

## Service Provider Letter

CWS File Number

18-000921

This form and the attached conditions will serve as your Service Provider Letter in accordance with Clean Water Services Design and Construction Standards (R&O 17-5).

Jurisdiction: City of Beaverton Review Type: Tier 2 Analysis  
City of Hillsboro  
 Site Address: Along SW Tualatin Sherwood Rd,  
SW Roy Rogers Rd, SW Tile Flat Rd,  
SW Grabhorn Rd, SW Farmington  
Rd, SW Rosedale, & SW 209<sup>th</sup> Ave.  
 / Location: Beaverton, OR 97006 SPL Issue Date: July 03, 2018  
 SPL Expiration Date: July 03, 2020

### Applicant Information:

Name: JOHN MACKLIN  
 Company: DAVID EVANS & ASSOCIATES  
2100 SW RIVER PKWY  
 Address: PORTLAND OR 97201  
 Phone/Fax: (503) 449-0572  
 E-mail: jdm@deainc.com

### Owner Information:

Name: NIKI IVERSON  
 Company: WILLAMETTE WATER SUPPLY  
PROGRAM  
 Address: 1500 NW BETHANY BLVD #305  
BEAVERTON, OR 97006  
 Phone/Fax: 503-615-6770  
 E-mail: niki.iverson@hillsboro-oregon.gov

### Tax lot ID

Multiple Tax lots

### Development Activity

Willamette Water Supply Program – Water Utility Line

### Pre-Development Site Conditions:

Sensitive Area Present: ☒ On-Site ☒ Off-Site  
 Vegetated Corridor Width: Variable  
Good/Marginal/Degraded  
 Vegetated Corridor Condition: aded

### Post Development Site Conditions:

Sensitive Area Present: ☒ On-Site ☒ Off-Site  
 Vegetated Corridor Width: Variable

Enhancement of Remaining  
 Vegetated Corridor Required: ☒

Square Footage to be enhanced: 6,970 (½ on-site,  
½ off-site)

### Encroachments into Pre-Development Vegetated Corridor:

Type and location of Encroachment:	Square Footage:
<u>Water utility line (Permanent encroachment; Mitigation required)</u>	<u>48,560</u>
<u>Water utility line (Temporary encroachment; Restoration and planting in-place required)</u>	<u>137,650</u>

### Mitigation Requirements:

Type/Location	Sq. Ft./Ratio/Cost
<u>Off-site Enhancement Mitigation (includes 3,485 SF of above enhancement requirement area to be</u> <u>planted off-site for total of 52,045 SF of required planting area)</u>	<u>60,984/1:17</u>

☒ Conditions Attached ☒ Development Figures Attached (25) ☐ Planting Plan Attached ☐ Geotech Report Required

**This Service Provider Letter does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered on your property.**

**In order to comply with Clean Water Services water quality protection requirements the project must comply with the following conditions:**

1. No structures, development, construction activities, gardens, lawns, application of chemicals, uncontained areas of hazardous materials as defined by Oregon Department of Environmental Quality, pet wastes, dumping of materials of any kind, or other activities shall be permitted within the sensitive area or Vegetated Corridor which may negatively impact water quality, except those allowed in R&O 17-5, Chapter 3.
2. Prior to any site clearing, grading or construction the Vegetated Corridor and water quality sensitive areas shall be surveyed, staked, and temporarily fenced per approved plan. During construction the Vegetated Corridor shall remain fenced and undisturbed except as allowed by R&O 17-5, Section 3.06.1 and per approved plans.
3. **If there is any activity within the sensitive area, the applicant shall gain authorization for the project from the Oregon Department of State Lands (DSL) and US Army Corps of Engineers (USACE). The applicant shall provide Clean Water Services or its designee (appropriate city) with copies of all DSL and USACE project authorization permits.**
4. An approved Oregon Department of Forestry Notification is required for one or more trees harvested for sale, trade, or barter, on any non-federal lands within the State of Oregon.
5. **Prior to ground disturbing activities, an erosion control permit is required. Appropriate Best Management Practices (BMP's) for Erosion Control, in accordance with Clean Water Services' Erosion Prevention and Sediment Control Planning and Design Manual, shall be used prior to, during, and following earth disturbing activities.**
6. Prior to construction, a Stormwater Connection Permit from Clean Water Services or its designee is required pursuant to Ordinance 27, Section 4.B.
7. Activities located within the 100-year floodplain shall comply with R&O 17-5, Section 5.10.
8. Removal of native, woody vegetation shall be limited to the greatest extent practicable.
9. The water quality swale and detention pond shall be planted with Clean Water Services approved native species, and designed to blend into the natural surroundings.
10. **Should final development plans differ significantly from those submitted for review by Clean Water Services, the applicant shall provide updated drawings, and if necessary, obtain a revised Service Provider Letter.**
11. **Should areas currently outside the Districts boundary annex in prior to project permitting, additional information and updates to the Service Provider Letter must be made to include the associated areas.**
12. **To address the phased programmatic approach to this project, additional information documenting current site conditions and updated project details for an updated Service Provider Letter, may be required.**
13. The Vegetated Corridor width for sensitive areas within the project site shall be a minimum of 50 feet wide, as measured horizontally from the delineated boundary of the sensitive area.
14. **For Vegetated Corridors up to 50 feet wide, the applicant shall enhance the entire Vegetated Corridor to meet or exceed good corridor condition as defined in R&O 17-5, Section 3.14.2, Table 3-3 or within the permanent easement for Linear Development Projects where the applicant does not own or control the property.**
15. Removal of invasive non-native species by hand is required in all Vegetated Corridors rated ""good."" Replanting is required in any cleared areas larger than 25 square feet using low impact methods. The applicant shall calculate all cleared areas larger than 25 square feet prior to the preparation of the required Vegetated Corridor enhancement/restoration plan.
16. Prior to any site clearing, grading or construction, the applicant shall provide Clean Water Services with a Vegetated Corridor enhancement/restoration plan. Enhancement/restoration of the Vegetated Corridor shall be provided in accordance with R&O 17-5, Appendix A, and shall

include planting specifications for all Vegetated Corridor, including any cleared areas larger than 25 square feet in Vegetated Corridor rated ""good.""

17. Prior to installation of plant materials, all invasive vegetation within the Vegetated Corridor shall be removed per methods described in Clean Water Services' Integrated Vegetation and Animal Management Guidance, 2003. During removal of invasive vegetation care shall be taken to minimize impacts to existing native tree and shrub species.
18. Clean Water Services shall be notified 72 hours prior to the start and completion of enhancement/restoration activities. Enhancement/restoration activities shall comply with the guidelines provided in Planting Requirements (R&O 17-5, Appendix A).
19. **Maintenance and monitoring requirements shall comply with R&O 17-5, Section 2.12.2. If at any time during the warranty period the landscaping falls below the 80% survival level, the owner shall reinstall all deficient planting at the next appropriate planting opportunity and the two year maintenance period shall begin again from the date of replanting.**
20. **Performance assurances for the Vegetated Corridor shall comply with R&O 17-5, Section 2.07.2, Table 2-1 and Section 2.11, Table 2-2.**
21. **Clean Water Services may require an easement over the Water Quality Sensitive Area and Vegetated Corridor conveying storm and surface water management to Clean Water Services or the City that would prevent the owner of the Vegetated Corridor from activities and uses inconsistent with the purpose of the corridor and any easements therein.**

#### FINAL PLANS

22. **Final construction plans shall include landscape plans.** In the details section of the plans, a description of the methods for removal and control of exotic species, location, distribution, condition and size of plantings, existing plants and trees to be preserved, and installation methods for plant materials is required. Plantings shall be tagged for dormant season identification and shall remain on plant material after planting for monitoring purposes.
23. **A Maintenance Plan shall be included on final plans** including methods, responsible party contact information, and dates (minimum two times per year, by June 1 and September 30).
24. **Final construction plans shall clearly depict the location and dimensions of the sensitive area and the Vegetated Corridor** (indicating good, marginal, or degraded condition). Sensitive area boundaries shall be marked in the field.
25. Protection of the Vegetated Corridors and associated sensitive areas shall be provided by the installation of permanent fencing and signage between the development and the outer limits of the Vegetated Corridors. **Fencing and/or signage details to be included on final construction plans.**

**This Service Provider Letter is not valid unless CWS-approved site plan is attached.**

Please call (503) 681-3653 with any questions.



Lindsey Obermiller  
Environmental Plan Review

Attachments ( 25 )



**WORK PACKAGE A: PLW 2.0  
VEGETATED CORRIDOR  
SUMMARY**

Permanent Encroachment Area  
(to be mitigated off-site)  
- 6,970 SF/0.16 AC

Temporary Encroachment Area  
(to be restored and planted on-site)  
- 75,360 SF/1.73 AC

See Drawing  
P-49

See Drawings  
P-48

COLOR COPY  
CWS File No. 18-000921  
**Approved  
Clean Water Services**  
FOR ENVIRONMENTAL REVIEW  
By LO. Date 7/3/2018  
SPL Attachment 1 of 25

Hillsboro

CORNELIUS PASS RD

CORNELL RD

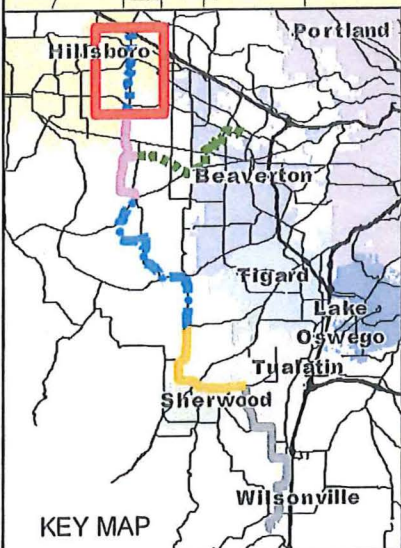
AMBERGLEN  
PKWY  
WALKER RD

See Drawing  
PP-01

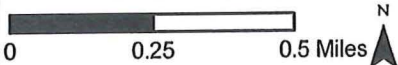
See Drawing  
C-011

**Legend**

- PLW 2.0: CORNELIUS PASS PIPELINE PROJECT
- VEGETATED CORRIDOR IMPACTS
- Hillsboro



5/24/2018

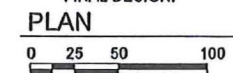


WILLAMETTE WATER SUPPLY PROGRAM  
VC IMPACT ASSESSMENT KEY MAP  
PLW 2.0

Willamette Water Supply  
Our Reliable Water



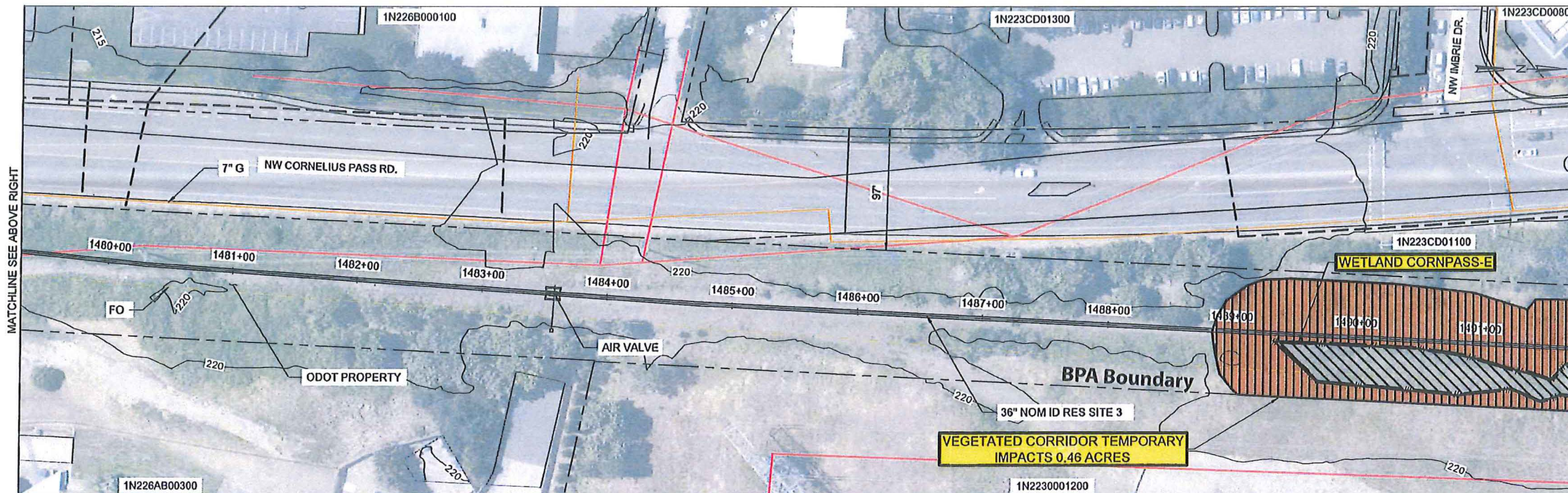
## PLW 2.0

P-49



PLW\_2.0: Wetlands near Cornelius Pass northern terminus

PLW 2.0



- LEGEND (ORIGINALLY PRINTED IN COLOR) :
- PLANIMETRICS (FROM LIDAR)
  - PAVEMENT (FROM LIDAR)
  - 100 CONTOURS (FROM LIDAR)
  - TAXLOTS (FROM METRO)
  - WWSP PROPOSED ALIGNMENT
  - COMMUNICATION/UTILITY
  - ELECTRICAL/UTILITY (OVERHEAD)
  - ELECTRICAL/UTILITY (BURIED)
  - GAS
  - SANITARY
  - STORM
  - WATER
  - PERMANENT EASEMENT (PE)
  - TEMP CONSTRUCTION EASEMENT (TCE)
  - FLOW DIRECTION
  - ORDINARY HIGH WATER
  - UPLAND DITCH
  - WETLAND DITCH
  - WETLAND BOUNDARY
  - W2-4 WETLAND DESCRIPTION
  - TEMPORARY WATER IMPACT
  - TEMPORARY WETLAND IMPACT
  - PERMANENT WETLAND IMPACT
  - VEGETATED CORRIDOR (VC) TEMPORARY IMPACT - 20,038 SF
  - VC EXISTING CONDITION
    - DEGRADED
    - MARGINAL
    - GOOD

0.46 ACRE DEGRADED VC TO BE PLANTED TO GOOD CONDITION IN PLACE (ON-SITE)

NOTES:

- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMILLEN JACOBS & ASSOCIATE SEPTEMBER 2, 2015.
- MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
- IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
- IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.

PLAN

0 25 50 100

PRELIMINARY DESIGN

0 0.5" 1"

FILENAME 10002A60-P48-CWS  
SCALE AS SHOWN

P-48

COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By LO Date 7/31/2018  
SPL Attachment 3 of 25

ISSUE	DATE	DESCRIPTION

PROJ MANAGER	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
PROJ NUMBER	

WILLAMETTE WATER  
SUPPLY PROGRAM

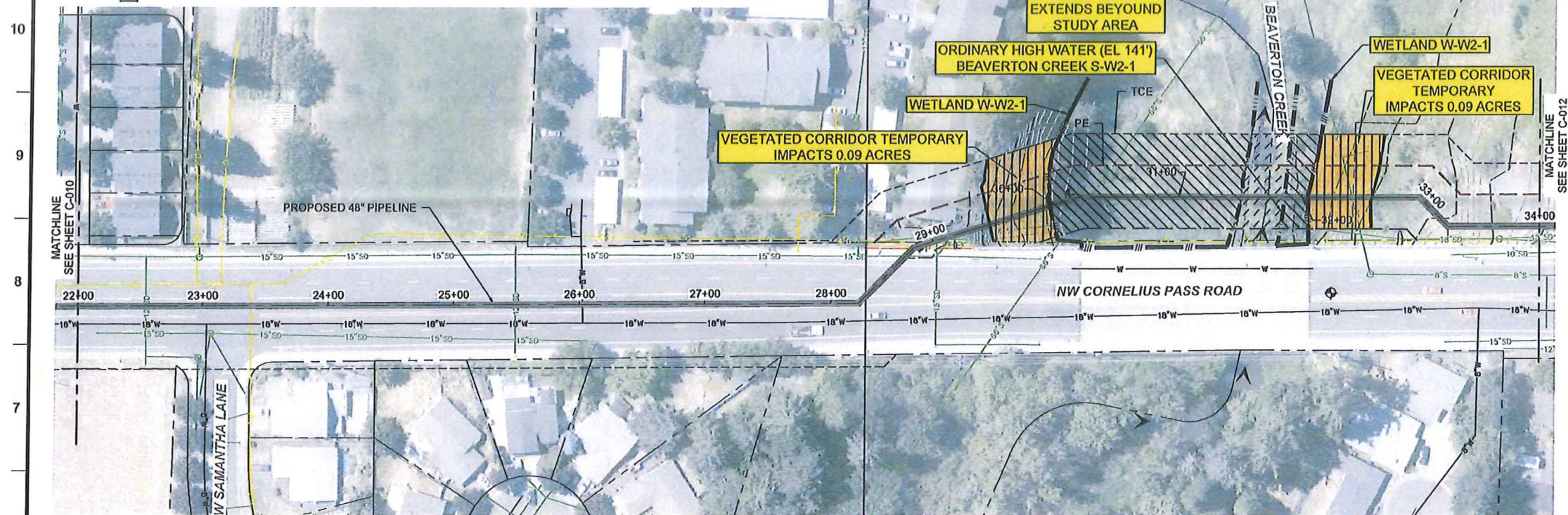






# PLW\_2.0: Beaverton Creek at Cornelius Pass Road

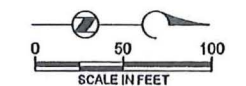
PLW 2.0



## LEGEND

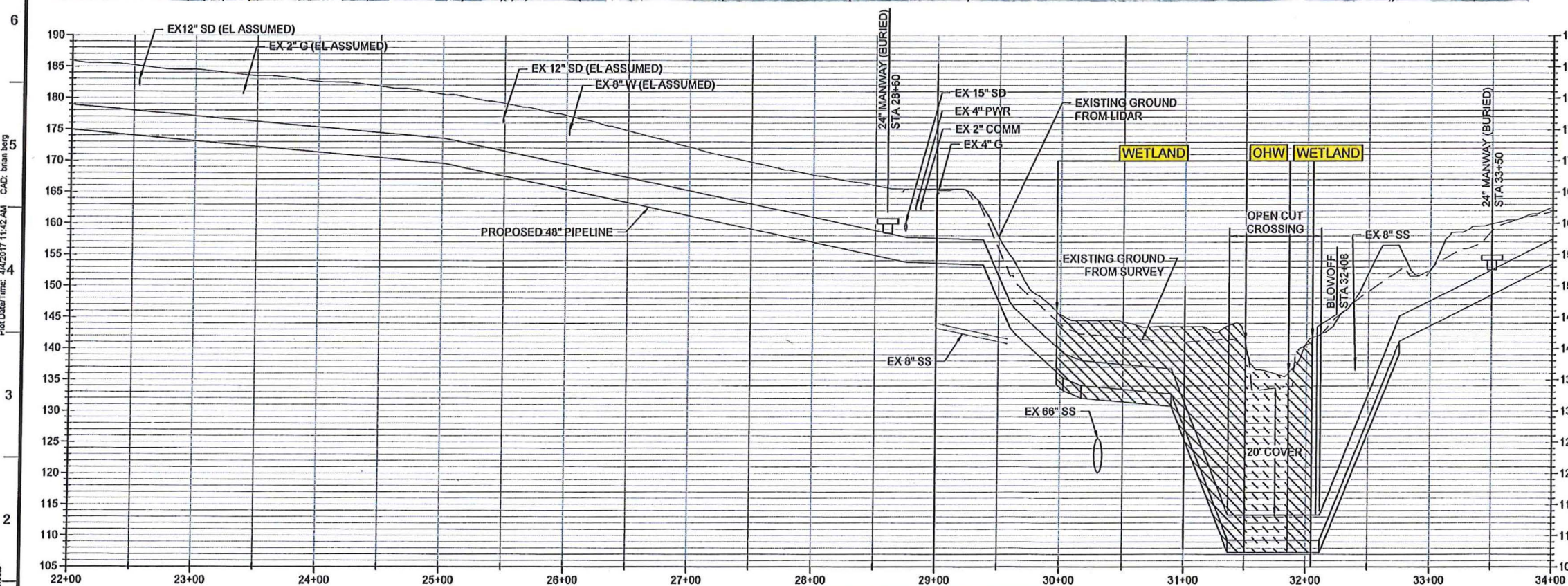
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- EXISTING WATER
- EXISTING GAS
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING POWER
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- PERMANENT EASEMENT (PE)
- TEMP CONSTRUCTION EASEMENT (TCE)
- ➔ FLOW DIRECTION
- ORDINARY HIGH WATER
- UPLAND DITCH
- WETLAND DITCH
- WETLAND BOUNDARY
- W2-4 WETLAND DESCRIPTION
- TEMPORARY WATER IMPACT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VEGETATED CORRIDOR (VC) TEMPORARY IMPACT - 7,841 SF
- VC EXISTING CONDITION
- DEGRADED
- MARGINAL
- GOOD

0.18 ACRE MARGINAL VC TO BE PLANTED TO GOOD CONDITION (ON-SITE)



## GENERAL NOTES:

- SEE SHEET C-100 FOR PARTIAL PLAN OF THE AREA SOUTH OF THE BEAVERTON CREEK CROSSING.
- UNDERGROUND UTILITIES SHOWN HAVE BEEN MAPPED FROM FIELD SURVEY INFORMATION, ABOVE GROUND EVIDENCE OR GROUND MARKING BY OTHERS, EXISTING DRAWINGS SUPPLIED BY OTHERS, OR GEOGRAPHIC INFORMATION SYSTEMS DATA PROVIDED BY OTHERS. NO GUARANTEE IS PROVIDED THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. PHYSICAL LOCATIONS OF UTILITIES CROSSING, OR ADJACENT TO THE PROPOSED ALIGNMENT IS NEEDED AS PART OF FURTHER DEVELOPMENT OF DESIGN DRAWINGS.



LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" SCALE ACCORDINGLY)	EXTERNAL REFERENCE FILES
DESIGNED:	
DRAWN:	
CHECKED:	
CHECKED:	
APPROVED:	

WILLAMETTE WATER  
SUPPLY PROGRAM

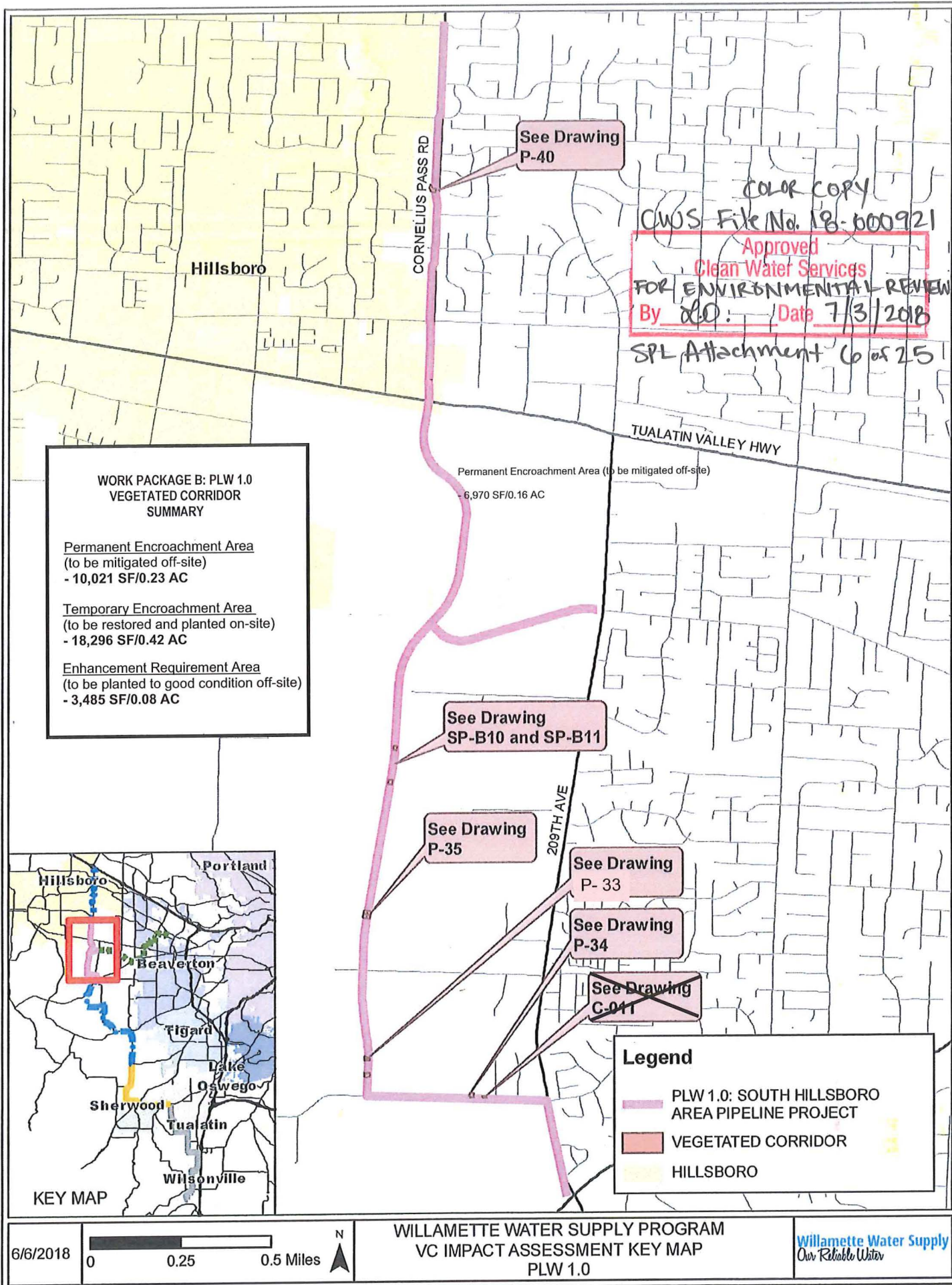
COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
By LO Date 7/3/2018  
SPL Attachment 5 of 25

PRELIMINARY  
NOT FOR CONSTRUCTION

CORNELIUS PASS ROAD ALIGNMENT  
CONCEPTUAL DESIGN

FILENAME 10002A60-SF-C-011-CWS
PROJECT NUMBER 10002A60
SCALE AS SHOWN
DRAWING NUMBER C-011
SHEET NUMBER XX OF XX

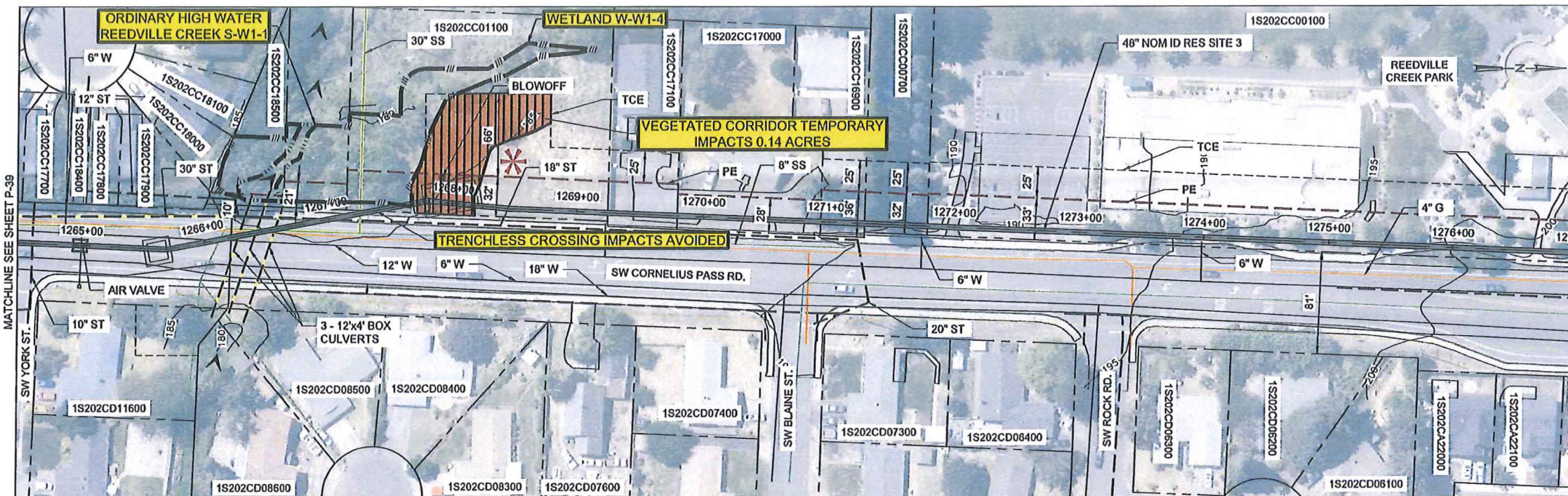






PLW\_1.0: Reedville Creek at Cornelius Pass Road

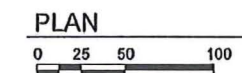
PLW 1.0



- LEGEND (ORIGINALLY PRINTED IN COLOR) :**
- PLANIMETRICS (FROM LIDAR)
  - PAVEMENT (FROM LIDAR)
  - 100 CONTOURS (FROM LIDAR)
  - TAXLOTS (FROM METRO)
  - WWSP PROPOSED ALIGNMENT
  - COMMUNICATION/UTILITY
  - ELECTRICAL/UTILITY (OVERHEAD)
  - ELECTRICAL/UTILITY (BURIED)
  - GAS
  - SANITARY
  - STORM
  - WATER
  - PERMANENT EASEMENT (PE)
  - TEMP CONSTRUCTION EASEMENT (TCE)
  - FLOW DIRECTION
  - ORDINARY HIGH WATER
  - UPLAND DITCH
  - WETLAND DITCH
  - WETLAND BOUNDARY
  - W2-4 WETLAND DESCRIPTION
  - TEMPORARY WATER IMPACT
  - TEMPORARY WETLAND IMPACT
  - PERMANENT WETLAND IMPACT
  - VEGETATED CORRIDOR (VC)
  - PERMANENT IMPACT - 6,099 SF
  - VC EXISTING CONDITION
    - DEGRADED
    - MARGINAL
    - GOOD
  - LAND USE MAY NOT ALLOW FOR RESTORATION TO "GOOD" / PERMANENT IMPACT

0.14 ACRE DEGRADED VC ENHANCEMENT TO GOOD CONDITION WILL OCCUR OFFSITE

- NOTES:**
- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMILLEN JACOBS & ASSOCIATE SEPTEMBER 2, 2015.
  - MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.



**PRELIMINARY DESIGN**

0 0.5" 1"	FILENAME 10002A60-P40-CWS	P-40
	SCALE AS SHOWN	

COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By LD Date 7/3/2018  
SPL Attachment 7 of 25

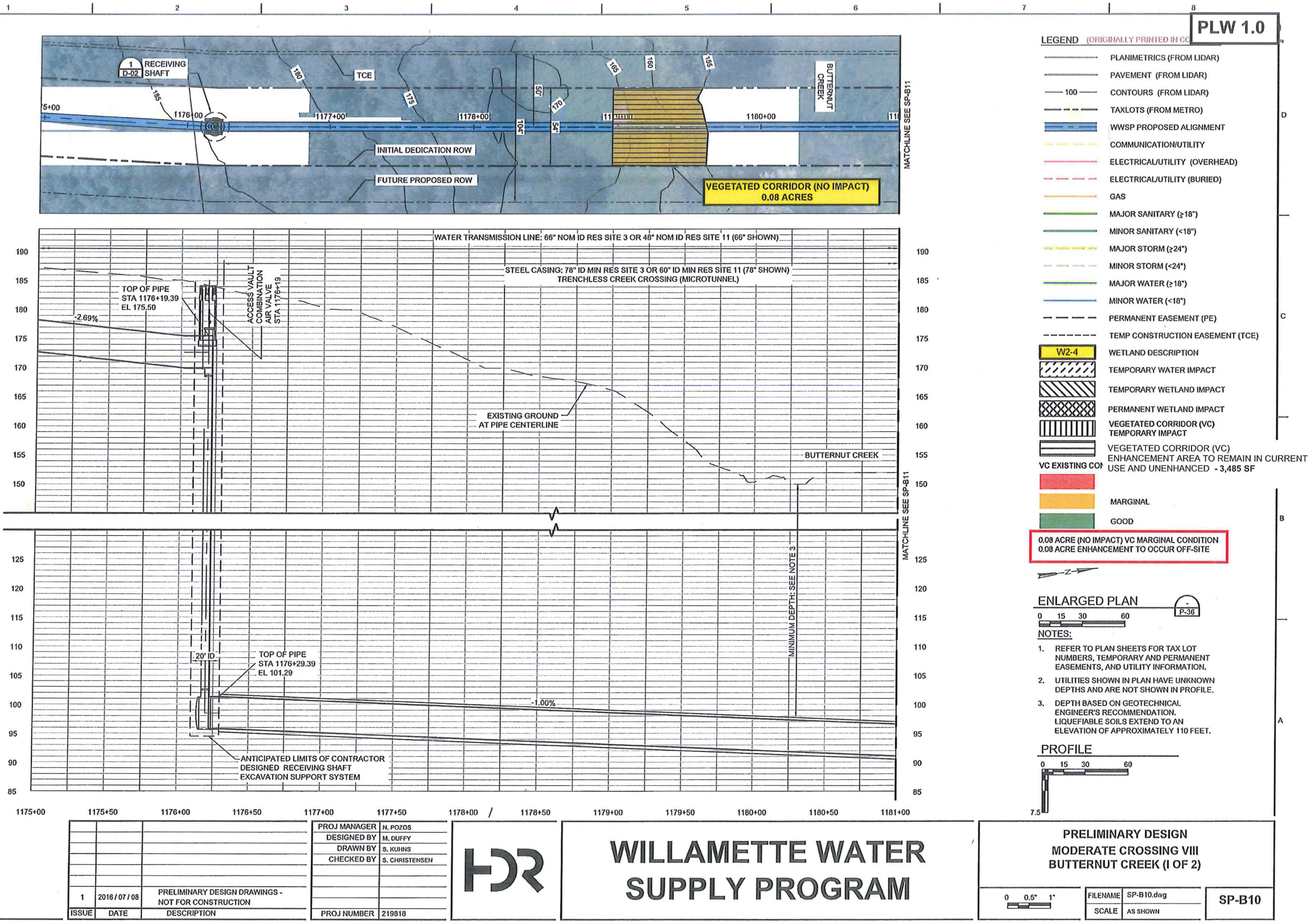
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			DESIGNED BY	
			DRAWN BY	
			CHECKED BY	
ISSUE	DATE	DESCRIPTION	PROJ NUMBER	

**WILLAMETTE WATER  
SUPPLY PROGRAM**



COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By RD. Date 7/3/2018  
SPL Attachment 8 of 25

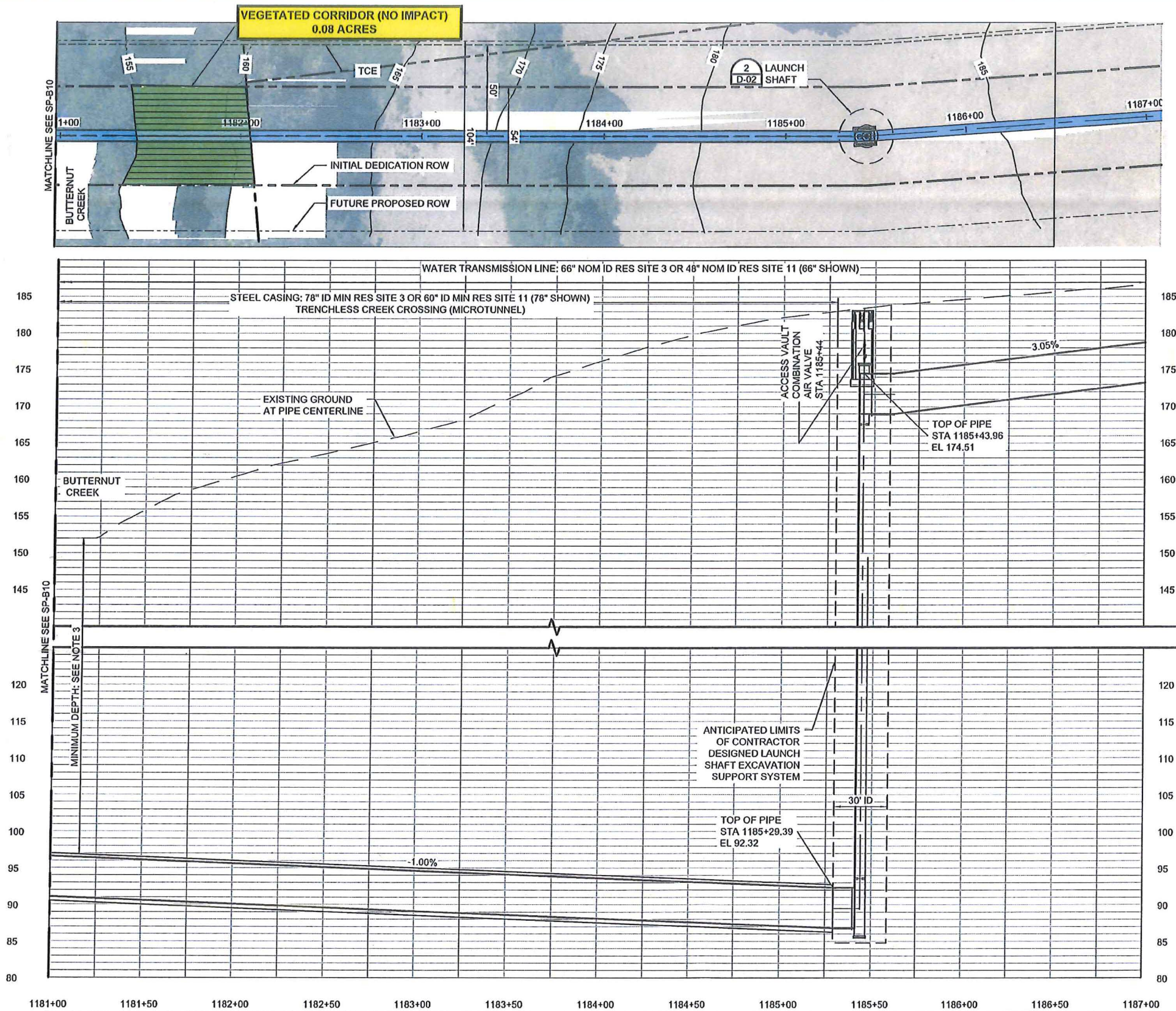
SP-B10.dwg 7/6/2016 3:39:58 PM cwhandler





COLOR COPY  
CWS File No. 19-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By *W.D.* Date 7/3/2018  
SPL Attachment 9 of 25

SP-B11.dwg 7/3/2016 3:44:21 PM cwhandler



**PLW 1.0**

**LEGEND (ORIGINALLY PRINTED)**

PLANIMETRICS (FROM LIDAR)

PAVEMENT (FROM LIDAR)

100 CONTOURS (FROM LIDAR)

TAXLOTS (FROM METRO)

WWSP PROPOSED ALIGNMENT

COMMUNICATION/UTILITY

ELECTRICAL/UTILITY (OVERHEAD)

ELECTRICAL/UTILITY (BURIED)

GAS

MAJOR SANITARY (≥18")

MINOR SANITARY (<18")

MAJOR STORM (≥24")

MINOR STORM (<24")

MAJOR WATER (≥18")

MINOR WATER (<18")

PERMANENT EASEMENT (PE)

TEMP CONSTRUCTION EASEMENT (TCE)

**W2-4** WETLAND DESCRIPTION

TEMPORARY WATER IMPACT

TEMPORARY WETLAND IMPACT

PERMANENT WETLAND IMPACT

VEGETATED CORRIDOR (VC) TEMPORARY IMPACT

VEGETATED CORRIDOR (VC) ENHANCEMENT AREA IN GOOD CONDITION - 3,485

VC EXISTING CON

DEGRADED

MARGINAL

GOOD

**0.08 ACRE (NO IMPACT) VC GOOD CONDITION**

**ENLARGED PLAN**

0 15 30 60

P-36

**NOTES:**

1. REFER TO PLAN SHEETS FOR TAX LOT NUMBERS, TEMPORARY AND PERMANENT EASEMENTS, AND UTILITY INFORMATION.

2. UTILITIES SHOWN IN PLAN HAVE UNKNOWN DEPTHS AND ARE NOT SHOWN IN PROFILE.

3. DEPTH BASED ON GEOTECHNICAL ENGINEER'S RECOMMENDATION. LIQUEFIABLE SOILS EXTEND TO AN ELEVATION OF APPROXIMATELY 110 FEET.

**PROFILE**

0 15 30 60

7.5

			PROJ MANAGER	N. POZOS
			DESIGNED BY	M. DUFFY
			DRAWN BY	S. KUHN
			CHECKED BY	S. CHRISTENSEN
1	2016 / 07 / 08	PRELIMINARY DESIGN DRAWINGS - NOT FOR CONSTRUCTION		
ISSUE	DATE	DESCRIPTION	PROJ NUMBER	219818

**WILLAMETTE WATER SUPPLY PROGRAM**

**PRELIMINARY DESIGN**  
**MODERATE CROSSING VIII**  
**BUTTERNUT CREEK**

0 0.5" 1"

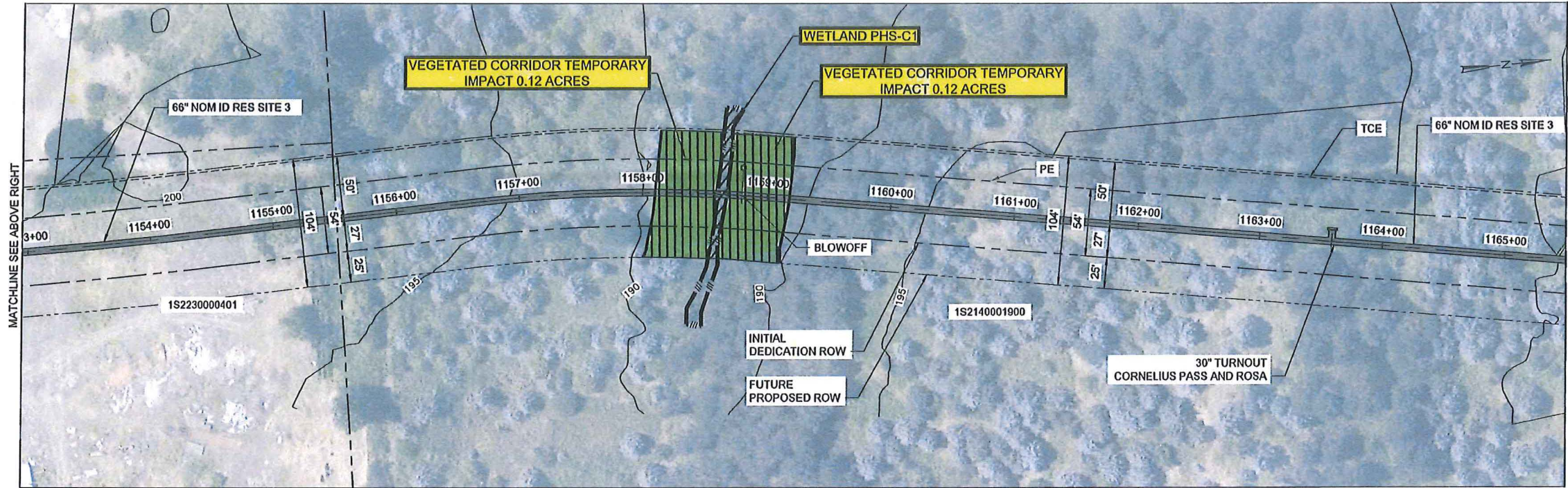
FILENAME SP-B11.dwg

SCALE AS SHOWN

**SP-B11**



PLW\_1.0: Unnamed Tributary to Butternut Creek

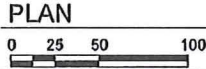


**LEGEND (ORIGINALLY PRINTED IN COLOR) :**

- PLANIMETRICS (FROM LIDAR)
- PAVEMENT (FROM LIDAR)
- 100 CONTOURS (FROM LIDAR)
- TAXLOTS (FROM METRO)
- WWSP PROPOSED ALIGNMENT
- COMMUNICATION/UTILITY
- ELECTRICAL/UTILITY (OVERHEAD)
- ELECTRICAL/UTILITY (BURIED)
- GAS
- SANITARY
- STORM
- WATER
- PERMANENT EASEMENT (PE)
- TEMP CONSTRUCTION EASEMENT (TCE)
- FLOW DIRECTION
- ORDINARY HIGH WATER
- UPLAND DITCH
- WETLAND DITCH
- WETLAND BOUNDARY
- W2-4 WETLAND DESCRIPTION
- TEMPORARY WATER IMPACT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VEGETATED CORRIDOR (VC) TEMPORARY IMPACT - 10,455 SF
- VC EXISTING CONDITION
  - DEGRADED
  - MARGINAL
  - GOOD

0.24 ACRE GOOD VC TO BE RESTORED TO GOOD CONDITION (ON-SITE)

- NOTES:**
- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMILLEN JACOBS & ASSOCIATE SEPTEMBER 2, 2015.
  - MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.



COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By LD Date 7/3/2018  
SPL Attachment 10 of 25

			PROJ MANAGER	
			DESIGNED BY	
			DRAWN BY	
			CHECKED BY	
ISSUE	DATE	DESCRIPTION	PROJ NUMBER	

**WILLAMETTE WATER  
SUPPLY PROGRAM**

**PRELIMINARY DESIGN**

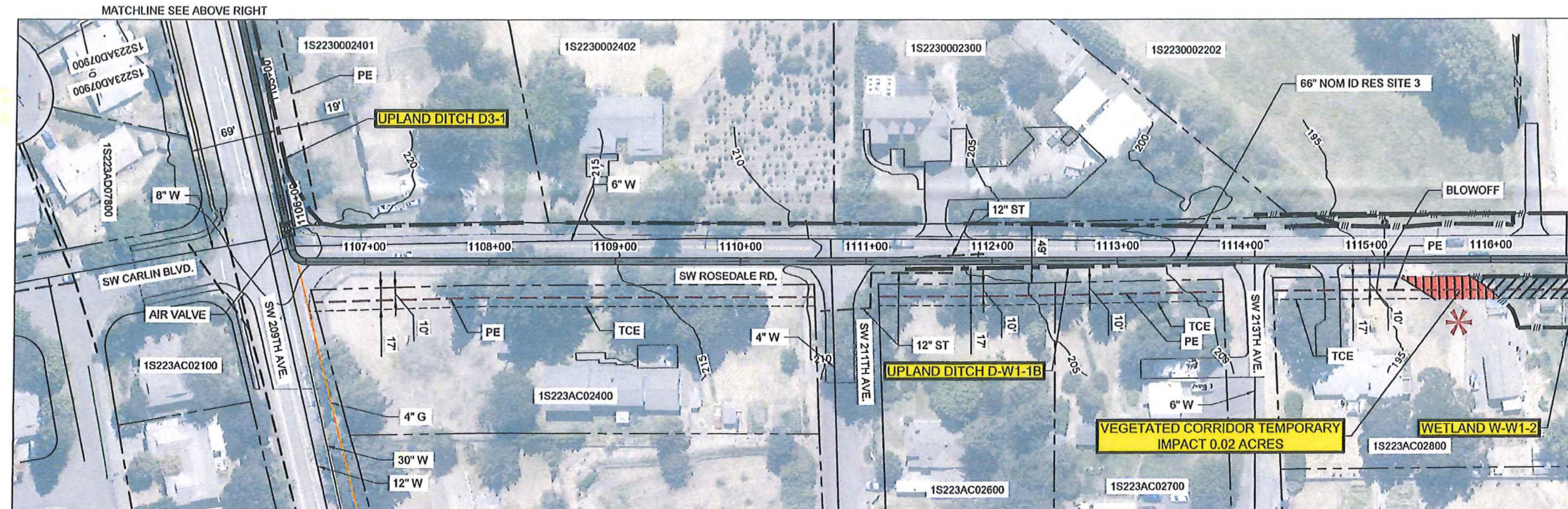
0 0.5" 1"

FILENAME	10002A60-P35-CWS	<b>P-35</b>
SCALE	AS SHOWN	



# PLW\_1.0: Ag. Wetland along Rosedale Road

PLW 1.0



**LEGEND (ORIGINALLY PRINTED IN COLOR) :**

- PLANIMETRICS (FROM LIDAR)
- PAVEMENT (FROM LIDAR)
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- ORDINARY HIGH WATER
- UPLAND DITCH
- WETLAND DITCH
- WETLAND BOUNDARY
- W2-4 WETLAND DESCRIPTION
- TEMPORARY WATER IMPACT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VEGETATED CORRIDOR (VC) PERMANENT IMPACT - 872 SF
- VC EXISTING CONDITION
- DEGRADED
- MARGINAL
- GOOD
- LAND USE MAY NOT ALLOW FOR RESTORATION TO "GOOD" / PERMANENT IMPACT

**0.02 ACRE DEGRADED VC ENHANCEMENT TO GOOD CONDITION WILL OCCUR OFFSITE**

- NOTES:**
- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMILLEN JACOBS & ASSOCIATE SEPTEMBER 2, 2015.
  - MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.

**PLAN**  
0 25 50 100

**PRELIMINARY DESIGN**

0 0.5" 1"

FILENAME 10002A60-P33.dwg  
SCALE AS SHOWN

P-33

COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By RD Date 7/3/2018  
SPL Attachment 11 of 25

ISSUE	DATE	DESCRIPTION

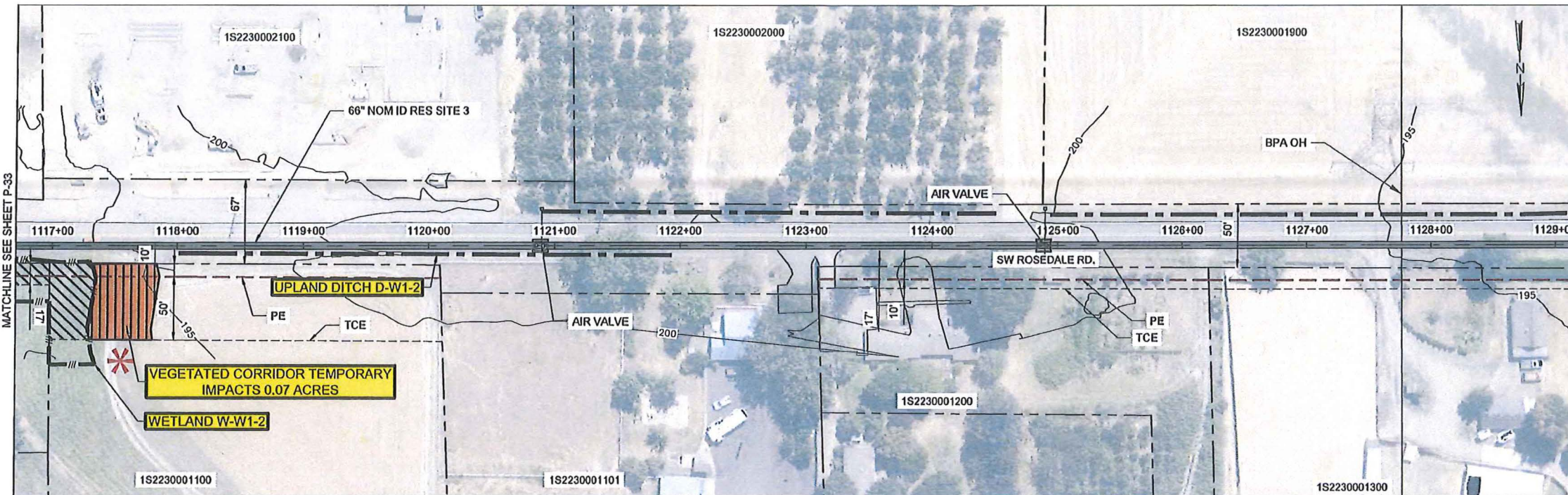
PROJ MANAGER	
DESIGNED BY	
DRAWN BY	
CHECKED BY	

**WILLAMETTE WATER  
SUPPLY PROGRAM**

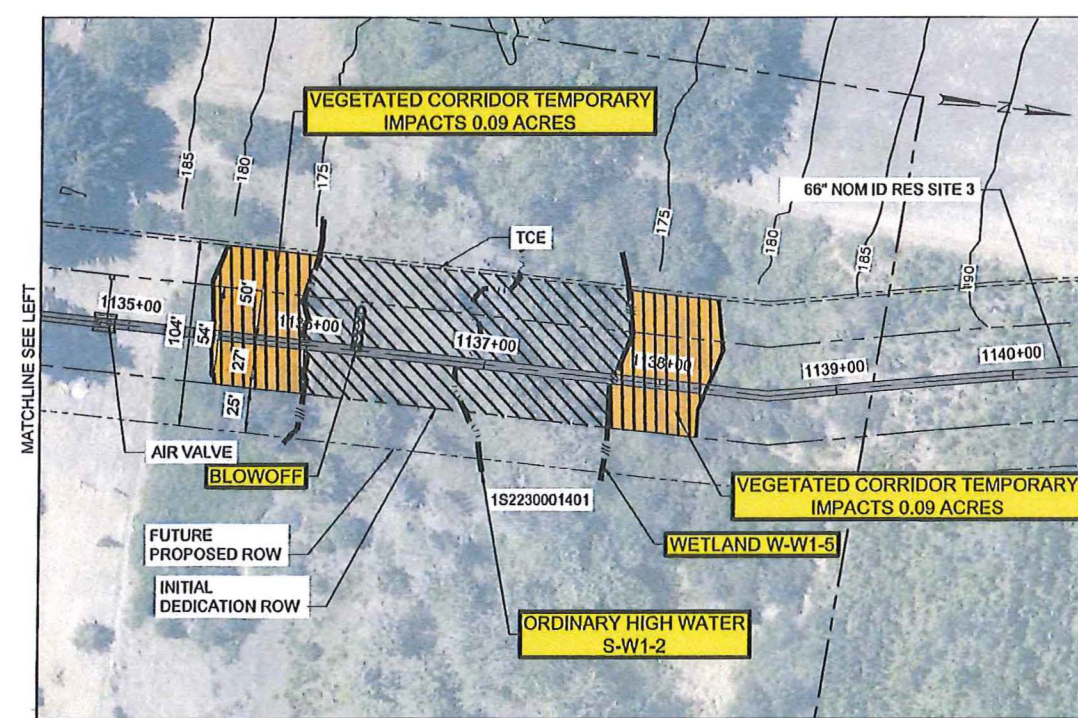


PLW\_1.0: Ag. Wetland along Rosedale Rd. and Unnamed Seasonal Drainage North of Rosedale Rd.

PLW 1.0



- LEGEND (ORIGINALLY PRINTED IN COLOR) :**
- PLANIMETRICS (FROM LIDAR)
  - PAVEMENT (FROM LIDAR)
  - 100 CONTOURS (FROM LIDAR)
  - TAXLOTS (FROM METRO)
  - WWSP PROPOSED ALIGNMENT
  - COMMUNICATION/UTILITY
  - ELECTRICAL/UTILITY (OVERHEAD)
  - ELECTRICAL/UTILITY (BURIED)
  - GAS
  - SANITARY
  - STORM
  - WATER
  - PERMANENT EASEMENT (PE)
  - TEMP CONSTRUCTION EASEMENT (TCE)
  - FLOW DIRECTION
  - ORDINARY HIGH WATER
  - UPLAND DITCH
  - WETLAND DITCH
  - WETLAND BOUNDARY
  - W2-4 WETLAND DESCRIPTION
  - TEMPORARY WATER IMPACT
  - TEMPORARY WETLAND IMPACT
  - PERMANENT WETLAND IMPACT
  - VEGETATED CORRIDOR (VC) TEMPORARY IMPACT - 7,841 SF
  - VC EXISTING CONDITION
    - DEGRADED
    - MARGINAL
    - GOOD
  - LAND USE MAY NOT ALLOW FOR RESTORATION TO 'GOOD' / PERMANENT IMPACT - 3,050 SF



COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By W.D. Date 7/3/2018  
SPL Attachment 12 of 25

0.07 ACRE MARGINAL VC ENHANCEMENT TO GOOD CONDITION WILL OCCUR OFFSITE  
0.18 ACRE MARGINAL VC TO BE PLANTED TO GOOD CONDITION

- NOTES:**
- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMillen Jacobs & Associate SEPTEMBER 2, 2015.
  - MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.

**PLAN**  
0 25 50 100

			PROJ MANAGER	
			DESIGNED BY	
			DRAWN BY	
			CHECKED BY	
ISSUE	DATE	DESCRIPTION	PROJ NUMBER	

# WILLAMETTE WATER SUPPLY PROGRAM

## PRELIMINARY DESIGN

0 0.5" 1"	FILENAME 10002A60-P34-CWS	P-34
SCALE AS SHOWN		



COLOR COPY  
 CWS File No. 18-000921  
 Approved  
 Clean Water Services  
 FOR ENVIRONMENTAL REVIEW  
 By LD Date 7/3/2018  
 SPL Attachment 13 of 25

**WORK PACKAGE C: PLM 5.0  
 VEGETATED CORRIDOR  
 SUMMARY**

Permanent Encroachment Area  
 (to be mitigated off-site)  
 - 31,364 SF/0.72 AC

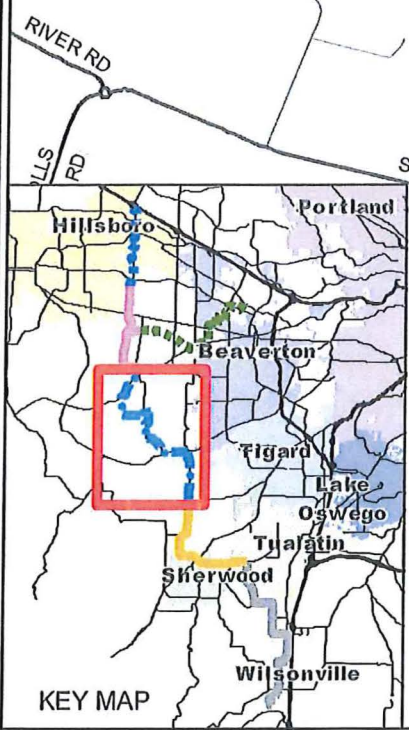
Temporary Encroachment Area  
 (to be restored and planted on-site)  
 - 13,940 SF/0.32 AC

See Drawing  
 P-24

See Drawing  
 P-23

See Drawing  
 P-22

See Drawing  
 P-20



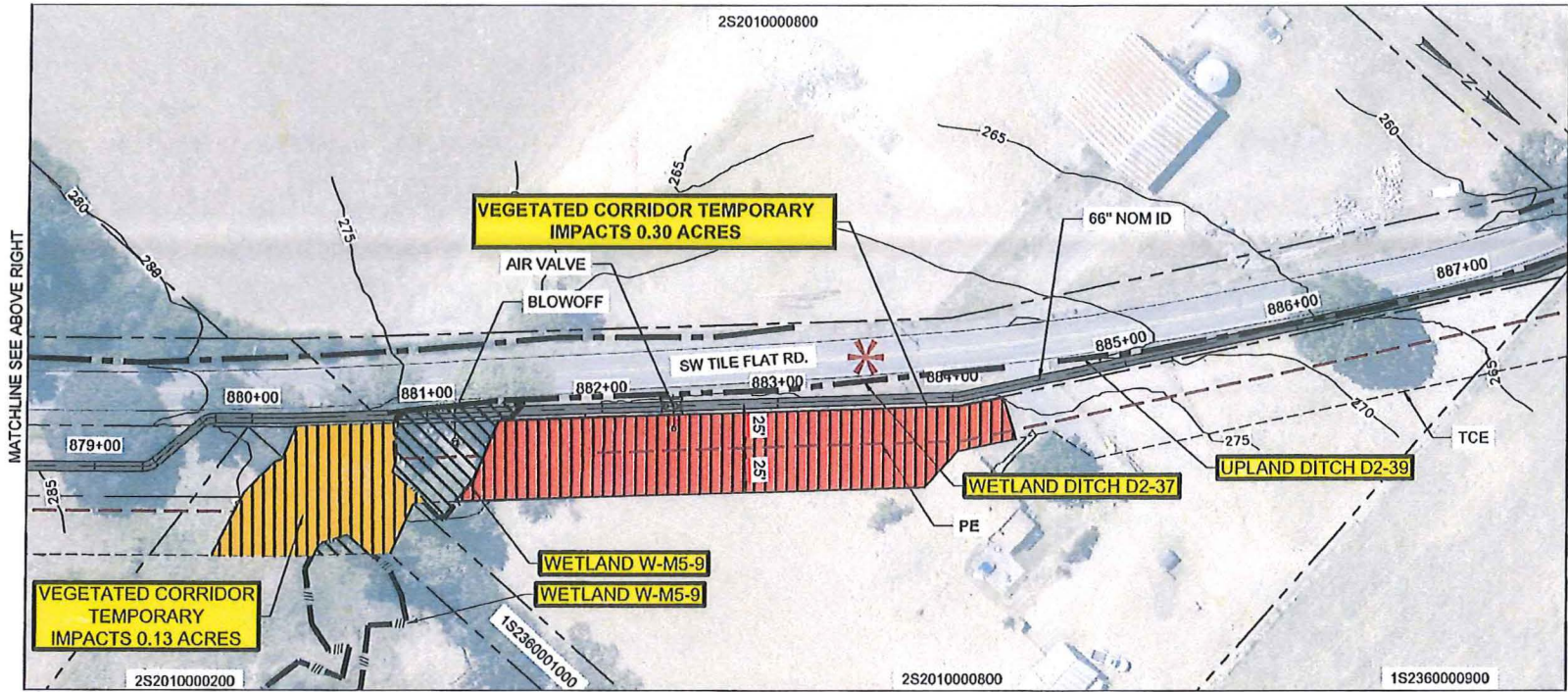
**Legend**

- PLM 5.0: SCHOLLS AREA PIPELINE PROJECT
- VEGETATED CORRIDOR IMPACTS
- BEAVERTON



PLM 5.0: Wetland at Tile Flat/Kobbe Drive

PLM 5.0



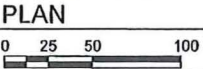
**LEGEND (ORIGINALLY PRINTED IN COLOR) :**

- PLANIMETRICS (FROM LIDAR)
- PAVEMENT (FROM LIDAR)
- 100 CONTOURS (FROM LIDAR)
- TAXLOTS (FROM METRO)
- WWSP PROPOSED ALIGNMENT
- COMMUNICATION/UTILITY
- ELECTRICAL/UTILITY (OVERHEAD)
- ELECTRICAL/UTILITY (BURIED)
- GAS
- SANITARY
- STORM
- WATER
- PERMANENT EASEMENT (PE)
- TEMP CONSTRUCTION EASEMENT (TCE)
- FLOW DIRECTION
- ORDINARY HIGH WATER
- UPLAND DITCH
- WETLAND DITCH
- WETLAND BOUNDARY
- W2-4 WETLAND DESCRIPTION
- TEMPORARY WATER IMPACT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VEGETATED CORRIDOR (VC) TEMPORARY IMPACT
- VEGETATED CORRIDOR (VC) PERMANENT IMPACT - 18,731 SF
- VC EXISTING CON
- DEGRADED
- MARGINAL
- GOOD
- LAND USE MAY NOT ALLOW FOR RESTORATION TO "GOOD" / PERMANENT IMPACT

**0.43 ACRE TEMPORARY IMPACT TO BE RESTORED OFF-SITE**

COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By LO Date 7/3/2018  
SPL Attachment 14 of 25

- NOTES:**
- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMILLEN JACOBS & ASSOCIATE SEPTEMBER 2, 2015.
  - MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.



ISSUE	DATE	DESCRIPTION

PROJ MANAGER	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
PROJ NUMBER	

**WILLAMETTE WATER  
SUPPLY PROGRAM**

**PRELIMINARY DESIGN  
MAIN STEM PLAN -  
SCHOLLS FERRY TO FARMINGTON -  
STA 867+00**

0 0.5" 1"	FILENAME 10002A60-P24.dwg
SCALE AS SHOWN	

P-24



# PLM\_5.0: Creek Crossing at Scholls Ferry Road near Vandermost Road

**LEGEND (ORIGINALLY PRINTED IN COLOR)**

- PLANIMETRICS (FROM LIDAR)
- PAVEMENT (FROM LIDAR)
- 100 CONTOURS (FROM LIDAR)
- TAXLOTS (FROM METRO)
- WWSP PROPOSED ALIGNMENT
- COMMUNICATION/UTILITY
- ELECTRICAL/UTILITY (OVERHEAD)
- ELECTRICAL/UTILITY (BURIED)
- GAS
- SANITARY
- STORM
- WATER
- PERMANENT EASEMENT (PE)
- TEMP CONSTRUCTION EASEMENT (TCE)
- FLOW DIRECTION
- ORDINARY HIGH WATER
- UPLAND DITCH
- WETLAND DITCH
- WETLAND BOUNDARY
- W2-4 WETLAND DESCRIPTION
- TEMPORARY WATER IMPACT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VEGETATED CORRIDOR (VC) PERMANENT IMPACT - 12,633 SF
- VC EXISTING CONDITION
  - DEGRADED
  - MARGINAL
  - GOOD
- LAND USE MAY NOT ALLOW FOR RESTORATION TO "GOOD" PERMANENT IMPACT

**NOTES:**

- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMILLEN JACOBS & ASSOCIATE SEPTEMBER 2, 2015.
- MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
- IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
- IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.

**PLAN**

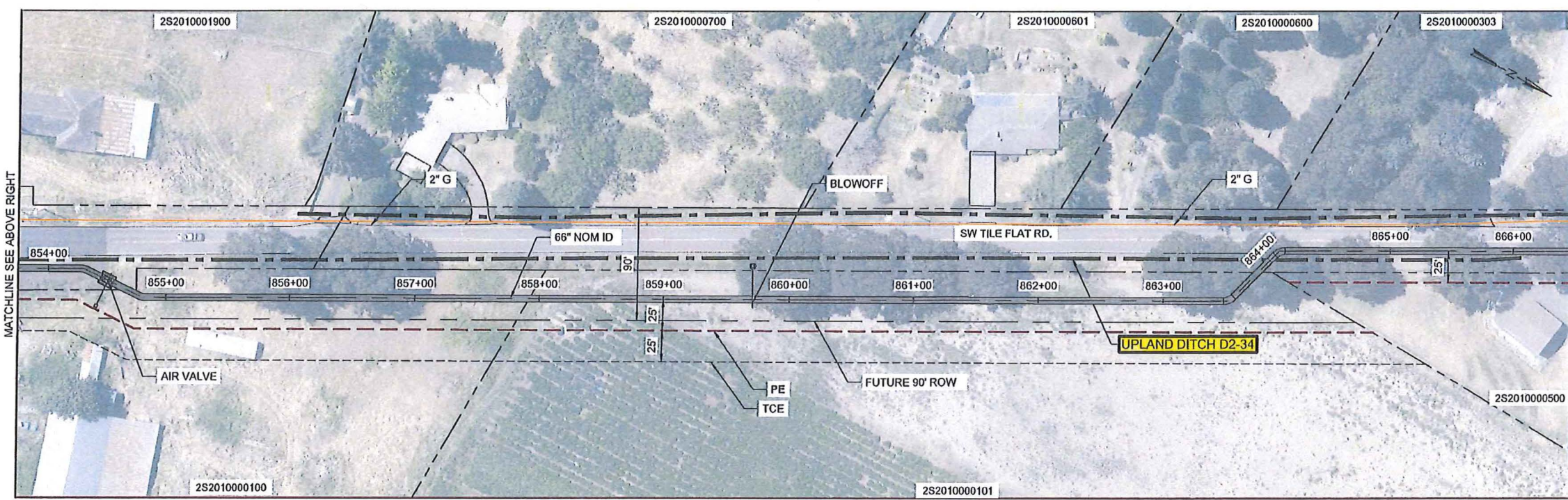
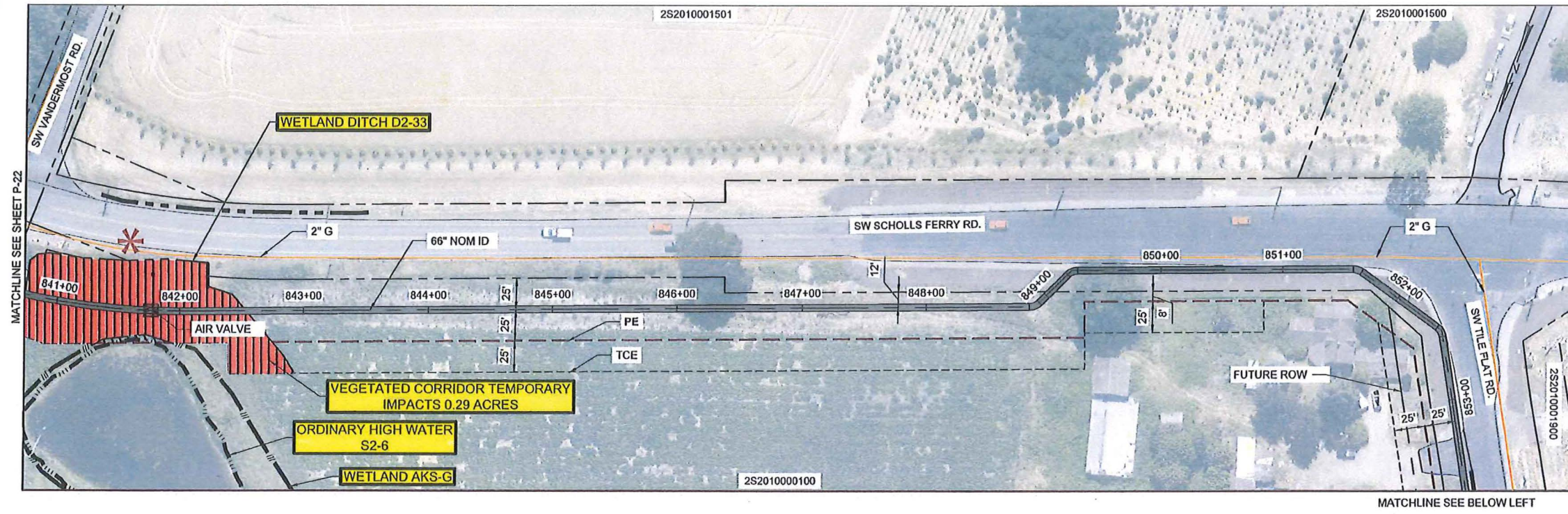
0 25 50 100

0 0.5" 1"

**PRELIMINARY DESIGN**  
**MAIN STEM PLAN -**  
**SCHOLLS FERRY TO FARMINGTON -**  
**STA 841+00**

FILENAME 10002A60-P23.dwg  
SCALE AS SHOWN

P-23



ISSUE	DATE	DESCRIPTION

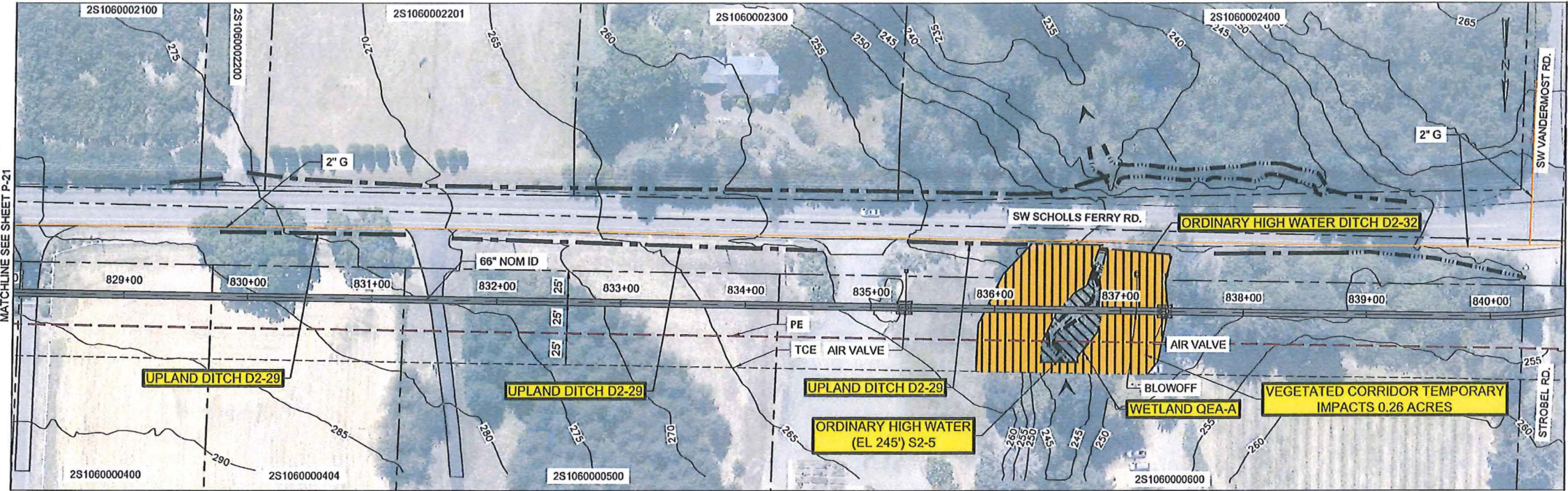
COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By RD Date 7/3/2018  
SPL Attachment 15 of 25

## WILLAMETTE WATER SUPPLY PROGRAM

10002A60-P23.dwg 3/9/2018 2:47:43 PM BBerg



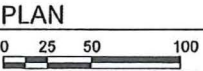
PLM\_5.0: Creek Crossings at Scholls Ferry RD near Vandermost Road



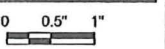
**LEGEND (ORIGINALLY PRINTED IN COLOR)**

- PLANIMETRICS (FROM LIDAR)
- PAVEMENT (FROM LIDAR)
- 100 CONTOURS (FROM LIDAR)
- TAXLOTS (FROM METRO)
- WWSP PROPOSED ALIGNMENT
- COMMUNICATION/UTILITY
- ELECTRICAL/UTILITY (OVERHEAD)
- ELECTRICAL/UTILITY (BURIED)
- GAS
- SANITARY
- STORM
- WATER
- PERMANENT EASEMENT (PE)
- TEMP CONSTRUCTION EASEMENT (TCE)
- FLOW DIRECTION
- ORDINARY HIGH WATER
- UPLAND DITCH
- WETLAND DITCH
- WETLAND BOUNDARY
- W2-4 WETLAND DESCRIPTION
- TEMPORARY WATER IMPACT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VEGETATED CORRIDOR (VC)
- TEMPORARY IMPACT - 11,326 SF
- VC EXISTING CONDITION
  - DEGRADED
  - MARGINAL
  - GOOD

- NOTES:**
- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMILLEN JACOBS & ASSOCIATE SEPTEMBER 2, 2015.
  - MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.



PRELIMINARY DESIGN



FILENAME	10002A60-P22.dwg
SCALE	AS SHOWN

P-22

COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By LO. Date 7/3/2018  
SPL Attachment 16 of 25

ISSUE	DATE	DESCRIPTION

PROJ MANAGER	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
PROJ NUMBER	

**WILLAMETTE WATER  
SUPPLY PROGRAM**



- LEGEND (ORIGINALLY PRINTED IN COLOR)**
- PLANIMETRICS (FROM LIDAR)
  - PAVEMENT (FROM LIDAR)
  - 100 CONTOURS (FROM LIDAR)
  - TAXLOTS (FROM METRO)
  - WWSP PROPOSED ALIGNMENT
  - COMMUNICATION/UTILITY
  - ELECTRICAL/UTILITY (OVERHEAD)
  - ELECTRICAL/UTILITY (BURIED)
  - GAS
  - MAJOR SANITARY ( $\geq 18"$ )
  - MINOR SANITARY ( $< 18"$ )
  - MAJOR STORM ( $\geq 24"$ )
  - MINOR STORM ( $< 24"$ )
  - MAJOR WATER ( $\geq 18"$ )
  - MINOR WATER ( $< 18"$ )
  - PERMANENT EASEMENT (PE)
  - TEMP CONSTRUCTION EASEMENT (TCE)
  - VEGETATED CORRIDOR (VC)
  - TEMPORARY IMPACT - 2,614 SF

**VC EXISTING CONDITION**

- DEGRADED
- MARGINAL
- GOOD

0.06 ACRE MARGINAL VC TO BE PLANTED TO GOOD CONDITION (ON-SITE)

**NOTES:**

1. SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMILLEN JACOBS & ASSOCIATE SEPTEMBER 2, 2015.
2. MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
3. IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
4. IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.

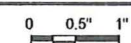
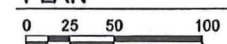
COLOR COPY

CWS File No. 18-0009121

Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By *[Signature]* Date 7/3/2018

SPL Attachment 17 of 25

**PLAN**



PRELIMINARY DESIGN  
MAIN STEM PLAN -  
124TH TO SCHOLLS FERRY -  
STA 765+00

FILENAME 10002A60-P20-QEA-Creek.dwg  
SCALE AS SHOWN

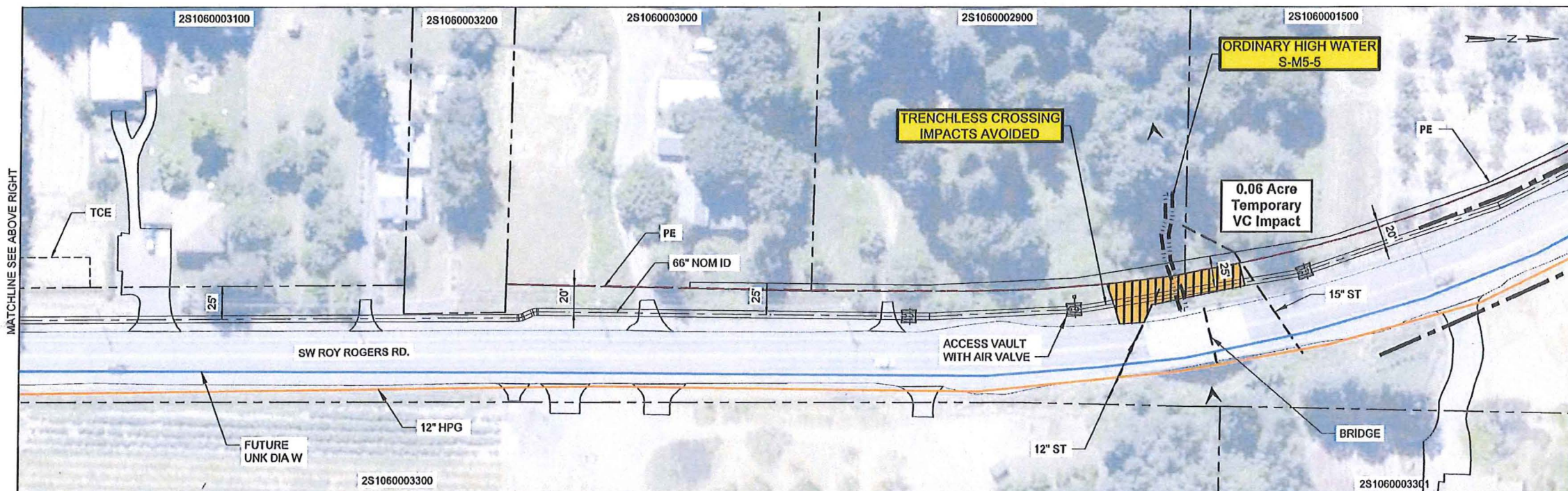
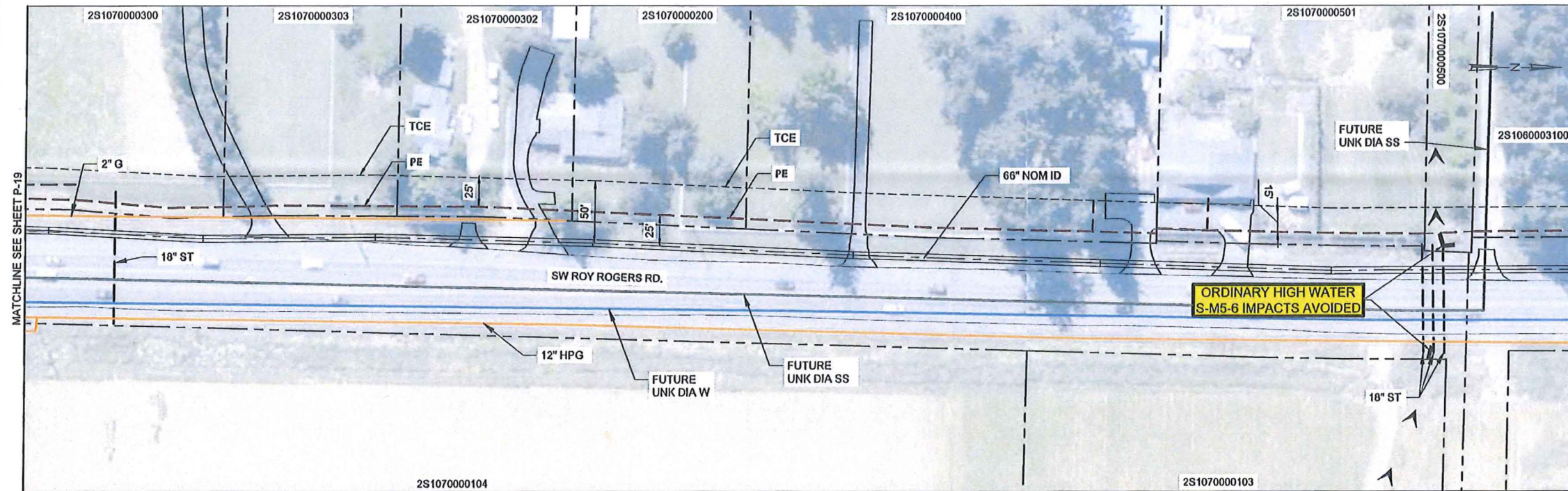
P-20

# WILLAMETTE WATER SUPPLY PROGRAM

PROJ MANAGER  
DESIGNED BY  
DRAWN BY  
CHECKED BY

PROJ NUMBER 219818

ISSUE	DATE	DESCRIPTION





**WORK PACKAGE D: PLE 1.0  
VEGETATED CORRIDOR  
SUMMARY**

Temporary Encroachment Area  
(to be restored and planted on-site)  
- 15,683 SF/0.36 AC

Enhancement Requirement Area  
(to be planted to good condition on-site)  
- 3,485 SF/0.08 AC

See Drawing  
P-59

See Drawing  
SP-B20

See Drawing  
P-56

COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By SD Date 7/3/2018  
DPL Attachment 18 # 25

**Legend**

- PLE 1.0: BEAVERTON AREA PIPELINE PROJECT
- VEGETATED CORRIDOR IMPACTS
- BEAVERTON
- HILLSBORO

KEY MAP

5/24/2018

0 0.25 0.5 Miles



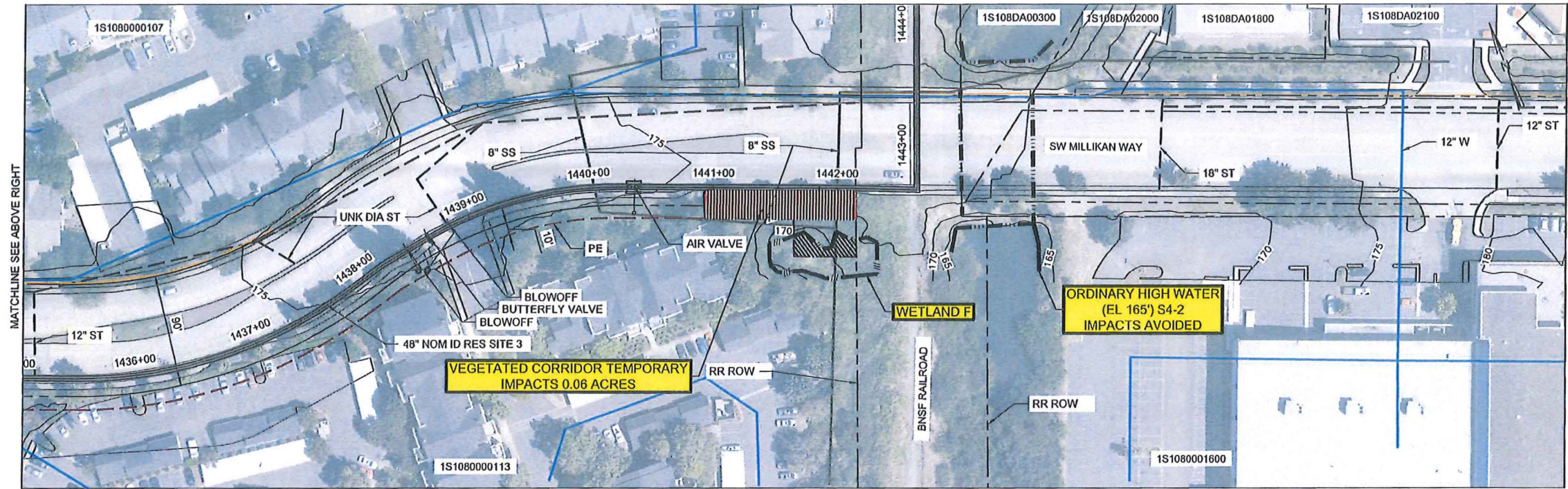
**WILLAMETTE WATER SUPPLY PROGRAM  
VC IMPACT ASSESSMENT KEY MAP  
PLE 1.0**

**Willamette Water Supply**  
Our Reliable Water



PLE\_1.0: Beaverton Creek at Milikan Way and BNSF Railroad

PLE 1.0

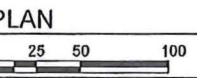


**LEGEND (ORIGINALLY PRINTED IN COLOR) :**

- PLANIMETRICS (FROM LIDAR)
- PAVEMENT (FROM LIDAR)
- 100 CONTOURS (FROM LIDAR)
- TAXLOTS (FROM METRO)
- WWSP PROPOSED ALIGNMENT
- COMMUNICATION/UTILITY
- ELECTRICAL/UTILITY (OVERHEAD)
- ELECTRICAL/UTILITY (BURIED)
- GAS
- SANITARY
- STORM
- WATER
- PERMANENT EASEMENT (PE)
- TEMP CONSTRUCTION EASEMENT (TCE)
- FLOW DIRECTION
- ORDINARY HIGH WATER
- UPLAND DITCH
- WETLAND DITCH
- WETLAND BOUNDARY
- W2-4 WETLAND DESCRIPTION
- TEMPORARY WATER IMPACT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VEGETATED CORRIDOR (VC)
- TEMPORARY IMPACT - 2,614 SF
- VC EXISTING CONDITION
  - DEGRADED
  - MARGINAL
  - GOOD

COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By J.D. Date 7/3/2018  
SPL Attachment 19 of 25

- NOTES:**
- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMILLEN JACOBS & ASSOCIATE SEPTEMBER 2, 2015.
  - MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.



			PROJ MANAGER	
			DESIGNED BY	
			DRAWN BY	
			CHECKED BY	
ISSUE	DATE	DESCRIPTION	PROJ NUMBER	

WILLAMETTE WATER  
SUPPLY PROGRAM

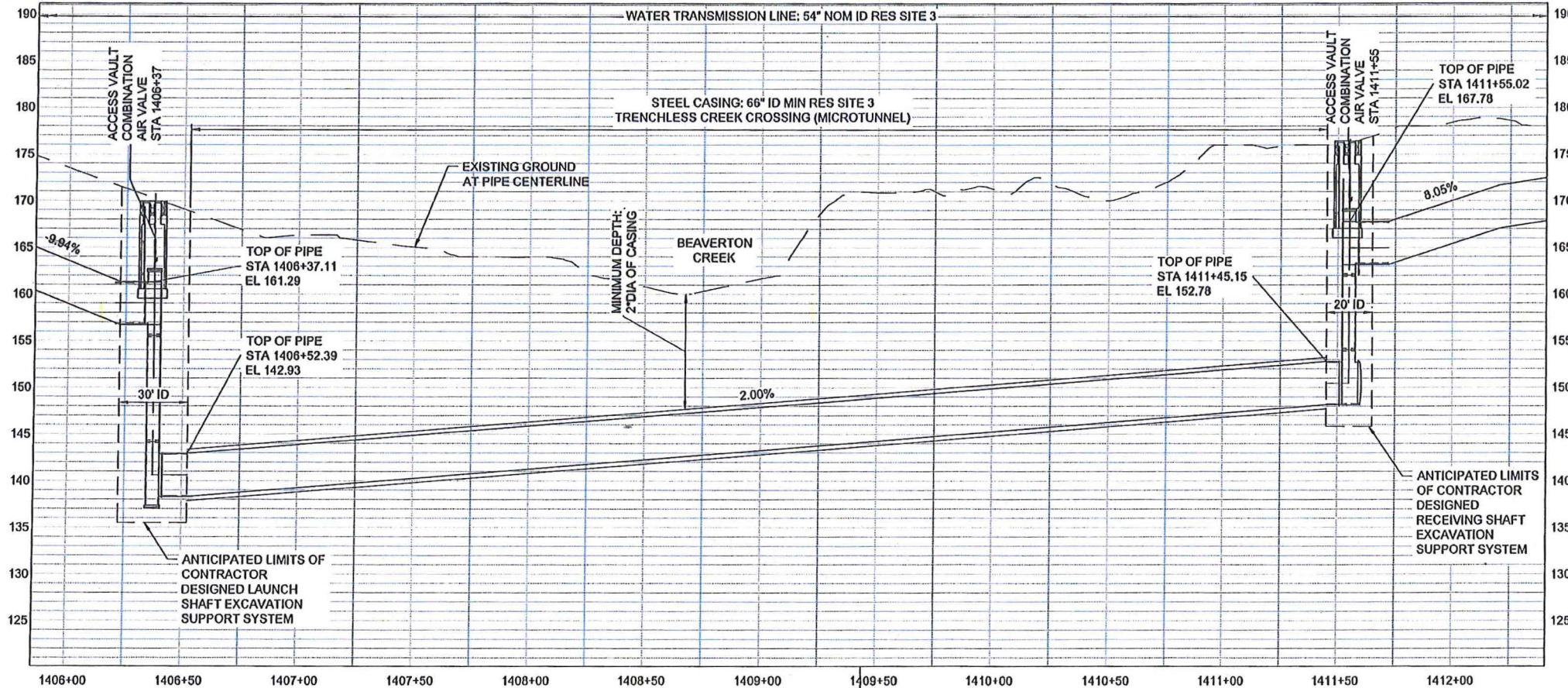
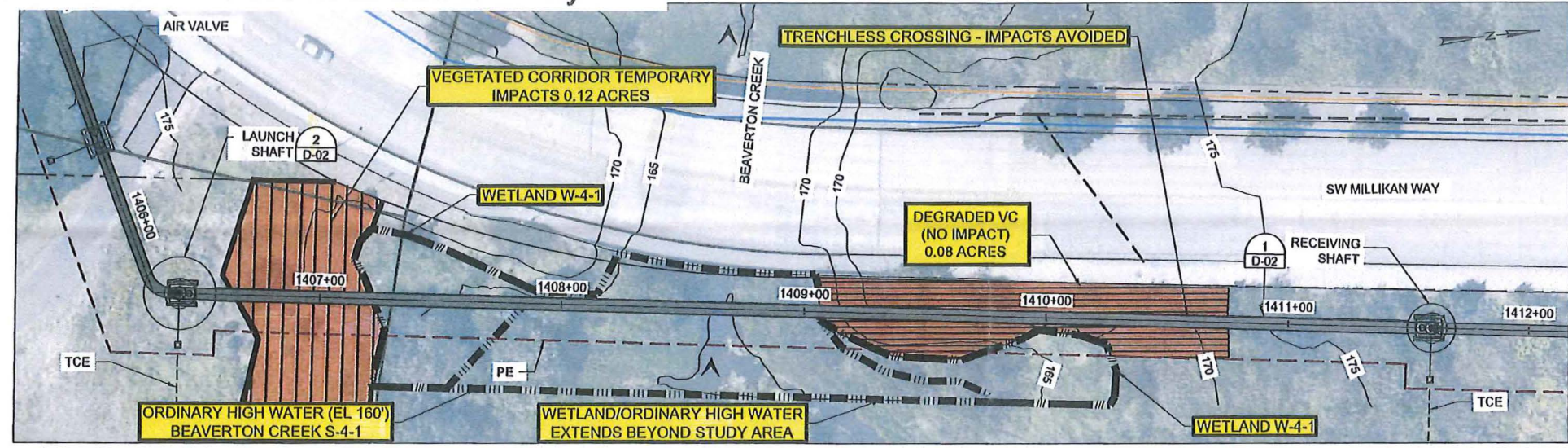
PRELIMINARY DESIGN

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	SCALE AS SHOWN	



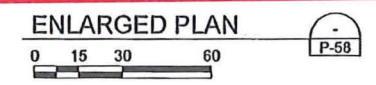
PLE\_1.0: Beaverton Creek at Milikan Way

PLE 1.0

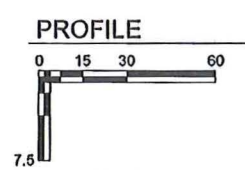


- LEGEND** (ORIGINALLY PRINTED IN COLOR) :
- PLANIMETRICS (FROM LIDAR)
  - PAVEMENT (FROM LIDAR)
  - 100 CONTOURS (FROM LIDAR)
  - TAXLOTS (FROM METRO)
  - WWSP PROPOSED ALIGNMENT
  - COMMUNICATION/UTILITY
  - ELECTRICAL/UTILITY (OVERHEAD)
  - ELECTRICAL/UTILITY (BURIED)
  - GAS
  - SANITARY
  - STORM
  - WATER
  - PERMANENT EASEMENT (PE)
  - TEMP CONSTRUCTION EASEMENT (TCE)
  - FLOW DIRECTION
  - ORDINARY HIGH WATER
  - UPLAND DITCH
  - WETLAND DITCH
  - WETLAND BOUNDARY
  - W2-4 WETLAND DESCRIPTION
  - TEMPORARY WATER IMPACT
  - TEMPORARY WETLAND IMPACT
  - PERMANENT WETLAND IMPACT
  - VEGETATED CORRIDOR (VC) TEMPORARY IMPACT - 5,228 SF
  - VEGETATED CORRIDOR (VC) PERMANENT IMPACT - 3,485 SF
  - VC EXISTING CONDITION
    - DEGRADED
    - MARGINAL
    - GOOD

0.20 ACRE DEGRADED VC TO BE PLANTED TO GOOD CONDITION (ON-SITE)



- NOTES:**
- REFER TO PLAN SHEETS FOR TAX LOT NUMBERS, TEMPORARY AND PERMANENT EASEMENTS, AND UTILITY INFORMATION.
  - UTILITIES SHOWN IN PLAN HAVE UNKNOWN DEPTHS AND ARE NOT SHOWN IN PROFILE.



ISSUE	DATE	DESCRIPTION

COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By LO. Date 7/3/2018  
SPL Attachment 20 of 25

# WILLAMETTE WATER SUPPLY PROGRAM

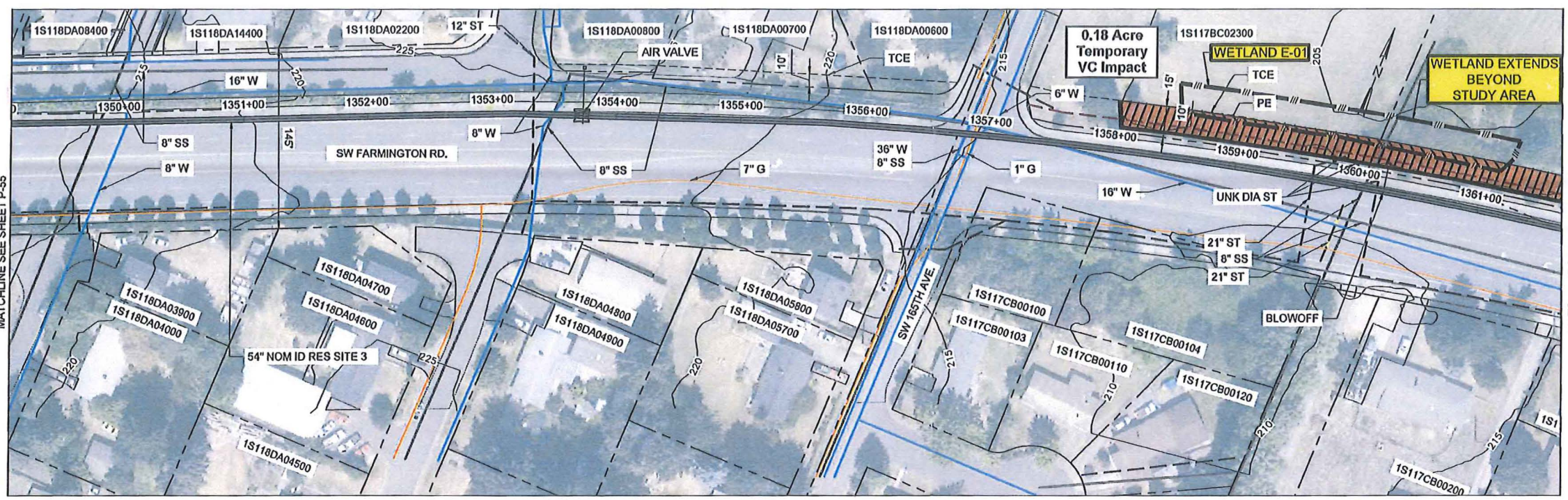
PRELIMINARY DESIGN

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	SCALE AS SHOWN	

10002A60-SP-B20-CWS.DWG 4/7/2017 7:23:22 AM EBBerg



PLE\_1.0: Wetland near Corner of 165th/Farmington Intersection

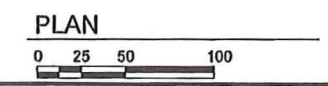


**LEGEND (ORIGINALLY PRINTED IN COLOR) :**

- PLANIMETRICS (FROM LIDAR)
- PAVEMENT (FROM LIDAR)
- 100 CONTOURS (FROM LIDAR)
- TAXLOTS (FROM METRO)
- WWSP PROPOSED ALIGNMENT
- COMMUNICATION/UTILITY
- ELECTRICAL/UTILITY (OVERHEAD)
- ELECTRICAL/UTILITY (BURIED)
- GAS
- SANITARY
- STORM
- WATER
- PERMANENT EASEMENT (PE)
- TEMP CONSTRUCTION EASEMENT (TCE)
- FLOW DIRECTION
- ORDINARY HIGH WATER
- UPLAND DITCH
- WETLAND DITCH
- WETLAND BOUNDARY
- W2-4** WETLAND DESCRIPTION
- TEMPORARY WATER IMPACT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VEGETATED CORRIDOR (VC) TEMPORARY IMPACT - 7,841 SF
- VC EXISTING CONDITION
  - DEGRADED
  - MARGINAL
  - GOOD

**0.18 ACRE DEGRADED VC TO BE PLANTED TO GOOD CONDITION (ON-SITE)**

- NOTES:**
- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMillen Jacobs & Associate SEPTEMBER 2, 2015.
  - MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
  - IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.



**PRELIMINARY DESIGN**

0 0.5" 1"	FILENAME 10002A60-P56-CWS	P-56
	SCALE AS SHOWN	

COLOR COPY  
CWS File No. 18-000921  
**Approved**  
**Clean Water Services**  
FOR ENVIRONMENTAL REVIEW  
By *RD.* Date 7/3/2018  
SPL Attachment 21 of 25

			PROJ MANAGER	
			DESIGNED BY	
			DRAWN BY	
			CHECKED BY	
ISSUE	DATE	DESCRIPTION	PROJ NUMBER	

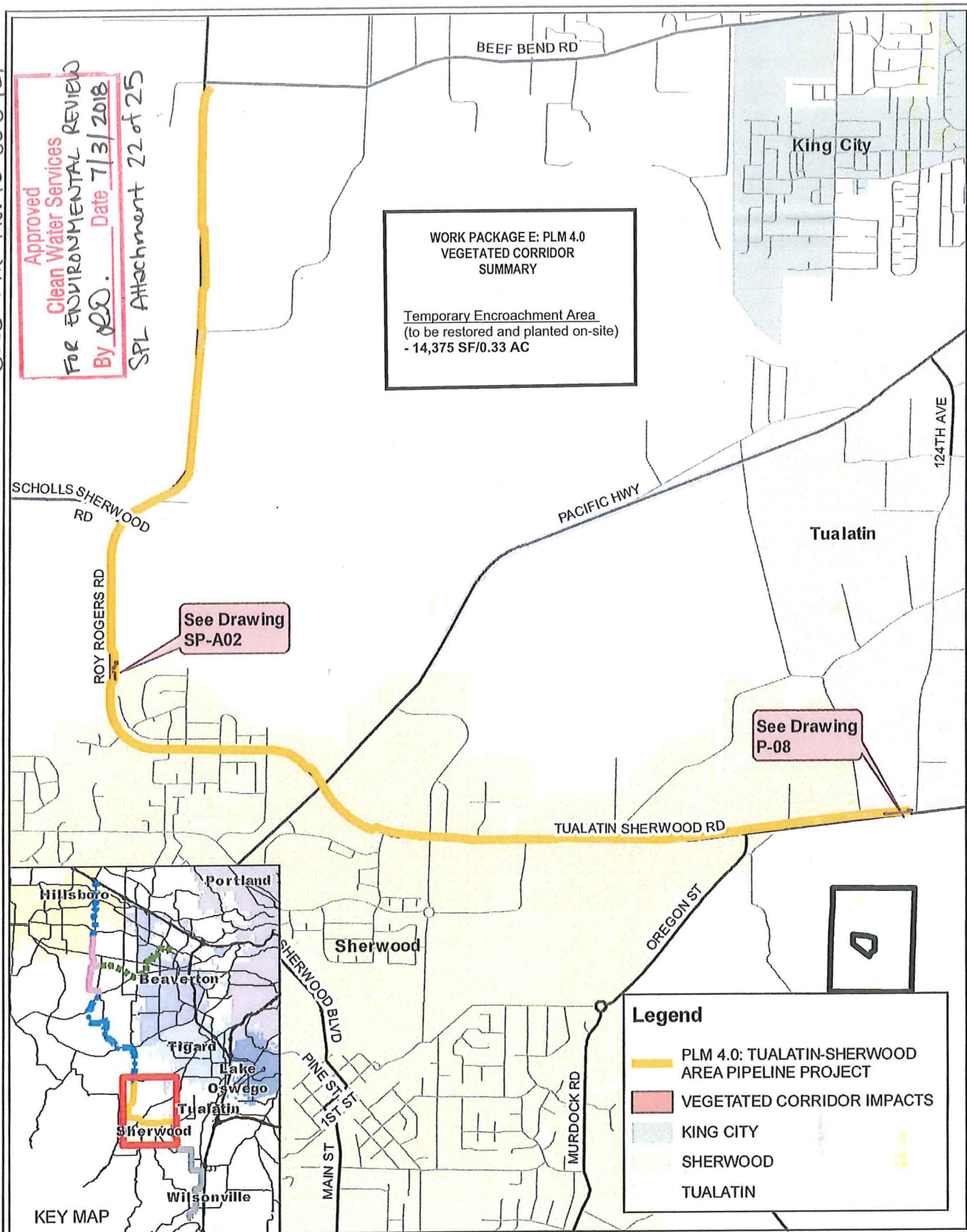
**WILLAMETTE WATER  
SUPPLY PROGRAM**



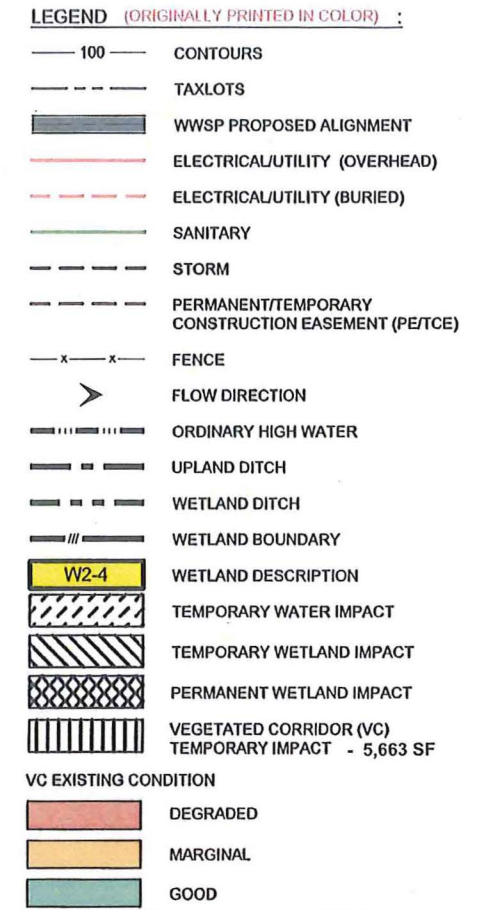
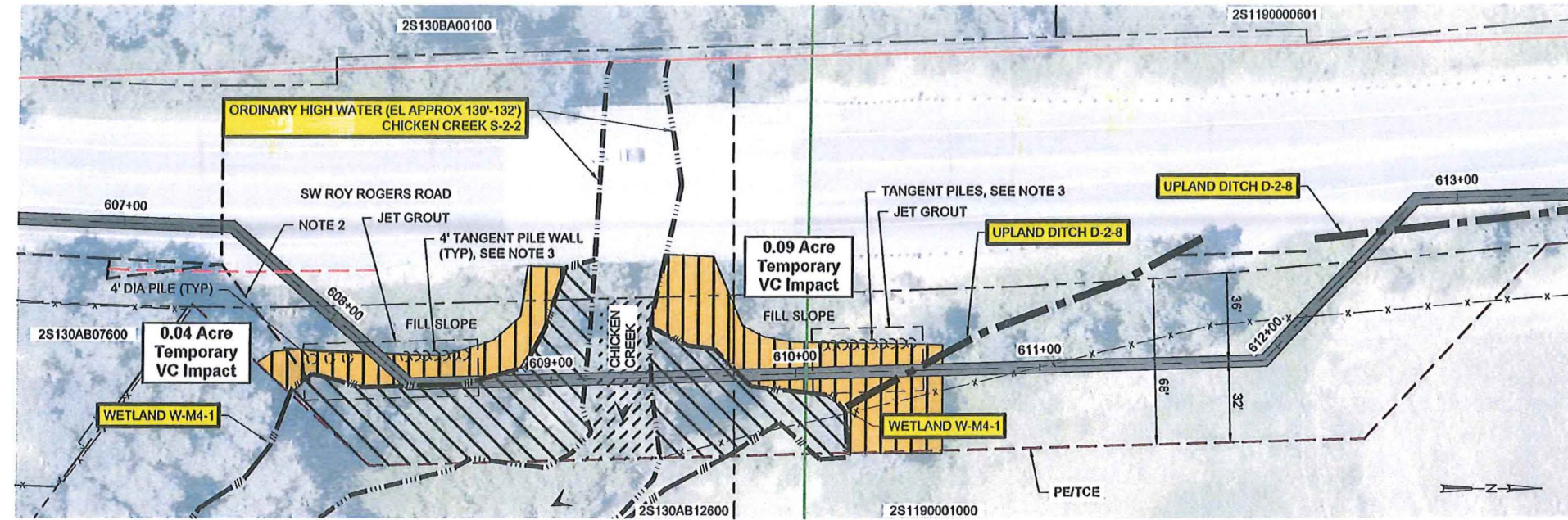
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By RD Date 7/3/2018  
SPL Attachment 22 of 25

WORK PACKAGE E: PLM 4.0  
VEGETATED CORRIDOR  
SUMMARY

Temporary Encroachment Area  
(to be restored and planted on-site)  
- 14,375 SF/0.33 AC





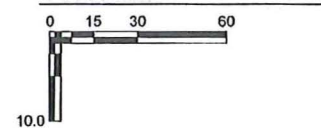


0.13 ACRE MARGINAL VC TO BE ENHANCED TO GOOD CONDITION (ON-SITE)

**NOTES:**

- UTILITIES SHOWN IN PLAN HAVE UNKNOWN DEPTHS AND ARE NOT SHOWN IN PROFILE.
- POTENTIAL RELOCATION OF 30" STORM OUTFALL.
- TANGENT PILES TO BE FLUSH WITH GRADE AT APPROXIMATELY 12' OFFSET FROM CENTER OF PILE TO PIPE CENTERLINE.

**PROFILE**



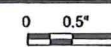
COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By *[Signature]* Date 7/3/2018  
SPL Attachment 23 of 25

ISSUE	DATE	DESCRIPTION

PROJ MANAGER	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
PROJ NUMBER	

# WILLAMETTE WATER SUPPLY PROGRAM

## PRELIMINARY DESIGN CHICKEN CREEK OPEN-CUT INSTALLATION



FILENAME	SP-A02.dwg
SCALE	AS SHOWN

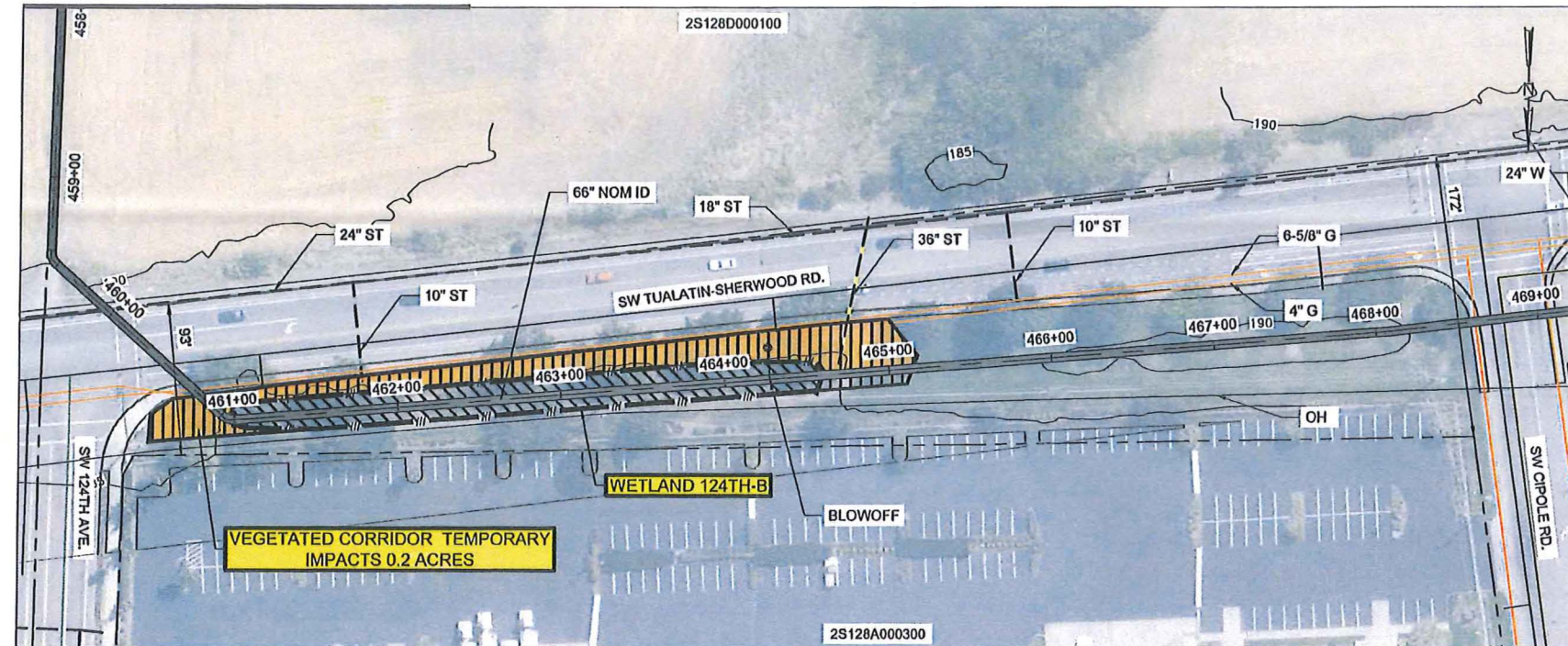
SP-A02



# PLM\_4.0: WQ Facility In-line with Tributary to Hedges Creek

PLM 4.0

124TH (OPPORTUNITY PROJECT/UNDER DESIGN - NOT SHOWN)



**LEGEND (ORIGINALLY PRINTED IN COLOR) :**

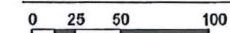
- PLANIMETRICS (FROM LIDAR)
- PAVEMENT (FROM LIDAR)
- 100 CONTOURS (FROM LIDAR)
- TAXLOTS (FROM METRO)
- WWSP PROPOSED ALIGNMENT
- COMMUNICATION/UTILITY
- ELECTRICAL/UTILITY (OVERHEAD)
- ELECTRICAL/UTILITY (BURIED)
- GAS
- SANITARY
- STORM
- WATER
- PERMANENT EASEMENT (PE)
- TEMP CONSTRUCTION EASEMENT (TCE)
- FLOW DIRECTION
- ORDINARY HIGH WATER
- UPLAND DITCH
- WETLAND DITCH
- WETLAND BOUNDARY
- W2-4 WETLAND DESCRIPTION
- TEMPORARY WATER IMPACT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VEGETATED CORRIDOR (VC) TEMPORARY IMPACT - 8,712 SF
- VC EXISTING CONDITION
- DEGRADED
- MARGINAL
- GOOD

**0.20 ACRE MARGINAL VC TO BE PLANTED TO GOOD CONDITION (ON-SITE)**

**NOTES:**

- SEE PRELIMINARY GEOTECHNICAL ANALYSIS MEMORANDUM, McMILLEN JACOBS & ASSOCIATE SEPTEMBER 2, 2015.
- MAJOR UTILITIES ONLY IDENTIFIED CROSSING OR WITHIN 15 FEET OF PROPOSED WWSP PIPE.
- IT IS ANTICIPATED THAT UTILITIES LOCATED WITHIN 2 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE RELOCATED. VERIFY UTILITY LOCATIONS DURING FINAL DESIGN.
- IT IS ANTICIPATED THAT UTILITIES LOCATED BETWEEN 2 AND 3 PIPE DIAMETERS OF THE WWSP CENTERLINE WILL BE SUPPORTED DURING CONSTRUCTION. UTILITIES NEED TO BE PHYSICALLY LOCATED DURING FINAL DESIGN.
- PIPELINE MAY RELOCATE IN SW GARDEN ACRES RD. IF ROW IS WIDENED IN THE FUTURE

**PLAN**



COLOR COPY  
CWS File No. 18-000921  
Approved  
Clean Water Services  
FOR ENVIRONMENTAL REVIEW  
By JD. Date 7/3/2018  
SPL Attachment 24 of 25

			PROJ MANAGER	
			DESIGNED BY	
			DRAWN BY	
			CHECKED BY	
ISSUE	DATE	DESCRIPTION	PROJ NUMBER	

## WILLAMETTE WATER SUPPLY PROGRAM

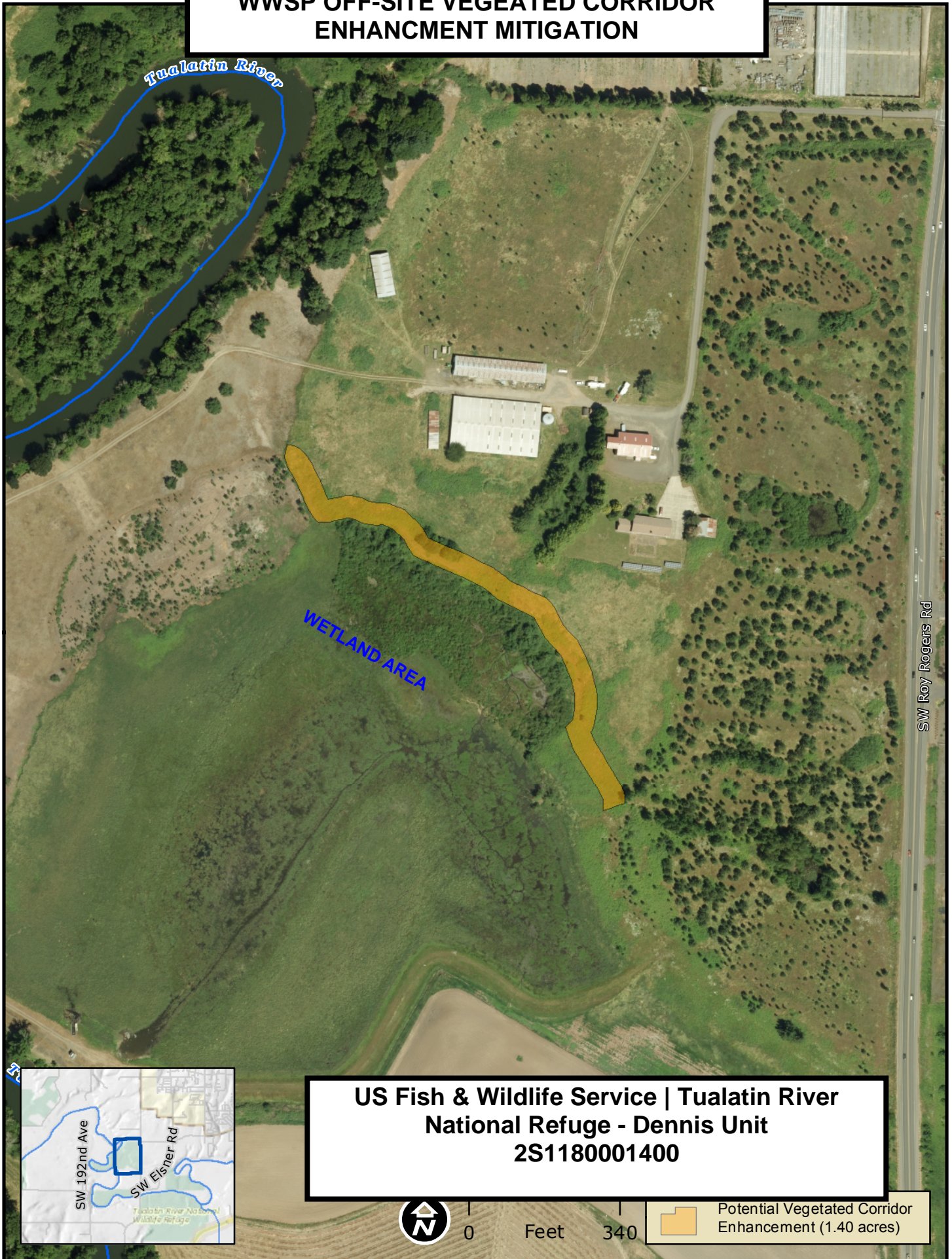
**PRELIMINARY DESIGN**

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	SCALE AS SHOWN	

10002A60-P08-CWS.DWG 3/31/2017 13:00:42 PM BDR



# WWSP OFF-SITE VEGEATED CORRIDOR ENHANCEMENT MITIGATION



**US Fish & Wildlife Service | Tualatin River  
National Refuge - Dennis Unit  
2S1180001400**



0

Feet

340



Potential Vegetated Corridor  
Enhancement (1.40 acres)