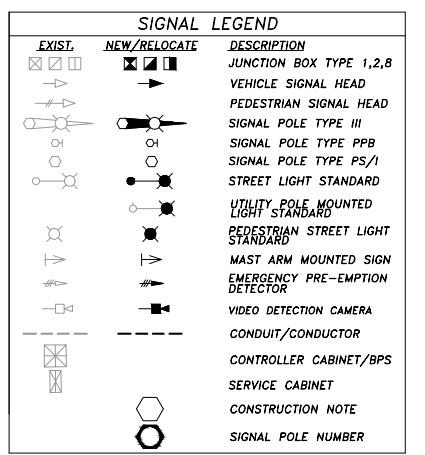
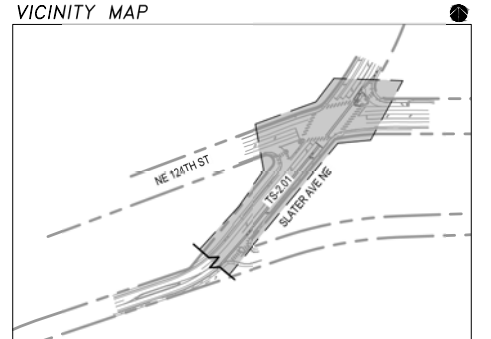
**GENERAL NOTES**

- ALL JUNCTION BOXES AND CONDUIT RUNS SHALL BE INSTALLED PER WSDOT STANDARD PLANS (LOCATIONS SHOWN ON THE PLANS ARE SCHEMATIC). JUNCTION BOXES SHALL BE PLACED OUTSIDE OF SIDEWALK AND CURB RAMPS UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH CITY OF KIRKLAND STANDARDS AND SPECIFICATIONS.
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- POLE FOUNDATIONS SHALL NOT BE EXCAVATED AND POURED BEFORE POLE LOCATIONS ARE APPROVED BY THE ENGINEER. TOP OF FOUNDATION SHALL BE FLUSH WITH TOP OF SIDEWALK OR SHOULDER.
- CONTRACTOR SHALL CHECK FOR MAXIMUM AND MINIMUM OVERHEAD CLEARANCE FOR ALL SIGNAL HEADS ABOVE THE STREET PRIOR TO FOUNDATION INSTALLATION.
- EXISTING FEATURES TO REMAIN UNLESS OTHERWISE NOTED.
- THE EXISTING TRAFFIC SIGNAL SYSTEM SHALL REMAIN OPERATIONAL UNTIL THE NEW TRAFFIC SIGNAL CONFIGURATION IS FULLY FUNCTIONAL.
- UTILITY LOCATIONS (DIAL-A-DIG) PRIOR TO CONSTRUCTION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- THE TRAFFIC SIGNAL CONTRACTOR SHALL COORDINATE ALL SIGNAL WORK WITH CHANNELIZATION AND ROADWAY IMPROVEMENTS AT THE INTERSECTION. REFER TO CIVIL PLANS. THE SIGNAL SHALL NOT BECOME OPERATIONAL UNTIL CHANNELIZATION AND INTERSECTION IMPROVEMENTS ARE COMPLETE. COORDINATE CONSTRUCTION SEQUENCE/ORDER OF WORK WITH THE ENGINEER.
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- ALL APS PUSHBUTTONS SHALL BE 42" FROM FINISH GRADE. (MEASURED FROM CENTER OF PUSHBUTTON TO FINISHED GRADE)
- ALL MAST ARM SIGNAL POLES SHALL BE GALVANIZED STEEL.

**SIGNAL & ILLUMINATION WIRING SCHEDULE (AFFECTED RUNS ONLY)**

NO.	RACEWAY CONDUIT SIZE	PPB/LOOPS 2C(SH)		E.V. DETECT. 3C(SH)		VEH. HEAD 5C		PED. HEAD 5C		VIDEO 6CDE		ILLUM #8		EQUIP. GRND. (1)		DETECTABLE MULE TAPE		CONDUIT FILL	ALLOW. FILL (NEW)	ALLOW. FILL (EXIST.)
		EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW	EX.	NEW					
1	3" SCH80 PVC EX.(3)					8	1	2						1				1.40	---	2.58
	3" SCH80 PVC EX.(3)	12	1	2										1				1.40	---	2.58
	3" SCH80 PVC EX.(3)	6								1	1							1.72	---	2.58
	3" SCH80 PVC EX. SPARE(2)																	---	---	2.58
2	3" SCH80 PVC EX.(3)	6			1	5	1							1				1.79	---	2.58
	3" SCH80 PVC EX. SPARE(2)																	---	---	2.58
3	2" SCH80 PVC NEW																	0.18	0.75	---
	3" SCH80 PVC EX.(3)						8	1						1				1.40	---	2.58
4	3" SCH80 PVC EX.(3)	12	1	2										1				1.40	---	2.58
	3" SCH80 PVC EX. SPARE(2)																	---	---	2.58

- EQUIPMENT GROUND SIZE SHALL BE EQUAL TO OR LARGER THAN THE LARGEST WIRE SIZE IN THE CONDUIT (MIN. WIRE SIZE SHALL BE #8).
- SPARE/EMPTY CONDUIT SHALL CONTAIN ELECTRONICALLY DETECTABLE PULL TAPE AND BE MARKED AS "CITY OF KIRKLAND" CONDUIT.
- OTHER CONDUCTORS MAY BE PRESENT.



REVISION	DATE	BY

DESIGNED BY:  
GRL/VNF

DRAWN BY:  
VNF

APPROVED BY:  
EMS

ISSUE DATE:  
06-21-2022

JOB NO.:  
TENW #2021-195

DRAWING FILE NO.:



**TENW**  
 Transportation Engineering NorthWest

Transportation Planning | Design | Traffic Impact & Operations  
 11400 SE 8th St, Suite 200, Bellevue, WA 98004 | Office (425) 889-6747

Project Contact: Grant Lewis  
 Phone: 952-270-9089

Fairfield Residential  
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 sfinch2@ffres.com  
 Shon Finch

SLATER MIXED-USE  
 OFF-SITE IMPROVEMENTS

TRAFFIC SIGNAL PLAN  
 NE 124TH ST & SLATER AVE NE

DRAWING NO.:  
TS-2.01

SHEET NO.:  
12  
OF  
17  
SHEETS



# **APPENDIX I**

## **KING COUNTY PARKS ENGINEERING SPECIAL TERMS AND CONDITIONS**

## CHANGES

1. CHANGES TO PROPOSED WORK: Work authorized under this Permit shall be in accordance with the permitted plans. Any modifications or deviations from the permitted plans shall be submitted to Parks for review and comment and/or acceptance. Unless otherwise agreed upon a three-week review period should be assumed for Parks review.
2. REVIEW AS NOTED DOCUMENT: **Please see attached “Review as Noted” document for additional Special Use Permit conditions.**
3. PROOF OF PERMIT: The Permittee shall provide King County Parks with a digital copy of all required permit approvals and conditions prior to construction.

OPERATIONAL REQUIREMENTS: The Applicant and its Contractor shall be responsible for ensuring that the public has uninterrupted use and access to the public park facilities. They shall also be responsible for the maintenance of access roads, crossings, and utility locates, drainage structures and systems during the time period of construction. The Applicant shall provide three 24 hour contacts to the Parks Engineer for resolution of after hour maintenance or emergency issues arising in the work zone. King County Parks will make an effort to contact the Applicant in the event of an emergency to allow the Applicant and its Contractor to respond and address the issues arising in the work zone. Parks reserves its right to recover any costs associated with Parks staff needed to respond due to the failure of the Applicant or its Contractor to respond in a timely manner.

## WORK AREA REQUIREMENTS

### SURVEY REQUIREMENTS

4. SURVEY REQUIREMENTS: The Permittee or its Contractor shall be responsible for establishing survey control and for setting and maintaining all survey markers necessary for construction of the permitted work. Survey work shall be performed by a Professional Land Surveyor licensed to perform such work in the State of Washington and shall conform to standard practices and principles of land surveying as set forth in the laws of the State of Washington.
5. UTILITY LINE STAKING: The Permittee shall stake or otherwise mark the proposed location of the utility alignment prior to installation. Location to be reviewed at the preconstruction conference.

### CONSTRUCTION STAGING AND WORK AREA DELINEATION

1. STOCKPILE AND STAGING: Stockpile and staging areas shall not be located within critical areas or their buffers. Staging of materials and/or equipment is not permissible on King County Parks property except where authorized in a Parks accepted Work Area and Staging Plan.
2. WORK AREA DELINEATION AND STAGING: All equipment, materials, bore pits, and work areas within King County Parks property shall be clearly delineated, secured, and blocked off from public access for the duration of the proposed work.
3. WORK AREA DELINEATION AND STAGING: An approved Work Area and Staging Plan shall be submitted and accepted by King County Parks prior to the pre-construction conference. See Required Submittals condition.
4. TEMPORARY EROSION AND SEDIMENT CONTROL (TESC): The Permittee or its Contractor shall construct, maintain, replace, and upgrade TESC facilities in accordance with a prepared and accepted TESC Plan until all construction is

accepted. The TESC facilities shown in the approved plans are the minimum requirements for anticipated site conditions. During the construction period, these TESC facilities shall be upgraded as needed for unexpected storm events.

#### UTILITY LOCATES

1. UTILITY LOCATE: A one-call utility locate **AND private utility locate** is required before any excavation on KC Parks property. The request for a one-call locate shall be made a minimum of two business days before excavation. The Contractor shall record the one-call ticket number and shall make available to King County Park's staff upon request.

#### USE OF STEEL CONSTRUCTION PLATES

1. USE OF STEEL CONSTRUCTION PLATES: Use of steel construction plates shall comply with the requirements listed below:
  - a. A cold mix asphalt joint shall be made at the transition from pavement to plate for a smooth transition. A maximum vertical change of 0.25 inches high shall be permitted. Changes in level between 0.25 and 0.5 inches high shall be beveled with a slope no steeper than 1:2.
  - b. Plain steel plates have a coefficient of friction (CoF) of 0.012 which is unacceptably slippery and should not be used. Steel plates on pedestrian paths or trails shall be covered or coated so that the surface meets a minimum CoF of 0.35.
  - c. **Outside of work hours install signage to warn trail users of abnormal upcoming conditions such as 'STEEL PLATE AHEAD' (W8-24) on both sides of work area.**

#### WORK HOURS

1. ALLOWABLE WORK HOURS: Work with impacts to Regional Trails is allowed on weekdays between the hours of 9am and 3 pm. No work is permitted on Saturday, Sunday, or on holidays without prior written approval from King County Parks.

#### RESTORATION

#### TRAIL REPAIR

1. TRAIL REPAIR: **Any damages to King County's Regional Trail facilities shall be restored to like conditions or better and in accordance with King County's standard Trail Repair Detail. Trail repairs shall match elevation and slope of adjacent trail surface with no discernible rise or dip. All repairs shall include the full trail width and have a minimum length of 4-feet. Pavement cuts in asphalt concrete pavement shall be perpendicular to the direction of travel and all pavement seams shall be sealed with a crack sealant. Coordinate with King County for proposed trail repairs.**

#### RESTORATION WARRANTY

1. RESTORATION WARRANTY: Unless stated otherwise, a 1-year warranty is required for all restored areas to ensure work product is free from any defects in equipment, material, design, or workmanship performed by the Permittee and its Contractors. If defects are found, the Permittee shall make corrections at its sole expense.

#### UTILITIES

#### UTILITY INSPECTION AND MAINTENANCE:

1. UTILITY INSPECTION AND MAINTENANCE: The utilities installed under this permit shall be inspected and maintained by the Permittee, or owner served. Should King County be required to inspect, maintain or repair said **utilities in order to protect King County Park's property or assets, the cost for such maintenance and repair shall be charged to the Permittee or utility provider.**



## NOTICE/MEETING/COMMUNICATIONS

### NOTICE PROVISIONS

1. NOTICE PROVISIONS: All notice shall be delivered by phone at 206-477-9770 and by email at [parksproperty@kingcounty.gov](mailto:parksproperty@kingcounty.gov).
2. TRAIL IMPACTS COMMUNICATION: Please provide a brief project description a minimum of (14) days prior to commencement of work. Project description should include scope, location, impacts to the trail and dates, times, and durations of the impacts, and any other relevant information.
3. NOTICE OF CONSTRUCTION ACTIVITY: The permittee shall provide to King County Parks oral and written notice a minimum of 72 hours prior to implementation of the work permitted in this SUP. A King County Parks Representative may elect to be on-site for the duration of the project work for construction inspection. See notice provisions.

### PRECONSTRUCTION CONFERENCE

1. PRECONSTRUCTION CONFERENCE: A preconstruction conference is required and shall be held a minimum of two working days prior to the planned construction. Permittee shall verify that all required materials have been submitted and accepted by King County Parks and that the activities below have been completed prior to requesting a preconstruction conference. A minimum of seven (7) days notice is required to schedule the preconstruction conference. See Notice Provisions.
  - a. PRECONSTRUCTION SUBMITTALS: The submittals listed below shall be provided to King County Parks for review and acceptance. Submittal materials shall be made available to the Parks Division with adequate time to review and accept them in advance of the preconstruction conference. Work shall not commence without the written acceptance from King County Parks. Submittal requirements are outlined in the Submittals section of this Permit.
    - i. Work Area and Staging Plan
    - ii. Traffic Control Plan or Detour Plan
    - iii. Temporary Erosion and Sedimentation Control (TESC) Plan
    - iv. Preconstruction Photos
    - v. Emergency contacts
  - b. UTILITY LOCATES
    - i. Request One-Call Utility Locates
    - ii. Request Private Utility Locates
  - c. SITE PREPARATION (see **Work Area Requirement** condition for details)
    - iii. Survey and stake property boundaries, easements, and encumbrances
    - iv. Secure work area per accepted **Work Area and Staging Plan**
    - v. Establish TESC measures per accepted TESC Plan
    - vi. Stake or otherwise mark proposed utility alignment
    - vii. Implement Traffic Control per accepted TCP

## PERMIT CLOSEOUT

1. CONSTRUCTION INSPECTION: The Permittee shall coordinate, schedule, and attend inspections with King County Parks as follows:
  - a. Preconstruction Conference
  - b. Traffic Control Installation
  - c. Trench and Water Line installation
  - d. Trench Restoration
  - e. Steep Slope Evaluation (after final grading is completed adjacent to King County Parks property)
  - f. Final Inspection
  
2. FINAL INSPECTION: The Permittee shall coordinate, schedule, and attend a Final Inspection meeting with King County Parks at the proposed completion of the work authorized in this Permit. If the County determines that all work is complete and acceptable the County may authorize Final Acceptance. If the County determines that any remaining items need to be completed or repaired, the County will prepare a punch list defining those items and a schedule for completion. The Permittee shall complete all items identified within the identified schedule and shall provide documentation to the County of their completion. King County may, at its discretion, require further Final Inspection meetings to verify the satisfactory completion of identified punch list items before issuing Final Acceptance.

## SUBMITTALS

1. WORK AREA AND STAGING PLAN: The Work Area and Staging plan shall consist of a vicinity map and/or site plan and shall identify the following:
  - a. Site access and construction entrances
  - b. Staging areas including contractor / personnel parking, materials, equipment, etc.
  - c. Maximum gross weight of construction equipment used. For access on/across King County Paved Regional Trails, weight shall not exceed the following:
    - i. 2 Axles: Up to 40,000 lbs
    - ii. 3 Axles: Up to 60,000 lbs
    - iii. 4 Axles: Up to 80,000 lbs
  - d. Construction means and methods including layout for proposed methods (bore pits, trenches, utility pothole locations, etc.)
  - e. Methods for delineating and securing the work area
  - f. Advance warning signage
  - g. Construction work tasks and construction sequencing
  
2. TRAFFIC CONTROL OR DETOUR PLANS: The Permittee and its Contractor shall be responsible for ensuring that the public has uninterrupted use and access to public park facilities. Work shall be performed in such a way that minimizes impacts to trail users to the maximum extent feasible. If trail impacts are deemed necessary, contact King County Parks for allowable trail impacts. In such cases, acceptance of a Final Traffic Control Plan or Detour Plan is required before work may begin.
  
3. TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) PLAN: The Applicant or its Contractor shall prepare and submit a TESC Plan in accordance with applicable local, state, and federal requirements. King County may, require additional TESC measures at its sole discretion during review of the Plan or during construction.

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4. PRECONSTRUCTION PHOTOS: The applicant shall photo document existing conditions on King County Parks property facilities within and adjacent to the work area and construction access. Documentation shall include features which may be damaged or impacted during construction including but not limited to pavement, fences, drainage features, vegetation, signage, and retaining walls. Photos should be submitted in digital form and shall include the date the photographs were taken.
5. RECORD DRAWINGS: The Permittee and its Contractor shall keep one copy of the Special Use Permit on the job site and shall maintain a record set of the Plans accurately marked to indicate completed work that differs from the design information shown in the approved Permit plans. At the completion of construction record drawings shall be provided to King County Parks electronically in Portable Document Format (PDF) unless otherwise stated. Utility lines installed on King County Parks property shall also be provided as ArcMap GIS shapefiles. Provide contact information on the record drawing.
6. GEOTECHINICAL RECORDS: Records from any geotechnical data collected on King County Parks property shall be provided to King County Parks.
7. POSTCONSTRUCTION PHOTOS: Following the completion of construction and restoration, the applicant shall photo document conditions on King County Parks property facilities within and adjacent to the work area and construction access. Documentation shall include site features documented in preconstruction photos and/or relevant site features present before construction or features which documents the finished work including but not limited to pavement, fences, drainage features, vegetation, signage, and retaining walls. Photos should be submitted in digital form and shall include the date the photographs were taken.
8. O&M or similar agreement that clearly identifies roles and responsibilities for the ownership and maintenance of the crossing improvements.