RESOLUTION NO. 2016-3329

A resolution to authorize the city manager to enter into a professional services agreement with Murray, Smith & Associates, Inc. to design the city's Dayton Avenue Wastewater Lift Station Replacement Project

RECITALS:

1. The Newberg Sewerage Master Plan 2007 Update identified the need to repair and upgrade the Dayton Avenue Wastewater Lift Station, realizing that it has been prone to frequent overflows and other operational issues.

2. In 2010, the construction of Highway 240 Lift Station was complete and it diverted some wastewater flow in the upper basin away from the Dayton Avenue Lift Station.

3. In 2014, the city retained a consultant to complete a full review on the Dayton Avenue Lift Station. The review recommended a replacement for the Dayton Avenue Lift Station.

4. The City advertised the Dayton Avenue Lift Station replacement design project in the Daily Journal of Commerce and also through the city's Bid Management System on June 22, 2016 and received six qualified proposals. Murray, Smith & Associates, Inc. was selected as the most qualified consultant per ORS.279C.110.

5. Murray Smith & Associates, Inc. submitted a detailed proposal outlining the scope of work with a reasonable phase-by-phase cost breakdown (included in the proposed professional services agreement), which is attached as Exhibit "A" and by this reference incorporated.

THE CITY OF NEWBERG RESOLVES AS FOLLOWS:

1. The City Council, acting as contract review board for the city, does hereby authorize the City Manager to enter into a Professional Services Agreement with Murray, Smith & Associates, Inc. to complete the city's Dayton Avenue Wastewater Lift Station Replacement Project that includes the engineering design, bid and construction phase services in the amount of $452,990.00.

2. The City Attorney will modify and approve all contracts and agreements as to form and content.

3. The City Manager is authorized to amend the Professional Services Agreement up to ten (10) percent of the original contract amount.

- **EFFECTIVE DATE** of this resolution is the day after the adoption date, which is: September 20, 2016.

ADOPTED by the City Council of the City of Newberg, Oregon, this 19th day of September, 2016.

Sue Ryan

Sue Ryan, City Recorder

ATTEST by the Mayor this 20th day of September, 2016.

Bob Andrews

Bob Andrews, Mayor

AGREEMENT WITH **MURRAY, SMITH & ASSOCIATES, INC.** TO PROVIDE CONSULTING SERVICES TO THE CITY OF NEWBERG

THIS AGREEMENT is entered into this _____day of September, 2016 by and between the City of Newberg, a municipal corporation of the State of Oregon, hereinafter called **City**, and

Murray, Smith & Associates, Inc.
888 SW 5th Avenue, Suite 1170
Portland, OR 97204-2012
Phone: 503.225.9010 Fax: 503.225.9022
Email: Michael.Carr@msa-ep.com

hereinafter called **Consultant**.

RECITALS:

1. **City** has need for the services of a **Consultant** to complete the Dayton Avenue Wastewater Lift Station Project that includes engineering design, bid and construction phase services.

2. By authority of ORS 279C.110, and through the Request for Proposals (RFP) process, **City** received six qualified proposals for the city's project. The selection of the most qualified **Consultant** based on their particular training, ability, knowledge, expertise and experience, was approved by the City Council on September 19, 2016 per Resolution No. 2016-3329.

NOW THEREFORE, in consideration of mutual promises, covenants and agreements of the parties, it is agreed as follows:

1. **Effective Date and Duration:** This Agreement shall become effective on the date that this Agreement has been signed by every party hereto.

Unless, terminated or extended, this Agreement shall expire when the **City** accepts **Consultant's** completed performance or on June 29, 2018, whichever date occurs first. This fact notwithstanding, the services of **Consultant** shall be authorized and paid on a task by task basis as described in Exhibit "A".

Expiration shall not extinguish or prejudice **City's** right to enforce this Agreement with respect to any breach of a **Consultant** warranty or any fault or defect in **Consultant's** performance that has not been cured.

2. **Termination:** This Agreement may be terminated at any time by mutual, written consent of the parties. The **City** may, at its sole discretion terminate this Agreement in whole or part upon a 30-day written notice to **Consultant**. The **City** may terminate immediately upon notice to the **Consultant** that the **City** does not have funding, appropriations, or other necessary expenditure authority to pay for **Consultant's** work. The **City** may terminate Agreement at any time for material breach, unless **Consultant** has cured such defect or deficiency within a reasonable period of time following notice of such claim.

3. **Scope of Work:** The **Consultant** agrees to provide the services provided in the Scope of Work which is Exhibit "A" and is attached hereto and incorporated by this reference. The **Consultant** represents and warrants to the **City** that the **Consultant** can perform the work outlined in the Scope of Work for the fee proposal amount.

4. **Compensation:** The **Consultant** agrees to perform the work for a not-to-exceed fee as indicated in their professional fee proposal included in the Scope of Work. The not-to-exceed figure is as follows:

$452,990.00

The **Consultant** shall not exceed the fee for any task included in the fee proposal amount. If the **Consultant** foresees that the fee is going to exceed the not-to-exceed figure because the task has changed or is outside the scope, the **Consultant** shall notify the **City** in writing of the circumstances with an estimated amount that the fee is to be exceeded. The **Consultant** shall obtain written permission from the **City** before exceeding the not-to-exceed fee amount. If the **Consultant** does work that exceeds the maximum fee amount prior to obtaining the written permission, the **Consultant** waives any right to collect that fee amount.

5. **Additional Work Not Shown within the Scope of Work:** If **City** requests or requires work to be done not within the Scope of Work of this project, the **Consultant**

shall notify the **City** of such work, provide an estimated fee amount, and obtain written instructions to proceed with work in the form of an Agreement amendment prior to proceeding with work and incurring any costs on behalf of the **City**. If **Consultant** proceeds with work prior to obtaining permission and/or Agreement amendment, the **Consultant** waives any right to collect fees for work performed.

6. **Agreement Documents:** This Agreement consists of the following documents which are listed in descending order of preference: This Agreement, and Attached Exhibits. Work is under the sole control of **Consultant**; however, the work contemplated herein must meet the approval of the **City** and shall be subject to **City's** general right of inspection and supervision to secure the satisfactory performance thereof.

7. **Benefits: Consultant** will not be eligible for any federal social security, state workers compensation, unemployment insurance, or public employees' retirement system benefits from the Agreement payment except as a self-employed individual.

8. **Federal Employment Status:** In the event any payment made pursuant to this Agreement is to be charged against federal funds, **Consultant** certifies that he or she is not currently employed by the federal government and the amount charged does not exceed his or her normal charge for the type of services provided.

9. **Consultant's Standard of Care:** The work to be performed by **Consultant** includes services generally performed by **Consultant** in his/her usual line of business. The work performed by the **Consultant** under this Agreement shall be performed in a good and businesses-like manner in accordance with the highest professional standards. The **Consultant** shall, at all times, during the term of this Agreement, be qualified, be professionally competent, and duly licensed to perform the work.

10. **Indemnity: Consultant** shall indemnify and hold harmless **City** from and against all liability or loss and against all claims, suits, actions, losses, damages, liabilities, costs, and reasonable expenses of any nature whatsoever to the extent caused by the negligent acts, errors, omissions, or performance of services of the **Consultant**, or its officers, employees, subcontractors, or agents under this Agreement. **Consultant** shall have no duty to defend the **City** in litigation or any legal proceedings but shall reimburse the **City** for reasonable legal fees and cost the **City** incurs if the **City** is obligated to pay damages because of the negligence of the **Consultant**.

11. **Independent Contractor: Consultant** is not currently employed by the **City**. The parties to this Agreement intend that the **Consultant** perform all work as an Independent Contractor. No agent, employee, or servant of **Consultant** shall be or shall be deemed to be the employee, agent or servant of **City**. **City** is interested only in the results obtained under this Agreement; the manner and means of conducting the work are under the sole control of **Consultant**, however, the work contemplated herein must meet the approval of the **City** and shall be subject to **City's** general right of inspection and supervision to secure the satisfactory performance thereof.

12. **Taxes: Consultant** will be responsible for any federal or state taxes applicable to payments received under this Agreement. **City** will report the total of all payments to **Consultant**, including any expenses, in accordance with the Federal Internal Revenue Service and the State of Oregon Department of Revenue regulations.

13. **Insurance:**

a) **Consultant**, its Subconsultants, if any, and all employers working under this agreement are subject employers under the Oregon Workers Compensation Law and shall comply with ORS 656.017, which requires them to provide workers compensation coverage for all their subject workers; or by signing this Agreement, **Consultant** represents that he or she is a sole proprietor and is exempt from the laws requiring workers compensation coverage.

b) **Consultant** will, at all times, carry a Commercial General Liability insurance policy for at least $2,000,000.00 combined single limits per occurrence for Bodily Injury, Property Damage, and Personal Injury. The **City**, its agents, employees and officials all while acting within their official capacity as such, shall be named as an additional insured on the insurance specified in this paragraph.

c) **Consultant** will, at all times, carry a Professional Liability/Errors and Omission type policy with limits of a t least $2,000,000.00. If this policy is a "claims made" type policy, the policy type and company shall be approved by the City Manager prior to commencement of any work under this Agreement.

d) **Consultant** shall furnish the **City** with Certificates of Insurance upon execution of Agreement. Such Certificates of Insurance evidencing any policies required by this Agreement shall be delivered to the **City** prior to the commencement of any work. A 30-day notice of cancellation clause shall be included in said certificate. The **City** has the right to reject any certificate for unacceptable coverage and/or companies.

14. **Assignment:** The parties hereto each bind themselves, their partners, successors, assigns and legal representatives of such other party in respect to all terms of this Agreement. Neither party shall assign the Agreement as a whole without written consent of the other.

15. **Ownership of Work Product:** All original documents prepared by **Consultant** in performance of this Agreement, including but not limited to original maps, plans, drawings and specifications are the property of **City** unless otherwise agreed in writing. Quality reproducible records copies of final work product, including digital files of text and drawings shall be provided to **City** at the conclusion or termination of

this Agreement. **City** shall indemnify and hold harmless **Consultant** and **Consultant's** independent professional associates or Subconsultants from all claims, damages, losses and expenses including attorney fees arising out of the **City's** use of any instruments of professional service for purposes outside the scope of this Agreement.

16. **Entire Agreement:** This Agreement constitutes the entire Agreement between the parties and supersedes all prior agreements, written and oral, courses of dealing, or other understanding between the parties. No modification of this Agreement shall be binding unless in writing and signed by both parties.

17. **Notification:** All correspondence and notices related to this Agreement shall be directed to the project manager for the party to whom the correspondence or notice is intended. If directed to the **City**: City of Newberg, P.O. Box 970, Newberg, Oregon 97132, Attn: Paul Chiu, P.E., Project Manager, Paul.Chiu@newbergoregon.gov. If directed to the **Consultant**: Attn: Michael Carr, P.E., Project Manager at the address listed above. Each party shall be responsible for notifying the other of any changes in project manager designation.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date first above mentioned.

CONSULTANT

By: _____

Name: _____

Title: _____

Date: _____

CITY OF NEWBERG

By: _____

Name: Joe Hannan

Title: City Manager

Date: _____

Engineering Services Approval:

_____

Kaaren L. Hofmann Date
City Engineer

Department Approval:

_____

James (Jay) O. Harris Date
Public Works Director

Approved as to Form and Content:

_____

Truman A. Stone Date
City Attorney

City of Newberg
Dayton Avenue Pump Station Improvements

PROJECT OVERVIEW AND UNDERSTANDING

The City of Newberg owns and operates the Dayton Avenue Pump Station located at 830 Dayton Avenue. Originally constructed in 1993, this pump station is the City's largest station, serving the Dayton sewer basin that extends along the western side of the City. The station has two 75 hp self-priming package pumps manufactured by Gorman Rupp sitting above a 12-foot diameter wet well. It has a rated capacity of 2,100 gpm, however recent field testing indicates the pumps are operating around 1,350 gpm. This station replaced an older station constructed in 1985 and connected to the existing 12-inch, 4,000-foot length, PVC force main. Backup power is supplied through an outdoor natural gas generator. A 7.5 hp compressor located in the building continuously injects air into the force main. Power to the site is from a 480V 3-phase, 300-amp electrical service with an on-site pad mounted transformer. The RFP indicated that reliable power from PGE has been an issue in the past.

The pump station receives significant inflow and infiltration (I&I) and has reported several overflows in its history. The frequency of overflows has been greatly reduced following the construction of the Highway 240 Pump Station in 2009, which diverts a portion of flows from the upper Dayton Basin into the Wynooski basin to the east. An alternatives analysis report completed in April 2016 recommended replacement of the station with a new submersible pump station located on the same property.

Murray, Smith & Associates, Inc. (MSA), also referred to herein as Consultant, was selected to provide professional services for design and construction phase services for this project. The specific scope of work included with this contract is provided below.

SCOPE OF SERVICES

This Scope of Services has been separated into 11 different tasks listed below. A detailed scope of work for each task is described below.

Task 1 – Project Management
Task 2 – Stakeholder Involvement
Task 3 – Topographic Survey and Base Mapping
Task 4 – Geotechnical Investigations
Task 5 - Preliminary Design Development
Task 6 – Land Use Approval
Task 7 – Final Design Documents
Task 8 – DEQ Plan Review Approval
Task 9 – Bid Phase Services
Task 10 – Construction Phase Services
Task 11 – Project Contingency Tasks

The Consultant will perform the following services:

Task 1 - Project Management

Objective:

To provide overall leadership and team strategic guidance aligned with the City of Newberg staff objectives. To coordinate, monitor, and control the project resources to meet the technical, communication, and contractual obligations required for developing and implementing the project scope.

Activities:

1.1 Invoices/Status Reports

Consultant will prepare monthly invoices, including expenditures by task, hours worked by project personnel, and other direct expenses with the associated backup documentation. Monthly status reports will accompany each invoice.

1.2 Coordination with City

Consultant will maintain communication with the City through phone and email communication. Follow-up all decision-making phone conversations with a recap via email. Consultant will manage and coordinate the technical and scope issues of the overall project.

1.3 Coordination with Subconsultants

Consultant will coordinate with subconsultants on specific tasks, scope, and budget. Review subconsultant deliverables prior to submitting to the City.

1.4 Project Kick-Off Meeting

A project kick-off meeting with City staff will be held to review the project objectives, establish roles and responsibilities, and discuss project coordination and communication.

1.5 Project Coordination Meetings

This scope includes three project coordination meetings with City staff and key team members to be used as requested by the City. These meetings will be in addition to project review meetings noted specifically within separate tasks below. Meeting agendas and summaries will be provided.

Task Deliverables

1. Consultant shall deliver a monthly invoice and status report.
2. Meeting agenda and summaries (four included in this task).

Assumptions

1. Consultant assumes a Notice to Proceed date by October 3rd, 2016.
2. 20 monthly invoices and reports will be submitted (20-month project duration).
3. Project coordination meetings are two hours each.

Task 2 - Stakeholder Involvement

Objective:

To assist the City with stakeholder involvement and outreach during the project.

Activities:

2.1 General Public Involvement Assistance

This contingency task allots time as requested by the City to assist with public involvement. This can be for on-site meetings with neighbors, phone conferences, additional graphics, or other services as requested. The City will be notified if services under this task are being used.

Task Deliverables

1. As requested.

Assumptions

1. 24 hours are allotted to this task for budget purposes.

Task 3 - Topographic Survey and Base Mapping

Objective:

To create a CAD base map for the project that is on the City's datum.

Activities:

3.1 Existing Utility Review

Request utility mapping and locates within the project area. Contact City and other appropriate utilities to confirm the presence or absence of active and/or abandoned facilities on the station site, force main route, and in the immediate project vicinity. Request utilities to be located through the Utility Notification Center (One Call) and obtain utility mapping from each utility with potentially impacted facilities.

3.2 Topographic Survey

Topographic survey of Parcel 2 of the Partition Plat 93-30 northerly of the brush line near the south property line and from the adjacent edge of pavement of Dayton Avenue easterly to the parcel. Surface features and marked utilities will be collected as follows:

- Establish a minimum of three semi-permanent pre-design survey control stations (5/8-inch iron rods with plastic caps);
- Reference control and mapping to the horizontal datum of the Oregon Coordinate System of 1983, North Zone;
- Reference the control and mapping to a vertical datum using differential levels. Reference the control to a bench mark if one exists within one-half of a mile from the pump station. If one does not exist within one-half of a mile of the pump station, GPS will be used to reference the control to the bench

mark. This bench mark will be either a North Vertical Datum of 1988 National Geodetic Bench Mark, County Bench Mark, or a bench mark/control station with values provided by the City or County;

- Locate existing boundary monuments and map the pump station property lines;
- Locate visible utility surface features and underground utility paint marks using the Oregon One-Call Utility Location services and on-site private locator;
- Locate invert elevations (IE's) on existing lift station wet well, inlet pipe, sewer manholes, discharge manhole, three other access/pressure gauge locations along the force main at 8th and Blaine, 9th and School, and 9th and Meridian), and downstream gravity sewer from discharge manhole to intersection at 11th and River;
- Locate force main profile within the pump station property, discharge manhole, and three access points along the force main alignment;
- Locate visible planimetric features and improvements including, but not limited to, curbs, sidewalks, fences, buildings, mail boxes, sign posts, etc.
- Locate vegetation improvements and features including, but not limited to, shrubs, bushes, hedges, and trees 6-inch or greater in breast height diameter (dbh).
- Map stream ecological and boundary markers and thalweg.

Survey data will be mapped in Autocad Civil3d 2014 (Civil3d) format to MSA CAD Standards. A Civil3d surface will be created and 1-foot contours shown on the drawings.

Task Deliverables

1. Base drawing file in .dwg format

Assumptions

1. Title reports will not be reviewed and a property survey will not be filed with the County.
2. City will obtain permits of entry to adjacent property to the south for survey along the stream.
3. Consultant will obtain private locate services as required to locate all traceable underground utilities on the property.
4. Survey will be completed in low traffic areas, so traffic control plans or flaggers are not anticipated.

Task 4 - Geotechnical Investigations

Objective:

Perform geotechnical borings and infiltration testing to explore the subsurface conditions at the site; laboratory testing and geotechnical engineering analysis and recommendations; preparing a report that summarizes data collection, analysis, and recommendations; and construction support as described in the following tasks.

Activities:

4.1 Site Reconnaissance and Explorations

A Shannon & Wilson (SW) representative will visit the site to observe the existing site conditions, including geologic hazards and site access for the field explorations. The proposed geotechnical boring locations will be marked and referenced to existing structures during this site visit. The Utility Notification Center will be contacted for utility clearance. SW will prepare drilling subcontracts and coordinate drilling schedules and logistical issues with the subcontractors. The elevations at the ground surface will be estimated based on topographic maps provided by the design team.

4.2 Subsurface Explorations

The planned subsurface explorations consist of three geotechnical borings. One boring will be located in the vicinity of the proposed pump station and will be advanced to a maximum depth of 30 feet. One boring will be located in the vicinity of the west retaining wall and will be advanced to a maximum depth of 20 feet. One boring will be located in the vicinity of the proposed storm water detention facility and will be used for infiltration testing. It will be advanced to a maximum depth of 5 feet.

SW will perform one infiltration test using the encased falling head test method described in the Portland Stormwater Management Manual (August 2016). The test is performed using a 6-inch-diameter casing that is embedded approximately 6 inches into the soil to be tested. The pipe will be filled with water to 1 foot above the soil to be tested, and the drop-in head will be measured and recorded over time. The tests will be performed at a depth of 2 to 3 feet below existing ground surface.

The borings will be advanced with a trailer-mounted drill rig. Soils will be drilled/sampled by hollow stem auger or continuous solid stem auger techniques. Groundwater levels will be recorded if encountered. When complete, the boring will be fully backfilled in accordance with Oregon Department of Water Resources regulations, Chapter 690, Division 200.

Standard Penetration Test (SPT) sampling will be performed in the soil and accomplished at 2.5-foot intervals in the upper 10 feet of the soil and at 5-foot

intervals thereafter. Soil samples will be transported to our laboratory for further evaluation and testing.

A SW geologist will observe the borings, maintain a field log of the conditions and materials encountered, and obtain samples for laboratory testing. Draft exploration logs will be made available to the design team as preliminary information and will be finalized after laboratory testing is completed.

4.3 Laboratory Testing

Laboratory testing will be conducted to provide data on the physical characteristics and identification of subsurface materials. The testing will include standard soil classification tests such as natural water contents, visual manual classifications, Atterberg limit tests, and particle size analyses. The laboratory classification tests will be used to confirm soil descriptions for preparation of the final computer-generated boring logs (gINT logs).

4.4 Geotechnical Analysis and Evaluation

The geotechnical analyses will address the following:

- Develop subsurface characterization at the completed boring locations.
- Perform site-specific seismic hazard evaluations in accordance with the Oregon Structural Specialty Code (OSSC 2014), including the following items:
  - Provide seismic design category and soil seismic profile and parameters in accordance with International Building Code (IBC) 2015 and OSSC 2014.
  - Evaluate seismic hazards, including liquefaction potential, settlement, lateral spreading, and slope instability.
- Discuss the potential adverse impacts of seismic hazards to the pump station.
- Evaluate the creek bank stability for the pump station.
- Evaluate the creek bank stability for the storm water detention facility and set back from creek bank.
- Provide conceptual-level discussion of mitigation alternative for slope instability, if needed.
- Provide design parameters for below-grade structures including lateral earth pressures, bearing resistance, settlement, passive resistance, and uplift resistance.
- Provide design parameters for retaining walls including lateral earth pressures, bearing resistance, settlement, passive resistance, and sliding coefficient.
- Evaluate subgrade and provide subgrade stabilization, if needed.
- Describe pipeline excavation and backfill design issues and bedding and pipe zone materials.
- Describe embedded structures excavation and backfill design issues.

- Provide conceptual evaluations for temporary shoring types to protect the paved areas, existing utilities, adjacent structures, embankments, or environmental areas.
- Provide conceptual evaluations for dewatering and/or in-trench groundwater control.
- Discuss erosion susceptibility of the native soil.
- Provide the field infiltration rate.
- Provide earthwork recommendations.

4.5 Geotechnical Engineering Report

A report will be prepared presenting the results of the various data collections and office studies, and will include recommendations and conclusions. An electronic copy (PDF) of the draft report will be prepared and submitted for review and comments. Two bound copies and a PDF of the final report will be provided use and distribution.

Task Deliverables

1. Draft Geotechnical Engineering Report in PDF format.
2. Final Geotechnical Engineering Report in PDF and two paper copies.

Assumptions

1. Traffic control is anticipated not to be required for these borings.
2. The subsurface material is not contaminated and no testing will be performed to investigate the possible presence of toxic or hazardous materials and petroleum products. No additional environmental drilling procedures are included.
3. All necessary right-of-entry permits will be provided by the City.
4. No permits will be required, including permits for working in or near wetlands.
5. Drilling will be accomplished on weekdays, during daylight hours, and with no time restrictions.
6. No rock coring will be required.
7. Consultant will obtain private locate services as required to locate all traceable underground utilities on the property.
8. Pavement restoration will be made using cold patch asphalt or quick set concrete.
9. Slope stability or liquefaction concerns for the site, may be identified, but mitigation design is not included in this task.
10. Project specific pavement section design is not included. A typical pavement section similar to a local street will be assumed or as directed by the City.
11. A geologic profile will not be developed.

Task 5 - Preliminary Design Development

Objective:

To review existing pump station data, design standards, record drawings, O&M manuals, and other relevant information to develop design criteria for the proposed pump station.

Activities:

5.1 Data Gathering and Review

Review relevant portions of available planning documents that include the 2016 Pump Station Rehabilitation Alternatives Report, 2015 Sanitary Sewer Infiltration and Inflow Study, 2007 wastewater master plan, Hwy 240 Pump Station Engineering Report, FEMA and County flood plain reports, City planning and utility maps, pump station as-builts, O&M Manuals, flow records, previously completed evaluation reports, or other information made available by the City. Document source data selected for use.

5.2 Develop Design Flows

This task includes developing a peak hour flow rate for a 5-year storm event for the pump station design flow. This includes using available flow monitoring data to confirm existing dry weather diurnal flows and to extrapolate existing wet weather flow for a 5-year storm. Review of the flow diversion at the Highway 240 pump station and its influence on the Dayton pump station will be included. Pump station run time will be used to correlate the flow data with pumping volumes. Dry weather unit flow factors, peaking factors, and design storm I/I rates will be applied to vacant tax lots to calculate build-out design flow rates within the pump station service area. Flow projections will include a design 20-year flow rate and a build-out flow rate based on master plan or other documented growth trends.

5.3 Existing Force Main Testing

Conduct flow-head testing and pressure testing per DEQ standards to confirm pumping rates and force main friction factors. Install a portable flow meter if access around the pipe is available along the force main. Develop a system head curve for the developed design flow rates. Analyze force main for potential for water hammer conditions at existing peak flow, projected peak flow, and emergency pump shutdown scenarios. Additional force main testing, evaluation, or cleaning may be completed under Task 11 - Project Contingency below.

5.4 Review and Clarify City Design Preferences

Meet with City staff to review and clarify City's design criteria. Establish City preferences with respect to equipment selection, instrumentation and controls, site access needs, station appurtenances, site amenities, and other relocated station functions and features.

5.5 Pump Configuration Evaluation

Preliminary sizing for pumps, piping, and structures will be completed to serve the projected 20-year and buildout flow conditions, based on the continued use of the existing 12-inch force main.

- Develop Total Dynamic Head system curves for the existing force main.
- Pump sizing for duplex installation to meet projected flows.
- Pump sizing for triplex installation to meet projected flows.
- Examine pump staging or VFD options to accommodate specified flow range.
- Preliminary sizing and layout for discharge piping, flow meter, wet well, and valve vault structures.
- Examine downstream capacity impacts from the discharge manhole at 9th and River Street to newly constructed sanitary sewer at 11th and River Street.

5.6 Electrical and Building Mechanical Sizing

Complete preliminary sizing for electrical and building mechanical items as follows:

- Perform heat gain and loss HVAC load estimates for building mechanical sizing.
- Prepare load calculation for generator sizing.
- Provide preliminary cabinet sizing to support building layout and clearance requirements.
- Evaluate condition of air injection system, its continued need, or improvements for continued use with new force main injection point.
- Conduct initial electrical service coordination with PGE.
- Coordinate with PGE to evaluate power quality issues experienced at the site and identify possible improvements.

5.7 Site Development

Preliminary site and grading plan layout options for structures, equipment, retaining walls, parking/vehicle access, storm water facilities and landscaping will be developed. The layout will consider vehicle access and maneuvering, pump removal equipment, alternative retaining wall types, site aesthetics and visibility, natural hazards and riparian buffers, and impacts to the existing pump station during construction. Potential locations for temporary bypassing and pigging stations will also be identified.

5.8 Prepare Storm Water Report

Prepare a storm water report meeting City design standards to identify detention and treatment requirements, design flows, facility sizing, and discharge locations.

5.9 Prepare Draft Preliminary Design Report

Prepare and submit a draft preliminary design report that describes and summarizes design criteria, the proposed improvements, and the alternatives selection process and recommendations for proceeding with the preferred option. Develop preliminary engineering drawings depicting the proposed facilities, including a site plan, pump station relocation layout, force main and sanitary sewer routing configurations. A list of project specifications will be prepared and included. A preliminary cost estimate will also be provided.

5.10 DEQ Coordination

DEQ pump station guidelines will be reviewed so that the preliminary design report addresses the requirements. DEQ staff will be contacted to discuss the project and a copy of the report will be provided for DEQ review and comment.

5.11 Prepare Final Preliminary Design Report

Meet with City staff to discuss review comments on the draft report or final considerations. Prepare a final preliminary design report that will incorporate comments received from the City and DEQ.

Task Deliverables

1. Preliminary site plan, grading plan, and structural design of retaining walls and barrier elements.
2. Draft and final storm water report.
3. Draft and final Pre-Design Report in PDF format.
4. Draft Pre-Design Report review meeting summary.

Assumptions

1. The level of design completed under this task will be approximately 30% complete.
2. Preliminary site plan will include a wet well structure, manholes and vaults, retaining walls, and a cabinet layout in the existing building. Two iterations of the preliminary site plan are assumed.
3. Working pressure gauges will be installed by the City with sufficient sensitivity to obtain low pressure readings.
4. The new gravity sewer downstream from 11th and River Street has sufficient capacity to convey future pump station flows; therefore, no analysis of sewer capacity beyond the 11th and River Street intersection will be performed.

DAYTON AVENUE PUMP STATION IMPROVEMENTS
CITY OF NEWBERG
PROPOSED FEE ESTIMATE

		ESTIMATED FEES			
	Direct Labor Hours	Direct Labor Cost	Subconsultant Cost	Direct Expenses	Total
Task 1 - Project Management					
Task 1 Subtotal	210	$ 34,144	$ -	$ 301	$ 34,445
Task 2 - Stakeholder Involvement					
Task 2 Subtotal	24	$ 3,624	$ -	$ 140	$ 3,764
Task 3 - Topographic Survey and Base Mapping					
Task 3 Subtotal	13	$ 1,697	$ 7,280	$ 1,244	$ 10,221
Task 4 - Geotechnical Investigations					
Task 4 Subtotal	21	$ 3,227	$ 19,813	$ 136	$ 23,176
Task 5 - Preliminary Design Development					
Task 5 Subtotal	410	$ 57,328	$ 12,528	$ 2,364	$ 72,220
Task 6 - Land Use Approval					
Task 6 Subtotal	70	$ 9,758	$ 16,110	$ 388	$ 26,256
Task 7 - Final Design Documents					
Task 7 Subtotal	506	$ 69,990	$ 30,480	$ 2,716	$ 103,186
Task 8 - DEQ Plan Review Approval					
Task 8 Subtotal	27	$ 3,664	$ -	$ 408	$ 4,072
Task 9 - Bid Phase Services			$ -	$ -	$ -
Task 9 Subtotal	44	$ 6,245	$ 1,529	$ 140	$ 7,914
Task 10 - Construction Phase Services			$ -	$ -	$ -
Task 10 Subtotal	612	$ 82,460	$ 47,272	$ 5,394	$ 135,126
TOTAL - TASKS 1 THROUGH 10	*1937*	*$ 272,137*	*$ 135,012*	*$ 13,231*	*$ 420,380*
Task 11- Project Contingency Tasks					$ 20,000
Anticipated 3.0% Adjustment for 2017 Rate Increases					$ 12,610
(To be distributed evenly across budgets for Tasks 1-10 upon 2017)					
TOTAL - ALL TASKS					*$ 452,990*

Exhibit "A" for Resolution No. 2016-3329

Task 6 - Land Use Approval

Objective:

To support the City to obtain necessary land use approvals for a Type II Development permit.

Activities:

6.1 Attend Pre-Application Meeting

Prepare Pre-App meeting materials and attend meeting with city planning staff to identify codes, ordinances and standards that need to be addressed as part of the development application processes for the project.

6.2 Prepare Stream Corridor Impact Report (SCIR)

Pacific Habitat Services (PHS) will conduct field work and investigation necessary to prepare a SCIR in accordance with the requirements set forth in City Code Section 15.342.080A. PHS will conduct a wetland delineation using the required criteria and methodologies of the Corps of Engineers Wetland Delineation Manual Technical Report Y-87-1 (Environmental Laboratory, 1987) and the Western Mountains, Valleys and Coast Region regional supplement to the 1987 Manual. These manuals provide the guidelines and methodology for defining the limits of wetlands and waterways. PHS will also identify and delineate the top of bank and centerline of waterbodies located on the site. Wetlands or waterbodies on the site will be flagged and surveyed. The flags will be numbered to facilitate the survey.

In addition to the delineation of wetlands and waterbodies, PHS will identify and inventory trees six inches or greater in diameter at breast height (dbh), noting the species, size and general health of each tree. Each tree will be marked so that it can be surveyed. PHS will also collect information on plant and animal communities on the site.

PHS will be prepare a SCIR to support obtaining the necessary approvals from the City of Newberg. The report will include all requirements outlined in City Code Section 15.342.080A. The report will contain an analysis of the site's physical conditions, and include soils, geology, and hydrology; development recommendations and methods of mitigating hydrologic impacts; an inventory of plant and animal species occurring on the site and a discussion of their relationship to the environment; and an enhancement plan to increase the natural values and quality of the stream corridor remaining on the site.

6.3 Prepare Type II Development Permit Application

Prepare Type II Site Design Review and Stream Corridor Overlay Mitigation permit application to the City for project clearances. The application will include a narrative discussion of the proposed pump station improvements in

response to design standards established in the City code, a site plan, grading plan, erosion control plan, and landscaping plan.

6.4 Development Review Coordination
Coordinate with City staff during the project review period to answer questions so that the design development will address conditions of approval.

Task Deliverables

1. Pre-application Meeting Packet and attendance.
2. Stream Corridor Impact Report.
3. Type II Development application and plan submittals.

Assumptions

1. Project will be reviewed at an administrative level without planning commission meetings or land use hearings. Schedule includes 60 days for City review of complete application.
2. Preliminary design and other technical reporting work required for supporting the development permits will be accomplished under other tasks.

Task 7 - Final Design Documents

Objective:

To prepare contract plans, specifications, and bidding documents for documents for soliciting bids and constructing the project.

Activities:

7.1 Prepare 60% Design Plans, Specifications and Engineer's Estimate (PS&E)
Prepare 60% plans, specifications, and engineer's cost estimate for City review. Plan submittal will include all anticipated plan sheets with line work and limited notes. Specifications submittal will include outline and completed sections for major equipment or materials. Attend design review meeting.

7.2 Prepare 90% Design PS&E
Prepare draft bidding and construction documents for City review. Provide 90% engineer's cost estimate. Comments from 60% design review will be incorporated into the 90% submittal. Attend design review meeting.

7.3 Prepare Final Contract Documents
Prepare final signed contract documents ready for bidding. Contract documents will include bidding requirements, contract forms, conditions of the contract, general requirements and technical specifications. The documents will be electronically signed by the Engineer.

Task Deliverables

1. 60%, 90%, and final signed documents in PDF.
2. 60%, 90%, and final engineer's cost estimate in PDF.
3. Design Review Meeting Agendas and Summaries (2 total)

Assumptions

1. Plans will be prepared on full-sized sheets and printed to half size sheets for pdf submittals to be provided electronically (via email, FTP or cloud based file transfer).
2. City will provide front end specifications and general conditions specifications.
3. City will provide written design submittal review comments.
4. Technical Specs for project materials, equipment, and performance will be formatted following the Construction Standards Institute (CSI).
5. Building improvements will be limited to minor HVAC and electrical improvements necessary for the new pumps and cabinets. Architectural or structural design services are not anticipated for the building.
6. Temporary irrigation for plant establishment will be specified, but irrigation system design is not included.
7. Plan Sheets anticipated to be included are as follows:

General
Cover and Title Sheet, General Notes and Legend Sheet, Abbreviations Sheet, and Design Data Table and System Head Curve Sheet (4 sheets)

Erosion and Sediment Control (ESC)
Erosion Control Notes and Details, Erosion Control Plans (2 sheets)

Civil
Existing Pump Station Bypassing and Demolition Plan, Pump Station Site Plan, Pump Station Piping Plan, Pump Station Grading and Surfacing Plan, Retaining Wall Plan and Profile, Storm Water Facility Plan, Gravity Sewer and Force Main Profiles, Civil Details (10 sheets)

Landscape
Landscaping Plan, Landscaping Details (2 sheets)

Structural
General Structural Notes and Quality Assurance Plan, Structural drawings for retaining wall sections and details, (4 sheets)

Mechanical
Wet Well and Vault Plan, Wet Well and Vault Sections, HVAC Plan and Schedule, Mechanical Details (8 sheets)

Electrical and Instrumentation

Electrical Symbols and Legend, One-Line Diagram, Electrical Site Plan, Building Power Plan, Motor control diagrams, Air gap enclosure detail, Equipment elevation diagram, PLC I/O Wiring diagram and schedule, Telemetry interconnection diagram, Circuit Schedule and Electrical Details (12 Sheets)

Task 8 - DEQ Plan Review Approval

Objective:
To obtain DEQ plan review approval on the project.

Activities:

8.1 Submit Draft Engineering Report and 90% PS&E Package
A draft Engineering Report and 90% PSE package will be submitted to DEQ for review and comment. Coordination for DEQ review comments will be completed.

8.2 Submit Final Engineering Report and Final PS&E Package
A final Engineering Report and final PSE package that incorporates DEQ review comments will be resubmitted to DEQ.

Task Deliverables

1. Engineering Report and PSE Submittals to DEQ

Assumptions

1. Three hard copies and one pdf copy of each submittal will be included.

Task 9 - Bid Phase Services

Objective:
To provide professional engineering services during bidding as described below.

Activities:

9.1 Pre-bid Conference
Conduct a pre-bid conference, if deemed appropriate and beneficial. Provide written summary from conference.

9.2 Respond to Bidder Inquiries
Provide written responses to bidder inquiries during the bidding phase. Issue up contract addenda as needed.

9.3 Review Bids and Recommend Award
Conduct bid opening, provide technical assistance in review and evaluation of bids, prepare bid summary sheet and provide recommendation of construction contract award.

Task Deliverables

1. Pre-bid Conference Meeting Agenda and Summary
2. Bidder Responses and Addenda as required
3. Recommendation of Award

Assumptions

1. City will print and distribute bidding documents, responses to bidder inquires, addenda, and maintain a plan holders list.
2. City will publish the Intent to Bid and pay all fees and costs.
3. Up to three RFI responses and two addenda are included in the budget.

Task 10 - Construction Phase Services

Objective:
Work under this task refers to engineering services during construction of the project so that the project is constructed in accordance with the approved plans and specifications.

Activities:

10.1 Pre-Construction Meeting
Coordinate and conduct preconstruction conference, prepare a meeting agenda, and prepare and distribute meeting minutes.

10.2 Submittal Review
Review contractor submittals and shop drawings for conformance to the design requirements of the project. Consult with and advise City as to the acceptability of substitute and "or-equal" items proposed for use by contractor. The prime consultant will coordinate with its sub-consultants to review submittals under its discipline.

10.3 Construction Staking
Construction staking to establish the principal lines and grades for the pump station structures, retaining walls, and gravity sewer and force main extensions.

10.4 Construction Engineering
Respond to Contractor Requests for Information (RFIs) and issue necessary clarifications or interpretations of the contract documents, issue Work Change Directives, prepare change orders, and review and submit for payment contractor progress payment requests.

10.5 Construction Observation
A project representative will be provided to monitor the progress and quality of the executed work through final testing and acceptance. Provide weekly reports of the executed work to the City. Coordinate and conduct progress meetings with the contractor, engineer and City at least monthly to address construction related questions.

10.6 Submit Draft Operations and Maintenance Manual
Prepare a draft O&M manual following DEQ guidelines and submit to the City and DEQ for review and comments at the 50% completion stage during construction.

10.7 Start Up and Training
Attend the pump station start up and verify pump and operational performance. Facilitate the training of City O&M staff regarding operation and maintenance of the new pump station.

10.8 PLC Programming and SCADA Integration
Prepare ladder logic for a local programmable controller to operate the pump station. Prepare operator interface screens on a touch-screen device at the pump station. Develop up to two SCADA screens on the master computer for remote monitoring of the pump station. Load, start-up, and test programming on the PLC, operator touch screen, and master SCADA computer. Provide one day of training at start up and one follow up visit to provide minor programming changes as needed.

10.9 Final DEQ Documentation and O&M Manual
Provide to the City and DEQ documentation required by OAR 340-052-0040 including the final O&M manual and certification that the construction was inspected by the consultant and found to be in accordance with the plans and specifications.

10.10 Prepare Record Drawings
Prepare and provide to City one set of permanent record drawings representative of the "as constructed" work. Record drawings shall also be provided to the City in digital format.

Task Deliverables

1. Pre-construction meeting agenda and summary.
2. Submittal review comments and submittal log.
3. Responses to Contractor Requests for Information and provide clarifications or interpretations of the Contract Documents.
4. Inspection Reports will be prepared for each visit.
5. Monthly Progress Payment Recommendations.
6. Change Orders
7. Start Up Report
8. DEQ Construction Certification and Operation and Maintenance Manual.
9. Record Drawings, full sized on bond paper and pdf file.

Assumptions

1. City will provide a project manager and daily on-site representative during construction.
2. Up to 75 submittals and 25 resubmittals (for a total of 100 submittals) will be reviewed.
3. City will coordinate and review contractor BOLI submittals.
4. Consulting arborist will be provided by the City if needed.
5. City will apply for building permits and provide special inspections and testing as required.
6. Construction staking will be completed in four mobilizations and not more than 32 two-man crew hours.
7. Construction Engineering budget assumes 10 RFI responses, 3 change orders, 4 pay estimates, and provides an average of 5 hours per week for general coordination, conferences, on-site meetings, or other tasks as needed.
8. Construction Observation budget assumes 12 weeks of active onsite construction, which MSA will visit the site an average of three times per week. Each visit with include two hours for travel and three hours for observation and preparing a summary report.

Task 11 – Project Contingency Tasks

Objective:

This contingency task is included for certain work that may be needed during the course of the project, but where the actual need and scope of which is unknown at the time of the effective date of this contract. It is anticipated that the following work tasks could be required by the City during the course of the project: investigating and mitigating potential force main blockages; mitigating power quality issues; designing improvements to the existing building; designing a replacement electrical equipment shelter; preparing additional land use applications; addressing unanticipated conditions of land use decisions; designing off-site force main or gravity sewer improvements; providing special inspections; and other potential contingencies.

Assumptions

1. Use of this task would only occur upon prior written authorization by the City.
2. For budget purposes, an amount of $20,000 is allotted.
3. The contingency budget may be split up into multiple tasks throughout the project as the City determines is necessary.

PAYMENT

Payment will be made at the Billing rates for personnel working directly on the project, which will be made at the Consultant's Hourly Rates, plus Direct Expenses incurred. Billing rates are as shown in the attached Schedule of Charges. Subconsultants, when required by the Consultant, will be charged at actual costs plus a 10 percent fee to cover administration and overhead. Direct expenses will be paid at the rates shown in the attached Schedule of Charges.

TIME AND PERFORMANCE

The anticipated project schedule is as follows:

Consultant Notice to Proceed	October 2016
Preliminary Design Complete	January 2017
Design Complete	June 2017
Construction Complete	April 2018
Project Complete	May 2018

MSA

2016 SCHEDULE OF CHARGES

Personnel:

Labor will be invoiced by staff classification at the following hourly rates, which are valid from January 1, 2016 to December 31, 2016. After this period, the rates are subject to adjustment.

Principal Engineer VI	$224.00
Principal Engineer V	216.00
Principal Engineer IV	208.00
Principal Engineer III	199.00
Principal Engineer II	191.00
Principal Engineer I	184.00
Professional Engineer IX	176.00
Professional Engineer VIII	167.00
Professional Engineer VII	159.00
Professional Engineer VI	151.00
Professional Engineer V	142.00
Professional Engineer IV	134.00
Engineering Designer IV	134.00
Professional Engineer III	126.00
Engineering Designer III	126.00
Engineering Designer II	116.00
Engineering Designer I	106.00
Technician IV	129.00
Technician III	115.00
Technician II	100.00
Technician I	85.00
Administrative III	91.00
Administrative II	85.00
Administrative I	74.00

Project Expenses:

Expenses incurred in-house that are directly attributable to the project will be invoiced at actual cost. These expenses include the following:

CADD Hardware/Software	$18.00/hour
Modeling and GIS Hardware/Software	$10.00/hour
Mileage	Current IRS Rate
Postage and Delivery Services	At Cost
Printing and Reproduction	At Cost
Travel, Lodging and Subsistence	At Cost

Outside Services:

Outside technical, professional and other services will be invoiced at actual cost plus 10 percent to cover administration and overhead.