



City Council Study Session

AGENDA

February 10, 2015

6:30 pm – 10:00 pm

Call to Order

Public Comment

This is an opportunity for the public to address the Council. Three-minutes limit per person or five-minutes if representing the official position of a recognized community organization.

Topics

- 212th Non-Motorized Improvements
- Public Works Standards

Adjournment

City Council meetings are wheelchair accessible. American Sign Language (ASL) interpretation is available upon request. Please phone (425) 295-0500 at least 48 hours in advance. Assisted Listening Devices are also available upon request.

AGENDA CALENDAR

Feb 2015			
Mon 2/16		President's Day	City Offices Closed
Tues 2/17	6:30 pm	Regular Meeting/Study Session	Interviews: Planning Commission (2) Ordinance: First Reading Appointing Alternates to Parks, Arts Commission Resolution: NE 42 nd Street Barricade Resolution: Planning Commission Appointments Resolution: Interlocal Climate Control/C4C (consent) Appointment: Klahanie Ballot Measure Pro/Con Committees SS: Sustainability & Alternative Housing Discussion SS: ARCH Discussion
Mar 2015			
Tues 3/3	6:30 pm	Regular Meeting	Public Hearing: First Reading Ordinance adopting Stormwater Regulations Public Hearing: Emergency Stormwater Regulations Ordinance: Second Reading Appointing Alternates to Parks, Arts Commission Resolution: Appointing one member to the Landmark Preservation Board Appointment: Initiative & Referendum Ballot Measure/Pro/Con Committees
Tues 3/10	6:30 pm	Study Session	Town Center Update Land Use Discussion –Schools, Churches, Group Homes, etc. Asset Acquisition Session #1: 2015 Comp Plan Update (Staff: Intro, Process, Schedule, PC Recommendation)
Mon 3/16	6:30 pm	COW Meeting	
Tues 3/17	6:30 pm	Regular Meeting	Ordinance: Second reading adopting Stormwater Regulations Public Hearing: 2015 Comp Plan Update
April 2015			
Tues 4/7	6:30 pm	Regular Meeting	Public Hearing: Ordinance Extension Emergency Tree Retention Regulations
Tues 4/14	6:30 pm	Study Session	Session #2: 2015 Comp Plan Update (Land Use, Housing)
Mon 4/20	6:30 pm	COW Meeting	Session #3: 2015 Comp Plan Update (Capital Facilities, Utilities)
Tues 4/21	6:30 pm	Regular Meeting	
May 2015			
Tues 5/5	6:30 pm	Regular Meeting	
Tues 5/12	6:30 pm	Study Session	YMCA Property Development Discussion Session #4: 2015 Comp Plan Update (Transportation, Environment)
Mon 5/18	6:30 pm	COW Meeting	Session #6: 2015 Comp Plan Update (If needed)
Tues 5/19	6:30 pm	Regular Meeting	
June 2015			
Tues 6/2	6:30 pm	Regular Meeting	Public Hearing/first reading: 2015 Comp Plan Update
Tues 6/9	6:30 pm	Study Session	2015 Comp Plan (if needed)
Mon 6/15	6:30 pm	COW Meeting	
Tues 6/16	6:30 pm	Regular Meeting	Ordinance: Second Reading 2015 Comp Plan Update
July 2015			

Tues 7/7	6:30 pm	Regular Meeting	
Tues 7/14	6:30 pm	Study Session	
Mon 7/20	6:30 pm	COW Meeting	
Tues 7/21	6:30 pm	Regular Meeting	
August 2015			NO MEETINGS
Sept 2015			
Tues 9/1	6:30 pm	Regular Meeting	
Tues 9/8	6:30 pm	Study Session	
Tues 9/15	6:20 pm	Regular Meeting	
Mon 9/21	6:30 pm	COW Meeting	
To Be Scheduled		To Be Scheduled	Parked Items
Ordinance: Second Reading Puget Sound Energy Franchise		Economic Development Plan	Mountains to Sound Greenway Sustainability/Climate Change

If you are looking for facility rentals, please click [here](#).

<< January

February 2015

March >>

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 5 p.m. City Council Office Hour 6:30 p.m. City Council Meeting	4 6:30 p.m. Parks and Recreation Commission Meeting 7 p.m. Beaver Lake Management District Meeting	5 6:30 p.m. Planning Commission Meeting	6	7 10 a.m. Restoration at Lower Commons Park
8	9	10 6:30 p.m. City Council Study Session	11	12 10 a.m. Restoration at Lower Commons Park	13	14
15	16 Washington's Birthday City offices closed	17 6:30 p.m. City Council Meeting 7:30 p.m. "Messiaen Around with Time" - Simple Measures	18	19 10 a.m. Restoration at Lower Commons Park 6:30 p.m. Planning Commission Meeting	20	21 9 a.m. Volunteer at Ebright Creek Park
22	23 6:30 p.m. Arts Commission Meeting	24	25	26	27	28 1 p.m. "Life Stories Workshop" - Special Arts Sammamish

If you are looking for facility rentals, please click [here](#).

<< February

March 2015

April >>

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 5 p.m. City Council Office Hour 6:30 p.m. City Council Meeting	4 6:30 p.m. Parks and Recreation Commission Meeting	5	6	7 10 a.m. Restoration at Lower Commons Park
8	9	10 6:30 p.m. City Council Study Session	11	12	13	14 10 a.m. Restoration at Lower Commons Park
15	16 6:30 p.m. Committee of the Whole	17 6:30 p.m. City Council Meeting	18	19	20	21 9 a.m. Volunteer at Ebright Creek Park
22	23 6:30 p.m. Arts Commission Meeting	24	25	26	27	28 10 a.m. Restoration at Lower Commons Park 12 p.m. "Make it a Clay Day" - Special Arts Sammamish
29	30	31				



MEMORANDUM

DATE: February 4, 2015
TO: City Council
 Ben Yazici, City Manager
FROM: Laura Philpot, PE, Assistant City Manager/Public Works Director
RE: 212th Avenue SE Non-Motorized Project (North of SE 24th Street)

This memo is intended to provide the Council with an update related to the pre design work and alternatives considered for the 212th Avenue SE Non-Motorized Project (the project). The proposed improvements include construction of minor widening to provide for shoulders, curb and gutter, planter strip and sidewalk on the west side of the street. The 2015 adopted budget includes \$650,000 for the project and is included in the Transportation Capital Fund. In 2014 David Evans and Associates (DEA) completed a planning-level analysis of three different construction options to consider. At the February 10, 2015 Study Session, staff will review each option with the Council and share the recommended alternative.

The Final Alternatives Analysis Technical Memorandum that was prepared by DEA for the City is attached here for your reference. The following table provides a quick summary of the alternatives considered along with total project costs.

Alternative Description	Construction Cost Estimates	Estimated Design/ Construction Engineering Cost	Estimated Total Project Costs
A1. Fill the edge of the wetland	\$305,522	\$106,933	\$412,455
A2. Cantilevered Precast Sidewalk	\$405,139	\$141,799	\$546,938
A3. Pin Pile Structure	\$427,898	\$149,764	\$577,662

While Alternative 1 is the least costly alternative evaluated, staff will be recommending to the City Council Alternative 2 as the preferred option. This will be discussed in more detail at the February 10 Study Session, but the main decision factors are:

- The wetland mitigation cost estimate provided appears low, based on experience in Sammamish, and may not be adequate.
- This wetland is within the Pine Creek Basin, which is a Kokanee Fish bearing stream.

- Permitting review by outside agencies could delay the construction of the project by a year or more, and construction cost increases may negate any savings.
- Permitting review by outside agencies may require more/different mitigation than is assumed.
- Alternative 2 has the least impacts to the wetlands, which is one of the project objectives.

Staff is seeking affirmation from the City Council before negotiating a final design contract with DEA. It is anticipated that a final contract will be ready for Council approval at an upcoming Council meeting in late February or early March.

Please contact me if you have any questions.



DAVID EVANS
AND ASSOCIATES INC.

212th Avenue SE Non-Motorized Improvements

Final Alternatives Analysis Technical Memorandum

Prepared for:

City of Sammamish
801 228th Avenue SE
Sammamish, WA 98075

Prepared by:

David Evans and Associates, Inc.
415 – 118th Avenue SE
Bellevue, WA 98005

COSA0000-0019

December 2014

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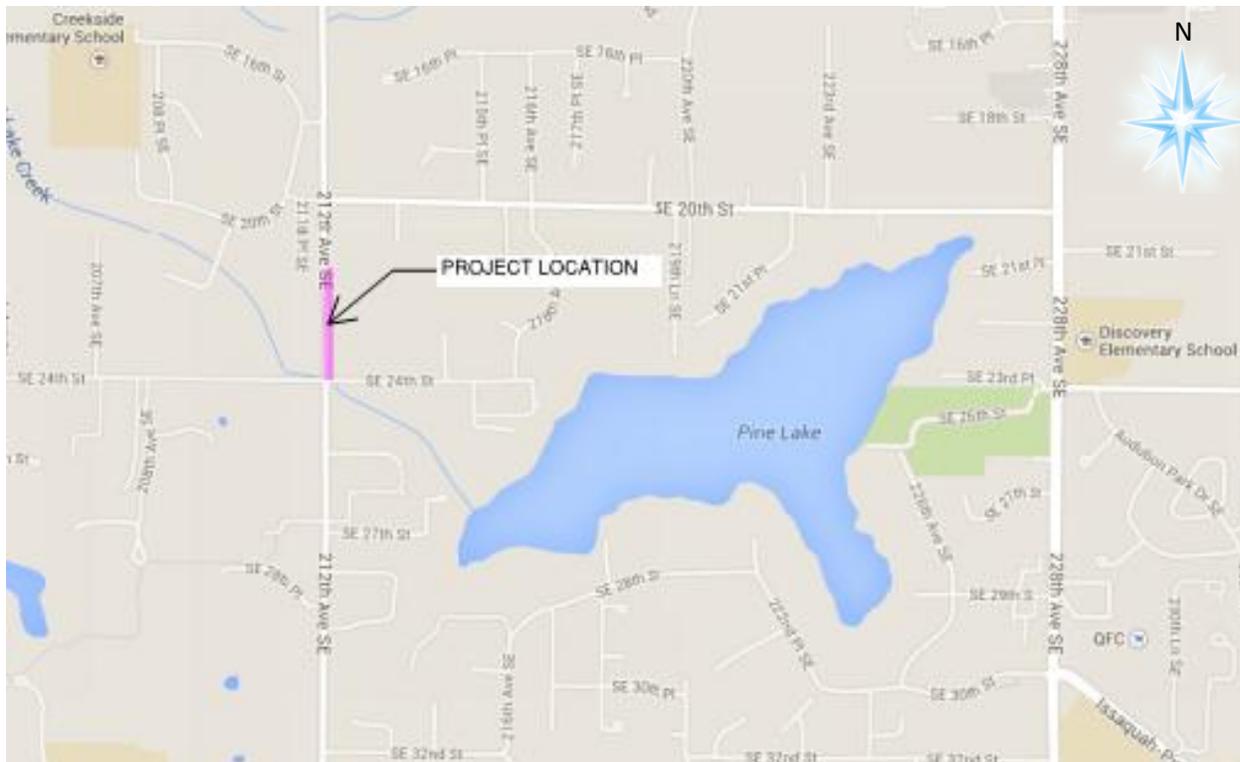
List of Appendices

- Appendix A: Alternative Details
- Appendix B1: Alternative 1 Plan View
- Appendix B2: Alternative 2 Plan View
- Appendix B3: Alternative 3 Plan View
- Appendix C: Construction Cost Estimate (Alternatives 1, 2, and 3)

1.0 Project Background

The City of Sammamish is planning to improve non-motorized access along the west side of 212th Avenue SE beginning at SE 24th Street and extending north approximately 650 linear feet (lf) to match into existing neighborhood street improvements. The proposed improvements will maintain the existing northbound and southbound 10-foot travel lanes and include the addition of a 6-foot-wide bike lane, cement concrete curb and gutter, a 5-foot-wide planter strip, and 6-foot-wide sidewalk. The existing neighborhood street improvements that the project will match into consist of a 10-foot travel lane with a 5-foot bike lane, 13-foot-wide on-street parking, a 5-foot-wide planter strip, and 5-foot-wide sidewalk. In some areas, widened gravel shoulders exist that serve as a walking path or on-street parking. Classified as a collector arterial roadway, 212th Avenue SE is heavily used by daily commuters as well as pedestrians and cyclists from surrounding Pine Lake neighborhoods. See **Figure 1** for a project vicinity map.

Figure 1: Project Vicinity



(Source: Map from Google.com)

1.1 Project Objectives

The objectives of this project are to:

1. Construct a continuous 6-foot walking path with planter strip on the west side of 212th Avenue SE for the length of the project.
2. Install a 6-foot bike lane along the west side of 212th Avenue SE for the length of the project.
3. Minimize impacts to existing trees, stream culverts, and wetlands throughout the corridor.
4. Complete construction of the project by September 2015.

2.0 Existing Conditions

2.1 Roadway

In the vicinity of the proposed project, 212th Avenue SE is classified as a collector arterial street with a posted speed limit of 35 mph. The 2013 Average Daily Traffic (ADT) for this corridor was estimated at 4,200 vehicles per day. The existing roadway is paved with asphalt, and is configured with two 10-foot travel lanes and 1- to 2-foot-wide paved shoulders.

2.2 Non-Motorized

Currently no continuous, separate non-motorized facilities exist along 212th Avenue SE within the project limits. Bicycle users currently use the existing travel lanes, and pedestrians utilize the narrow paved shoulder and widened gravel shoulder where they exist. A 5-foot-wide bike lane begins at the existing neighborhood street improvements on the west side of 212th Avenue SE and continues to the north.

2.3 Utilities

Several underground and overhead utilities were found within the corridor during a topographic field survey and through office research completed by David Evans and Associates, Inc. (DEA) in October 2014. The existing utilities are shown on the alternative plan layout sheets which can be found in **Appendix B** of this Memorandum.

Natural gas facilities owned by Puget Sound Energy are present along this corridor. Puget Sound Energy owns a 4-inch gas main located approximately 11 feet east of the right-of-way centerline. It is assumed that service connections run from this gas line to all of the properties along the corridor.

The Sammamish Plateau Water and Sewer District owns and maintains a 12-inch ductile iron water line that runs the length of the corridor. The water line is located approximately 15 feet west of the right-of-way centerline. It is assumed that water service connections run from this water line to all of the properties along the corridor.

Overhead power lines owned by Puget Sound Energy are located on utility poles along the east side of 212th Avenue SE. The utility poles are generally located about 14 feet east of the right-of-way centerline. An existing overhead power line runs along the north side of SE 24th Street and intersects the project at the intersection with 212th Avenue SE. Overhead power lines also cross 212th Avenue SE at various locations within the project limits to provide service connections to houses on the west side of the roadway.

Underground communication facilities were found on the west side of 212th Avenue SE. Above-ground communication risers are located throughout the project site. The ownership, size, and type of these facilities are not currently known. Overhead communication lines share the utility poles located along the east side of 212th Avenue SE; however, the ownership of these lines has not yet been confirmed.

Existing storm drainage facilities exist along both sides of the 212th Avenue SE corridor within the project limits. Stormwater runoff is conveyed mainly by open ditches located on both sides of the roadway, which are connected to several culverts located under driveways and widened shoulder areas. Existing stormwater drainage within the project limits currently flows towards the south and empties into Pine

Exhibit 1

Lake Creek. A piped storm drainage system resides on the west side of 212th Avenue SE beginning at the northern limits of the proposed project, and flows towards the north along the existing roadway.

2.4 Water Resources and Critical Areas

A segment of Pine Lake Creek is located within the project limits. The creek flows northwest from Pine Lake to Lake Sammamish, and crosses 212th Avenue SE through a 60-inch concrete box culvert at the intersection with SE 24th Street. The three proposed alternatives do not impact the existing box culvert or associated creek.

The 212th Avenue SE corridor was inspected by a DEA biologist in September 2014 to identify wetland locations. One wetland location was identified and included in the topographic survey:

Wetland A – A classified category four wetland located along the west side of 212th Avenue SE immediately north of the intersection with SE 24th Street. The wetland adjoins the westerly edge of the project for approximately 124 lf (Sta. 10+26 to Sta. 11+50).

2.5 Illumination

Currently this roadway is not illuminated within the project limits. There is decorative lighting at the neighborhood improvements at the northern limit of the project.

3.0 Design Criteria

Design Speed	35 MPH (Posted Speed)
Lane Width	10 Feet Minimum
Bike Lane Width	6 Feet
Pedestrian Walkway Width	6 Feet Minimum
Sight Obstruction Sight Distance	470 Feet
Object Height	4.25 Feet
Driver's Eye Height	3.50 Feet

4.0 Alternatives Analysis

Three alternatives were developed to meet the project objectives. All of the proposed alternatives will implement a piped drainage system that will direct stormwater to flow towards the south into the current drainage system that outflows into Pine Lake Creek. Roadway/pedestrian illumination is not proposed for the three alternatives.

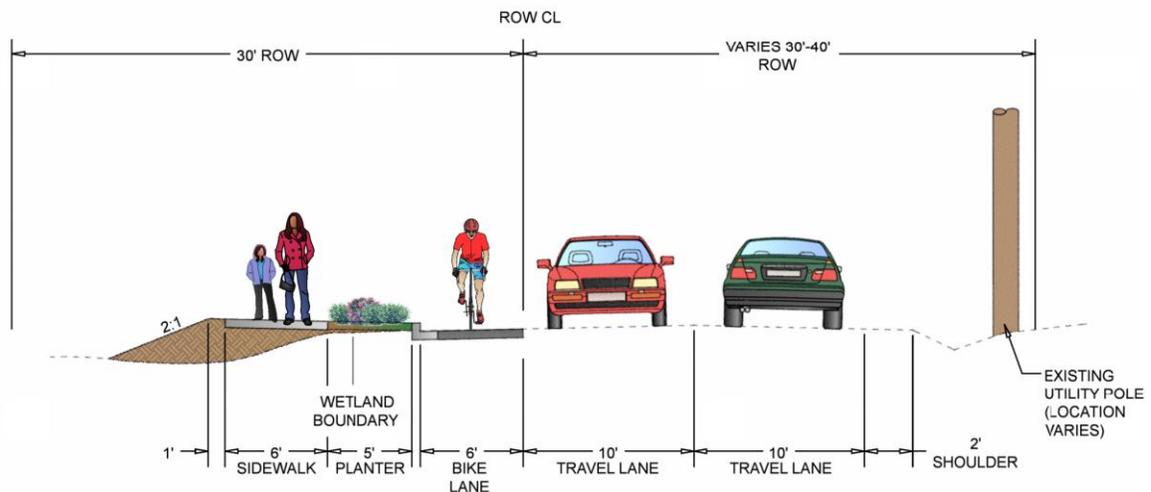
The three alternatives chosen for evaluation revolve around impacts being made to the existing wetland located at the southwest corner of the intersection of 212th Avenue SE and SW 24th Street. All three alternatives are identical throughout the project except in the vicinity of the wetland. Detailed sections illustrating the structural components of the three alternatives can be found in **Appendix A**.

A cost estimate was prepared for the three alternatives and can be found in **Appendix C**. The estimate breaks out the cost from Sta. 10+26 to Sta. 11+50 (adjacent to the wetland) separately for the three different alternatives. A single cost estimate was prepared for the remainder of the project from Sta. 11+50 to Sta. 16+60 and is identical for all three alternatives. When evaluating total project cost, each alternative estimate is added to the estimate from Sta. 11+50 to Sta. 16+60 separately for comparison. Wetland and wetland buffer mitigation costs were also included in the comparison.

4.1 Alternative 1

Alternative 1 is based on a constant roadway section that will be used throughout the entire project (Sta. 10+26 to Sta. 16+60). This alternative represents a complete build alternative by providing two travel lanes, one bike lane, a planter strip, and a pedestrian walkway on the west side of 212th Avenue SE. This alternative will result in a permanent impact of approximately 1,500 square feet (sf) to the adjacent wetland which will require US Army Corps of Engineers approval for construction. An additional 2,250 square feet (sf) of off-site property will need to be acquired for wetland mitigation for the assumed 1:1.5 mitigation ratio. A wetland buffer impact of 900 square feet (sf) will also be created by this alternative, and it is assumed that buffer impact mitigation will occur within the project site at a 1:1 ratio. Alternative 1 widens the existing roadway to the west, which maintains the existing ditch and drainage along the east side of the road. A typical cross-section of this alternative is shown below, and a plan view of this alternative can be found in **Appendix B1**.

Figure 2: Alternative 1 Typical Cross-Section (Looking North)



ALTERNATIVE 1 - SECTION AT WETLAND

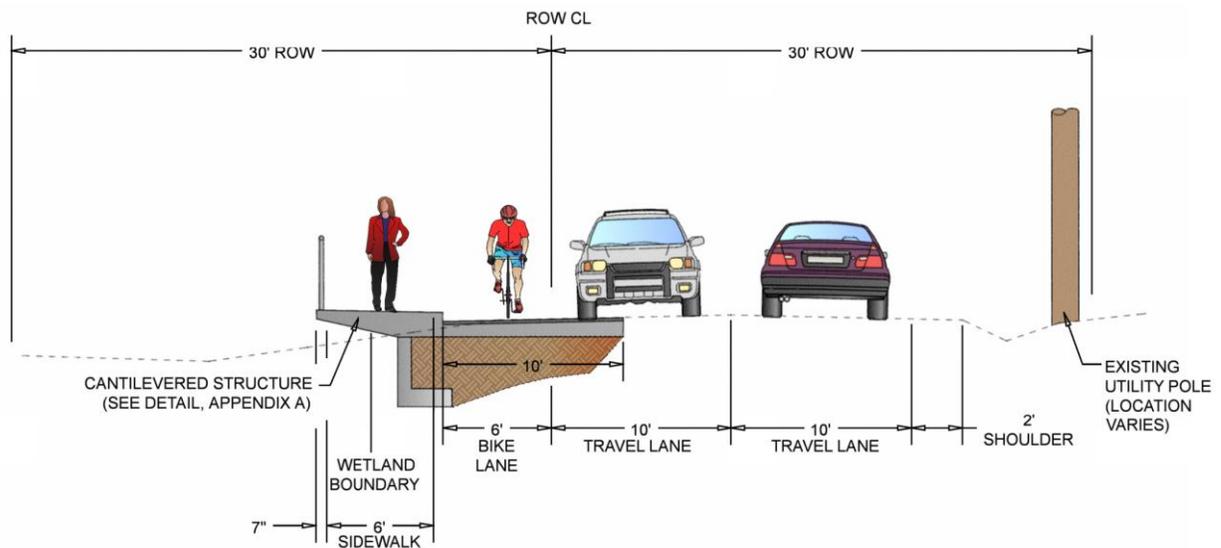
The benefit of Alternative 1 is a consistent roadway section that provides a planter strip along the entire length of the corridor with minimal construction costs. The drawback to this alternative is the impact to the wetland, which would require approval prior to construction as well as property acquisition and mitigation. It is assumed that the timeframe for receiving permits from the US Army Corps of Engineers for construction within the wetland would be nine months.

The estimated preliminary cost to construct Alternative 1 is \$305,522. A detailed cost estimate for this alternative can be found in **Appendix C**.

4.2 Alternative 2

Alternative 2 represents a complete build alternative by providing the same roadway section as Alternative 1 except when adjacent to the existing wetland. This alternative represents a complete build alternative by providing two travel lanes, one bike lane, and a pedestrian walkway on the west side of 212th Avenue SE. The planter strip is removed and a cantilevered structure is used to avoid impacts to the wetland, thus eliminating the need for US Army Corps of Engineers approval for construction. A wetland buffer impact of 750 sf will be created by this alternative, which is assumed to be mitigated on site at a ratio of 1:1. As with Alternative 1, this alternative includes a widened roadway section on the west side of 212th Avenue SE which maintains the existing drainage ditch on the east side of the roadway. A typical cross-section of this alternative is shown below, and a plan view of this alternative can be found in **Appendix B2**.

Figure 3: Alternative 2 Typical Cross-Section (Looking North)



ALTERNATIVE 2 - CANTILEVERED STRUCTURE AT WETLAND

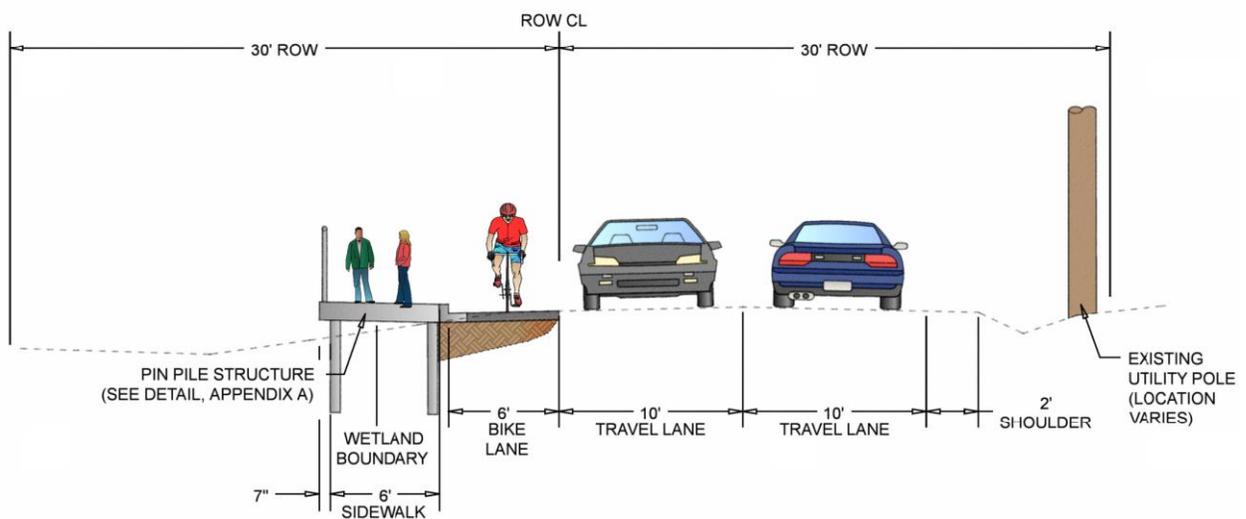
The primary benefit of Alternative 2 is the elimination of permanent impacts to the wetland. The retaining wall located at the bottom of the cantilevered structure will be cast in place outside the wetland boundary. A gravity block wall may be used to reduce cost and help with constructability if deemed feasible through a geotechnical evaluation. The retaining wall would allow for precast cantilevered sections in 8-foot to 10-foot lengths to be used. The drawback to this alternative is the elimination of the planter strip along the area adjacent to the wetland, a higher construction cost compared to Alternative 1, and temporary impacts to the wetland during construction of the retaining wall.

The estimated preliminary cost to construct Alternative 2 is \$405,139. A detailed cost estimate for this alternative can be found in **Appendix C**.

4.3 Alternative 3

Alternative 3 represents a complete build similar to Alternative 2, except a pin pile structure would be used instead of a retaining wall with a cantilevered system. This alternative represents a complete build alternative by providing two travel lanes, one bike lane, and a pedestrian walkway on the west side of 212th Avenue SE. The planter strip is removed and a pin pile structure is used to avoid impacts to the wetland, thus eliminating the need for US Army Corps of Engineers approval for construction. A wetland buffer impact of 750 sf will be created by this alternative, which is assumed to be mitigated on site at a ratio of 1:1. As with the other two alternatives, the existing drainage ditch on the east side of the roadway is maintained. A typical cross-section of this alternative is shown below, and a plan view of this alternative can be found in **Appendix B3**.

Figure 4: Alternative 3 Typical Cross-Section (Looking North)



ALTERNATIVE 3 - PIN PILE STRUCTURE AT WETLAND

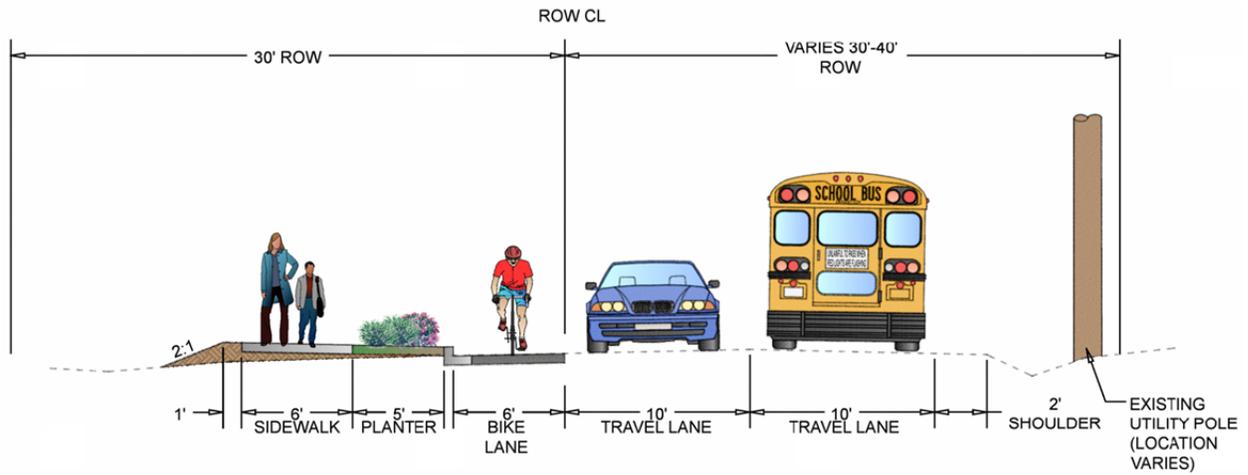
The benefit of this alternative, similar to Alternative 2, is the elimination of permanent impacts to the adjacent wetland. The US Army Corps of Engineers does not require approval for pin piles to be constructed within wetland areas. The pin piles could be constructed from the roadway side, and then precast sections of sidewalk in 8-foot to 10-foot lengths would be placed. The use of these precast sections would greatly reduce temporary wetland impacts during construction. The drawback to this alternative is that it has the highest cost of the three alternatives, as well as the elimination of the planter strip along the area adjacent to the wetland.

The estimated preliminary cost to construct Alternative 3 is \$427,898. A detailed cost estimate for this alternative can be found in **Appendix C**.

4.4 Typical Section for Remainder of the Project (Sta. 10+26 to Sta. 16+60)

The three alternatives will use the same typical section shown below when not adjacent to Wetland A.

Figure 5: Typical Cross-Section (Looking North)



TYPICAL SECTION

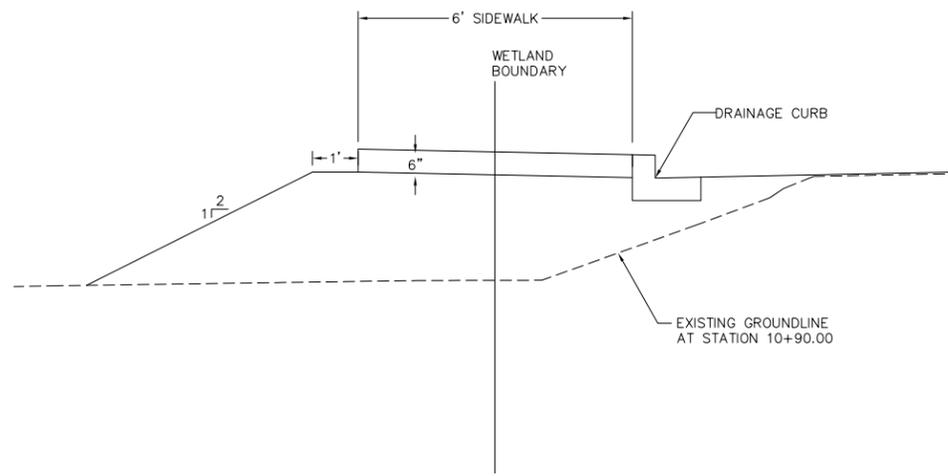
5.0 Conclusion and Recommendations

The required date of completion for this project is September 2015, which is scheduled to coincide with the beginning of the school year. The timeframe for receiving permits by the US Army Corps of Engineers for construction within the wetland is estimated to be nine months. It is anticipated that the permit application would not be submitted to the US Army Corps of Engineers until February 2015, thus the permit would most likely not be issued until November 2015 – well beyond the required construction completion date.

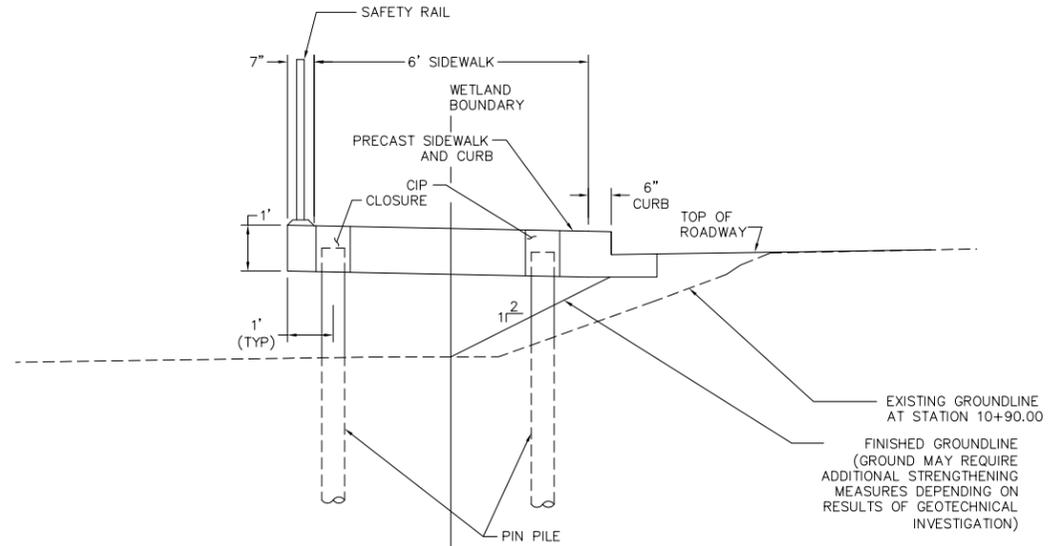
Alternative 1 is the least expensive alternative (approximately \$99,600 less than the cheapest structure alternative). It also provides a planter strip throughout the entire corridor, but is subject to the wetland permit approval process. With an approximate nine-month wait time for US Army Corps of Engineers permit approval, this alternative would not allow for construction to be completed by September 2015. Due to the required project completion date and the need for property acquisition for wetland mitigation, Alternative 1 is not considered the preferred alternative.

Alternatives 2 and 3 are both able to meet the proposed construction deadline and have similar temporary wetland impacts during construction. The deciding factor between these two alternatives is derived through the cost and ease of construction. Alternative 2 (Cantilevered Structure) would be the preferred alternative as the cost is slightly lower (approximately \$23,000) than Alternative 3, and it would also be much easier to construct. The pin piles for Alternative 3 would require special machinery and skilled workers to construct, and the unknown depth of the pin piles is a concern without a geotechnical investigation for review. The short retaining wall required for Alternative 2 could be formed and constructed easily by semi-skilled workers, and if a gravity block wall was found acceptable, the cost and temporary impacts to the wetland would also be reduced.

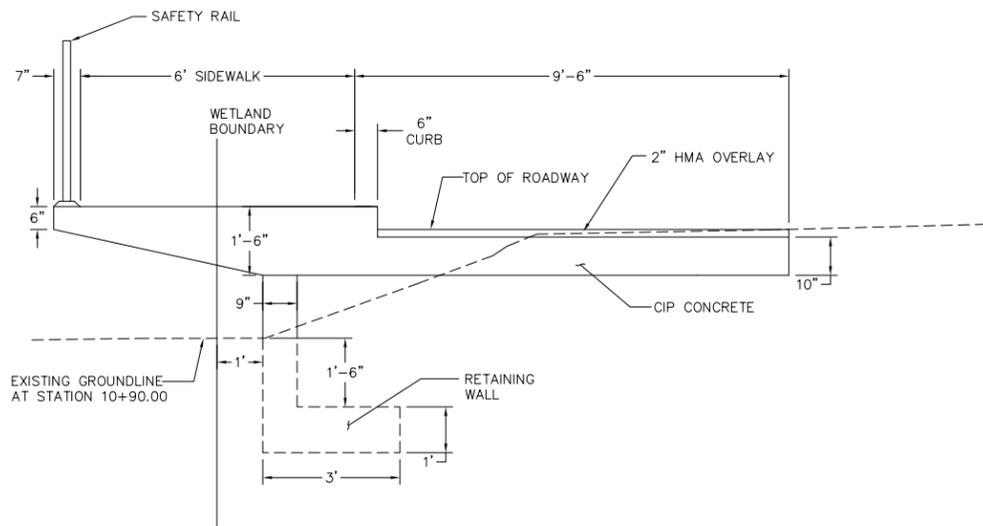
Appendix A: Alternative Details



TYPICAL SECTION - ALTERNATIVE 1: FILL OPTION
1/2" = 1'-0"



TYPICAL SECTION - ALTERNATIVE 3: PIN PILE SUPPORTED SIDEWALK
1/2" = 1'-0"



**TYPICAL SECTION - ALTERNATIVE 2:
FILL WALL WITH CANTILEVERED SIDEWALK**
1/2" = 1'-0"

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CALL 48 HOURS
BEFORE YOU DIG
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DRN: **RGAR**
CHKD: **PDMO**
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SCALE: **AS NOTED**



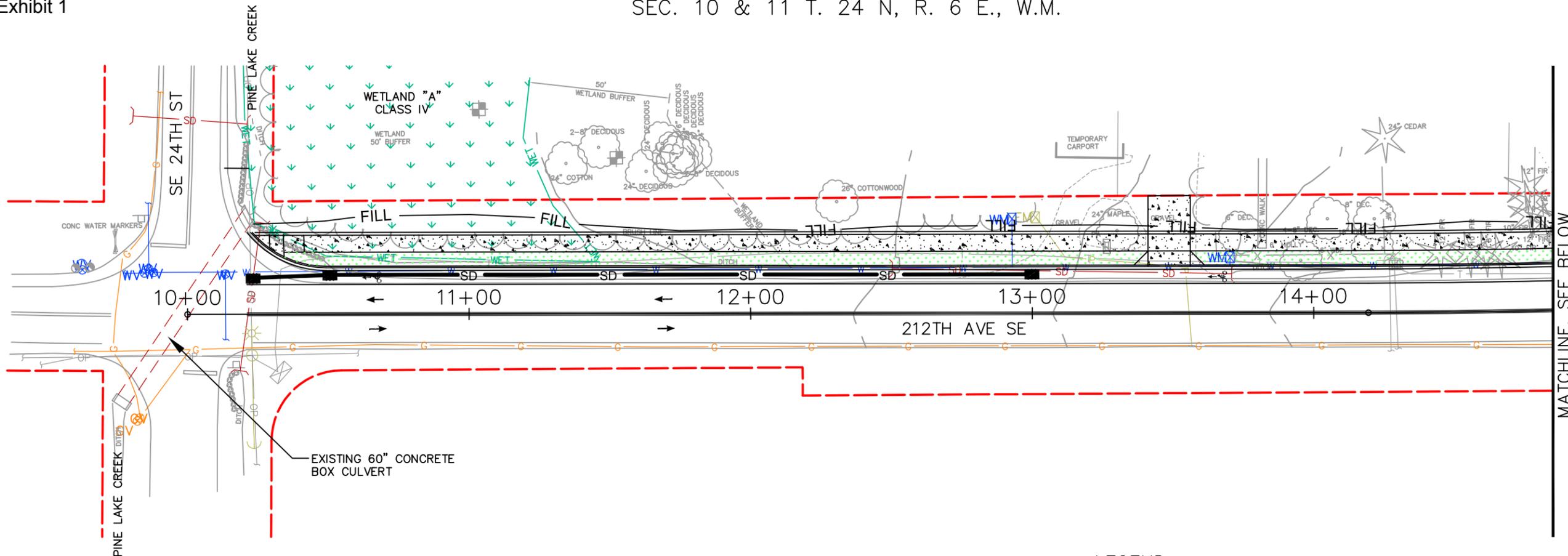
**DAVID EVANS
AND ASSOCIATES INC**
415 - 118th Avenue SE
Bellevue Washington 98005-3518
Phone: 425.519.8500



CITY OF SAMMAMISH
212TH AVENUE SE NON-MOTORIZED IMPROVEMENTS
KING COUNTY WASHINGTON

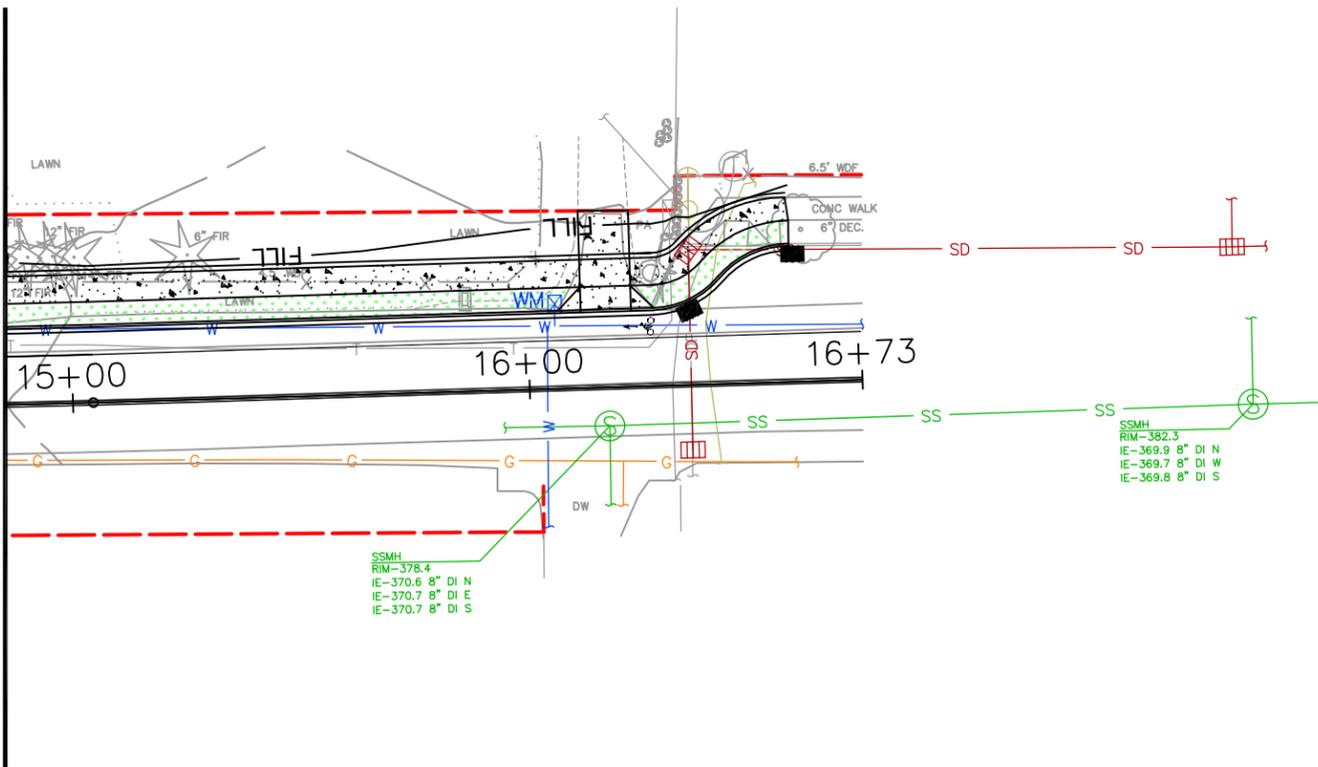
SIDEWALK ALTERNATIVES AT WETLAND BOUNDARY

Appendix B1: Alternative 1 Plan View



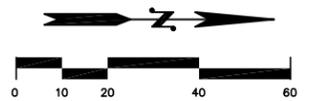
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LEGEND

-  PROPOSED PEDESTRIAN WALKWAY
-  PROPOSED SWALE OR PLANTER STRIP
-  EXISTING ROW
-  EXISTING WETLAND
-  PROPOSED PEDESTRIAN SAFETY RAILING
-  PROPOSED STORM DRAIN LINE
-  EXISTING STORM DRAIN LINE
-  EXISTING WATER LINE
-  EXISTING SANITARY SEWER LINE
-  EXISTING GAS LINE
-  EXISTING UNDERGROUND POWER LINE



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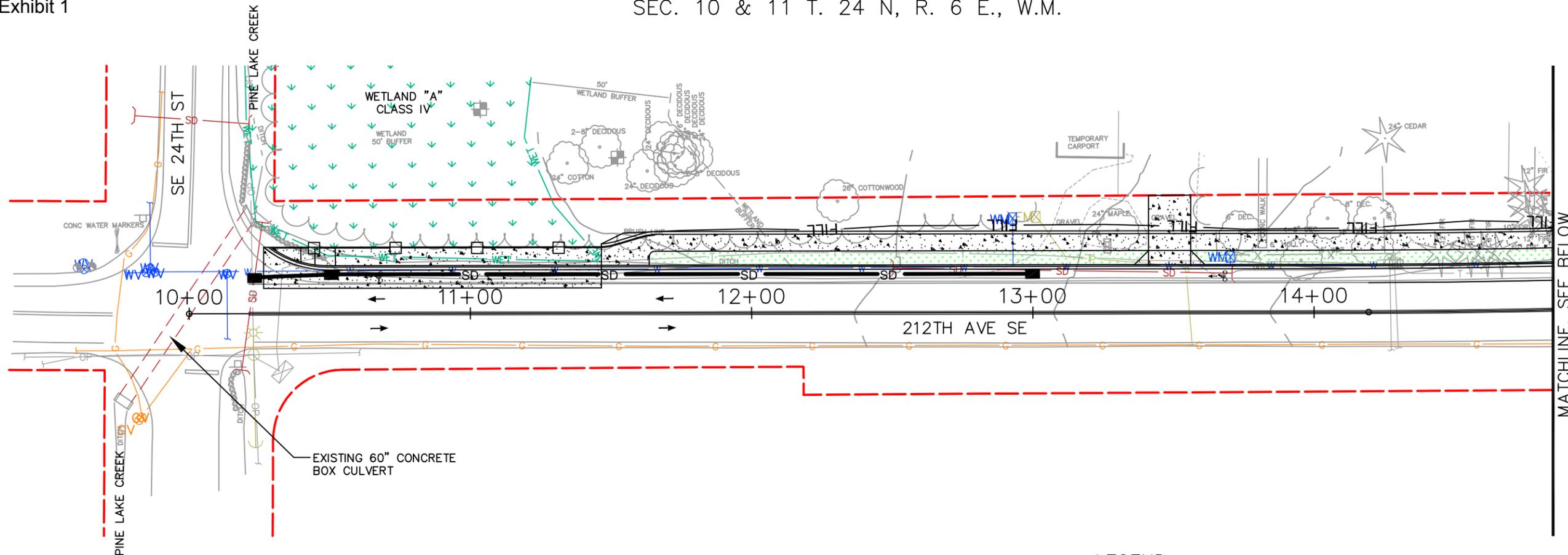
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CITY OF SAMMAMISH 212TH AVENUE SE NON-MOTORIZED IMPROVEMENTS KING COUNTY WASHINGTON	ALTERNATIVE 1	1 OF 1
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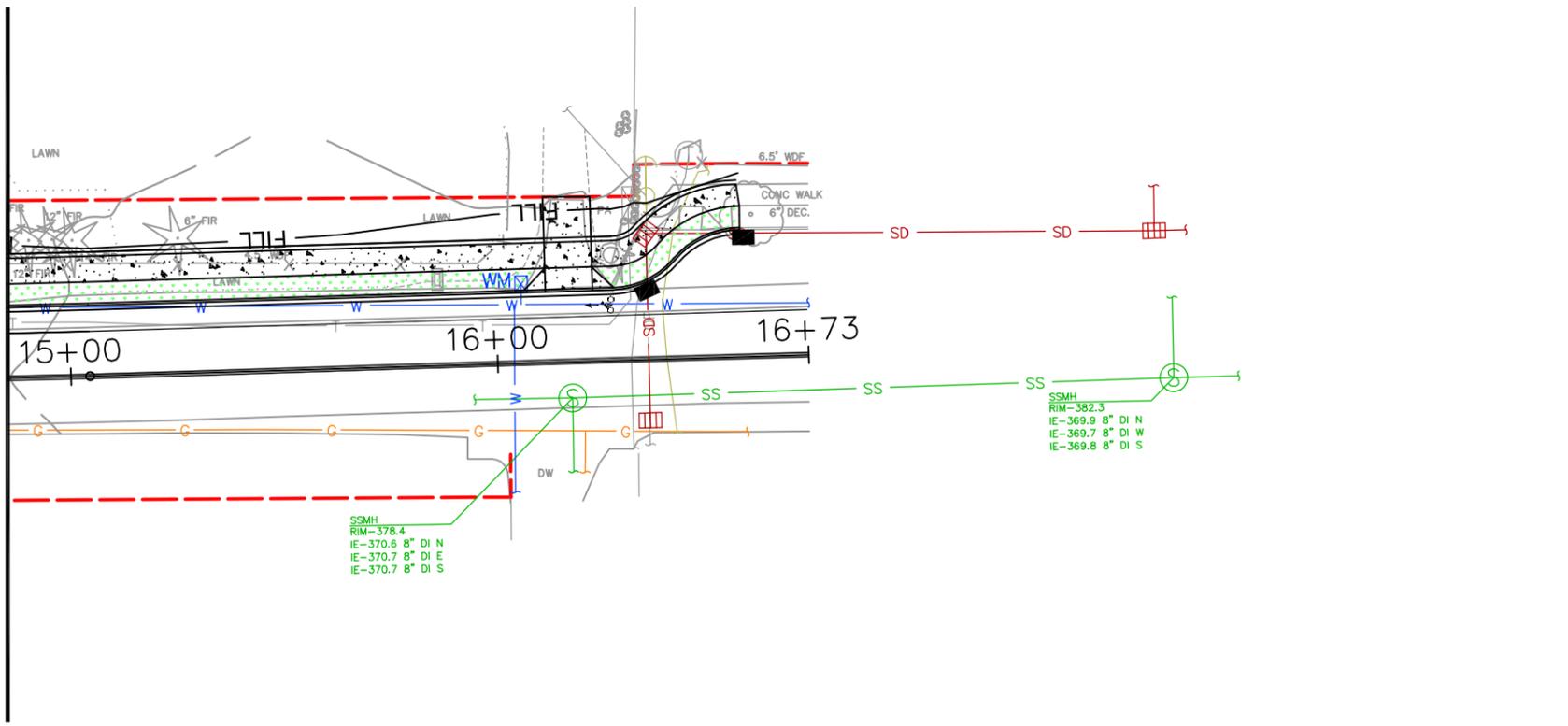
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Appendix B2: Alternative 2 Plan View

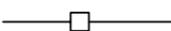


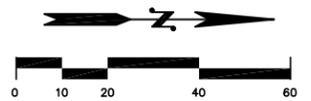
MATCHLINE, SEE BELOW

MATCHLINE, SEE ABOVE



LEGEND

-  PROPOSED PEDESTRIAN WALKWAY
-  PROPOSED SWALE OR PLANTER STRIP
-  EXISTING ROW
-  EXISTING WETLAND
-  PROPOSED PEDESTRIAN SAFETY RAILING
-  PROPOSED STORM DRAIN LINE
-  EXISTING STORM DRAIN LINE
-  EXISTING WATER LINE
-  EXISTING SANITARY SEWER LINE
-  EXISTING GAS LINE
-  EXISTING UNDERGROUND POWER LINE



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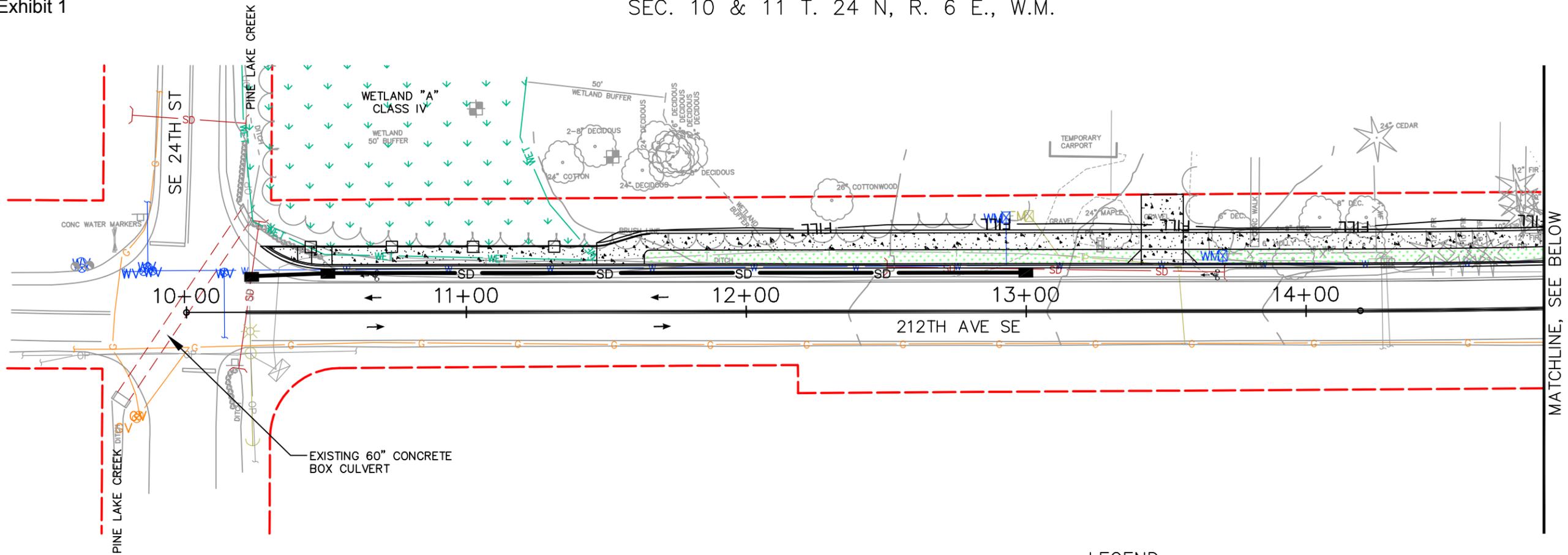
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 DRN: OXA
 CHKD: SBS
 DATE: 11/11/2014
 SCALE: AS NOTED



CITY OF SAMMAMISH 212TH AVENUE SE NON-MOTORIZED IMPROVEMENTS KING COUNTY WASHINGTON	ALTERNATIVE 2	1 OF 1
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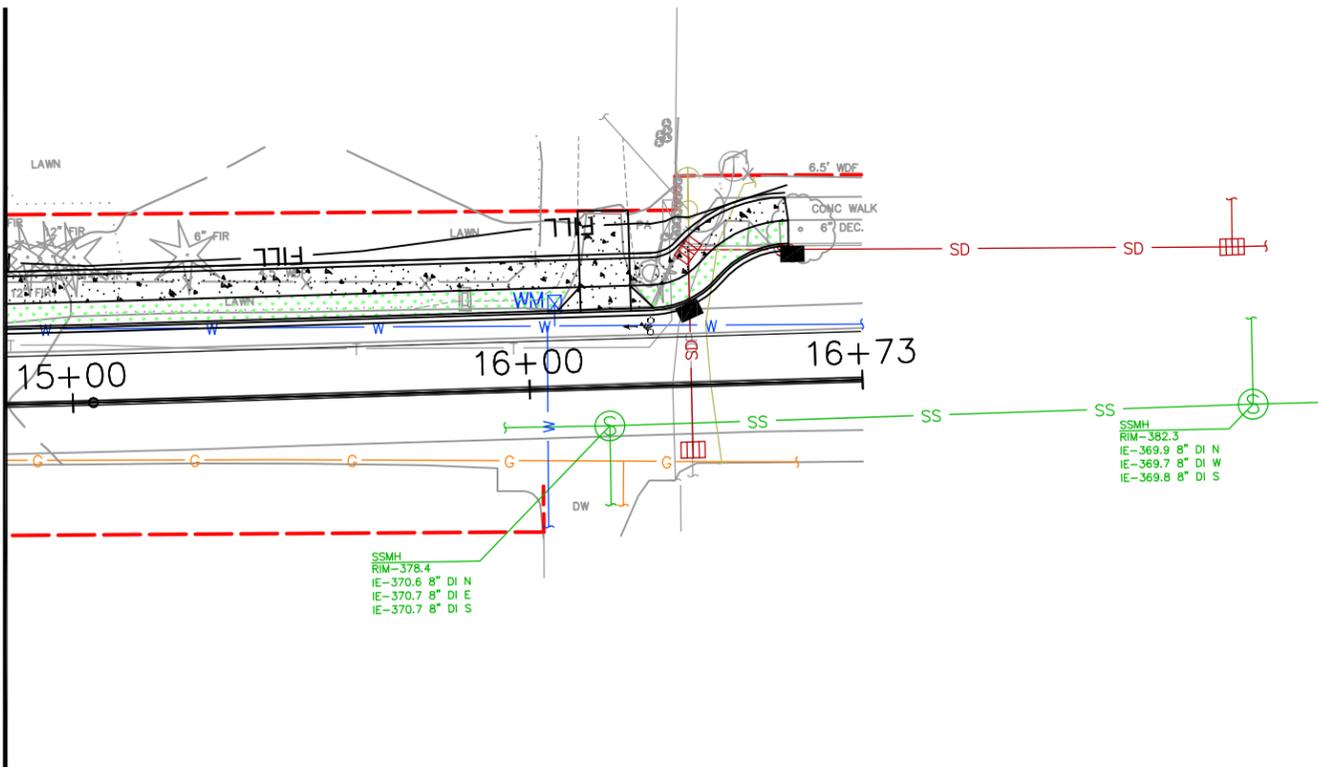
CALL 48 HOURS BEFORE YOU DIG
 1-800-424-5555

Appendix B3: Alternative 3 Plan View



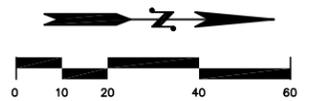
MATCHLINE, SEE BELOW

MATCHLINE, SEE ABOVE



LEGEND

- PROPOSED PEDESTRIAN WALKWAY
- PROPOSED SWALE OR PLANTER STRIP
- EXISTING ROW
- EXISTING WETLAND
- PROPOSED PEDESTRIAN SAFETY RAILING
- PROPOSED STORM DRAIN LINE
- EXISTING STORM DRAIN LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING GAS LINE
- EXISTING UNDERGROUND POWER LINE



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NO.	DATE	BY	APPR	REVISION

JOB#: COSA0019
 DSGN: V XV
 DRN: OXA
 CHKD: SBS
 DATE: 11/11/2014
 SCALE: AS NOTED



CITY OF SAMMAMISH 212TH AVENUE SE NON-MOTORIZED IMPROVEMENTS KING COUNTY WASHINGTON	
ALTERNATIVE 3	
1 of 1	

CALL 48 HOURS BEFORE YOU DIG
 1-800-424-5555

Appendix C: Construction Cost Estimate (Alternatives 1, 2, and 3)

212th Avenue SE Alternatives Analysis
 Preliminary Opinion of Cost
 December 17, 2014

ALTERNATIVES COST SUMMARY

Project Costs: (Preliminary Opinion of Cost)

	A	B	C	D	E
ALTERNATIVE	STA 10+26 TO STA 11+50 (AREA ADJACENT TO THE WETLAND)	WETLAND/BUFFER MITIGATION COST	TOTAL COST STA 10+26 TO STA 11+50 (A + B)	STA 11+50 TO STA 16+60 TOTAL CONSTRUCTION COST	TOTAL PROJECT COST (C + D)
ALTERNATIVE 1	\$52,470	\$78,700.00	\$131,170	\$174,352	\$305,522.00
ALTERNATIVE 2	\$212,287	\$18,500.00	\$230,787	\$174,352	\$405,139.00
ALTERNATIVE 3	\$235,046	\$18,500.00	\$253,546	\$174,352	\$427,898.00

Exhibit 1

212th Avenue SE Alternatives Analysis
Preliminary Opinion of Cost
December 17, 2014

ALTERNATIVE 1 STA 10+26 TO STA 11+50

Item #	Work Item	Price per Unit	Unit	Total	
				Qty	Cost
Preparation					
1	Clearing and Grubbing	\$10,000.00	AC	0.1	\$500
2	Removing Asphalt Conc. Pavement	\$10.00	SY	40	\$400
3	Potholing	\$1,000.00	FA	1	\$1,000
Grading					
4	Roadway Excavation Incl. Haul	\$35.00	CY	50	\$1,750
5	Gravel Borrow Incl. Haul	\$25.00	CY	175	\$4,375
Drainage					
6	Catch Basin Type 1	\$1,200.00	EA	2	\$2,400
7	Solid Wall PVC Storm Sewer Pipe 12 In. Diam.	\$35.00	LF	125	\$4,375
Surfacing					
8	Crushed Surfacing Top Course	\$30.00	Ton	20	\$600
9	Permeable Ballast	\$30.00	Ton	20	\$600
Pavement					
10	HMA Cl. 1/2 IN. PG 64-22	\$150.00	Ton	25	\$3,750
Erosion Control & Planting					
11	PSIPE, Native Shrubs	\$10.00	EA	45	\$450
12	Topsoil Type A	\$40.00	CY	12	\$480
13	ESC Lead	\$100.00	Day	2	\$200
14	Seeding, Fertilizing and Mulching	\$5,000.00	AC	0.02	\$100
15	Erosion/ Water Pollution Control	\$1,500.00	EST	1	\$1,500
Traffic					
16	Cement Conc. Curb and Gutter	\$25.00	LF	125	\$3,125
17	Pavement Marking	\$500.00	LS	1	\$500
18	Permanent Signing	\$500.00	LS	1	\$500
19	Flaggers and Spotters	\$45.00	HR	40	\$1,800
20	Traffic Control Supervisor	\$1,000.00	LS	1	\$1,000
21	Project Temporary Traffic Control	\$1,000.00	LS	1	\$1,000
Other					
22	Roadway Surveying	\$1,000.00	LS	1	\$1,000
23	Cement Conc. Sidewalk	\$40.00	SY	85	\$3,400
24	Cement Conc. Curb Ramp	\$1,500.00	EA	1	\$1,500
25	SPCC Plan	\$500.00	LS	1	\$500

Subtotal for Percentages

Subtotal:			\$36,805
Contingency	20%	\$	7,361.00
Subtotal + Contingency:		\$	44,166.00
Mobilization	8%	\$	3,534.00
Construction Subtotal:		\$	47,700.00
Construction Engineering	10%	\$	4,770.00

Total Construction Costs: (Preliminary Opinion of Cost) \$ 52,470.00

Wetland/Buffer Mitigation cost

Property Acquisition (assume off-site mitigation)	\$	31,500.00
Mitigation Design	\$	25,000.00
Construction/Monitoring	\$	22,200.00

Total Wetland/Buffer Mitigation cost \$ 78,700.00

Total Preliminary Opinion of Cost \$ 131,170.00
(Total Construction including Wetland/Buffer mitigation)

Exhibit 1

212th Avenue SE Alternatives Analysis
Preliminary Opinion of Cost
December 17, 2014

ALTERNATIVE 2 STA 10+26 TO STA 11+50

Item #	Work Item	Price per Unit	Unit	Total	
				Qty	Cost
Preparation					
1	Clearing and Grubbing	\$10,000.00	AC	0.04	\$400
2	Removing Asphalt Conc. Pavement	\$10.00	SY	90	\$900
3	Potholing	\$1,000.00	FA	1	\$1,000
Drainage					
4	Catch Basin Type 1	\$1,200.00	EA	2	\$2,400
5	Solid Wall PVC Storm Sewer Pipe 12 In. Diam.	\$35.00	LF	125	\$4,375
Erosion Control & Planting					
6	ESC Lead	\$100.00	Day	2	\$200
7	Erosion/ Water Pollution Control	\$1,500.00	EST	1	\$1,500
Traffic					
8	Pavement Marking	\$500.00	LS	1	\$500
9	Permanent Signing	\$500.00	LS	1	\$500
10	Flaggers and Spotters	\$45.00	HR	80	\$3,600
11	Traffic Control Supervisor	\$1,000.00	LS	1	\$1,000
12	Project Temporary Traffic Control	\$1,000.00	LS	1	\$1,000
Other					
13	Roadway Surveying	\$2,000.00	LS	1	\$2,000
14	Cement Conc. Curb Ramp	\$1,500.00	EA	1	\$1,500
15	SPCC Plan	\$500.00	LS	1	\$500
16	Structure Excavation Class A Incl. Haul	\$33.00	CY	95	\$3,135
17	Shoring Extra Excavation Class A Incl. Haul	\$8.80	SF	1000	\$8,800
18	Class 4000 Concrete (Wall)	\$650.00	CY	25	\$16,250
19	Class 4000 Concrete (Sidewalk)	\$780.00	CY	70	\$54,600
20	Steel Reinforcement (Black)	\$1.50	LBS	19,000	\$28,500
21	Pedestrian Handrailing	\$130.00	LF	125	\$16,250

Subtotal for Percentages

Subtotal:			\$148,910
Contingency	20%	\$	29,782.00
Subtotal + Contingency:		\$	178,692.00
Mobilization	8%	\$	14,296.00
Construction Subtotal:		\$	192,988.00
Construction Engineering	10%	\$	19,299.00

Tota Construction Costs: (Preliminary Opinion of Cost) \$ 212,287.00

Wetland/Buffer Mitigation cost

Property Acquisition (assume on-site mitigation)		\$	-
Mitigation Design		\$	10,000.00
Construction/Monitoring		\$	8,500.00

Total Wetland/Buffer Mitigation cost \$ 18,500.00

Total Preliminary Opinion of Cost \$ 230,787.00
(Total Construction including Wetland/Buffer mitigation)

Exhibit 1

212th Avenue SE Alternatives Analysis
Preliminary Opinion of Cost
December 17, 2014

ALTERNATIVE 3 STA 10+26 TO STA 11+50

Work Item #	Work Item	Price per Unit	Unit	Total	
				Qty	Cost
Preparation					
1	Clearing and Grubbing	\$10,000.00	AC	0.04	\$400
2	Removing Asphalt Conc. Pavement	\$10.00	SY	40	\$400
3	Potholing	\$1,000.00	FA	1	\$1,000
Grading					
4	Roadway Excavation Incl. Haul	\$35.00	CY	20	\$700
Drainage					
6	Catch Basin Type 1	\$1,200.00	EA	2	\$2,400
7	Solid Wall PVC Storm Sewer Pipe 12 In. Diam.	\$35.00	LF	125	\$4,375
Surfacing					
8	Permeable Ballast	\$30.00	Ton	20	\$600
Pavement					
9	HMA Cl. 1/2 IN. PG 64-22	\$150.00	Ton	25	\$3,750
Erosion Control & Planting					
10	ESC Lead	\$100.00	Day	2	\$200
11	Erosion/ Water Pollution Control	\$1,500.00	EST	1	\$1,500
Traffic					
11	Cement Conc. Curb and Gutter	\$20.00	LF	125	\$2,500
12	Pavement Marking	\$500.00	LS	1	\$500
13	Permanent Signing	\$500.00	LS	1	\$500
14	Flaggers and Spotters	\$45.00	HR	80	\$3,600
15	Traffic Control Supervisor	\$1,000.00	LS	1	\$1,000
16	Project Temporary Traffic Control	\$1,000.00	LS	1	\$1,000
Other					
17	Roadway Surveying	\$2,000.00	LS	1	\$2,000
18	Cement Conc. Curb Ramp	\$1,500.00	EA	1	\$1,500
19	SPCC Plan	\$500.00	LS	1	\$500
20	Furnishing Piling	\$ 2.75	LB	17,000	46,750.00
21	Driving Piles	\$ 550.00	EA	44	24,200.00
22	Class 4000 Precast Concrete Sidewalk	\$ 950.00	CY	40	38,000.00
23	Steel Reinforcement (Black)	\$ 1.50	LBS	7,500	11,250.00
24	Pedestrian Handrailing	\$ 130.00	LF	125	16,250.00

Subtotal for Percentages

Subtotal:			\$164,875
Contingency	20%	\$	32,975.00
Subtotal + Contingency:		\$	197,850.00
Mobilization	8%	\$	15,828.00
Construction Subtotal:		\$	213,678.00
Construction Engineering	10%	\$	21,368.00

Project Costs: (Preliminary Opinion of Cost) \$ 235,046.00

Wetland/Buffer Mitigation cost

Property Acquisition (assume on-site mitigation)		\$	-
Mitigation Design		\$	10,000.00
Construction/Monitoring		\$	8,500.00

Total Wetland/Buffer Mitigation cost \$ 18,500.00

Exhibit 1

City of Sammamish

212th Avenue SE Alternatives Analysis
 Preliminary Opinion of Cost
 December 17, 2014

TYPICAL SECTION STA 11+50 TO STA 16+60

Item #	Work Item	Price per Unit	Unit	Total	
				Qty	Cost
Preparation					
1	Clearing and Grubbing	\$10,000.00	AC	0.2	\$2,000
2	Removing Asphalt Conc. Pavement	\$10.00	SY	160	\$1,600
3	Removing Drainage Pipe	\$5.00	LF	135	\$675
4	Removing Drainage Structure	\$750.00	EA	1	\$750
5	Tree Removal - Greater than 12 In. Diam.	\$500.00	EA	3	\$1,500
6	Potholing	\$2,000.00	FA	1	\$2,000
Grading					
7	Roadway Excavation Incl. Haul	\$35.00	CY	120	\$4,200
8	Gravel Borrow Incl. Haul	\$25.00	CY	160	\$4,000
Drainage					
9	Catch Basin Type 1	\$1,200.00	EA	4	\$4,800
10	Solid Wall PVC Storm Sewer Pipe 12 In. Diam.	\$35.00	LF	500	\$17,500
11	Water Quality Treatment System - 4' x 4'	\$12,000.00	EA	1	\$12,000
Surfacing					
12	Crushed Surfacing Top Course	\$30.00	Ton	70	\$2,100
13	Permeable Ballast	\$30.00	Ton	80	\$2,400
Pavement					
14	HMA Cl. 1/2 IN. PG 64-22	\$125.00	Ton	85	\$10,625
Erosion Control & Planting					
15	PSIPE, Native Shrubs	\$10.00	EA	170	\$1,700
16	Topsoil Type A	\$40.00	CY	50	\$2,000
17	ESC Lead	\$100.00	Day	3	\$300
18	Seeding, Fertilizing and Mulching	\$5,000.00	AC	0.1	\$500
19	Erosion/ Water Pollution Control	\$5,000.00	EST	1	\$5,000
Traffic					
20	Cement Conc. Curb and Gutter	\$25.00	LF	510	\$12,750
21	Pavement Marking	\$2,000.00	LS	1	\$2,000
22	Permanent Signing	\$1,000.00	LS	1	\$1,000
23	Project Sign	\$500.00	EA	2	\$1,000
24	Flaggers and Spotters	\$45.00	HR	120	\$5,400
25	Traffic Control Supervisor	\$1,000.00	LS	1	\$1,000
26	Project Temporary Traffic Control	\$2,000.00	LS	1	\$2,000
Other					
27	Roadway Surveying	\$5,000.00	LS	1	\$5,000
28	Cement Conc. Sidewalk	\$40.00	SY	350	\$14,000
29	Roadside Cleanup	\$1,000.00	LS	1	\$1,000
30	SPCC Plan	\$1,500.00	LS	1	\$1,500

Subtotal for Percentages

Subtotal:			\$122,300
Contingency	20%	\$	24,460.00
Subtotal + Contingency:		\$	146,760.00
Mobilization	8%	\$	11,741.00
Construction Subtotal:		\$	158,501.00
Construction Engineering	10%	\$	15,851.00

Project Costs: (Preliminary Opinion of Cost) \$ 174,352.00



MEMORANDUM

DATE: February 4, 2015
TO: City Council
 Ben Yazici, City Manager
FROM: Laura Philpot, PE, Assistant City Manager/Public Works Director
RE: Planning Commission Review of Public Works Standards Update

Summary:

This memo is intended to update the City Council on the next steps in the development of updated Public Works Standards for Sammamish. Staff is recommending the Council charge the Planning Commission with providing a recommendation to the City Council on development regulations that are embedded within the Public Works Standards. The Planning Commission is able to conduct their review during April-June, with expected City Council review and adoption of the Public Works Standards in July.

Background:

The current Interim Public Works Standards (PWS) were adopted on April 19, 2000 by Ordinance No. O2000-60. Staff is currently working to update the adopted standards with the following goals in mind:

- ⦿ Improve document organization and format
- ⦿ Improve document clarity and internal consistency
- ⦿ Update standards to be consistent with City Council direction
- ⦿ Update standards to provide clarification based on Hearing Examiner feedback
- ⦿ Maintain compatibility with regional, state and federal regulations

Staff recommends that the Council direct the Planning Commission to review and make policy recommendations on the development regulations¹ within the PWS, which will influence the PWS update. Feedback from the Planning Commission will also help ensure that the PWS will be in alignment with the Transportation Element policies and the related priorities contained within the City's Comprehensive Plan.

¹ ""Development regulations" or "regulation" means the controls placed on development or land use activities by a county or city, including, but not limited to, zoning ordinances, critical areas ordinances, shoreline master programs, official controls, planned unit development ordinances, subdivision ordinances, and binding site plan ordinances together with any amendments thereto... (RCW 36.70A.030)"

It is important to note that the Planning Commission does not make recommendations on engineering standards nor will their review and recommendation focus on the administrative procedures contained within the Public Works Standards.

Generally, the items described below are development regulations that the staff anticipates will be discussed with the City Council on Tuesday, February 10 at the study session and will be subject to eventual Planning Commission review and recommendation.

- ◎ **Efficient Use of the Right-of-Way (specifically for local streets):** Planning Commission guidance on the City's policies regarding how the right-of-way should be used to ensure the functionality goals for each roadway classification, including safety, access, mobility, water quality protection/improvement, corridor continuity, landscape screening and buffering, scenic view preservation, operational (e.g. access control, sight distances, guidance and navigation). This will enable Public Works to ensure the standards are consistent with current City policies. In addition, it will allow City staff to provide clearer direction to stakeholders regarding roadway requirements, permit flexibility when it makes sense, and hopefully fewer requests for variations.
- ◎ **Improvement of Substandard Streets (PWS 15.100):** The current section 15.100 in our adopted Public Works Standards has been a reoccurring subject of appeal and has been cited by our Hearing Examiner as an area requiring clarification. Currently, applicants are required to improve off-site substandard streets (public or private) up to current standards. In some instances, the level of off-site street improvement that would be required is excessive. Policy guidance that balances all stakeholder's interests and rights, existing neighborhoods, developers, and the city as a whole while providing flexibility for staff to impose appropriate requirements on new development.
- ◎ **Connectivity:** New neighborhoods present opportunities to connect the transportation system both for vehicles and/or non-motorized users and to promote future connectivity when adjacent to undeveloped parcels. Guidance from the Planning Commission on the development of this policy is appropriate.
- ◎ **Street Classifications:** The classification of streets allows the City to make broad decisions that affect mobility, access, safety, existing and expected land use, levels of service, and continuity of the transportation system. Guidance on whether to further refine the classification to provide more flexibility to help achieve the City's transportation priorities and goals established in the City's Comprehensive Plan.

Please feel free to contact me if you have any questions prior to our meeting.