

## **EXHIBIT A - SCOPE OF WORK WALLIS ENGINEERING**

### **2018 WATER SYSTEM IMPROVEMENTS CITY OF OREGON CITY**

January 2018  
WE#1448A

#### **PROJECT DESCRIPTION**

This project consists of replacing the existing water system in three areas within the City of Oregon City. The proposed improvements are listed by project area below and are shown in Attachment A:

- Center Street. Construction of approximately 1,200 LF of new 8-inch ductile iron water main and appurtenant items such as services, PRV's and hydrants along Center Street between 7<sup>th</sup> Street and 10<sup>th</sup> Street and on 9<sup>th</sup> Street between Washington Street and Center Street.
- Warner Street. Construction of approximately 250 LF of 6-inch ductile iron water main and one new service along Warner Street between Prospect Street and Molalla Avenue.
- Cherry Avenue. Construction of approximately 1,225 LF of 8-inch ductile iron water main and appurtenant items such as services and hydrants along Cherry Avenue between Park Drive and Holmes Lane.

**CONTRACT DURATION:** Contract term shall be from the date contract is fully executed until December 31, 2018.

#### **SPECIFIC SCOPE OF WORK**

- |               |  |
|---------------|--|
| <b>Task 1</b> | <b>Project Management and Administration</b> |
| <b>Task 2</b> | <b>Data Collection and Evaluation</b>        |
| <b>Task 3</b> | <b>Design</b>                                |
| <b>Task 4</b> | <b>Bidding and Construction Services</b>     |

#### **TASK 1 PROJECT MANAGEMENT AND ADMINISTRATION**

**Objective:** Provide project management, coordination, and direction of the design team to complete the project. Establish quality control management and designate responsibility of technical work deliverables and products.

##### **Approach:**

- 1.1 Define Project Objectives and Design Criteria.** The project manager will define the project goals, locations, design criteria, and the project schedule in coordination with City Staff. These items will be included in the final scope of work and schedule.
- 1.2 Project Management and Administration.** Provide management, coordination, and direction to the project design team to complete the project.
  - 1.2.1 Manage and update the project design schedule through the duration of the contract.
  - 1.2.2 Prepare monthly status reports and schedule updates to be included with consultant invoices.
  - 1.2.3 Coordinate project team meetings and prepare meeting agendas and meeting minutes. This task assumes the following meetings:
    - 50% Design Review Meeting

- 90% Design Review Meeting

**1.3 Utility Coordination.** Communicate with private utility providers to ensure all potential conflicts with proposed work are addressed. Coordination work will include the following:

- Develop a utility contact information list and email project information letters to all utility companies involved to explain nature of the work.
- Coordinate with private utility providers for relocation of existing utilities as necessary.
- Submit applicable plans to the affected private utility providers. Utility Conflict notices will be sent to utilities following the 50% and 90% design submittals.
- Maintain a record of correspondence with utility companies.

**Assumptions:**

- Design phase of the project is assumed to be from February 2018 – April 2018.
- City project manager will complete all stakeholder coordination, public involvement, and lead all necessary permitting efforts.
- The City will obtain all needed to obtain Temporary Construction Easements.
- Two Wallis Engineering staff members will attend each design review meeting. The review meetings are assumed to be no more than two hours each.

**Deliverables:**

- Project Scope and Schedule
- Monthly progress reports will be submitted with invoices and will include a summary of work completed within the invoice month
- Utility contact list and correspondence
- 50% Design Review Meeting Minutes
- 90% Design Review Meeting Minutes

## **TASK 2 DATA COLLECTION AND EVALUATION**

**Objective:** Complete background information review and data collection for proposed improvements.

**Approach:**

**2.1 Review Existing Data.** Review available background information relating to this project. The anticipated information includes:

- Utility GIS Records
- Water System Master Plan
- As-built drawing information, as available;
- Existing field conditions

**2.2 Field Topographic Survey and Base Map.**

**2.2.1 Right of Way Boundary Determination.** CES NW will complete right of way determination including research of existing legal survey documents and utilize this information to locate existing monuments and resolve existing centerlines and property lines. See Exhibit C1 for CES NW detailed scope of work.

**2.2.2 Topographic Mapping and Control.** CES NW will prepare a topographic survey for use in project design and prepare a final existing conditions right-of-way plan in AutoCAD format.

Prepare a project base map utilizing obtained topographic information including property lines (legal or assumed based on scope of work from other tasks), edge of pavement, curb lines, and utilities, including valve boxes, manholes, catch basins, and other utility structures. The base map will also include the collected monument information and include any additional information obtained from as-builts or GIS records. See Exhibit C1 for CES NW detailed scope of work.

- 2.3 Monumentation Survey.** CES NW will complete Pre and Post Record of Surveys as needed based on the proposed improvements, ORS 209.155 and 209.250. Records will be filed with the Clackamas County Surveying office as applicable. This task also includes services to replace any monuments that are disturbed during construction. See Exhibit C1 for CES NW detailed scope of work.

If monuments are not disturbed during construction, efforts to replace monuments as described above will not be completed or billed.

- 2.4 Rock Depth Profiling.** The City has indicated that shallow subsurface rock may be encountered on the Center Street project segment. GeoDesign will complete subsurface investigations to characterize utility trench excavations, identify bedrock depths and analyze encountered rock compressive strength. Findings will be summarized in a memorandum to support project design. See Exhibit C2 for GeoDesign detailed scope of work.

**Task 2 Assumptions:**

- All as-built/ record drawing information will be provided by the City.
- Any required utility conflict potholing of public utilities that is deemed necessary will be completed by the City. Potholing of private utilities will be completed by the respective private utility companies.
- No geotechnical or subsurface soil investigations are required on Warner Street or Cherry Avenue.
- No soil corrosivity investigations are required.
- Replacing monuments disturbed during construction will require no more than 16 hours of survey crew time.

**Task 2 Deliverables:**

- Topographic base map in AutoCAD version 2016 format
- Pre and Post Construction Monumentation Record of Survey
- Trench Characterization Memorandum

## **TASK 3 DESIGN**

**Objective:** Provide 50% design, 90% design, and final design contract documents based on City review comments.

**Approach:**

- 3.1 50% Design.** Prepare a 50% Plan set and Opinion of Cost. The 50% plan set will include the following:

- Cover
- General Notes and Legend
- Preliminary horizontal and vertical (if needed) alignment for all waterline improvements without callouts
- Preliminary water connection details without callouts
- City standard details

The 50% Design package will be submitted to the City in electronic format. The 50% plans will be submitted to the fire department to confirm proposed hydrant locations.

- 3.2 90% Plans, Specifications, and Opinion of Cost.** Based on the 50% submittal review comments provided by the City, Wallis will assemble and submit electronic 90% plans, specifications, and opinion of cost to the City for review. The proposed specifications will be based on a contract bid item format and the “2015 Oregon State Department of Transportation Standard Specifications for Construction.”

The 90% plan set, and all subsequent plan sets, are anticipated to include the following:

Description	Sheets	Running Total
Cover, Drawing Index	1	1
Legend, General Notes, Traffic Control Notes and Phasing	1	2
Typical Sections	1	3
Sheet Layout Map	1	4
Plan and Profile Sheet – Center St.	3	7
Plan and Profile Sheet – Warner St.	1	8
Plan and Profile Sheet – Cherry Ave.	3	11
Water Connection Details	2	13
Details	2	15

- 3.3 Final Plans, Specifications, and Opinion of Cost.** Finalize all construction drawings and project specifications. Prepare a final opinion of cost based on the final plans and specifications. The full size construction plans will be 22" x 34" with a City of Oregon City title block. The title block will incorporate the Wallis Engineering logo as well as the logos of the design team subconsultants. Plans included in the Contract Documents will be printed at half scale (11" x 17"). Final plans will be delivered to the City in electronic format.

**Task 3 Assumptions:**

- No easements will be required.
- No water modeling or capacity verification will be completed. Proposed water main sizing will be provided by the City.
- All pavement restoration will be as identified in the City's standard details. Pavement design will not be required.
- All front end specifications, and City standard general special provisions will be provided by the City.
- All permitting requirements will be completed by the City.

**Task 3 Deliverables:**

- Electronic versions of the 50% plans and estimate
- Electronic versions of the 90% plans, specifications, and estimate
- Electronic versions of the final plans, specifications, and estimate

## **TASK 4 BIDDING AND CONSTRUCTION SERVICES**

**Objective:** Provide bidding assistance, and construction support through the completion of the project.

**Approach:**

- 4.1 Project Bidding.** Wallis Engineering will provide bidding services to the City, including responding to bidder's questions and preparing up to two (2) addenda (as needed).
- 4.2 Project Award.** Assist the City with the bid opening, evaluate bids, and provide a Recommendation of Award.
- 4.3 Construction Administration**
- 4.3.1 Conduct the pre-construction meeting with City staff, the contractor, and representatives of the utility companies to effectively communicate those areas of the project which will require special attention during construction.

4.3.2 Conduct weekly construction meetings with City staff, the contractor, and other affected stake holders as needed. Meeting Agenda and Minutes will be prepared for each weekly meeting.

4.3.3 Review monthly payment requests by the contractor, verify quantities included in each pay request, and prepare payment recommendations to the City. Complete a final pay estimate at project completion.

4.3.4 Provide construction management oversight of the Contractor's work schedule and quality, coordinate construction tasks with City, public and other non-agency entities, evaluate field design changes, and negotiate and prepare change orders as necessary to complete the project. The budget assumes 6 hours per week for an eight-week construction period.

#### **4.4 Construction Engineering and Field Inspection**

Provide daily site inspections to monitor the quality and progress of the work. Provide inspector's daily report of construction activities for each day of inspection along with project photos. The budget assumes 30 hours per week for an eight-week construction period and includes assistance with monthly progress payments and attendance of the weekly meetings. An additional 15 hours is assumed for punch list corrective work and final closeout of the construction. Daily inspection services can be supplemented or replaced by City Staff at the discretion of the City.

4.4.1 Review and respond to: contractor submittals; shop drawings; requests for information; notifications of differing site conditions; Contractor prepared Quality Control, Quality Assurance plan; Work plans; and completed field testing for conformance to the contract documents. Consult with the City regarding the acceptability of material substitutes or 'as-equal' items proposed by the contractor.

4.4.2 Provide a final walk-through with the contractor and City staff at the project completion. Provide written punch list to the contractor and recommendation of final acceptance when appropriate.

#### **4.5 Record Drawings.** Wallis Engineering will prepare Record Drawings based on as-built information provided by the contractor following construction. Record Drawings will be submitted to the City in electronic format following construction completion.

#### **Task 4 Assumptions:**

- City will distribute the contract documents, maintain a plan holder's list, and distribute addenda as needed.
- Eight weekly construction meetings will be held.
- Wallis Engineering will not attend the bid opening.
- Bidder Question and Response Log will be generated and maintained by the City during bidding.
- Construction Administration hours based on an eight-week construction schedule at 6 hours per week.
- Inspection hours based on an eight-week construction schedule at 30 hours per week with an additional 15 hours allotted for closeout and punch list work.
- Construction staking services will be provided by the Contractor (as needed).
- Quality control testing services and material laboratory analysis will be provided by the Contractor.
- The City's project manager will perform all construction management tasks not specifically included in this scope of work.
- Post-Construction as-built survey will not be performed.

#### **Task 4 Deliverables:**

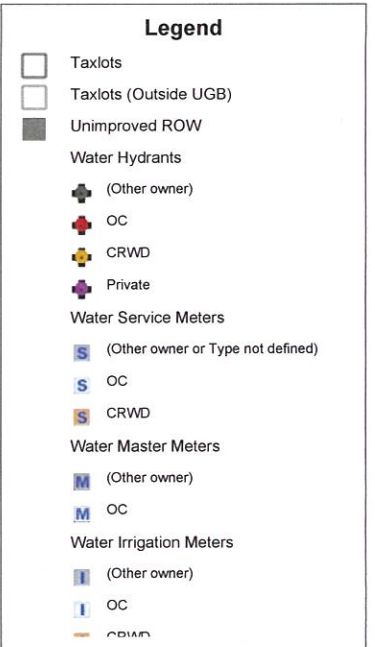
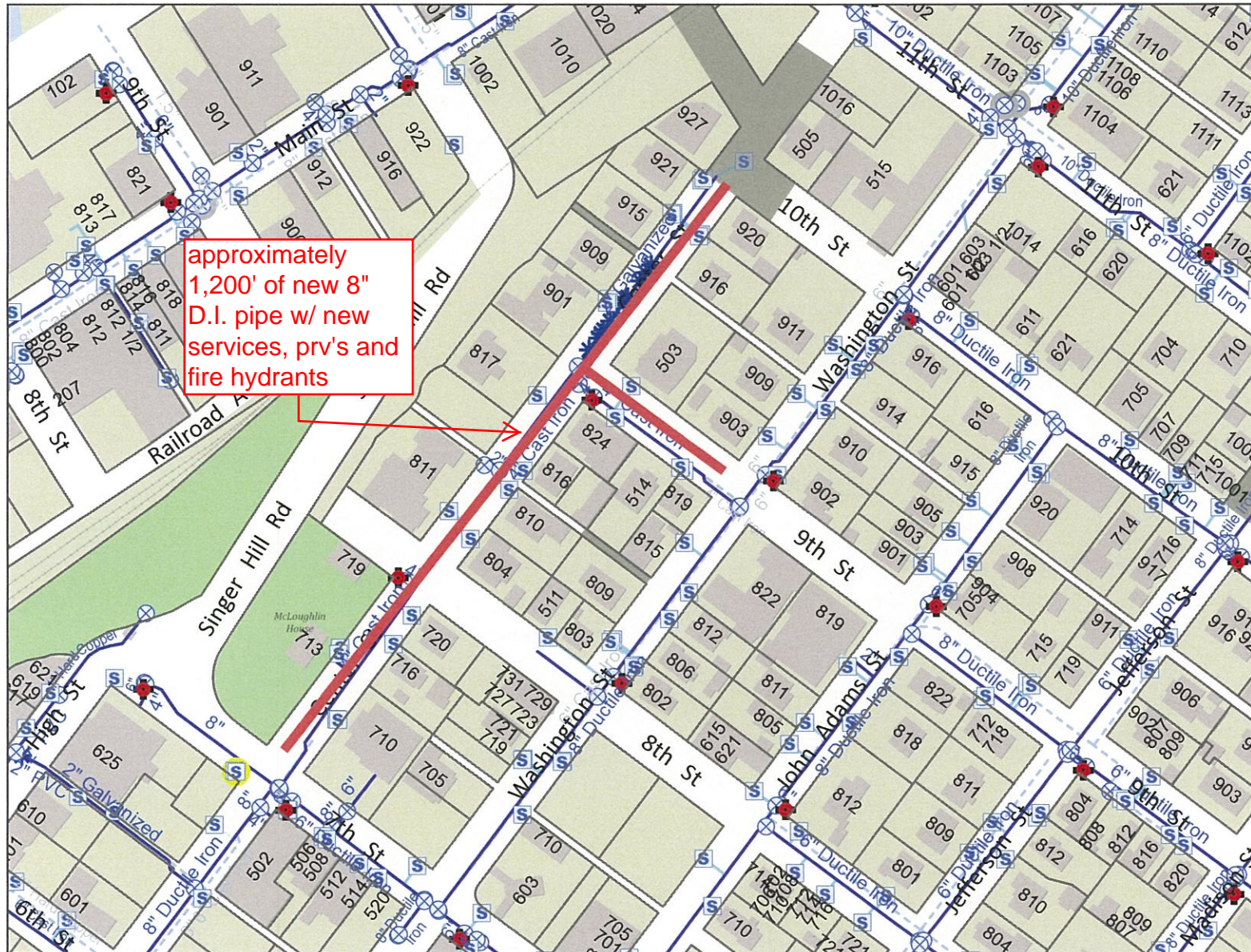
- Pre-Construction Meeting Minutes
- Addenda (as needed)
- Recommendation of Award
- Weekly construction meeting minutes
- Monthly pay estimates and recommendations
- Submittal comments and response log
- Inspector's daily report for each working day of inspection

- Final Punch List and Recommendation of Final Acceptance
- Electronic version of Record Drawings in PDF and AutoCAD version 2016 format



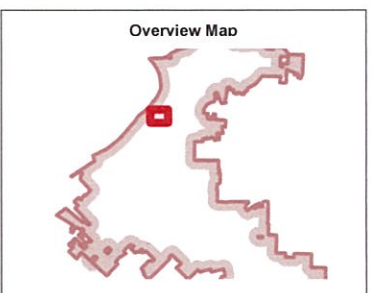
# Oregon City GIS Map

Attachment A: Project Area Map  
City of Oregon City : 2018 Water System Improvements



### Notes

New 8" D.I. waterline w/ new services, individual prv's and new fire hydrants



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.



0 200 400 Feet

1: 2,400

## Center Street Waterline Replacement

Map created 1/2/2018

City of Oregon City  
PO Box 3040  
625 Center St  
Oregon City  
OR 97045  
(503) 657-0891  
www.oregocity.org





# Oregon City GIS Map

Attachment A: Project Area Map  
City of Oregon City : 2018 Water System Improvements



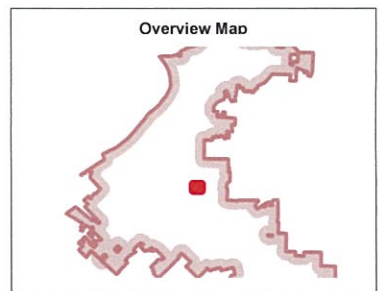
approximately 250'  
of new 6\" D.I. pipe  
w/ new service

### Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- Water Hydrants
  - (Other owner)
  - OC
  - CRWD
  - Private
- Water Service Meters
  - (Other owner or Type not defined)
  - OC
  - CRWD
- Water Master Meters
  - (Other owner)
  - OC
- Water Irrigation Meters
  - (Other owner)
  - OC
  - CRWD

### Notes

New 6\" D.I. waterline w/ new service.



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Map created 1/2/2018



0 100 200 Feet

1: 1,200

## Warner Street Waterline Replacement

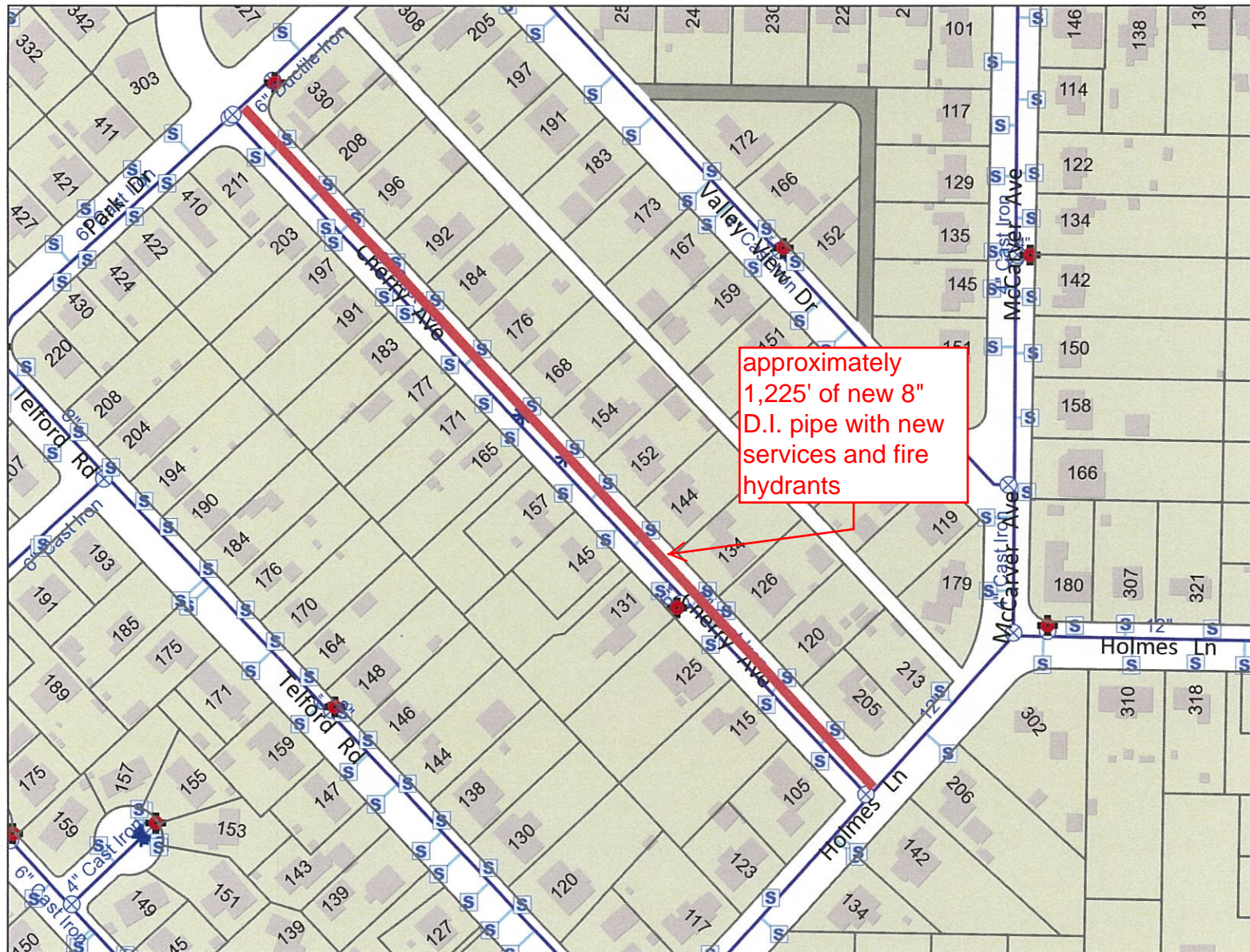
City of Oregon City  
PO Box 3040  
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OR 97045  
(503) 657-0891  
[www.orcity.org](http://www.orcity.org)





# Oregon City GIS Map

Attachment A: Project Area Map  
City of Oregon City : 2018 Water System Improvements

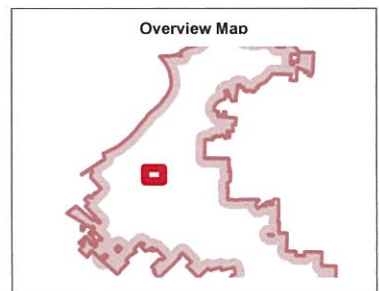


### Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- Water Hydrants
  - (Other owner)
  - OC
  - CRWD
  - Private
- Water Service Meters
  - (Other owner or Type not defined)
  - OC
  - CRWD
- Water Master Meters
  - (Other owner)
  - OC
- Water Irrigation Meters
  - (Other owner)
  - OC
  - CRWD

### Notes

New 8" D.I. waterline w/ new service's and fire hydrants



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Map created 1/2/2018



0 200 400 Feet

1: 2,400

## Cherry Ave Waterline Replacement

City of Oregon City  
PO Box 3040  
625 Center St  
Oregon City  
OR 97045  
(503) 657-0891  
[www.orcity.org](http://www.orcity.org)



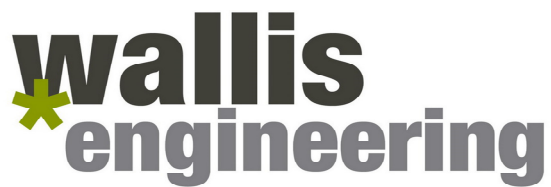
**Agreement**  
**Exhibit B - Fee Estimate**  
**City of Oregon City - 2018 Water System Improvements**  
**WE #1448A**  
**January 2018**

		Wallis Engineering Staff Estimated Hours									Subconsultants		Total
TASK		QC	E2	E4	E5	T1	C1	Staff Cost	Expenses		CESNW	GeoDesign	Cost
		\$190.28	\$139.13	\$99.23	\$93.09	\$93.09	\$67.52						
Task 1	Project Mangement and Administration												
1.1	Define Project Objectives and Design Criteria		12				4	\$1,939.64					\$1,940
1.2	Project Management and Administration		24	12			8	\$5,070.04	\$60	(M)			\$5,130
1.3	Utility Coordination			4	16			\$1,886.36					\$1,886
	TASK 1 SUBTOTAL	0	36	16	16	0	12	\$8,896.04	\$60	\$0	\$0	\$0	\$8,956
Task 2	Data Collection and Evaluation												
2.1	Review Existing Data			4	16			\$1,886.36	\$30	(M)			\$1,916.36
2.2	Field Topographic Survey and Base Map												
	2.2.1 Right-of-Way and Boundary Determination							\$0.00			\$16,819		\$16,819.00
	2.2.2 Topographic Mapping and Control		2	2	4	4		\$1,221.44			\$7,029		\$8,250.44
2.3	Monumentation Survey		2	4				\$675.18			\$12,122		\$12,797.18
2.4	Rock Depth Profiling		2	4				\$675.18				\$18,755	\$19,430.18
	TASK 2 SUBTOTAL	0	6	14	20	4	0	\$4,458.16	\$30	\$0	\$35,970	\$18,755	\$59,213.16
Task 3	Design												
3.1	50% Design	2	16	32	32	32		\$11,739.76					\$11,739.76
3.2	90% Plans, Specifications, and Opinion of Cost	2	16	40	56	40	4	\$15,782.56	\$30	(M)			\$15,812.56
3.3	Final Plans, Specifications and Opinion of Cost	2	16	32	40	24	8	\$12,279.92	\$30	(M)			\$12,309.92
	TASK 3 SUBTOTAL	6	48	104	128	96	12	\$39,802.24	\$60	\$0	\$0	\$0	\$39,862.24
Task 4	Bidding and Construction Services												
4.1	Project Bidding		4	12			4	\$2,017.36					\$2,017.36
4.2	Project Award		2	4				\$675.18					\$675.18
4.3	Construction Administration		92	12				\$13,990.72	\$30	(M)			\$14,020.72
4.4	Construction Engineering and Field Inspection		12	255	60			\$32,558.61	\$1,180	(M)			\$33,738.61
4.5	Record Drawings		2	8		16		\$2,561.54					\$2,561.54
	TASK 4 SUBTOTAL	0	112	291	60	16	4	\$51,803.41	\$1,210	\$0	\$0	\$0	\$53,013.41
	GRAND TOTAL	6	202	425	224	116	28	\$104,959.85	\$1,360	\$0	\$35,970	\$18,755	\$161,044.85

Depending on availability, actual staff usage may not match the above estimated hours breakdown. Billing rates for all staff are listed in the Fee Summary.

FEE SUMMARY			
Staff	Hours	Rate	Fees
QC - Quality Control	6	\$190.28	\$1,141.68
SE - Senior Engineer	0	\$180.05	\$0.00
E1- Engineer 1	0	\$149.36	\$0.00
E2 - Engineer 2 (PM)	202	\$139.13	\$28,104.26
E3 - Engineer 3	0	\$121.74	\$0.00
E4 - Engineer 4	425	\$99.23	\$42,172.75
E5- Engineer 5	224	\$93.09	\$20,852.16
E6 -Engineer 6	0	\$82.86	\$0.00
Inspector	0	\$93.09	\$0.00
T1 - Technician 1	116	\$93.09	\$10,798.44
TW- Technical Writer	0	\$82.86	\$0.00
C1 - Clerical 1	28	\$67.52	\$1,890.56
<b>Total Fees from Staff</b>			<b>\$104,959.85</b>
<b>Subconsultant</b>			<b>Fees</b>
CESNW			\$35,970.00
GeoDesign			\$18,755.00
<b>Total Fees from Subconsultants</b>			<b>\$54,725.00</b>
NOTE: Fee includes 10% markup			
<b>Expenses</b>			<b>Cost</b>
Printing (P)			\$0.00
Mileage (M)			\$1,360.00
<b>Total Fees from Expenses</b>			<b>\$1,360.00</b>
<b>TOTAL BUDGET</b>			<b>\$161,044.85</b>





**2018 RATE SCHEDULE  
UTILITIES PSA**

January 1, 2018 – December 31, 2018

Classification	Direct Hourly Salary (Midpoint)	Billing Rate
Quality Control Manager	\$57.00/hour	\$ 190.28
Senior Engineer	\$57.00/hour	\$ 180.05
Engineer 1	\$52.00/hour	\$ 149.36
Engineer 2	\$48.00/hour	\$ 139.13
Engineer 3	\$42.00/hour	\$ 121.74
Engineer 4	\$37.50/hour	\$ 99.23
Engineer 5	\$32.50/hour	\$ 93.09
Engineer 6	\$27.50/hour	\$ 82.86
Inspector	\$50.00/hour	\$ 93.09
Senior Designer	\$50.00/hour	\$ 118.67
Technician 1	\$31.00/hour	\$ 93.09
Technical Writer	\$31.00/hour	\$ 82.86
Clerical 1	\$27.00/hour	\$ 67.52

These hourly rates include in-house office expenses, photocopying, and other incidental items. Mileage will be reimbursed at the current standard IRS rate. Outside expenses will be billed at cost plus 10%.





January 11, 2018

Wes Wegner, PE  
Project Engineering  
Wallis Engineering  
215 West Fourth Street, Suite 200  
Vancouver, WA 98660

**RE: Request for Proposal, Oregon City Waterline Replacement Project  
(Center and 9<sup>th</sup> Street)(Cherry Avenue)(Wagner Street)**

Dear Mr. Wegner:

Thank you for the opportunity to present our proposal for surveying services on the Oregon City Waterline Replacement Project. The project will include the Design Survey, Right-of Way Survey and Pre-Construction and Post Construction Records of Survey of the identified areas.

**Design Survey mapping area** (to include right of way to right of way)

- Center Street from the Southerly right of way of 7<sup>th</sup> Street to the Northerly right of way of 10<sup>th</sup> street. 9<sup>th</sup> Street from the intersection of Center Street to the Easterly right of way of Washington Street. (approximately 1200 lineal feet).
  - Cherry Avenue from the Northerly right of way of Park Drive to the Southerly right of way of Holmes Lane. (approximately 1225 lineal feet).
  - Warner Street beginning 50 feet Westerly of Prospect Street, 50 feet Northerly along Prospect Street, along Wagner Street to the Easterly right of way of Molalla Avenue. (approximately 250 lineal feet).
  - (See the attached maps outlined in blue for the Topographic Mapping Areas)
1. The Design survey will include all hardscapes, landscaping, stripping, utilities observed and those located through the one call utility locate center [811] along with all the trees within the survey limits. The data collected in the field will be used to prepare a Topographic Base Map in Auto-Cad Civil 3D 2014 at 1"=20' scale.

The horizontal and vertical survey control for the project will be the Oregon North 3601, NAD 83(2011) Epoch 2010. International Feet utilizing the Oregon Real Time Network (ORGN). The vertical datum for this project will be Clackamas County Datum (NAVD 88). The Control Survey will include placing all horizontal and vertical control necessary for the project topographic mapping and all boundary, right of way surveying and the Records of Survey.

2. The Boundary and right of way determination to include right-of-way research (surveys, plats, deeds, etc.) to locate existing monuments and to resolve existing roadway centerlines and right-of-way lines within the project limits.
3. Prepare a pre-construction Record of Survey to be filed with the Clackamas County Surveyor's Office. Per ORS 209.155. (\$400.00 recording fee included).
4. Prepare a post-construction Record of Survey to be filed with the Clackamas County Surveyor's Office. Per ORS 209.250. Included in this task is setting the monuments to be destroyed during the installation of the new waterline and appurtenances. For the purposes of this proposal. We have estimated 16 hours of crew time to replace the monuments removed during construction. (\$400.00 recording fee included)

We have included identifying trees with general English name, if known. Otherwise, it will be identified as evergreen or deciduous. We assume botanical names are not needed. If they are needed, the client's arborist or landscape architect will need to provide those names.

We will request local utilities to locate their facilities and we will illustrate surveyed locations on the drawings. Please be aware that the locations marked and illustrated do not always reflect the true locations found during construction and may not reflect all the systems or facilities in place. We have experienced a two week delay by utility companies to locate their facilities.

In consideration of the services to be rendered hereunder, we hereby agree to perform our services in accordance with the following schedule:

<b>1. Topographic mapping and Control Survey .....</b>	<b>\$13,870.00</b>
<b>2. Right of way and Boundary Determination .....</b>	<b>\$7,810.00</b>
<b>3. Pre-Construction Record of Survey .....</b>	<b>\$4,390.00</b>
<b>4. Post-Construction Record of Survey .....</b>	<b>\$6,630.00</b>
<b>TOTAL SERVICES .....</b>	<b>\$32,700.00</b>

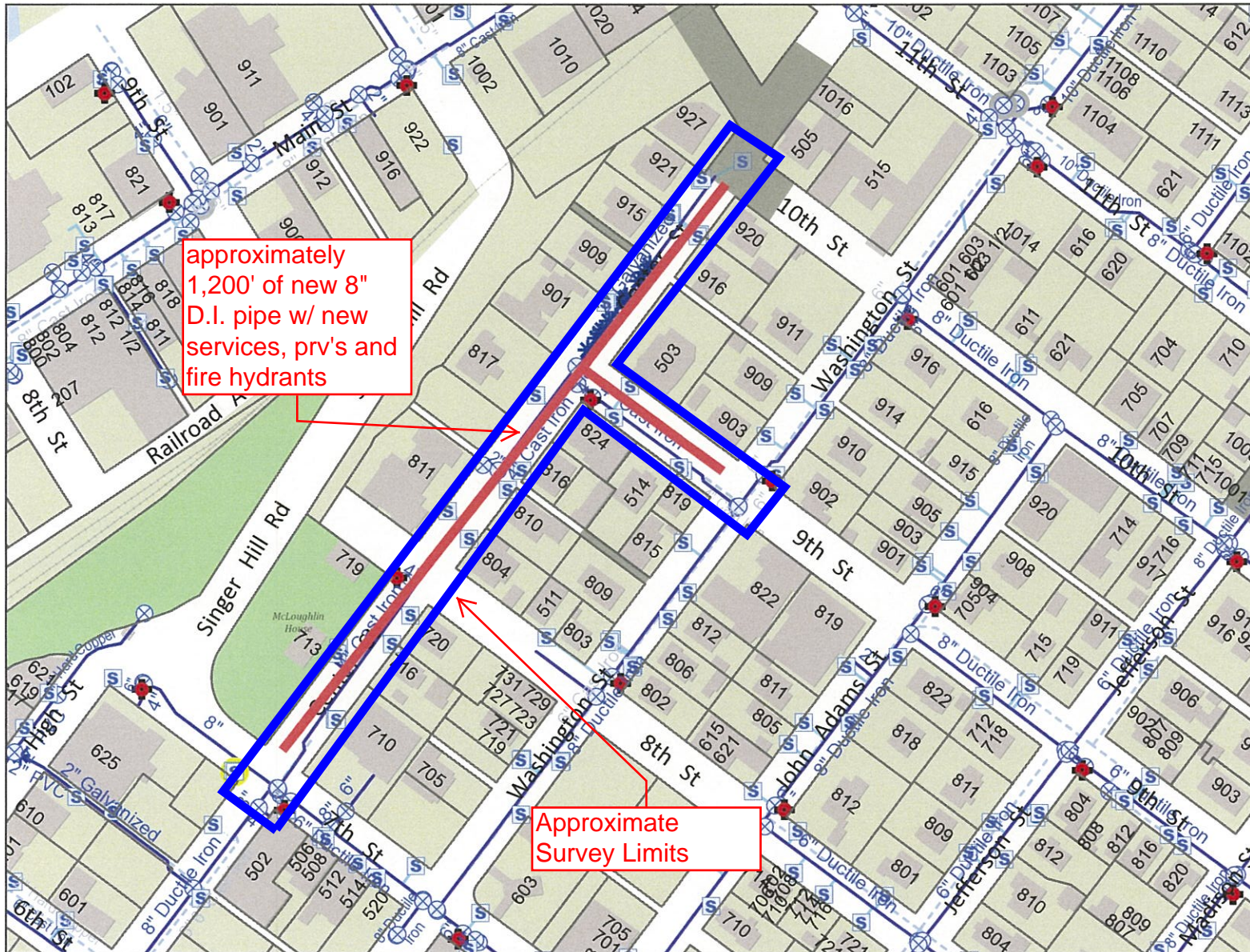
Services that can be provide on a time and material bases are as follows:

1. Title insurance and title related documents search.
2. The preparation of any legal description of property acquisition documents.
3. Construction Services.

We look forward to working with you and are prepared to begin on this project at your convenience, please have the authorized signature placed below and return one copy to us.



# Oregon City GIS Map



approximately  
1,200' of new 8"  
D.I. pipe w/ new  
services, prv's and  
fire hydrants

Approximate  
Survey Limits

### Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- Water Hydrants
  - (Other owner)
  - OC
  - CRWD
  - Private
- Water Service Meters
  - (Other owner or Type not defined)
  - OC
  - CRWD
- Water Master Meters
  - (Other owner)
  - OC
- Water Irrigation Meters
  - (Other owner)
  - OC
- CRWD

### Notes

New 8" D.I. waterline w/ new services, individual prv's and new fire hydrants



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0 200 400 Feet

1: 2,400

## Center Street Waterline Replacement

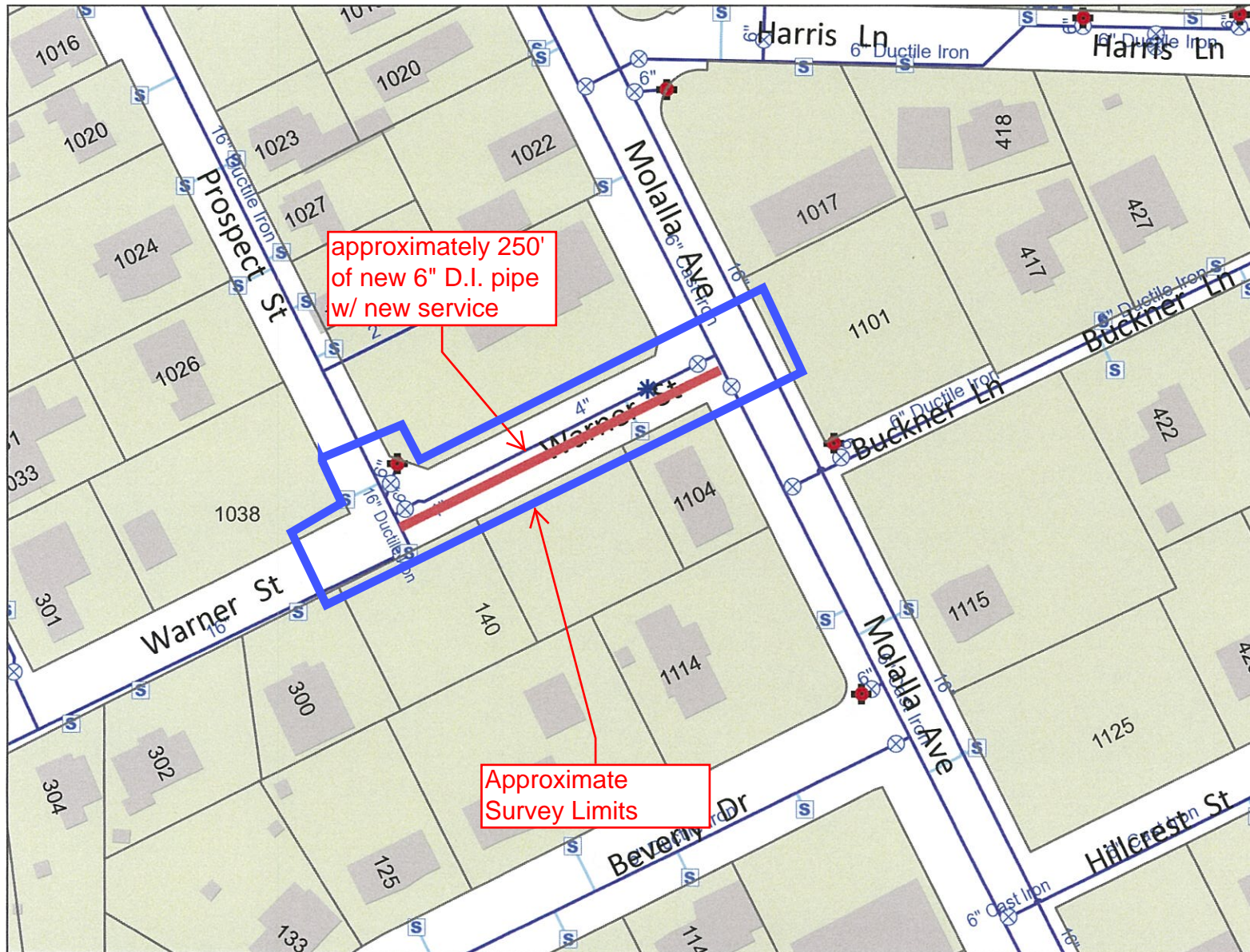
Map created 1/2/2018

City of Oregon City  
PO Box 3040  
625 Center St  
Oregon City  
OR 97045  
(503) 657-0891  
www.oregoncity.org





# Oregon City GIS Map



approximately 250'  
of new 6" D.I. pipe  
w/ new service

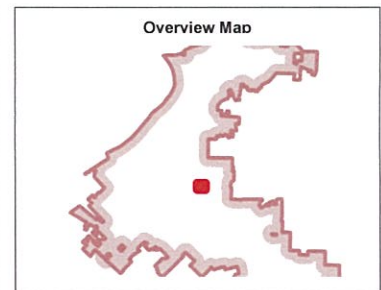
Approximate  
Survey Limits

**Legend**

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- Water Hydrants
  - (Other owner)
  - OC
  - CRWD
  - Private
- Water Service Meters
  - (Other owner or Type not defined)
  - OC
  - CRWD
- Water Master Meters
  - (Other owner)
  - OC
- Water Irrigation Meters
  - (Other owner)
  - OC
  - CRWD

**Notes**

New 6" D.I. waterline w/ new service.



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

Map created 1/2/2018



0 100 200 Feet

1: 1,200

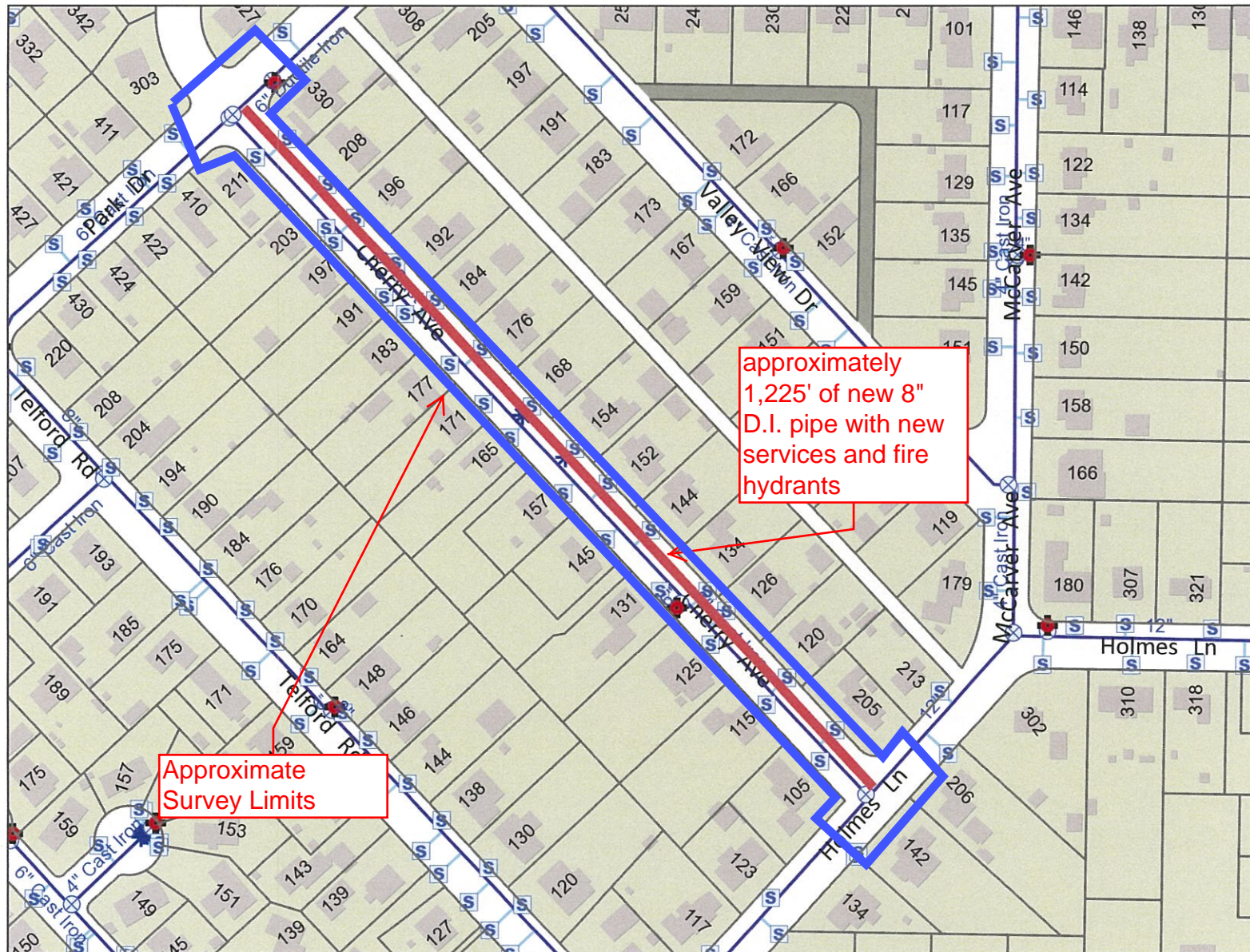
## Warner Street Waterline Replacement

City of Oregon City  
PO Box 3040  
625 Center St  
Oregon City  
OR 97045  
(503) 657-0891  
[www.orcity.org](http://www.orcity.org)





# Oregon City GIS Map

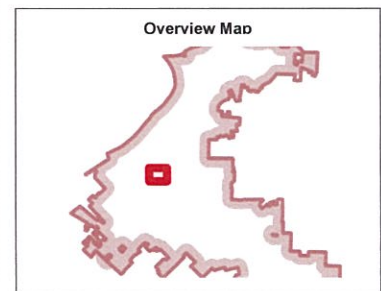


### Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- Water Hydrants
  - (Other owner)
  - OC
  - CRWD
  - Private
- Water Service Meters
  - (Other owner or Type not defined)
  - OC
  - CRWD
- Water Master Meters
  - (Other owner)
  - OC
- Water Irrigation Meters
  - (Other owner)
  - OC
- CDIAD

### Notes

New 8" D.I. waterline w/ new service's and fire hydrants



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Map created 1/2/2018



0 200 400 Feet

1: 2,400

## Cherry Ave Waterline Replacement

City of Oregon City  
PO Box 3040  
625 Center St  
Oregon City  
OR 97045  
(503) 657-0891  
[www.orcity.org](http://www.orcity.org)



## **EXHIBIT C2**

### **GEODESIGN INC. SCOPE OF WORK**

#### **City of Oregon City** **2018 Water System Improvements** WE# 1448A

For utility improvements on Center Street, we will conduct additional explorations to characterize utility trench excavations with up to five feet of rock coring in every third exploration as follows:

- Identify and mark boring locations and call in utility locates.
- Provide traffic control plans and traffic control through our subcontractor when required. We anticipate that permitting requirements and fees will be handled by City personnel.
- Explore subsurface conditions by completing borings along the length of the proposed water line as follows:
  - 8 borings to depths of up to 10 feet below ground surface (BGS). Borings will be terminated if refusal on bedrock layer.
  - 3 Borings to depths of up to 10 feet below ground surface (BGS). Up to five feet of rock coring in explorations if bedrock is encountered.
- Maintain a detailed log of the explorations. Classify the subgrade soil during field explorations. Obtain samples of the pavement, base, and subgrade, and rock materials encountered.
- Complete rock core compressive strength testing on up to three samples
- Provide a summary of subsurface conditions in a memorandum.

Note: budget for this work may be reduced depending on the depth of bedrock.