

Willamette Water Supply System Commission

Board Meeting
Thursday, August 6, 2020
12:00 – 2:00 PM

Microsoft Teams Meeting
In compliance with COVID-19 restrictions,
this meeting is dial-in only.

Willamette Water Supply System Commission

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**Willamette Water Supply System Commission
Board Meeting Agenda
Thursday, August 6, 2020 | 12:00 – 2:00 PM**

Microsoft Teams Dial-in Conference

To slow the spread of COVID-19, this meeting is dial-in only. It will not be held at a physical location.

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- If you wish to attend via conference call and need dial-in information, please contact Faye.Branton@tvwd.org or call (971) 329-5523. • If you wish to address the Willamette Water Supply System Board, please request the Public Comment Form and return it 48 hours prior to the day of the meeting. • **All testimony is electronically recorded.**
-

EXECUTIVE SESSION – 11:30 AM

An executive session of the Board is called under ORS 192.660(2)(e) to conduct deliberations with persons designated by the governing body to negotiate real property transactions.

REGULAR SESSION – 12:00 PM

CALL TO ORDER

1. GENERAL MANAGER'S REPORT – Dave Kraska

(Brief presentation on current activities relative to the WWSS Commission)

2. PUBLIC COMMENT

(This time is set aside for persons wishing to address the Board on items on the Consent Agenda, as well as matters not on the agenda. Additional public comment will be invited on agenda items as they are presented. Each person is limited to five minutes, unless an extension is granted by the Board. Should three or more people testify on the same topic, each person will be limited to three minutes.)

3. CONSENT AGENDA

(The entire Consent Agenda is normally considered in a single motion. Any Commissioner may request that an item be removed for separate consideration.)

- A. Approve the July 2, 2020 meeting minutes.

4. BUSINESS AGENDA

- A. Adopt PLM_5.3 Supplemental Resolution of Public Necessity – *Joelle Bennett*
- B. Adopt PLW_2.0 Resolution of Public Necessity – *Joelle Bennett*
- C. Approve MPE_1.0/COB_1.0 Delivery Phasing and Design Contract Amendment – *Dave Kraska*
- D. Approve COB_1.0 Design IGA Amendment 1 to add a City of Beaverton Hall Boulevard 16-inch Pipeline – *Joelle Bennett*
- E. Acting as Local Contract Review Board: Approve Public Notice of Findings for the Use of Alternative Contracting Methods for Construction of a Phase of MPE_1.0/COB_1.0 – *Dave Kraska*

5. INFORMATION ITEMS

- A. Planned September Business Agenda Items – *Joelle Bennett*
- B. The next Board meeting is scheduled on September 3, 2020, via Dial-In Conference

6. COMMUNICATIONS AND NON-AGENDA ITEMS

- A. None scheduled.

ADJOURNMENT

Willamette Water Supply
Our Reliable Water

Safety Minute
Working Safely Around Bees and Wasps
August 6, 2020

Information source: British Columbia Municipal Safety Association

1

This time of year, you may encounter bees and wasps

- Grass cutting
- Working near ditches/swales
- Working near buildings
- Installing fence posts

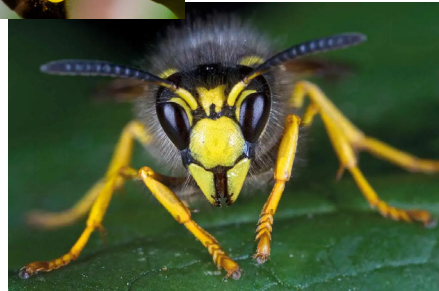


Willamette Water Supply
Our Reliable Water

2

Does it matter if you are stung by a bee or a wasp?

- Possibly not.
- Reactions to stings from either insect can range from minor swelling and discomfort to severe allergic reactions that can be fatal if not treated.
- So it is best practice to avoid agitating all flying, stinging insects.



Tips for avoiding stings from any flying insects

- Scan work sites for nests prior to starting work.
- If a nest is found, let everyone know.
- Avoid / postpone any work near active nests.
- Avoid perfume, cologne or scented soaps.
- Avoid brightly colored, patterned clothing.
- Know that insect repellent doesn't work on bees or wasps and may even attract them.
- Stay calm if a bee or wasp lands on you.
 - It will eventually leave on its own accord.
 - Or, slowly and gently brush it away.



Tips on what to do if you are stung

- Gently scrape out the stinger using a blunt object such as a credit card.
- If stung on the mouth or nose, even if you are not allergic, get immediate medical help, as swelling could block airways.
- To help prevent infection, wash the area with soap and water and keep clean until completely healed.
- Ice packs can be used to reduce swelling.
- Commercially available antihistamines may help reduce redness, itchiness and swelling.



Identifying an allergic reaction

- Seek first aid or emergency care if any of the following are presenting after being stung:
 - Tightness of the throat or upper airway
 - Breathing difficulty
 - Weakness
 - Numbness and tingling
 - Hives
 - Anxiety
 - Abdominal cramps, diarrhea or vomiting
 - Signs of shock

Working Safely Around Bees and Wasps Summary

- Look for and avoid flying, stinging insects around areas before you start work.
- Avoid wearing perfumes, scents, bright clothing if you must work near them.
- If one lands on you or is near you, don't overreact.
- If stung, get the stinger out, wash the area, apply ice, use antihistamines.
- If stung on the nose or mouth, or exhibiting any signs of allergic reaction, seek medical help.



MEMO

Date: August 6, 2020

To: Willamette Water Supply System Board of Commissioners

From: David Kraska, P.E., General Manager

Re: Willamette Water Supply System (WWSS) General Manager's Report

The following items will be covered during the report by the General Manager (GM):

- 1. Remote Meetings Etiquette:** Thank you for your continued flexibility as we hold our meetings remotely. We request participants continue to adhere to three basic rules
 - a. Please mute your microphone when you are not talking.
 - b. Please identify yourself before you speak.
 - c. If someone other than a Board member would like to ask a question or make a comment, please use the chat feature to let the General Manager know and wait to be acknowledged.

- 2. Safety Minute** – David Kraska will present today's safety minute.

- 3. Approvals and Procurements Forecast** – Attached to this GM report is the approvals and procurements forecast (Forecast) for July through September 2020. The Forecast presents a view of WWSP activities that have recently been approved or are scheduled for approval over the next two months by either the WWSP Director, WWSS Committees, or the WWSS Board.

The Forecast shows that we currently anticipate having seven business items on the September Board meeting agenda. These include two items pertaining to WWSP real estate activities, two WWSS intergovernmental agreements, one letter of understanding, and design contract amendments for two projects. Joelle Bennett will present a staff report later in this meeting on these anticipated September business agenda items.

The forecast also lists other real estate activities and intergovernmental agreements that are in process, and contracts that are being negotiated. These items are largely the same as they were presented last month.

- 4. Projects Planning, Permitting, and Communications Updates** – Permit applications continue to be prepared and submitted for various WWSP projects (MPE_1.2, PLW_1.3, PLM_1.3, PLM_5.3, WTP_1.0, and RWF_1.0). Despite restrictions and modified business practices of the permitting agencies related to COVID-19, our permits continue to be processed in a timely manner.

GM Report to the WWSS Board of Commissioners

August 6, 2020

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5. Projects Design Status Updates – Work continues on multiple design projects, including nine pipeline projects, the Water Treatment Plant (WTP_1.0), the Distributed Controls System (DCS_1.0), and the Terminal Storage project (RES_1.0). All of the design projects are progressing according to plan.

6. Projects Construction Status Updates – There are six active construction projects:

Project	Description	Progress Since Last Month
1. RWF_1.0	Raw Water Facilities project located at the Willamette River Water Treatment Plant	Continued mobilization efforts, tree removal and grading the upper site.
2. PLM_1.1	Raw water pipeline project in Wilsonville that extends from our RWF_1.0 project to Wilsonville Road	Started the final creek and utility crossings work.
3. PLM_1.2	Raw water pipeline project being completed in partnership with the City of Wilsonville’s Garden Acres Road project	Started waterline installation and preparation for the trenchless Day Road crossing.
4. PLM_5.1	Finished water pipeline project being completed in partnership with Washington County’s Roy Rogers Road project	2,100 LF of waterline installed so far. Continued utility relocation efforts.
5. PLM_5.2	Finished water pipeline project along SW Scholls Ferry and SW Tile Flat roads that we are working to complete in advance of development work in the area	Waterline installation is now complete. Started installation of appurtenances.
6. PLW_1.3	Finished water pipeline project in South Hillsboro from SW Farmington Road to SE Blanton Street	Began mobilization efforts.

All projects remain on track and are progressing according to plan, and all contractors are remaining in compliance with the Governor’s Executive Order No. 20-12 regarding hygiene and social distancing.

Approvals and Procurement Forecast: July 2020 through September 2020

This report provides a three-month projection of (1) forthcoming actions under the WWSS Management Authority Matrix and (2) ongoing and forthcoming procurements.

a = Actual date
e = Email approval
FC = Finance Committee
LCRB = Local Contract Review Board
MC = Management Committee
N/A = Not applicable
OC = Operations Committee

Rec. = Recommendation
t = Tentative date
TBD = To be determined; sufficient information not available to project a date
Note: Dates in **red text** indicate meetings needed outside the normal meeting schedule

Type	Description	Projecte d Action	Body/Position (projected action date)		
			Program Director	WWSS Committees	WWSS Board
Program Baseline or Related Plans	1. Delivery Strategy (Capital Improvement Plan) Change to Divide MPE_1.0/COB_1.0 into Work Packages <ul style="list-style-type: none"> Establish work packages (phases) to coordinate design and construction timing with other area projects 		N/A	MC: 7/23/2020 t	8/6/2020 t
Real Estate	2. PLM_5.3 Resolution of Need	Approve	N/A	MC: 6/18/2020 a	7/2/2020 a
	3. PLM_4.3 Resolution of Need (supplemental approval)	Approve	N/A	MC: 7/23/2020 t	8/6/2020 t
	4. PLM_5.3 Resolution of Need (supplemental approval)	Approve	N/A	MC: 7/23/2020 t	8/6/2020 t
	5. PLW_2.0 Resolution of Need	Approve	N/A	MC: 7/23/2020 t	8/6/2020 t
IGAs, MOUs, Permit Commitments, & Similar Agreements	6. PLW_1.2 WCLUT Design IGA Amendment 1	Approve	N/A	MC: 10/16/2019 a	12/5/2019 a
		Execute	7/21/2020 t	N/A	N/A
	7. WWSS IGA Exhibit 1 Amendment <ul style="list-style-type: none"> Update Ownership on the North Transmission Line and South Transmission Line Emergency Connections Make other minor edits 	Approve	N/A	MC: 6/18/2020 a	7/2/2020 a
		Execute	7/3/2020 a	N/A	N/A
	8. MPE_1.0/COB_1.0 Design IGA Amendment 1 to add a City of Beaverton Hall Boulevard 16-inch pipeline to COB_1.0	Approve	N/A	MC: 7/23/2020 t	8/6/2020 t
		Execute	8/7/2020 t	N/A	N/A
	9. City of Wilsonville IGA for WRWTP Filtration Pilot Study Participation	Approve	N/A	MC: 8/20/2020 t	9/3/2020 t
		Execute	9/4/2020 t	N/A	N/A
	10. PLW_2.0 Metro Letter of Understanding	Approve	N/A	MC: 8/20/2020 t	9/3/2020 t
		Execute	9/4/2020 t	N/A	N/A
	11. MPE_1.0/COB Construction IGA for Construction of S.W. Nimbus/Scholl's Ferry to S.W. Beaverton-Hillsdale Highway	Approve	N/A	MC: 8/20/2020 t	9/3/2020 t
		Execute	9/4/2020 t	N/A	N/A
Contracts	12. RES_1.0 and PLM_5.3 Project Construction Manager/General Contractor (CM/GC) <ul style="list-style-type: none"> Goal: CM/GC for RES_1.0 project Approximate value: \$134 M Contractor: TBD Publish Request for Proposals: 9/2/2020 t Proposal Due Date: 10/6/2020 t Rec. of Award: 11/3/2020 t Notice of Intent to Award: 11/5/2020 t Notice to Proceed: 12/4/2020 t 	Approve	N/A	MC: 11/19/2020 t	12/3/2020 t
		Execute	12/4/2020 t	N/A	N/A

Type	Description	Projecte d Action	Body/Position (projected action date)		
			Program Director	WWSS Committees	WWSS Board
Contract Amendments and Change Orders (above Program Director's Authority)	13. MPE_1.0/COB_1.0 Design Contract Amendment for Project Work Packages (phases) <ul style="list-style-type: none"> Goal: Amend contract for design services and engineering services during construction to accommodate project delivery in three phases Value: \$1.998 million Engineer: Brown and Caldwell 	Approve	N/A	MC: 7/23/2020 t	8/6/2020 t
		Execute	8/7/2020 t	N/A	N/A
	14. PLM_1.0 Design Contract Amendment for Completing PLM_1.3 Design and PLM_1.1 Construction Services <ul style="list-style-type: none"> Goal: Amend contract for design services and engineering services during construction to accommodate PLM_1.3 design changes and PLM_1.1 additional construction meetings Value: TBD Engineer: HDR 	Approve	N/A	MC: 8/20/2020 t	9/3/2020 t
		Execute	9/4/2020 t	N/A	N/A
	15. MPE_1.0/COB_1.0 Design Contract Amendment to add a City of Beaverton Hall Boulevard 16-inch pipeline to COB_1.0 <ul style="list-style-type: none"> Goal: Amend contract for design services and engineering services during construction to accommodate additional pipeline Value: TBD Engineer: Brown and Caldwell 	Approve	N/A	MC: 8/20/2020 t	9/3/2020 t
		Execute	9/4/2020 t	N/A	N/A
Local Contract Review Board (LCRB) Actions	16. Findings for Exemption from Competitive Bidding for RES_1.0, PLM_5.3 <ul style="list-style-type: none"> Board approval to initiate public comment 5/7/2020 a 	Approve	N/A	MC: 4/23/2020 a	7/2/2020 a
		Execute	N/A	N/A	N/A
	17. Findings for the Use of Alternative Contracting Methods for Construction of a Phase of MPE_1.0/COB_1.0 <ul style="list-style-type: none"> Goal: Use of best value selection approach Board approval to initiate public comment 8/6/2020 t 	Approve	N/A	MC: 7/23/2020 t	10/1/2020 t
		Execute	N/A	N/A	N/A

**Willamette Water Supply System Commission
Board Meeting Minutes
Thursday, July 2, 2020**

Commissioners present:

Tualatin Valley Water District (TVWD): Jim Duggan
City of Hillsboro: David Judah
City of Beaverton: Denny Doyle

Committee Members present:

TVWD: Tom Hickmann, Management Committee
Paul Matthews, Finance Committee
Carrie Pak, Operations Committee
City of Hillsboro: Niki Iverson, Management Committee
Lee Lindsey, Finance Committee
Eric Hielema, Operations Committee
City of Beaverton: Chad Lynn, Management Committee
David Winship, Operations Committee

Managing Agency Administrative Staff present:

Dave Kraska, Willamette Water Supply Program (WWSP) Director; WWSS Commission General Manager
Joelle Bennett, WWSP Assistant Director
Bill Van Derveer, WWSP Program Manager
Clark Balfour, TVWD General Counsel
Faye Branton, WWSP Administrative Assistant; WWSS Commission Recorder

Other Attendees:

Mike Britch, WWSP Engineering and Construction Manager
Christina Walter, WWSP Permitting and Outreach Manager
Joel Cary, TVWD Water Resources Division Manager
Matt Oglesby, TVWD Asset Management Division Manager

CALL TO ORDER

Following a brief delay, due to technology issues, Chairman Duggan called the regular Willamette Water Supply System (WWSS) Commission meeting to order at 12:03 p.m.

ROLL CALL

Ms. Branton administered the roll call and noted attendance.

1. GENERAL MANAGER'S REPORT

Mr. Kraska presented a safety minute covering heat illness prevention tips. *(presentation on file)*

The General Manager's report included an overview of etiquette for remote meetings; the Approvals and Procurement Forecast for June through August 2020; updates on projects planning, permitting, and

communications; and status updates on the design and construction of projects. The report also noted that all contractors are remaining in compliance with the Governor's Executive Order No. 20-12 regarding hygiene and social distancing.

2. PUBLIC COMMENT

There were no public comments.

3. CONSENT AGENDA

- A.** Approve the June 4, 2020 meeting minutes.

Motion was made by Doyle, seconded by Judah, to approve the consent agenda as presented. The motion passed unanimously with Doyle, Duggan, and Judah voting in favor.

4. BUSINESS AGENDA

- A.** Acting as the Local Contract Review Board (LCRB), consider adopting Resolution No. WWSS-12-20 declaring an exemption from competitive bidding for the RES_1.0 Storage Reservoirs project (combined with the PLM_5.3 pipeline project) and approving the Construction Manager/General Contractor (CM/GC) delivery method for construction.
• *Staff Report – Mike Britch*

Mr. Britch presented the staff report requesting adoption of Resolution No. WWSS-12-20.
(*presentation on file*)

In response to Commissioner's question, staff replied that the CM/GC delivery method is supported by the construction industry. WWSP's plan includes outreach to the contractor community and, although the construction market is presently busy, staff expects to have a sufficient number of capable and interested proposers.

Motion was made by Judah, seconded by Doyle, to adopt Resolution No. WWSS-12-20 declaring an exemption from competitive bidding for the RES_1.0 Storage Reservoirs project (combined with the PLM_5.3 pipeline project) and approve the Construction Manager/General Contractor (CM/GC) delivery method for construction. The motion passed unanimously with Doyle, Duggan, and Judah voting in favor.

- B.** Consider adopting Resolution No. WWSS-13-20 approving an amendment to the WWSS Intergovernmental Agreement Exhibit 1 to update ownership on the North Transmission Line and South Transmission Line emergency connections, and complete other minor updates. • *Staff Report – Joelle Bennett*

Ms. Bennett presented the staff report requesting adoption of Resolution No. WWSS-13-20.

Motion was made by Doyle, seconded by Judah, to adopt Resolution No. WWSS-13-20 approving an amendment to the WWSS Intergovernmental Agreement Exhibit 1 to update ownership on the North Transmission Line and South Transmission Line emergency connections, and complete other minor updates. The motion passed unanimously with Doyle, Duggan, and Judah voting in favor.

- C. Consider adopting Resolution No. WWSS-14-20, declaring public necessity to acquire permanent and temporary construction easements over, upon, under, and through real property for pipeline section PLM_5.3 for the Willamette Water Supply System (WWSS).
• *Staff Report – Joelle Bennett*

Ms. Bennett presented the staff report requesting adoption of Resolution No. WWSS-14-20.

Motion was made by Judah, seconded by Doyle, to adopt Resolution No. WWSS-14-20, declaring public necessity to acquire permanent and temporary construction easements over, upon, under, and through real property for pipeline section PLM_5.3 for the Willamette Water Supply System (WWSS). The motion passed unanimously with Doyle, Duggan, and Judah voting in favor.

5. INFORMATION ITEMS

- A. Planned August Business Agenda items • *Staff Report – Joelle Bennett*

Ms. Bennett presented information on anticipated business agenda items for the August 6, 2020 WWSS Commission Board meeting. Staff anticipates recommending approval of (1) PLM_4.3 and PLM_5.3 Supplemental Resolutions of Public Necessity, (2) PLW_2.0 Resolution of Public Necessity, and (3) adding a City of Beaverton Hall Boulevard 16-inch pipeline to the COB_1.0 project.

- B. The next Board meeting is scheduled on August 6, 2020, via dial-in conference.

6. COMMUNICATIONS AND NON-AGENDA ITEMS

- A. Mr. Kraska called the Board's attention to the collection of approved documents that are awaiting Board Chair and Vice Chair signatures that have been accumulating since we began holding virtual Board meetings in April. Staff would like to establish a monthly signature process following Board meetings. Mr. Kraska offered suggestions and solicited Board feedback on how to proceed.

Commissioners Duggan and Doyle are amenable to executing documents at the WWSP office. Staff will coordinate with Commissioners and make arrangements that are convenient for them.

Commissioners thanked staff for a good meeting and wished everyone a safe July 4th holiday, emphasizing no illegal fireworks...anywhere!

ADJOURNMENT

There being no further business, Chairman Duggan adjourned the meeting at 12:52p.m.

James Duggan, Chair

Denny Doyle, Vice Chair

Willamette Water Supply System Commission

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STAFF REPORT

To: Board of Commissioners

From: Joelle Bennett, P.E., WWSP Assistant Program Director

Date: August 6, 2020

Subject: Supplemental Resolution Declaring Public Necessity to Acquire Property Interests Over, Upon, Under, and Through Real Property for Pipeline Section PLM_5.3 for the Willamette Water Supply System

Requested Board Action:

Consider adopting a resolution declaring public necessity to acquire permanent and temporary construction easements over, upon, under, and through real property for pipeline section PLM_5.3 for the Willamette Water Supply System (WWSS).

Key Concepts:

The WWSS includes a section of pipeline referred to as PLM_5.3.

- The Willamette Water Supply Program (WWSP) has progressed the design of this pipeline section to enable identification of property requirements for construction and long-term operation and maintenance of the pipeline.
- After consideration of various alignments and alternatives, the identified route will be located in a manner that will be most compatible with the greatest public good and the least injury to private property owners.
- This resolution declares the public need for the property interests and enables the WWSS Commission's agents, including the WWSP team, to begin negotiating with respective property interest holders, and also authorizes the acquisition of the property interests by eminent domain, to the extent negotiations fail.
- This is the second resolution declaring property needs for PLM_5.3. The first resolution was approved at the July 2, 2020 meeting and one additional resolution is expected at the September 3, 2020 meeting.

Background:

The pipeline alignment for PLM_5.3 is located along SW Grabhorn Road, across private property from the RES_1.0 location to near Clark Hill Road, and across private property to the connection point with PLW_1.3 at SW Rosedale Road and the future Cornelius Pass Road. The majority of this pipeline is located in unincorporated Washington County. The project area is shown in the attached map. The pipeline will be a 66-inch diameter welded steel pipe.

The PLM_5.3 pipeline alignment, due to its unique location, requires different types of permanent and temporary easements than other pipeline projects to, among other purposes, fulfill WWSP standard construction work zone requirements and to provide for future maintenance and operations of the WWSS. This portion of the pipeline will include easements for:

- The WWSS pipeline and associated water system facilities

August 6, 2020

Supplemental Resolution Declaring Public Necessity to Acquire Property Interests for WWSP Pipeline
Section PLM_5.3

- Access roads to provide access to pipeline sections not located adjacent to the public right of way
- Limited use easements that protect the pipeline and associated water system facilities from potentially damaging activities such as aggregate mining
- Temporary easements for construction, access to construction areas, and access and monitoring/maintenance of restoration areas

WWSP staff also are aware of additional property needs for pipeline section PLM_5.3 that are still being finalized and are not included in this resolution. This resolution is being brought to the Board now to allow the majority of real estate acquisition work needed for pipeline PLM_5.3 to begin on-schedule. A third resolution will be brought to the Board, likely in September, for authorization to proceed on additional property needs for pipeline section PLM_5.3.

Resolution Summary

The WWSS Commission has authority to acquire real property for the WWSS. The pipeline section PLM_5.3 requires the acquisition of real property for the construction, operation, and maintenance of the WWSS. The PLM_5.3 pipeline alignment was selected through an extensive alternatives evaluation, and the preferred location was selected based on the best interests of the public and the least injury to private property owners. The resolution enables the initiation of the property acquisition process, including negotiations with interest holders, and also authorizes the acquisition of the property interests by eminent domain, to the extent negotiations fail.

Budget Impact:

The WWSP real estate team has completed an estimate that represents, in the professional judgment of the real estate team, the budget-level cost required to acquire the easements. The total estimated cost for PLM_5.3 real property needs identified in this proposed resolution is \$4,900,000. Funds for purchase of these easements are included in the WWSP baseline budget.

Staff Contact Information:

Dave Kraska, P.E., WWSS General Manager, 503-941-4561, david.kraska@tvwd.org

Clark Balfour, General Counsel, 503-848-3061, clark.balfour@tvwd.org

Joelle Bennett, P.E., WWSP Assistant Program Director, 503-941-4577, joelle.bennett@tvwd.org

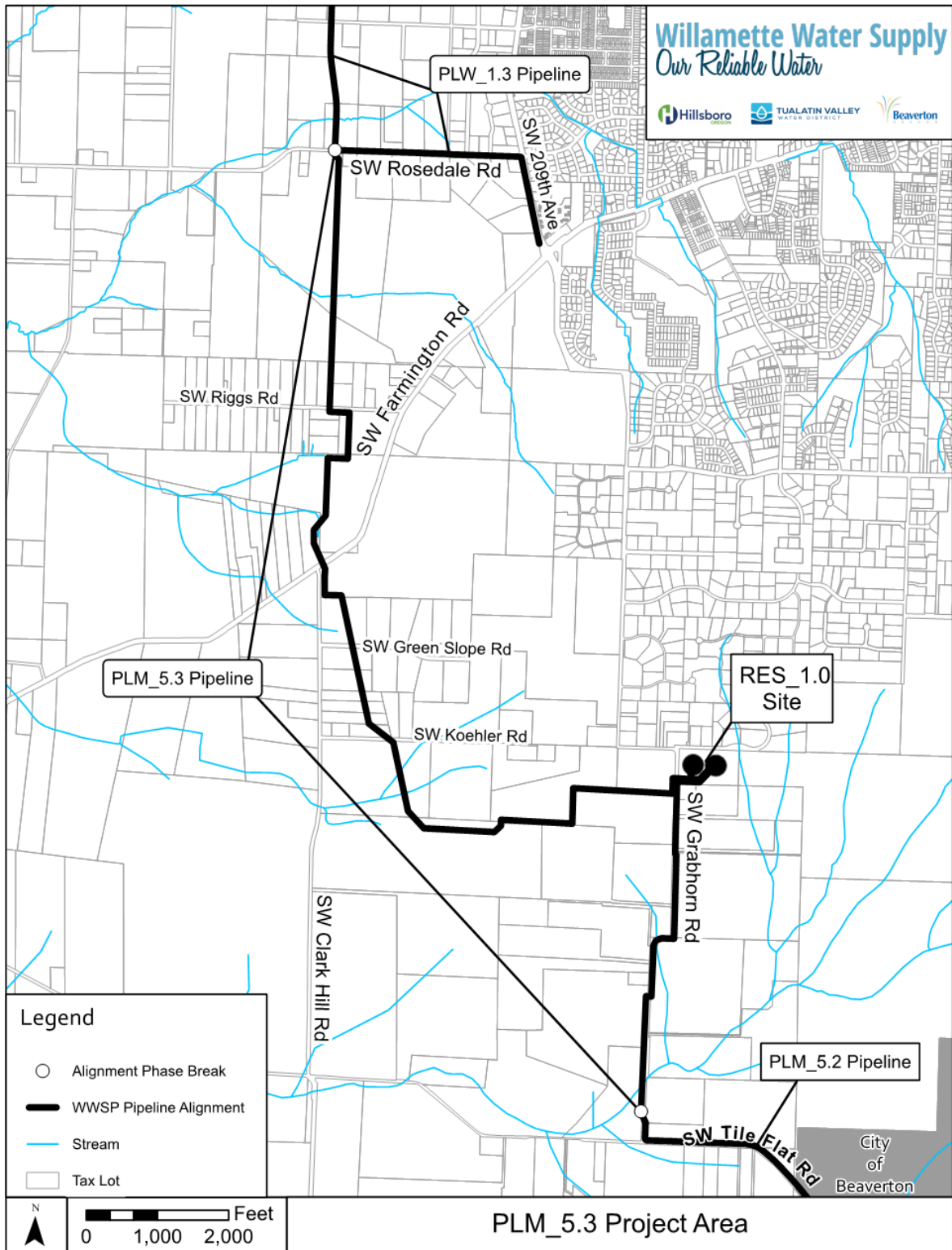
Attachments:

Project area map

Proposed Resolution

Exhibit 1: Property Interests (including Exhibit A Legal Descriptions and Exhibit B Acquisition Maps)

Project area map:



Willamette Water Supply System Commission

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RESOLUTION NO. WWSS-15-20

RESOLUTION DECLARING PUBLIC NECESSITY TO ACQUIRE PROPERTY INTERESTS OVER, UPON, UNDER AND THROUGH REAL PROPERTY FOR PIPELINE SECTION PLM_5.3 FOR THE WILLAMETTE WATER SUPPLY SYSTEM.

WHEREAS, the above-entitled matter came before the Willamette Water Supply System Commission (WWSS Commission) at its regular meeting on August 6, 2020; and,

WHEREAS, the Willamette Water Supply System Intergovernmental Agreement (Agreement) between Tualatin Valley Water District (TVWD), the City of Hillsboro (Hillsboro), and the City of Beaverton (Beaverton) (collectively, Members) created the WWSS Commission, an ORS Chapter 190 intergovernmental entity, effective July 1, 2019, to exercise the powers and duties set forth in the Agreement; and,

WHEREAS, pursuant to the Agreement, TVWD has been designated as the Managing Agency of the WWSS Commission; and,

WHEREAS, the Willamette Water Supply System (WWSS) includes, but is not limited to, an expanded and improved water intake on the Willamette River in the City of Wilsonville currently owned by TVWD and the City of Wilsonville, along with a new raw water pipeline, potable water treatment plant, finished water pipelines, pumping, storage, and other necessary water system facilities to enable the WWSS to utilize existing water rights to provide water system ownership and reliability to the Members' water system users; and,

WHEREAS, the WWSS Commission has been delegated authority by its Members under the Agreement and ORS Chapter 190 pursuant to City Charters, ORS 223.005 to 223.105, ORS 264.240 and Oregon Revised Statutes Chapter 35 to acquire real property by purchase or through eminent domain proceedings; and,

WHEREAS, the WWSS Commissioners determine, consistent with the powers and purposes of the WWSS Commission, that it is necessary for the economic well-being, public health, safety and welfare of the WWSS Commission and the Members' water system users, to acquire fee title to certain real property, as well as necessary rights-of-way, easements, and other property interests, in order to design, locate, construct, operate, and implement the WWSS; and,

WHEREAS, after investigation of various routes for a water pipeline and related water system facilities, the WWSS Commission has determined that certain property interests, are necessary for the construction, location, and operation of the WWSS, and in particular, pipeline section PLM_5.3, and that such use is planned and located in a manner that is most compatible with the greatest public benefit and the least private injury; and,

WHEREAS, such property interests are preliminarily described on Exhibits A and depicted for illustration purposes only on Exhibits B attached hereto and incorporated by reference, with final legal descriptions and easement documents to be determined by TVWD staff, including the Willamette Water Supply Program (WWSP) and its consultants, as the Managing Agency and on behalf of the WWSS

Commission, to be reasonably necessary to accommodate the design and operation of the WWSS (the Easement Interests); and,

WHEREAS, the WWSS Commission finds that declaration by resolution to acquire the Easement Interests for the WWSS is necessary and being so advised.

NOW, THEREFORE, BE IT RESOLVED BY THE WILLAMETTE WATER SUPPLY SYSTEM COMMISSION THAT:

Section 1: The above recitals shall form an integral part of this resolution and shall have the same force and effect as if fully stated herein.

Section 2: It is necessary for the preservation of economic well-being, public health, safety, and welfare of the public served by the Members and the WWSS that the WWSS Commission commence the acquisition process for the Easement Interests through exercise of the power of eminent domain.

Section 3: TVWD staff, including the WWSP, and counsel are authorized to retain real estate appraisers, negotiators, and other consultants, with said appraisals to be prepared under the auspices of WWSS Commission counsel, for initiation of proceedings as described below.

Section 4: TVWD staff, including WWSP, consultants, and counsel, are authorized to negotiate in good faith necessary agreements to acquire the Easement Interests on behalf of and in the name of the WWSS Commission and to pay just compensation and applicable compensable damages in accordance with applicable law without necessity of further approval by the WWSS Commission.

Section 5: TVWD staff, including WWSP, and counsel, are authorized to file complaints in condemnation, on behalf of and in the name of the WWSS Commission, and to take other steps as they determine necessary as the Managing Agency, and to prosecute to final determination such actions to acquire title to the Easement Interests if negotiations fail.

Section 6: Upon the trial of any suit or action instituted to acquire the Easement Interests, counsel acting for and on behalf of the WWSS Commission are authorized to make such stipulation, agreement, or admission as in their judgment may be for the best interest of the WWSS Commission and to take possession of the Easement Interests at such time as appropriate in their judgment without necessity of further WWSS Commission approval.

Approved and adopted at a regular meeting held on the 6th day of August 2020.

James Duggan, Chair

Denny Doyle, Vice Chair

EXHIBIT A

Willamette Water Supply
July 3, 2020

Daryl Lynn Sahnov Rev Trust
Shannon Kaye Lally Sahnov
Rev Trust
Tax Map No. 1S226B001600

PARCEL 1 – PERMANENT FACILITIES EASEMENT

A parcel of land lying in the Northwest Quarter of Section 26, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to Daryl Lynn Sahnov Revocable Trust and Shannon Kaye Lally Sahnov Revocable Trust, recorded November 7, 2017 as Document No. 2017-087900, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land, variable in width, lying on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 957+00.00, said point being S 64°13'36" E, 956.35 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian.

Thence along said pipeline the following courses;

N 89°15'16" W, 78.67 feet to Station 957+78.67;
 thence S 0°01'21" E, 215.81 feet to Station 959+94.49;
 thence N 88°27'18" W, 1393.61 feet to Station 973+88.10;
 thence S 0°03'04" E, 496.73 feet to Station 978+84.82;
 thence N 88°36'55" W, 1001.32 feet to Station 988+86.14;
 thence S 0°10'16" W, 84.89 feet to Station 989+71.03;
 thence S 45°46'40" W, 126.13 feet to Station 990+97.16;
 thence N 88°36'55" W, 988.72 feet to Station 1000+85.88;
 thence N 44°14'56" W, 328.47 feet to Station 1004+14.36;
 thence N 13°40'36" W, 985.84 feet to Station 1014+00.20, said point being S 86°03'21" W, 530.54 feet from the North 1/4 corner of Section 35;
 thence continuing along said pipeline N 54°06'50" W, 431.69 feet to Station 1018+31.89;
 thence N 13°40'36" W, 1838.00 feet to Station 1036+69.89;
 thence N 89°58'26" W, 235.89 feet to Station 1039+05.77;
 thence N 1°36'57" W, 264.23 feet to Station 1041+70.00;
 thence N 2°57'43" E, 99.44 feet to Station 1042+69.44;
 thence N 25°40'02" W, 395.23 feet to Station 1046+64.67;
 thence N 1°37'05" W, 187.89 feet to Station 1048+52.56;
 thence N 38°06'59" E, 260.68 feet to Station 1051+13.24, said point being S 77°11'34" E, 84.29 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55;
 thence continuing along said pipeline N 0°32'41" E, 808.24 feet to Station 1059+21.48;
 thence S 89°26'00" E, 280.00 feet to Station 1062+01.48;
 thence N 0°32'40" E, 646.49 feet to Station 1068+47.97;
 thence N 89°25'41" W, 280.00 feet to Station 1071+27.97;
 thence N 0°32'41" E, 3542.23 feet to Station 1106+70.20;
 thence N 44°09'05" W, 88.58 feet to Station 1107+58.78;
 thence N 0°50'55" E, 47.38 feet to Station 1108+06.17 and the Terminus of said pipeline

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Daryl Lynn Sahnov Rev Trust
Shannon Kaye Lally Sahnov
Rev Trust
Tax Map No. 1S226B001600**

description. Said Terminus also being N 0°46'24 E, 5,089.47 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55.

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly Side of Centerline</u>
1071+27.97		1073+28.31	15.00
1073+28.31		1074+28.31	30.00
1074+28.31		1078+50.00	15.00

<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly Side of Centerline</u>
1071+27.97		1078+50.00	15.00

EXCEPT THEREFROM that portion lying within the right-of-way of Riggs Rd (CR 1694).

The parcel of land to which this description applies contains 20,256 square feet (0.47 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Sahnov property included in a strip of land, variable in width, lying on the westerly side of the Pipeline Centerline described in Parcel 1;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly Side of Centerline</u>
1071+27.97		1074+68.47	35.00
1074+68.47		1076+73.23	55.00
1076+73.23		1078+50.00	35.00

EXCEPT THEREFROM that portion lying within the right-of-way of Riggs Road (CR 1694), and above described Parcel 1.

The parcel of land to which this description applies contains 15,277 square feet (0.35 acre), more or less.

PARCEL 3 – PERMANENT ACCESS ROAD EASEMENT

That portion of said Sahnov property included in a strip of land, variable in width, lying on each side of the Pipeline Centerline described in Parcel 1;

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Daryl Lynn Sahnow Rev Trust
Shannon Kaye Lally Sahnow
Rev Trust
Tax Map No. 1S226B001600**

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly Side of Centerline</u>
1073+28.31		1073+78.31	30.00
1073+78.31		1078+50.00	15.00

<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly Side of Centerline</u>
1073+28.31		1078+50.00	15.00

The parcel of land to which this description applies contains 15,745 square feet (0.36 acre), more or less.

PARCEL 4 – TEMPORARY RESTORATION EASEMENT

That portion of said Sahnow property included in a strip of land, 35.00 feet in width, lying on the westerly side of the Pipeline Centerline described in Parcel 1, between Engineer’s Stations 1076+73.23 and 1078+50.00 of said Pipeline Centerline;

EXCEPT THEREFROM that portion lying within above described Parcel 1.

The parcel of land to which this description applies contains 3,237 square feet (0.07 acre), more or less.

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.

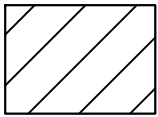


EXPIRES: 6/30/22
SIGNED: 7-24-20

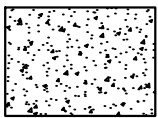
EXHIBIT B



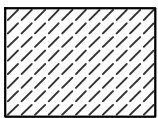
PARCEL 1 PERMANENT FACILITIES EASEMENT ACQUISITION
AREA = 20,256 S.F.
(0.47 ac)



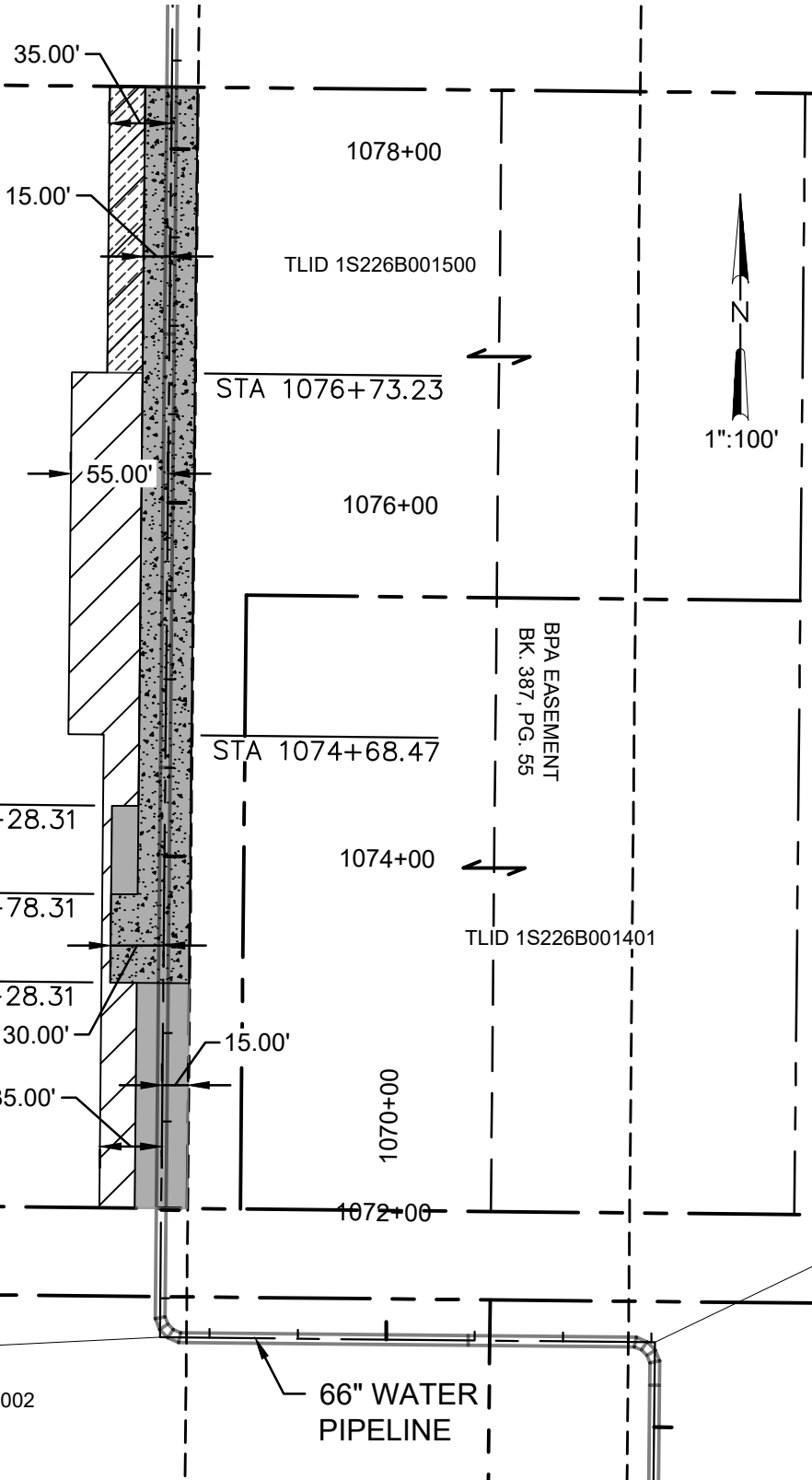
PARCEL 2 TEMPORARY CONSTRUCTION EASEMENT ACQUISITION
AREA = 15,277 S.F.
(0.35 ac)



PARCEL 3 PERMANENT ACCESS ROAD EASEMENT ACQUISITION
AREA = 15,745 S.F.
(0.36 ac)



PARCEL 4 TEMPORARY RESTORATION EASEMENT ACQUISITION
AREA = 3,237 S.F.
(0.07 ac)



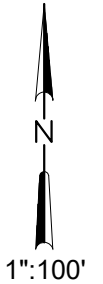
TLID 1S226B001700

TLID 1S226B001600
Daryl Lynn Sahnov
Revocable Trust
DOC No. 2017-087900

RIGGS ROAD (CR 1694)

PI
1071+27.97
TLID 1S226B003002

66" WATER PIPELINE



WILLAMETTE WATER SUPPLY PROGRAM PIPELINE MAIN STEM, SECTION 5.3

ACQUISITION MAP PAGE 1 OF 1

FILE No: PLM_5.3-085

SUBMITTAL DATE: JULY 3, 2020

TAX LOT: 1S226B001600

ADDRESS:

TAX MAP: T1S R2W Sec26B

Jacobs

SURVEY & MAPPING

2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
PH: (503) 235-5000

EXHIBIT A

Willamette Water Supply
July 24, 2020

Cheryl E. Tompkins
Revocable Living Trust
Tax Map No. 1S226B003300

PARCEL 1 – PERMANENT FACILITIES EASEMENT

A parcel of land lying in the Northwest Quarter of Section 26, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to Cheryl E. Tompkins Revocable Living Trust, recorded October 27, 2014 as Document No. 2014-068033, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land, variable in width, lying on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 957+00.00, said point being S 64°13'36" E, 956.35 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian.

Thence along said pipeline the following courses;

N 89°15'16" W, 78.67 feet to Station 957+78.67;
thence S 0°01'21" E, 215.81 feet to Station 959+94.49;
thence N 88°27'18" W, 1393.61 feet to Station 973+88.10;
thence S 0°03'04" E, 496.73 feet to Station 978+84.82;
thence N 88°36'55" W, 1001.32 feet to Station 988+86.14;
thence S 0°10'16" W, 84.89 feet to Station 989+71.03;
thence S 45°46'40" W, 126.13 feet to Station 990+97.16;
thence N 88°36'55" W, 988.72 feet to Station 1000+85.88;
thence N 44°14'56" W, 328.47 feet to Station 1004+14.36;
thence N 13°40'36" W, 985.84 feet to Station 1014+00.20, said point being S 86°03'21" W, 530.54 feet from the North 1/4 corner of Section 35;
thence continuing along said pipeline N 54°06'50" W, 431.69 feet to Station 1018+31.89;
thence N 13°40'36" W, 1838.00 feet to Station 1036+69.89;
thence N 89°58'26" W, 235.89 feet to Station 1039+05.77;
thence N 1°36'57" W, 264.23 feet to Station 1041+70.00;
thence N 2°57'43" E, 99.44 feet to Station 1042+69.44;
thence N 25°40'02" W, 395.23 feet to Station 1046+64.67;
thence N 1°37'05" W, 187.89 feet to Station 1048+52.56;
thence N 38°06'59" E, 260.68 feet to Station 1051+13.24, said point being S 77°11'34" E, 84.29 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55;
thence continuing along said pipeline N 0°32'41" E, 808.24 feet to Station 1059+21.48;
thence S 89°26'00" E, 280.00 feet to Station 1062+01.48;
thence N 0°32'40" E, 646.49 feet to Station 1068+47.97;
thence N 89°25'41" W, 280.00 feet to Station 1071+27.97;
thence N 0°32'41" E, 3542.23 feet to Station 1106+70.20;
thence N 44°09'05" W, 88.58 feet to Station 1107+58.78;
thence N 0°50'55" E, 47.38 feet to Station 1108+06.17 and the Terminus of said pipeline

EXHIBIT A

**Willamette Water Supply
July 24, 2020**

**Cheryl E. Tompkins
Revocable Living Trust
Tax Map No. 1S226B003300**

description. Said Terminus also being N 0°46'24 E, 5,089.47 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55.

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly Side of Centerline</u>
1043+50.00		1051+00.00	25.00
<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly Side of Centerline</u>
1043+50.00		1045+75.45	60.00
1045+75.45		1045+91.36	60.00 in a straight line to 25.00
1045+91.36		1051+00.00	25.00

EXCEPT THEREFROM that portion lying within the right-of-way of Farmington Rd (CR 1553).

The parcel of land to which this description applies contains 27,637 square feet (0.63 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Tompkins property included in a strip of land variable in width, lying on each side of the Pipeline Centerline described in Parcel 1;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly Side of Centerline</u>
1043+50.00		1044+94.66	50.00
1044+94.66		1044+96.33	50.00 in a straight line to 113.77
1044+96.33		1046+36.28	113.77 in a straight line to 110.03
1046+36.28		1046+35.75	110.03 in a straight line to 89.89
1046+35.75		1046+64.60	89.89 in a straight line to 89.07
1046+64.60		1046+88.43	89.07 in a straight line to 50.00
1046+88.43		1051+00.00	50.00
<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly Side of Centerline</u>
1043+50.00		1045+99.15	75.00
1045+99.15		1046+10.30	75.00 in a straight line to 50.00
1046+10.30		1051+00.00	50.00

EXCEPT THEREFROM that portion lying within the right-of-way of Farmington Rd (CR 1553), and the above described Parcel 1.

EXHIBIT A

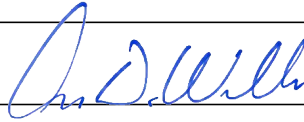
**Willamette Water Supply
July 24, 2020**

**Cheryl E. Tompkins
Revocable Living Trust
Tax Map No. 1S226B003300**

The parcel of land to which this description applies contains 36,015 square feet (0.83 acre), more or less.

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.

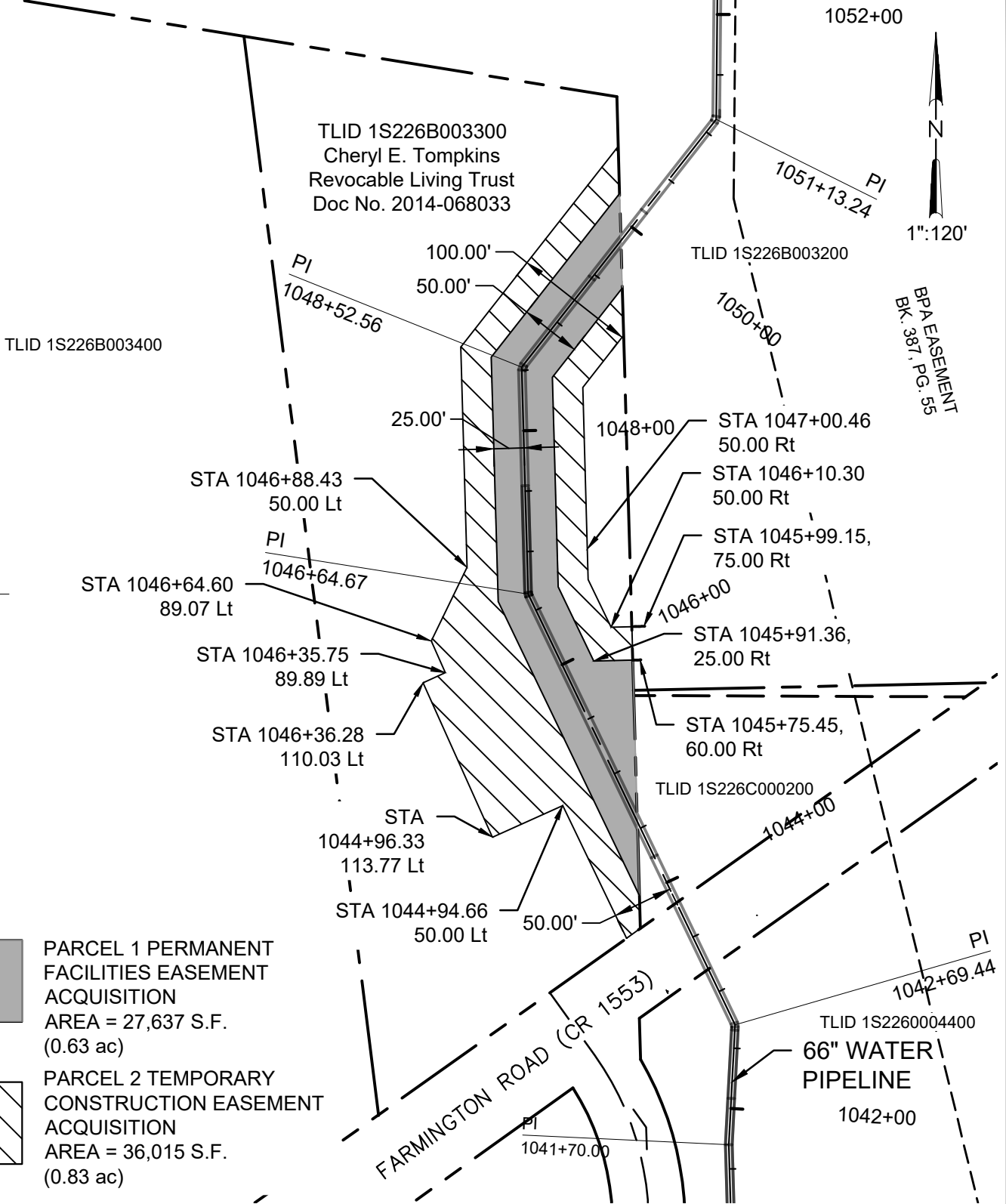
REGISTERED
PROFESSIONAL
LAND SURVEYOR



OREGON
JANUARY 8, 2015
AARON D. WILLIS
88798

EXPIRES: 6/30/22
SIGNED: 7-24-20

EXHIBIT B



PARCEL 1 PERMANENT FACILITIES EASEMENT ACQUISITION
 AREA = 27,637 S.F.
 (0.63 ac)



PARCEL 2 TEMPORARY CONSTRUCTION EASEMENT ACQUISITION
 AREA = 36,015 S.F.
 (0.83 ac)

WILLAMETTE WATER SUPPLY PROGRAM

PIPELINE MAIN STEM, SECTION 5.3

FILE No: PLM_5.3-100

SUBMITTAL DATE: JULY 24, 2020

TAX LOT: 1S226B003300

ADDRESS:

TAX MAP: T1S R2W Sec26B

ACQUISITION MAP

PAGE 1 OF 1

Jacobs

SURVEY & MAPPING

2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
 PH: (503) 235-5000

EXHIBIT A

**Willamette Water Supply
July 28, 2020**

**Robert B. Cronkrite
Tax Map No. 1S226C000300**

PARCEL 1 – PERMANENT FACILITIES EASEMENT

A parcel of land lying in the Southwest Quarter of Section 26, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to Robert B. Cronkrite, recorded January 24, 2005 as Document No. 2005-008052, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land variable in width, lying on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 957+00.00, said point being S 64°13'36 E, 956.35 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian.

Thence along said pipeline the following courses;

N 89°15'16" W, 78.67 feet to Station 957+78.67;
thence S 0°01'21" E, 215.81 feet to Station 959+94.49;
thence N 88°27'18" W, 1393.61 feet to Station 973+88.10;
thence S 0°03'04" E, 496.73 feet to Station 978+84.82;
thence N 88°36'55" W, 1001.32 feet to Station 988+86.14;
thence S 0°10'16" W, 84.89 feet to Station 989+71.03;
thence S 45°46'40" W, 126.13 feet to Station 990+97.16;
thence N 88°36'55" W, 988.72 feet to Station 1000+85.88;
thence N 44°14'56" W, 328.47 feet to Station 1004+14.36;
thence N 13°40'36" W, 985.84 feet to Station 1014+00.20, said point being S 86°03'21 W, 530.54 feet from the North 1/4 corner of Section 35;
thence continuing along said pipeline N 54°06'50" W, 431.69 feet to Station 1018+31.89;
thence N 13°40'36" W, 1838.00 feet to Station 1036+69.89;
thence N 89°58'26" W, 235.89 feet to Station 1039+05.77;
thence N 1°36'57" W, 264.23 feet to Station 1041+70.00;
thence N 2°57'43" E, 99.44 feet to Station 1042+69.44;
thence N 25°40'02" W, 395.23 feet to Station 1046+64.67;
thence N 1°37'05" W, 187.89 feet to Station 1048+52.56;
thence N 38°06'59" E, 260.68 feet to Station 1051+13.24, said point being S 77°11'34 E, 84.29 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55;
thence continuing along said pipeline N 0°32'41" E, 808.24 feet to Station 1059+21.48;
thence S 89°26'00" E, 280.00 feet to Station 1062+01.48;
thence N 0°32'40" E, 646.49 feet to Station 1068+47.97;
thence N 89°25'41" W, 280.00 feet to Station 1071+27.97;
thence N 0°32'41" E, 3542.23 feet to Station 1106+70.20;
thence N 44°09'05" W, 88.58 feet to Station 1107+58.78;
thence N 0°50'55" E, 47.38 feet to Station 1108+06.17 and the Terminus of said pipeline description. Said Terminus also being N 0°46'24 E, 5,089.47 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55.

EXHIBIT A

**Willamette Water Supply
July 28, 2020**

**Robert B. Cronkrite
Tax Map No. 1S226C000300**

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly and Southerly Side of Centerline</u>
1029+00.00		1031+33.56	30.00
1031+33.56		1036+69.89	15.00
1036+69.89		1038+45.91	30.00

<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly Side of Centerline</u>
1029+00.00		1040+00.00	15.00

EXCEPT THEREFROM that portion lying within the right-of-way of Green Slope Road.

The parcel of land to which this description applies contains 25,123 square feet (0.58 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Cronkrite property included in a strip of land, 75.00 feet in width, lying 55.00 feet westerly and southerly, and 20.00 feet easterly of the Pipeline Centerline described in Parcel 1;

EXCEPT THEREFROM that portion lying within the right-of-way of Green Slope Road and above described Parcel 1.

The parcel of land to which this description applies contains 34,754 square feet (0.80 acre), more or less.

PARCEL 3 – PERMANENT LIMITED USE EASEMENT

That portion of said Cronkrite property included in a strip of land, variable in width, lying on each side of the Pipeline Centerline described in Parcel 1;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly Side of Centerline</u>
1029+00.00		1031+33.56	30.00
1031+33.56		1036+69.89	15.00

<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly Side of Centerline</u>
1029+00.00		1036+69.89	200.00

EXCEPT THEREFROM that portion lying within the right-of-way of Green Slope Road.

EXHIBIT A

**Willamette Water Supply
July 28, 2020**

**Robert B. Cronkrite
Tax Map No. 1S226C000300**

The parcel of land to which this description applies contains 148,116 square feet (3.40 acre), more or less.

PARCEL 4 – PERMANENT ACCESS ROAD EASEMENT

That portion of said Cronkrite property included in a strip of land, variable in width, lying on each side of the Pipeline Centerline described in Parcel 1;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly and Southerly Side of Centerline</u>
1029+75.00		1029+90.53	23.70 in a straight line to 15.00
1029+90.53		1036+42.67	15.00
1036+42.67		1037+37.73	15.00 in a straight line to 30.00
<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly Side of Centerline</u>
1029+00.00		1036+69.89	15.00

EXCEPT THEREFROM that portion lying within the right-of-way of Green Slope Road.

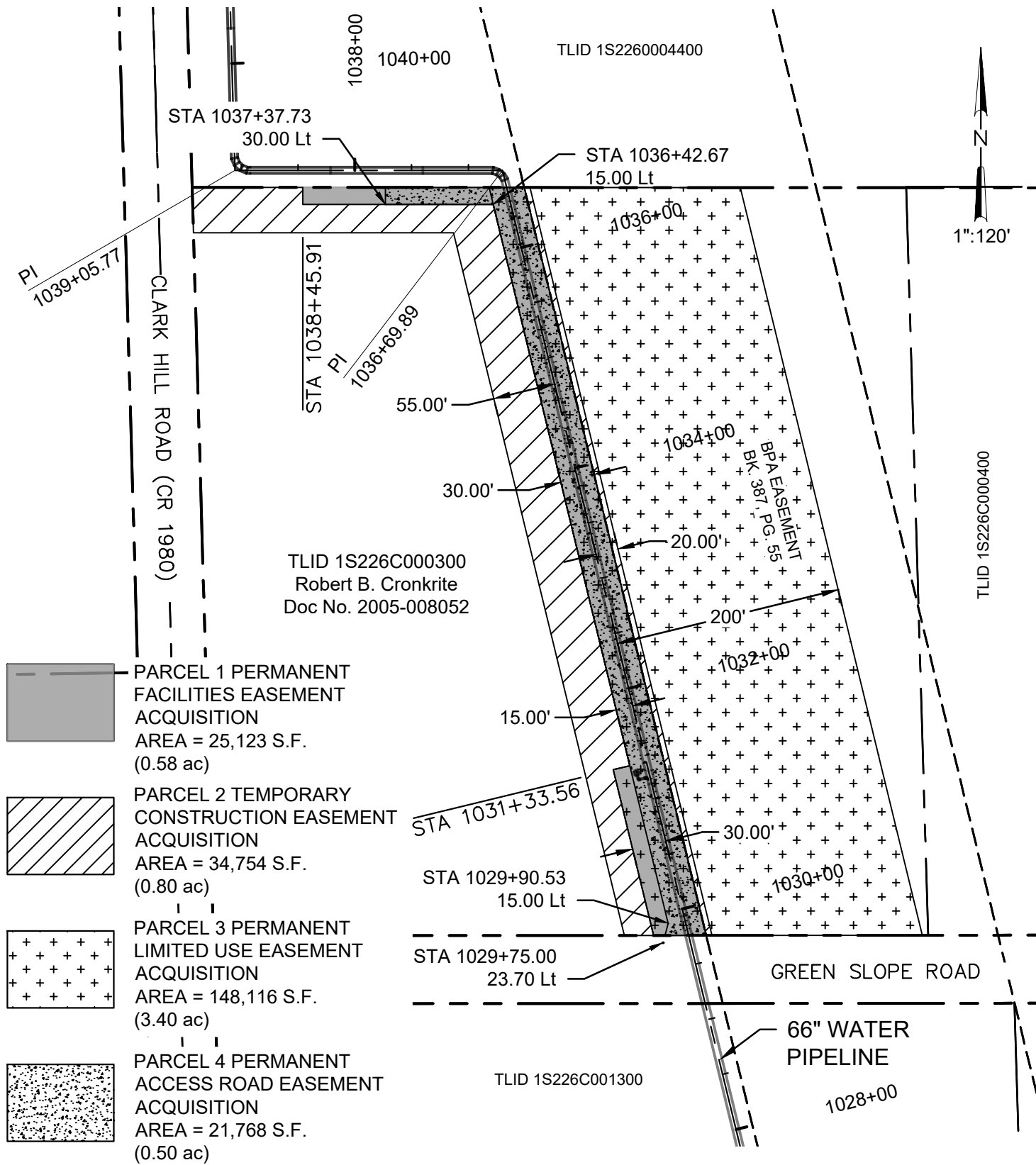
The parcel of land to which this description applies contains 21,768 square feet (0.50 acre), more or less.


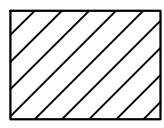
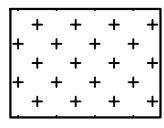
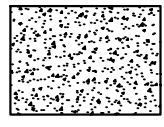
Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.



EXPIRES: 6/30/22
SIGNED: 7-17-20

EXHIBIT B



- 
PARCEL 1 PERMANENT FACILITIES EASEMENT ACQUISITION
 AREA = 25,123 S.F.
 (0.58 ac)
- 
PARCEL 2 TEMPORARY CONSTRUCTION EASEMENT ACQUISITION
 AREA = 34,754 S.F.
 (0.80 ac)
- 
PARCEL 3 PERMANENT LIMITED USE EASEMENT ACQUISITION
 AREA = 148,116 S.F.
 (3.40 ac)
- 
PARCEL 4 PERMANENT ACCESS ROAD EASEMENT ACQUISITION
 AREA = 21,768 S.F.
 (0.50 ac)

WILLAMETTE WATER SUPPLY PROGRAM
PIPELINE MAIN STEM, SECTION 5.3

FILE No: PLM_5.3-095	SUBMITTAL DATE: JULY 28, 2020
TAX LOT: 1S226C000300	ADDRESS:
TAX MAP: T1S R2W Sec26C	

ACQUISITION MAP
PAGE 1 OF 1

Jacobs
SURVEY & MAPPING
2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
PH: (503) 235-5000

7/27/2020 10:56 PM KIKONG c:\pw_worfd\delm01\kcong\1520129\m5-3_easement_exhibitb.dwg

EXHIBIT A

Willamette Water Supply
July 3, 2020

Amelia M. Ensigner
Tax Map No. 1S226C001400

PARCEL 1 – PERMANENT UTILITY EASEMENT

A parcel of land lying in the Southwest Quarter of Section 26, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to Bradley R. Ensinger and Amelia M. Ensinger, recorded April 11, 1976 in Book 1076, Page 513, in the Washington County Document Records, said parcel being that portion of said property included in a strip of land 30.00 feet in width, lying 15.00 feet on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 957+00.00, said point being S 64°13'36 E, 956.35 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian.

Thence along said pipeline the following courses;

N 89°15'16" W, 78.67 feet to Station 957+78.67;
thence S 0°01'21" E, 215.81 feet to Station 959+94.49;
thence N 88°27'18" W, 1393.61 feet to Station 973+88.10;
thence S 0°03'04" E, 496.73 feet to Station 978+84.82;
thence N 88°36'55" W, 1001.32 feet to Station 988+86.14;
thence S 0°10'16" W, 84.89 feet to Station 989+71.03;
thence S 45°46'40" W, 126.13 feet to Station 990+97.16;
thence N 88°36'55" W, 988.72 feet to Station 1000+85.88;
thence N 44°14'56" W, 328.47 feet to Station 1004+14.36;
thence N 13°40'36" W, 985.84 feet to Station 1014+00.20, said point being S 86°03'21 W, 530.54 feet from the North 1/4 corner of Section 35;
thence continuing along said pipeline N 54°06'50" W, 431.69 feet to Station 1018+31.89;
thence N 13°40'36" W, 1838.00 feet to Station 1036+69.89;
thence N 89°58'26" W, 235.89 feet to Station 1039+05.77;
thence N 1°36'57" W, 264.23 feet to Station 1041+70.00;
thence N 2°57'43" E, 99.44 feet to Station 1042+69.44;
thence N 25°40'02" W, 395.23 feet to Station 1046+64.67;
thence N 1°37'05" W, 187.89 feet to Station 1048+52.56;
thence N 38°06'59" E, 260.68 feet to Station 1051+13.24, said point being S 77°11'34 E, 84.29 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55;
thence continuing along said pipeline N 0°32'41" E, 808.24 feet to Station 1059+21.48;
thence S 89°26'00" E, 280.00 feet to Station 1062+01.48;
thence N 0°32'40" E, 646.49 feet to Station 1068+47.97;
thence N 89°25'41" W, 280.00 feet to Station 1071+27.97;
thence N 0°32'41" E, 3542.23 feet to Station 1106+70.20;
thence N 44°09'05" W, 88.58 feet to Station 1107+58.78;
thence N 0°50'55" E, 47.38 feet to Station 1108+06.17 and the Terminus of said pipeline description. Said Terminus also being N 0°46'24 E, 5,089.47 feet from the Northeast corner of

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Amelia M. Ensigner
Tax Map No. 1S226C001400**

the Hiram Johnson D.L.C. number 55.

The parcel of land to which this description applies contains 9,512 square feet (0.22 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Ensigner property included in a strip of land, 75.00 feet in width, lying 55.00 feet on the westerly side and 20.00 feet on the easterly side of the Pipeline Centerline described in Parcel 1;

The parcel of land to which this description applies contains 14,278 square feet (0.33 acre), more or less.

EXCEPT THEREFROM that portion lying within the above described Parcel 1.

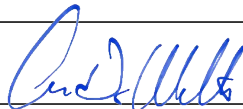
PARCEL 3 – PERMANENT LIMITED USE EASEMENT

That portion of said Ensigner property included in a strip of land, 215.00 feet in width, lying 15.00 feet on the westerly side and 200.00 feet on the easterly side of the Pipeline Centerline described in Parcel 1;

The parcel of land to which this description applies contains 50,790 square feet (1.35 acre), more or less.

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.

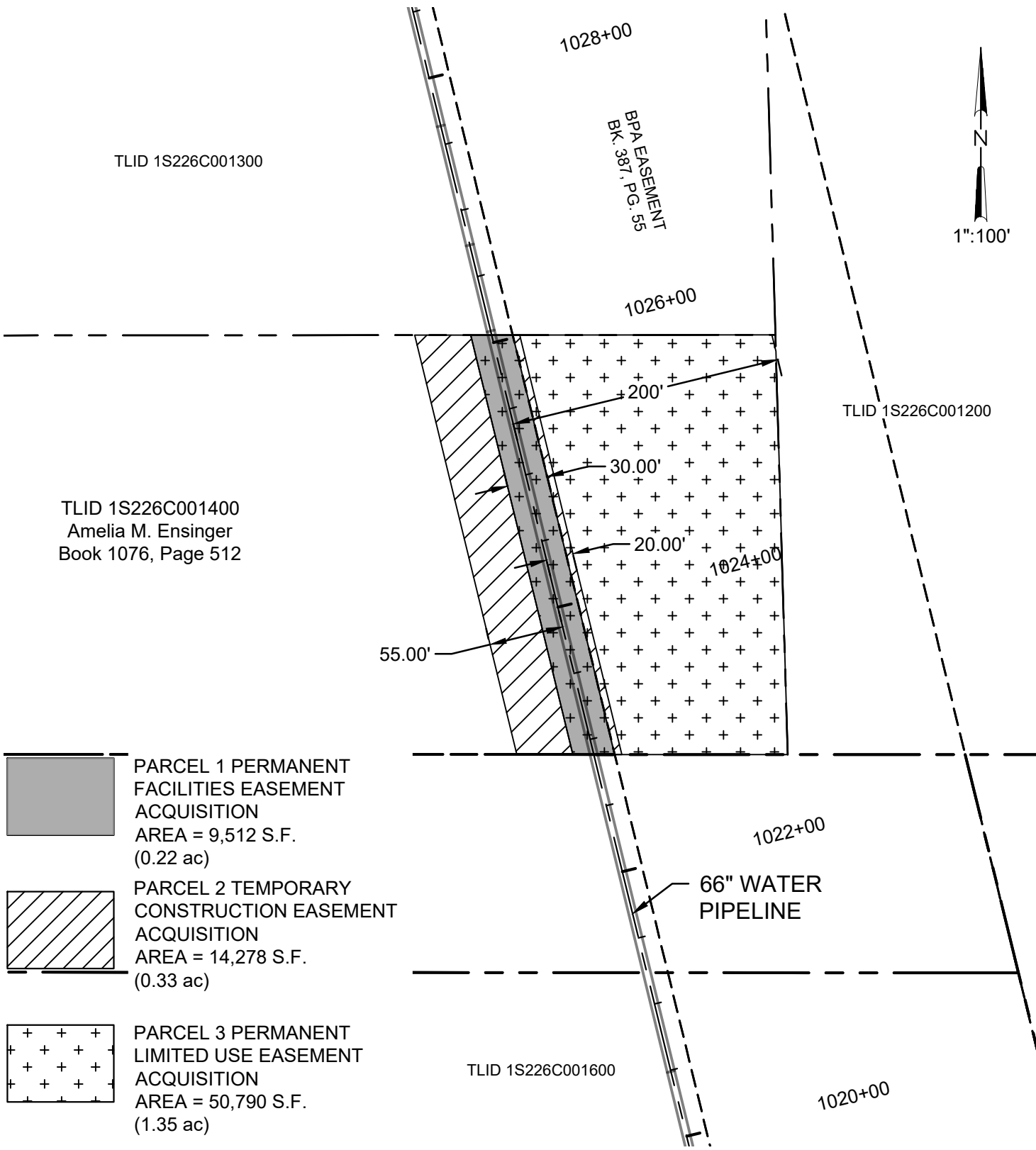
REGISTERED
PROFESSIONAL
LAND SURVEYOR



OREGON
JANUARY 8, 2015
AARON D. WILLIS
88798

EXPIRES: 6/30/22
SIGNED: 7-24-20

EXHIBIT B



TLID 1S226C001300

TLID 1S226C001400
Amelia M. Ensinger
Book 1076, Page 512

TLID 1S226C001200

TLID 1S226C001600

1028+00

BPA EASEMENT
BK. 387, PG. 55

1026+00

200'

30.00'

20.00'

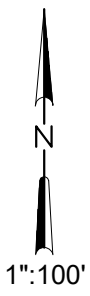
1024+00

55.00'

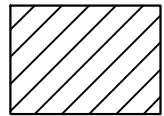
1022+00

66" WATER
PIPELINE

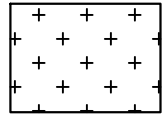
1020+00



PARCEL 1 PERMANENT
FACILITIES EASEMENT
ACQUISITION
AREA = 9,512 S.F.
(0.22 ac)



PARCEL 2 TEMPORARY
CONSTRUCTION EASEMENT
ACQUISITION
AREA = 14,278 S.F.
(0.33 ac)



PARCEL 3 PERMANENT
LIMITED USE EASEMENT
ACQUISITION
AREA = 50,790 S.F.
(1.35 ac)

WILLAMETTE WATER SUPPLY PROGRAM
PIPELINE MAIN STEM, SECTION 5.3

ACQUISITION MAP
PAGE 1 OF 1



JACOBS
SURVEY & MAPPING
2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
PH: (503) 235-5000

FILE No: PLM_5.3-002	SUBMITTAL DATE: JULY 3, 2020
TAX LOT: 1S226C001400	ADDRESS:
TAX MAP: T1S R2W Sec26C	

7/2/2020 3:35:21 PM KICONG c:\pw_wor\del\delm07\kicong\1520129\pms-3_easement_exhibitb.dwg

Willamette Water Supply System Commission

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EXHIBIT A

Willamette Water Supply
July 3, 2020

Chris J. Hoops
Tax Map No. 1S226C001500

PARCEL 1 – PERMANENT FACILITIES EASEMENT

A parcel of land lying in the Southwest Quarter of Section 26, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to Chris J. Hoops, recorded May 18, 2004 in Document No. 2004-055207, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land 30.00 feet in width, lying 15.00 feet on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 957+00.00, said point being S 64°13'36 E, 956.35 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian.

Thence along said pipeline the following courses;

N 89°15'16" W, 78.67 feet to Station 957+78.67;
thence S 0°01'21" E, 215.81 feet to Station 959+94.49;
thence N 88°27'18" W, 1393.61 feet to Station 973+88.10;
thence S 0°03'04" E, 496.73 feet to Station 978+84.82;
thence N 88°36'55" W, 1001.32 feet to Station 988+86.14;
thence S 0°10'16" W, 84.89 feet to Station 989+71.03;
thence S 45°46'40" W, 126.13 feet to Station 990+97.16;
thence N 88°36'55" W, 988.72 feet to Station 1000+85.88;
thence N 44°14'56" W, 328.47 feet to Station 1004+14.36;
thence N 13°40'36" W, 985.84 feet to Station 1014+00.20, said point being S 86°03'21 W, 530.54 feet from the North 1/4 corner of Section 35;
thence continuing along said pipeline N 54°06'50" W, 431.69 feet to Station 1018+31.89;
thence N 13°40'36" W, 1838.00 feet to Station 1036+69.89;
thence N 89°58'26" W, 235.89 feet to Station 1039+05.77;
thence N 1°36'57" W, 264.23 feet to Station 1041+70.00;
thence N 2°57'43" E, 99.44 feet to Station 1042+69.44;
thence N 25°40'02" W, 395.23 feet to Station 1046+64.67;
thence N 1°37'05" W, 187.89 feet to Station 1048+52.56;
thence N 38°06'59" E, 260.68 feet to Station 1051+13.24, said point being S 77°11'34 E, 84.29 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55;
thence continuing along said pipeline N 0°32'41" E, 808.24 feet to Station 1059+21.48;
thence S 89°26'00" E, 280.00 feet to Station 1062+01.48;
thence N 0°32'40" E, 646.49 feet to Station 1068+47.97;
thence N 89°25'41" W, 280.00 feet to Station 1071+27.97;
thence N 0°32'41" E, 3542.23 feet to Station 1106+70.20;
thence N 44°09'05" W, 88.58 feet to Station 1107+58.78;
thence N 0°50'55" E, 47.38 feet to Station 1108+06.17 and the Terminus of said pipeline description. Said Terminus also being N 0°46'24 E, 5,089.47 feet from the Northeast corner of

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Chris J. Hoops
Tax Map No. 1S226C001500**

the Hiram Johnson D.L.C. number 55.

The parcel of land to which this description applies contains 4,949 square feet (0.11 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Hoops property included in a strip of land, 75.00 feet in width, lying 55.00 feet on the westerly side and 20.00 feet on the easterly side of the Pipeline Centerline described in Parcel 1;

The parcel of land to which this description applies contains 7,423 square feet (0.17 acre), more or less.

EXCEPT THEREFROM that portion lying within the above described Parcel 1.

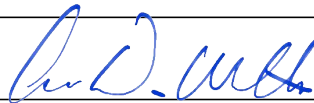
PARCEL 3 – PERMANENT LIMITED USE EASEMENT

That portion of said Hoops property included in a strip of land, 215.00 feet in width, lying 15.00 feet on the westerly side and 200.00 feet on the easterly side of the Pipeline Centerline described in Parcel 1;

The parcel of land to which this description applies contains 35,476 square feet (0.81 acre), more or less.

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.

REGISTERED
PROFESSIONAL
LAND SURVEYOR



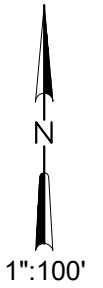
OREGON
JANUARY 8, 2015
AARON D. WILLIS
88798

EXPIRES: 6/30/22
SIGNED: 7-24-20

EXHIBIT B

66" WATER PIPELINE

BPA EASEMENT
Bk. 387, Pg. 55



TLID 1S226C001400

TLID 1S226C001200

1024+00

55.00'

TLID 1S226C001500
Chris J. Hoops
Doc No: 2004-055207

1024+00

30.00'

20.00'

200'

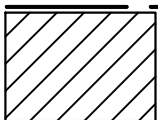
TLID 1S226C002100

TLID 1S226C001600

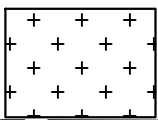
1020+00



PARCEL 1 PERMANENT FACILITIES EASEMENT ACQUISITION
AREA = 4,949 S.F.
(0.11 ac)



PARCEL 2 TEMPORARY CONSTRUCTION EASEMENT ACQUISITION
AREA = 7,423 S.F.
(0.17 ac)



PARCEL 3 PERMANENT LIMITED USE EASEMENT ACQUISITION
AREA = 35,476 S.F.
(0.81 ac)

1018+00
P1
1018+31.89

1016+00

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©2020 10:18:26 PM KIKONG

WILLAMETTE WATER SUPPLY PROGRAM

PIPELINE MAIN STEM, SECTION 5.3

ACQUISITION MAP

PAGE 1 OF 1

Jacobs

SURVEY & MAPPING

2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
PH: (503) 235-5000

FILE No: PLM_5.3-003

SUBMITTAL DATE: JULY 3, 2020

TAX LOT: 1S226C001500

ADDRESS:

TAX MAP: T1S R2W Sec26C

Willamette Water Supply System Commission

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EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Roger D. Moore and
Judith A. Moore
Tax Map No. 1S226C001600**

PARCEL 1 – PERMANENT FACILITIES EASEMENT

A parcel of land lying in the Southwest Quarter of Section 26, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to Roger D. Moore and Judith A. Moore, recorded March 31, 1988 in Document No. 88-12974, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land 30.00 feet in width, lying 15.00 feet on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 957+00.00, said point being S 64°13'36 E, 956.35 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian.

Thence along said pipeline the following courses;

N 89°15'16" W, 78.67 feet to Station 957+78.67;
thence S 0°01'21" E, 215.81 feet to Station 959+94.49;
thence N 88°27'18" W, 1393.61 feet to Station 973+88.10;
thence S 0°03'04" E, 496.73 feet to Station 978+84.82;
thence N 88°36'55" W, 1001.32 feet to Station 988+86.14;
thence S 0°10'16" W, 84.89 feet to Station 989+71.03;
thence S 45°46'40" W, 126.13 feet to Station 990+97.16;
thence N 88°36'55" W, 988.72 feet to Station 1000+85.88;
thence N 44°14'56" W, 328.47 feet to Station 1004+14.36;
thence N 13°40'36" W, 985.84 feet to Station 1014+00.20, said point being S 86°03'21 W, 530.54 feet from the North 1/4 corner of Section 35;
thence continuing along said pipeline N 54°06'50" W, 431.69 feet to Station 1018+31.89;
thence N 13°40'36" W, 1838.00 feet to Station 1036+69.89;
thence N 89°58'26" W, 235.89 feet to Station 1039+05.77;
thence N 1°36'57" W, 264.23 feet to Station 1041+70.00;
thence N 2°57'43" E, 99.44 feet to Station 1042+69.44;
thence N 25°40'02" W, 395.23 feet to Station 1046+64.67;
thence N 1°37'05" W, 187.89 feet to Station 1048+52.56;
thence N 38°06'59" E, 260.68 feet to Station 1051+13.24, said point being S 77°11'34 E, 84.29 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55;
thence continuing along said pipeline N 0°32'41" E, 808.24 feet to Station 1059+21.48;
thence S 89°26'00" E, 280.00 feet to Station 1062+01.48;
thence N 0°32'40" E, 646.49 feet to Station 1068+47.97;
thence N 89°25'41" W, 280.00 feet to Station 1071+27.97;
thence N 0°32'41" E, 3542.23 feet to Station 1106+70.20;
thence N 44°09'05" W, 88.58 feet to Station 1107+58.78;
thence N 0°50'55" E, 47.38 feet to Station 1108+06.17 and the Terminus of said pipeline description. Said Terminus also being N 0°46'24 E, 5,089.47 feet from the Northeast corner of

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Roger D. Moore and
Judith A. Moore
Tax Map No. 1S226C001600**

the Hiram Johnson D.L.C. number 55.

The parcel of land to which this description applies contains 4,932 square feet (0.11 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Moore property included in a strip of land, 75.00 feet in width, lying 55.00 feet on the westerly side and 20.00 feet on the easterly side of the Pipeline Centerline described in Parcel 1;

The parcel of land to which this description applies contains 7,398 square feet (0.17 acre), more or less.

EXCEPT THEREFROM that portion lying within the above described Parcel 1.

PARCEL 3 – PERMANENT LIMITED USE EASEMENT

That portion of said Moore property included in a strip of land, 215.00 feet in width, lying 15.00 feet on the westerly side and 200.00 feet on the easterly side of the Pipeline Centerline described in Parcel 1;

The parcel of land to which this description applies contains 35,348 square feet (0.81 acre), more or less.

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.



EXPIRES: 6/30/22
SIGNED: 7-24-20

EXHIBIT B

TLID 1S226C001400

TLID 1S226C001500

TLID 1S226C002100

TLID 1S226C001600
 Roger D. &
 Judith A. Moore
 Doc No: 88-12974

TLID 1S226C001700

TLID 1S226C002000

1022+00
 BPA EASEMENT
 BK. 387, PG. 55

1018+00
 PI
 1018+31.89

1016+00

55.00'

20.00'

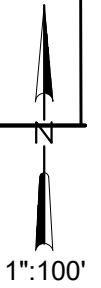
30.00'

1020+00

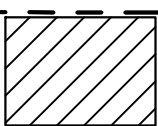
200'

66" WATER
 PIPELINE

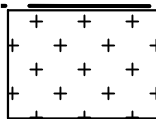
SW KOEHLER RD (CR 226)



PARCEL 1 PERMANENT
 FACILITIES EASEMENT
 ACQUISITION
 AREA = 4,932 S.F.
 (0.11 ac)



PARCEL 2 TEMPORARY
 CONSTRUCTION EASEMENT
 ACQUISITION
 AREA = 7,398 S.F.
 (0.17 ac)



PARCEL 3 PERMANENT
 LIMITED USE EASEMENT
 ACQUISITION
 AREA = 35,348 S.F.
 (0.81 ac)

WILLAMETTE WATER SUPPLY PROGRAM
 PIPELINE MAIN STEM, SECTION 5.3

ACQUISITION MAP

PAGE 1 OF 1



SURVEY & MAPPING

2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
 PH: (503) 235-5000

FILE No: PLM_5.3-004

SUBMITTAL DATE: JULY 3, 2020

TAX LOT: 1S226C001600

ADDRESS:

TAX MAP: T1S R2W Sec26C

Willamette Water Supply System Commission

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EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Gary L. Virgin
2010 Virgin Family Trust
Tax Map No. 1S226C001700**

PARCEL 1 – PERMANENT UTILITY EASEMENT

A parcel of land lying in the Southwest Quarter of Section 26, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to 2010 Virgin Family Trust, recorded December 12, 2017 in Document No. 2017-097048, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land 30.00 feet in width, lying 15.00 feet on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 957+00.00, said point being S 64°13'36 E, 956.35 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian.

Thence along said pipeline the following courses;

N 89°15'16" W, 78.67 feet to Station 957+78.67;
thence S 0°01'21" E, 215.81 feet to Station 959+94.49;
thence N 88°27'18" W, 1393.61 feet to Station 973+88.10;
thence S 0°03'04" E, 496.73 feet to Station 978+84.82;
thence N 88°36'55" W, 1001.32 feet to Station 988+86.14;
thence S 0°10'16" W, 84.89 feet to Station 989+71.03;
thence S 45°46'40" W, 126.13 feet to Station 990+97.16;
thence N 88°36'55" W, 988.72 feet to Station 1000+85.88;
thence N 44°14'56" W, 328.47 feet to Station 1004+14.36;
thence N 13°40'36" W, 985.84 feet to Station 1014+00.20, said point being S 86°03'21 W, 530.54 feet from the North 1/4 corner of Section 35;
thence continuing along said pipeline N 54°06'50" W, 431.69 feet to Station 1018+31.89;
thence N 13°40'36" W, 1838.00 feet to Station 1036+69.89;
thence N 89°58'26" W, 235.89 feet to Station 1039+05.77;
thence N 1°36'57" W, 264.23 feet to Station 1041+70.00;
thence N 2°57'43" E, 99.44 feet to Station 1042+69.44;
thence N 25°40'02" W, 395.23 feet to Station 1046+64.67;
thence N 1°37'05" W, 187.89 feet to Station 1048+52.56;
thence N 38°06'59" E, 260.68 feet to Station 1051+13.24, said point being S 77°11'34 E, 84.29 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55;
thence continuing along said pipeline N 0°32'41" E, 808.24 feet to Station 1059+21.48;
thence S 89°26'00" E, 280.00 feet to Station 1062+01.48;
thence N 0°32'40" E, 646.49 feet to Station 1068+47.97;
thence N 89°25'41" W, 280.00 feet to Station 1071+27.97;
thence N 0°32'41" E, 3542.23 feet to Station 1106+70.20;
thence N 44°09'05" W, 88.58 feet to Station 1107+58.78;
thence N 0°50'55" E, 47.38 feet to Station 1108+06.17 and the Terminus of said pipeline description. Said Terminus also being N 0°46'24 E, 5,089.47 feet from the Northeast corner of

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Gary L. Virgin
2010 Virgin Family Trust
Tax Map No. 1S226C001700**

the Hiram Johnson D.L.C. number 55.

The parcel of land to which this description applies contains 5,664 square feet (0.13 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Virgin Family Trust property included in a strip of land, 75.00 feet in width, lying 55.00 feet on the westerly side and 20.00 feet on the easterly side of the Pipeline Centerline described in Parcel 1;

The parcel of land to which this description applies contains 7,968 square feet (0.18 acre), more or less.

EXCEPT THEREFROM that portion lying within the above described Parcel 1.

PARCEL 3 – PERMANENT LIMITED USE EASEMENT

That portion of said Virgin Family Trust property included in a strip of land, 215.00 feet in width, lying 15.00 feet on the westerly side and 200.00 feet on the easterly side of the Pipeline Centerline described in Parcel 1;

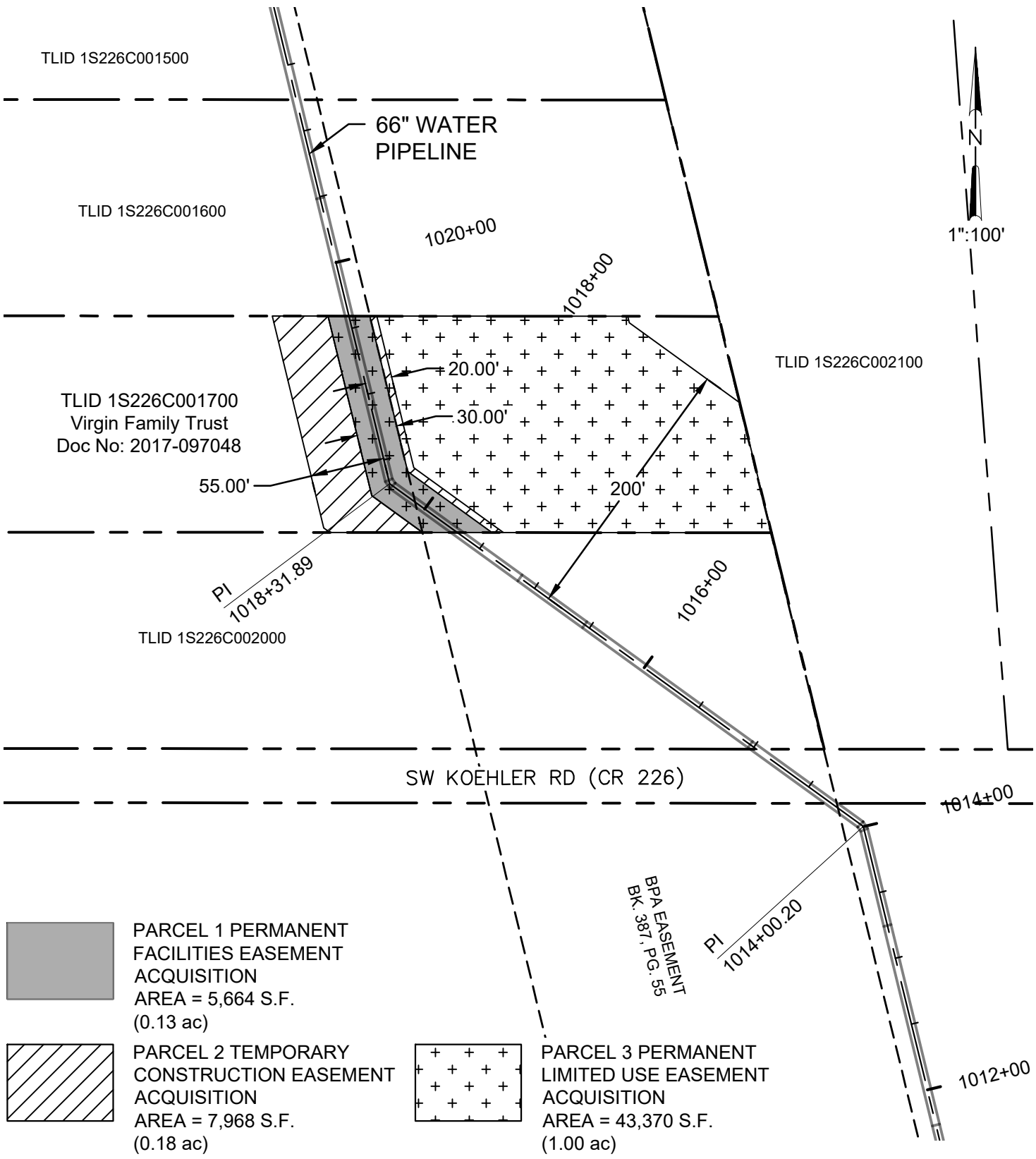
The parcel of land to which this description applies contains 43,370 square feet (1.00 acre), more or less.

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.

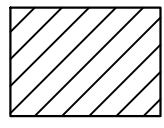


EXPIRES: 6/30/22
SIGNED: 7-24-20

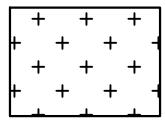
EXHIBIT B



PARCEL 1 PERMANENT FACILITIES EASEMENT ACQUISITION
 AREA = 5,664 S.F.
 (0.13 ac)



PARCEL 2 TEMPORARY CONSTRUCTION EASEMENT ACQUISITION
 AREA = 7,968 S.F.
 (0.18 ac)



PARCEL 3 PERMANENT LIMITED USE EASEMENT ACQUISITION
 AREA = 43,370 S.F.
 (1.00 ac)

WILLAMETTE WATER SUPPLY PROGRAM
 PIPELINE MAIN STEM, SECTION 5.3

ACQUISITION MAP
 PAGE 1 OF 1



SURVEY & MAPPING
 2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
 PH: (503) 235-5000

FILE No: PLM_5.3-005	SUBMITTAL DATE: JULY 3, 2020
TAX LOT: 1S226C001700	ADDRESS:
TAX MAP: T1S R2W Sec26C	

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Willamette Water Supply System Commission

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EXHIBIT A

Willamette Water Supply
July 3, 2020

Fernando L. Cazares
Tax Map No. 1S226C002000

PARCEL 1 – PERMANENT FACILITIES EASEMENT

A parcel of land lying in the Southwest Quarter of Section 26, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to Fernando L. Cazares, recorded February 3, 2004 in Document No. 2004-010432, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land 30.00 feet in width, lying 15.00 feet on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 957+00.00, said point being S 64°13'36 E, 956.35 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian.

Thence along said pipeline the following courses;

N 89°15'16" W, 78.67 feet to Station 957+78.67;
thence S 0°01'21" E, 215.81 feet to Station 959+94.49;
thence N 88°27'18" W, 1393.61 feet to Station 973+88.10;
thence S 0°03'04" E, 496.73 feet to Station 978+84.82;
thence N 88°36'55" W, 1001.32 feet to Station 988+86.14;
thence S 0°10'16" W, 84.89 feet to Station 989+71.03;
thence S 45°46'40" W, 126.13 feet to Station 990+97.16;
thence N 88°36'55" W, 988.72 feet to Station 1000+85.88;
thence N 44°14'56" W, 328.47 feet to Station 1004+14.36;
thence N 13°40'36" W, 985.84 feet to Station 1014+00.20, said point being S 86°03'21 W, 530.54 feet from the North 1/4 corner of Section 35;
thence continuing along said pipeline N 54°06'50" W, 431.69 feet to Station 1018+31.89;
thence N 13°40'36" W, 1838.00 feet to Station 1036+69.89;
thence N 89°58'26" W, 235.89 feet to Station 1039+05.77;
thence N 1°36'57" W, 264.23 feet to Station 1041+70.00;
thence N 2°57'43" E, 99.44 feet to Station 1042+69.44;
thence N 25°40'02" W, 395.23 feet to Station 1046+64.67;
thence N 1°37'05" W, 187.89 feet to Station 1048+52.56;
thence N 38°06'59" E, 260.68 feet to Station 1051+13.24, said point being S 77°11'34 E, 84.29 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55;
thence continuing along said pipeline N 0°32'41" E, 808.24 feet to Station 1059+21.48;
thence S 89°26'00" E, 280.00 feet to Station 1062+01.48;
thence N 0°32'40" E, 646.49 feet to Station 1068+47.97;
thence N 89°25'41" W, 280.00 feet to Station 1071+27.97;
thence N 0°32'41" E, 3542.23 feet to Station 1106+70.20;
thence N 44°09'05" W, 88.58 feet to Station 1107+58.78;
thence N 0°50'55" E, 47.38 feet to Station 1108+06.17 and the Terminus of said pipeline description. Said Terminus also being N 0°46'24 E, 5,089.47 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55.

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Fernando L. Cazares
Tax Map No. 1S226C002000**

EXCEPT THEREFROM that portion lying within the right-of-way of SW Koehler Rd (CR 226).

The parcel of land to which this description applies contains 8,186 square feet (0.19 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Cazares property included in a strip of land, variable in width, lying on each side of the Pipeline Centerline described in Parcel 1;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly Side of Centerline</u>
1014+00.20		1017+10.00	163.23
1017+10.00		1017+20.53	163.23 in a straight line to 148.65
1017+20.53		1016+90.56	148.65 in a straight line to 127.01
1016+90.56		1017+75.06	127.01 in a straight line to 55.00
1017+75.06		1018+50.00	55.00

<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly Side of Centerline</u>
1014+00.20		1018+31.89	20.00

EXCEPT THEREFROM that portion lying within the right-of-way of SW Koehler Rd (CR 226), and above described Parcel 1.

The parcel of land to which this description applies contains 20,579 square feet (0.47 acre), more or less.

PARCEL 3 – TEMPORARY ACCESS EASEMENT

That portion of said Cazares property included in a strip of land, 10.00 feet in width, lying on the northerly side of the northerly right-of-way of SW Koehler Rd (CR 226), BEGINNING at a point on said northerly right-of-way, said point being at Engineer’s Station 1014+97.57 of Pipeline Centerline described in Parcel 1; thence along said northerly right-of-way N 89°56’43” W, 267.78 feet to the TERMINUS of this description.

EXCEPT THEREFROM that portion lying within the right-of-way of SW Koehler Rd (CR 226), and above described Parcel 1.

The parcel of land to which this description applies contains 2,352 square feet (0.05 acre), more or less.

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Fernando L. Cazares
Tax Map No. 1S226C002000**

PARCEL 4 – PERMANENT LIMITED USE EASEMENT

That portion of said Cazares property included in a strip of land, 165.00 feet in width, lying 15.00 feet on the westerly side and 150.00 feet on the easterly side of the Pipeline Centerline described in Parcel 1;

EXCEPT THEREFROM that portion lying within the right-of-way of SW Koehler Rd (CR 226).

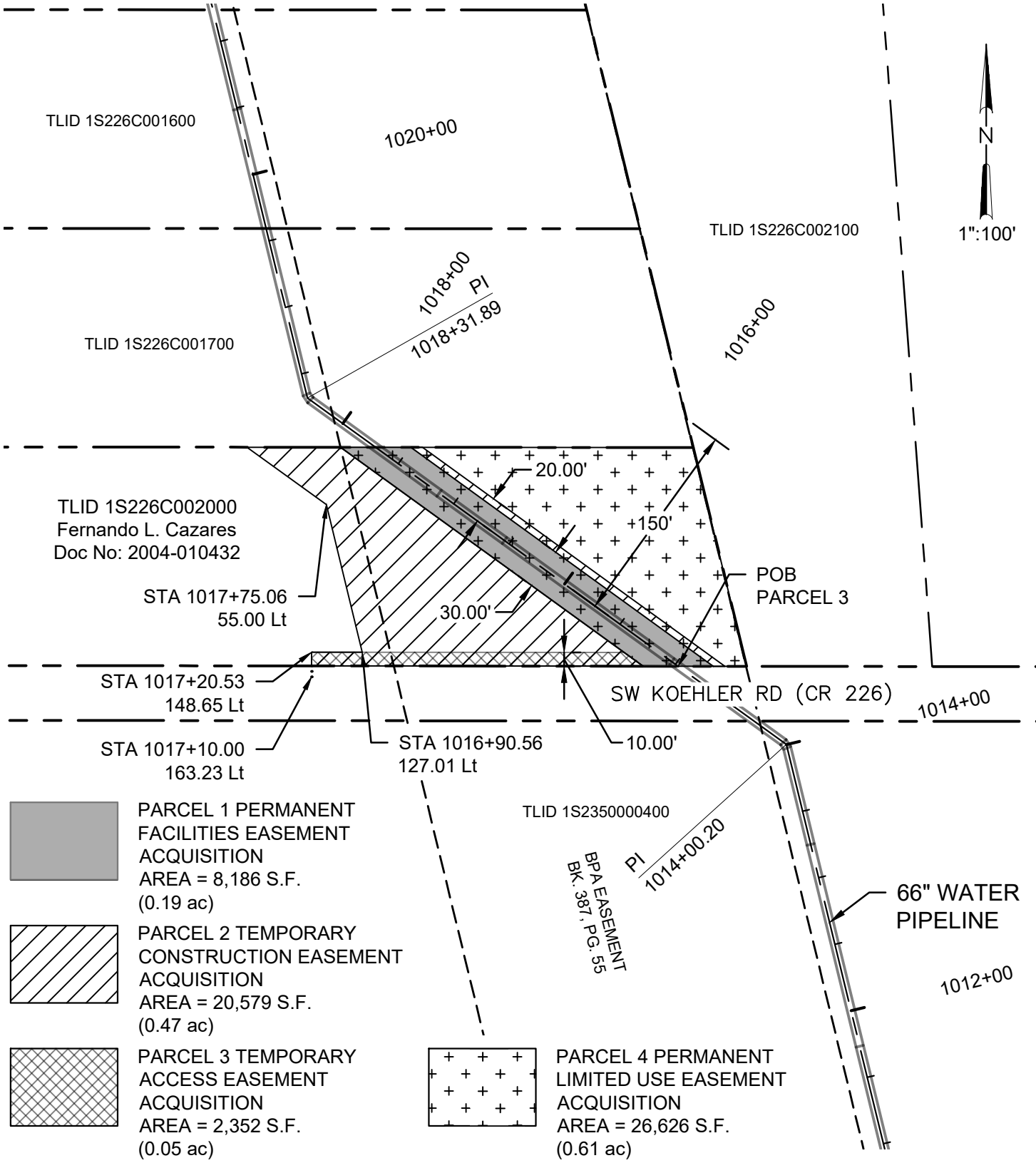
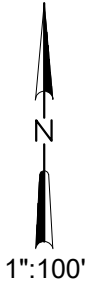
The parcel of land to which this description applies contains 26,626 square feet (0.61 acre), more or less.


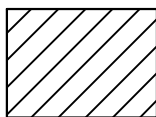

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.

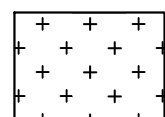


EXPIRES: 6/30/22
SIGNED: *7-24-20*

EXHIBIT B



- 
PARCEL 1 PERMANENT FACILITIES EASEMENT ACQUISITION
 AREA = 8,186 S.F.
 (0.19 ac)
- 
PARCEL 2 TEMPORARY CONSTRUCTION EASEMENT ACQUISITION
 AREA = 20,579 S.F.
 (0.47 ac)
- 
PARCEL 3 TEMPORARY ACCESS EASEMENT ACQUISITION
 AREA = 2,352 S.F.
 (0.05 ac)

- 
PARCEL 4 PERMANENT LIMITED USE EASEMENT ACQUISITION
 AREA = 26,626 S.F.
 (0.61 ac)

BPA EASEMENT
 BK. 387, PG. 55
 PI
 1014+00.20

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WILLAMETTE WATER SUPPLY PROGRAM		ACQUISITION MAP	
PIPELINE MAIN STEM, SECTION 5.3		PAGE 1 OF 1	
FILE No: PLM_5.3-094	SUBMITTAL DATE: JULY 3, 2020	Jacobs	
TAX LOT: 1S226C002000	ADDRESS:	SURVEY & MAPPING	
TAX MAP: T1S R2W Sec26C		2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201	
		PH: (503) 235-5000	

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Baker Rock Crushing Co.
Tax Map No. 1S226C002300**

PARCEL 1 – TEMPORARY CONSTRUCTION EASEMENT

A parcel of land lying in the Southwest Quarter of Section 26, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of Parcels X & XI of that property conveyed to Baker Rock Crushing Co., recorded April 8, 2010 in Document No. 2010-026550, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land 35.00 feet in width, lying northerly of the following described line:

BEGINNING at the Southwest corner of Parcel XI of said property, said point being in the centerline of SW Koehler Road (CR 226) and which bears N 89°56'43" W, 273.12 feet from the South quarter corner of said section 26; thence S 89°56'43" E, 80.02 feet along said centerline to the TERMINUS of this description.

EXCEPT THEREFROM that portion lying within the right-of-way of SW Koehler Rd (CR 226).

The parcel of land to which this description applies contains 1,200 square feet (0.03 acre), more or less.

PARCEL 2 – TEMPORARY ACCESS EASEMENT

That portion of said Baker Rock Crushing Co. property included in a strip of land 35.00 feet in width, lying northerly of the following described line:

BEGINNING at the Southwest corner of Parcel XI of said property, said point being in the centerline of SW Koehler Road (CR 226) and which bears N 89°56'43" W, 273.12 feet from the South quarter corner of said section 26; thence S 89°56'43" E, 80.02 feet along said centerline to the TERMINUS of this description.

EXCEPT THEREFROM that portion lying within the right-of-way of SW Koehler Rd (CR 226).

The parcel of land to which this description applies contains 1,200 square feet (0.03 acre), more or less.

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Baker Rock Crushing Co.
Tax Map No. 1S226C002300**

REGISTERED
PROFESSIONAL
LAND SURVEYOR

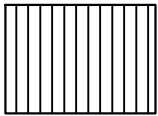
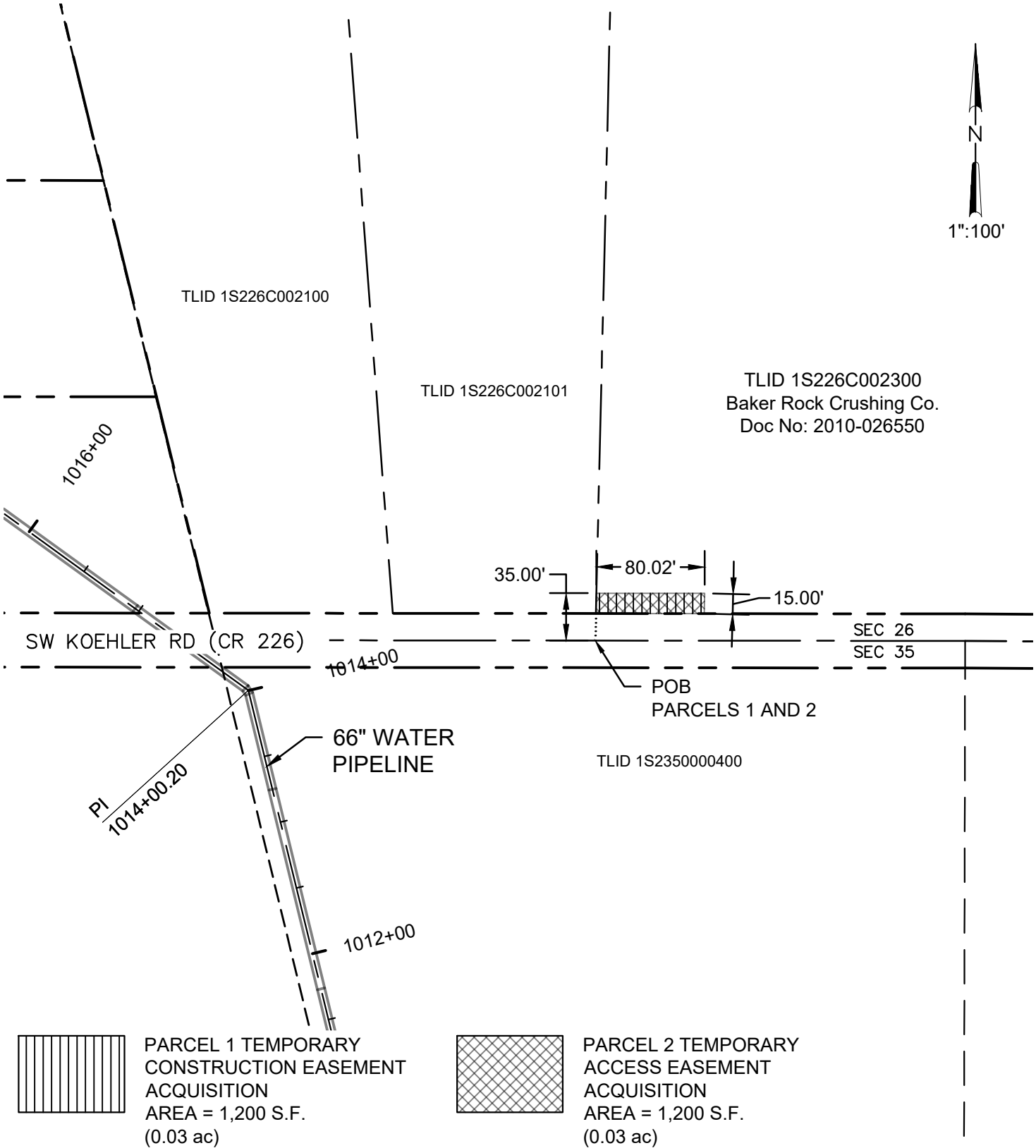
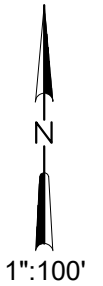


OREGON
JANUARY 8, 2015
AARON D. WILLIS
88798

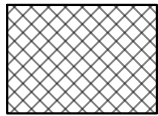
EXPIRES: 6/30/22

SIGNED: 7-24-20

EXHIBIT B



PARCEL 1 TEMPORARY
CONSTRUCTION EASEMENT
ACQUISITION
AREA = 1,200 S.F.
(0.03 ac)



PARCEL 2 TEMPORARY
ACCESS EASEMENT
ACQUISITION
AREA = 1,200 S.F.
(0.03 ac)

WILLAMETTE WATER SUPPLY PROGRAM
PIPELINE MAIN STEM, SECTION 5.3

ACQUISITION MAP

PAGE 1 OF 1



SURVEY & MAPPING

2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
PH: (503) 235-5000

FILE No:	SUBMITTAL DATE: JULY 3, 2020
TAX LOT: 1S226C002300	ADDRESS:
TAX MAP: T1S R2W Sec26C	

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Willamette Water Supply System Commission

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EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Laurel Heights, L.L.C.
Tax Map No. 1S2260004400**

PARCEL 1 – PERMANENT FACILITIES EASEMENT

A parcel of land lying in Section 26, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to Laurel Heights, L.L.C., recorded June 11, 2003 as Document No. 2003-094322, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land variable in width, on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 957+00.00, said point being S 64°13'36" E, 956.35 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian.

Thence along said pipeline the following courses;

N 89°15'16" W, 78.67 feet to Station 957+78.67;
thence S 0°01'21" E, 215.81 feet to Station 959+94.49;
thence N 88°27'18" W, 1393.61 feet to Station 973+88.10;
thence S 0°03'04" E, 496.73 feet to Station 978+84.82;
thence N 88°36'55" W, 1001.32 feet to Station 988+86.14;
thence S 0°10'16" W, 84.89 feet to Station 989+71.03;
thence S 45°46'40" W, 126.13 feet to Station 990+97.16;
thence N 88°36'55" W, 988.72 feet to Station 1000+85.88;
thence N 44°14'56" W, 328.47 feet to Station 1004+14.36;
thence N 13°40'36" W, 985.84 feet to Station 1014+00.20, said point being S 86°03'21" W, 530.54 feet from the North 1/4 corner of Section 35;
thence continuing along said pipeline N 54°06'50" W, 431.69 feet to Station 1018+31.89;
thence N 13°40'36" W, 1838.00 feet to Station 1036+69.89;
thence N 89°58'26" W, 235.89 feet to Station 1039+05.77;
thence N 1°36'57" W, 264.23 feet to Station 1041+70.00;
thence N 2°57'43" E, 99.44 feet to Station 1042+69.44;
thence N 25°40'02" W, 395.23 feet to Station 1046+64.67;
thence N 1°37'05" W, 187.89 feet to Station 1048+52.56;
thence N 38°06'59" E, 260.68 feet to Station 1051+13.24, said point being S 77°11'34" E, 84.29 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55;
thence continuing along said pipeline N 0°32'41" E, 808.24 feet to Station 1059+21.48;
thence S 89°26'00" E, 280.00 feet to Station 1062+01.48;
thence N 0°32'40" E, 646.49 feet to Station 1068+47.97;
thence N 89°25'41" W, 280.00 feet to Station 1071+27.97;
thence N 0°32'41" E, 3542.23 feet to Station 1106+70.20;
thence N 44°09'05" W, 88.58 feet to Station 1107+58.78;
thence N 0°50'55" E, 47.38 feet to Station 1108+06.17 and the Terminus of said pipeline description. Said Terminus also being N 0°46'24" E, 5,089.47 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55.

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Laurel Heights, L.L.C.
Tax Map No. 1S2260004400**

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Southerly and Westerly Side of Centerline</u>
1036+00.00		1039+05.76	15.00, to the South line of said property Thence continuing along said South line N 89°58'05" W, 37.59 feet to the easterly right-of- way of Clark Hill Road (CR 1980); thence along said easterly right-of-way N 1°36'57" W, 13.91 feet
1039+05.76		1043+50.00	to the easterly right-of-way of Clark Hill Road (CR 1980) Thence along said easterly right-of-way to the southerly right-of-way of Farmington Road (CR 1553).
<u>Station</u>	to	<u>Station</u>	<u>Width on Northerly and Easterly Side of Centerline</u>
1036+00.00		1036+69.89	15.00 Thence continuing N 13°40'36" W, 16.90 feet; Thence N 89°58'05" W, 94.54 feet to Engineer's Station 1037+53.86, 20.00 feet right;
1037+53.86		1038+78.64	15.00
1038+78.64		1039+32.90	15.00 in a straight line to 15.00
1039+32.90		1040+82.31	15.00
1040+82.31		1043+50.00	31.96 in a straight line to 62.26

EXCEPT THEREFROM that portion lying within the right-of-ways of Clark Hill Road (CR 1980 and Farmington Road (CR 1553).

The parcel of land to which this description applies contains 32,452 square feet (0.86 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Laurel Heights property included in a strip of land, variable in width, lying on the northerly side and the easterly side of the Pipeline Centerline described in Parcel 1;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Northerly and Easterly Side of Centerline</u>
1036+00.00		1038+76.61	20.00
1038+76.61		1039+34.93	20.00 in a straight line to 20.00
1039+34.93		1040+82.31	20.00

EXCEPT THEREFROM that portion lying within above described Parcel 1.

The parcel of land to which this description applies contains 1,618 square feet (0.04 acre), more or less.

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Laurel Heights, L.L.C.
Tax Map No. 1S2260004400**

PARCEL 3 – PERMANENT LIMITED USE EASEMENT

That portion of said Laurel Heights property included in a strip of land, variable in width, lying on each side of the Pipeline Centerline described in Parcel 1;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Southerly and Westerly Side of Centerline</u>
1036+00.00		1039+05.76	15.00, to the South line of said property
1039+05.76		1041+13.49	38.00
1041+13.49		1043+50.00	to the easterly right-of-way of Clark Hill Road (CR 1980) and the southerly right-of-way of Farmington Road (CR 1553)
<u>Station</u>	to	<u>Station</u>	<u>Width on Northerly and Easterly Side of Centerline</u>
1036+00.00		1044+00.00	200.00

EXCEPT THEREFROM that portion lying within the right-of-ways of Clark Hill Road (CR 1980) and Farmington Road (CR 1553).

The parcel of land to which this description applies contains 164,392 square feet (3.77 acres), more or less.

PARCEL 4 – PERMANENT ACCESS ROAD EASEMENT

That portion of said Laurel Heights property included in a strip of land, variable in width, lying on each side of the Pipeline Centerline described in Parcel 1;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Southerly and Westerly Side of Centerline</u>
1036+00.00		1039+05.76	15.00, to the South line of said property
			Thence continuing along said South line N 89°58'05" W, 37.59 feet to the easterly right-of-way of Clark Hill Road (CR 1980); thence along said easterly right-of-way N 1°36'57" W, 13.91 feet
1039+05.76		1043+50.00	to the easterly right-of-way of Clark Hill Road (CR 1980) Thence along said easterly right-of-way to the southerly right-of-way of Farmington Road (CR 1553).

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Laurel Heights, L.L.C.
Tax Map No. 1S2260004400**

<u>Station</u>	to	<u>Station</u>	<u>Width on Northerly and Easterly Side of Centerline</u>
1036+00.00		1036+69.89	15.00 Thence continuing N 13°40'36" W, 16.90 feet; Thence N 89°58'05" W, 94.54 feet to Engineer's Station 1037+53.86, 20.00 feet right;
1037+53.86		1038+78.64	15.00
1038+78.64		1039+32.90	15.00 in a straight line to 15.00
1039+32.90		1040+82.31	15.00
1040+82.31		1043+50.00	31.96 in a straight line to 62.26

EXCEPT THEREFROM that portion lying within the right-of-ways of Clark Hill Road (CR 1980 and Farmington Road (CR 1553).

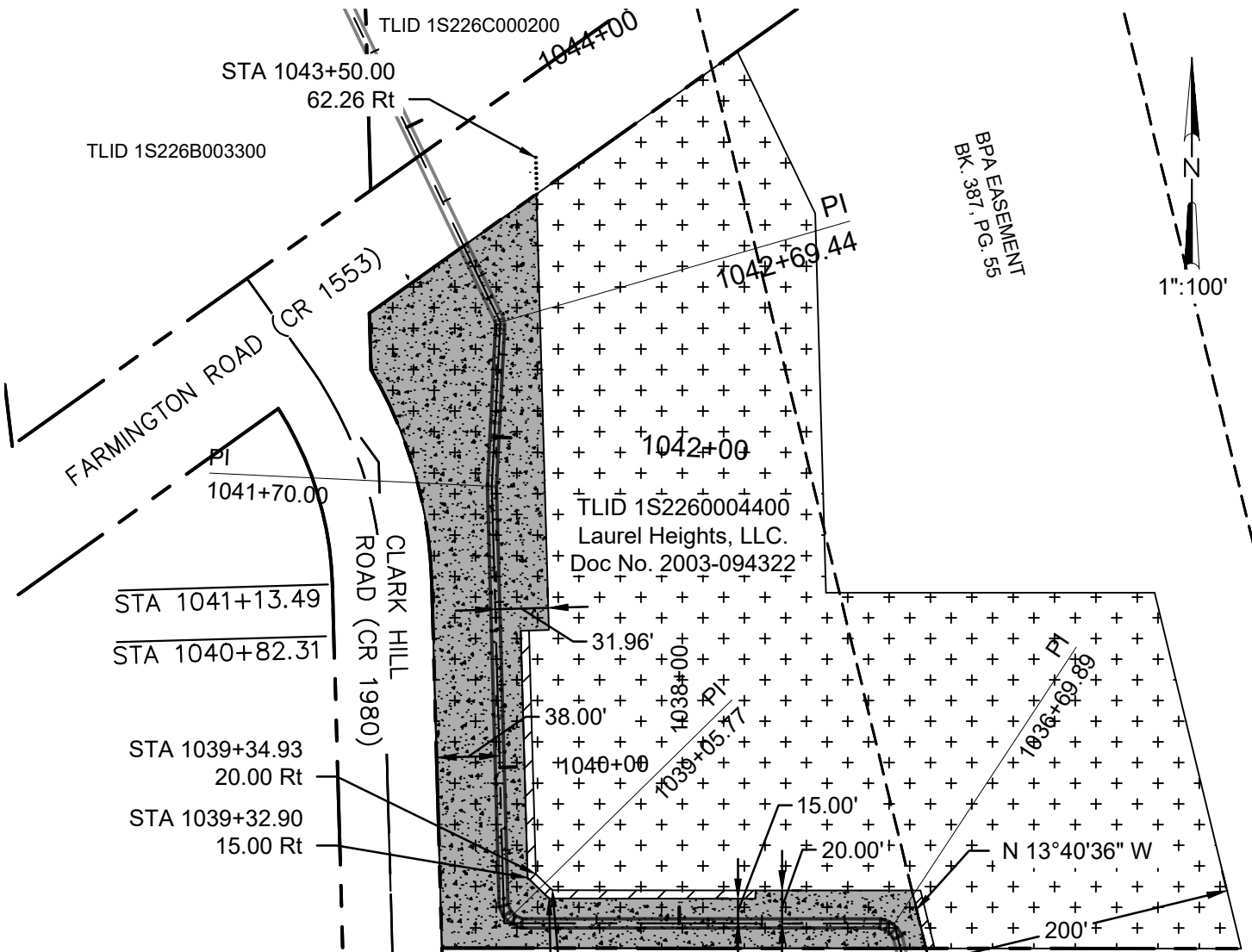
The parcel of land to which this description applies contains 32,452 square feet (0.86 acre), more or less.

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.




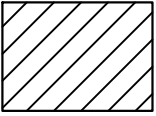
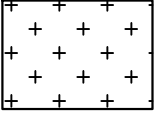
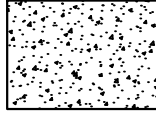
EXPIRES: 6/30/22
SIGNED: *7-24-20*

EXHIBIT B



BPA EASEMENT
 BK. 387, PG. 55



- 
PARCEL 1 PERMANENT FACILITIES EASEMENT ACQUISITION
 AREA = 37,452 S.F.
 (0.86 ac)
- 
PARCEL 2 TEMPORARY CONSTRUCTION EASEMENT ACQUISITION
 AREA = 1,618 S.F.
 (0.04 ac)
- 
PARCEL 3 PERMANENT LIMITED USE EASEMENT ACQUISITION
 AREA = 164,392 S.F.
 (3.77 ac)
- 
PARCEL 4 PERMANENT ACCESS ROAD EASEMENT ACQUISITION
 AREA = 37,452 S.F.
 (0.86 ac)

WILLAMETTE WATER SUPPLY PROGRAM
 PIPELINE MAIN STEM, SECTION 5.3

ACQUISITION MAP
 PAGE 1 OF 1



JACOBS
 SURVEY & MAPPING
 2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
 PH: (503) 235-5000

FILE No: PLM_5.3-065	SUBMITTAL DATE: JULY 3, 2020
TAX LOT: 1S2260004400	ADDRESS:
TAX MAP: T1S R2W Sec26	

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Willamette Water Supply System Commission

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EXHIBIT A

**Willamette Water Supply
July 24, 2020**

**Wenzel Brothers' Farm, LLC
Tax Map No. 1S2350000700**

PARCEL 1 – PERMANENT UTILITY EASEMENT

A parcel of land lying in Section 35, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to Wenzel Brothers' Farm, LLC, recorded November 27, 2013 in Document No. 2013-101259, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land, variable in width, lying on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 957+00.00, said point being S 64°13'36 E, 956.35 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian.

Thence along said pipeline the following courses;

N 89°15'16" W, 78.67 feet to Station 957+78.67;
thence S 0°01'21" E, 215.81 feet to Station 959+94.49;
thence N 88°27'18" W, 1393.61 feet to Station 973+88.10;
thence S 0°03'04" E, 496.73 feet to Station 978+84.82;
thence N 88°36'55" W, 1001.32 feet to Station 988+86.14;
thence S 0°10'16" W, 84.89 feet to Station 989+71.03;
thence S 45°46'40" W, 126.13 feet to Station 990+97.16;
thence N 88°36'55" W, 988.72 feet to Station 1000+85.88;
thence N 44°14'56" W, 328.47 feet to Station 1004+14.36;
thence N 13°40'36" W, 985.84 feet to Station 1014+00.20, said point being S 86°03'21 W, 530.54 feet from the North 1/4 corner of Section 35;
thence continuing along said pipeline N 54°06'50" W, 431.69 feet to Station 1018+31.89;
thence N 13°40'36" W, 1838.00 feet to Station 1036+69.89;
thence N 89°58'26" W, 235.89 feet to Station 1039+05.77;
thence N 1°36'57" W, 264.23 feet to Station 1041+70.00;
thence N 2°57'43" E, 99.44 feet to Station 1042+69.44;
thence N 25°40'02" W, 395.23 feet to Station 1046+64.67;
thence N 1°37'05" W, 187.89 feet to Station 1048+52.56;
thence N 38°06'59" E, 260.68 feet to Station 1051+13.24, said point being S 77°11'34 E, 84.29 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55;
thence continuing along said pipeline N 0°32'41" E, 808.24 feet to Station 1059+21.48;
thence S 89°26'00" E, 280.00 feet to Station 1062+01.48;
thence N 0°32'40" E, 646.49 feet to Station 1068+47.97;
thence N 89°25'41" W, 280.00 feet to Station 1071+27.97;
thence N 0°32'41" E, 3542.23 feet to Station 1106+70.20;
thence N 44°09'05" W, 88.58 feet to Station 1107+58.78;
thence N 0°50'55" E, 47.38 feet to Station 1108+06.17 and the Terminus of said pipeline description. Said Terminus also being N 0°46'24 E, 5,089.47 feet from the Northeast corner of the Hiram Johnson D.L.C. number 55.

EXHIBIT A

Willamette Water Supply
July 24, 2020

Wenzel Brothers' Farm, LLC
Tax Map No. 1S2350000700

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Southerly Side of Centerline</u>
982+00.00		990+53.16	15.00
990+53.16		990+94.83	20.00
990+94.83		1004+00.00	15.00

<u>Station</u>	to	<u>Station</u>	<u>Width on Northerly Side of Centerline</u>
988+86.14		989+96.67	15.00
989+96.67		991+13.79	15.00 in a straight line to 30.00
991+13.79		992+07.31	30.00
992+07.31		994+65.97	15.00
994+65.97		995+66.97	30.00
995+66.97		1001+30.93	15.00
1001+30.93		1001+72.93	15.00 in a straight line to 55.00
1001+72.93		1004+00.00	55.00

The parcel of land to which this description applies contains 50,412 square feet (1.16 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Wenzel Brothers' Farm property included in a strip of land 75.00 feet in width, lying 20.00 feet southerly and 55.00 feet northerly of the Pipeline Centerline described in Parcel 1, between Engineer's Stations 982+00.00 and 1004+00.00;

EXCEPT THEREFROM that portion lying within the above described Parcel 1.

The parcel of land to which this description applies contains 49,462 square feet (1.14 acre), more or less.

PARCEL 3 – PERMANENT ACCESS ROAD EASEMENT

That portion of said Wenzel Brothers' Farm property included in a strip of land variable in width, lying on each side of the Pipeline Centerline described in Parcel 1;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Southerly Side of Centerline</u>
982+00.00		990+53.16	15.00
990+53.16		990+94.83	20.00
990+94.83		1004+00.00	15.00

EXHIBIT A

**Willamette Water Supply
July 24, 2020**

**Wenzel Brothers' Farm, LLC
Tax Map No. 1S2350000700**

<u>Station</u>	to	<u>Station</u>	<u>Width on Northerly Side of Centerline</u>
988+86.14		989+96.67	15.00
989+96.67		991+13.79	15.00 in a straight line to 30.00
991+13.79		992+07.31	30.00
992+07.31		994+65.97	15.00
994+65.97		995+66.97	30.00
995+66.97		1001+30.93	15.00
1001+30.93		1001+72.93	15.00 in a straight line to 55.00
1001+72.93		1004+00.00	55.00

The parcel of land to which this description applies contains 50,412 square feet (1.16 acre), more or less.

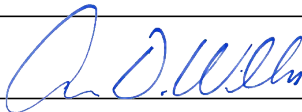
PARCEL 4 – PERMANENT LIMITED USE EASEMENT

That portion of said Wenzel Brothers' Farm property included in a strip of land 400.00 feet in width, lying 200.00 feet on each side of the Pipeline Centerline described in Parcel 1, between Engineer's Stations 982+00.00 and 1006+00.00;

The parcel of land to which this description applies contains 582,357 square feet (13.37 acre), more or less.

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.

REGISTERED
PROFESSIONAL
LAND SURVEYOR



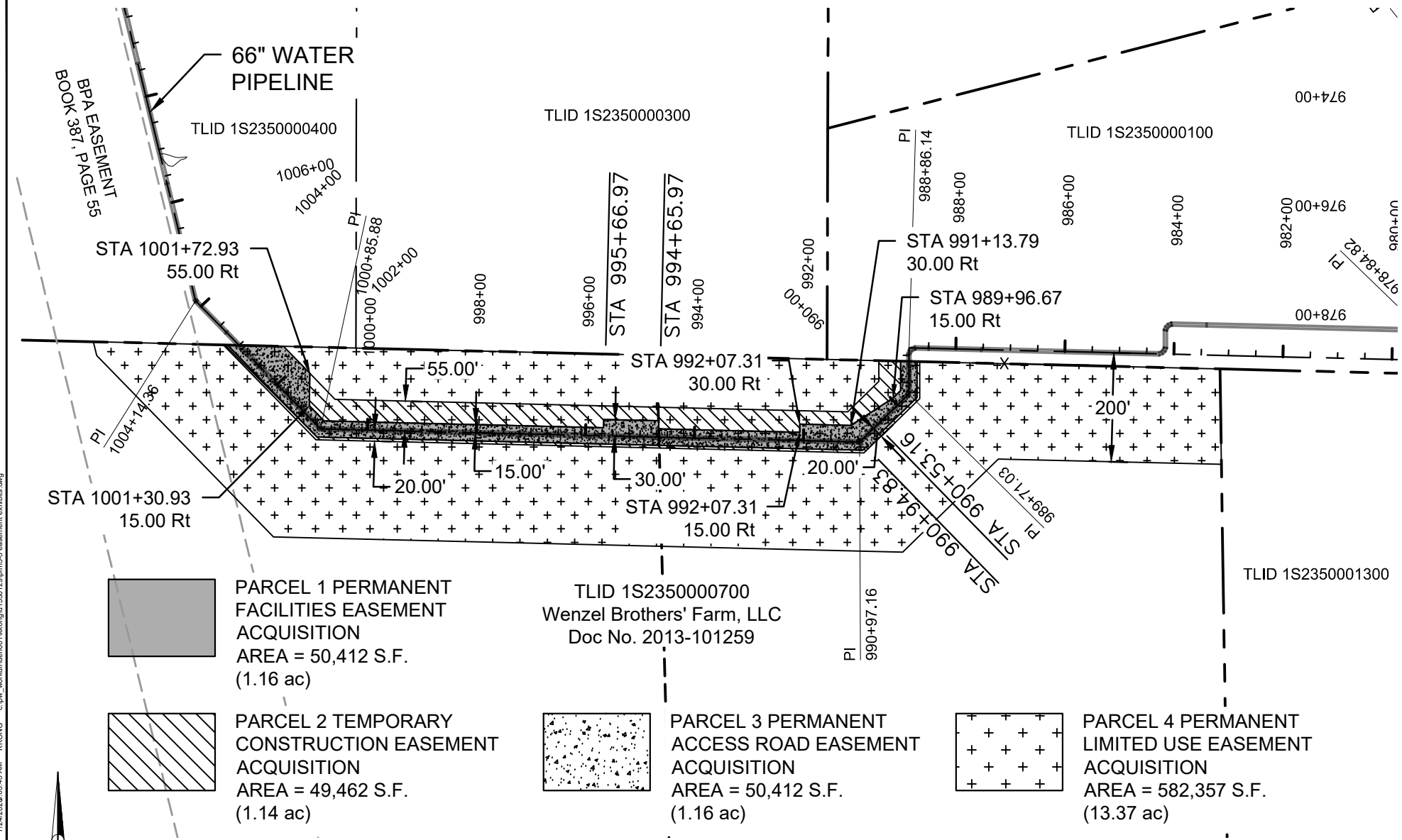
OREGON
JANUARY 8, 2015
AARON D. WILLIS
88798

EXPIRES: 6/30/22
SIGNED: 7-24-20

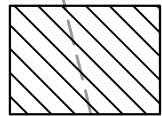
Willamette Water Supply System Commission

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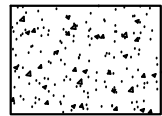
EXHIBIT B



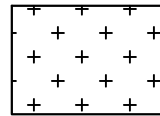
PARCEL 1 PERMANENT FACILITIES EASEMENT ACQUISITION
 AREA = 50,412 S.F.
 (1.16 ac)



PARCEL 2 TEMPORARY CONSTRUCTION EASEMENT ACQUISITION
 AREA = 49,462 S.F.
 (1.14 ac)



PARCEL 3 PERMANENT ACCESS ROAD EASEMENT ACQUISITION
 AREA = 50,412 S.F.
 (1.16 ac)



PARCEL 4 PERMANENT LIMITED USE EASEMENT ACQUISITION
 AREA = 582,357 S.F.
 (13.37 ac)

WILLAMETTE WATER SUPPLY PROGRAM
 PIPELINE MAIN STEM, SECTION 5.2

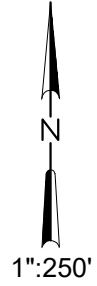
FILE No: PLM_5.3-017	SUBMITTAL DATE: JULY 24, 2020
TAX LOT: 1S2350000700	ADDRESS:
TAX MAP: T1S R2W Sec35	

ACQUISITION MAP
 PAGE 1 OF 1



JACOBS
 SURVEY & MAPPING
 2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
 PH: (503) 235-5000

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Willamette Water Supply System Commission

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EXHIBIT A

**Willamette Water Supply
July 27, 2020**

**The Roscoe Bierly Decedent's
Exemption Trust
Tax Map No. 1S2360000600**

PARCEL 1 – PERMANENT FACILITIES EASEMENT

A parcel of land lying in Section 36, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to The Roscoe Bierly Decedent's Exemption Trust, recorded January 4, 2008 in Document No. 2008-000704, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land, variable in width, lying on each side of the following described Pipeline Centerline:

Beginning at Engineer's Centerline Station 901+98.99, said point being N 62°00'18 E, 72.12 feet from the Southeast corner of the John Landess D.L.C. number 37.

Thence along said pipeline the following courses;
thence N 89°26'02" W, 9.73 feet to Station 902+08.72;
thence N 44°26'02" W, 27.23 feet to Station 902+35.95;
thence N 0°55'28" E, 224.95 feet to Station 904+60.90;
thence N 25°53'14" W, 159.59 feet to Station 906+20.49;
thence N 0°55'50" E, 1630.98 feet to Station 922+51.47;
thence S 89°03'53" E, 75.00 feet to Station 923+26.47;
thence N 0°55'50" E, 715.98 feet to Station 930+42.45;
thence N 22°48'13" E, 76.16 feet to Station 931+18.61;
thence N 66°45'49" E, 84.11 feet to Station 932+02.72;
thence S 89°51'32" E, 176.96 feet to Station 933+79.68, said point being S 33°41'14 E, 561.69 feet from the Northeast corner of the John Landess D.L.C. number 37;
thence continuing along said pipeline N 0°01'21" W, 1173.27 feet to Station 945+52.95;
thence N 45°01'21" W, 25.46 feet to Station 945+78.41;
thence N 0°01'21" W, 1026.61 feet to Station 956+05.01 and the Terminus of said pipeline description. Said Terminus also being S 62°11'57 E, 954.76 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian;

Widths in feet are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly Side of Centerline</u>
934+00.00		946+50.00	18.00
<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly Side of Centerline</u>
934+00.00		938+94.98	12.00
938+94.98		939+99.92	30.00
939+99.92		944+90.66	12.00
944+90.66		946+50.00	30.00 in a straight line to 48.00

EXCEPT THEREFROM that portion lying within the right-of-way of Grabhorn Rd (CR 315).

EXHIBIT A

**Willamette Water Supply
July 27, 2020**

**The Roscoe Bierly Decedent's
Exemption Trust
Tax Map No. 1S2360000600**

The parcel of land to which this description applies contains 39,071 square feet (0.90 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Bierly property included in a strip of land, variable in width, lying on the easterly side of the Pipeline Centerline described in Parcel 1:

Widths in feet are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly Side of Centerline</u>
934+00.00		946+50.00	47.00 in a straight line to 65.00

EXCEPT THEREFROM that portion lying within the right-of-way of Grabhorn Rd (CR 315) and above described Parcel 1.

The parcel of land to which this description applies contains 37,584 square feet (0.86 acre), more or less.

PARCEL 3 – PERMANENT ACCESS ROAD EASEMENT

All that portion of said Bierly property included in a strip of land lying westerly of a line being parallel with and 12.00 feet easterly of the Pipeline Centerline described in Parcel 1 between Engineer's Centerline Stations 934+00.00 and 934+33.91:

EXCEPT THEREFROM that portion lying within the right-of-way of Grabhorn Rd (CR 315).

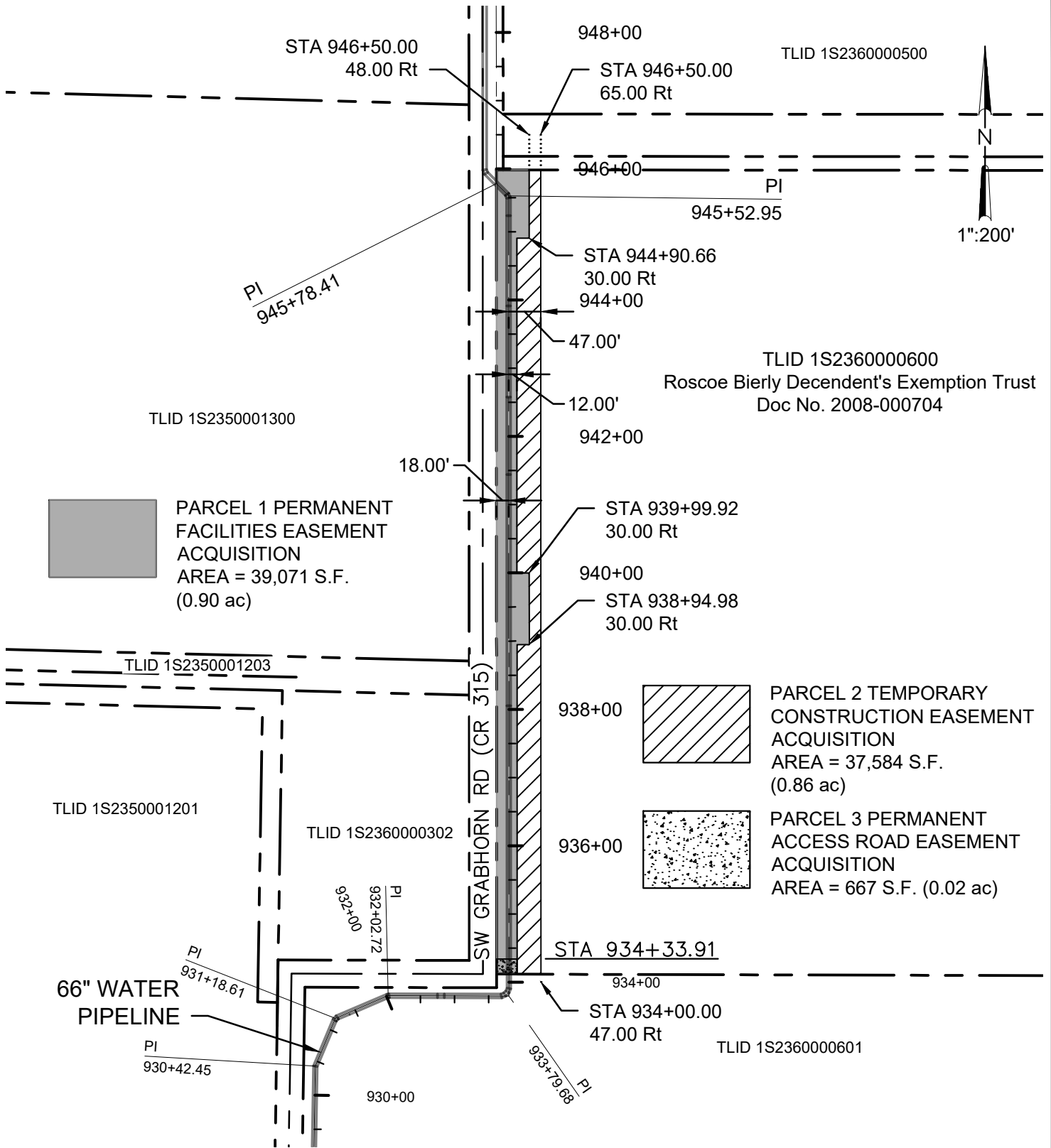
The parcel of land to which this description applies contains 667 square feet (0.02 acre), more or less.

Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.



EXPIRES: 6/30/22
SIGNED: 7-27-20

EXHIBIT B



8/4/2020 2:24:55 PM KIKONG c:\pw_wor\delidemo01\kicong\dl1520129\pms-3 easement exhibitb.dwg

WILLAMETTE WATER SUPPLY PROGRAM
 PIPELINE MAIN STEM, SECTION 5.3

FILE No: PLM_5.3-035	SUBMITTAL DATE: JULY 27, 2020
TAX LOT: 1S2360000600	ADDRESS:
TAX MAP: T1S R2W Sec36	

ACQUISITION MAP
 PAGE 1 OF 1

Jacobs
 SURVEY & MAPPING
 2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
 PH: (503) 235-5000

Willamette Water Supply System Commission

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EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Bierly Family Trust
Tax Map No. 1S2360000601**

PARCEL 1 – PERMANENT FACILITIES EASEMENT

A parcel of land lying in Section 36, Township 1 South, Range 2 West of the Willamette Meridian, Washington County, Oregon and being a portion of that property conveyed to Bierly Family Trust, recorded July 19, 2000 in Document No. 2000057488, in the Washington County Book of Records, said parcel being that portion of said property included in a strip of land, variable in width, lying on each side of the following described Pipeline Centerline:

Beginning at Engineer’s Centerline Station 901+98.99, said point being N 62°00’18 E, 72.12 feet from the Southeast corner of the John Landess D.L.C. number 37.

Thence along said pipeline the following courses;
thence N 89°26’02" W, 9.73 feet to Station 902+08.72;
thence N 44°26’02" W, 27.23 feet to Station 902+35.95;
thence N 0°55’28" E, 224.95 feet to Station 904+60.90;
thence N 25°53’14" W, 159.59 feet to Station 906+20.49;
thence N 0°55’50" E, 1630.98 feet to Station 922+51.47;
thence S 89°03’53" E, 75.00 feet to Station 923+26.47;
thence N 0°55’50" E, 715.98 feet to Station 930+42.45;
thence N 22°48’13" E, 76.16 feet to Station 931+18.61;
thence N 66°45’49" E, 84.11 feet to Station 932+02.72;
thence S 89°51’32" E, 176.96 feet to Station 933+79.68, said point being S 33°41’14 E, 561.69 feet from the Northeast corner of the John Landess D.L.C. number 37;
thence continuing along said pipeline N 0°01’21" W, 1173.27 feet to Station 945+52.95;
thence N 45°01’21" W, 25.46 feet to Station 945+78.41;
thence N 0°01’21" W, 1026.61 feet to Station 956+05.01 and the Terminus of said pipeline description. Said Terminus also being S 62°11’57 E, 954.76 feet from the Northwest corner of Section 36, Township 1 South, Range 2 West of the Willamette Meridian;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Westerly and Northerly Side of Centerline</u> To the Easterly and Southerly right-of-way of Grabhorn Road (CR 315)
923+26.47		934+50.00	

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Bierly Family Trust
Tax Map No. 1S2360000601**

<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly and Southerly Side of Centerline</u>
922+51.47		924+52.06	13.00
924+52.06		925+52.06	30.00
925+52.06		931+97.29	13.00
931+97.29		932+03.00	13.00 in a straight line to 30.00
932+03.00		932+48.14	30.00
932+48.14		933+17.69	83.00
933+17.69		933+58.12	83.00 in a straight line to 18.00
			Thence parallel with said pipeline S 89°51'32" E, 33.62 feet; thence N 0°01'21" W, 18.03 feet to Engineer's Station 933+79.68, 12.00 feet right.
933+79.68		934+50.00	12.00

EXCEPT THEREFROM that portion lying within the right-of-way of Grabhorn Rd (CR 315).

The parcel of land to which this description applies contains 44,610 square feet (1.02 acre), more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

That portion of said Bierly property included in a strip of land, variable in width, lying on the easterly and southerly side of the Pipeline Centerline described in Parcel 1;

Widths in feet of said strip of land are described as follows:

<u>Station</u>	to	<u>Station</u>	<u>Width on Easterly and Southerly Side of Centerline</u>
922+51.47		932+48.14	48.00
932+48.14		934+50.00	47.00

EXCEPT THEREFROM that portion lying within the right-of-way of Grabhorn Rd (CR 315), and above described Parcel 1.

The parcel of land to which this description applies contains 34,807 square feet (0.80 acre), more or less.

PARCEL 3 – PERMANENT ACCESS ROAD EASEMENT

That portion of said Bierly property included in a strip of land, variable in width, lying on each side of the Pipeline Centerline described in Parcel 1;

EXHIBIT A

**Willamette Water Supply
July 3, 2020**

**Bierly Family Trust
Tax Map No. 1S2360000601**

Widths in feet of said strip of land are described as follows:

<u>Station</u> 932+48.14	to	<u>Station</u> 934+50.00	<u>Width on Northerly and Westerly Side of Centerline</u> To the Easterly and Southerly right-of-way of Grabhorn Road (CR 315)
<u>Station</u> 932+48.14	to	<u>Station</u> 933+17.69	<u>Width on Southerly and Easterly Side of Centerline</u> 83.00
933+17.69		933+58.12	83.00 in a straight line to 18.00 Thence parallel with said pipeline S 89°51'32" E, 33.62 feet; thence N 0°01'21" W, 18.03 feet to Engineer's Station 933+79.68, 12.00 feet right.
933+79.68		934+50.00	12.00

The parcel of land to which this description applies contains 10,740 square feet (0.25 acre), more or less.

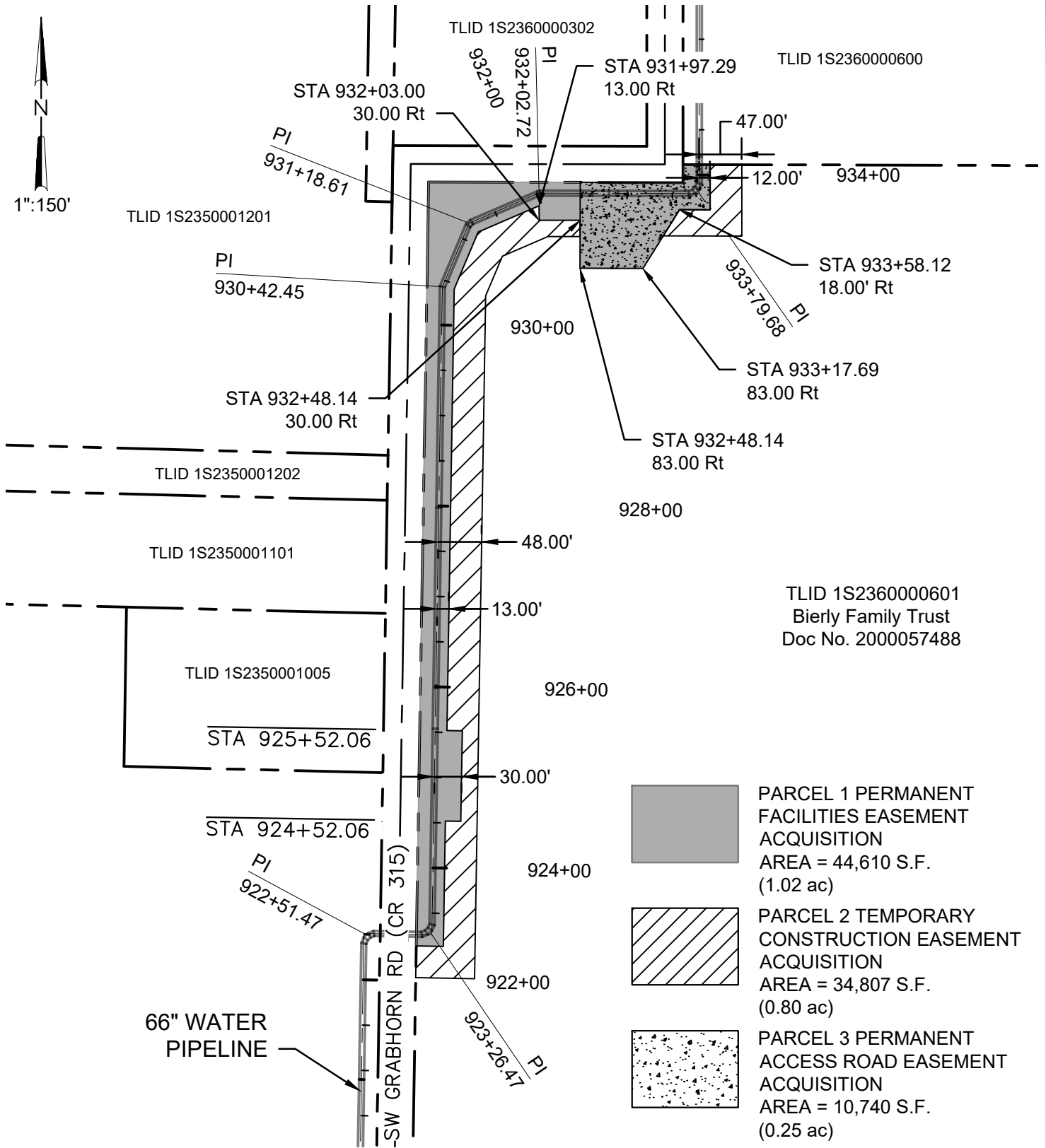
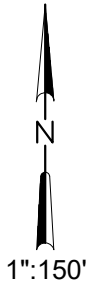
Basis of Bearings is the Oregon Coordinate Reference System (OCRS), Portland Zone.


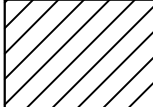

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JANUARY 8, 2015
AARON D. WILLIS
88798

EXPIRES: 6/30/22
SIGNED: 7-24-20

EXHIBIT B



- 
PARCEL 1 PERMANENT FACILITIES EASEMENT ACQUISITION
 AREA = 44,610 S.F. (1.02 ac)
- 
PARCEL 2 TEMPORARY CONSTRUCTION EASEMENT ACQUISITION
 AREA = 34,807 S.F. (0.80 ac)
- 
PARCEL 3 PERMANENT ACCESS ROAD EASEMENT ACQUISITION
 AREA = 10,740 S.F. (0.25 ac)

TLID 1S2360000601
 Bierly Family Trust
 Doc No. 2000057488

WILLAMETTE WATER SUPPLY PROGRAM PIPELINE MAIN STEM, SECTION 5.3

ACQUISITION MAP PAGE 1 OF 1

FILE No: PLM_5.3-036

SUBMITTAL DATE: JULY 3, 2020

TAX LOT: 1S2360000601

ADDRESS:

TAX MAP: T1S R2W Sec36

Jacobs

SURVEY & MAPPING

2020 SW 4TH AVE. SUITE 300 PORTLAND, OR 97201
 PH: (503) 235-5000

STAFF REPORT

To: Board of Commissioners

From: Joelle Bennett, P.E., WWSP Assistant Program Director

Date: August 6, 2020

Subject: Resolution Declaring Public Necessity to Acquire Property Interests Over, Upon, Under, and Through Real Property for Pipeline Section PLW_2.0 for the Willamette Water Supply System

Requested Board Action:

Consider adopting a resolution declaring public necessity to acquire permanent and temporary construction easements over, upon, under, and through real property for pipeline section PLW_2.0 for the Willamette Water Supply System (WWSS).

Key Concepts:

The WWSS includes a section of pipeline referred to as PLW_2.0.

- The Willamette Water Supply Program (WWSP) has progressed the design of this pipeline section to enable identification of property requirements for construction and long-term operation and maintenance of the pipeline.
- After consideration of various alignments and alternatives, the identified route will be located in a manner that will be most compatible with the greatest public good and the least injury to private property owners.
- This resolution declares the public need for the property interests and enables the WWSS Commission's agents, including the WWSP team, to begin negotiating with respective property interest holders, and also authorizes the acquisition of the property interests by eminent domain, to the extent negotiations fail.

Background:

The WWSS includes a section of pipeline along Cornelius Pass Road, from SW Frances Street to Highway 26, mostly within the City of Hillsboro. The project area is shown in the attached map. The pipeline will be a 48-inch diameter welded steel or ductile iron pipe.

The WWSP has progressed the design of this pipeline section to enable identification of property requirements for construction and long-term operation and maintenance of the pipeline. The pipeline alignment was selected through an extensive alternatives evaluation, and the preferred location was selected based upon the best interests of the public and the least injury to private property owners. The proposed resolution will enable the submission of the project's land use application in addition to initiation of the property acquisition process, including negotiations with the Property owners and other applicable interest holders.

Resolution Declaring Public Necessity to Acquire Property Interests for WWSP Pipeline Section PLW_2.0

The PLW_2.0 pipeline alignment requires permanent and temporary easements to fulfill WWSP standard construction work zone requirements as well as provide for the future maintenance and operations of the WWSS pipeline and associated water system facilities.

WWSP continues to coordinate with the City of Hillsboro and Washington County during final design.

WWSP staff also are aware of additional property needs for pipeline section PLW_2.0 that are still being finalized and are not included in this resolution. This resolution is being brought to the Board now to allow the majority of real estate acquisition work needed for pipeline PLW_2.0 to begin on-schedule. A second resolution will be brought to the Board, likely in September, for authorization to proceed on additional property needs for pipeline section PLW_2.0.

Resolution Summary

The WWSS Commission has authority to acquire real property for the WWSS. The pipeline section PLW_2.0 requires the acquisition of real property for the construction, operation, and maintenance of the WWSS. The PLW_2.0 pipeline alignment was selected through an extensive alternatives evaluation, and the preferred location was selected based on the best interests of the public and the least injury to private property owners. The resolution enables the initiation of the property acquisition process, including negotiations with interest holders, and also authorizes the acquisition of the property interests by eminent domain, to the extent negotiations fail.

Budget Impact:

The WWSP real estate team has completed an estimate that represents, in the professional judgment of the real estate team, the budget-level cost required to acquire the easements. The total estimated cost for PLW_2.0 real property needs is \$3,005,000. Funds for purchase of these easements are included in the WWSP baseline budget.

Staff Contact Information:

Dave Kraska, P.E., WWSS General Manager, 503-941-4561, david.kraska@tvwd.org

Clark Balfour, General Counsel, 503-848-3061, clark.balfour@tvwd.org

Joelle Bennett, P.E., WWSP Assistant Program Director, 503-941-4577, joelle.bennett@tvwd.org

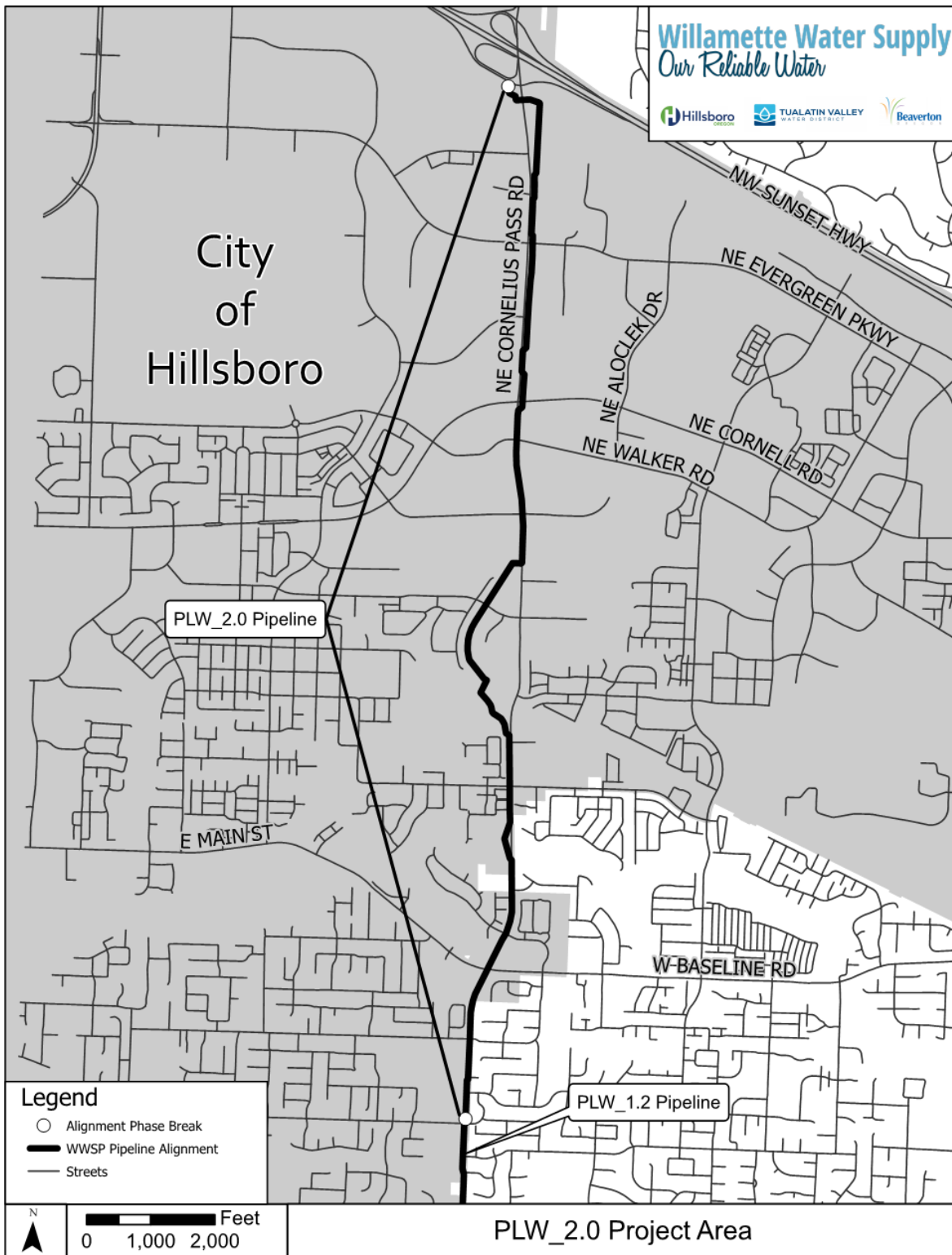
Attachments:

Project area map

Proposed Resolution

Exhibit 1: Property Interests (including Exhibit A Legal Descriptions and Exhibit B Acquisition Maps)

Project area map:



Willamette Water Supply System Commission

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RESOLUTION NO. WWSS-16-20

RESOLUTION DECLARING PUBLIC NECESSITY TO ACQUIRE PROPERTY INTERESTS OVER, UPON, UNDER AND THROUGH REAL PROPERTY FOR PIPELINE SECTION PLW_2.0 FOR THE WILLAMETTE WATER SUPPLY SYSTEM.

WHEREAS, the above-entitled matter came before the Willamette Water Supply System Commission (WWSS Commission) at its regular meeting on August 6, 2020; and,

WHEREAS, the Willamette Water Supply System Intergovernmental Agreement (Agreement) between Tualatin Valley Water District (TVWD), the City of Hillsboro (Hillsboro), and the City of Beaverton (Beaverton) (collectively, Members) created the WWSS Commission, an ORS Chapter 190 intergovernmental entity, effective July 1, 2019, to exercise the powers and duties set forth in the Agreement; and,

WHEREAS, pursuant to the Agreement, TVWD has been designated as the Managing Agency of the WWSS Commission; and,

WHEREAS, the Willamette Water Supply System (WWSS) includes, but is not limited to, an expanded and improved water intake on the Willamette River in the City of Wilsonville currently owned by TVWD and the City of Wilsonville, along with a new raw water pipeline, potable water treatment plant, finished water pipelines, pumping, storage, and other necessary water system facilities to enable the WWSS to utilize existing water rights to provide water system ownership and reliability to the Members' water system users; and,

WHEREAS, the WWSS Commission has been delegated authority by its Members under the Agreement and ORS Chapter 190 pursuant to City Charters, ORS 223.005 to 223.105, ORS 264.240 and Oregon Revised Statutes Chapter 35 to acquire real property by purchase or through eminent domain proceedings; and,

WHEREAS, the WWSS Commissioners determine, consistent with the powers and purposes of the WWSS Commission, that it is necessary for the economic well-being, public health, safety and welfare of the WWSS Commission and the Members' water system users, to acquire fee title to certain real property, as well as necessary rights-of-way, easements, and other property interests, in order to design, locate, construct, operate, and implement the WWSS; and,

WHEREAS, after investigation of various routes for a water pipeline and related water system facilities, the WWSS Commission has determined that certain property interests, are necessary for the construction, location, and operation of the WWSS, and in particular, pipeline section PLW_2.0, and that such use is planned and located in a manner that is most compatible with the greatest public benefit and the least private injury; and,

WHEREAS, such property interests are preliminarily described on Exhibits A and depicted for illustration purposes only on Exhibits B attached hereto and incorporated by reference, with final legal descriptions and easement documents to be determined by TVWD staff, including the Willamette Water Supply Program (WWSP) and its consultants, as the Managing Agency and on behalf of the WWSS

Commission, to be reasonably necessary to accommodate the design and operation of the WWSS (the Easement Interests); and,

WHEREAS, the WWSS Commission finds that declaration by resolution to acquire the Easement Interests for the WWSS is necessary and being so advised.

NOW, THEREFORE, BE IT RESOLVED BY THE WILLAMETTE WATER SUPPLY SYSTEM COMMISSION THAT:

Section 1: The above recitals shall form an integral part of this resolution and shall have the same force and effect as if fully stated herein.

Section 2: It is necessary for the preservation of economic well-being, public health, safety, and welfare of the public served by the Members and the WWSS that the WWSS Commission commence the acquisition process for the Easement Interests through exercise of the power of eminent domain.

Section 3: TVWD staff, including the WWSP, and counsel are authorized to retain real estate appraisers, negotiators, and other consultants, with said appraisals to be prepared under the auspices of WWSS Commission counsel, for initiation of proceedings as described below.

Section 4: TVWD staff, including WWSP, consultants, and counsel, are authorized to negotiate in good faith necessary agreements to acquire the Easement Interests on behalf of and in the name of the WWSS Commission and to pay just compensation and applicable compensable damages in accordance with applicable law without necessity of further approval by the WWSS Commission.

Section 5: TVWD staff, including WWSP, and counsel, are authorized to file complaints in condemnation, on behalf of and in the name of the WWSS Commission, and to take other steps as they determine necessary as the Managing Agency, and to prosecute to final determination such actions to acquire title to the Easement Interests if negotiations fail.

Section 6: Upon the trial of any suit or action instituted to acquire the Easement Interests, counsel acting for and on behalf of the WWSS Commission are authorized to make such stipulation, agreement, or admission as in their judgment may be for the best interest of the WWSS Commission and to take possession of the Easement Interests at such time as appropriate in their judgment without necessity of further WWSS Commission approval.

Approved and adopted at a regular meeting held on the 6th day of August 2020.

James Duggan, Chair

Denny Doyle, Vice Chair

Exhibit “A”

Willamette Water Supply Program
PLW 2.0
July 23, 2020

Project 19110
Pacific Realty Associates, L.P.
Tax Lots 1N226CD 00900 & 01000

PARCEL 1 - PERMANENT EASEMENT

A parcel of land situate in the southwest one-quarter of Section 26 in Township 1 North, Range 2 West of the Willamette Meridian, City of Hillsboro, Washington County, Oregon and being a portion of that property conveyed to Pacific Realty Associates, L.P. in that Bargain and Sale Deed, recorded March 4, 1999 as Document No. 99027079, Washington County Book of Records; more particularly described as follows:

Beginning on the northerly right-of-way of NE Walbridge Street (County Road No. 715 and 1149) which bears South 86° 17' 25" West 101.40 feet from a found 5/8" iron rod with yellow plastic cap stamped "NORTHWEST SURVEYING" as shown on Partition Plat No. 2017-010, Washington County Records; thence leaving said right-of-way North 02° 50' 37" West 8.17 feet; thence North 88° 34' 38" East 26.96 feet; thence North 59° 00' 38" East 50.38 feet; thence North 86° 14' 25" East 130.05 feet to the westerly right-of-way of NE Cornelius Pass Road (County Road No. 3020); thence along said westerly right-of-way South 04° 36' 10" East 15.22 feet; thence leaving said westerly right-of-way and along said northerly right-of-way South 77° 46' 32" West 101.85 feet; thence South 86° 17' 25" West 101.40 feet to the point of beginning.

The parcel of land to which this description applies contains 4,219 square feet, more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

A parcel of land situate in the southwest one-quarter of Section 26 in Township 1 North, Range 2 West of the Willamette Meridian, City of Hillsboro, Washington County, Oregon and being a portion of that property conveyed to Pacific Realty Associates, L.P. in that Bargain and Sale Deed, recorded March 4, 1999 as Document No. 99027079, Washington County Book of Records; more particularly described as follows:

Commencing on the northerly right-of-way of NE Walbridge Street (County Road No. 715 and 1149) which bears South 86° 17' 25" West 101.40 feet from a found 5/8" iron rod with yellow plastic cap stamped "NORTHWEST SURVEYING" as shown on Partition Plat No. 2017-010, Washington County Plat Records; thence leaving said right-of-way North 02° 50' 37" West 8.17 feet to the True Point of Beginning; thence North 02° 50' 37" West 52.87 feet; thence North 86° 14' 25" East 120.27 feet; thence North 04° 01' 28" West 115.95 feet; thence North 86° 38' 17" East 75.90 feet to the westerly right-of-way of Cornelius Pass Road (County Road No. 3020), said point also being a point on a non-tangent curve; thence on the arc of a 1401.00 foot radius curve to the right (the radial of which bears South 81° 33' 19" West), through a central angle of 01° 56' 36", an arc distance of 26.74 feet (the long chord of which bears South 07° 53' 53" East 26.74 feet); thence leaving said westerly right-of-way South 86° 38' 17" West 13.70 feet; thence South 50° 37' 06" West 17.50 feet; thence South 02° 50' 37" East 10.17 feet; thence South 86° 38' 17" West 42.09 feet; thence South 04° 01' 28" East 68.79 feet; thence North 86° 14' 25" East 10.00 feet; thence South 04° 01' 28" East 30.91 feet; thence South 86° 14' 25" West 66.96 feet; thence South 59° 00' 38" West 50.38 feet; thence South 88° 34' 38" West 26.96 feet to the point of beginning.

EXCEPT therefrom a sidewalk easement recorded as Document No. 2006-038694, Washington County Book of Records.

The parcel of land to which this description applies contains 8,873 square feet, more or less.

The bearings of this description are based on Oregon Coordinate Reference System, Portland Zone.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

Digitally signed by Sue Tsoi
DN: cn=Sue Tsoi, o=Engineering, ou=Survey, or=Ore.,
email=Sue.Tsoi@otak.com, c=US
Sue Tsoi
Reason: I am approving this document
Date: 2020.07.23 13:15:04-0700

OREGON
JULY 15, 2003
NGO SUE TSOI
58569LS

RENEWS: 6/30/2022

PARTITION PLAT NO. 2017-010

PARCEL 1

TL 1N226CD 01000
PACIFIC REALTY ASSOCIATES, L.P.
DOCUMENT NO. 99027079

SIDEWALK EASEMENT
DOCUMENT NO. 2006-038694

49.00'

R=1401.00' L=26.74'
Δ=01°05'36"
CH=S07°53'53"E 26.74'

N86°38'17"E 75.90'

S86°38'17"W 13.70'

S50°37'06"W 17.50'

S02°50'37"E 10.17'

N04°01'28"W 115.95'

S86°38'17"W 42.09'

S04°01'28"E 68.79'

N86°14'25"E 10.00'

S04°01'28"E 30.91'

N86°14'25"E 120.27'

66.96'

63.09'

N02°50'37"W 52.87'

N88°34'38"E 26.96'

POINT OF BEGINNING
PARCEL 2

8.17'

S86°17'25"W 101.40'

5/8" IRON ROD W/YPC STAMPED "NORTHWEST SURVEYING"

S77°46'32"W 101.85'

POINT OF BEGINNING
PARCEL 1

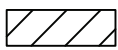
VARIABLE
WIDTH

35.00'

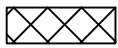
N.E. WALBRIDGE STREET
(COUNTY ROAD NO. 715 & 1149)

N.E. CORNELIUS PASS ROAD
(COUNTY ROAD NO. 3020)

LEGEND



PERMANENT EASEMENT
4,219 ft² ±



TEMPORARY CONSTRUCTION EASEMENT
8,873 ft² ±



SCALE: 1"=50'

EXHIBIT "B"
WILLAMETTE WATER SUPPLY PROGRAM
PLW 2.0

IN THE SW 1/4, SEC. 26, T.1N., R.2W., W.M.,
CITY OF HILLSBORO,
WASHINGTON COUNTY, OREGON

JULY 23, 2020
SHEET 1 OF 1



808 SW 3rd Ave., Ste. 800
Portland, OR 97204
Phone: (503) 287-6825
www.otak.com
project: 19110

Willamette Water Supply System Commission

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Exhibit "A"

Willamette Water Supply Program
PLW 2.0
July 14, 2020

Project 19110
Legacy Health System
Tax Lot 1N226D 00200

TEMPORARY CONSTRUCTION EASEMENT

A parcel of land situate in the southeast one-quarter and in the southwest one-quarter of Section 26 in Township 1 North, Range 2 West of the Willamette Meridian, City of Hillsboro, Washington County, Oregon and being a portion of that property described as Lot 2, Wishing Well and conveyed to Legacy Health System, an Oregon non-profit corporation in that Statutory Warranty Deed, recorded July 21, 1998 as Document No. 98079286, Washington County Book of Records; more particularly described as follows:

The north 600.00 feet of the west 512.00 feet of Lot 2, Wishing Well.

The parcel of land to which this description applies contains 307,200 square feet, more or less.

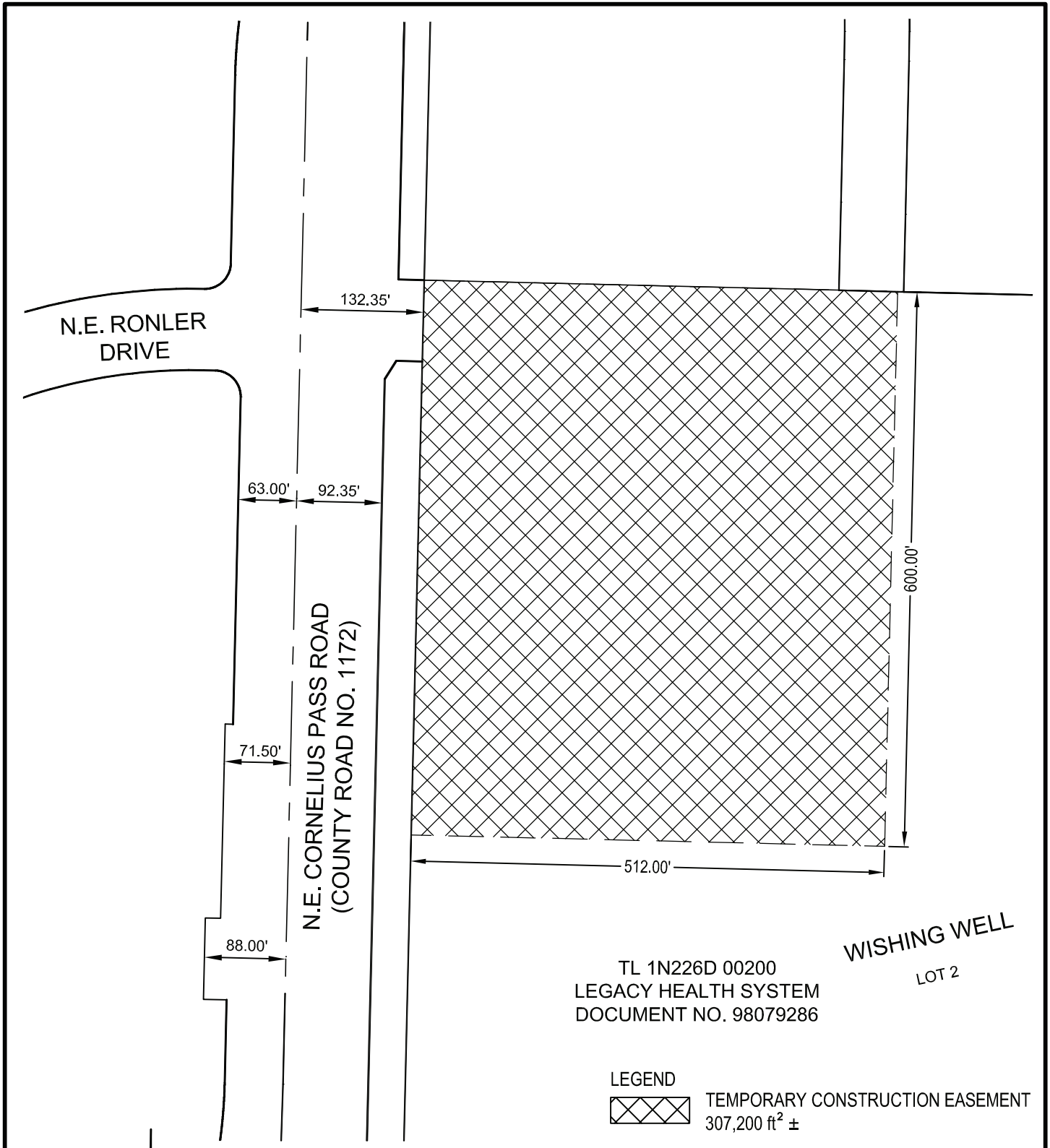
REGISTERED
PROFESSIONAL
LAND SURVEYOR

Sue Tsoi

Digitally signed by Sue Tsoi
DN: E=sue.tsoi@otak.com, CN=Sue Tsoi,
O=Engineering, OU=Survey, C=OR,
st=, L=Vancouver, S=Washington, C=US
Reason: I am approving this document
Date: 2020.07.14 10:21:35-0700'

OREGON
JULY 15, 2003
NGO SUE TSOI
58569LS

RENEWS: 6/30/2022



TL 1N226D 00200
 LEGACY HEALTH SYSTEM
 DOCUMENT NO. 98079286

WISHING WELL
 LOT 2

LEGEND



TEMPORARY CONSTRUCTION EASEMENT
 307,200 ft² ±



SCALE: 1"=150'

EXHIBIT "B"
WILLAMETTE WATER SUPPLY PROGRAM
PLW 2.0
 IN THE SE 1/4 & SW 1/4, SEC. 26,
 T.1N., R.2W., W.M., CITY OF HILLSBORO,
 WASHINGTON COUNTY, OREGON
 JULY 14, 2020
 SHEET 1 OF 1

Otak

 808 SW 3rd Ave., Ste. 800
 Portland, OR 97204
 Phone: (503) 287-6825
 www.otak.com
 project: 19110

Exhibit "A"

Willamette Water Supply Program
PLW 2.0
July 8, 2020

Project 19110
Northwest Natural Gas Company
Tax Lot 1N226DB 00700

TEMPORARY CONSTRUCTION EASEMENT

A parcel of land situate in the southwest one-quarter of Section 26 in Township 1 North, Range 2 West of the Willamette Meridian, City of Hillsboro, Washington County, Oregon and being a portion of that property conveyed to Northwest Natural Gas Company, an Oregon corporation in that Statutory Warranty Deed, recorded May 31, 1996 as Document No. 96048843, Washington County Book of Records; more particularly described as follows:

Beginning at the intersection of the east right-of-way of NE Cornelius Pass Road (County Road No. 1172) and the south right-of-way of NE Cornell Road (County Road No. 3011); thence along said south right-of-way North 85° 15' 01" East 83.96 feet; thence leaving said south right-of-way South 49° 00' 00" West 36.10 feet; thence South 79° 42' 03" West 57.99 feet to said east right-of-way; thence along said east right-of-way North 01° 20' 22" East 27.10 feet to the point of beginning.

The parcel of land to which this description applies contains 1,666 square feet, more or less.

The bearings of this description are based on Oregon Coordinate Reference System, Portland Zone.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

Sue Tsoi

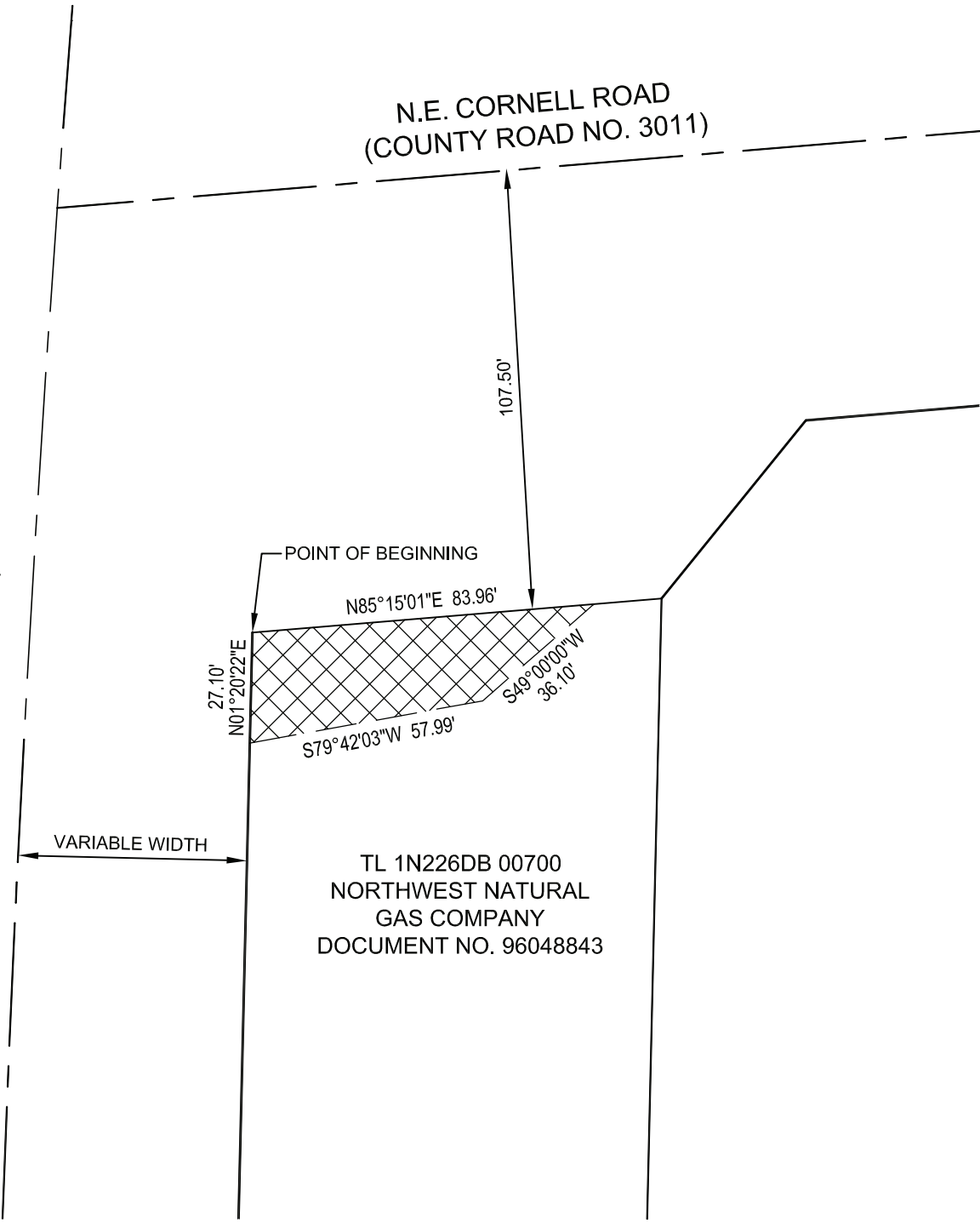
Digitally signed by Sue Tsoi
DN: cn=Sue Tsoi, o=NGO SUE TSOI, ou=Engineering, OU=Survey, ou=Oak, Inc.,
st=Washington, C=US
Reason: I am approving this document
Date: 2020.07.08 09:21:36-0700

OREGON
JULY 15, 2003
NGO SUE TSOI
58569LS

RENEWS: 6/30/2022

N.E. CORNELIUS PASS ROAD
(COUNTY ROAD NO. 1172)

N.E. CORNELL ROAD
(COUNTY ROAD NO. 3011)



TL 1N226DB 00700
NORTHWEST NATURAL
GAS COMPANY
DOCUMENT NO. 96048843

LEGEND



TEMPORARY CONSTRUCTION EASEMENT
1,666 ft² ±



SCALE: 1"=40'

EXHIBIT "B"
WILLAMETTE WATER SUPPLY PROGRAM
PLW 2.0

IN THE SW 1/4, SEC. 26, T.1N., R.2W., W.M.,
CITY OF HILLSBORO,
WASHINGTON COUNTY, OREGON

JULY 8, 2020
SHEET 1 OF 1

Otak



808 SW 3rd Ave., Ste. 800
Portland, OR 97204
Phone: (503) 287-6825
www.otak.com
project: 19110

Exhibit "A"

Willamette Water Supply Program
PLW 2.0
July 23, 2020

Project 19110
Owners of Orenco Industrial Park
Tax Lot 1N235BD 01200

PERMANENT ACCESS EASEMENT

A parcel of land situate in the northwest one-quarter of Section 35 in Township 1 North, Range 2 West of the Willamette Meridian, City of Hillsboro, Washington County, Oregon and being all of that property designated as Tract "C", Orenco Industrial Park and conveyed to the Owners of Lots 1 thru 9 of Orenco Industrial Park in a 1/9th undivided interest, recorded April 21, 1995 in Plat Book 97, Page 9, recorded as Document No. 95027834, Washington County Plat Records.

EXCEPT therefrom the existing right-of-way of NE Cherry Drive.

The parcel of land to which this description applies contains 27,235 square feet, more or less.



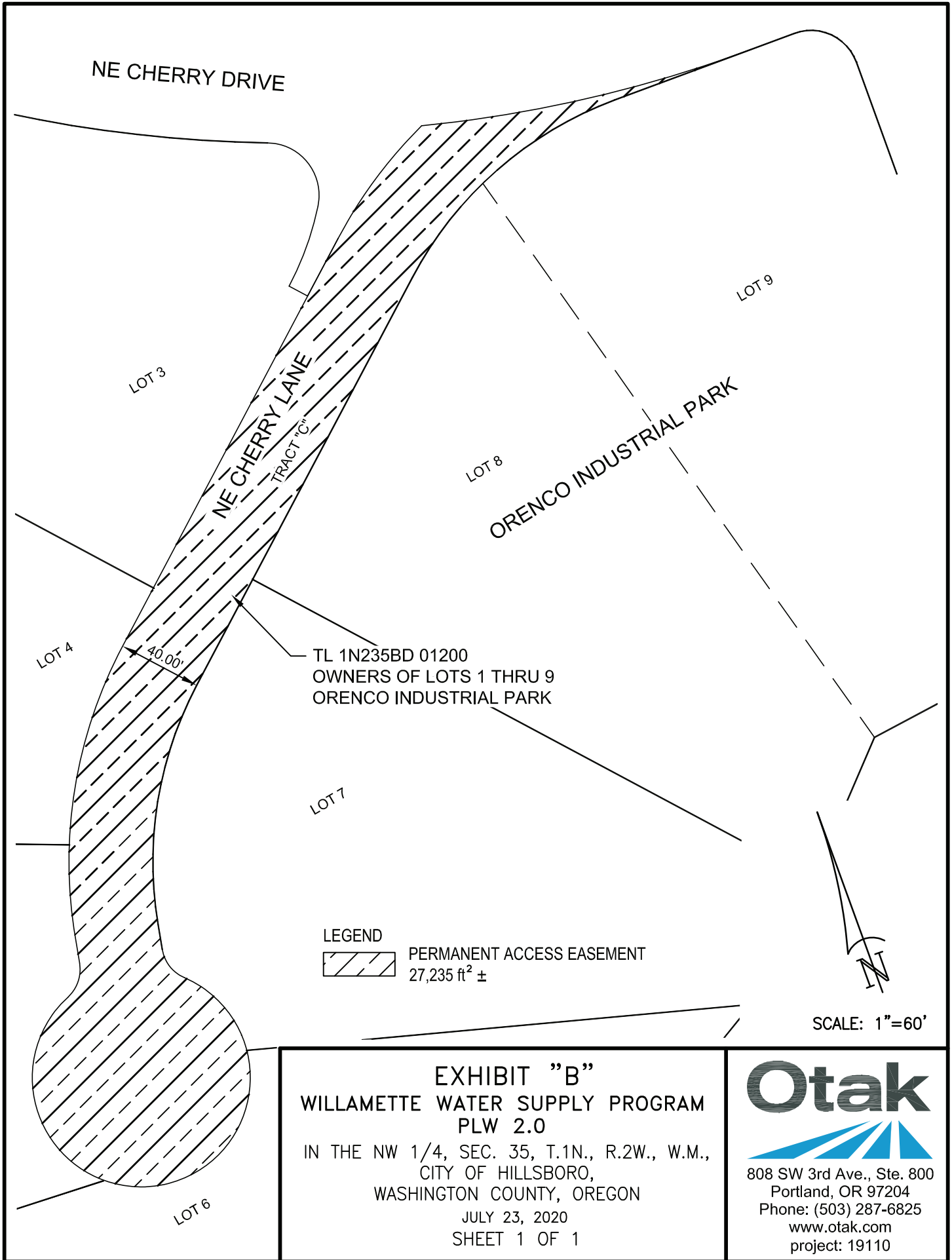


EXHIBIT "B"
WILLAMETTE WATER SUPPLY PROGRAM
PLW 2.0
 IN THE NW 1/4, SEC. 35, T.1N., R.2W., W.M.,
 CITY OF HILLSBORO,
 WASHINGTON COUNTY, OREGON
 JULY 23, 2020
 SHEET 1 OF 1


 808 SW 3rd Ave., Ste. 800
 Portland, OR 97204
 Phone: (503) 287-6825
 www.otak.com
 project: 19110

Exhibit "A"

Willamette Water Supply Program
PLW 2.0
July 23, 2020

Project 19110
Wal-Mart Stores, Inc.
Tax Lots 1S202BA 11200 & 11400

PARCEL 1 - PERMANENT EASEMENT

A parcel of land situate in the northwest one-quarter of Section 2 in Township 1 South, Range 2 West of the Willamette Meridian, City of Hillsboro, Washington County, Oregon and being a portion of that property conveyed to Wal-Mart Stores, Inc., a Delaware corporation in that General Warranty Deed, recorded March 13, 2003 as Document No. 2003-037188, Washington County Book of Records; more particularly described as follows:

Beginning at a point on the easterly right-of-way of NE Cornelius Pass Road (County Road No. 2978) which bears South 24° 58' 59" West 58.14 feet from a found 5/8" iron rod with orange plastic cap stamped "CESNW INC." at the northwest corner of Lot 3, Sequoia Village, Washington County Plat Records; thence along said easterly right-of-way North 24° 52' 58" East 42.95 feet; thence leaving said easterly right-of-way South 65° 07' 02" East 17.17 feet; thence South 36° 55' 56" East 75.51 feet; thence South 53° 03' 22" West 45.95 feet; thence North 36° 56' 38" West 74.05 feet to the point of beginning.

The parcel of land to which this description applies contains 3,890 square feet, more or less.

PARCEL 2 – TEMPORARY CONSTRUCTION EASEMENT

A parcel of land situate in the northwest one-quarter of Section 2 in Township 1 South, Range 2 West of the Willamette Meridian, City of Hillsboro, Washington County, Oregon and being a portion of that property conveyed to Wal-Mart Stores, Inc., a Delaware corporation in that General Warranty Deed, recorded March 13, 2003 as Document No. 2003-037188, Washington County Book of Records; more particularly described as follows:

Beginning at a point on the easterly right-of-way of NE Cornelius Pass Road (County Road No. 2978) which bears South 24° 58' 59" West 58.14 feet from a found 5/8" iron rod with orange plastic cap stamped "CESNW INC." at the northwest corner of Lot 3, Sequoia Village, Washington County Plat Records; thence leaving said easterly right-of-way South 36° 56' 38" East 74.05 feet; thence North 53° 03' 22" East 45.95 feet; thence South 15° 48' 40" East 9.19 feet; thence South 01° 41' 58" West 10.55 feet; thence North 89° 38' 43" West 18.88 feet; thence South 00° 36' 34" West 69.18 feet; thence North 65° 07' 02" West 108.38 feet to said easterly right-of-way; thence along said easterly right-of-way North 24° 52' 58" East 82.02 feet to the point of beginning.

The parcel of land to which this description applies contains 6,238 square feet, more or less.

The bearings of this description are based on Oregon Coordinate Reference System, Portland Zone.

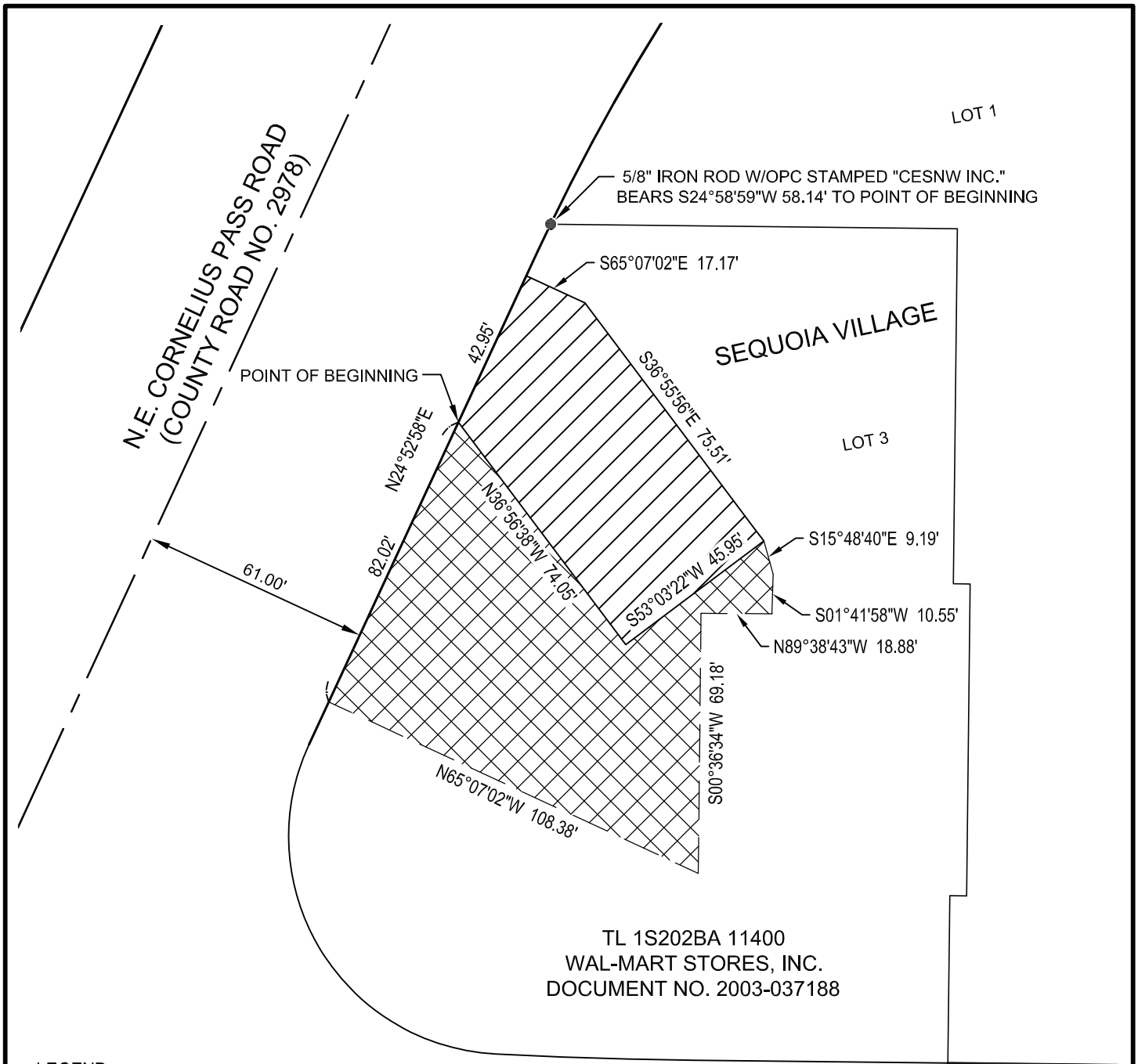
REGISTERED
PROFESSIONAL
LAND SURVEYOR

Sue Tsoi

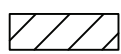
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DN: cn=Sue Tsoi, ou=Engineering, ou=Survey, o=Olatk, llc., l=Vancouver, st=Washington, c=US
Reason: I am approving this document
Date: 2020.07.23 12:09:28-07'00'

OREGON
JULY 15, 2003
NGO SUE TSOI
58569LS

RENEWS: 6/30/2022



LEGEND



PERMANENT EASEMENT
3,890 ft² ±



TEMPORARY CONSTRUCTION EASEMENT
6,238 ft² ±

W. BASELINE ROAD
(COUNTY ROAD NO. A-52 & 223)



SCALE: 1"=40'

EXHIBIT "B"
WILLAMETTE WATER SUPPLY PROGRAM
PLW 2.0
 IN THE NW 1/4, SEC. 2, T.1S., R.2W., W.M.,
 CITY OF HILLSBORO,
 WASHINGTON COUNTY, OREGON
 JULY 23, 2020
 SHEET 1 OF 1



808 SW 3rd Ave., Ste. 800
 Portland, OR 97204
 Phone: (503) 287-6825
 www.otak.com
 project: 19110

Willamette Water Supply System Commission

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STAFF REPORT

To: WWSS Board of Commissioners
From: David Kraska, P.E., Willamette Water Supply System General Manager
Date: August 6, 2020
Subject: Recommend Approval of MPE_1.0/COB_1.0 Delivery Phasing and Design Contract Amendment (Contract No. 2018-006 Amendment 11)

Requested Board Action:

Consider approving dividing the MPE_1.0/COB_1.0 project into three work packages and amending the associated design contract to reflect the packages. The design contract with Brown & Caldwell Corporation (BC) will be amended in the amount of \$1,998,389.97 and the contract term extended through April 30, 2025 to provide design services, bidding support, and engineering services during construction for the three work packages.

Key Concepts:

- The MPE_1.0/COB_1.0 project was initially planned for delivery as a single design and construction work package.
- Dividing the project into three work packages – MPE_1.1/COB_1.1, MPE_1.2/COB_1.2, and MPE_1.3 – would better accommodate construction administration and coordination with Oregon Department of Transportation (ODOT) roadway improvements.
- MPE_1.1/COB_1.1 would be generally along Western Avenue and the construction contract would be administered by the City of Beaverton.
- MPE_1.2/COB_1.2 would be in the vicinity of Oregon 217 and the construction contract would be administered by WWSP.
- MPE_1.3 would be along SW Scholls Ferry Road and the construction contract would be administered by WWSP.
- BC was procured through a competitive process to provide design consulting services for the MPE_1.0 project and the COB_1.0 project was added by amendment.
- The proposed BC contract amendment would establish a final scope of work, corresponding funding, and modified contract term to complete all three MPE_1.0/COB_1.0 work packages.

Background:

In accordance with the intergovernmental agreement (IGA) establishing the Willamette Water Supply System (WWSS) Commission, the Willamette Water Supply Program (WWSP) may oversee and manage the design and construction of certain additional projects (Ancillary Projects) for the WWSS member agencies when approved by the Board. The MPE_1.0 and COB_1.0 projects are such Ancillary Projects and are being delivered for Tualatin Valley Water District (TVWD) and City of Beaverton, respectively.

Subject to a forthcoming construction IGA, it is anticipated that the portion of MPE_1.0/COB_1.0 along Western Avenue (MPE_1.1/COB_1.1 as described below) will be bid and constructed under a contract administered by the City of Beaverton in conjunction with roadway improvements. Additionally, as

ODOT's plans and schedule for improvements to Oregon 217 have advanced, advantages of managing the portion of MPE_1.0/COB_1.0 in the vicinity of Oregon 217 (MPE_1.2/COB_1.2 as described below) have been identified. The remainder of MPE_1.0 follows SW Scholls Ferry Road and does not include any portion of COB_1.0 (MPE_1.3 as described below). The proposed work packages are described in the subsections that follow and shown in Attachment 1.

MPE 1.1/COB 1.1 – Western Avenue

This work package would include approximately 0.74 miles of 48-inch pipeline for MPE_1.1 and 0.74 miles of 16-inch pipeline for COB_1.1. The City of Beaverton has in progress a road improvement project on Western Avenue. MPE_1.1/COB_1.1 construction would be bid in the fourth quarter of 2020 to avoid construction conflicts and the potential impact of a moratorium on Western Avenue. By partnering with the City of Beaverton Transportation department, significant rework and costs (e.g., pavement, curb and gutter, sidewalk, and landscape restoration) are minimized, utility relocations are coordinated, and traffic control and staging is better managed. In addition, by combining the construction projects, the overall construction impacts to the public are reduced. The City of Beaverton will lead the procurement and hold the contract for construction of this work package in conjunction with road improvements.

MPE 1.2/COB 1.2 – Greenway Park to Western Avenue

This work package would include approximately 2.62 miles of 48-inch pipeline and 0.48 miles of 24-inch pipeline for MPE_1.2 and approximately 2.4 miles of 16-inch pipeline for COB_1.2. ODOT construction at Oregon 217 in the vicinity of the pipelines is planned for late 2021. MPE_1.2/COB_1.2 construction would be bid in the fourth quarter of 2020 to complete pipeline construction activities within ODOT's construction footprint ahead of ODOT beginning its work. This is to avoid construction issues related to overlapping construction activities, and more importantly, to mitigate the risk that pipeline construction could be delayed until after ODOT completes its work. A delay to the construction of the pipelines until after ODOT completes its work could prevent placement in service by 2026. WWSP will lead the procurement and hold the contract for construction of this work package.

MPE 1.3 – Roy Rogers Road to Greenway Park

This work package would include approximately 3.38 miles of 48-inch pipeline along SW Scholls Ferry Road. MPE_1.3 construction would be bid in the fourth quarter of 2021 to enable the design, permitting, bidding, and agency coordination for MPE_1.1/COB_1.1 and MPE_1.2/COB_1.2 to be prioritized. WWSP will lead the procurement and hold the contract for construction of MPE_1.3.

Effect on BC Contract

BC's current scope of work and fee reflects design, bidding support, and engineering services during construction for delivery of MPE_1.0 and COB_1.0 as a single construction package. Implementing the proposed packaging described above will require changes to this contract.

The subject amendment (Attachments A and B) would modify the contract scope from one set of design submittals and bid documents, bidding support, and engineering services during construction to three sets of the aforementioned documents and services. The amendment would also establish additional project time (146 calendar days) to enable continuous engineering support through the MPE_1.0/COB_1.0 construction and, thereby, the completion of all three MPE_1.0/COB_1.0 work packages.

August 6, 2020

Recommend Approval of MPE_1.0/COB_1.0 Delivery Phasing and Design Contract Amendment

Budget Impact:

Implementing the proposed work packaging approach described above will require modifications to the MPE_1.0 and COB_1.0 budgets as well as a modification to the BC contract fee. These modifications are described in the subsections that follow. Because MPE_1.0 and COB_1.0 are Ancillary Projects under the WWSS IGA, the WWSS member agency that requested the projects would be responsible for funding any increased costs. Funds in the WWSP Management Reserve budget would not be used for these projects.

MPE 1.0

The table below summarizes the budgetary impact of the work packaging on the MPE_1.0 project relative to the current, approved Baseline. There is no anticipated effect on Project Management budget. The Design and Engineering Services During Construction budgets would increase because of increased project meetings and site observations due to the extended schedule, development of three separate design and construction packages which include associated reviews, submittals, and other construction activities. The Construction, Construction Management, and Contingency budgets would be reduced slightly because of a reduction in budgeted cost escalation due to the accelerated construction schedule for some packages. The net change to the MPE_1.0 budget will be an increase of \$1,624,679.72. Additional funding from TVWD is needed to meet the revised MPE_1.0 budget.

MPE_1.0 Summary

Budget Component	Baseline 5.2	Proposed	Change
MPE - Project Management	\$1,464,792.00	\$1,464,792.35	\$0.35
MPE - Design	\$8,041,266.03	\$8,885,341.51	\$844,075.48
MPE - Construction	\$71,336,110.76	\$71,000,266.67	-\$335,844.09
MPE - Construction Management Services	\$4,888,326.83	\$4,887,860.60	-\$466.23
MPE - Engineering Services During Construction	\$1,069,019.19	\$2,223,333.68	\$1,154,314.49
MPE - Contingency	\$5,074,579.94	\$5,037,179.66	-\$37,400.28
Total	\$111,874,094.75	\$113,498,774.47	\$1,624,679.72

COB 1.0

The table below summarizes the budgetary impact of the work packaging on the COB_1.0 project relative to the current, approved Baseline. There is no anticipated effect on Project Management, Design, or Engineering Services During Construction budgets as COB_1.0 was anticipated to be packaged as COB_1.1 and COB_1.2 in Amendment 8 when COB_1.0 was added to the MPE_1.0 Project. The Construction, Construction Management, and Contingency budgets would be reduced slightly because of a reduction in budgeted cost escalation due to the accelerated construction schedule. The net change to the COB_1.0 budget will be a decrease of \$278,426.76. No additional funding from City of Beaverton is needed to meet the revised COB_1.0 budget.

August 6, 2020

Recommend Approval of MPE_1.0/COB_1.0 Delivery Phasing and Design Contract Amendment

COB_1.0 Summary

Budget Component	Baseline 5.2	Proposed	Change
COB - Project Management	\$402,211.65	\$402,211.65	-
COB - Design	\$1,879,980.83	\$1,879,980.83	-
COB - Construction	\$10,936,029.00	\$10,714,602.71	-\$221,426.29
COB - Construction Management Services	\$942,105.39	\$935,376.01	-\$6,729.38
COB - Engineering Services During Construction	\$280,989.49	\$280,989.49	-
COB - Contingency	\$3,294,861.10	\$3,244,590.01	-\$50,271.09
Total	\$17,736,177.46	\$17,457,750.70	-\$278,426.76

BC Contract No. 2018-006

The proposed Amendment No. 11 to the BC contract would increase the total contract value to \$12,763,162.62 as shown in the table below. These amounts are included in the overall

Initial Contract Value	\$8,998,668.67
Amendments 1 through 10	\$1,766,103.98
Current Contract Value	\$10,764,772.65
Proposed Amendment 11	\$1,998,389.97
Proposed Contract Value	\$12,763,162.62

Staff Contact Information:

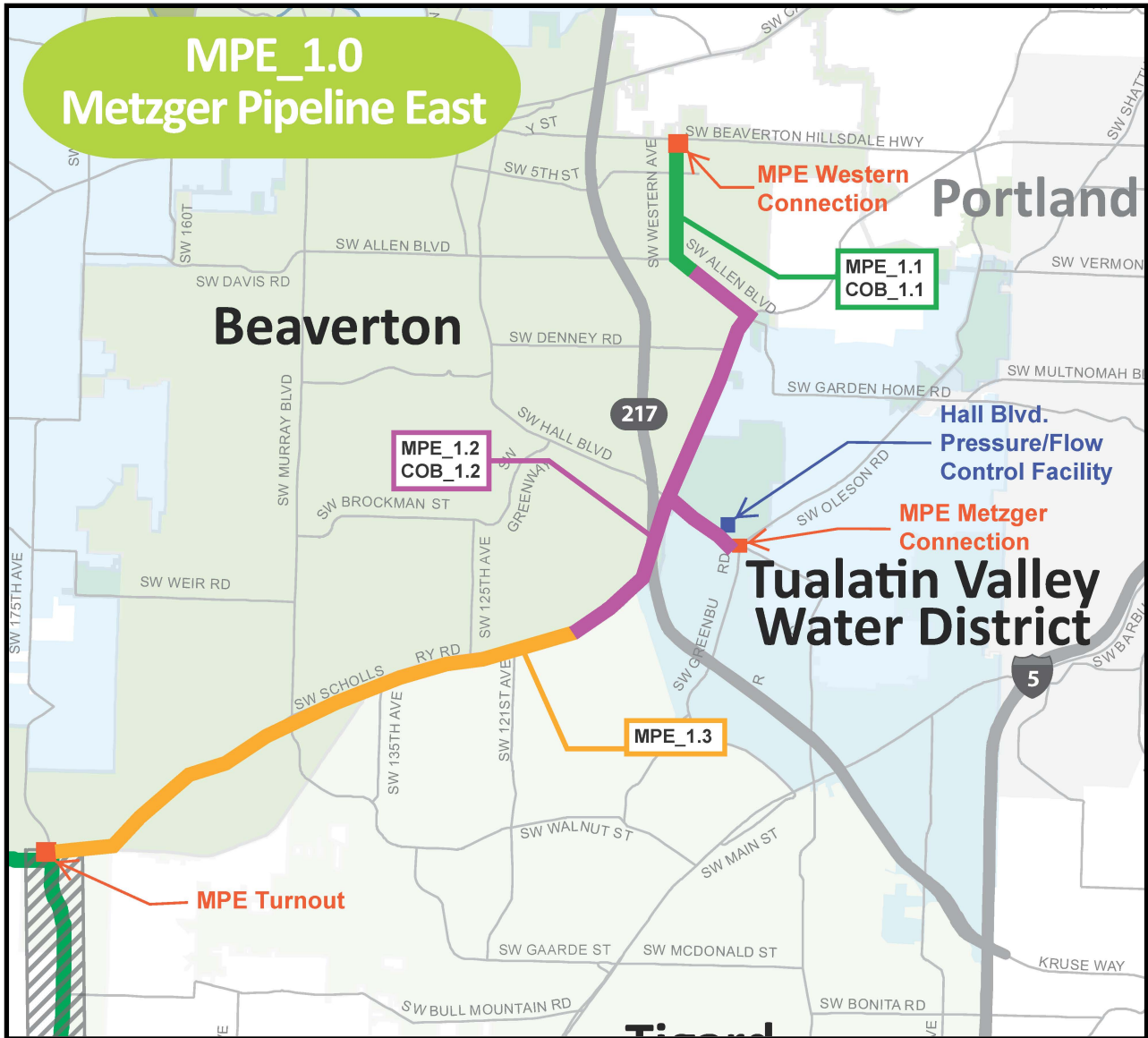
David Kraska, P.E., WWSP Program Director; 503-941-4561; david.kraska@tvwd.org

Mike Britch, P.E., WWSP Engineering & Construction Manager; 503-941-4565; mike.britch@tvwd.org

Attachments:

1. MPE_1.0/COB_1.0 Work Packages Figure
2. Exhibit A: BC Statement of Work
3. Exhibit B: BC Consultant Fee and Rate Schedule

Attachment 1
MPE_1.0/COB_1.0 Work Packages Figure



Willamette Water Supply System Commission

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EXHIBIT A – STATEMENT OF WORK (SOW)**Willamette Water Supply Program****MPE_1.0 Design, Bidding Phase, and Services During Construction**

Introduction

Tualatin Valley Water District ("District" or "TVWD") and the City of Hillsboro ("City" or "Hillsboro"), collectively referred to as ("Owners"), is contracting with Brown and Caldwell ("Engineer") to perform planning, design, bidding phase services, and services during construction for a water transmission pipeline that connects the Willamette Water Supply System ("WWSS") to TVWD's existing service areas, under the management and control of the Willamette Water Supply Program ("WWSP"). References to the WWSS and WWSP may be interchangeable throughout the Statement of Work and should be read in context.

Background

The WWSP is a drinking water infrastructure program that will provide the Owners with a seismically resilient water supply, designed to meet future demand and will provide redundancy in case of an emergency event. The WWSP includes more than thirty (30) miles of transmission pipelines, ranging from 36-inches to 66-inches in diameter from the Willamette River Water Treatment Plant ("WRWTP") in Wilsonville, Oregon, north to the Owners' service areas, including Hillsboro and Beaverton, Oregon. The Program also includes constructing finished water storage tanks (terminal storage), a new water treatment plant, and an expansion of the WRWTP existing intake facility. WWSP Preliminary Design Project Technical Memoranda are included as background in Attachment 1. For additional history and information, visit www.ourreliablewater.org.

The WWSP has been divided into work packages including several pipeline sections (Attachment 5). Section stationing included in this Statement of Work ("SOW") is defined in the Final WWSP Preliminary Design Drawings (Attachment 3). The focus of this statement of work is pipeline section Pipeline East 1.0 ("PLE_1.0"), which consists of approximately 30,000 linear feet ("LF") of large diameter welded steel pipe. The pipeline is planned to be located in unincorporated Washington County and the City of Beaverton and connect to the PLW_1.3 project and end with connection to an existing TVWD water main. The currently planned alignment is subject to change based on the alignment evaluation to be performed as part of this work.

The alternatives analysis will evaluate four alternative alignments and compare them to the baseline alignment (total of five alignments). After selection of the preferred alignment, the preliminary design will be completed to support early real estate acquisition and permitting efforts. Following preliminary design, some or all of the 30% through 100% Design deliverables may be developed under Phase 2. Depending on the outcome of the alignment evaluation, it is possible that the construction of this pipeline will be delayed until after 2026. The Owners may determine it is to their advantage to terminate this Agreement at any level of design and complete the design later under a new agreement.

PLE_1.0 is not phased into smaller construction projects at this time. PLE_1.0 is shown in Figure 1 and described below.

EXHIBIT A – STATEMENT OF WORK (SOW)
Willamette Water Supply Program
MPE_1.0 Design, Bidding Phase, and Services During Construction

PLE_1.0 Description

PLE_1.0, as planned (baseline alignment), includes a new 54-inch welded steel pipeline along SW Kinnaman Road, from SW 209th Avenue, to SW Farmington Road, along SW Farmington Road to SW 160th Avenue, north on SW 160th Avenue to SW Millikan Way, (pipeline diameter reduces to 48-inches at the rail and Bonneville Power Administration (BPA) crossing) continuing on SW Millikan Way to the Burlington Northern Santa Fe (BNSF) property west of SW Murray Boulevard, north to SW Terman Road and SW Murray Boulevard north of the MAX light rail, and east on SW Jenkins Road to SW Ecole Avenue, and then north on SW Ecole Avenue to the connection point with the existing TVWD main line in SW Walker Road. Five trenchless crossings are anticipated.

The PLE_1.0 alignment will be re-examined to determine if other options present opportunities to reduce cost, reduce risk, combine use (with planned TVWD capital improvement projects), or provide other advantages. The five alternatives under consideration are:

1. The alignment described above, plus a pipeline extension along SW Scholls Ferry Road to serve TVWD's Metzger service area, with two similar configurations:
 - a. Beaverton Area Alignment along Kinnaman Road
 - b. Beaverton Area Alignment along Farmington Road
2. Scholls Ferry Alignment extending from SW Roy Rogers Road at SW Scholls Ferry Road to the Washington County Supply Line in SW Beaverton-Hillsdale Highway to serve both TVWD's Metzger and Wolf Creek service areas;
3. Johnson Alignment extending north on SW 209th Avenue from the eastern terminus of PLW_1.3 (on the future Kinnaman Road) to SW Johnson Street, east to SW 170th Avenue, north to SW Baseline Road, east to SW 158th, northeast through commercial parking lots to SW Walker Road, and east to SW Meadow Drive, in addition to a pipeline extension along SW Scholls Ferry Road to serve TVWD's Metzger service area; and
4. Newly developed alignment, as proposed by Engineer in collaboration with the Owners.

Alternatives 1 through 3 are displayed in Figure 1.

EXHIBIT A – STATEMENT OF WORK (SOW)
Willamette Water Supply Program
MPE_1.0 Design, Bidding Phase, and Services During Construction

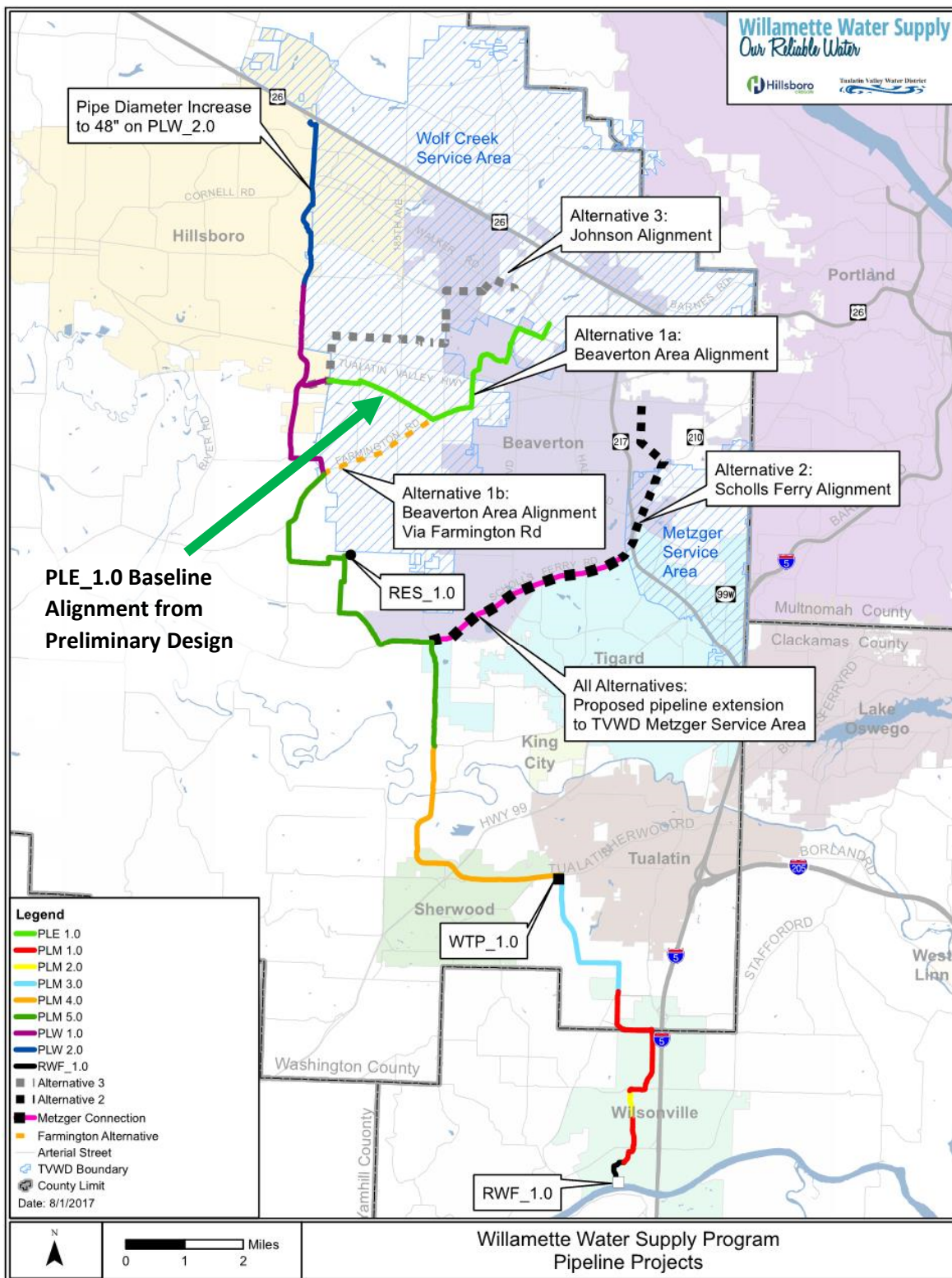


Figure 1. WWSP Pipeline Projects

Note: PLE_1.0 fifth alignment alternative to be proposed by Engineer in collaboration with Owners

EXHIBIT A – STATEMENT OF WORK (SOW)
Willamette Water Supply Program
MPE_1.0 Design, Bidding Phase, and Services During Construction

Scope of Work

Engineer shall provide the alternative evaluation, preliminary design, detailed design, bidding phase assistance, and Engineer's services during construction for the above-described baseline alignment, in accordance with the Agreement Documents and as described in the following sections. The following sections describe the Owners' expectations of Engineer for completing the Work. Nothing in the SOW relieves or reduces Engineer's continuous and ongoing responsibility and duty to exercise the standard of care for the benefit of the Owners while completing the Work for this Agreement.

Scope of work shall be phased into:

- Phase 1: Alignment Evaluation and Preliminary Design - this work includes the alternative alignment evaluation, preliminary design, and preparation of the draft Basis of Design Report
- Phase 2: Final Design and Construction Services – this work includes preparation of the 30-, 60-, 90-, and 100% Design, bidding phase, and engineering during construction services, or portions thereof

Note: All communication with the public and media shall be coordinated with and through the WWSP Communications Team. Awards, abstracts, peer-reviewed papers, presentations, media articles, and other external communications generated by Engineer that represent and/or reference the WWSP shall be submitted for review and approval in advance by the WWSP Communications Team.

Phase 1: Alignment Evaluation and Preliminary Design

1.0 Phase 1: Project Management and Administration

Engineer shall provide project management services to deliver the alternative evaluation, preliminary design, and draft Basis of Design Report within the established budget and delivered in accordance with the agreed-to schedule as described in Section 18.0 herein. All project management activities and subtasks required for Phase 1 design shall be in accordance with the WWSP Pipeline Design Guide ("Design Guide"), included as Attachment 2. These tasks include the Project Management Plan, Health and Safety Plan, project meetings, monthly progress reports, project controls, budget reporting, invoicing, and other tasks, as detailed below, required for the management and administration of the Work. All deliverables shall be electronically submitted through e-Builder for logging and tracking.

The Project Manager shall be responsible to manage all Engineer staff, Subconsultants and Subcontractors, internal QA/QC, and communications to be used by Engineer during the duration of this Agreement, and shall be the primary point of contact for Engineer.

Refer to [Table 18-1](#) for deliverable schedule and assumed construction durations to support level of effort preparation.

EXHIBIT A – STATEMENT OF WORK (SOW)
Willamette Water Supply Program
MPE_1.0 Design, Bidding Phase, and Services During Construction

1.1 Project Management

Engineer shall prepare a Project Management Plan ("PMP") for acceptance by Owners, detailing Engineer's execution plan and procedures for Phase 1 only. Engineer shall submit a draft and final PMP to Owners for review, and the content of the plan shall be as required in the Design Guide.

Assumptions:

- This task also includes the implementation of the PMP throughout the project, and includes subconsultant contracting, Engineer's internal monthly reviews, and compliance with Engineer's project management requirements.

Deliverables:

- Engineer PMP, due date in [Table 18-1](#)~~Table 18-1~~

1.2 Health and Safety Plan

Engineer shall prepare a draft and final site-specific health and safety (H&S) plan for acceptance by Owners, covering all Phase 1 field work to be performed by Engineer. Engineer's Subconsultants and Subcontractors performing field work shall prepare their own H&S plans and these will also be submitted for acceptance by Owners. Engineer shall require all Subconsultants and Subcontractors performing field work to comply with these requirements through enforcement of contractual flow down clauses. Engineer shall comply with all applicable federal, state, rail, and local environmental, health, and safety legislation, regulations, and codes.

Draft site-specific health and safety plans shall be provided with the Project Management Plan. Updates for specific, planned field work will be provided for Owners to review and comment.

No field work shall be performed prior to approval of site specific health and safety plans.

The site-specific health and safety plan shall include identification and mitigation of anticipated field work hazards as well as the following minimum elements, or stand-alone programs:

- Project Safety Rules
- Safety Responsibilities including designation of a Site Safety Point of Contact and Corporate Safety Point of Contact
- Drug, Alcohol, Tobacco Use, and Fire Arm Policy
- PPE use and care
- Heat Injury Avoidance Plan
- Emergency Action Plan
- Traffic Control Plan (as applicable)
- Severe Weather Response Plan
- Safety training requirements that shall include at a minimum; WWSP Safety orientation, OSHA 10-hour construction safety training (or equivalent) for personnel who will be working in the field unescorted (e.g., site safety officers, geologists, or drillers), and applicable OSHA required training

EXHIBIT A – STATEMENT OF WORK (SOW)
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- H&S incident reporting process that includes notification of Owner of incidents and near miss events, and allowance for Owners to participate in incident investigation and sharing of lessons learned
- Safety Incentivization program shall be developed that promotes leading indicators, such as hazard reporting; a program that recognizes lagging indicators (such as days without injury) shall not be used on the program
- Activity/task/job hazard analysis for all site activities to be performed: work efforts requiring a job hazard analysis (JHA) include major project activities such as windshield tour, survey, geotechnical exploration, geophysical surveys, utility locating, construction observation or other field work or on-site activities; provide the JHA a minimum of one week prior to the work for Owners' review and comment; initial JHAs may need to be provided prior to delivery of the PMP
- Identification of expected chemical hazards including designation of action levels and copies of safety data sheets for materials brought onto WWSP project sites
- A process to perform Jobsite Safety Compliance Reviews such as safety inspections or audits.
- Requirement for tailgate safety meeting requirements
- Requirement for all personnel to have stop work authority and to acknowledge stop work authority of Owners and program management personnel

Assumptions:

- Within ten days after acceptance of Engineer's H&S plan, Engineer will schedule a meeting with key Subcontractors to receive the WWSP Safety Orientation and discuss the integration of Engineer's safety program with the Owners
- At least one representative, preferably the Project Site Safety Lead, will attend monthly WWSP Employer Health & Safety Meetings; the meeting will be held at the Owners' Program Management Office (PMO) unless otherwise noted
- This task also includes implementation of the Health and Safety Plan throughout Phase 1 of the project.

Deliverables:

- Health and Safety Plan and applicable work-specific submittals
- Monthly Safety Report to Owners' Representative due by 10th of each month (included as part of progress report); the report shall include the following information through the previous month (as applicable):
 - The completed monthly report will include number of safety inspections, number of incidents, number of recordable injuries, the number of outstanding corrective actions the number of new workers to the site, the number of workers who completed site orientation training, or other safety meeting topics
 - Copies of incident investigations, safety inspections, work permits, and agency inspection reports or notices of violation relevant to the work being performed onsite
 - Copies of qualifications for any key staff changes

EXHIBIT A – STATEMENT OF WORK (SOW)
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- The Owners may request copies of training records, worker certifications or licenses, hazard analyses, or similar relevant documents as necessary

1.3 Project Kickoff Meeting and Windshield Tour

Engineer shall conduct and participate in one (1) half-day project kick-off meeting with Owners, within five (5) business days of the Notice to Proceed (NTP). Engineer shall prepare a draft agenda to distribute to Owners for review two (2) business days prior to the kick-off meeting. The purpose of the kick-off meeting will be to conduct project team introductions, exchange information regarding staff roles and responsibilities, receive additional technical information not distributed during the procurement process, and review the project requirements including scope, schedule, and budget.

Following the Kickoff Meeting, Engineer shall organize and participate in one (1) half-day windshield tour of the project alignments with Owners. Engineer shall be responsible for providing transportation for Owners staff via passenger van, taking notes on discussions during the tour, and taking photos of the alternative alignments. All rights-of-entry (ROE) shall be coordinated through Owners. Engineer shall not contact landowners without the express written permission of the WWSP Delivery and Real Estate Manager or other designated Owners staff.

A draft meeting summary shall be prepared and submitted in e-Builder for review by Owners no later than three (3) business days following the meeting.

Assumptions:

- Engineer's Project Manager and Project Engineer and one other team member will attend tour
- WWSP will require 6 seats in the passenger van

Deliverables:

- Draft agenda and draft and final meeting summary
- Final meeting summary and photos from kick off meeting due within one (1) week from tour date

1.4 Design Progress Meetings

Engineer shall conduct and participate in regular bi-weekly (one every two weeks) progress meetings with Owners to update project design and schedule status, including the tracking and reporting of project trends (risk and value engineering, and change logs), completion status, and other administrative and management issues. Engineer shall prepare draft agendas and meeting summaries and distribute to Owners for review. Draft agendas shall be submitted for review one (1) full business day in advance of the scheduled meeting. Engineer shall prepare and submit meeting minutes in e-Builder for review by Owners no later than three (3) business days following the meeting. It is assumed that progress meetings will typically last up to two (2) hours (not including travel time) and Engineer's Project Manager and Project Engineer shall be present. Other key personnel and subject matter experts shall be required to attend as necessary depending on subject matter and topics of meetings, and will be authorized separately by Owners if attendance is needed. Meetings will typically be held at the WWSP PMO, located at 1500 NW Bethany Boulevard, Suite 305, Beaverton, OR 97006.

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Assumptions:

- PLE_1.0: six (6) months, twelve (12) meetings

Deliverables:

- Agendas and meeting minutes for each meeting

1.5 Monthly Pay Applications and Progress Reports

Engineer shall prepare and submit monthly payment applications using e-Builder in accordance with the Agreement along with a completed Monthly Progress Report. Monthly reports shall be in conformance with Design Guide, Section 2.3. The monthly report should summarize the Work accomplished under major design tasks and subtasks or milestones completed in the prior month. Engineer shall prepare and provide quarterly spend reports as described in Section 6 of the Agreement. For guidance on the change log required with the submittal of the pay application, refer to the Agreement and Design Guide Section 2.4, which will provide more information on change management. Engineer shall update value engineering and risk logs on e-Builder and include a statement indicating what updates were made on the progress report.

Deliverables:

- 7 Monthly Progress Reports and Pay Applications
- 2 Quarterly Spend Reports (see example in Exhibit F)

1.6 Document Management Training

Engineer shall use e-Builder for all document management and formal correspondence. See the Design Guide, Section 2.2 for additional information on Document Management.

Assumptions:

- Up to three (3) staff members shall attend training at the PMO
- Training requires four (4) hours of effort
- Includes document management for 6 months

1.7 Schedule Development and Monthly Update

Engineer will develop draft and final versions of the baseline project schedule for Phase 1 only. The draft baseline schedule will be based on the work breakdown structure of this scope of work and align with Agreement Times described in Section 18.0 herein. The schedule will be finalized following incorporation of Owners' responses on the draft schedule.

Engineer shall submit monthly schedule updates to Owners throughout the design phase to reflect work progress, identify variances from the baseline schedule, changes to the schedule, scope, or any other activities that may impact the Agreement Times. As described in Section 7 of the Agreement, Owners must approve (in writing) changes to the Agreement Times as listed in Section 18.0. The project schedule will be prepared using Microsoft Project or similar scheduling software.

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Willamette Water Supply Program
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Deliverables:

- Draft and Final Baseline Schedule, in native and PDF format
- Monthly Schedule Updates with pay application, in native and PDF format

1.8 Seismic Resiliency Work Group Participation

Engineer shall attend and participate in a WWSP-established seismic resiliency work group on a quarterly basis throughout the design duration at the PMO or nearby location. The work group will consist of program staff, consultants from various design section packages, as well as other outside industry and subject matter experts. The purpose of the work group is to discuss and review seismic resiliency related to the individual design sections, identify and discuss other necessary seismic resiliency aspects, and discuss other topics relevant to the subject matter. Agenda will be provided three (3) business days before and meeting minutes will be provided three (3) business days after meeting and made available to PLE_1.0 Engineer. The Seismic Task Lead will collaborate with the work group to discuss and develop recommendations for more detailed seismic modeling efforts for critical areas.

Assumptions:

- The Project Engineer and the Seismic Task Lead shall attend work group meetings
- Attend up to two (2) work group meetings, three (3) hours each, plus travel to the WWSP office.
- Other key team subject matter experts may need to attend depending on the issues that arise out of the work group discussions and will be authorized in writing separately by the Owners if attendance is needed.

Deliverables:

- Prepare up to one (1) 10-minute presentation to provide information on the seismic related conditions of the PLE_1.0 project to support work group meetings

2.0 Phase 1: Design Phase Services

Design Performance Requirements and Approach

- Immediately upon receipt of Notice to Proceed ("NTP"), Engineer shall validate the information in any preliminary design work prepared by others, or any additional related work. Engineer shall be responsible to thoroughly review work products from others and obtain all clarifications, approvals for modifications, or any additional efforts approved by Owners to make the products acceptable for incorporation into the detailed design. Engineer shall notify Owners immediately of any data gaps or design deficiencies identified in review of preliminary design work and document them in the deliverable for Section 2.3, Basis of Design.
- Engineer shall proceed, upon NTP, to gather necessary field data for Phase 1 design such as survey, plats, zoning maps, geotechnical investigations, and utility locates and subsurface utility investigations (potholing). Engineer shall coordinate with WWSP Permitting Team to obtain the necessary natural resource authorizations for investigations conducted in sensitive areas.

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- Engineer will not be required to obtain property data. Owners will provide property data (i.e., title work) as required. Preliminary design mapping data will be provided to Engineer for reference purposes only, as Owners' current preliminary design mapping data are not suited for design purposes. All ROE for access to private property shall be coordinated through Owners; Engineer shall notify Owners at least four (4) weeks before access to private property will be needed. Engineer shall not contact landowners without the express written permission of the WWSP Delivery and Real Estate Manager or as otherwise designated.
- Design the project in strict accordance with anticipated and/or negotiated permit conditions.
- Engineer is responsible for integrating preliminary design (if applicable) and the Design Guide requirements into the detailed design of PLE_1.0. Engineer shall follow all applicable regulatory requirements, all Federal, State, and local laws, code requirements, environmental permit conditions, and rail requirements. Engineer (Engineer of Record) and those individuals who apply their seals to the construction contract documents shall be responsible for final design criteria, drawings, specifications and details, and other work described.
- Engineer shall coordinate design Work with Owners, Washington County, City of Beaverton, City of Tigard, Clean Water Services, Bonneville Power Administration, and/or their respective consultants and others as described in Section 15.0.
- Engineer shall be responsible for the seismic design approach in the design Work. The Owners have developed seismic design guidelines that shall be included in the seismic design approach in the design Work. It is Engineer's responsibility to review the seismic design guidelines and define how to apply the standards to the project. Engineer shall coordinate with Owners' staff during the development of the design.

Design Phase Deliverables and Reviews

- All deliverables (including monthly status reports, pay applications, meeting minutes, and other documents) shall be in conformance with the Design Guide and other applicable program documents, and shall be electronically submitted through e-Builder for logging and tracking.
- Engineer shall submit design deliverable(s) in accordance with the Agreement Times as provided in the WWSP Project Schedule ([Table 18-1](#)~~Table 18-1~~). Both the hard copy sets and electronic files (uploaded to e-Builder) must be delivered to Owners' office no later than 4:00 PM (Pacific Time) in order to satisfy the milestone dates.
- Engineer shall conduct Technical Review Workshop(s) with Owners to review Engineer's submittal and Engineer's responses to Owners' comments for each major design milestone (preliminary design). Minor submittals, design issues, or technical memoranda (TMs) are assumed to be reviewed during regular bi-weekly Progress Meetings, unless otherwise noted.
- At each design deliverable review meeting, Engineer shall review the Value Engineering Proposal Log and project Risk Log, as well as participate in risk and value management reviews, as described in Section 2.6 of the Design Guide.
- Engineer shall prepare and maintain a Change Log that identifies items that may change construction cost from the previous deliverable and submit at each design milestone.

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- The deliverable review and approval schedule will be incorporated into the baseline schedule, and will comply with the process flow prescribed in the Design Guide. Consolidated and adjudicated comments will be provided by Owners to Engineer following Owners’ review of Engineer’s deliverables in the time frame described in Section 18.0.
- In addition to the electronic submission, Engineer shall submit ten (10) hard copies of each Design Phase Milestone Deliverable (preliminary design) for review and comment by Owners.
- Electronic copies shall be submitted by Engineer in Adobe Acrobat® Portable Document Format (PDF). Deliverables shall be 11”x17” (half-size for drawings) or 8½”x11” (for Opinion of Probable Construction Cost (OPCC), TMs, or reports). All PDF documents, including drawings, shall be word searchable and bookmarked. Comment and response logs shall be maintained and submitted for each submittal.
- Engineer shall also provide all submittal documents for all deliverables in native formats (AutoCAD, ArcGIS, LiDAR, Microsoft Word, Microsoft Excel, etc.) for final submittals.

2.1 Alignment Evaluation

Engineer shall perform field reconnaissance to collect data informing the status of the following criteria for the five (5) alignment alternatives. With the collected information, and using a +/-0 approach, evaluate each of the five (5) alternatives for the PLE_1.0 project. Owners will provide Engineer with comparable information for the baseline alignment for Engineer to review, update, and incorporate into the analysis.

Table 2-1 Routing Criteria and Definitions

Criteria to Support the Category	Definition
Social/Community Impacts	
Congestion/Community Impacts	Number of driveways, traffic volume, major intersections
Impact Critical Facilities	Hospitals, fire stations, emergency services
Community Facilities	Schools, churches, community centers, parks, large employers
Opportunity for Community Enhancement	Opportunities to add value or benefit to the community
“No-cut” areas	Sensitive community areas that should not be impacted
Opportunities/Benefits	
Proposed Road Projects	“Piggy back”/joint project opportunities
Available Property	Properties currently for sale that provide key sites for staging/tunneling shaft locations and turnout/fluoride facilities
Proposed Development	“Piggy back”/joint project opportunities
Other Project Benefits	Other project benefits and opportunities
Environmental Impacts/Permitting/Land Use	
Wetland/Waterway Impacts	Amount of jurisdictional wetland/waterway impacted
ESA-listed or Sensitive Species Impacts	Amount of impact to ESA-listed or sensitive species

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Criteria to Support the Category	Definition
Archeological/Cultural Resources Impacts	Amount of impact to archeological/cultural resources
ODOT	Cross or within ODOT ROW
Utility (high voltage electrical transmission lines)	Cross or within utility ROW
County	Cross or within county ROW
Community/City	Cross or within city ROW
Discharge Locations	Availability and suitability of discharge locations for low point drains and blow-offs
Land Use	Availability of public ROW as opposed to impacts to competing designated land uses (zoning) on public and private properties
System Compatibility	
Finished water storage tanks	Accessibility and proximity, available ROW width
Connection Points	Accessibility and proximity to connection points
System Hydraulics	Compatibility, and preliminary hydraulic evaluation/optimization for alternative cost comparisons
System Resiliency	
Geologically Active Areas	Seismically active areas, liquefaction areas, or peak ground acceleration transitions (i.e., rock to silt, etc.)
High Consequence Foreign Utilities	High consequence foreign utilities such as high voltage powerlines, large/high pressure natural gas or petroleum mains, water transmission mains, or large gravity sewers that share or cross the alignment
Transmission Main Accessibility Affected by Seismic Event	Accessibility of the transmission main after a seismic event
Constructability	
Available Right-of-Way	Adequate available ROW either existing or associated with an opportunity project
Construction Access	Ability of construction traffic to access work site and deliver materials
Construction Safety	Evaluation of potential construction safety related issues
Geotechnical	Favorable or unfavorable geotechnical conditions
Utility Conflicts	Conflicts with larger gravity lines, highly congested utility corridors, gas mains
Future Utilities	Planned future utilities that will impact available ROW
Traffic Control	Available detour alignments and ROW width
O&M	
Access	Ability of O&M to safely access and maintain facilities
Future Right-of-Way Changes	Future ROW changes will affect access to the transmission main

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Criteria to Support the Category	Definition
Cost	
Capital Cost	Cost to construct without escalation, in current dollars, AACEi Class 4 estimate
O&M Cost	Estimated annual and periodic cost of O&M

Key: ESA = U.S. Endangered Species Act O&M = operations and maintenance ROW = right-of-way
 AACEi = AACE International, Class 4 estimates are used for feasibility level investigations
 ODOT = Oregon Department of Transportation
 OPCC = opinion of probable construction costs

Engineer shall collaborate with Owners to develop an additional alignment for evaluation. Review potential alignment alternatives at a design progress meeting (with prepared initial criteria rankings) to confirm with Owners which alternatives will be fully evaluated. The goal of the preliminary screening level review will be to identify two alternatives having the best potential to meet the project goals. These will be called the final alternatives. One of the final alternatives will be to serve the Wolf Creek service area and the other to serve the Metzger service area. These two will be compared to each other in the workshop to select the preferred alignment.

Engineer shall complete the following tasks to support data collection for the alternatives evaluation:

- Conduct field reconnaissance, focusing on alignment selection criteria that can be used to differentiate the alternatives, such as environmental permitting, geologic hazards, geotechnical considerations, seismic resiliency, construction cost, O&M cost, social impacts, natural and cultural resources, public involvement, potential opportunity projects, and system operations. (All 5 alternatives)
- Provide alignment impact areas to Owners' permitting team to allow Owners to conduct desktop studies to understand impacts to natural resources or likelihood of encountering cultural resources or hazardous materials on each of the alignments. Owners will provide results of the study to the Engineer to review and include in the evaluation. (All 5 alternatives)
- Perform preliminary hydraulic modeling to deliver water at specific flowrates and pressures to the Owners' systems for each alignment configuration (see Section 10.0). Provide both gravity-side and pumped-side hydraulics. Results will be evaluated using the Owners' model to verify the inputs will meet system requirements. (2 final alternatives)
- Perform a geotechnical desktop study to identify the geologic hazards, geotechnical considerations, and seismic hazards for each of the alignments. (All 5 alternatives)
- Verify utility locations with aerial photos and field reconnaissance to identify potential conflicts impacting the alignment selection. (All 5 alternatives)
- Interview Owners' staff and review available design/construction information to understand the current seismic resiliency of existing transmission mains that will convey future WWSS flow to the TVWD service areas. Include the costs of seismic upgrades to bring the mains up to WWSS standards. (All 5 alternatives)

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- Interview Owners' staff to understand known opportunity projects or constraints for each alternative. Engineer shall coordinate with Owners staff to schedule meetings with other agencies if needed to inform the evaluation. (All 5 alternatives)
- Develop cost estimates for the annual and/or periodic O&M efforts for each alignment. The estimates will be presented without escalation and will identify the frequency for each of the efforts. (2 final alternatives)
- Prepare an opinion of probable cost to construct without escalation, in current dollars, AACEi Class 4 estimate for each alternative. Include cost changes for other pipeline projects in the program that are affected by the alternative (e.g., decreased pipe wall thickness or reductions in pipeline diameter), provide a simple construction schedule for each alignment (2 final alternatives)
- Develop maps of the alternatives to support the TM and workshop described below.

Owners will provide results of its economic analysis to the Engineer to review and include in the evaluation. No separate economic analysis is required of the Engineer. A meeting will be required to communicate the findings and for Engineer to provide comments on the Owners' analysis.

Prepare a TM that summarizes the potential opportunities and constraints associated with each alternative alignment. TM will include relative cost comparisons for the alternative alignments for PLE_1.0 as well as known schedule constraints and a recommended construction window for each alternative.

Facilitate a workshop with the Owners to review the 2 final alternatives and allow for selection of a preferred alignment. Prepare draft content for the technical memorandum to summarize the workshop and preferred alignment. The final TM will include critical information from the workshop and the confirmed preferred alignment.

Assumptions:

- Alignment evaluation workshop to be attended by two (2) Engineer staff members
- Economic analysis results meeting will be two (2) hours in length
- Workshop to be three (3) hours in length

Deliverables:

- Alignment evaluation workshop notes
- Draft and final PLE_1.0 Alternatives Evaluation TM
- Draft Finished Water Conveyance System Hydraulic System TM, reference Section 3.0

2.2 Preliminary Design

Prepare Preliminary plan and profile drawings of the preferred alignment, based on the findings of the Alignment Evaluation activity. If the preferred alignment includes a separate pipeline to serve the TVWD Metzger Service Area then that stand-alone pipeline is not to be included in the preliminary design work herein.

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The activities below are in addition to the requirements of the Design Guide.

- Include constraints revealed in the desktop studies regarding natural resources or high-risk areas for encountering cultural resources or hazardous materials on the plan and profile drawings as appropriate.
- Provide impact areas to the Owners' permitting team to perform a wetland delineation along the preferred alignment to locate and classify ditches, wetlands, stream crossings, and other regulated natural resources and to identify cultural resources and/or hazardous materials risks. Owners will provide results of the study to the Engineer to review and include in the preliminary design.
- Engineer shall coordinate with the WWSP Real Estate Team to obtain written permission to enter property of all property owners, public or private, prior to entering said property or performing any work on said property.
- Update the Engineer's OPCC with the refined project information.
- Prepare preliminary design drawings per the Design Guide. The preferred scales for the preliminary design drawings are provided in the Design Guide.
- Prepare a set of preliminary design drawings for the WWSP Permitting Team, drawings shall be black and white only and on 8.5"x11" paper.
- Engineer shall calculate areas of impact to wetlands and waterbodies and will develop crossing plan and profile sheets for each resource crossing.
- Engineer shall provide estimated property needs and tax lot numbers on the preliminary design drawings and in a separate table.

Deliverables:

- Draft and final PLE_1.0 preliminary plan and profile drawings (preferred alignment only)
- Draft and final PLE_1.0 wetlands and waterbodies impact calculations
- Draft and final PLE_1.0 wetlands and waterbodies crossing plan and profile sheets
- Draft and final PLE_1.0 property needs and tax lot numbers table in Microsoft Excel format

2.3 Basis of Design and Project Phasing Technical Memorandum

Engineer shall review available background information from Owners, Washington County, Tigard, and Beaverton, and prepare a draft and final Basis of Design and Project Phasing TM for the preferred alignment. Major elements of the TM will be consolidated from the existing WWSP Pipeline Design Guide and WWSP Preliminary Design (if applicable). Engineer shall use these documents to assist formulation of the contents of the TM and shall highlight changes or additions to these previously prepared documents.

The TM is anticipated to contain the following information:

- Background and reference standards
- Project description, including phases if recommended
- Project schedule, including design and construction milestones for each phase (if applicable)
- Permitting schedule, including federal permit updates and required local permitting
- Preliminary horizontal and vertical alignment

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- Finished Water Conveyance System Hydraulic System TM, reference Section 3.0
- Pipeline size, wall thickness, lining, coating, and cover requirements
- Preliminary pipe pressure, thickness, joint and fitting design
- Preliminary trench cross sections
- Geotechnical recommendations
- Planned appurtenances
- Required easements, reference Section 13.0
- Design criteria and initial planned pit locations for trenchless crossings
- Preliminary list of needed specifications and standard/typical details

This project is currently not phased into multiple construction packages. If, upon review of available project information and communications with stakeholders, Engineer discovers or develops alternative approaches to implementing the project through phasing, it will be considered by the Owners. Phasing can be an effective means to reduce risk or more efficiently meet the schedules and constraints of developers, city, county, or other stakeholders that intersect the project. It also effectively manages Owners' Program cash flow. The project schedule, as required above, shall include Engineer's recommendations for design/construction packaging, advance material procurement and construction tasks, in order to most efficiently and effectively meet the required design deliverable dates. Engineer shall provide an appropriate analysis of potential costs and benefits to enable Owners' decision-making for each recommendation proposed in the TM. Owners shall review draft and final report, and if necessary, the Agreement Time (~~Table 18-1~~[Table 18-1](#)) shall be amended per Section 7 of the Agreement to adjust dates as agreed to by Owners and Engineer.

Deliverables:

- Draft and final Basis of Design and Project Phasing TM for PLE_1.0

3.0 Phase 1: Geotechnical Exploration, Evaluation, and Design

Engineering shall provide up to 2 cone penetration tests (CPT) per alignment, and up to 10 total borings (assumed 80-feet deep) to support alignment and seismic evaluation as well as preliminary design. Provide a draft and final data report. Refer to Section 8.0 for boring depth, labeling, storage, and reporting requirements.

Deliverables:

- Draft and final Geotechnical Data Report

4.0 Phase 1: Utility Location, Mapping, and Surveying

Engineer shall perform limited surveying services to include utility research, locates, and potholing as required to aid in the selection of the preferred alignment. Review existing utility information during field reconnaissance and use available resources to understand high consequence foreign utilities (e.g., Kinder Morgan transmission pipelines, Northwest Natural Gas transmission pipelines, high voltage power lines,

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and gravity sewer lines and culverts greater than 24-inches in diameter) and potential difficult utility conflicts for each of the alternatives.

Engineer to identify and survey utilities significant to the preferred alignment (potential candidates include Kinder Morgan transmission pipelines, NW Natural Gas transmission pipelines, high voltage power lines, and gravity sewer lines and culverts greater than 24-inches in diameter, and others as determined by the Engineer) and include on the plan and profile drawings for the preliminary design.

Assumptions:

- Up to 15 utility crossings will be potholed

Deliverables:

- Draft and Final Mapping and Survey Deliverables for PLE_1.0

5.0 Phase 1: Preliminary Hydraulics Analysis

Engineer shall receive copies of the WWSP hydraulic and transient analyses previously conducted including technical memoranda and reports; thoroughly review the hydraulics and hydraulic transient work; evaluate hydraulic and transient design conditions for PLE_1.0 and the finished water conveyance system extending from the WWSS Water Treatment Plant (WTP_1.0) pump station through the reservoir (included pumped-side turnout locations) and gravity-side hydraulics from the reservoirs through gravity side turnout locations. The WWSP will provide Engineer with the new WTP_1.0 hydraulic constraints including preliminary pump curves; maximum, minimum, and static hydraulic grade lines (HGL) elevations in the wet well; and the other components of the finished water transmission system to conduct the finished water conveyance system hydraulic calculations and hydraulic transient analysis and complete detailed design of PLE_1.0.

As the design progresses, additional hydraulic design information will be available from other program projects and will be evaluated by the Engineer (assume up to three evaluations). Additionally, any modifications to this project's hydraulics or surge design that could impact the overall system hydraulics or surge design must be immediately reported in writing to Owners, who will then assess the need for further system-wide hydraulics and hydraulic transient modeling.

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Table 5-1 PLE 1.0 Hydraulics Deliverables

Design Phase	Deliverable	Information Provided by Owners
Alignment Evaluation	Finished Water Conveyance System Hydraulic System TM (draft)	Turnouts - required pressure and flowrate Finished water pump station - initial pump curves Spreadsheet model input of alignment from preliminary design and more recent pipeline design drawings and hydraulic technical memoranda Reservoir volume and overflow elevation
Basis of Design Report/ Preliminary Design	Finished Water Conveyance System Hydraulic System TM (final)	See above

5.1 Preliminary Hydraulic Analysis

Engineer shall coordinate with the Owners regarding system-wide hydraulics and Engineer shall use the selected pumps, pump station configuration, and assumed free water surface elevation as provided by Owners. Engineer shall evaluate hydraulic conditions for each of the PLE_1.0 pipeline alignment alternatives and perform a pipeline diameter optimization (3 pipe diameters, includes current proposed pipe diameter and elevations for the preferred alignment). The draft hydraulic technical memorandum shall be submitted to support alternative evaluation and the final memo shall be submitted with the Basis of Design report, see Section 7.0.

Assumptions:

- Hydraulic steady-state analysis for the alignment evaluation will include sizing the proposed Metzger Connection required for TVWD, which is to be considered in the alternatives analysis.
- Alignment alternatives and pipe sizing will be evaluated to deliver a required flow and pressure to the turnouts. Hydraulic analysis beyond the turnouts will be conducted by TVWD or others.

Deliverables

- Finished Water Conveyance System Hydraulic System TM, draft at Alignment Evaluation and final at Basis of Design report submittal

Phase 2: Final Design and Construction Services

(Phase 2 may be divided into multiple phases at Owners’ sole discretion)

The Phase 2 Final Design and Construction Services shall be based on the selected preferred alignment, Metzger Pipeline East (“MPE_1.0”), which shown on Figure 1 as Alternative 2 – Scholls Ferry Alignment. MPE_1.0 consists of approximately 36,000 LF of 48-inch and 2,600 LF of 24-inch welded steel pipe. The MPE_1.0 alignment of 48-inch steel pipe begins at the Scholls

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Ferry turnout, extending from SW Roy Rogers Road along SW Scholls Ferry Road, SW Allen Boulevard, and SW Western Avenue to connect at the Washington County Supply Line in SW Beaverton-Hillsdale Highway. The 24-inch steel pipeline begins at SW Hall Boulevard at Scholls Ferry, and connects to the existing Metzger service area at SW Oleson Road. MPE_1.0 includes two Pressure/Flow Control Facilities, on SW Western Avenue at SW 5th Street and on SW Hall Boulevard at SW Palmland Road. MPE_1.0 also includes a potential chlorination facility on SW Western Avenue. In addition, approximately 16,700 LF of 16-inch ductile iron pipe (“COB 1.0”) along Scholls Ferry Road, Allen Blvd., and Western Ave will be designed and installed along part of the alignment of the MPE 1.0 pipeline as described in Amendment 8.

MPE 1.0 is further broken up into three separate design and construction packages: MPE 1.1, 1.2 and 1.3. As a whole, MPE 1.0 includes MPE 1.1, 1.2, 1.3 and COB 1.1 and 1.2. COB 1.1 and COB 1.2 will be designed, bid, and constructed concurrently in MPE 1.1 and MPE 1.2 respectively. The project was previously contracted as one single bid package under MPE 1.0. All conditions of the current contract terms apply to all packages.

6.0 Phase 2: Project Management and Administration

Engineer shall provide project management services to deliver the detailed design, bidding phase, and services during construction for MPE_1.0 within the established budget and delivered in accordance with the agreed-to schedule as described in Section 18.0 herein. All project management activities and subtasks required for design shall be in accordance with the WWSP Pipeline Design Guide ("Design Guide"), included as Attachment 2. These tasks include the Project Management Plan, Health and Safety Plan, project meetings, monthly progress reports, project controls, budget reporting, invoicing, and other tasks, as detailed below, required for the management and administration of the Work. All deliverables shall be electronically submitted through e-Builder for logging and tracking.

The Project Manager shall be responsible to manage all Engineer staff, Subconsultants and Subcontractors, internal QA/QC, and communications to be used by Engineer during the duration of this Agreement, and shall be the primary point of contact for Engineer.

Refer to ~~Table 18-1~~~~Table 18-1~~ for deliverable schedule and assumed construction durations to support level of effort preparation.

6.1 Project Management

Engineer shall prepare an updated Project Management Plan ("PMP") for acceptance by Owners, detailing Engineer's execution plan and procedures. Engineer shall submit a draft and final PMP to Owners for review, and the content of the plan shall be as required in the Design Guide.

Assumptions:

- This task also includes the implementation of the PMP throughout the project, and includes subconsultant contracting, Engineer's internal monthly reviews, and compliance with Engineer's project management requirements.

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Deliverables:

- Engineer PMP, due date in [Table 18-1](#)~~Table 18-1~~

6.2 Updated Health and Safety Plan

Engineer shall prepare an updated draft and final site-specific health and safety (H&S) plan for acceptance by Owners, covering all field work to be performed by Engineer. Engineer's Subconsultants and Subcontractors performing field work shall prepare their own H&S plans and these will also be submitted for acceptance by Owners. Engineer shall require all Subconsultants and Subcontractors performing field work to comply with these requirements through enforcement of contractual flow down clauses. Engineer shall comply with all applicable federal, state, rail, and local environmental, health, and safety legislation, regulations, and codes.

Draft site-specific health and safety plans shall be provided with the Project Management Plan. Updates for specific, planned field work will be provided for Owners to review and comment.

No field work shall be performed prior to approval of site specific health and safety plans.

The site-specific health and safety plan shall include identification and mitigation of anticipated field work hazards as well as the following minimum elements, or stand-alone programs:

- Project Safety Rules
- Safety Responsibilities including designation of a Site Safety Point of Contact and Corporate Safety Point of Contact
- Drug, Alcohol, Tobacco Use, and Fire Arm Policy
- PPE use and care
- Heat Injury Avoidance Plan
- Emergency Action Plan
- Traffic Control Plan (as applicable)
- Severe Weather Response Plan
- Safety training requirements that shall include at a minimum; WWSP Safety orientation, OSHA 10-hour construction safety training (or equivalent) for personnel who will be working in the field unescorted (e.g. site safety officers, construction inspectors, geologists, drillers, or resident engineers), and applicable OSHA required training
- H&S incident reporting process that includes notification of Owner of incidents and near miss events, and allowance for Owners to participate in incident investigation and sharing of lessons learned
- Safety Incentivization program shall be developed that promotes leading indicators, such as hazard reporting; a program that recognizes lagging indicators (such as days without injury) shall not be used on the program
- Activity/task/job hazard analysis for all site activities to be performed: work efforts requiring a job hazard analysis (JHA) include major project activities such as windshield tour, survey, geotechnical exploration, geophysical surveys, utility locating, construction observation, or other field work

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and on-site activities; provide the JHA a minimum of one week prior to the work for Owners' review and comment; initial JHAs may need to be provided prior to delivery of the PMP

- Identification of expected chemical hazards including designation of action levels and copies of safety data sheets for materials brought onto WWSP project sites
- A process to perform Jobsite Safety Compliance Reviews such as safety inspections or audits.
- Requirement for tailgate safety meeting requirements
- Requirement for all personnel to have stop work authority and to acknowledge stop work authority of Owners and program management personnel

Assumptions:

- Within ten days after acceptance of Engineer's H&S plan, Engineer will schedule a meeting with key Subcontractors to receive the WWSP Safety Orientation and discuss the integration of Engineer's safety program with the Owners
- At least one representative, preferably the Project Site Safety Lead, will attend monthly WWSP Employer Health & Safety Meetings; the meeting will be held at the Owners' Program Management Office (PMO) unless otherwise noted
- This task also includes implementation of the Health and Safety Plan throughout the project.

Deliverables:

- Health and Safety Plan and applicable work-specific submittals
- Monthly Safety Report to Owners' Representative due by 10th of each month; the report shall include the following information through the previous month (as applicable):
 - The completed monthly report will include number of safety inspections, number of incidents, number of recordable injuries, the number of outstanding corrective actions the number of new workers to the site, the number of workers who completed site orientation training, and tailgate or other safety meeting topics
 - Copies of incident investigations, safety inspections, work permits, and agency inspection reports or notices of violation relevant to the work being performed onsite
 - Copies of qualifications for any key staff changes
- The Owners may request copies of training records, worker certifications or licenses, hazard analyses, or similar relevant documents as necessary

6.3 Design Progress Meetings

Engineer shall conduct and participate in regular bi-weekly (one every two weeks) progress meetings with Owners to update project design and schedule status, including the tracking and reporting of project trends (risk and value engineering, and change logs), completion status, and other administrative and management issues. Engineer shall prepare draft agendas and meeting summaries and distribute to Owners for review. Draft agendas shall be submitted for review one (1) full business day in advance of the scheduled meeting. Engineer shall prepare and submit meeting minutes in e-Builder for review by Owners no later than three (3) business days following the meeting. It is assumed that progress meetings will typically last up to two (2) hours (not including travel time) and Engineer's Project Manager and Project

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Engineer shall be present. Other key personnel and subject matter experts shall be required to attend as necessary depending on subject matter and topics of meetings, and will be authorized separately by Owners if attendance is needed. Meetings will typically be held at the WWSP PMO, located at 1500 NW Bethany Boulevard, Suite 305, Beaverton, OR 97006.

Assumptions:

- MPE_1.0: ~~Thirty-threetwentyfour (3324)~~ seventyfive (7050) months, seventyfive (7050) meetings
- ~~MPE_1.2, 1.3: nine (9) additional months, twenty (20) meetings~~

Deliverables:

- Agendas and meeting minutes for each meeting

6.4 Construction Progress Meetings

Engineer shall attend regular and special project meetings. Owners will prepare agendas and distribute to attendees for construction progress meetings. Owners will prepare meeting minutes and distribute for review. Project meetings during the construction phase include the following:

- Pre-bid meeting (one for each bid package)
- Pre-construction meeting (one for each bid package)
- Coordination meetings with outside agencies
- Regular construction progress meetings

Assumptions:

- One (1) attendee is required at weekly construction progress meetings: ~~150-206~~ meetings over ~~3~~ 4 years
- Two (2) Engineer staff members will attend ~~one (1) each~~ pre-construction meeting and ~~one (1) each~~ pre-bid meeting
- A maximum of four (4) additional coordination meetings with outside parties
- Attend an additional two (2) special meetings pertaining to design-related issues
- Meetings will be at the construction project site or as directed by Owners

Deliverables:

- Meeting minutes for coordination and special meetings organized by Engineer (does not include regular construction progress meetings)

6.5 Monthly Pay Applications and Progress Reports

Engineer shall prepare and submit monthly payment applications using e-Builder in accordance with the Agreement along with a completed Monthly Progress Report. Monthly reports shall be in conformance with Design Guide, Section 2.3. The monthly report should summarize the Work accomplished under major design tasks and subtasks or milestones completed in the prior month. Engineer shall prepare and

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provide quarterly spend reports as described in Section 6 of the Agreement. For guidance on the change log required with the submittal of the pay application, refer to the Agreement and Design Guide Section 2.4, which will provide more information on change management. Engineer shall update value engineering and risk logs on e-Builder and include a statement indicating what updates were made on the progress report.

Deliverables:

- Monthly Progress Reports and Pay Applications
- Quarterly Spend Reports (see example in Exhibit F)

6.6 Schedule Development and Monthly Update

Engineer will develop draft and final versions of the baseline project schedule. The draft baseline schedule will be based on the work breakdown structure of this scope of work and align with Agreement Times described in Section 18.0 herein. The schedule will be finalized following incorporation of Owners' responses on the draft schedule.

Engineer shall submit monthly schedule updates to Owners throughout the design phase to reflect work progress, identify variances from the baseline schedule, changes to the schedule, scope, or any other activities that may impact the Agreement Times. As described in Section 7 of the Agreement, Owners must approve (in writing) changes to the Agreement Times as listed in Section 18.0. The project schedule will be prepared using Microsoft Project or similar scheduling software.

Deliverables:

- Draft and Final Baseline Schedule, in native and PDF format
- Monthly Schedule Updates -with pay application, in native and PDF format

6.7 Seismic Resiliency Work Group Participation

Engineer shall attend and participate in a WWSP-established seismic resiliency work group on a quarterly basis throughout the design duration at the PMO or nearby location. The work group will consist of program staff, consultants from various design section packages, as well as other outside industry and subject matter experts. The purpose of the work group is to discuss and review seismic resiliency related to the individual design sections, identify and discuss other necessary seismic resiliency aspects, and discuss other topics relevant to the subject matter. Agenda will be provided three (3) business days before and meeting minutes will be provided three (3) business days after meeting and made available to MPE_1.0 Engineer. The Seismic Task Lead will collaborate with the work group to discuss and develop recommendations for more detailed seismic modeling efforts for critical areas.

Assumptions:

- The Project Engineer and the Seismic Task Lead shall attend work group meetings
- Attend up to four (4) work group meetings, three (3) hours each, plus travel to the WWSP office.

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- Other key team subject matter experts may need to attend depending on the issues that arise out of the work group discussions and will be authorized in writing separately by the Owners if attendance is needed.

Deliverables:

- Prepare up to two (2) 10-minute presentations to provide information on the seismic related conditions of the MPE_1.0 project to support work group meetings

7.0 Phase 2: Design Phase Services

Design Performance Requirements and Approach

- Immediately upon receipt of Notice to Proceed ("NTP") for Optional Phase 2 services, Engineer shall validate the information in any preliminary design work prepared by others, or any additional related work. Engineer shall be responsible to thoroughly review work products from others and obtain all clarifications, approvals for modifications, or any additional efforts approved by Owners to make the products acceptable for incorporation into the detailed design. Engineer shall notify Owners immediately of any data gaps or design deficiencies identified in review of preliminary design work and document them in the deliverable for Section 7.1, Basis of Design.
- Engineer shall proceed, upon NTP, to gather necessary field data for design such as survey, plats, zoning maps, geotechnical investigations, and utility locates and subsurface utility investigations (potholing). Engineer shall coordinate with WWSP Permitting Team to obtain the necessary natural resource authorizations for investigations conducted in sensitive areas.
- Engineer will not be required to obtain property data. Owners will provide property data (i.e., title work) as required. Preliminary design mapping data will be provided to Engineer for reference purposes only, as Owners' current preliminary design mapping data are not suited for design purposes. All ROE for access to private property shall be coordinated through Owners; Engineer shall notify Owners at least four (4) weeks before access to private property will be needed. Engineer shall not contact landowners without the express written permission of the WWSP Delivery and Real Estate Manager or as otherwise designated.
- Design the project in strict accordance with anticipated and/or negotiated permit conditions.
- Engineer is responsible for integrating preliminary design and the Design Guide requirements into the detailed design of MPE_1.0. Engineer shall follow all applicable regulatory requirements, all Federal, State, and local laws, code requirements, environmental permit conditions, and rail requirements. Engineer (Engineer of Record) and those individuals who apply their seals to the construction contract documents shall be responsible for final design criteria, drawings, specifications and details, and other work described.
- Engineer shall prepare cathodic protection ("CP") system designs for all underground pipelines. A system-wide approach to evaluating and designing CP systems is referenced in the Design Guide. It is Engineer's responsibility to review the information and define how to apply the WWSS system

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CP information to MPE_1.0. Engineer shall coordinate with Owners' staff during the development of the design.

- Engineer shall coordinate design Work with Owners, Washington County, City of Beaverton, City of Tigard, Clean Water Services, Bonneville Power Administration, and/or their respective consultants and others as described in Section 15.0.
- Engineer shall be responsible for the seismic design approach in the design Work. The Owners have developed seismic design guidelines that shall be included in the seismic design approach in the design Work. It is Engineer's responsibility to review the seismic design guidelines and define how to apply the guidelines to the project. Engineer shall coordinate with Owners staff during the development of the design.
- Engineer shall actively incorporate "Safety by Design" (as defined in Section 1.6 of the Design Guide) practices into the design development. All design projects shall focus on hazard elimination and risk reduction through regimented design safety reviews. Design safety reviews include "hierarchy of controls" review to eliminate hazards, health and safety risk evaluation, code compliance, constructability reviews, and operations and maintenance reviews.

Design Phase Deliverables and Reviews

- All deliverables (including monthly status reports, pay applications, meeting minutes, and other documents) shall be in conformance with the Design Guide and other applicable program documents, and shall be electronically submitted through e-Builder for logging and tracking.
- Engineer shall submit design deliverable(s) in accordance with the Agreement Times as provided in the WWSP Project Schedule ([Table 18-1](#)~~Table 18-1~~). Both the hard copy sets and electronic files (uploaded to e-Builder) must be delivered to Owners' office no later than 4:00 PM (Pacific Time) in order to satisfy the milestone dates.
- Engineer shall conduct Technical Review Workshop(s) with Owners to review Engineer's submittal and Engineer's responses to Owners' comments for each major design milestone (30%, 60%, and 90% Design). Minor submittals, design issues, or technical memorandums (TMs) are assumed to be reviewed during regular bi-weekly Progress Meetings, unless otherwise noted.
- At each design deliverable review meeting, Engineer shall review the Value Engineering Proposal Log and project Risk Log, as well as participate in risk and value management reviews, as described in Section 2.6 of the Design Guide.
- Engineer shall prepare and maintain a Design Change Log that identifies items that may change construction cost from the previous deliverable and submit at each design milestone.
- The deliverable review and approval schedule will be incorporated into the baseline schedule, and will comply with the process flow prescribed in the Design Guide. Consolidated and adjudicated comments will be provided by Owners to Engineer following Owners' review of Engineer's deliverables in the time frame described in Section 18.0.
- In addition to the electronic submission, Engineer shall submit ten (10) hard copies of each Design Phase Milestone Deliverable (30%, 60%, 90%, and draft 100% Design documents, and draft and final permit documents) for review and comment by Owners.

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- Electronic copies shall be submitted by Engineer in Adobe Acrobat® Portable Document Format (PDF). Deliverables shall be 11"×17" (half-size for drawings) or 8½"×11" (for specifications, Opinion of Probable Construction Cost (OPCC), TMs, or reports). All PDF documents, including drawings, shall be word searchable and bookmarked. Comment and response logs shall be maintained and submitted for each submittal. The requirements for the Conformed set deliverables are described in Section 16.0. Include printing costs with lump sum ODCs.
- Engineer shall also provide all submittal documents for all deliverables in native formats (AutoCAD, ArcGIS, LiDAR, Microsoft Word, Microsoft Excel, etc.) for final submittals, Mid-design Project Closeout, and when requested for 30%, 60%, or 90% Design submittals.
- If 100% draft design document back-check finds documents are not complete, another 100% design document (or portions thereof as determined by the Owners) shall be reissued to include any non-addressed back-check items.
- All 100% final design documents issued for bid, and design documents provided for permitting agency review, shall be signed and sealed by a registered professional engineer per Oregon law. The final 100% Design deliverable shall include:
 - One (1) electronic file set (signed and sealed in accordance with Oregon State Board of Examiners for Engineering and Land Surveying requirements) in PDF
 - Five (5) 11"×17" (half-size for drawings) and 8½"×11" (for specifications) hard copy sets of 100% Design (Bid Ready) Deliverables, Section 7.5) (signed and sealed in accordance with Oregon State Board of Examiners for Engineering and Land Surveying requirements)
 - Bid Documents (stamped and signed after 100% Design documents are back-checked) including 100% Design documents (drawings, technical specifications with incorporated Division 1 specifications provided by Owners), geotechnical report(s), OPCC, and bid form

7.1 Final Route Selection Refinements

Engineer shall obtain, review and present as a value proposal, additional information on the merits of a route refinement to include SW Arctic Drive. This proposal will be prepared on the basis of existing geotechnical, utility, traffic information and an assessment of likely relative costs and impacts compared to the predesign route of SW Allen Boulevard and SW Western Avenue.

Deliverables:

- Value proposal and relevant documentation to support decision.

7.2 30% Design for MPE_1.0

The following deliverables are expected with the 30% Design milestone submittal [for each package, except MPE 1.2 \(including COB 1.2\) and MPE 1.3 will be combined as one package.](#)

- 7.2.1 Draft Geotechnical Data Report per Section 8.2
- 7.2.2 Mapping and Surveying Plan and Base Map, per Section 9.0
- 7.2.3 Utility Location Plan, per Section 9.0
- 7.2.4 Preliminary Finished Water Conveyance System Transient Analysis TM, draft, per Section 10.0

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- 7.2.5 Traffic Impact Study per Section 11.0
- 7.2.6 Preliminary easement needs, per Section 13.0
- 7.2.7 30% Design Drawings
- Prepared, reviewed, and revised in compliance with the Design Guide
 - Drawing list per Design Guide Section 2.11
- 7.2.8 Specifications table of contents
- Specification list per Design Guide Section 4.0 and its Appendix B
- 7.2.9 Engineer's Opinion of Probable Construction Cost
- Prepare OPCCs for all elements of the project. Cost Estimating guidelines and requirements shall be as prescribed in the Design Guide.
 - The OPCC format shall be consistent with the final bid form. Engineer will be supplied with a sample bid form template to use as the basis for Engineer's estimates and the final bid form.
 - Review the preliminary design and OPCC prepared by others from an estimating perspective and provide recommendations, as applicable
 - Provide comments or suggestions that will assist Owners in further refining the identified alternatives
 - Highlight any concerns or issues relating to the estimating processes that may impact the project's final design and delivery
 - Prepare and submit the 30% Design OPCC
- 7.2.10 Design Change Log
- 7.3 60% Design for MPE_1.0**
- The following deliverables are expected with the 60% Design milestone submittal [for each package](#).
- 7.3.1 Draft Design Data Handbook per Design Guide
- Prepare a Design Data Handbook in accordance with the Design Guide.
 - This Handbook shall be a comprehensive compilation of the calculations and cut sheets used in the design and selection of equipment for the project.
 - Handbook will include numerical modeling to analyze ground deformations, soil/structure-pipe interaction and develop seismic pipe design.
- 7.3.2 Draft Geotechnical Design Report per Section 8.3
- 7.3.3 Draft Trenchless Design Report, per Section 8.4
- 7.3.4 Updated Mapping and Surveying Plan and Base Map, per Section 9.0
- 7.3.5 Updated Utility Location Plan, per Section 9.0
- 7.3.6 Preliminary Finished Water Conveyance System Transient Analysis TM, update, per Section 10.0
- 7.3.7 Traffic Control Plans per Section 12.3
- 7.3.8 Final easement needs, per Section 13.0

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- 7.3.9 60% Drawings
- Prepared, reviewed, and revised in compliance with the Design Guide
 - Drawing list per Design Guide Section 2.11
- 7.3.10 Draft technical specifications
- Prepared, reviewed, and revised in compliance with the Design Guide
 - Specification list per Design Guide Section 4.0 and its Appendix B
 - Division 0 to be provided by Owners
- 7.3.11 Engineer’s Opinion of Probable Construction Cost
- Prepare and submit the 60% Design OPCC
 - Participate in a 60% Constructability Review, led by Owners
 - At constructability review, highlight and discuss any major cost variance issues. This 60% level update will focus on identifying major elements of scope creep or significant changes in market conditions.
- 7.3.12 Design Change Log
- 7.4 90% Design for MPE_1.0**
- The following deliverables are expected with the 90% Design milestone submittal [for each package](#).
- 7.4.1 Updated Design Data Handbook per Design Guide
- 7.4.2 Cathodic Protection System Design, per Design Guide and include in 90% Design Drawings
- 7.4.3 Draft Long Term Management and Maintenance Plan, per Section 7.1
- 7.4.4 Draft Geotechnical Baseline Report for Trenchless Crossings for Trenchless Crossings, per Section 8.4
- 7.4.5 Preliminary Finished Water Conveyance System Transient Analysis TM, final, per Section 10.0
- 7.4.6 90% Design Drawings
- Prepared, reviewed, and revised in compliance with the Design Guide
 - Drawing list per Design Guide Section 2.11
- 7.4.7 90% Specifications, including Bid Form and Divisions 1 through 43, as applicable
- Prepared, reviewed, and revised in compliance with the Design Guide
 - Specification list per Design Guide Section 4.0 and its Appendix B
- 7.4.8 Draft Traffic Control Plan, per Section 12.3
- 7.4.9 Draft Grading, Erosion, and Stormwater Quality Controls Plans, per Section 12.2
- 7.4.10 Construction Submittal Register
- Submit a Construction Submittal Register as an Excel Spreadsheet including all anticipated submittals that Engineer deems necessary for review prior to and during construction.

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7.4.11 Construction Schedule

- Submit a Construction Schedule broken down into adequate levels of detail to define the major components of work. These levels of detail shall include the following items from construction NTP through final acceptance, at minimum:
 - Shop drawing submittals for pipe and shoring systems
 - Fabrication of pipe and fittings
 - Pipeline construction (including trenchless and shaft design)
 - Surface restoration
 - Structural and mechanical construction

 - Pipe connections
 - Pipe testing

7.4.12 Engineer's Opinion of Probable Construction Cost

- Prepare and submit a 90% Design OPCC
- Participate in a 90% Constructability Review, led by Owners
- Highlight and discuss any major cost variance issues. This 90% level update will focus on identifying major elements of scope creep or significant changes in market conditions

7.4.13 Design Change Log

7.5 100% Design (Bid Ready) for MPE_1.0

The following deliverables are expected with the 100% Design milestone submittal [for each package](#).

- 7.5.1 Interim 100% Design Check Set (Prior to printing the Bid Ready Documents, provide a single 100% interim design set to verify to the satisfaction of the Owners that 90% review comments have been fully addressed and implemented into the 100% Design)
- 7.5.2 Final Design Data Handbook per Draft WWSP Pipeline Design Guide
- 7.5.3 Cathodic Protection System Design, per Design Guide and include in 100% Design drawings
- 7.5.4 Final Long Term Management and Maintenance Plan, per Section 7.1
- 7.5.5 Final Geotechnical Design Report, per Section 8.3
- 7.5.6 Final Geotechnical Baseline Report for Trenchless Crossings for Trenchless Crossings, per Section 8.4
- 7.5.7 Final Trenchless Crossing Design TM, per Section 8.5
- 7.5.8 100% Design Drawings
 - Prepared, reviewed, and revised in compliance with the Design Guide
 - Drawing list per Design Guide Section 2.11
- 7.5.9 100% Specifications, including Bid Form and Divisions 1 through 43, as applicable
 - Prepared, reviewed, and revised in compliance with the Design Guide
 - Specification list per Design Guide Section 4.0 and its Appendix B

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7.5.10 Final Traffic Control Plan, per Section 12.3

7.5.11 Final Grading, Erosion, and Stormwater Quality Controls Plans, per Section 12.2

7.5.12 Updated Construction Submittal Register

7.5.13 Updated Construction Schedule

7.5.14 Engineer's Opinion of Probable Construction Cost

- Submit the final 100% Design OPCC.
- Ensure contingency and other factors are applied as specified in the Design Guide
- Highlight and discuss any concerns or issues relating to the estimating processes that may impact the project's final design and delivery

7.5.15 Design Change Log

8.0 Geotechnical Exploration, Evaluation, and Design

Engineer shall perform the geotechnical exploration, evaluation, and design for the selected alignment of MPE_1.0 in accordance with the Design Guide and as specified herein; in the event of a conflict, the MPE_1.0 Statement of Work prevails.

Engineer shall review available published geotechnical data and existing geotechnical engineering reports applicable to the project. The reports shall include geotechnical data, geotechnical design parameters/recommendations and construction conditions/constraints and recommendations associated with the project.

Engineer shall advance borings, perform cone penetrometer tests, obtain soil samples, construct observation wells and/or piezometers, conduct geophysical surveys, and do other field work and laboratory tests as necessary to obtain sufficient subsurface information to make detailed design and construction recommendations for the project including both open cut and trenchless construction methods. The subsurface information will also be used in preparation of a Geotechnical Data Report, Geotechnical Design Report, Geotechnical Baseline Report for Trenchless Crossings, and Trenchless Crossing Design TM. Soils shall be classified using the Unified Soil Classification System. Engineer shall provide a field investigation plan showing the geotechnical field explorations and laboratory testing program for the design efforts.

Engineer shall coordinate with the WWSP Real Estate Team to obtain written permission to enter property of all property owners, public or private, prior to entering said property or performing any work. Additionally, if Engineer's work requires alterations to the property (e.g., removal of trees, shrubbery, disturbance of landscaping, digging of holes) or if any of Engineer's activities will permanently disturb or alter the appearance or aesthetics of said property, Engineer shall coordinate with WWSP Real Estate Team to obtain written permission from private or public property owner to make such alterations or undertake such activities before entering said property to perform any work.

Engineer shall coordinate with the WWSP Permitting Team to review constraints, and permitting requirements, related to natural and cultural resources near the proposed field work.

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Engineer shall perform all fieldwork in consideration of public safety, per industry standards, utility location requirements, and in accordance with permit and environmental regulations, traffic control guidelines, and guidelines outlined in the various city, county, and Federal requirements applicable to the specific pipeline section.

8.1 Subsurface Exploration

Field Subsurface Exploration Plan

Engineer shall develop a field subsurface exploration plan for MPE_1.0 and submit it for review and comment. The field subsurface exploration plan shall include, at a minimum, the following:

- Utility location procedures
- Background and Purpose of Field Subsurface Exploration Plan
- Location and Depth of Boreholes and Cone Penetration Test (CPT) probes
- Wells and/or Piezometers with depths, design, and monitoring frequencies
- Field Testing, Classification, and Sampling Procedures
- Sample Transport and Laboratory Test Procedures
- Backfill and Hole Abandonment Procedures including for wells and piezometers
- Spill Control and Prevention
- Disposal of Drill Fluid and Cuttings
- Project Health and Safety
- Traffic Control and Site Access
- Schedule of Work and Planned Work Hours

Engineer shall submit the Draft Field Subsurface Exploration Plan for review and acceptance at least thirty days prior to the onset of field activities. Comments shall be addressed and a Final Subsurface Exploration Plan shall be submitted at least one week (7 days) prior to onset of field activities.

Subsurface Exploration

Locate subsurface explorations at regular intervals along the alignment, shaft sites and at major crossings. Identify anticipated changes in geology, groundwater, or other subsurface conditions that could impact pipeline design or construction, and tailor the explorations to identify these changes and transitions. Subsurface explorations shall consist of a combination of boreholes and CPT probes. Engineer shall conduct the investigations necessary to support Engineer's design, and provide sufficient information for construction.

Assumptions:

Engineer shall develop a program assuming subsurface explorations spaced at intervals of approximately four-hundred (400) feet, alternating between borings and CPT probes. The program shall include consideration of the difficulty in pushing the cone through the soil, and shall use borings where ground conditions are too dense or stiff to advance the CPT probes. Engineer, in their proposal, shall recommend changes to the exploration program or an alternative program for better efficiency or to focus on specific data needs. Engineer shall complete a sufficient number of explorations during 30% Design to support the

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design, since the preferred route will generally be known before the exploration program begins. It is assumed that over ninety percent (90%) of the explorations would be conducted during the 30% Design. The remainder of the explorations if needed shall be completed to support the 60% Design.

Explorations shall extend to a depth of eighty (80) feet. It is assumed that borings from prior investigations by others can be used in lieu of new explorations providing they are located relatively close, extend to the required depths, and present the necessary information obtained with similar methods.

The planned exploration program shall assume borings will be made with mud rotary drilling techniques, since anticipated subsurface conditions are essentially fine-grained. Recovery of-undisturbed or low disturbance samples such as with the Standard Penetration Test (SPT) shall be taken at 5-foot intervals, except within the pipe horizon (7.5-foot zone centered on the pipe) where the sample interval shall be no more than 2.5-feet.

At trenchless crossings, planned exploratory borings at shaft locations shall be to a depth of fifty (50) feet (or ten (10) feet below the base of the shafts, whichever is deeper). There shall be a minimum of two (2) at each trenchless crossing, and at least one (1) at each shaft location. There shall be sufficient rotary borings to supplement CPT probes to correlate the CPT logs and to provide soil samples for laboratory testing. Exploratory borings for trenchless crossings are planned to be completed during the 30% Design stage. Engineer has included an additional three (3), 100 feet deep explorations (two (2) boring and one CPT), to be performed at the recommendation of Engineer or the direction of Owners to supplement the 60% Design. Samples from borings will be as previously described.

Work includes logging boreholes and collecting representative samples for laboratory testing. Work also includes performing site reconnaissance, gathering and reviewing available data on geology and producing wells, laboratory testing, and geological/geotechnical support for schematic design efforts.

Work includes staking of locations of exploratory boreholes and conducting a survey to identify and locate underground utilities at all of the exploratory boreholes. Exploratory boreholes shall be noted on the reports and drawings using the following naming convention:

- Boreholes– MPE_1.0-B-XX
- CPT probes– MPE_1.0-C-XX

Additional assumptions consist of the following:

- MPE_1.0 exploration program will be developed by Engineer as described in the Exploration Plan. Engineer will be responsible for geotechnical exploration-related permits and fees.
- The maximum number of mobilization/demobilizations of exploration crews and equipment regardless of exploration method shall be two (2).
- Explorations in this SOW will not include night drilling or potholing of utilities.
- Either vibrating wire or standpipe piezometers and depth of installation as determined by Engineer will be installed in up to 25 percent of the borings. Engineer to assume all to be abandoned, unless otherwise directed by Owners.

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- Shear wave velocity measurements will be obtained from CPT explorations within the exploration program.
- All exploration-related ROW and access coordination and approvals to access private properties are the responsibility of WWSP. On City and County streets and State routes, exploration permits and fees will be obtained by Engineer. Appropriate traffic control plans will be included in the Exploration Plan and traffic control during exploration provided by Engineer.
- Survey of borehole locations and elevations following geotechnical field work in accordance with the Exploration Plan will be provided by Engineer and incorporated into the base map.

All samples obtained during the exploration program will be stored by Engineer through construction. After construction, samples will be transferred or disposed of as directed by Owners.

Laboratory Testing Program

Laboratory testing program will consist of performing classification and engineering laboratory testing of the type and number as required to obtain sufficient information to prepare the geotechnical reports and support the design. The report shall state the standards used for laboratory tests. The laboratory testing program shall be repeated for each major soil deposit encountered along the pipeline alignment.

Laboratory program will consider the following tests, with actual tests determined during and after the exploration program:

- Consolidation properties of the soil
- Expansion
- Classification of soil materials in accordance with the Unified Soil Classification System (i.e., Atterberg limits and grain size)
- Sieve and hydrometer analysis including oversized particles if applicable
- Permeability
- Unconfined compression
- Triaxial compression (if necessary)
- Direct shear
- R-value or Dynamic Cone Penetrometer Tests
- Moisture content and dry density
- Compaction
- Abrasivity testing of granular soils
- Rock index and strength tests if rock is encountered
- For select samples from boreholes conducted in seismically sensitive areas, conduct cyclically load direct simple shear tests (or similar depending on soil conditions) as needed to determine Soil-Structure Interaction parameters

Perform laboratory testing for corrosion on at least one sample of soil from each boring. The laboratory testing of each soil sample shall include the following:

- pH
- Resistivity (ohm-centimeter)

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- Redox (millivolts, positive or negative)
- Sulfides (positive, negative, or trace)
- Chlorides (parts per million)
- Sulfates (parts per million)

Soil samples shall be taken from depths at which buried piping and concrete structures will be placed. As necessary, multiple samples from various depths in specific borings shall be taken to provide sufficient data for evaluating the corrosivity of soils through which structures might extend.

Provide data from laboratory testing data of samples of materials for corrosion from potential borrow locations that are being considered for use as a source for backfill around piping and concrete structures.

As a minimum, test each material sample for the following:

- Resistivity (ohm-centimeter)
- Chlorides (parts per million)
- Sulfates (parts per million)

In areas visually noted to be stained or otherwise suspected of hydrocarbon impact, perform environmental laboratory test for volatile (EPA 8260) and semi-volatile (EPA 8270) compounds in soil samples.

Deliverables:

- Draft and Final Field Subsurface Exploration Plan, subsurface explorations, and laboratory testing for MPE_1.0

8.2 Geotechnical Data Report (GDR)

The Geotechnical Data Report shall include information collected from: aerial photograph interpretation, geophysics, CPT probes, and rotary boreholes, site investigations, detailed geologic mapping, piezometers, results of field and laboratory testing. The GDR shall also include geologic and seismic setting, groundwater measurements, and other geotechnical data associated with pipeline design, construction, and performance. The GDR shall be submitted to Owners for review at the 30% Design milestone.

The Final GDR shall be signed and sealed by a Professional Engineer or Geologist, registered in the state of Oregon, and generally is organized to include the following:

- Introduction
- Project and Site Conditions
- Geology and Geologic Hazards
- Field Exploration and Laboratory Testing Results
- Subsurface Conditions
- References

Deliverables:

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- Draft and Final geotechnical data report for MPE_1.0

8.3 Geotechnical Design Report

The Geotechnical Design Report shall include specific design and construction recommendations. Engineer shall submit a draft report to Owners for the review and comment at the 60% and 90% Design milestones. The final Geotechnical Design Report shall incorporate changes associated with these comments during the 90% phase and shall be submitted at the 100% Design milestone. For all design values, indicate if they are allowable design values or ultimate values.

The report shall be signed and sealed by a Professional Engineer and, if necessary, a Professional Geologist, registered in the state of Oregon with the expertise commensurate with the report content. The report shall be generally organized to include the following:

- Introduction
- Project and Site Description
- Field Exploration and Laboratory Tests
- Engineering Properties for each Geologic Unit
- Geotechnical Engineering Analysis, including the Conclusions and Recommendations outlined in the following subsections:
 - Recommendations for Design
 - Recommendations for Construction
- Limitations
- References
- Attachments:
 - Geotechnical hazards report
 - Fault location report
 - Site-Specific Seismic Response Spectra report

Include in the Geotechnical Design Report, analysis, conclusions and recommendations for the following as applicable:

- Lateral earth pressures
- Coefficient of friction between concrete and native soils and base materials
- Recommendations for E' of trench backfill, native soils, and composite E' for flexible pipe design
- Expected total and differential settlement of proposed facilities
- Shallow foundation (spread or mat footings) recommendations including allowable bearing pressure and embedment depths
- Deep foundation (piles) recommendations including pile capacity, lateral load capacity, pile group behavior and depth
- Loading, allowable stresses, and adjacent movement criteria for shoring
- Soil improvement or preload recommendations
- Dewatering criteria (baseline design)

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- Minimum cover over pipe for various loading conditions and to prevent floatation of pipe in high groundwater areas
- Pavement structural sections
- Cut and fill slope requirements
- Recommendations for suitable structural and general fill requirements
- Other construction considerations
- Shoring or other temporary construction earthwork considerations (for cost estimating and planning – not for design)

All analysis, conclusions, and recommendations shall include seismic loading conditions.

Geologic Hazards Study

Evaluate geologic and seismic hazards based on ground motions resulting from a design earthquake with a 2,475-year recurrence period, and current national and local building codes and requirements including:

- National Earthquake Hazards Reduction Program (NEHRP) Recommended Seismic Provisions for New Buildings and Other Structures, 2009 Edition (FEMA P-750)
- ASCE's Minimum Design Loads for Buildings and Other structures, 2010 Edition (ASCE 7-10)
- International Building Code, 2012 Edition (IBC 2012)
- Oregon Structural Specialty Code, 2014 Edition

Base assessment on the specific soils data generated during the field exploration and published literature. The assessment shall include:

- Regional and site geologic conditions
- Site surface (topographic) and subsurface (soil) conditions
- Seismicity and estimated intensity of shaking due to historic earthquakes
- Active and potentially active faults within 100 kilometers (60 miles) of the pipe
- Description of the faults; and the Cascadia Subduction Zone
- Location of faults and closest distance from the pipeline alignment
- Upper bounds earthquake magnitude for each fault
- Potential ground motion generated, at the site, by each upper-bound earthquake
- Potential for ground rupture
- Potential for liquefaction
- Potential seismic-induced settlement including liquefaction and dynamic compaction
- Potential for slope failure. Consider slope failure for static and seismic conditions
- Impact of flooding: 100- and 500-year flood zones
- Impact of flooding due to seismic induced dam failure
- Evaluation of other potential seismic hazards and their effects such as liquefaction induced ground spreading and loss of bearing pressures, increased lateral earth pressures, and fine-grained soils (silts and clays) softening

Fault Location Study

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Engineer shall provide a review of fault related information including aerial photographs, available through state and federal agencies, and other parties. Engineer shall consult with an expert in soil stratigraphy and paleoseismology, and provide a report of findings and conclusions and provide recommendations for concerns based on the findings. Engineer shall submit a draft report to Owners for the review and comment as an attachment to the Geotechnical Design Report.

Site-Specific Seismic Response Spectra

Provide a smoothed, elastic horizontal and vertical design seismic response spectra developed for the specific project site. The ground motion represented by the spectra shall be based on the geologic, tectonic, seismic recurrence information, and foundation material properties associated with the specific site. The spectra shall be representative of motions which can be generated by known faults which can affect this site. Horizontal and vertical response spectra curves shall be provided with percent damping and periods as required by Engineer to perform the analysis. The site response analysis shall incorporate nonlinear, effective stress effects of the soil column. Engineer shall submit a draft report to Owners for the review and comment as an attachment to the Geotechnical Design Report.

Deliverables:

- Draft and Final geotechnical design report for MPE_1.0

8.4 Geotechnical Baseline Report (GBR) for Trenchless Crossings

Engineer shall prepare and submit a signed and sealed Geotechnical Baseline Report (GBR) for trenchless crossings. The GBR shall address the shafts and the trenchless drives. Engineer shall submit a draft report to Owners for the review and comment at the 90% and 100% Design milestones. The final GBR shall incorporate changes associated with these comments during the 90% phase and shall be submitted at the 100% design milestone.

The GBR shall be in general accordance with the Design Guide. The GBR shall present ground conditions by depth and location with specifics for each geologic strata through which trenchless shafts and the trenchless drives will be constructed. The baselines shall include occurrences of ground conditions which were not encountered in the explorations, but are known to be present in the area and may impact shaft and trenchless construction means, methods, and production. The report shall be signed and sealed by a Professional Engineer registered in the state of Oregon with expertise in geotechnical engineering, trenchless work, and preparation of GBRs.

Deliverable:

- Draft and Final Geotechnical Baseline Report for Trenchless Crossings for MPE_1.0

8.5 Trenchless Crossing Design TM

Engineer shall prepare a trenchless crossing TM. The memorandum shall summarize subsurface conditions and present a profile at each crossing, summarizing geotechnical and environmental constraints, review likely applicable trenchless methods, evaluate the application of trenchless methods including construction issues and risks, present preliminary recommendations for trenchless crossing methodology and equipment, evaluate ground loss and settlement, and make recommendations for backfill and

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grouting requirements, construction access, and staging and easement requirements, both permanent and temporary.

This TM will be the basis for proceeding with real estate acquisition, if necessary, for all trenchless crossings, including any temporary construction access or staging areas. Engineer shall submit a draft report to Owners for review and comment at the 60% and 90% Design milestones, as outlined per Section 7.0. Real estate needs must be defined in the 60% draft, including legal descriptions and drawings to allow WWSP Real Estate team to initiate easement acquisition. The final Trenchless Crossing Design TM shall incorporate responses to Owners' comments and shall be submitted at the 100% design milestone.

Deliverable:

- Draft and Final Trenchless Crossing Design Technical Memorandum for MPE_1.0

9.0 Utility Location, Mapping, and Surveying

All utility location work performed shall conform to Section 3.1 of the Design Guide.

Engineer shall coordinate with local agencies, municipalities, and Oregon Utility Notification Center (OUNC) through Owners for all surveying and utility location work required for each project. Owners shall obtain all rights of access and environmental permits. Engineer shall provide technical support and timely communications necessary to secure permits as required to accomplish this utility location work. Engineer shall provide a minimum of four (4) weeks advance notice to Owners for ROEs.

Engineer shall contact OUNC Call: 1-800-332-2344 (or 811) to request field marking of all utilities along the pipeline alignment. Private utility locating services shall be provided by Engineer outside of OUNC.

Engineer shall obtain and use the most current aerial LiDAR and topographic mapping information, along with the utility information developed as part of the design effort to develop mapping per requirements Section 3.2 of Design Guide.

Engineer shall review all available existing utility drawings and applicable data. Prepare and submit a Utility Location Plan describing the approach, methodologies, and procedures for locating existing utilities. Perform potholing services (up to 200 potholes are assumed) to define exact location and characteristics of specific utilities where these utilities cross the proposed pipeline alignment or are within the limits of excavation. Engineer shall coordinate with the utility owner through Owners to receive any required approvals prior to potholing. These potholes shall be performed using vacuum type potholing methods (vacuum excavation). Engineer shall adjust the CAD layering system, if required, based on information obtained from the potholing results.

All fieldwork shall be performed by Engineer in consideration of public safety, per industry standards, and in accordance with environmental permits and regulations, traffic control guidelines, and guidelines outlined in the various city, county, and Federal requirements applicable to the specific pipeline section

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Mapping and Survey Deliverables:

Prepare and submit a Mapping and Surveying Plan describing the approach methodologies and procedures for conducting mapping and field surveying. Prepare and submit a CAD Mapping and Survey Base Map. CAD layers, digital mapping, and surveying data shall be in accordance with the Pipeline Design Guide. Mapping and survey data shall be incorporated into the design drawings. Provide drawing sets containing information for each utility at the 30%, 60%, 90% levels of completion for review or as outlined per Section 7.0.

At a minimum, Engineer shall:

- Comply with the provisions for ORS 209.150.
- Provide survey for locations associated with utilities potholing.
- Verify survey control (through field survey) mapping data provided by others.
- Locate with GPS existing Permanent Reference Monuments (PRMs) along the pipeline alignments and section corners within the project area sufficient to establish control.
- Set centerline of rights-of-way baselines in relation to the survey control and PRMs set for MPE_1.0. This will be the controlling line for the field collection. All centerlines are to be contiguous polylines.
- Establish a bench run along the project baseline, setting benchmarks at five-hundred (500)-foot intervals to provide control for the field location and for later as-built locations for MPE_1.0.
- Profile roadway centerlines at approximately one-hundred (100)-foot intervals. Locate approximate high and low points of centerline roadways. Collect topographic information for the entire MPE_1.0 right-of-way, from boundary to boundary.
- Profile proposed pipeline alignment ground elevation at approximately one-hundred (100)-foot intervals for MPE_1.0. Locate approximate high and low points along the alignment. Collect topographic information for the entire one-hundred (100)-foot corridor centered on the alignment for MPE_1.0.
- Provide site surveys for a minimum of five (5) proposed tunnel shaft locations and/or bridges, including soundings.
- Provide site surveys for any easements shown that may be used to locate pipelines.
- Prepare a minimum of twenty two (22) legal descriptions for required easements and property acquisitions as described in Section 13.0.
- Locate the following existing features, including but not limited to:
 - Edge of pavement and joints for concrete pavement sections
 - Curbs and sidewalks
 - Trees that are within the ROW and alignment corridor
 - Catch basins and inlets (including type, basin invert, pipe sizes and inverts, pipe material)
 - Existing manholes, storm and sanitary sewers (including type, manhole invert, pipe sizes and inverts)
 - Existing pipeline (including valve covers, valve type, hydrants, and blow-offs)

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- Power and communication lines (including power poles, overhead lines, guy wires and appurtenances, including power pole/tower heights up to one span each side of the alignment.
- Centerline, width and material of roadway, elevation of road and any break in roadway grade
- ROW line
- Approximate building locations and driveways
- Other utilities not specifically mentioned within the right of way and alignment corridor
- Obtain tax maps and verify ownership
- Prepare a base map showing existing topographic features. The completed base map will show information collected as detailed above and will also include:
 - Topographic information
 - Benchmarks and monuments
 - ROWs
 - Lot lines, lot numbers, street address of buildings
 - Alignment/roadway centerline with profile elevations
 - Edge of pavement and joints for concrete pavement sections
 - Curbs and sidewalks
 - Street intersections
 - Driveways
- In addition to the above, deliverables shall include the following:
 - A digital ASCII comma delimited point file in P,N,E,Z,D format for all project control, and topographic data collection surveys
 - Hard copy of all control point recovery, perpetuation and referencing notes
 - Record of Survey documents pertaining to all surveyed points
 - CAD drawings of all survey control points, monuments and other layout information
 - One bound copy of all field notes

Deliverables:

- Draft and Final Mapping and Survey Deliverables for MPE_1.0

10.0 Final Hydraulics and Transient Analysis

Engineer shall receive copies of the WWSP hydraulic and transient analyses previously conducted including technical memoranda and reports; thoroughly review the hydraulics and hydraulic transient work; evaluate hydraulic and transient design conditions for MPE_1.0 and the finished water conveyance system extending from the WWSS Water Treatment Plant (WTP_1.0) pump station through the reservoir (included pumped-side turnout locations) and gravity-side hydraulics from the reservoirs through gravity side turnout locations. The WWSP will provide Engineer with the new WTP_1.0 hydraulic constraints including preliminary pump curves; maximum, minimum, and static hydraulic grade lines (HGL) elevations in the wet well; and the other components of the finished water transmission system to conduct the

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finished water conveyance system hydraulic calculations and hydraulic transient analysis and complete detailed design of MPE_1.0.

As the design progresses, additional hydraulic design information will be available from other program projects and will be evaluated by the Engineer (assume up to three evaluations). Additionally, any modifications to this project's hydraulics or surge design that could impact the overall system hydraulics or surge design must be immediately reported in writing to Owners, who will then assess the need for further system-wide hydraulics and hydraulic transient modeling.

The selected alignment from Phase 1 will determine whether the pumped-side analysis or gravity-side analysis will be provided.

Table 10-1 MPE 1.0 Hydraulics Deliverables

Design Phase	Deliverable	Information Provided by Owners
Alignment Evaluation	Finished Water Conveyance System Hydraulic System TM (draft)	Turnouts - required pressure and flowrate Finished water pump station - initial pump curves Spreadsheet model input of alignment from preliminary design and more recent pipeline design drawings and hydraulic technical memoranda Reservoir volume and overflow elevation
Basis of Design Report/ Preliminary Design	Finished Water Conveyance System Hydraulic System TM (final)	See above
30% Design	Preliminary Finished Water Conveyance System Pumped-side Transient Analysis TM (draft) -or- Preliminary Finished Water Conveyance System Gravity-side Transient Analysis TM (draft)	See above Transient analysis from preliminary design -and- Design deliverables for PLM_4.1, PLM_4.2, PLM_4.3, PLM_5.1, PLM_5.2, and WTP_1.0 (if available) -or- Design deliverables for PLW_1.1, PLW_1.2, PLW_1.3, and PLM_5.2, and RES_1.0 (if available)
60% Design	Preliminary Finished Water Conveyance System Pumped-side Transient Analysis TM (update) -or- Preliminary Finished Water Conveyance System Gravity-side Transient Analysis TM (update)	Design deliverables for PLM_4.1, PLM_4.2, PLM_4.3, PLM_5.1, PLM_5.2, and WTP_1.0 (if available) -or- Design deliverables for PLW_1.1, PLW_1.2, PLW_1.3, and PLM_5.2, and RES_1.0 (if available)

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Design Phase	Deliverable	Information Provided by Owners
90% Design	Preliminary Finished Water Conveyance System Pumped-side Transient Analysis TM (final) -or- Preliminary Finished Water Conveyance System Gravity-side Transient Analysis TM (final)	See above

Pumped-side Pipeline Hydraulic and Transient Analysis (Optional Task)

For the preferred alignment, the Engineer shall provide a complete hydraulic and transient analysis from the finish water pump station at the WTP_1.0 to WWSS RES_1.0 and points of connection at isolation valves and flow control structures. Provide a surge model as required to protect the system and incorporate recommendations into the Preliminary Hydraulics and Transient Technical Memoranda. Engineer shall perform hydraulic transient simulations for the operation of the WTP_1.0 when pumping through the finished water conveyance pipeline to the WWSS RES_1.0. Hydraulics and surge conditions for the PLM_4.0 pipeline and PLM_5.0 pipeline shall be reviewed, incorporated, and coordinated to establish system compatibility to ensure protection of the pipeline and appurtenances. Simulations shall include power failure and startup at the pump station for the critical operating scenarios. Maximum initial velocity conditions in the conveyance system prior to pump power failure will be defined by the operation of all the pumps at the WTP_1.0 (i.e., duty and standby pumps) that pump to the WWSS RES_1.0 and other applicable delivery points. Evaluation will also include: anticipated surge tank footprint, volume and dimensions of surge tanks, sizing and design of air valves. Applicable hydraulic scenarios shall be evaluated including filling, draining, impact due to line break based on WWSP 30-inch diameter criteria, and impact due to valve closure based on pipeline isolation valves and pump station control valves.

A TM will be prepared that will include (1) a description of the hydraulic transient analysis modeling approach, (2) a description of the physical facilities, including a schematic showing the hydraulic transient analysis model, (3) component data and assumptions used for the analyses, (4) the results of the hydraulic transient analysis, including graphical plots of the maximum and minimum HGL envelope and maximum allowable pressure along the pipelines, and plots of pressure head at the WTP_1.0 and at significant locations in the raw water conveyance system, and (5) the recommended surge protection measures.

Technical memoranda shall summarize applicable available hydraulic transient information provided by Owners and describe how this and newly developed information/criteria will be implemented by Engineer in the design of the pipeline and appurtenances. The technical memoranda shall be in accordance with the requirements of the Design Guide.

Deliverables

- Preliminary Finished Water Conveyance System Pumped-side Transient Analysis TM, draft at 30% Design submittal, updated at 60% Design submittal, and final at 90% Design submittal or at Mid-design Project Closeout

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Gravity-side Pipeline Hydraulic and Transient Analysis (Optional Task)

For the preferred alignment, the Engineer shall provide a complete hydraulic and transient analysis from the reservoir to points of connection at isolation valves and flow control structures. Provide a surge model as required to establish valve closure times, size air valves, pipeline break, filling, draining and other applicable system-wide operational parameters. Hydraulics and surge conditions for the JWC pipeline and PLW_1.0 pipeline shall be reviewed, considered, and coordinated to establish system compatibility and to ensure protection of the pipeline and appurtenances.

A hydraulic and Surge Analysis technical memorandum shall be submitted as part of the 30% Design, updated at the 60% design milestone, and finalized for 90% Design or Mid-design Project Closeout. Technical memoranda shall summarize applicable hydraulics and surge information provided by Owners and describe how this and newly developed information/criteria will be implemented by the Engineer in the design of the pipeline and appurtenances. The technical memoranda shall be in accordance with the requirements of the Design Guide and at a minimum include: maximum and minimum operating conditions, including turnouts; assumptions and operational requirements related to flow control, isolation valves; line filling and draining/dewatering and surge associated with maximum velocity conditions; valve closure, line rupture, or other events that would generate surge conditions in the main line or the appurtenance piping; and establish air vacuum/release valve and blow-off valve sizing and configuration requirements.

Deliverables

- Preliminary Finished Water Conveyance System Gravity-side Transient Analysis TM, draft at 30% Design submittal, updated at 60% Design submittal, and final at 90% Design submittal or at Mid-design Project Closeout

11.0 Traffic Impact Studies

Engineer shall perform traffic analyses to determine impacts to the travelling public during construction of the pipeline and to identify specific traffic control strategies (e.g. lane closures, detours, etc.) to safely accommodate traffic during construction and minimize impacts to the traveling public, key businesses, and significant traffic generators. Strategies will be developed for all roadway users, including vehicles, farm equipment, bicycles, pedestrians, and transit. Additional Circulation Analyses will be performed for up to ten (10) businesses that receive material via tractor trailer combinations.

Engineer shall identify up to ten (10) key study intersections. Study intersections and evaluation methodology will be identified and prepared following consultation with the City of Beaverton, City of Tigard, Washington County, or others. Traffic counts shall be collected for twenty-four (24) hours in both directions on two (2) separate days (weekday and weekend), and turn movement counts will be collected at key study intersections. Existing relevant data from recent or concurrent project work will be used to the extent possible. An inventory of existing business access points and residents impacted by construction will be performed, and a plan will be developed in consultation with the WWSP Public Outreach and Real Estate teams to maintain access to businesses and residents at all times.

Engineer shall submit a report detailing the information as required in support of permitting requirements detailed in Section 12.3. Traffic counts for each section shall be in accordance with land use and other

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applicable permit requirements. The traffic report shall meet the varying needs of Washington County, and City of Beaverton.

Deliverables:

- Draft and Final Traffic impact study for MPE_1.0

12.0 Permitting/Land Use Support

12.1 General Permitting Support

Owners will obtain the permits required to secure the project footprint, such as Clean Water Act (CWA) and Oregon Removal-Fill Law Joint Permit Application, the Endangered Species Act (ESA) Section 7 Biological Opinion, Oregon Department of Environmental Quality (DEQ) CWA Section 401 Water Quality Certification (which includes DEQ approval of Owners' Stormwater Management Plan), and land use authorizations. To meet the permit application submittal timeline, Owners will provide draft drawings, figures, and narratives for environmental permit applications, Engineer will update drawings based upon results of alignment evaluation and subsequent preliminary design.

Engineer shall support Owners in communication and Use of Right-of-Way applications with Bonneville Power Administration (BPA). Engineer shall provide draft application materials including profile and section views with basic geometry of the WWSP pipeline and BPA assets. Construction safety requirements provided by BPA will be included into appropriate bid documents.

Engineer shall support Owners in communication and applications to occupy railroad ROW for all railroad crossings in the preferred alignment. Engineer shall provide draft application materials including profile and section views with basic geometry of the WWSP pipeline and railroad assets. Construction safety requirements provided by the railroad will be included into appropriate bid documents.

Engineer shall work closely with the WWSP Permitting Team to:

- Verify permits, including:
 - Reviewing Owner-prepared draft figures/drawings, maps, and calculations from initial Joint Permit Application and the ESA Section 7 Biological Assessment as well as other permitting related documents prepared by the Owners that place conditions upon the design.
 - Providing updated and final figures/drawings, maps, and calculations for use in updated environmental permit application submittals. Figures/drawings, maps and calculations shall be in accordance with requirements as listed in the Program Permitting Data Needs Table-MPE_1.0 (Attachment 4) for resource crossings only and shall be submitted with the Preliminary Design deliverables.
- Support land use, including:
 - Preparing figures, maps, and calculations to support the development of the land use and environmental permit applications per Appendix E of the Design Guide (Attachment 2).
 - Providing three (3) 11"x17" figures and maps.

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- Developing calculations as part of the Design Data Handbook.
- Attending land use pre-application meetings
- Attending two regulatory agency meetings to discuss information requirements, pipeline location and construction methods.
- Participating in meetings as required (Engineer will not be required to provide meeting agendas and minutes.)
- Bonneville Power Administration Support - draft BPA Use of Right-of-Way Application packages with required profile and section drawings and tax lot information and meeting attendance.
- Other: Provide up to four (4) written responses for MPE_1.0 to Owners and agency review comments and incorporate Owners and agency review comments into the design documents.

During design, Engineer shall prepare and submit permit applications for the following permits designated as Design Consultant responsibility by WWSP:

- 1200C – entire project alignment, Clean Water Services
- Grading and erosion control – off-road disturbed areas and flowmeter and PRV vaults – City of Beaverton, City of Tigard, Washington County, and ODOT
- Utility right of way use – entire project alignment – Washington County, City of Beaverton and ODOT
- Roadway access/driveway – flowmeter and PRV vaults, 3 locations, City of Tigard, City of Beaverton
- Plan reviews –Above grade entrance, PRV vault, City of Beaverton
- Public improvement plan – 2 PRV vaults, City of Beaverton
- Development/site review – 2 PRV vaults, City of Beaverton
- Floodplain- Fanno Creek crossings, 2 locations
- Railroad crossing – WES plus P&W 1 location, P&W 2 locations
- Monitoring/observation wells

During design, Engineer shall support WWSP Permit Team in preparation of construction-related permits. Obtaining construction-phase permits is not the responsibility of Engineer.

For traffic control and road closure, Engineer will coordinate and develop traffic control plans in coordination with Washington County, City of Beaverton ODOT, and businesses along the route. Construction Contractor will submit the permit application, since the application will require information that will only be available from the Contractor (means and methods).

Engineer shall communicate and coordinate with permitting agencies to determine status of reviews and approvals and shall respond to agency review comments in the initial permit applications. Partial resubmittal of application materials is anticipated for up to five permits. Engineer will schedule and attend up to 15 meetings with permit review agencies to coordinate the submittals and reviews.

General permitting deliverables:

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- Updated (from this work's preliminary design) and final figures/drawings, maps, and calculations for use in updated environmental permit application submittals, for resource crossings only
- Attend regulatory agency meetings
- Land-use figures
- Attend land-use application meetings
- BPA Use of Right-of-Way application for each BPA crossing
- Attend BPA meetings
- Railroad crossing application
- Permit applications and coordination as described above for Engineer-prepared permits
- Written responses to agency questions

Assumptions (for each package): _____

- Two (2) regulatory agency meetings, two (2) hours each
- Two (2) land-use pre-application meetings, two (2) hours each
- Four (4) agency questions requiring written responses
- Two (2) BPA meetings, assume two-hour duration and located in Vancouver, WA
- One (1) railroad meeting, assume two-hour duration and located in Portland, OR
- Fifteen (15) meetings with agencies listed under the Engineer-prepared permits, above
- Five (5) written responses to agencies during permit reviews
- Planned effort is limited to budget shown in Exhibit B2 inclusive of amendments

Deliverables:

- Draft and final permitting deliverables for each package of MPE_1.0

12.2 Grading, Erosion, and Stormwater Quality Control Plans

Using early guidance and templates provided by the Owners, Engineer shall prepare grading, erosion, and stormwater quality control plans, including drainage calculations, and grading, erosion, and sediment control measures on drawings signed and sealed by a registered professional engineer in the State of Oregon, using Clean Water Services Standard Drawings and Details. The plans shall be designed in accordance with anticipated and/or negotiated permit conditions and in coordination with the WWSP Permitting Team.

Assumptions:

- Engineer will provide the plans and drawings for Owners to obtain the permits.

Deliverable:

- Draft and final erosion and sediment control plans, submitted with 90% and 100% design milestone deliverables for each package

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12.3 Traffic Control Plans

Engineer shall prepare traffic control plan(s) and specifications for the project, which conform to applicable standards of the Manual on Uniform Traffic Control Devices (MUTCD), and incorporate Owners and agency plan, specification, and drawing review comments. Engineer shall provide support to Owners during preparation and submittal of the permit applications.

A certified traffic control supervisor or professional engineer shall prepare the traffic control plans and specifications by. Engineer shall include drawings showing the project, a list of posted speed limits throughout the project, and traffic control measures to be employed at the project site. Traffic control plans are required for all work that will impact traffic on public, private roadways or driveways, including vehicle, bicycle, and pedestrian traffic. Plans and specifications will include detailed information on lane closure restrictions and accommodations for all users including businesses, residents, bicycles, pedestrians, transit, emergency services, garbage collectors, and school buses. In the case of any full closures, detour routes will be identified.

- Traffic Control Plan Drawings - Drawings related to areas requiring traffic control plans will be developed where needed. Traffic control plans will be reviewed and comply with local jurisdictional requirements. Drawings will include advance signing, temporary traffic control, work zone details, and loop detection replacement.
- Haul Route Drawings - Drawings related to haul routes associated with the construction packages shall be developed. As required by the local jurisdiction, plans illustrating required haul routes shall be developed and included in construction packages.

Assumptions:

- Engineer will provide the plans and drawings for construction contractor to obtain the permits. A total of 131 traffic control plan, haul route, and detail drawings are expected.

Deliverables:

- Draft and final traffic control plans, submitted with 60%, 90%, and 100% design milestone deliverables

12.4 Tree Protection Plans

WWSP Permitting Team will be completing all field work and reports to meet tree protection requirements of land use conditions. Engineer shall incorporate provided tree protection plans/design into each project design drawings.

Assumptions:

- Plans/design provided will not require additional engineering effort beyond packaging with other drawings prepared by Engineer.
- WWSP shall identify all trees requiring preservation prior to surveying

Deliverables:

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- Incorporate tree protection plans into 90% and 100% design milestone deliverables

13.0 Right of Way Engineering/Drawings and Descriptions

Engineer shall coordinate with the WWSP Real Estate Team to identify the status of access to properties through ROE already obtained and the need for any additional ROEs for completion of design. The WWSP Real Estate Team will obtain ROE for private property. The WWSP Real Estate Team will secure property rights, including temporary easements, permanent easements, and fee acquisitions for the project. Engineer shall identify all needed properties for the project and provide Drawings and Descriptions provided to the WWSP Real Estate Team as follows:

- Basis of Design: Review and comment on the anticipated validity of permanent and temporary easement(s) and/or fee acquisition needs shown in the WWSP Preliminary Design documents. Provide an attachment to the basis of design technical memorandum detailing the anticipated Right of Way (ROW) needs and how they differ from those shown in the Preliminary Design documents. WWSP will provide property title reports upon design team ROW engineer's request.
- 30 percent Design: Provide a list of required permanent easements, temporary easements, and any fee acquisitions, including location and size. Identify easement and property acquisition definitions, and provide a draft of the necessary right of way drawings and descriptions to the WWSP Real Estate Team. Details of the map will include areas of parcels to be acquired, tax lot ID numbers, and property owner names. These maps will be used to retain appraisers and create acquisition plans.

60 percent Design: Provide final ROW mapping and Drawings and Descriptions for each parcel identified as necessary for construction in the format provided in the attached Exhibit A. Identify and assign a Professional Land Surveyor, registered in the State of Oregon, to review and approve the Drawings and Legal Descriptions (sample attached). Assumptions:

- Provide Right of Way Mapping, Drawings and Descriptions for up to 25 separate parcels including survey of proposed easements
- Include WWSP Real Estate Team representative in project team meetings to facilitate efforts related to easement acquisition
- Refer to template legal description in Attachment 6.

Deliverables:

- Draft and final right of way mapping, drawings, and legal descriptions

14.0 Public Outreach Support

Engineer shall coordinate with the WWSP Communications Team to assist Owners in public outreach activities and, when requested, prepare supplemental information for and attend meetings regarding the project.

Coordination with Outreach Team will occur during regular bi-weekly design progress meetings (Section 6.3).

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Engineer shall work with the WWSP Communications Team to prepare presentation materials for MPE_1.0 that may include:

- Presentation boards and slides
- Project content and project material review
- Project content to include in meeting flyers and handouts
- Project content to include in mailings

Assumptions:

- Engineer shall participate in up to six (6) two (2)-hour public meetings
- Owners will develop and produce/print presentation materials
- Up to twelve (12) public interactions in the field requiring submittal of documentation (see below)
- An allowance of 300 hours total

Deliverables:

- Public outreach support

15.0 Coordination with Others

Engineer shall be required to incorporate work performed by others into its respective project designs and to coordinate with other consultants to verify project interface points and conditions. Some coordination may be required at meetings that are in addition to the bi-weekly design progress meetings (Section 6.3). The expected effort includes meetings with Clean Water Services, Washington County, Beaverton, Tigard, and other utility providers and agencies. Effort is limited to the budget shown in Exhibit B2 inclusive of Amendments. ~~Two additional agency coordination meetings will be required for both MPE_1.2 and MPE_1.3.~~

Deliverables:

- Draft and final meeting minutes for any meetings organized by Engineer

16.0 Services During Bid Phase

Engineer shall provide assistance to Owners during negotiations with the Contractor. The 100% design documents will establish the final bid items and Contractor's schedule of values for construction. Engineer shall support the WWSP Procurement Team and provide assistance, including the following services and deliverables for each construction package:

- Engineer shall assist Owners in the preparation of technical responses to Contractors questions in the form of addenda
- Engineer shall review the bid summary and evaluation prepared by Owners and prepare an independent assessment of bid prices
- Engineer shall incorporate executed agreement documents and provide Conformed Documents as follows:

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- One (1) electronic file set in Adobe Acrobat© Portable Document Format (PDF),
- Twenty-five (25) 11"×17" (half-size for drawings) and 8½"×11" (for specifications) hard copy sets
- Three (3) 22"×34" (full-size) hard copy drawings,
- One (1) electronic file set in AutoCAD format, and
- One (1) electronic file set in ArcGIS format (when applicable).
- Provide addenda responses, submitted through e-Builder
- Provide assessment of bid prices
- Produce conformed documents for construction

Assumptions:

- Four (4) addenda [for each package](#)
- Exclude printing costs, included with lump sum ODCs

17.0 Services During Construction

Engineer shall provide services during construction (SDC) for MPE_1.0 [for each package](#). Owners are responsible to provide construction management, inspection, materials testing, and contract administration. Tasks include the following:

17.1 Submittals

Engineer shall review submittals and shop drawings, and provide review comments through e-Builder. Engineer shall promptly review submittals and provide written comments and recommended submittal review action within twelve (12) business days of notification that submittal is available for review. The term submittal used herein includes technical submittals, shop drawings, samples, operations and maintenance manuals, product data, and other required Contractor submittals.

Assumptions:

- [MPE 1.1: One hundred ~~fifty~~ fifty-two \(150/120\) submittal reviews, including re-reviews](#)
- [MPE 1.2: One hundred fifty \(150\) submittal reviews, including re-reviews](#)
- [MPE 1.3: One hundred twenty \(120\) submittal reviews, including re-reviews](#)
- All submittals shall be managed through e-Builder

Deliverables:

- Submittal review comments

17.2 Requests for Information

Engineer shall provide responses to the Contractor's Requests for Information (RFIs) through e-Builder. Engineer shall provide written responses within five (5) Days of notification from Owners.

Assumptions:

- [MPE 1.1: ~~Sixty-Fifty~~ \(5/60\) RFIs requiring response](#)

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- [MPE 1.2: Fifty-five \(55\) RFIs requiring response](#)
- [MPE 1.3: Fifty \(50\) RFIs requiring response](#)
- All RFIs shall be managed through e-Builder

Deliverables:

- Responses to RFIs

17.3 Design Clarifications

Engineer shall prepare revised drawings, specifications, and summary memoranda for Design Clarifications. Revised documents shall include “clouds” showing where changes have been made, and sequential “delta” revision numbers per the Design Guide. Design Clarification responses shall provide a description of the change to the construction contract documents.

Drawings and specifications that are revised by Design Clarifications shall be re-issued for the Contractor’s use.

Assumptions:

- [MPE 1.1: A total of ~~fifteen~~ten \(105\) Design Clarifications](#)
- [MPE 1.2: A total of twelve \(12\) Design Clarifications](#)
- [MPE 1.3: A total of ten \(10\) Design Clarifications](#)
- Revised drawings resulting from Design Clarifications shall be maintained by Engineer in CAD and PDF formats
- Revised specifications shall be issued in PDF format with the latest revision date in the footer. Cloud and delta notations shall be applied to revised wording in the specifications
- All Design Clarifications shall be managed through e-Builder

Deliverables:

- Design Clarification response with revised drawings and specifications in PDF and CAD format

17.4 Site Observations

Engineer shall visit the site weekly to review the progress and quality of the construction work. The visits shall observe the general quality of the work at the time of the visit, and address any specific items of work that are brought to the attention of Engineer by the Contractor or Owners. For each site visit, Engineer shall prepare a site observation report documenting the areas observed and comments regarding general conformance with the design requirements. Engineer’s observation of the work is not an exhaustive observation or inspection of all work performed by the Contractor. Engineer shall review items of concern with Owners’ construction management staff before leaving the site.

As requested by Owners, Engineer shall visit the pipe manufacturing facility to witness quality testing and manufacturing procedures. Engineer shall prepare a report of the facility visit to include observations with regard to the pipe manufacturer’s compliance with contract requirements.

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Engineer shall be required to participate in the contractor site safety orientation at initial site visit. Engineer is responsible to provide its employees and subconsultants/subcontractors with appropriate personal protective equipment for the site.

Engineer must check in and check out with the project's construction management staff or manufacturing facility staff before and after each site visit.

Assumptions:

- [For purposes of budgeting it is assumed that site visits for MPE 1.2 will be on the same day and trip as one of MPE 1.1 and/or MPE 1.3 allowing a reduction in budgeted travel time. If this is not possible due to actual construction schedules it will be necessary to amend the budget to allow separate site visits.](#)
- [MPE 1.1: A total of ~~one hundred fifty six~~ \(156\) site visits to be coordinated with attendance at construction progress meetings, Section 6.4](#)
- [MPE 1.2: A total of one hundred twelve \(112\) site visits to be coordinated with attendance at construction progress meetings, Section 6.4](#)
- [MPE 1.3: A total of one hundred thirty four \(134\) site visits to be coordinated with attendance at construction progress meetings, Section 6.4](#)
- [MPE 1.0, each package:](#)
 - A total of two (2) hours per site visit, including meeting time
 - Three (3) visits to the pipe manufacturing facility, with a budget of four (4) hours per visit
 - An additional forty (40) hours for site visits by the geotechnical/trenchless subconsultant
 - Written site observation reports, to be provided to Owners within two (2) business days of site visit
 - Drafts shall be reviewed by Owners and final reports shall be uploaded by Engineer to e-Builder

Deliverables:

- Draft and Final Site Observation Reports

17.5 Change Order Support

Engineer shall support Owners as requested with evaluation of change orders, potential change orders, value engineering proposals, Contractor notices, differing site conditions, and other construction-related items. Engineer shall review notices and correspondences issued by the Contractor and shall advise Owners on the validity and significance of the Contractor's request as requested by WWSP.

Owners' construction management staff has primary responsibility for evaluation of and responses to Contractor-issued notices and correspondence.

Assumptions:

- Number of evaluated value engineering proposals: three (3) proposals

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- Review and provide written responses for change order-related issues. Drafts shall be reviewed by Owners and final responses shall be uploaded by Engineer to e-Builder. Number of written responses: fifteen (15) change order-related issues [for each construction package](#)
- Review and provide written responses for Contractor notices of delay or differing site conditions: two (2) notices

Deliverables:

- Change Order Support

17.6 Testing, Startup, and Closeout

Engineer shall provide support during the Contractor testing, startup, and closeout activities [for each construction package](#). This task includes review of hydrostatic testing results, assistance with development of preliminary deficiency and final punch lists, preparation of record drawings and specifications, and warranty support. Engineer shall provide technical support to determine the acceptability of the Contractor's testing procedures and results.

- Engineer shall participate in a one-day site walk near the completion of the project for the purposes of identifying deficiencies in the work and assisting with the development of the preliminary deficiency list.
- Engineer shall participate in a second one-day site walk before substantial completion to identify items for the final punch list.
- Upon completion of the final punch list work by the Contractor and validation by Owners, Engineer will provide signoff of project completion of the work, to the extent that Engineer was present for observations and to the extent that such condition is reasonably observable as a result of non-intrusive inspection.
- Engineer shall prepare Record Drawings of the final construction using the latest revised drawing versions maintained by Engineer along with drawing markups of construction changes and utility locations provided by the Contractor and WWSP.
- Engineer shall submit draft record drawings meeting the requirements of the Design Guide within sixty (60) Days after receipt of the Contractor's as-built drawings for Owners review and comment.
- Engineer shall submit final record drawings addressing Owners comments within thirty (30) Days of receipt of Owners comments.

General testing and start up deliverables:

- Written review comments for Contractor's testing procedures and results
- Preliminary deficiency list based upon site walk
- Final punch list based upon final site walk
- Written acceptance of completed work
- Record drawings and specifications

Assumptions:

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- Contractor will provide survey data of the final pipeline and appurtenance locations.
- Contractor will provide one set of as-built drawings [for each construction package](#), which will be relied upon by Engineer for accuracy. Engineer shall not be responsible for missing or incomplete information. If Engineer identifies missing or incomplete information, Engineer will notify Owners [for each package](#).
- Engineer will deliver one (1) draft and one (1) final Record Set of drawings and specifications [for each construction package](#) in PDF and CAD format, as described in the Design Guide [for each package](#).

Deliverables:

- Testing and start up deliverables for MPE_1.1, 1.2, and 1.30

17.7 As-Needed Claims Support

Engineer shall provide as-needed support to Owners for review and evaluation of Contractor claims or disputes. Support may include review of project records and participation in meetings to assist with preparation of a response. Engineer shall only perform this task as directed by Owners.

Assumptions:

- Assume a total of twenty (20) hours for Project Engineer [for each package](#)
- Assume a total of twenty (20) hours for Project Manager [for each package](#)

Deliverables:

- To be requested by Owners

18.0 Project Schedule

The following WWSP schedule milestones (Agreement Times) have been established for [MPE_1.1, MPE 1.2 and MPE 1.30](#). Owners and Engineer shall provide dates for Tasks/Deliverables with dates indicated as TBD through an Agreement amendment following 30% Design.

Table 18-1 WWSP PLE 1.0 and MPE 1.0 Project Schedule

Task/Deliverable Description	Completion Date ⁽¹⁾
PHASE 1	
Phase 1: PLE_1.0 NTP ⁽²⁾	On or before 11/20/2017
Conduct Kickoff Meeting	12/07/2018
Submit Draft Health and Safety Plan	12/07/2018
Submit Project Management Plan	12/07/2018
Alignment Evaluation Workshop per Section 2.1	2/21/2018

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Task/Deliverable Description	Completion Date ⁽¹⁾
Alignment Evaluation Final Technical Memorandum	3/7/2018
Preliminary Design Deliverables per Section 2.2	5/23/2018
Draft Basis of Design and Project Phasing TM per Section 2.3	5/23/2018
PHASE 2	
Phase 2: MPE_1.0 NTP	02/01/2019
Submit 30% Design Deliverables per Section 7.2	07/16/2019
30% Design Complete	08/20/2019
Submit 60% Design Deliverables per Section 7.3	12/10/2019
60% Design Complete	01/14/2020
Submit 90% Design Deliverables per Section 7.4	04/07/2020
90% Design Complete	05/12/2020
Draft Permit Applications	12/10/2019
Submit 100% Design Deliverables per Section 7.5	08/04/2020
Final Permit Applications	06/16/2020
100% Design Complete, including Signed and Sealed Design Documents for Bidding	09/08/2020
Conformed Bid Documents Complete	05/21/2021
Record Drawings Complete	08/28/2024
<u>MPE 1.1 – WESTERN AVE</u>	
<u>Submit 30% Design Deliverables per Section 7.2</u>	<u>10/04/2019</u>
<u>30% Design Complete</u>	<u>12/20/2019</u>
<u>Submit 60% Design Deliverables per Section 7.3</u>	<u>03/20/2020</u>
<u>60% Design Complete</u>	<u>04/17/2020</u>
<u>Submit 90% Design Deliverables per Section 7.4</u>	<u>06/26/2020</u>
<u>90% Design Complete</u>	<u>07/24/2020</u>
<u>Draft Permit Applications</u>	<u>08/18/2020</u>
<u>Submit 100% Design Deliverables per Section 7.5</u>	<u>10/02/2020</u>
<u>Final Permit Applications</u>	<u>09/18/2020</u>
<u>100% Design Complete, including Signed and Sealed Design Documents for Bidding</u>	<u>10/30/2020</u>
<u>Conformed Bid Documents Complete</u>	<u>03/05/2021</u>

**EXHIBIT A – STATEMENT OF WORK (SOW)
Willamette Water Supply Program
MPE_1.0 Design, Bidding Phase, and Services During Construction**

Task/Deliverable Description	Completion Date ⁽¹⁾
Record Drawings Complete	04/14/2023
MPE 1.2 – SCHOLLS FERRY – CASCADE - ALLEN	
Submit 30% Design Deliverables per Section 7.2	01/10/2020
30% Design Complete	02/27/2020
Submit 60% Design Deliverables per Section 7.3	05/01/2020
60% Design Complete	05/29/2020
Submit 90% Design Deliverables per Section 7.4	08/07/2020
90% Design Complete	09/04/2020
Draft Permit Applications	06/01/2020
Submit 100% Design Deliverables per Section 7.5	10/16/2020
Final Permit Applications	07/06/2020
100% Design Complete, including Signed and Sealed Design Documents for Bidding	11/13/2020
Conformed Bid Documents Complete	03/05/2021
Record Drawings Complete	02/23/2024
MPE 1.3 – SCHOLLS FERRY – ROY ROGERS TO FANNO CREEK	
Submit 30% Design Deliverables per Section 7.2	01/10/2020
30% Design Complete	02/27/2020
Submit 60% Design Deliverables per Section 7.3	02/19/2021
60% Design Complete	03/19/2021
Submit 90% Design Deliverables per Section 7.4	06/11/2021
90% Design Complete	07/09/2021
Draft Permit Applications	06/28/2021
Submit 100% Design Deliverables per Section 7.5	10/01/2021
Final Permit Applications	08/20/2021
100% Design Complete, including Signed and Sealed Design Documents for Bidding	10/29/2021
Conformed Bid Documents Complete	03/17/2022
Record Drawings Complete	03/01/2025

**EXHIBIT A – STATEMENT OF WORK (SOW)
Willamette Water Supply Program
MPE_1.0 Design, Bidding Phase, and Services During Construction**

Task/Deliverable Description	Completion Date ⁽¹⁾
<p>1. All deliverables shall meet requirements per Section 2.0 and Section 7.0 of this SOW. Owners will provide consolidated and adjudicated comments within 15 business days following receipt of deliverables for PLE_1.0 and MPE_1.0.</p>	
<p>2. Engineer understands that access to land may be deferred following the issuance of NTP. In the event land access is not available after NTP, all other dates listed above will be adjusted accordingly (Day for Day) with no cost impact.</p>	

19.0 Resource Requirements

Engineer shall provide all resources, including, but not limited to, Engineer’s and any Subconsultant(s) labor, equipment, and materials to furnish the Work described herein.

20.0 Key Personnel

Engineer personnel listed below are considered essential to the Work being performed hereunder. No substitution of key personnel or subconsultants shall be made by Engineer without written consent from Owners. Owners reserve the right to require replacement of key personnel at the sole discretion of Owners.

Name	Title
Steve Anderson	Principal-in-Charge
Jon Holland	Project Manager
<u>Bob JossisTye Simpson</u>	Project Engineer
Joel Weakland	Assistant Project Engineer
Carmen Brown	Assistant Project Engineer
Alan Peck	Pipeline Design Lead
Mark Havekost	Geotechnical/Seismic Task Lead
Mike McReynolds	QA/QC Task Lead
Wayne Toney	Constructability Reviewer Task Lead
Brian Copeland	Traffic Control Lead

21.0 Security and Safety Requirements

Engineer, subconsultants or subcontractors who will need unescorted physical or electronic access to Owners’ site(s) may be required to obtain and maintain security clearance. Engineer must comply with all Owners’ security and safety policies and procedures while on the premises.

22.0 Owners Representative

EXHIBIT A – STATEMENT OF WORK (SOW)
Willamette Water Supply Program
MPE_1.0 Design, Bidding Phase, and Services During Construction

Mr. Mike Britch has been designated as the Owners' Representative for this project. Mr. Britch may be reached by phone at 503-941-4565 or by email: mike.britch@tvwd.org.

Exhibit B2 - Engineer Fee and Rates

Willamette Water Supply Program PLE_1.0 Design, Bidding Phase, and Services During Construction Repackaging Amendment

ENGINEER: **Brown and Caldwell**

Task Description	Total Cost	Total BC Labor	Total Hours	Billing Rate Multiplier	Project Manager Jon Holland	Project Engineer Tye Simpson	Pipelines QC Mark Briggs	Cost Estimating Lead Catherine Dummer	Asst. Project Engineer Joel Weakland	CAD Lead Nate Whirly	Civil - Utility Coordination Nicolae Oltean	Project Assistant Eva Gage	Project Accountant Steve Vasquez	Total Sub Consultant	Subconsultant Markups	Corrosion Engineer Norton Corrosion	Traffic Control DKS	Civil - Stormwater - Restoration OTAK	
					\$103.85	\$90.27	\$100.33	\$61.37	\$50.82	\$51.54	\$45.52	\$47.09	\$29.58						\$35.16
					3.10	\$321.94	\$279.84	\$311.02	\$190.25	\$157.54	\$159.77	\$141.11	\$145.98						\$91.70
Subconsultant Cost																			
Task 6.0 Project Management and Administration																			
6.1 Project Management and Administration (60 months)	\$12,796.43	\$0.00	-											\$12,796.43	\$609.35	\$ 1,298	\$ -	\$ 10,889	
6.2 Updated Health and Safety Plan	\$0.00	\$0.00	-											\$0.00	\$0.00				
6.3 Design Progress Meetings	\$48,141.76	\$48,141.76	160		80	80								\$0.00	\$0.00				
6.4 Construction Progress Meetings	\$48,563.61	\$48,563.61	224		8	108					108			\$0.00	\$0.00				
6.5 Monthly Pay Applications and Progress Reports	\$14,563.80	\$14,563.80	96			24							72	\$0.00	\$0.00				
6.6 Schedule Development and Monthly Update	\$6,861.54	\$6,861.54	36			12					24			\$0.00	\$0.00				
6.0 Subtotal	\$130,927.13	\$118,130.71	516		88	-	-	-	-	-	132	-	72	\$12,796.43	\$609.35	\$1,298.11	\$0.00	\$10,888.97	
Task 7.0 Design Phase Services			\$229																
7.2 30% Design	\$0.00	\$0.00	-											\$0.00	\$0.00				
7.3 60% Design	\$93,096.48	\$79,194.43	485			40	24	40		142	215	8		\$13,902.05	\$662.00	\$ 13,240			
7.4 90% Design	\$119,791.54	\$79,194.43	485			40	24	40		142	215	8		\$40,597.11	\$1,933.20	\$ 17,653	\$ -	\$ 21,011	
7.5 100% Design	\$80,822.85	\$57,466.06	335			40	20	40		71	140	8		\$23,356.79	\$1,112.23	\$ 13,240	\$ -	\$ 9,005	
7.0 Subtotal	\$293,710.88	\$215,854.92	1,305		-	120	48	68	120	-	355	570	24	\$77,855.95	\$3,707.43	\$44,133.50	\$0.00	\$30,015.02	
Task 12.0 Permitting/Land Support																			
12.1 Permitting Deliverables	\$0.00	\$0.00	-											\$0.00	\$0.00				
12.2 Grading, Erosion, and Stormwater Quality Control Plans	\$27,112.46	\$0.00	-											\$27,112.46	\$1,291.07			\$ 25,821	
12.3 Traffic Control Plans	\$14,050.26	\$0.00	-											\$14,050.26	\$669.06	\$ 13,381			
12.0 Subtotal	\$41,162.72	\$0.00	-		-	-	-	-	-	-	-	-	-	\$41,162.72	\$1,960.13	\$0.00	\$13,381.20	\$25,821.39	
Task 15.0 Coordination with Others																			
15.1 PLM_1.0 Coordination with Others	\$20,395.96	\$13,626.11	64			32					32			\$6,769.84	\$322.37		\$4,460	\$ 1,987	
15.0 Subtotal	\$20,395.96	\$13,626.11	64		-	-	-	-	-	-	32	-	-	\$6,769.84	\$322.37	\$0.00	\$4,460.40	\$1,987.07	
Task 16.0 Bid Phase Services			\$213																
16.1 Bid Phase Services MPE_1.1	\$0.00	\$0.00	-											\$0.00	\$0.00			\$ -	
16.2 Bid Phase Services MPE_1.2	\$67,683.92	\$64,649.88	328		8	92	20	8	30	20	30	100	20	\$3,034.04	\$144.48			\$ 2,890	
16.3 Bid Phase Services MPE_1.3	\$67,683.92	\$64,649.88	328		8	92	20	8	30	20	30	100	20	\$3,034.04	\$144.48			\$ 2,890	
16.0 Subtotal	\$135,367.84	\$129,299.76	656		16	184	40	16	60	40	60	200	40	\$6,068.08	\$288.96	\$0.00	\$0.00	\$5,779.12	
Task 17.0 Services During Construction			\$197																
MPE_1.1 - Modifications to existing budget																			
17.1 Submittals MPE_1.1	(47650.72)	(47650.72)	(270.00)			(50)	(10)	(60)	(60)		(60)	(30)		\$0.00	\$0.00				
17.2 Requests for Information MPE_1.1	(17573.59)	(17573.59)	(100.00)			(10)	(10)	(10)	(30)		(30)	(10)		\$0.00	\$0.00				
17.3 Design Clarifications and Drawing Maintenance MPE_1.1	(44175.93)	(44175.93)	(260.00)		(10)	(30)	(10)	(50)	(10)	(60)	(60)	(30)		\$0.00	\$0.00				
17.4 Site Observations MPE_1.1	(71537.09)	(71537.09)	(336.00)			(168)					(168)			\$0.00	\$0.00				
17.5 Change Order Support MPE_1.1	0.00	0.00	0.00											\$0.00	\$0.00				
17.6 Testing, Startup, Closeout, and Record Drawings MPE_1.1	(71081.70)	(71081.70)	(498.00)							(332)	(166)			\$0.00	\$0.00				
17.7 As Needed Claims Support MPE_1.1	0.00	0.00	0.00											\$0.00	\$0.00				
MPE_1.2 - added to existing budget																			
17.1.2 Submittals MPE_1.2 (150)	\$228,363.99	\$216,690.00	1,350		20	150	50	150	50		660	270		\$11,673.99	\$555.90	\$ 6,289		\$ 4,829	
17.2.2 Requests for Information MPE_1.2 (55)	\$100,014.95	\$94,944.01	550		10	90	30	90	60		160	110		\$5,070.94	\$241.47			\$ 4,829	
17.3.2 Design Clarifications and Drawing Maintenance MPE_1.2 (12)	\$113,310.62	\$107,649.48	624		12	72	40	70	-	200	200	30		\$5,661.14	\$269.58			\$ 5,392	
17.4.2 Site Observations MPE_1.2	\$83,347.16	\$52,045.28	280			80		40			160			\$31,301.88	\$1,490.57	\$ 29,811			
17.5.2 Change Order Support MPE_1.2	\$44,307.80	\$44,307.80	210		8	56	20	36		30	60			\$0.00	\$0.00				
17.6.2 Testing, Startup, Closeout, and Record Drawings MPE_1.2	\$140,725.32	\$113,153.16	718		16	60		38	20	372	186	26		\$27,572.16	\$1,312.96	\$ 18,830		\$ 7,429	
17.7.2 As Needed Claims Support MPE_1.2	\$14,896.72	\$12,035.44	40		20	20								\$2,861.28	\$136.25	\$ 2,725			
MPE_1.3 - added to existing budget																			
17.1.3 Submittals MPE_1.3 (140)	\$189,046.26	\$177,372.27	1,080		18	140	40	140	40		500	202		\$11,673.99	\$555.90	\$ 6,289		\$ 4,829	
17.2.3 Requests for Information MPE_1.3 (50)	\$91,430.05	\$86,359.12	500		8	90	20	70	50		172	90		\$5,070.94	\$241.47			\$ 4,829	
17.3.3 Design Clarifications and Drawing Maintenance MPE_1.3 (10)	\$103,464.96	\$97,803.82	520		8	120	36	30	-	160	146	20		\$5,661.14	\$269.58			\$ 5,392	

17.4.3	Site Observations MPE_1.3	\$118,477.73	\$87,175.84	469		134			67			268			\$31,301.88	\$1,490.57	\$ 29,811		
17.5.3	Change Order Support MPE_1.3	\$44,307.80	\$44,307.80	210	8	56	20	36			30	60			\$0.00	\$0.00	\$ -		
17.6.3	Testing, Startup, Closeout, and Record Drawings MPE_1.3	\$119,743.37	\$92,171.22	571	16	60			38	20	274	137	26		\$27,572.16	\$1,312.96	\$ 18,830		\$ 7,429
17.7.3	As Needed Claims Support MPE_1.3	\$14,896.72	\$12,035.44	40	20	20									\$2,861.28	\$136.25	\$ 2,725		
17.0 Subtotal		\$1,154,314.45	\$986,031.66	5,698	154	890	226	72	613	140	674	2,225	704	-	168,283	8,013	\$115,310.58	\$0.00	\$44,958.74
				\$173															
PROJECT SUBTOTAL		\$1,775,878.97	\$1,462,943.17	8,239	274	1,634	354	172	853	220	1,149	3,359	808	72	\$319,003.88	\$15,190.66	\$160,742.19	\$17,841.61	\$125,229.42

Lump Sum ODCs @ 2.5% of Labor	\$37,511.00
Invoiced ODCs Allowance	\$60,000.00
Total Cost (Less Escalation)	\$1,873,389.97
Labor Escalation (Owner Controlled)	\$125,000.00
PROJECT TOTAL COST	\$1,998,389.97

2.5% ODCs on Labor
increased to account for printing costs of added packages

WWSP did not want DKS services on construction during MPE_1.0 negotiation

Willamette Water Supply
Our Reliable Water

MPE_1.0/COB_1.0 Delivery
Phasing and Design Contract
Amendment

August 6, 2020

1

Agenda

- Background
- Drivers for the project change
- Proposed work packages and sequencing
- Contract amendment
- Recommendation

Willamette Water Supply
Our Reliable Water

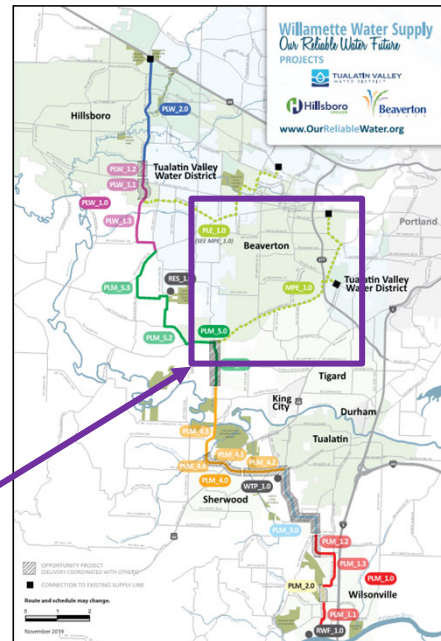
2

2

Background

- MPE_1.0
 - 7.2 miles
 - 48- and 24-inch welded steel pipe
 - Metzger pressure/flow control facility
- COB_1.0
 - 3.1 miles
 - 16-inch ductile iron pipe

MPE_1.0/COB_1.0 Location



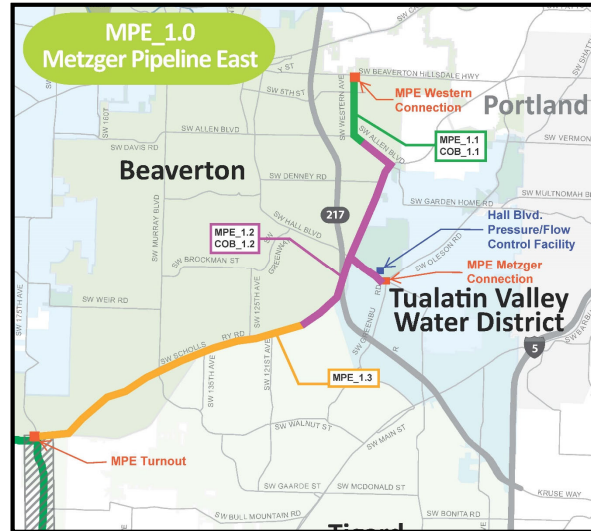
Coordination and Schedule Drivers

- WWSP needs to complete before the OR217 construction in 2021
 - ODOT willing to accommodate some coordination of activities
 - Trenchless crossing of OR217 must be completed before ODOT's construction of its stormwater detention facility
- City of Beaverton Western Ave roadway work in 2021/2022

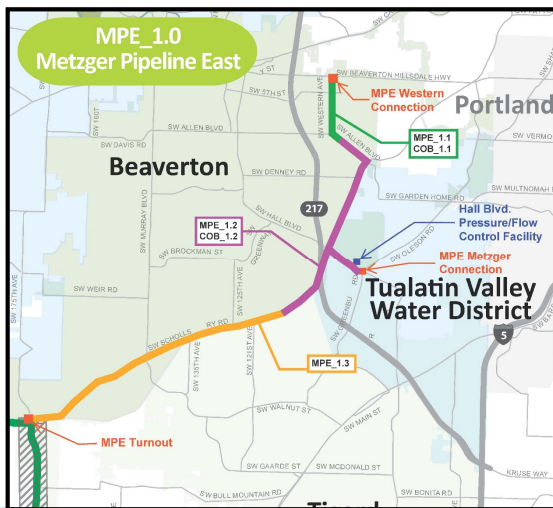


Proposal to Divide Project Into Three Packages

- MPE_1.1/COB_1.1: Western Ave
 - Opportunity project with City of Beaverton road improvements
 - 48" (MPE_1.1) – 0.74 miles
 - 16" (COB_1.1) – 0.74 miles
- MPE_1.2/COB_1.2: Greenway Park to Western Ave
 - 48" (MPE_1.2) – 2.62 miles
 - 24" (MPE_1.2) – 0.48 miles
 - 16" (COB_1.2) – 2.4 miles
- MPE_1.3: Roy Rogers Rd to Greenway Park
 - 48" – 3.38 miles
 - No services or mainline connections



Sequencing and Prioritization



- Prioritize MPE_1.2/COB_1.2 to minimize overlap with ODOT construction
 - Bid Q4 2020
- Coordinate MPE_1.1/COB_1.1 schedule with Beaverton to align with the roadway project
 - Bid Q4 2020 (with roadway)
- Design MPE_1.3 after the other MPE/COB packages to allow the design consultant to prioritize
 - Bid Q4 2021

Design Consultant Amendment

- Original Design Consultant contract assumed:
 - One set of design submittals
 - One set of construction documents
 - Engineering services during bidding and construction for one project
- Amendment expands services to cover three separate projects
- Also extends project time by 146 calendar days
- \$1,998,389.97

Requested Board Action

Consider approving dividing the MPE_1.0/COB_1.0 project into three work packages and amending the associated design contract to reflect the packages. The design contract with Brown & Caldwell Corporation (BC) will be amended in the amount of \$1,998,389.97 and the contract term extended through April 30, 2025 to provide design services, bidding support, and engineering services during construction for the three work packages.

QUESTIONS

Willamette Water Supply
Our Reliable Water

Willamette Water Supply System Commission

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STAFF REPORT

To: Management Committee

From: Dave Kraska, Willamette Water Supply Program Director

Date: August 6, 2020

Subject: Amendment 1 to the Intergovernmental Agreement between the City of Beaverton and the Willamette Water Supply System (WWSS) for Design of SW Nimbus/Scholls Ferry to SW Beaverton-Hillsdale Highway Pipeline Project (COB_1.0)

Requested Action:

Consider adopting a resolution approving Amendment 1 to the Intergovernmental Agreement with the City of Beaverton, allowing for design of a 16-inch waterline along SW Scholls Ferry Road at SW Nimbus Avenue to SW Western Avenue at SW Beaverton-Hillsdale Highway by way of the Willamette Water Supply Program (WWSP) (executed January 2020), adding the Beaverton Hall Boulevard pipeline project to COB_1.0.

Key Concepts:

- WWSP can deliver additional non-WWSS projects as detailed in the WWSS Intergovernmental Agreement
- WWSP's delivery of such projects requires establishing a project agreement, a design-only version of which was completed in January 2020 (referenced herein as the COB_1.0 Design IGA)
- The City of Beaverton project in the subject agreement is specifically identified within the WWSS Intergovernmental Agreement
- Approval of this Amendment 1 to the COB_1.0 Design IGA allows for coordinated design of an additional Beaverton pipeline, co-located with the MPE_1.1 and MPE_1.2 pipelines, with goals to reduce impacts to the traveling public and neighbors and to take advantage of the WWSP project delivery expertise

Background:

In January 2020, WWSS Board of Commissioners and the City of Beaverton executed an IGA between the City of Beaverton and the Willamette Water Supply System (WWSS) for Design of SW Nimbus/Scholls Ferry to SW Beaverton-Hillsdale Highway Pipeline Project (COB_1.0) with part of the TVWD MPE_1.0 project (specifically MPE_1.1 and MPE_1.2). Included in the recitals of the agreement was the option to expand the agreement to add additional pipeline work for Beaverton along SW Hall Boulevard from SW Scholls Ferry Road to SW Oleson Road through an amendment.

This Amendment 1 confirms the design of the Beaverton Hall Boulevard pipeline by WWSS under the terms of the existing COB_1.0 Design IGA and updates Exhibit 1-1 to show the new COB_1.0 work limits.

Staff recommend approval of Amendment 1 to the COB_1.0 Design IGA to allow design to commence on the Beaverton Hall Boulevard pipeline project.

Amendment 1 to the Intergovernmental Agreement between the City of Beaverton and the Willamette Water Supply System for Design of the COB_1.0 Pipeline Project

At the execution of the COB_1.0 Design IGA, staff acknowledged that because the current agreement only addresses design coordination, a future agreement will be needed to complete the project that specifies the following items at a minimum:

- Management of the project by Managing Agency resources,
- Responsibility for all direct and indirect costs associated with the ancillary project incurred by the Managing Agency, and
- To fully indemnify, defend and hold harmless the WWSS and other parties from any and all claims, costs, damages, liabilities or demands of any kind.

The future COB_1.0 Construction IGA, for the construction phase of the project, will be brought to the Board at the appropriate time and will require a future Board action.

Budget Impact:

There is no budgetary impact to WWSP from adopting Amendment 1 to the COB_1.0 Design IGA. The design costs for Amendment 1 to the COB_1.0 Design IGA will be invoiced to the City of Beaverton. The additional costs associated with the WWSP's management of this additional pipeline project, including system-wide costs, will be invoiced to the City of Beaverton.

Staff Contact Information:

Dave Kraska, WWSP Program Director, 503-848-3032, david.kraska@tvwd.org
Clark Balfour, General Counsel, 503-848-3061, clark.balfour@tvwd.org

Attachments:

Exhibit A: Proposed Resolution

Exhibit B: Amendment 1 to the Intergovernmental Agreement between the City of Beaverton and the Willamette Water Supply System for Design of SW Nimbus/Scholls Ferry to SW Beaverton-Hillsdale Highway Pipeline Project

RESOLUTION NO. WWSS-17-20

A RESOLUTION APPROVING AMENDMENT 1 TO THE INTERGOVERNMENTAL AGREEMENT BETWEEN THE CITY OF BEAVERTON AND THE WILLAMETTE WATER SUPPLY SYSTEM COMMISSION FOR THE DESIGN OF S.W. NIMBUS/SCHOLLS FERRY TO S.W. BEAVERTON-HILLSDALE HIGHWAY PIPELINE PROJECT(COB_1.0).

WHEREAS, Tualatin Valley Water District (“TVWD”), the City of Hillsboro (“Hillsboro”), and the City of Beaverton (“Beaverton”) formed the Willamette Water Supply System Commission (“Commission”) to permit, design, and construct the Willamette Water Supply System, including intake pumping facilities and transmission facilities, a water treatment plant, and reservoir facilities (“System”) under the Willamette Water Supply Program (“WWSP”) to provide potable water to TVWD, Hillsboro, and Beaverton and to increase system reliability; and

WHEREAS, Beaverton operates a municipal water supply utility under ORS Chapter 225, which distributes potable water to its water system users; and,

WHEREAS, Beaverton desires to design and construct a project consisting of a 16-inch pipeline to be owned solely by Beaverton and extend from S.W. Nimbus/Scholls Ferry to S.W. Allen, then to S.W. Western to S.W. Beaverton Hillsdale Highway (“COB_1.0”); and

WHEREAS, the COB_1.0 project route coincides with parts of the route for a pipeline project known as the Metzger Pipeline East (“MPE_1.0”), which is being designed and constructed by the WWSS Commission through the WWSP for TVWD; and

WHEREAS, the Commission and Beaverton entered into the Intergovernmental Agreement (Agreement) between City of Beaverton and the Willamette Water Supply System Commission for the Design of S.W. Nimbus/Scholls Ferry to S.W. Beaverton-Hillsdale Highway Pipeline Project, with an effective date of January 1, 2020; and

WHEREAS, the Parties intend to execute one or more separate intergovernmental agreements to coordinate construction of COB_1.0, MPE_1.0, and other potential City projects; and

WHEREAS, the Parties desire to memorialize the specific deal points between Beaverton and the WWSS Commission for the coordinated design of COB_1.0 with MPE_1.0 by the WWSP.

NOW, THEREFORE, BE IT RESOLVED BY THE WILLAMETTE WATER SUPPLY SYSTEM COMMISSION THAT:

Section 1: Amendment 1 to the Agreement between City of Beaverton and the Willamette Water Supply System Commission for the Design of S.W. Nimbus/Scholls Ferry to S.W. Beaverton-Hillsdale Highway Pipeline Project, attached hereto as Exhibit 1 and incorporated herein by this reference, is approved.

Section 2: The General Manager is hereby directed to work with the Commission’s legal counsel to finalize the Agreement, consistent with this Resolution, and is authorized to execute the Agreement on behalf of the Commission.

Section 3: The General Manager is hereby authorized to approve updates to the Agreement exhibits to negotiate cost shares and schedule commitments as design progresses.

Approved and adopted at a regular meeting held on the 6th day of August 2020.

James Duggan, Chair

Denny Doyle, Vice Chair

Proposed

Exhibit 1 to Resolution No. WWSS-17-20

AMENDMENT ONE TO
INTERGOVERNMENTAL AGREEMENT
BETWEEN
THE CITY OF BEAVERTON AND
THE WILLAMETTE WATER SUPPLY SYSTEM COMMISSION
DESIGN OF
S.W. NIMBUS/SCHOLLS FERRY TO S.W. BEAVERTON-HILLSDALE HIGHWAY
PIPELINE PROJECT

This Amendment One ("Amendment") is made and entered into between the City of Beaverton ("**Beaverton**"), an Oregon municipal corporation, and the Willamette Water Supply System Commission ("**WWSS Commission**"), an Oregon intergovernmental entity. Each entity may be referred to individually as a "**Party**" or jointly as "**Parties**."

RECITALS

- A. WHEREAS, the Parties previously entered into an Intergovernmental Agreement for the joint design of a project consisting of a 16-inch pipeline to be owned solely by Beaverton extending from S.W. Nimbus/Scholls Ferry to S.W. Allen, then to S.W. Western to S.W. Beaverton Hillsdale Highway ("**COB_1.0**"), with an effective date of January 1, 2020 ("**Agreement**"); and
- B. WHEREAS, the COB_1.0 project route coincides with parts of the route for a pipeline project known as the Metzger Pipeline East ("**MPE_1.0**"), which is being designed and constructed by the WWSS Commission through the WWSP for Tualatin Valley Water District; and
- C. WHEREAS, the portion of MPE_1.0 that runs parallel to COB_1.0 will be referred to as "Partial MPE_1.0," and
- D. WHEREAS, as contemplated by Section II.2 of the Agreement, Beaverton desires to expand COB_1.0 to include a pipeline on SW Hall Boulevard from Scholls Ferry Road to SW Oleson Road via this Amendment to the Agreement; and

AGREEMENT

NOW, THEREFORE, in consideration of the terms, conditions, and covenants set forth below, and the recitals set forth above, which are incorporated into this Agreement, the Parties agree as follows:

1. Revise Article II.2 in its entirety to read as follows:

COB_1.0 consists of Beaverton water system improvements as depicted in Exhibit 1-1.
 COB_1.0 will be funded solely by Beaverton and not with WWSS Commission WIFIA funds

described in II.1. WWSS shall not pay any portion of COB_1.0 costs, including any additional costs related to WIFIA requirements.

2. Exhibit 1 shall be replaced with a new Exhibit 1-1, attached hereto and incorporated by reference.
3. To the extent that the provisions of this Amendment are inconsistent with the provisions of the Agreement, the Parties intend for this Amendment to be controlling. Except as expressly provided in this Amendment, the Parties do not intend for this Amendment to affect, modify, repeal, replace, or amend any other term, condition, or provision of the Agreement, which shall remain in full force and effect subject to this Amendment.

The Parties executed this Amendment as of the day and year first written below.

CITY OF BEAVERTON, OREGON

**WILLAMETTE WATER SUPPLY
SYSTEM COMMISSION**

By: _____

By: _____

Printed Name: Denny Doyle

Printed Name: David Kraska

As Its: Mayor

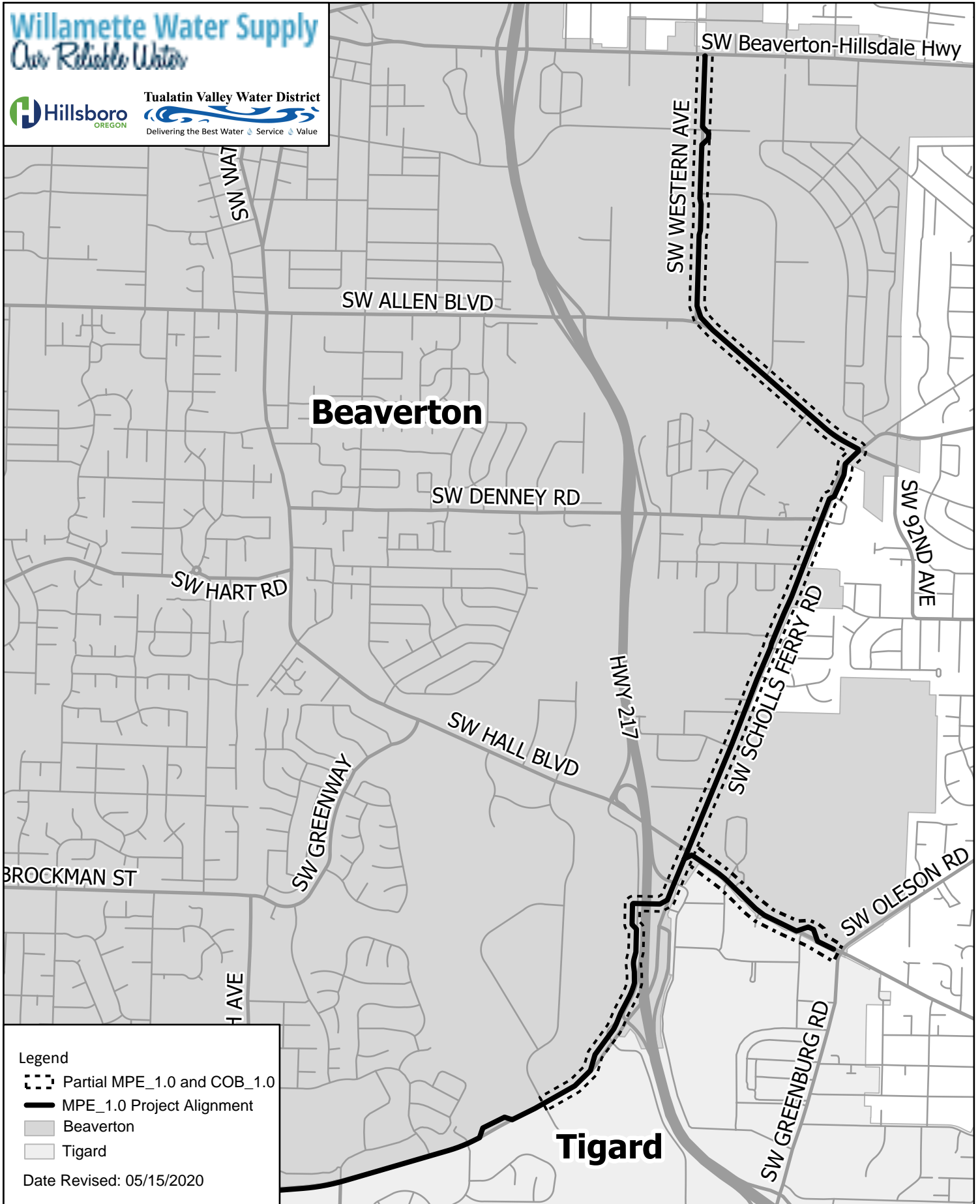
As Its: General Manager

Date: _____

Date: _____

Approved as to form:

City Attorney's Office



Legend

- Partial MPE_1.0 and COB_1.0
- MPE_1.0 Project Alignment
- Beaverton
- Tigard

Date Revised: 05/15/2020

N



0 1,000 2,000 Feet

Exhibit 1-1: MPE_1.0 and COB_1.0 Project Area

Willamette Water Supply System Commission

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STAFF REPORT

To: WWSS Board of Commissioners

From: David Kraska, P.E., Willamette Water Supply System General Manager

Date: August 6, 2020

Subject: Request to Local Contract Review Board for Exemption from Competitive Bidding for the MPE_1.2 and COB_1.2 Pipeline Ancillary Projects

Requested Board Action:

Acting as the Local Contract Review Board (LCRB), consider approving a draft resolution declaring an exemption from competitive bidding for the MPE_1.2 and COB_1.2 ancillary pipeline projects and approving the use of best value selection method for a construction contractor, receive oral testimony or written comments, and direct that the resolution be brought back for adoption at the October 1, 2020 Board meeting.

Key Concepts:

- The draft resolution declaring an exemption from competitive bidding under ORS 279C.300 allows the use of best value selection for a construction contractor for Willamette Water Supply System ancillary projects MPE_1.2 and COB_1.2.
- Best value selection would enable consideration of a combination of cost and qualifications specific to the combined construction project, including technical approach and specialized expertise relevant to specific project requirements.
- The existing pool of prequalified pipeline contractors would be eligible to submit proposals for this project.
- The declaration of an exemption from competitive bidding must occur after public notice. The adoption and opportunity for public comment prior to enactment is scheduled to occur at the October 1, 2020 regular Board meeting.

Background:

In accordance with intergovernmental agreement establishing the Willamette Water Supply System (WWSS) Commission, the Willamette Water Supply Program (WWSP) may oversee and manage the design and construction of certain additional projects (Ancillary Projects) for the WWSS member agencies when approved by the Board. The MPE_1.2 and COB_1.2 projects are such Ancillary Projects and are being delivered for Tualatin Valley Water District and City of Beaverton, respectively. The MPE_1.2 project consists of approximately 14,000 feet of 48-inch diameter welded steel and 2,600 feet of 24-inch diameter ductile iron pipelines to convey treated water. The MPE_1.2 48-inch diameter pipeline will travel east along SW Scholls Ferry Road beginning near SW Springwood Drive, and then along SW Allen Boulevard to connect to the MPE_1.1 pipeline project near SW Western Avenue. The MPE_1.2 24-inch pipeline travels east along SW Hall Boulevard beginning at SW Scholls Ferry Road and connects to the existing Metzger service area at SW Oleson Road. The COB_1.2 16-inch pipeline parallels the MPE_1.2 pipeline and will be constructed in conjunction with the MPE_1.2 project. COB_1.2 consists of approximately 12,800 feet of

Page 2 of 2

August 6, 2020

Request to Local Contract Review Board for Exemption from
Competitive Bidding for MPE_1.2 and COB-1.2 Pipeline Ancillary Projects

16-inch diameter ductile iron pipeline that will convey treated water. MPE_1.2 and COB_1.2 will be constructed together under a single construction contract.

The WWSP will lead the construction procurement. The current selection method is low bid to prequalified contractors. Under ORS 279C.300, construction contractors are selected through bidding low bid, open-competitive, or low bid with prequalification, unless an exemption is adopted by the LCRB. The WWSP is seeking approval from the LCRB for an exemption to use a best value selection for the combined MPE_1.2 and COB_1.2 construction project that would enable consideration of total construction cost and non-cost factors such as technical approach and specialized expertise, from prequalified contractors.

Budget Impact:

There are no budgetary impacts anticipated from this item.

Staff Contact Information:

David Kraska, P.E., WWSP Program Director; 503-941-4561; david.kraska@tvwd.org

Mike Britch, P.E., WWSP Engineering & Construction Manager; 503-941-4565; mike.britch@tvwd.org

Attachments:

1. Proposed Local Contract Review Board resolution
2. Exhibit 1 - Findings for an exemption from competitive bidding for of the MPE_1.2 and COB_1.2 water transmission pipeline ancillary project

RESOLUTION NO. WWSS-XX-20

A RESOLUTION BY THE LOCAL CONTRACT REVIEW BOARD DECLARING AN EXEMPTION FROM COMPETITIVE BIDDING FOR WILLAMETTE WATER SUPPLY SYSTEM WATER TRANSMISSION PIPELINE PROJECT MPE_1.2/COB_1.2 AND APPROVING A BEST VALUE CONSTRUCTION CONTRACTOR SELECTION METHOD

WHEREAS, this matter came before the Board of Commissioners of the Willamette Water Supply System Commission (Commission), acting as the Local Contract Review Board for the Commission; and

WHEREAS, the Commission, formed by the Tualatin Valley Water District, the City of Hillsboro, and the City of Beaverton, has designated Tualatin Valley Water District as its Managing Agency to manage and deliver the Willamette Water Supply System (WWSS) which includes the class of water transmission pipeline projects; and

WHEREAS, the Managing Agency operates the Willamette Water Supply Program (WWSP) to construct the WWSS; and

WHEREAS, the WWSP staff evaluated the MPE_1.2/COB_1.2 water transmission pipeline project is well-suited for a best value construction contractor selection method; and

WHEREAS, based on WWSP staff's evaluation, best value provides the greatest degree of owner control and enables selection of the best qualified construction contractor for of the MPE_1.2/COB_1.2 water transmission pipeline contract; and

WHEREAS, the WWSP staff developed findings required by ORS 297C.335 for an exemption from competitive bidding for MPE_1.2/COB_1.2, as described in Exhibit 1, attached hereto and incorporated by reference, concluding that the exemption is unlikely to encourage favoritism in the awarding of the contract or substantially diminish competition for the contract and that awarding a contract under the exemption will likely result in cost savings and other substantial benefits; and

WHEREAS, the Local Contract Review Board has noticed a public hearing on August 31, 2020 and conducted a public hearing on October 1, 2020 under ORS 297C.335 to provide opportunity for comments on the Findings as described in Exhibit 1, and being advised,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE WILLAMETTE WATER SUPPLY SYSTEM COMMISSION, ACTING AS THE LOCAL CONTRACT REVIEW BOARD, THAT:

Section 1: The Commission hereby adopts the Findings attached as Exhibit 1 and grants the exemption from competitive bidding for the MPE_1.2/COB_1.2 project; and

Section 2: The Commission hereby directs and authorizes WWSP staff to take all action to adopt the best value construction contractor selection method for the MPE_1.2/COB_1.2 project.

Approved and adopted at a regular meeting held on the 1st day of October 2020.

James Duggan, Chair

Denny Doyle, Vice Chair

Willamette Water Supply System Commission

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Exhibit 1 to Resolution No. WWSS-XX-20

FINDINGS IN SUPPORT OF AN EXEMPTION FROM COMPETITIVE BIDDING
WILLAMETTE WATER SUPPLY SYSTEM
BEST VALUE FOR THE MPE_1.2 AND COB_1.2 WATER TRANSMISSION PIPELINE ANCILLARY
PROJECTS

I. GENERAL

The Oregon Legislative Assembly encourages public agencies to consider alternative and innovative public improvement contracting methods that take into account other important considerations in addition to low bid. Under ORS 279C.335(2) and local contracting rules, the local contract review board may exempt certain public improvement contracts from traditional priced-based competitive bidding by showing that an alternative contracting process is unlikely to encourage favoritism or diminish competition, and that it will result in cost savings and other substantial benefits to the public agency.

For the reasons set forth more fully below, it is recommended that contractors be selected by utilizing the competitive proposal process in accordance with ORS 279C.400 for of the MPE_1.2 and COB_1.2 water transmission pipeline contract. The competitive proposal process is advantageous for this project as it allows for consideration of critical factors other than lowest bid price in selecting a contractor. It also allows contractors to customize their proposals to suggest creative and innovative approaches to project execution. The competitive proposal process also provides some degree of flexibility by allowing for negotiations with the contractor in order to obtain the best overall value for the Willamette Water Supply System Commission ("Owner").

II. BACKGROUND

Willamette Water Supply System Commission was formed to develop the Willamette Water Supply System ("WWSS") as a new water source through the work of the Willamette Water Supply Program ("WWSP"). The WWSS is a drinking water infrastructure project that will provide the Owner's members with a seismically resilient water supply to meet future demands and redundancy in case of an emergency event. The WWSS includes more than thirty (30) miles of transmission pipelines from the Willamette River Water Treatment Plant ("WRWTP") in Wilsonville, Oregon north to Tualatin Valley Water District, Hillsboro and Beaverton, Oregon. The WWSS also includes constructing finished water storage tanks (terminal storage), upgrades of the existing raw water facilities at the WRWTP, and a new water treatment plant. The WWSP may oversee and manage the design and construction of certain additional projects ("Ancillary Projects") for the WWSS member agencies when approved by the Owner. The MPE_1.2 and COB_1.2 projects are such Ancillary Projects and are being delivered for Tualatin Valley Water District and City of Beaverton, respectively.

A. Project Description – Willamette Water Supply System, MPE_1.2 and COB_1.2 Ancillary Projects

The MPE_1.2 project consists of approximately 14,000 feet of 48-inch diameter welded steel and 2,600 feet of 24-inch diameter ductile iron pipelines to convey treated water. The MPE_1.2 48-inch diameter pipeline will travel east along SW Scholls Ferry Road beginning near SW Springwood Drive,

and then along SW Allen Boulevard to connect to the MPE_1.1 pipeline project near SW Western Avenue. The MPE_1.2 24-inch pipeline travels east along SW Hall Boulevard beginning at SW Scholls Ferry Road and connects to the existing Metzger service area at SW Oleson Road. The COB_1.2 16-inch pipeline parallels the MPE_1.2 pipeline and will be constructed in conjunction with the MPE_1.2 project. COB_1.2 consists of approximately 12,800 feet of 16-inch diameter ductile iron pipeline that will convey treated water. MPE_1.2 and COB_1.2 will be constructed together under a single construction contract.

The WWSP will lead the procurement of the MPE_1.2 and COB_1.2 construction package and the applicable delivery method for that construction package is low bid to prequalified contractors. Under ORS 279C.300, construction contractors are selected through bidding low bid, open-competitive, or low bid with prequalification, unless an exemption is adopted by the Local Contract Review Board (“LCRB”).

Unlike the Competitive Bidding process typical to construction projects, selection employing a “best value” process may include other factors in addition to price. Procuring construction contractor services and awarding an agreement based on best value is permissible under ORS Chapter 279C and LCRB rules; however, the exemption process described in ORS 279C.335 must be completed by the WWSP and approved by the LCRB prior to publishing a Request for Proposals (RFP) using the exempted process. The exemption process can be specific to a single contract or for a class of public improvement contracts (e.g., pipelines).

The MPE_1.2 and COB_1.2 construction project was evaluated to determine the recommended selection method.

The recommended selection method for this project is best value with prequalification. While prequalification assures firms have met minimum standards, some of these firms and their subcontractors may be better suited for a given project, as further described below.

III. EVALUATION AND BASIS FOR SELECTION

The MPE_1.2 and COB_1.2 projects were evaluated for technical and logistical aspects that may benefit from consideration of bidding contractor’s technical proposal and additional qualifications. This evaluation considered the following questions for project-specific elements:

- Public Benefits – Are there opportunities to propose a work approach that minimizes disruption and/or increases safety for businesses, residents, emergency services, and the traveling public?
- Schedule – Are there opportunities to propose advantageous alternate schedules?
- Value Engineering – Are there opportunities to offer significant value engineering proposals?
- Specialized Expertise – Does the project require specialized expertise beyond WWSP’s minimum requirements for prequalification (e.g., substantial trenchless work)?
- Technical/planning complexity – Does the project’s complexity warrant evaluation and comparison of each contractor’s technical approach to executing the work (e.g., substantial trenchless work or traffic management)?

For the MPE_1.2 and COB_1.2 construction project, evaluating the contractors’ responses to technical and logistical aspects such as the trenchless subcontractor’s qualifications and/or value engineering

ideas are advantages provided by a best value approach. For MPE_1.2 and COB_1.2, a best value selection would enable an evaluation that includes a contractor's approach to complex crossings of Oregon Highway 217 (three separate trenchless crossings) and critical resource crossings (two separate trenchless crossings), an evaluation of proposed tunneling contractors (not prequalified), and an evaluation of traffic control and pipe installation methods that could prove beneficial to the schedule, traffic impacts, and local business impacts.

Using best value, contractors are evaluated on both price and qualitative criteria such as project team experience and performance, safety records, project personnel, and overall project approach. Relative weighting of criteria would be tailored to the specific requirements of the project and published in the RFP.

IV. LOCAL CONTRACT REVIEW BOARD (LCRB)

ORS 279C.335(1) requires, with certain exceptions, that all public contracts be based on competitive bidding and, under ORS 279C.375, be awarded to the lowest responsive and responsible bidder. ORS 279C.335(2) permits an exemption from this general requirement pending approval from a local contract review board. An exemption may be granted for a public improvement project or a class of public improvement contracts if the conditions described in ORS 279C.335(2) are met. The findings in this document demonstrate that those conditions are met and that the projects may be procured through a best value selection approach.

Approval of this exemption allows for the MPE_1.2 and COB_1.2 construction contract to be entered using alternative procurement methods rather than through a low-bid competitive bidding process.

This specific request is for approval to utilize a best value selection method for the MPE_1.2 and COB_1.2 construction project.

To seek approval of a contract-specific procurement, a written request must be submitted to the WWSS Commission that describes the proposed contracting procedure and the circumstances that justify the use of a special procurement, whereby the special procurement is unlikely to encourage favoritism in the awarding of a public contract or substantially diminish competition. An exemption must also show that awarding the exemption will likely result in substantial cost savings or other substantial benefits. The following section presents WWSP staff findings relative to each of the factors required to be addressed by ORS 279C.335.

V. FINDINGS REGARDING COMPETITION

ORS 279C.335(2) requires that an agency make certain findings as a part of exempting certain public contracts or classes of public contracts from competitive bidding. ORS 279C.335(2)(a) requires an agency to find that: *"It is unlikely that such exemption will encourage favoritism in the awarding of public contracts or substantially diminish competition for public contracts."*

Favoritism will not play a role in the selection of a contractor. The selection will be based on a fair and unbiased process. Proposals will be evaluated based on clearly stated criteria that are not tailored to any specific contractor. A team of appointed WWSP, Tualatin Valley Water District, Hillsboro, and Beaverton staff will establish the criteria and perform the evaluation of each proposal according to the criteria identified in the RFP. All qualified firms will be able to participate in the bidding.

Prequalified contractors will be selected through a competitive proposal process. No reduction in competition is expected since the proposed process is open to the same prequalified contractors as the default low bid method. In September 2019, WWSP solicited statements of qualification from interested contractors and updated its prequalified list to include a large pool of contractors, both local and national.

To mitigate the risk that prequalified contractors prefer the traditional low bid method and will not bid on a best value solicitation, WWSP will give public notice of the proposed LCRB exemption, conduct pre-bid outreach to contractors to promote awareness to the prequalified contractors, and emphasize the transparency in the selection process.

VI. FINDINGS REGARDING COST SAVINGS AND OTHER SUBSTANTIAL BENEFITS

ORS 279C.335(2) requires that a public agency make certain findings as part of exempting certain public contracts or classes of public contracts from competitive bidding. ORS 279C.335(2)(b) requires an agency to find that: “Awarding a public improvement contract under the exemption will likely result in substantial cost savings and other substantial benefits to the contracting agency or the state agency that seeks the exemption.”

In addition to the findings above, the selection of qualified contractors possessing the required experience and expertise is expected to result in overall cost savings to the Owner. Selecting the best contractor with an innovative approach to the project through a value-based selection method should optimize the construction and minimize challenges for the combined MPE_1.2 and COB_1.2 projects. Specifically, selecting the highest-scoring contractor should result in fewer change orders and claims because the selection will be evaluated with appropriate weight provided to non-pricing criteria as WWSP staff determines should be prioritized for the project. Fewer change orders and claims should result in cost savings for the project. Selection considering the qualifications and experience of the proposer’s key staff is expected to lead to more collaboration, which minimizes challenges and enables a focus on value engineering.

This type of project is well-suited to the best value selection method because evaluating proposers based on criteria such as value engineering and overall approach is expected to lead to benefits to the public including reducing disruption to businesses, residents, emergency services, and the traveling public throughout the project. Selecting the highest-scoring contractor provides the best overall value. WWSP has experience using this same best value procurement method for other contracts and has been able to achieve these increased benefits and reduced risks from that process.

VII. CONCLUSION

In accordance with ORS Chapter 279C, an exemption from competitive bidding for the MPE_1.2 and COB_1.2 public improvement contract and approval of a best value construction selection method will allow for the evaluation of contractors using price and technical factors with relative weighting of criteria tailored to the specific requirements. Using prequalified contractors, with experience best suited for the project based on specific criteria provides many benefits. The use of a competitive proposal process will not diminish competition or result in favoritism or increased cost. Additionally, this approach is expected to contribute to public benefit including minimized disruption to businesses, residents, emergency services, and traveling public.

Willamette Water Supply
Our Reliable Water

**Recommendation to Use Best Value Selection for
MPE_1.2/COB_1.2 Construction Contract**

August 6, 2020

1

Outline

- Recommendation preview
- Background
- MPE_1.2 and COB_1.2 project status
- Best value selection approach
- Implementation steps
- Recommendation

2

Recommendation Preview

Consider approving a draft resolution declaring an exemption from competitive bidding for the MPE_1.2 and COB_1.2 projects and approving the use of best value selection method for the construction contractor, receive oral testimony or written comments and direct that the resolution be brought back for adoption at the October 1, 2020 Board meeting.

3

Background

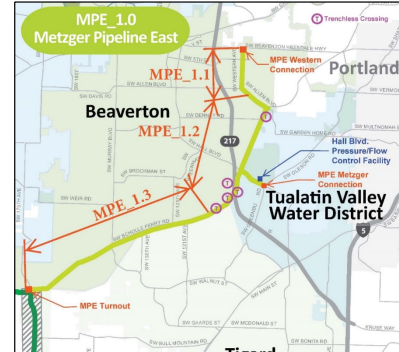
- WWSP evaluated and recommended contractor procurement methods for WWSP-led construction projects (late 2019)
- LCRB approved class exemption for 3 projects (January 2020)
 - Best value selection *PLM_1.3, PLM_4.3, PLW_1.3*
 - Among WWSP's prequalified contractors
- Evaluation and decision for 3 other projects, including MPE_1.0, was deferred until more information was available

RES_1.0/PLM_5.3, MPE_1.0/COB_1.0, PLW_2.0

4

Readiness for Selecting Contractor Procurement Method for MPE_1.0

- Design is sufficiently advanced to understand construction details
 - Currently 60% design level
- Delivery method is confirmed
 - Design-bid-build
- Project phasing is established (3 phases)
 - MPE_1.1 (including COB_1.1)
 - MPE_1.2 (including COB_1.2)
 - MPE_1.3



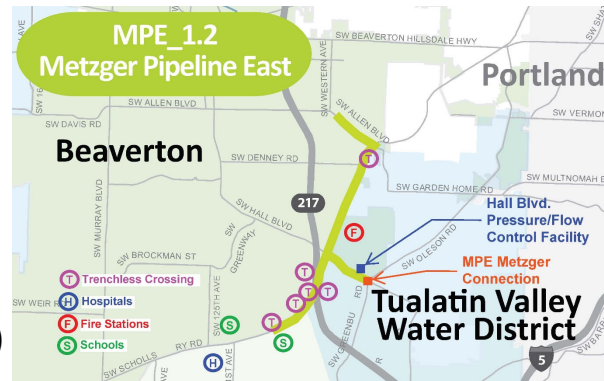
Recommended Selection Methods

Project Phase	Recommended Selection Method	Basis
MPE_1.1 (w/COB_1.1)	Low-bid among prequalified contractors	City of Beaverton will lead procurement and hold contract
MPE_1.2 (w/COB_1.2)	Best value	Understanding each contractor's technical approach and qualifications along with cost is valuable, considering the project risk and complexity
MPE_1.3	Low-bid among prequalified contractors	Project is less complex than some other WWSP projects; specialty subcontractors (e.g., trenchless) not required

Best Value Selection Benefits for MPE_1.2/COB_1.2

Best value selection would enable evaluation of:

- Contractor's approach to:
 - ODOT HWY 217 Crossing
 - Overall traffic control
 - Open cut and trenchless methods
- Trenchless subcontractor's qualifications (firm and personnel)
 - Total of 6 trenchless crossings



7

Potential Risks of Using Best Value Selection

- Additional level of effort for bidders
 - Mitigation: Limit length and complexity of proposals
- Increased potential for protest
 - Mitigation: Public notice of proposed LCRB exemption
 - Mitigation: Pre-bid outreach to contractors to promote awareness
- Potential for higher initial construction contract pricing*
 - Mitigation: Apply a high relative weight to price
 - Opportunity: May result in fewer change orders/claims

* Recent PLW_1.3 bid:
Lowest price was identified as providing the best value

8

Exemption Summary

The use of best value selection for construction contractor for MPE_1.2 and COB_1.2:

- Is unlikely to encourage favoritism or reduce competition
- Will likely result in cost savings and other substantial benefits

Implementation Steps



Recommendation

Consider approving a draft resolution declaring an exemption from competitive bidding for the MPE_1.2 and COB_1.2 project and approving the use of best value selection method for the construction contractor, receive oral testimony or written comments and direct that the resolution be brought back for adoption at the October 1, 2020 Board meeting.

QUESTIONS

STAFF REPORT

To: Willamette Water Supply System Board of Commissioners
From: Joelle Bennett, P.E., WWSP Assistant Program Director
Date: August 6, 2020
Subject: Anticipated Business Agenda Items for the September 3, 2020, Meeting of the Willamette Water Supply System Board of Commissioners

Key Concepts:

The next Willamette Water Supply System (WWSS) Commission Board meeting agenda is anticipated to include staff recommendations to approve the following business agenda items:

1. PLM_4.3 and PLW_2.0 Supplemental Resolutions of Public Necessity
2. City of Wilsonville IGA for WRWTP Filtration Pilot Study Participation
3. PLW_2.0 Metro Letter of Understanding
4. MPE_1.0/COB_1.0 Design Contract Amendment to add a City of Beaverton Hall Boulevard 16-inch pipeline to COB_1.0
5. MPE_1.0/COB Construction IGA for Construction of S.W. Nimbus/Scholls Ferry to S.W. Beaverton-Hillsdale Highway
6. PLM_1.0 Design Contract Amendment for Completing PLM_1.3 Design and PLM_1.1 Construction Services

Background:

The following actions are anticipated business agenda items for the September 3, 2020, meeting of the WWSS Board of Commissioners. Due to the dynamic nature of the WWSS work, request for approval of some items may be delayed or new items may emerge on the business agenda next month. WWSS staff strive to provide preliminary information one month prior to requesting action, and a full staff report describing the recommended action during the appropriate month.

1. PLM_4.3 and PLW_2.0 Supplemental Resolutions of Public Necessity Approval Recommendation

WWSS staff are aware of additional property needs for pipeline sections PLM_4.3 and PLW_2.0 that are still being finalized and were not included in the first resolutions of need for those projects. Utilizing a sequence of two resolutions allows the majority of the real estate acquisition work needed for pipeline sections PLM_4.3 and PLW_2.0 to begin on-schedule.

At the September WWSS Board meeting, WWSP staff will present the supplemental project area and easement needs, with a recommendation to the Board to adopt the supplemental Resolutions of Public Necessity to allow WWSP staff to begin the process to acquire permanent and temporary construction easements for PLM_4.3 and PLW_2.0.

2. City of Wilsonville IGA for WRWTP Filtration Pilot Study Participation Approval Recommendation

WWSS has been invited by agency partner City of Wilsonville to participate in a one-year filtration pilot study, in order to demonstrate to the Oregon Health Authority Drinking Water Division that the existing Willamette River Water Treatment Plant (WRWTP) filters are capable of operating at a higher filtration rate while maintaining finished water quality goals that have been established for the plant. The information gained through the Project is anticipated to result in cost savings for the new WWSS water treatment plant.

At the September WWSS Board meeting, WWSP staff will present the proposed intergovernmental agreement with a recommendation to the Board to adopt it through resolution.

3. PLW_2.0 Metro Letter of Understanding Approval Recommendation

WWSS has been coordinating with Metro regarding the pipeline alignment located in what is now Orenco Woods Nature Park, a facility co-owned by City of Hillsboro and Metro. The 2015 City land use approval for the park required the granting of a utility easement for the future WWSS pipeline. Design has progressed on PLW_2.0 and more precise easement limits are known. The next step in finalizing the easement is documenting the agreement terms in this Letter of Understanding. This Letter will become the basis for the final easement documents.

At the September WWSS Board meeting, WWSP staff will present the proposed Letter of Understanding agreement for Board approval by motion.

4. MPE_1.0/COB_1.0 Design Contract Amendment to add a City of Beaverton Hall Boulevard 16-inch pipeline to COB_1.0 Approval Recommendation

At the August WWSS Board meeting, it is anticipated that WWSS Board will approve Amendment 1 to the COB_1.0 Design IGA, authorizing WWSP to deliver additional pipeline design work for the City of Beaverton. A design contract amendment is needed with Brown and Caldwell to secure their services for design of the additional pipeline. WWSP staff are currently negotiating the additional scope and effort with Brown and Caldwell.

At the September WWSS Board meeting, WWSP staff will present the proposed design amendment for Board approval.

5. Intergovernmental Agreement Between the City of Beaverton and the Willamette Water Supply Commission Construction of SW Nimbus/Scholls Ferry to SW Beaverton-Hillsdale Highway Pipe Project (COB_1.0 Construction IGA) Approval Recommendation

WWSP is delivering the design of MPE_1.0 and COB_1.0 for TVWD and Beaverton, respectively, as coordinated projects under the COB_1.0 Design IGA. Likewise, Beaverton and TVWD desire to have the projects constructed together to reduce the community disruption multiple pipeline construction projects can have on neighbors and the traveling public. The original IGA did not include provisions for the coordinated construction of the two projects so a new IGA is needed.

At the September WWSS Board meeting, WWSP staff will present the COB_1.0 Construction IGA with a recommendation to the Board to adopt it through resolution.

6. PLM_1.0 Design Contract Amendment for Completing PLM_1.3 Design and PLM_1.1 Construction Services

The PLM_1.0 project located in Wilsonville consists of three phases with design services provided by HDR. PLM_1.1 and PLM_1.2 are currently in construction and PLM_1.3 is in final design. For PLM_1.1, WWSP required additional services during construction from HDR. For the PLM_1.3 project, additional effort is needed to perform evaluations, design, and Ground Lease Intergovernmental Agreement coordination/design that were not anticipated in the original project scope of work. WWSP staff are currently negotiating the additional scope and effort with HDR.

At the September WWSS Board meeting, WWSP staff will present the proposed design amendment for Board approval.

Budget Impact:

Anticipated costs for all of the actions described are reflected in the WWSP 2020 budget. The cost changes for ancillary projects and additional equipment (such as a turnout) are borne entirely by the requesting Partner.

Staff Contact Information:

Dave Kraska, P.E., WWSS General Manager, 503-941-4561, david.kraska@tvwd.org
Joelle Bennett, P.E., WWSP Assistant Program Director, 503-941-4577, joelle.bennett@tvwd.org

Attachments:

None.

Willamette Water Supply System Commission

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**Willamette Water Supply System Commission
Board Meeting**

August 6, 2020
