

REQUEST FOR BIDS LAMINATED WOOD POLES SPECIFICATION NO. PT20-0371N



City of Tacoma Tacoma Power/Transmission & Distribution

REQUEST FOR BIDS PT20-0371N Laminated Wood Poles

Submittal Deadline: 11:00 a.m., Pacific Time, Monday, December 28th, 2020

Submittal Delivery: Submittals will be received as follows:

By Email:	By Carrier:
	City of Tacoma Procurement & Payables Division
sendbid@cityoftacoma.org	Tacoma Public Utilities
	3628 S 35 th Street
	Tacoma, WA 98409

Submittal Opening: Submittals in response to a RFB will be opened by a Purchasing representative. The names of vendors submitting proposals are posted to the website for public viewing.

Solicitation Documents: An electronic copy of the complete solicitation documents may be viewed and obtained by accessing the City of Tacoma Purchasing website at www.TacomaPurchasing.org.

- <u>Register for the Bid Holders List</u> to receive notices of addenda, questions and answers and related updates.
- Click here to see a list of vendors registered for this solicitation.

Pre-Proposal Meeting: A pre-proposal meeting will not be held.

Project Scope: One time purchase of (7) seven Glue Laminated Wood Poles

Estimate: \$200,000.00

Paid Leave and Minimum Wage: Effective February 1, 2016, the City of Tacoma requires all employers to provide paid leave and minimum wages, as set forth in Title 18 of the Tacoma Municipal Code. For more information visit <u>www.cityoftacoma.org/employmentstandards</u>.

Americans with Disabilities Act (ADA Information: The City of Tacoma, in accordance with Section 504 of the Rehabilitation Act (Section 504) and the Americans with Disabilities Act (ADA), commits to nondiscrimination on the basis of disability, in all of its programs and activities. Specification materials can be made available in an alternate format by emailing Gail Himes at <u>ghimes@cityoftacoma.org</u>, or by calling her collect at 253-591-5785.

The following is applicable to Federal Aid Projects:

The City of Tacoma in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, subtitle A, Office of the Secretary, part 21, nondiscrimination in federally assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR, part 26, will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

Additional Information: Requests for information regarding the specifications may be obtained by contacting Erica Pierce by email to epierce@cityoftacoma.org

Protest Policy: City of Tacoma protest policy, located at <u>www.tacomapurchasing.org</u>, specifies procedures for protests submitted prior to and after submittal deadline.



Meeting sites are accessible to persons with disabilities. Reasonable accommodations for persons with disabilities can be arranged with 48 hours advance notice by calling 253-502-8468.



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SIGNATURE PAGE

CITY OF TACOMA TACOMA POWER/TRANSMISSION & DISTRIBUTION

All submittals must be in ink or typewritten, executed by a duly authorized officer or representative of the bidding/proposing entity, and received and time stamped as directed in the **Request for Bids near the beginning of the specification**. If the bidder/proposer is a subsidiary or doing business on behalf of another entity, so state, and provide the firm name under which business is hereby transacted.

REQUEST FOR BIDS SPECIFICATION NO. PT20-0371N LAMINATED WOOD POLES

The undersigned bidder/proposer hereby agrees to execute the proposed contract and furnish all materials, labor, tools, equipment and all other facilities and services in accordance with these specifications.

The bidder/proposer agrees, by submitting a bid/proposal under these specifications, that in the event any litigation should arise concerning the submission of bids/proposals or the award of contract under this specification, Request for Bids, Request for Proposals or Request for Qualifications, the venue of such action or litigation shall be in the Superior Court of the State of Washington, in and for the County of Pierce.

Non-Collusion Declaration

The undersigned bidder/proposer hereby certifies under penalty of perjury that this bid/proposal is genuine and not a sham or collusive bid/proposal, or made in the interests or on behalf of any person or entity not herein named; and that said bidder/proposer has not directly or indirectly induced or solicited any contractor or supplier on the above work to put in a sham bid/proposal or any person or entity to refrain from submitting a bid/proposal; and that said bidder/proposer has not, in any manner, sought by collusion to secure to itself an advantage over any other contractor(s) or person(s).

Bidder/Proposer's Registered Name		Signature of Pers into Contracts for	on Authorize Bidder/Propo	d to Enter oser	Date
Address		Printed Name and	d Title		
City, State, Zip		(Area Code) Tele	phone Numb	er / Fax Numb	er
E-Mail Address			•	-	
FINO / Federal Social Security Number Used on Quarterly		State Business Li in WA, also known as	Cense Numb UBI (Unified Bu	er siness Identifier) N	Number
Federal Tax Return, U.S. Treasury Dept. Form 941		State Contractor's (See Ch. 18.27, F	s License Nui R.C.W.)	mber	
ddendum acknowledgement #1	#2_	#3	#4	#5	

THIS PAGE MUST BE SIGNED AND RETURNED WITH SUBMITTAL.



PROPOSAL - PRICING SHEET

ltem No.	Description	Quantity	Unit Price	Total Bid Price
1	(Location P2) Glue Laminated Wood Utility Pole – Self supporting, 88' above ground w/115kV Transmission and 4-wire 12.47kV Distribution; 7 generic communication attachments	1	\$	\$
2	(Location P3) Glue Laminated Wood Utility Pole – Self supporting, 88' above ground w/115kV Transmission and 4-wire 12.47kV Distribution; 7 generic communication attachments	1	\$	\$
3	(Location P4) Glue Laminated Wood Utility Pole – Self supporting, 88' above ground w/115kV Transmission and 4-wire 12.47kV Distribution; 7 generic communication attachments	1	\$	\$
4	(Location P5) Glue Laminated Wood Utility Pole – Self supporting, 88' above ground w/115kV Transmission and 4-wire 12.47kV Distribution; 7 generic communication attachments	1	\$	\$
5	(Location P6) Glue Laminated Wood Utility Pole – Self supporting, 88' above ground w/115kV Transmission and 4-wire 12.47kV Distribution; 7 generic communication attachments	1	\$	\$



6	(Location P7) Glue Laminated Wood Utility Pole – Self supporting, 88' above ground w/115kV Transmission and 4-wire 12.47kV Distribution; 7 generic communication attachments	1	\$	\$		
7	(Location P8) Glue Laminated Wood Utility Pole – Self supporting guy stub pole, 29.5' above ground; utilized to backup an angled transmission pole	1	\$	\$		
		Subtotal for Pro	posal (Items 1-7)	\$		
	\$					
		Total for It	ems 1-7 with Tax	\$		
OPTIONAL ITEM						
Include a price list for Utility Hardened Galvanized Machine Bolts (3/4", 5/8", and 1/2" diameter)						
in 4"	in 4" increments from 36" to 70" in length utilized to attach pole attachments, cross arms,					
insul	insulators and other hardware.					

NOTES: 1. All prices shall be submitted as F.O.B. Destination, freight prepaid and allowed included in the unit price



SECTION I – SPECIAL PROVISIONS

1.01 - LINE VOLTAGE

115kV, 1272 AAC Narcissus – 15kV, 477 AAC Cosmos with Neutral and Generic Fiber, 6-transmission poles 88' above ground and 1-guy stub pole 29.5' above ground.

1.02 - LOADING FILES

See Appendix C (attached separately) for provided PLS-POLE with attached loading files for NESC medium grade B 2017.

1.03 - UTILIZED STRENGTH

Poles should be designed to a maximum of 90% utilized strength to allow for future secondary or communication attachments.

1.04 - SOIL BORINGS

See Logs of Borings in Appendix B – Geotechnical Engineering Services Report for soils information.

1.05 - SETTING DEPTH & AUGER HOLE SIZE

Setting depth and auger hole size shall be determined by the manufacturer. Tacoma Power anticipates utilizing a sacrificial casing with crushed rock fill. Manufacturer shall design and supply a bolt-on foundation reinforcing system for vertical and lateral loads, if required. All parts shall be individually packaged and labeled to its corresponding pole.

1.06 - DRAWINGS

Manufacturer shall supply final drawings stamped by a Structural Engineer Licensed in the State of Washington. Shop drawings must be approved by Tacoma Power prior to pole fabrication. A PLS-POLE .m4 file must be provided by manufacturer to Tacoma Power as a backup file, .bak for each pole.

1.07 - POLE TREATMENT

Poles shall be treated with penta and oil per AWPA specification C28. Poles shall have incising ³/₄ inch deep full length. Poles shall have deep boring 3 inches deep extending from 3 feet below the ground line to 6 feet above the ground line.

1.08 - PREDRILLED HOLES

Holes for hardware attachments shall be predrilled and treated by the manufacturer and be of sufficient diameter to receive the specified hardware bolt diameters after treatment to account for wood swelling, in accordance with attached drill specification. See Appendix A – Pole Holes Drill Pattern.

1.09 - BOLT HARDWARE

Unit prices shall include Galvanized Machine Bolt Hardware as specified in the drill pattern to accommodate pole dimensions and attaching hardware.

1.10 - ANSI REQUIREMENTS

Poles shall meet the American National Standard Institute ANSI 05.2, Structural Glued Laminated Timber for Utility Structures.



1.11 - DELIVERY

The shipper shall notify Tacoma Power a minimum of **72** hours prior to arriving at delivery destination to allow arrangement of off-loading by Tacoma Power.

Delivery Notice Contact:		
Contact	Gordon Caudill	
Phone Number	(253) 208-1906	
Alternate Contact	Eric Dodgen	
Phone Number	(253) 363-6233	

1.11.1 - DELIVERY LOCATION

Deliver completed items as directed by the purchase order release to:

Tacoma Power Southwest Substation Pole Yard

4102 South 74th Street

Tacoma, WA 98409

1.12 - INSPECTION & WARRANTY

All goods are subject to final inspection and acceptance by the Tacoma Power Engineer.

1.13 - FAILURE OF INSPECTION

Materials received damaged or failing to meet the requirements of these specifications will be held at the Supplier's risk and may be returned to Supplier. If so returned, the cost of transportation, unpacking, inspection, repackaging, reshipping, or other like expenses are the responsibility of the Supplier.

Charges for dismantling and reinstallation of materials furnished pursuant to the Contract will be the responsibility of the Supplier only when a change out or replacement is required because of a suspected or known design defect or large scale failure of manufacturer's quality control system.

1.14 - WARRANTY

Unless a longer period is specified, the Supplier and/or manufacturer of the supplies, materials and/or equipment furnished pursuant to this Contract agrees to correct any defect or failure of the supplies, materials and/or equipment which occurs within **one year** from the date of commencement of use, however, said warranty period shall not extend beyond **eighteen months** after date of receipt by the City. When the Supplier is not the manufacturer of the item of equipment, Supplier agrees to be responsible for this warranty and Supplier is not relieved by a manufacturer's warranty.

1.14.1 - WARRANTY PERIOD EXTENSION

The Contract warranty period shall be suspended from the time a significant defect is first documented by the City until the material is repaired or replaced by Supplier and accepted by the City. In addition, in the event less than ninety (90) days remain on the warranty period (after recalculating), the warranty period shall be extended to allow for at least



ninety (90) days from the date

the work or equipment is repaired or replaced and accepted by the City.

1.14.2 - WARRANTY WORK

The City has determined that the physical repair of material/equipment, under warranty, is generally not possible due to the nature of the material - wood. If the deviation can be corrected through retreatment then supplier will bear all transportation costs and treatment costs associated with making the correction and returning the item to Tacoma Power.

PT20-0371N - Appendix A

Bolt:	Hole Diameter	
1/2"	9/16"	A
5/8"	11/16"	В
3/4"	13/16"	С

	Y-Axis		
	Ahead		
	270		
180	Pole	0	X-Axis
	90		
	Back		

	P2		
Dist from Top (ft)	Diameter	Axis	Discription
1	С	Y	DE
1.5	С	Y	DE 2
3	С	Х	POST
4	С	Х	POST 2
9	С	Y	DE
9.5	С	Y	DE2
11	С	Х	POST
12	С	х	POST 2
17	С	Y	DE
17.5	С	Y	DE 2
19	С	Х	POST
20	С	Х	POST 2
32	С	Y	DIST ARM
33.79	Α	Y	11' BRACE
34.5	Α	Х	C/0
35.33	Α	Y	13' BRACE
36	С	Х	BUCK
37	В	Y	XMR
38	В	Y	XMR 2
39	В	Y	XMR 3
40	В	Х	RC
42	В	Х	RC 2
53	В	Х	COMM
54	В	Х	
55	В	Х	
56	В	Х	
57	В	Х	
58	В	Х	
59	В	Х	
60	В	Х	

OTHER POLES				
Dist from Top (ft)	Diameter	Axis	Discription	
1	C	Х	POST	
2	С	Х	POST 2	
9	С	Х	POST	
10	С	Х	POST 2	
17	С	Х	POST	
18	С	Х	POST 2	
32	С	Y	DIST ARM	
33.79	Α	Y	11' BRACE	
34.5	Α	Х	C/O	
35.33	Α	Y	13' BRACE	
36	С	Х	BUCK	
37	В	Y	XMR	
38	В	Y	XMR 2	
39	В	Y	XMR 3	
40	В	Х	RC	
42	В	Х	RC 2	
53	В	Х	COMM	
54	В	Х		
55	В	Х		
56	В	Х		
57	В	Х		
58	В	Х		
59	В	Х		
60	В	Х		

	GUY POLE		
Dist from Top (ft)	Diameter	Axis	Discription
1	С	Х	GUY PLATE
1.5	С	Х	GUY PLATE 2
2	С	Х	GUY PLATE
2.5	С	Х	GUY PLATE 2
3	С	Х	GUY PLATE
3.5	С	Х	GUY PLATE 2
4	С	Х	GUY PLATE
4.5	C	Х	GUY PLATE 2

PT20-0371N - APPENDIX B

Geotechnical Engineering Services Report

Steilacoom Boulevard SW Farwest Drive SW to Phillips Road SW Lakewood, Washington

for City of Lakewood

December 10, 2018



Earth Science + Technology

Geotechnical Engineering Services Report

Steilacoom Boulevard SW Farwest Drive SW to Phillips Road SW Lakewood, Washington

for City of Lakewood

December 10, 2018



1101 South Fawcett Avenue, Suite 200 Tacoma, Washington 98402 253.383.4940

Geotechnical Engineering Services Report

Steilacoom Boulevard SW Farwest Drive SW to Phillips Road SW Lakewood, Washington

File No. 21559-004-00

December 10, 2018

Prepared for:

City of Lakewood 6000 Main Street SW Lakewood, Washington 98499-5027

Attention: Weston Ott, PE and Paul Candler, PE

Prepared by:

GeoEngineers, Inc. 1101 South Fawcett Avenue, Suite 200 Tacoma, Washington 98402 253.383.4940

Brett E. Larabee, PE Geotechnical Engineer

Dennis (D.J.) Thompson, PE Associate

BEL:DJT:tt



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1.0 INTRODUCTION AND PROJECT UNDERSTANDING

This report presents the results of our geotechnical engineering services for the Steilacoom Boulevard SW Farwest Drive SW to Phillips Road SW project in Lakewood, Washington. This report provides recommendations for the project area between 87th Avenue SW and Phillips Road SW as shown on the Vicinity Map, Figure 1. We previously completed a geotechnical study for other portions of the Farwest Drive SW to Phillips Road SW project titled "Steilacoom Boulevard Safety Improvement Project" and dated September 20, 2016. For the purposes of this report, the project area between 87th Avenue SW and Phillips Road SW and Phillips Road SW is referred to as the "project site" or "site." Our understanding of the project is based on our discussions with you, a site walk completed on September 18, 2018 and information provided including a site survey attached to an email dated September 12, 2018.

We understand that improvements between 87th Avenue SW and Phillips Road SW will include new traffic control and street light poles at the intersections of Steilacoom Boulevard and the following cross streets: 83rd Avenue SW (Hipkins Road SW), Briggs Lane SW, Fairway Drive SW (also known as Weller Road SW) and Phillips Road SW. The roadway will be widened between the 87th Avenue SW and the Phillips Road SW intersections to accommodate sidewalks and bike lanes and the existing pavements will either be repaired/rehabilitated or replaced. Widening the roadway will likely require construction of cut and fill walls between Phillips Road SW and Weller Road SW. Fill walls are expected on the south side of the road and cut walls are expected on the north side of the road. Stormwater infiltration facilities may also be constructed within the improvement area. We expect that rain gardens and bioswales will be the preferred facility types. We anticipate that underground utility work may also be included in this project.

2.0 PURPOSE AND SCOPE OF SERVICES

The purpose of our services is to complete subsurface explorations in the form of borings and pavement cores to use as a basis for providing geotechnical design and construction recommendations. Our services have been completed in general accordance with our signed agreement for this project dated October 4, 2018. Our specific scope of services included the following:

- 1. Reviewing published geological data and our relevant in-house files for existing information on subsurface conditions in the project vicinity.
- 2. Developing a preliminary exploration plan for review by you.
- 3. Obtaining a right of way permit to complete the explorations within the City right-of way.
- 4. Locating underground utilities at the exploration locations. We contacted the "One-Call" Utility Notification Center prior to beginning our explorations as required by Washington State law.
- 5. Exploring subsurface conditions by advancing four soil borings along the alignment using subcontracted drilling equipment and operators.
- 6. Advancing 12 pavement cores along Steilacoom Boulevard.
- 7. Conducting laboratory testing on selected soil samples to evaluate engineering properties and verify field classifications.



- 8. Providing a general discussion of site soil and groundwater conditions based on our review, explorations and testing.
- 9. Providing lateral soil bearing pressures for use in design of traffic signal pole foundations in accordance with Chapter 17 of the Washington State Department of Transportation (WSDOT) Geotechnical Design Manual (GDM), 2015 Edition.
- 10. Providing general recommendations for design and construction of cut and fill retaining walls including a discussion of different wall types and relative advantages and disadvantages of each.
- 11. Providing general recommendations for earthwork and construction considerations.
- 12. Providing a discussion of suitability of site soils for stormwater infiltration, including an estimate of longterm design infiltration rates based on laboratory sieve analysis results and the criteria described in the 2014 Stormwater Management Manual for Western Washington (SWMMWW).

3.0 SITE CONDITIONS

3.1. Literature Review

We reviewed the Washington State Department of Natural Resources Geological Information Portal Geologic Map System (access November 11, 2018). The reviewed map indicates that soil underlying the project site is Steilacoom gravel (Qvs). Steilacoom gravel is described as granular material ranging in grain size from fine gravel to boulders with variable sand and silt content that was deposited by outburst floods from glacial Lake Puyallup. Lenses of sand and silty sand are also present in these deposits.

3.2. Surface Conditions

The proposed improvement area is located along a primarily commercial corridor of Steilacoom Boulevard. Residential neighborhoods are located along the south side of the improvement area. Steilacoom Boulevard is a major arterial with two lanes in each direction and a center turn lane. The pavement type at the surface of the roadway is asphalt concrete. Concrete sidewalks are generally located on both sides of the roadway. Between the intersections of Weller Road SW and Phillips Road SW, the sidewalk on the south side of the roadway is relatively narrow and in some places the sidewalk is gravel surfaced.

Steilacoom Boulevard between 87th Avenue SW and approximately Lake Steilacoom Point Road SW is relatively flat. Between Lake Steilacoom Point Road SW and Phillips Road SW, Steilacoom Boulevard slopes downward to the east. On the south side of the roadway between Weller Road SW and Phillips Road SW there is a slope that leads down southward to the adjacent residential properties. Based on our site reconnaissance, the slope is on the order of 4 to 8 feet tall. There does not appear to be any retaining structures along this slope and in most areas, the slopes are covered with vegetation and trees. In some areas wood or chain link fences are located on or at the base of the slope.

Between Weller Road SW and Phillips Road SW adjacent properties on the north side of the road are typically a few feet higher in elevation than the roadway. The grade change is typically accommodated by what appears to be cut slopes on the order of a few feet tall. In some isolated areas, the height of the slopes appears to be on the order of 4 feet.

3.3. Subsurface Explorations and Laboratory Testing

Our subsurface exploration program consisted of 4 soil borings and 12 pavement cores. The approximate locations of our explorations are shown on Figure 2 and Figure 3. Details regarding our exploration program are provided in Appendix A. Summary exploration logs and a key to the exploration log symbols are provided as Figures A-1 through A-5 in Appendix A. Selected samples from our explorations were tested in our laboratory to determine the grain-size distribution and moisture condition. Details and results of our laboratory testing program are summarized in Appendix A.

3.4. Subsurface Conditions

3.4.1. Pavement Thickness

Table 1 below summarizes the pavement sections observed in our exploration locations. Reported thicknesses of the pavement sections should be considered approximate and were typically rounded to the nearest quarter inch.

At most of our exploration locations the pavement section was comprised of asphalt concrete (AC) overlaying what we interpret to be natural subgrade soils. It was difficult to tell if a gravel base course section was present below all pavements; however, if a distinct gravel base course section was observed, it was noted.

We observed Portland cement concrete (PCC) below the asphalt concrete in two of our explorations, boring B-2 and Core-4. In B-2, there was approximately 6 inches of base course between the AC and the PCC. We were not able to advance B-2 through the PCC using the hollow-stem auger drilling equipment that was available on site. We made a second attempt to drill B-2 approximately 6 feet east of the location shown on the Site Plan. In this location, we observed about 8 inches of AC directly underlain by PCC. In Core-4 we observed 6 inches of AC directly underlain by PCC.

We did not encounter PCC in the other exploration locations. We interpret subgrade soils below the AC and base course, if present, to be native soils. Our cores were located within the inside lanes and center turn lane of Steilacoom Boulevard. We did not explore pavement conditions in the outside lanes. It is possible that the pavements conditions, including the presence of PCC, could vary throughout the project area.

Exploration	Observed Pavement Section
B-1	6-inch AC / Subgrade
B-2	8-inch AC / 18-inch Base Course / PCC (undetermined thickness)
B-3	2.5-inch AC / Subgrade
B-4	2.5-inch AC / Subgrade
Core-1	6-inch AC / Subgrade
Core-2	6-inch AC / 5-inch Base Course / Subgrade
Core-3	6.75-inch AC / Subgrade
Core-4	8.5-inch AC / 6-inch PCC / Subgrade
Core-5	6.75-inch AC / 5-inch Base Course / Subgrade

TABLE 1. PAVEMENT THICKNESS SUMMARY



Exploration	Observed Pavement Section
Core-6	6.5-inch AC / Subgrade
Core-7	4.75-inch AC / Subgrade
Core-8	6-inch AC / Subgrade
Core-9	9.5-inch AC / Subgrade
Core-10	7.75-inch AC / Subgrade
Core-11	7-inch AC / Subgrade
Core-12	8-inch AC / Subgrade

3.4.2. Soil and Groundwater Conditions

Below the pavement section in B-1, we observed what we interpret to be fill or reworked native soil extending to 2.25 feet below ground surface (bgs). Fill and reworked native soils generally consisted of very dense silty gravel with sand. Starting below the fill in B-1 and below the pavement in B-3 and B-4, we observed what we interpret to be native Steilacoom gravel soils. Observed Steilacoom gravel soils primarily consisted of loose to very dense gravel with silt sand and occasional cobbles and sand with silt and gravel. B-1, B-3, and B-4 were terminated within the Steilacoom gravel soils at depths of 21, 20.5, and 21.5 feet bgs, respectively. Boring B-2 was terminated on the PCC concrete section at around 2 feet bgs.

We did not observe indications of groundwater during drilling of the borings. While not observed, we anticipate that perched groundwater could be encountered in the project area at depths above 20 feet bgs. Perched groundwater depths could vary depending on location, season and precipitation conditions.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1. General

Based on our understanding of the proposed improvements and the soil conditions observed in our explorations in our opinion the project can be constructed generally as envisioned with regards to geotechnical considerations. The sections below provide our detailed recommendations.

4.2. Signal Pole and Luminary Pole Foundation Design

4.2.1. General

Table 2 below summarizes recommendations for allowable lateral bearing pressure for the soils encountered in our borings. Bearing pressures are based on correlations between blow count and lateral bearing pressure values presented in Table 17-2 of the 2015 WSDOT GDM.

Location	Nearest Boring	Allowable Lateral Bearing Pressure (psf)
Phillips Road SW and Steilacoom Boulevard SW Intersection	B-1	3,500
Fairway Drive SW (Weller Road SW) and Steilacoom Boulevard SW Intersection	B-3	3,500
Briggs Lane and Steilacoom Boulevard SW Intersection	B-4	4,500
83 rd Avenue SW and Steilacoom Boulevard SW Intersection	B-4	4,500

TABLE 2. ALLOWABLE LATERAL BEARING PRESSURES FOR SIGNAL AND LUMINARY POLES



4.2.2. Construction and Additional Design Considerations

We present two conditions to consider when designing and constructing luminary and signal pole foundations (pole foundations).

- Condition #1, an excavation the same dimension of the designed pole foundation is created, and the foundation is cast directly against undisturbed earth. Or,
- Condition #2, an excavation larger than the designed dimension of the pole foundation is created, a corrugated metal pipe is placed into the excavation and the foundation concrete is cast inside the metal pipe. The corrugated metal pipe is left in place after pouring the foundation concrete. Any overexcavated area outside of the corrugated metal pipe is backfilled with controlled density fill (CDF) or soil.

Construction of foundation Condition #1 requires the sidewalls of the excavation to stay stable and not cave into the excavation. Construction of foundation Condition #2 does not require the sidewalls of the excavation to remain stable. Based on the soil types observed it is our opinion that there is a risk that the sidewalls of the excavations will cave, especially if excavation depths exceed 5 feet. In addition, the encountered soils were generally observed to be medium dense to very dense and, therefore, hard digging or slow/rough drilling should be expected during excavation. The coarse gravels and cobbles observed in our explorations will likely make creating smooth-faced excavations difficult. We encountered large cobbles in our explorations and there is a potential for boulders to be present in the soils at the site. Accordingly, the contractor should be prepared to remove oversized material. Recommendations regarding backfilling around pole foundations are included in the "Fill Materials" section of this report.

4.3. Retaining Walls

4.3.1. General

We understand that to accommodate the planned roadway widening, retaining walls will be constructed on the north and south sides of Steilacoom Boulevard generally between Phillips Road SW and Weller Road SW. Fill walls on the order of 4 to 8 feet tall are planned on the south side of the roadway. Cut walls on the order of 3 to 4 feet tall are planned on the north side of the roadway. Based on conversations with you we understand that a soldier pile wall is most likely the preferred alternative on the south side of the roadway. The preferred retaining will types on the north side of the roadway are most likely soldier pile walls and modular gravity walls.

The sections below provide retaining wall design parameters for the preferred wall types as well as a discussion of different retaining wall types that, in our opinion, are feasible for use at the site. Depending on the wall type or configuration selected, additional design recommendations may be required to complete final design of the walls. We are available to provide additional assistance as the design progresses.

4.3.2. Preferred Retaining Wall Types and Considerations

4.3.2.1. Soldier Pile Wall

A soldier pile wall typically consists of steel wide-flange sections placed in drilled holes on the order of 24 to 48 inches in diameter that are filled with CDF or lean concrete. Wood lagging or precast concrete panels are placed in the space between the soldier piles to retain the soil. Soldier pile walls can be used in both cut and fill applications.



The embedment depth of the soldier piles will depend on pile spacing, soil conditions and other site constraints and design factors. Typical pile spacings are on the order of 5 to 8 feet and soldier piles are typically embedded at least 1.5 times the height of the wall. We expect that for the wall heights being considered, tiebacks will not be required and are not anticipated for this project. As previously discussed, the earth pressures provided in this report are suitable for design of cantilever soldier pile walls. When evaluating the passive resistance of the soldier pile, we recommend that the top 2 feet of soil below the base of the excavation be ignored. The passive earth pressure may be considered to act over 2.5 times the concrete diameter of the soldier pile, or the soldier pile spacing, whichever is less.

Installation of soldier piles typically requires significant overhead clearance in order to drill and place the soldier piles into the drilled holes. Existing overhead utilities could present a potential conflict with soldier pile installation. In addition, with the soil types observed, it is likely that holes will cave and temporary casing will be required to maintain hole stability during construction.

4.3.2.2. Modular Gravity Walls

Modular gravity walls include prefabricated systems such as concrete blocks and walls with structural bin or crib elements (e.g., gabion baskets). Modular gravity walls provide resistance to lateral soil loads through a combination of the system weight and sliding resistance. Modular gravity systems can be used in both cut and fill applications. These types of wall systems can usually be constructed with a vertical face and without geosynthetic reinforcement for heights up to about 4 to 7 feet. For higher retained wall heights, a face batter, geosynthetic reinforcement, use of a wider base or a combination of these methods is typically required. Geosynthetic reinforcement length, if included, are typically on the order of 90 percent of the wall height and are spaced at a maximum vertical distance of 2 feet.

Minimum embedment depths for modular walls are typically on the order of 1 to 3 feet, depending on the wall height. The base width of modular gravity walls is typically on the order of 40 to 60 percent of the wall height. The design parameters provided in the "Shallow Foundations" section of this report are appropriate for design of modular block walls. We recommend we be consulted to provide additional recommendations for design of geosynthetic reinforcement if it is included as part of the wall design. Many contractors provide proprietary modular wall products or systems and design of proprietary systems is often completed by the supplier.

4.3.3. Additional Retaining Wall Alternatives

4.3.3.1. Rockery Wall

A rockery is a retaining and erosion protection structure that consists of stacked rocks that are not connected with mortar, concrete or steel reinforcement. The rocks are stacked in an interlocking pattern, however, there are no mechanical connections between the individual rocks. Rockery walls rely on the weight, size, shape and internal friction between the rocks for stability. The primary purpose of a rockery is to protect the slope face from erosion and raveling, while providing limited soil retention. Additionally, the retained slope must be stable without the rockery present. Rockeries can be used in both cut and fill applications.

Rockeries with a 1H:5V to 1H:6V (horizontal to vertical) batter and horizontal backslope should be limited to 8 feet exposed height in cut areas. If rockeries are to face fill areas greater than 5 feet in height or if they have inclined backslopes, then the fill should be designed and reinforced with geosynthetic materials. For sizing and placement considerations, the base width of the rockery walls for the heights recommended is



typically about 30 percent of the wall height. The base of rockeries should be embedded at least one-half the thickness of the lowest course of rocks or 18 inches below the adjacent ground surface, whichever is greater.

Rockeries should be constructed in general, using rock sizes and procedures specified by the Association of Rockery Contractors and the 2016 WSDOT Standard Specifications Section 9-13.7(1). Additional considerations such as surcharge loads may also dictate rock size and construction considerations.

Periodic maintenance and monitoring of the face of rockery walls should be expected. In general, rockeries are typically constructed so that the exposed face can be repaired, if needed.

4.3.3.2. Structural Earth Wall

Structural earth walls (SEWs) or mechanically stabilized earth (MSE) walls consist of a fill soil mass reinforced with geo-synthetic or steel straps to provide tension resistance to the soil. The exposed face of the soil mass is protected by a fascia. This permanent fascia can consist of concrete panels, segmental concrete blocks, wire gabions, or a cast-in-place facing over geo-synthetic wraps. MSE walls are typically used in fill applications so we expect that they would be considered for use on the south side of the roadway.

The length of the reinforcement for MSE walls depends on the wall height and other design factors such as surcharge loads and seismic considerations. According to WSDOT Standard Plan D.3.09-00 "Permanent Geosynthetic Wall," typical reinforcement lengths for wall heights between 5 and 10 feet are on the order of 7 to 14 feet, respectively. MSE wall embedment depths are typically on the order of 10 percent of the wall height or a minimum of 2 feet.

4.3.3.3. Cast-in-Place Wall

Cast-in-place reinforced concrete retaining walls are feasible in both cut and fill applications for the range of wall heights necessary for this project. The width of the base of the wall will depend on the wall height and other factors. Based on our review of the D-10 series of WSDOT Standard Plans for Reinforced Concrete Retaining Walls, we expect that for walls between 5 and 10 feet tall, the minimum foundation base width could be on the order of 5 to 8 feet with embedment depths on the order of 1.5 to 2 feet.

Construction of a cast-in-place wall on the south side of the roadway will likely require excavation into the eastbound lanes in order to create an area to construct the wall foundations. The amount of excavation could be less than what is expected for an MSE wall depending on the wall height and temporary cut slope inclination.

4.3.4. Additional Retaining Wall Discussion

The discussed wall alternatives should not be considered exhaustive, and different wall types could be considered. The wall types discussed above are commonly used in the region and in applications similar to what is needed for this project. Based on our experience the most cost-effective alternatives would likely be the rockery, modular gravity and SEWs. The cast-in-place wall and soldier piles alternatives would likely be the most expensive of the wall types considered.

Construction of an MSE wall (or other wall type that incorporates geosynthetic reinforcement) on the south side of Steilacoom Boulevard would likely require excavation into the eastbound lanes. Temporary slope excavations necessary to construct the reinforced zone could require closures of multiple lanes of Steilacoom Boulevard and the excavation could interfere with existing utilities. Installation of utilities into



the reinforced soils mass after construction is completed is feasible; however, it will likely require reconstruction of the reinforced zone.

We expect that the soldier pile wall alternative could be constructed with the least amount of modification to the existing conditions on the south side of the roadway or excavation into the eastbound lanes.

In our opinion the soil conditions at the site do not favor a particular wall type and construction of the different wall types considered is likely feasible using conventional methods. The granular coarse-grained soils at the site have a tendency to ravel and have little to no internal cohesion. Temporary slopes will need to consider this condition during construction.

4.3.5. General Retaining Wall Design Recommendations

4.3.5.1. Soil Properties and Lateral Earth Pressures

The recommended design parameters are based on the assumption that retained soil will be similar to medium dense to very dense native Steilacoom gravel soils or compacted structural fill. Our recommended retaining wall design parameters are based on a cohesionless granular soil with a unit weight of 125 pounds per cubic foot (pcf) and an angle of internal friction of 34 degrees. These pressures may be considered as a triangular distribution for conventional cantilever soldier pile walls and gravity walls either constructed as large block units or cast-in-place construction.

Our design pressures assume that the ground surface around the retaining structures will be level or near level. If drained design parameters are used, drainage systems must be included in the design in accordance with the recommendations presented in the "Drainage" section below.

- Active soil pressure may be estimated using an equivalent fluid density of 35 pcf for the drained condition.
- Active soil pressure may be estimated using an equivalent fluid density of 80 pcf for the undrained condition; this value includes hydrostatic pressures.
- At-rest soil pressure may be estimated using an equivalent fluid density of 55 pcf for the drained condition.
- At-rest soil pressure may be estimated using an equivalent fluid density of 90 pcf for the undrained condition; this value includes hydrostatic pressures.
- For seismic considerations, a uniform lateral pressure of 10H pounds per square foot (psf) (where H is the height of the retaining structure or the depth of a structure below ground surface) should be added to the lateral earth pressure.
- An additional 2 feet of fill representing a typical traffic surcharge of 250 psf should be included if vehicles are allowed to operate within ½ the height of the retaining walls. Recommended surcharge distributions for other load configurations are provided on Figure 4. Other surcharge loads, such as construction equipment or construction staging areas, should be considered on a case-by-case basis.

The active soil pressure condition assumes the wall is free to move laterally 0.001 H, where H is the wall height. The at-rest condition is applicable where walls are restrained from movement. The above recommended lateral soil pressures do not include surcharge loads but are provided above and on Figure 4. The effects of sloping backfill surfaces have not been included. If final backfill surfaces are expected to



be greater than about 4H to 1V, we should be consulted to review conditions and provide alternative equivalent earth pressures.

4.3.5.2. Foundation Support and Lateral Resistance

For bearing support and lateral resistance, we recommend that shallow foundations for retaining walls be designed following the recommendations in the "Shallow Foundations" section of this report. Recommended lateral resistance values for design are provided in the "Lateral Resistance" section of this report.

4.3.5.3. Drainage

If retaining walls are designed using drained parameters, a drainage system behind the structure must be constructed to collect water and prevent the buildup of hydrostatic pressure against the structure. We recommend the drainage system include a zone of free-draining backfill a minimum of 18 inches in width against the back of the wall. The drainage material should consist material similar to WSDOT Standard Specification 9-03.12(2), "Gravel Backfill for Walls."

A perforated, rigid, smooth-walled drain pipe with a minimum diameter of 4 inches should be placed along the base of the structure within the free-draining backfill and extend for the entire wall length. The drain pipe should be metal or rigid PVC pipe and be sloped to drain by gravity. Discharge should be routed to appropriate discharge areas and to reduce erosion potential. Cleanouts should be provided to allow routine maintenance. We recommend storm drains or other types of drainage systems not be connected to retaining wall drain systems.

It may also be suitable to use a drainage board system and/or weep holes to discharge water from behind retaining walls. Weep holes, if planned, should be spaced on the order of 10 to 15 feet apart and should not discharge onto erosion sensitive sloped areas. We should review proposed draining system types once the design has been developed.

4.4. Shallow Foundations

4.4.1. General

Shallow foundations can be used for supporting retaining walls and other near-grade improvements at the site. We recommend that shallow foundations be embedded at least 18 inches below the lowest adjacent grade and have a minimum width of 18 inches. The sections below provide our recommendations for foundation bearing surface preparation and foundation design parameters.

4.4.2. Foundation Bearing Surface Preparation

Shallow footing excavations should be performed using a smooth-edged bucket to limit bearing disturbance. Foundations should bear on existing granular fill, Steilacoom gravel soils, or on structural fill extending to these soils. The bearing surface should be compacted as necessary to a firm, unyielding condition. Loose or disturbed materials present at the base of footing excavations should be removed or compacted. A crushed rock base course, on the order of 6 inches, should be anticipated below retaining structures such as rockeries, SEWs, and modular block walls.

If structural fill is placed below footings, we recommend structural fill extend laterally beyond the foundation perimeter a distance equal to the depth of fill (measured from the base of the footing where necessary), or 2 feet, whichever is less.



Foundation bearing surfaces should not be exposed to standing water. If water is present in the excavation, it must be removed before placing formwork and reinforcing steel. Prepared foundation bearing surfaces should be evaluated by a member of our firm prior to placement of formwork or reinforcing steel to verify that bearing surfaces were prepared in accordance with our recommendations or to provide recommendations for remediating unsuitable bearing soils.

4.4.3. Allowable Soil Bearing Pressure

Shallow foundations bearing on subgrades prepared as recommended may be designed using an allowable soil bearing pressure of 3,500 psf. This bearing pressure applies to the total of dead and long-term live loads and may be increased by one-third when considering total loads, including earthquake or wind loads. These are net bearing pressures. The weight of the footing and overlying backfill can be ignored in calculating footing sizes.

4.4.4. Foundation Settlement

Disturbed soil must be removed from the base of foundation excavations and the bearing surface should be prepared as recommended. Provided these measures are taken, we estimate the total static settlement of shallow foundations will be on the order of $\frac{1}{2}$ to 1 inch for the bearing pressures presented above. Differential settlements could be on the order of $\frac{1}{4}$ to $\frac{1}{2}$ inch between similarly loaded foundations or over a distance of 100 feet of continuous footings. The settlements should occur rapidly, essentially as loads are applied. Settlements could be greater than estimated if disturbed or saturated soil is present below footings.

4.4.5. Lateral Resistance

The ability of the soil to resist lateral loads is a function of the base friction, which develops on the base of footings, and the passive resistance, which develops on the face of below-grade elements of the structure as these elements move into the soil. For footings founded in accordance with the recommendations presented above, the allowable frictional resistance on the base of the footing may be computed using a coefficient of friction of 0.40 applied to the vertical dead-load forces. The allowable passive resistance on the face of the footing or other embedded foundation elements may be computed using an equivalent fluid density of 325 pcf.

These values include a factor of safety of about 1.5. The passive earth pressure and friction components may be combined provided that the passive component does not exceed two-thirds of the total. The top foot of soil should be neglected when calculating passive lateral earth pressure unless the area adjacent to the foundation is covered with pavement.

4.5. Stormwater Infiltration

4.5.1. General

We understand that stormwater infiltration facilities, if included, will be designed in accordance with the 2014 SWMMWW, which has been adopted by the City of Lakewood. We understand that if infiltration facilities are included as part of this project, they would likely consist of rain gardens or bioswales installed along the roadway shoulders or within landscape areas.

In our opinion, the existing fill and Steilacoom gravel soils observed at the site are suitable for infiltration. We did not observe what we interpret to be the regional groundwater table in our explorations. Provided



the base of infiltration facilities are established within 10 feet of the existing ground surface, we do anticipate that maintaining the necessary minimum groundwater separation distance (typically on the order of 5 feet or less) will be a design constraint. Stormwater infiltration facilities should not be located within 100 feet of the back of retaining walls.

4.5.2. Design Infiltration Rate

According to SWMMWW the Soil Grain Size Analysis method can be used to establish the design infiltration rate for infiltration facilities if the site soils have not been consolidated by glacial advance. The Steilacoom gravel soils at the site were not consolidated by glacial advance after deposition and in our opinion the Soil Grain Size Analysis method is appropriate for establishing the design of infiltration rate for facilities at this site.

Table 3 below, summarizes the initial (short-term) infiltration rates calculated using the grain-size analysis method for tested soil samples collected in our borings.

Exploration	Sample Depth (feet)	Geologic Unit	USCS Soil Type	Percent Fines	¹ Ks <i>at</i> i (in∕hr)
B-1	5	Steilacoom gravel	GW	3	>50
B-1	7.5	Steilacoom gravel	GW	2	>50
B-3	7.5	Steilacoom gravel	GW	2	>50
B-4	2.5	Steilacoom gravel	GW-GM	6	40

TABLE 3. SUMMARY OF CALCULATED SHORT-TERM INFILTRATION RATES

Note:

¹ Initial saturated hydraulic conductivity as determined by the grain-size analysis method presented in the 2014 SWMMWW without correction factors.

The infiltration rate calculated using the grain-size method is the initial saturated hydraulic conductivity. The SWMMWW recommends that correction factors be applied to the initial rate to estimate the long-term design infiltration rate. The correction factors account for uncertainties in site conditions, testing procedures, and long-term design reductions in permeability due to the accumulation of fines. The total correction factor is equal to the product of the partial correction factors. Table 4 below, provides a summary of the corrections factors presented in the SWMMWW that in our opinion are suitable for design.

TABLE 4. CORRECTION FACTOR SUMMARY

Issue	Partial Correction Factor
Test Method	CFt =0.4 (for grain-size method)
Site Variability and Number of Locations Tested	$CF_{V}=0.7$ (relatively uniform conditions observed across site in borings)
Siltation and Bio-buildup	F _M =0.9
Total Correction Factor	CF _T = 0.25

Based on the calculated short-term infiltration rates following the methods presented in the SWMMWW and the total correction factor value, we recommend that for evaluating stormwater infiltration feasibility and preliminary design, infiltration facilities at the site be designed using a long-term infiltration rate of



10 inches per hour. It may be possible to use a higher infiltration rate for final design once the location(s) and type(s) of infiltration facilities are selected. According to Section 7.1 of the City of Lakewood Engineering Standards Manual (December 2016), design infiltration rates up to 30 inches per hour are suitable for gravel and coarse sand soils similar to what was observed in some of our explorations. We recommend that GeoEngineers review the stormwater infiltration facilities designed for this project to confirm that the anticipated performance can be achieved. We also recommend that we be retained during construction to observe soil conditions at the base of the infiltration facilities and verify that soil conditions are as anticipated for the proposed design.

4.5.3. Stormwater Treatment

According to Section 3.3.7 of Volume III of the SWMMWW native soils used for treatment purposes must have an initial (unfactored) soil infiltration rate of 9 inches per hour of less. Based on our calculations the native Steilacoom gravel soils at the site have an initial infiltration rate that exceeds this amount. Accordingly, alternative stormwater treatment methods should be considered.

4.6. Site Development and Earthwork

4.6.1. General

We anticipate that site development and earthwork will include demolition of existing pavements, establishing subgrades, adjusting site grades, and placing and compacting fill and backfill materials. We expect that the majority of site grading can be accomplished with conventional earthmoving equipment. The sections below provide our specific recommendations for earthwork.

4.6.2. Clearing and Stripping

Areas of the site to be developed or graded must be cleared of surface and subsurface deleterious matter, including any debris. In addition, the primary root systems of plants, shrubs or trees should be completely removed. If voids are created during clearing and stripping, they should be backfilled with compacted structural fill following the recommendations described in this report.

We encountered large cobbles in our explorations. Accordingly, the contractor should be prepared to remove oversized material. We did not encounter boulders during our explorations; however, it is our experience that they are present in the Steilacoom gravel deposits in the area. Accordingly, the contractor should be prepared to remove boulders, if encountered during grading or excavation. Voids caused by boulder removal should be backfilled with structural fill.

4.6.3. Temporary Excavations, Support and Dewatering

Excavations deeper than 4 feet should be shored or laid back at a stable slope if workers are required to enter. Shoring and temporary slope inclinations must conform to the provisions of Title 296 Washington Administrative Code (WAC), Part N, "Excavation, Trenching and Shoring." Regardless of the soil type encountered in the excavation, shoring, trench boxes or sloped sidewalls will be required under Washington Industrial Safety and Health Act (WISHA). The contract documents should specify that the contractor is responsible for selecting excavation and dewatering methods, monitoring the excavations for safety and providing shoring, as required, to protect personnel and structures.

If temporary cut slopes are required, they should be inclined no steeper than about 1½H:1V. This guideline assumes that all surface loads are kept at a minimum distance of at least one-half the depth of the cut



away from the top of the slope and that seepage is not present on the slope face. Flatter cut slopes will be necessary where seepage occurs or if surcharge loads are anticipated. Temporary covering with heavy plastic sheeting should be used to protect these slopes during periods of wet weather.

Based on our explorations, we do not expect groundwater to be a major factor during shallow excavations and earthwork. However, some perched groundwater could occur in the near-surface soil depending on the time of year of construction. We anticipate that groundwater handling needs will typically be lower during the late summer and early fall months. We anticipate that shallow perched groundwater can typically be handled adequately with sumps, pumps, and/or diversion ditches, as necessary. Ultimately, we recommend that the contractor performing the work be made responsible for controlling and collecting groundwater encountered.

4.6.4. Permanent Cut and Fill Slopes

We recommend permanent cut and fill slopes be constructed at a maximum inclination of 2H:1V. Where 2H:1V permanent slopes are not feasible, protective facings and/or retaining structures should be considered. Exposed areas on slopes should be revegetated as soon as practical to reduce the surface erosion and sloughing. Exposed areas on slopes should be revegetated as soon as practical to reduce the subsurface erosion and sloughing. Temporary protection should be used until permanent protection is established. In order to achieve uniform compaction, we recommend that fill slopes be overbuilt and subsequently cut back to expose well-compacted fill. Fill placement on slopes steeper than 5H:1V should be benched into the slope face. The configuration of the bench will depend on the equipment being used and the slope geometry.

4.6.5. Subgrade Preparation

Subgrades below structures and roadways should be thoroughly compacted to a uniformly firm and unyielding condition on completion of stripping and before placing structural fill, flatwork, or constructing the roadway section. We recommend that subgrades for roadways be proof-rolled or probed, as appropriate, to identify areas of yielding or soft soil. Proof-rolling should be accomplished with a heavy piece of wheeled construction equipment such as a loaded dump truck or grader.

If soft or otherwise unsuitable areas are revealed during proof-rolling or probing that cannot be compacted to a stable and uniformly firm condition, we recommend that: (1) the unsuitable soils be scarified (e.g., with a ripper or farmer's disc), aerated and recompacted; or (2) the unsuitable soils be removed and replaced with compacted structural fill, as needed.

4.6.6. Wet Weather Considerations

The wet weather season generally begins in October and continues through May in western Washington; however, periods of wet weather can occur during any month of the year. The soils encountered in our explorations are generally suitable for use during wet weather conditions provided the soils have less than about 5 percent fines. Soils that contain more than about 5 percent fines are susceptible to disturbance in wet weather conditions and from repeated construction traffic. If construction activities do take place during a period of wet weather, we recommend that the following steps be taken to reduce the risk of disturbing the existing soils.



- The ground surface in and around the work area should be sloped so that surface water is directed away from the work area. The ground surface should be graded so that areas of ponded water do not develop. Measures should be taken by the contractor to prevent surface water from collecting in excavations and trenches. Measures should be implemented to remove surface water from the work area.
- Earthwork activities should not take place during periods of heavy precipitation.
- Slopes with exposed soils should be covered with plastic sheeting.
- The contractor should take necessary measures to prevent on-site soils and other soils to be used as fill from becoming wet or unstable. These measures may include the use of plastic sheeting, sumps with pumps and grading. The site soils should not be left uncompacted and exposed to moisture. Sealing the exposed soils by rolling with a smooth-drum roller prior to periods of precipitation will help reduce the extent to which these soils become wet or unstable.
- Construction activities should be scheduled so that the length of time that soils are left exposed to moisture is reduced to the extent practical.

4.7. Fill Materials

4.7.1. General

Material used for structural fill should be free of debris, organic contaminants and rock fragments larger than 6 inches. The workability of material for use as structural fill will depend on the gradation and moisture content of the soil. As the amount of fines increases, soil becomes increasingly sensitive to small changes in moisture content. The following paragraphs summarize our recommendations for fill and backfill.

4.7.2. Structural Fill and Trench Backfill

Structural fill and trench backfill must be free of debris, organic material and rock fragments larger than 6 inches. We recommend that structural fill and trench backfill material consist of material similar to "Select Borrow" or "Gravel Borrow" as described in Section 9-03.14 of the WSDOT Standard Specifications. If construction is performed during wet weather, we recommend using select granular fill as described below.

4.7.3. Select Granular Fill

Select granular fill should consist of well-graded sand and gravel or crushed rock with a maximum particle size of 6 inches and less than 5 percent fines by weight based on the minus ³/₄-inch fraction. Organic matter, debris or other deleterious material should not be present. In our opinion, material with gradation characteristics similar to WSDOT Specification 9-03.9 (Aggregates for Ballast and Crushed Surfacing), 9-03.10 (Aggregate for Gravel Base), or 9-03.14 (Borrow) is suitable for use as select granular fill, provided that the fines content is less than 5 percent (based on the minus ³/₄-inch fraction) and the maximum particle size is 6 inches.

4.7.4. On-Site Soil

During dry weather and periods of light to medium rain, non-organic on-site soil may be considered for use as fill provided it meets the criteria described above and can be compacted as recommended. On-site soil with a fines content higher than about 5 percent will be sensitive to moisture and may be difficult to place



and compact as structural fill during periods of wet weather and/or if exposed to wet conditions. Material with higher fines was intermittently encountered in the explorations.

Based on our subsurface explorations the Steilacoom gravel material contains a large percentage of oversized particles consisting of coarse gravel and cobbles. Oversized particles may cause discontinuities in fill surfaces and be difficult to uniformly compact. Using on-site soil with oversized material may not be suitable in some applications such as roadway or sidewalk surface grading or as trench backfill. In general, we recommend that material larger than 6 inches be removed before on-site soils are reused as structural fill.

4.7.5. Recycled Materials

Crushed asphalt and PCC may be considered for use as structural fill provided it meets the gradation criteria for its intended use and the material can be compacted to a uniformly firm and unyielding condition. The maximum particle size must not exceed 6 inches. In general, recycled materials should not be used for drainage applications, within infiltration facilities or as backfill for geosynthetic reinforced walls. If proposed, the material should be reviewed and acceptable by jurisdictions and product manufacturers involved. Crushed asphalt has the potential to creep under large and sustained loads. Accordingly, we recommend that crushed/recycled asphalt not be used under foundation elements.

4.7.6. General Fill Placement and Compaction

Fill and backfill material should be placed in uniform, horizontal lifts and uniformly densified with vibratory compaction equipment. The maximum lift thickness will vary depending on the material and compaction equipment used, but generally should not exceed 12 inches in loose thickness.

Fill material placed below structures should be compacted to at least 95 percent of the theoretical maximum dry density (MDD) per ASTM International (ASTM) D 1557. Fill material placed less than 2 feet below pavement sections should be compacted to at least 95 percent of the MDD. Fill placed deeper than 2 feet below pavement sections should be compacted to at least 90 percent of the MDD.

4.7.7. Backfill Behind Retaining Walls

Over-compaction of fill placed directly behind retaining walls or below-grade structures must be avoided. We recommend use of hand-operated compaction equipment and maximum 6-inch loose lift thickness when compacting fill within about 5 feet behind retaining walls and below-grade structures.

4.7.8. Backfill Placement and Compaction Around Signal Pole and Luminary Pole Foundations

Backfill in overexcavated areas and around pole foundations must be compacted. If the overexcavated area is large enough for compaction equipment to access, import fill material or on-site material conforming to the specifications and discussion outlined above can be used to backfill the excavations; however, particle size may have to be considered depending on the area requiring backfill. Soils generated during excavation for the pole foundations may contain large size particles that will require removal. Backfill material around pole foundations must be compacted to at least 95 percent of the theoretical MDD per ASTM D 1557.

Alternatively, CDF could be used to backfill the excavation. CDF is a self-compacting, cementitious, flowable material requiring no subsequent vibration or tamping to achieve consolidation. CDF is included as an



option for backfilling around pole foundations in the WSDOT Standard Signal Foundation Plans. If the area to backfill is too small for compaction equipment to access, CDF should also be used. Additionally, we recommend that CDF be used to backfill any large voids created during excavation if compaction equipment cannot access the void area.

5.0 LIMITATIONS

We have prepared this report for City of Lakewood, Steilacoom Boulevard SW Farwest Drive SW to Phillips Road SW project. The City of Lakewood may distribute copies of this report to owner's authorized agents and regulatory agencies as may be required for the project.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. The conclusions, recommendations, and opinions presented in this report are based on our professional knowledge, judgment and experience. No warranty or other conditions, express or implied, should be understood.

Please refer to Appendix B titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.





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Notes:

Data Source: ESRI

Legend



Boring Number and Approximate Location

A Pavement Core Number and Approximate Location



Projection: NAD 1983 HARN StatePlane Washington South FIPS 4602 Feet

1. The locations of all features shown are approximate. 2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Site Plan Steilacoom Boulevard SW Farwest Drive SW to Philips Road SW Lakewood, Washington GEOENGINEERS / Figure 2



Data Source: ESRI





Boring Number and Approximate Location

A Pavement Core Number and Approximate Location



Projection: NAD 1983 HARN StatePlane Washington South FIPS 4602 Feet

Steilacoom Boulevard SW Farwest Drive SW to Philips Road SW Lakewood, Washington



Figure 3



Notes:

- 1. Procedures for estimating surcharge pressures shown above are based on Manual 7.02 Naval Facilities Engineering Command, September 1986 (NAVFAC DM 7.02).
- Lateral earth pressures from surcharge should be added to 2. earth pressures presented in the "Retaining Walls" section of this report.
- 3. See report text for where surcharge pressures are appropriate.



Definitions:

- Q_{P} = Point load in pounds
- Q_{I} = Line load in pounds/foot
- H = Excavation height below footing, feet
- σ_{H} = Lateral earth pressure from surcharge, psf
- q = Surcharge pressure in psf
- θ = Radians
- σ'_{H} = Distribution of σ_{H} in plan view
- P_{H} = Resultant lateral force acting on wall, pounds
- R = Distance from base of excavation to resultant lateral force, feet
- X = Resultant lateral force acting on wall, pounds
- Z = Depth of σ_H to be evaluated below the bottom of Q_P or Q_L
- m = Ratio of X to H
- n = Ratio of Z to H





Not To Scale



Steilacoom Boulevard SW Farwest Drive SW to Philips Road SW Lakewood, Washington



Figure 4

APPENDIX A Subsurface Explorations and Laboratory Testing

APPENDIX A SUBSURFACE EXPLORATIONS AND LABORATORY TESTING

Subsurface Explorations

General

We explored subsurface conditions at the site by advancing 4 soil borings and 12 pavement cores between October 18 and October 23, 2018. The locations of the explorations are shown on the Site Plan, Figure 2. We located the explorations using a recreational grade hand-held global positioning system (GPS) unit. The locations should be considered approximate.

Soil Borings

The hollow-stem auger borings were advanced to between 20 and 21.5 feet below ground surface (bgs) using a track- and truck-mounted drill rigs. The borings were continuously monitored by a representative from GeoEngineers who examined and classified the soils encountered, collected representative soil samples and prepared a detailed log of each exploration.

Soil samples were collected at 2.5-foot depth intervals using a 1.5-inch-inside diameter split spoon sampler driven into the soil using a 140-pound hammer free-falling a distance of 30 inches in general accordance with ASTM International (ASTM) D 1586. The number of blows required to drive the sampler the last 12 inches or other indicated distance is recorded on the logs as the blow count.

All borings were backfilled by Holocene Drilling, Inc. following Washington State Department of Ecology guidelines. Soil cuttings generated were collected in drums and transported off site for disposal. Cement concrete was used to patch the pavement surfaces.

Pavement Coring

The pavement cores were completed by a pavement coring company under subcontract to GeoEngineers. The pavement cores were advanced through the pavement section stopping once the underlying subgrade was encountered. We used hand tools to advance about 0.5 to 2 feet into the underlying subgrade soils in some core locations. The core barrels were generally 4 inches in diameter. Our representative measured the thickness of the pavement cores on site. The pavement core holes were patched with cold mix asphalt and sealed with asphalt sealant.

Laboratory Testing

Select samples from our explorations were returned to our laboratory for particle size analyses. Our laboratory testing program consisted of four sieve analyses completed in general accordance with ASTM Test Method C 136. This test method covers the quantitative determination of the distribution of particle sizes in soils. The results of the tests are presented on the field logs and on Figure A-6.



	S	OIL CLASSI	FICATI	ON CH	ART	ADDIT	IONAL	MATERIAL SY		
Γ	MAJOR DIVIS	IONS	SYM GRAPH	BOLS	TYPICAL DESCRIPTIONS	SYM	BOLS	TYPICA		
	GRAVE	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES	GRAFII	AC	Asphalt Concrete		
	AND GRAVELLY SOILS	(LITTLE OR NO FINES)		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES		00	Cement Concret		
COARSE GRAINED	MORE THAN 50%	GRAVELS WITH		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES			Crushed Rock/		
SOILS	OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	(APPRECIABLE AMOUNT OF FINES)		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES		CR	Quarry Spalls		
		CLEAN SANDS	<u>/ Ø /0/ Ø</u>	SW	WELL-GRADED SANDS, GRAVELLY SANDS	<u>1/ <u>N 1/ N 1/</u></u>	SOD	Sod/Forest Duff		
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY	(LITTLE OR NO FINES)	° • • • • • • • • •	SP	POORLY-GRADED SANDS, GRAVELLY SAND		TS	Topsoil		
	SUILS MORE THAN 50%	SANDS WITH		SM	SILTY SANDS, SAND - SILT MIXTURES		Groundy	vater Contact		
	FRACTION PASSING ON NO. 4 SIEVE	(APPRECIABLE AMOUNT OF FINES)		sc	CLAYEY SANDS, SAND - CLAY MIXTURES			groundwater leve		
				ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY		Aeasured	free product in w		
FINE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS,	<u> </u>	Graphic	Log Contact		
GRAINED SOILS				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	[Distinct contact between so			
MORE THAN 50% PASSING				МН	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS	/	Approximate contact betwee			
NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		СН	INORGANIC CLAYS OF HIGH PLASTICITY	(Contact be	etween geologic u		
			17	он	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY	(Contact be	etween soil of the		
	HIGHLY ORGANIC	SOILS	h	РТ	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS		aborat	orv / Field Teo		
DTE: Multiple	Sal	sed to indicate bo mpler Symb -inch I.D. split b ndard Penetrat elby tube con ect-Push k or grab atinuous Coring ecorded for driv to advance sa	ven samp	olual soil (cription (SPT) (SPT) blers as t 2 inches	he number of (or distance noted).	%FF%GFALACACCPLCSCDDLDSFMOMMOhsMOCCPMFPASTXTUCLVSN	Percent fin Percent gr Atterberg Chemical aboratory Consolida Dry densit Direct she Hydromet Moisture of Moisture of Moisture of Permeabil Plasticity i Pocket pe Sieve anal Corganic co Permeabil Plasticity i Pocket pe Sieve anal Constal co Jaconfine Vane shea	nes avel limits analysis y compaction test tion test y ar er analysis content sontent ity or hydraulic condex net ndex netrometer lysis mpression d compression		
Se "F	ee exploratio	n log for hamm ampler pushec	ter weigh I using th	it and dr	op. t of the drill rig.	:	Sheen C	lassification		
"V ha	WOH" indicate ammer.	es sampler pus	shed usin	g the we	ight of the	NS I SS S MS I HS I	No Visible Slight She Moderate Heavy She	Sheen en Sheen een		

IONAL MATERIAL SYMBOLS

SYM	BOLS	TYPICAL
GRAPH	LETTER	DESCRIPTIONS
	AC	Asphalt Concrete
	СС	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	SOD	Sod/Forest Duff
	TS	Topsoil

Ţ	Measured groundwater level in exploration, well, or piezometer
<u> </u>	Measured free product in well or piezometer
	Graphic Log Contact Distinct contact between soil strata
	Material Description Contact Contact between geologic units
	Contact between soil of the same geologic unit
	Laboratory / Field Tests
%F %G AL CCS DDS HAC DDS HAC MD hS MO PI PP SA XUCS	Percent fines Percent gravel Atterberg limits Chemical analysis Laboratory compaction test Consolidation test Dry density Direct shear Hydrometer analysis Moisture content Moisture content and dry density Mohs hardness scale Organic content Permeability or hydraulic conductivity Plasticity index Pocket penetrometer Sieve analysis Triaxial compression Unconfined compression Vane shear

heen Classification

- lo Visible Sheen ilight Sheen
- Ioderate Sheen
- leavy Sheen

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.



Drilled	10/1	<u>Start</u> L8/2018	<u>E</u> 10/18	<u>End</u> 8/2018	Total Depth	n (ft)	21	Logged By CJL Checked By BEL	Driller Holocene Drilling, Inc			Drilling Method Hollow-stem Auger	
Surfac Vertica	e Eleva al Datu	ation (ft) m		2 NA	248 VD88			Hammer Data <u>1</u> 40	0 (lbs) / 30 (in) Drop	Drilling Equipr	nent	D50 Track Rig	
Eastin Northi	g (X) ng (Y)			113 67	33743 9214			System W/ Datum	A State Plane North NAD83 (feet)	Ground	Groundwater not observed at time of exploration		
Notes	Notes:												
levation (feet)	Jepth (feet)	nterval Recovered (in)	slows/foot	ollected Sample	esting	araphic Log	aroup Slassification	M/ DES	ATERIAL CRIPTION	Aoisture content (%)	ines tontent (%)	REMARKS	
ш	0-	<u> </u>	50/6"	0	ທ⊢ 1	σΨ	AC	6 inches asphalt concret	te	_≥0	шO		
-	-	×-					GM	_ Brown-gray sitty gravel w (fill)	ith sand (very dense, moist)				
-2 ⁴⁵⁹	-	4	20		2		GW	Brown to gray fine to coa - silt (medium dense,	arse gravel with sand and trace moist) (Steilacoom gravel)	-			
-	5 —	5	15		<u>3</u> SA			-		3 	3		
- 2 ⁴⁰ -	-	9	19		4 SA			-		- - 2 -	2		
	10-	5	21		5	000000		-		_			
	- - 15 — -		50/6"					Grades to very dense		-		No recovery	
	- - 20 —	•	50/5"			000000000		-		-		No recovery	
	Note: See Figure A-1 for explanation of symbols. Coordinates Data Source: Horizontal approximated based on USGS Topo. Vertical approximated based on USGS Topo.												
								Log of E	Boring B-1				
	Log of Boring B-1 GEOENGINEERS Project: Steilacoom Blvd Improvements Farwest Dr SW to Phillips Road SW Project Location: Lakewood, Washington Figure A-2												

Project Number: 21559-004-00

Figure A-2 Sheet 1 of 1

<u>Start</u> Drilled 10/18/2018	<u>End</u> 10/18/2018	Total Depth (ft)	2	Logged By Checked By	cjl Bel	Driller Holocene Drilling, Inc.		Drilling Method Hollow-stem Auger
Surface Elevation (ft) Vertical Datum	241 NAVD88			Hammer Data 140 (lbs) / 30 (in) Drop			Drilling Equipment	D50 Track Rig
Easting (X) Northing (Y)	113 679	3231 9628		System W/ Datum		A State Plane North NAD83 (feet)	Groundwate	r not observed at time of exploration

Notes:

\square			FIE	LD D	ATA						
Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	<u>Sample Name</u> Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
<i>.</i> 0	0-						AC	8 inches asphalt concrete			
	-	6	50/6"		1		SM	Gray-brown silty fine to coarse sand with gravel (very dense, moist) (base course)			Filter fabric below asphalt
-	-					\sim	CC	Portland cement concrete-unknown thickness			

Note: See Figure A-1 for explanation of symbols. Coordinates Data Source: Horizontal approximated based on USGS Topo. Vertical approximated based on USGS Topo.

Log of Boring B-2



Project: Steilacoom Blvd Improvements Farwest Dr SW to Phillips Road SW Project Location: Lakewood, Washington Project Number: 21559-004-00

Drilled	10/1	<u>Start</u> .8/2018	<u>E</u> 10/18	<u>ind</u> 3/2018	Total Depth	ı (ft)	20.5	Logged By Checked By	CJL BEL	Driller Holocene Drilling, Ir	nc.			Drilling Method Hollow-stem Auger
Surface Vertical	e Eleva Datu	ation (ft) m		NA	241 WD88			Hammer Data	14	0 (lbs) / 30 (in) Drop	E	Drilling Equipn	hent	D50 Track Rig
Easting Northin	Easting (X) 1132887 Northing (Y) 679783							System Datum	System WA State Plane North Datum NAD83 (feet) Groundwater r				r not observed at time of exploration	
Notes:														
ion (feet)	(feet)	al ered (in)	FIEL	D DA	e Name	ic Log	fication		M/ DES	ATERIAL CRIPTION		e t (%)	t (%)	REMARKS
Elevat	Depth	Interva Recove	Blows/	Collecte	<u>Sampl</u> Testin	Graphi	Group Classif					Moistur Content	Fines Content	
_2 ⁴⁰ -	0 — 	6 1	15 30		1		AC GW	2 ^{1/2} inches as Gray-brown fi and occa (Steilacoc Grades to der	sphalt conc ine to coars sional cobb om gravel) nse	rete e gravel with sand, trace silt les (medium dense, moist)	-			Low recovery; gravel in sampler shoe
- - -	- 5 — -	A A °	16					- Grades to me	edium dens	e	-			No recovery
-		8	26		3 SA			-			-	2	2	
	-		9		4	000000000		Grades to loc	se		-			Low recovery; gravel in sampler shoe
	15 - -	•	50/6"		5			Grades to ver 	ry dense		-			Drill chatter 15 to 20 feet; no recovery; gravel in sampler shoe
	- 20 -		50/6"		6	000		_			_			No recovery
	Note: See Figure A-1 for explanation of symbols. Coordinates Data Source: Horizontal approximated based on USGS Topo. Vertical approximated based on USGS Topo.													
								L	og of E	Boring B-3				
/\ />T- /\	ΞEO	oEr	١G	NE	ER	s /	D	Project: Project Project	Steila Locatior Number	coom Blvd Improveme : Lakewood, Washing : 21559-004-00	nts gton	Farw	est l	Dr SW to Phillips Road SW Figure A-4

Project Number: 21559-004-00

Date:12/1

Figure A-4 Sheet 1 of 1

Drilled	<u>9</u> 10/1	<u>Start</u> .8/2018	E 10/18	<u>ind</u> 3/2018	Total Depth	n (ft)	21.5	Logged Check	d By ed By	CJL BEL	Driller Ho	olocene Drilling, Ir	nc.			Drilling Method Hollow-stem Auger
Surface Elevation (ft) 243 Vertical Datum NAVD88					Hammer Data 140 (lbs) / 30 (in) Drop					E	Drilling D50 Track Rig Equipment		D50 Track Rig			
Easting Northin	g (X) Ig (Y)		1131247 679862					System WA State Plane North Datum NAD83 (feet)				0	Groundwater not observed at time of exploration			
Notes:																
FIELD DATA																
Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	<u>Sample Name</u> Testing	Graphic Log	Group Classification		MATERIAL DESCRIPTION				Moisture Content (%)	Fines Content (%)	REMARKS	
	0	12	44		1		AC GW-GM	2½ inches asphalt concrete Gray-brown fine to coarse gravel with silt and sand					$ \$			
-	_	ÅТ			2	2000		(dei -	nse, m	oist) (Steil	acoom gravel)	_			
_2 ⁴⁰	-	14	45		<u>3</u> SA			-					1	3	6	
-	5—	۹ ۱	37		4	00000		-					-			
- 	-	∑ ¹²	50/6"		5	0 0 0	 GP-GM	Brown t OCC	to gray asional	fine to co l cobbles	arse gravel wi (very dense, n	ith silt, sand and noist)				Drill chatter approximately 7 to 20 feet Gravel and cobbles in cuttings
-	10 —	12	67		7	0 0 0 0		-								
	- - 15 — - -	10	50/6"		8		 SP-SM	- - - - Gray fir den	ne to co nse, mo	arse sand jist)		gravel (very	- - - - - - - -			
	20 —	10	61		9			-					-			
Note: See Figure A-1 for explanation of symbols. Coordinates Data Source: Horizontal approximated based on USGS Topo. Vertical approximated based on USGS Topo.																
									Lo	og of l	Boring B	<u> </u>				
		. Г .						Pro	ject:	Steila	coom Blvc	d Improveme	nts	Farw	est [Dr SW to Phillips Road SW
GEOENGINEERS /// Project Location: Lakewood, Washington																

ERJ /

Date::

FIUJEC Newoou, Project Number: 21559-004-00

Figure A-5 Sheet 1 of 1



APPENDIX B Report Limitations and Guidelines for Use

APPENDIX B REPORT LIMITATIONS AND GUIDELINES FOR USE¹

This appendix provides information to help you manage your risks with respect to the use of this report.

Read These Provisions Closely

It is important to recognize that the geoscience practices (geotechnical engineering, geology and environmental science) rely on professional judgment and opinion to a greater extent than other engineering and natural science disciplines, where more precise and/or readily observable data may exist. To help clients better understand how this difference pertains to our services, GeoEngineers includes the following explanatory "limitations" provisions in its reports. Please confer with GeoEngineers if you need to know more how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical Services are Performed for Specific Purposes, Persons and Projects

This report has been prepared for City of Lakewood and for the Project(s) specifically identified in the report. The information contained herein is not applicable to other sites or projects.

GeoEngineers structures its services to meet the specific needs of its clients. No party other than the party to whom this report is addressed may rely on the product of our services unless we agree to such reliance in advance and in writing. Within the limitations of the agreed scope of services for the Project, and its schedule and budget, our services have been executed in accordance with our Agreement with City of Lakewood dated October 4, 2018 and generally accepted geotechnical practices in this area at the time this report was prepared. We do not authorize, and will not be responsible for, the use of this report for any purposes or projects other than those identified in the report.

A Geotechnical Engineering or Geologic Report is based on a Unique Set of Project-Specific Factors

This report has been prepared for the Steilacoom Boulevard Safety Improvements project located in Lakewood, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, it is important not to rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

For example, changes that can affect the applicability of this report include those that affect:

- the function of the proposed structure;
- elevation, configuration, location, orientation or weight of the proposed structure;

¹ Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

- composition of the design team; or
- project ownership.

If changes occur after the date of this report, GeoEngineers cannot be responsible for any consequences of such changes in relation to this report unless we have been given the opportunity to review our interpretations and recommendations. Based on that review, we can provide written modifications or confirmation, as appropriate.

Environmental Concerns are Not Covered

Unless environmental services were specifically included in our scope of services, this report does not provide any environmental findings, conclusions, or recommendations, including but not limited to, the likelihood of encountering underground storage tanks or regulated contaminants.

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by man-made events such as construction on or adjacent to the site, new information or technology that becomes available subsequent to the report date, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. If more than a few months have passed since issuance of our report or work product, or if any of the described events may have occurred, please contact GeoEngineers before applying this report for its intended purpose so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Geotechnical and Geologic Findings are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies the specific subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied its professional judgment to render an informed opinion about subsurface conditions at other locations. Actual subsurface conditions may differ, sometimes significantly, from the opinions presented in this report. Our report, conclusions and interpretations are not a warranty of the actual subsurface conditions.

Geotechnical Engineering Report Recommendations are Not Final

We have developed the following recommendations based on data gathered from subsurface investigation(s). These investigations sample just a small percentage of a site to create a snapshot of the subsurface conditions elsewhere on the site. Such sampling on its own cannot provide a complete and accurate view of subsurface conditions for the entire site. Therefore, the recommendations included in this report are preliminary and should not be considered final. GeoEngineers' recommendations can be finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers cannot assume responsibility or liability for the recommendations in this report if we do not perform construction observation.

We recommend that you allow sufficient monitoring, testing and consultation during construction by GeoEngineers to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes if the conditions revealed during the work



differ from those anticipated, and to evaluate whether earthwork activities are completed in accordance with our recommendations. Retaining GeoEngineers for construction observation for this project is the most effective means of managing the risks associated with unanticipated conditions. If another party performs field observation and confirms our expectations, the other party must take full responsibility for both the observations and recommendations. Please note, however, that another party would lack our project-specific knowledge and resources.

A Geotechnical Engineering or Geologic Report Could Be Subject to Misinterpretation

Misinterpretation of this report by members of the design team or by contractors can result in costly problems. GeoEngineers can help reduce the risks of misinterpretation by conferring with appropriate members of the design team after submitting the report, reviewing pertinent elements of the design team's plans and specifications, participating in pre-bid and preconstruction conferences, and providing construction observation.

Do Not Redraw the Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. The logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Photographic or electronic reproduction is acceptable, but separating logs from the report can create a risk of misinterpretation.

Give Contractors a Complete Report and Guidance

To help reduce the risk of problems associated with unanticipated subsurface conditions, GeoEngineers recommends giving contractors the complete geotechnical engineering or geologic report, including these "Report Limitations and Guidelines for Use." When providing the report, you should preface it with a clearly written letter of transmittal that:

- advises contractors that the report was not prepared for purposes of bid development and that its accuracy is limited; and
- encourages contractors to confer with GeoEngineers and/or to conduct additional study to obtain the specific types of information they need or prefer.

Contractors are Responsible for Site Safety on Their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and adjacent properties.



Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants, and no conclusions or inferences should be drawn regarding Biological Pollutants as they may relate to this project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria and viruses, and/or any of their byproducts.

A Client that desires these specialized services is advised to obtain them from a consultant who offers services in this specialized field.





CITY OF TACOMA STANDARD TERMS AND CONDITIONS GOVERNS BOTH GOODS AND SERVICES AS APPLICABLE

In the event of an award by the City, these Terms and Conditions stated herein, Additional Contract Documents if issued, Solicitation if issued, Purchase Orders if issued by City, and Supplier's Submittal, if provided, shall constitute the Contract between City and Supplier for the acquisition of goods, including materials, supplies, and equipment or for the provision of services and deliverables.

Said documents represent the entire Contract between the parties and supersede any prior oral statements, discussions, or understandings between the parties, and/or subsequent Supplier invoices. No modification of the Contract shall be effective unless mutually agreed in writing.

The specific terms and conditions of any Solicitation (Specification, Request for Bids, Request for Proposals, Requests for Qualifications, Requests for Quotations, Request for Information, bid documents, request to enter into negotiations, or other form of solicitation issued by City including any general, special, or technical provisions associated with such Solicitations) are incorporated herein by reference and supersede these Terms and Conditions where there is conflict or inconsistency.

In the event Additional Contract Documents are negotiated and agreed to in writing between Supplier and City, the specific terms of such Additional Contract Documents are incorporated herein by reference and supersede all other terms and conditions where there is conflict or inconsistency.

These Terms and Conditions, Additional Contract Documents if issued, Solicitation if issued, City purchase order if issued, are controlling over Supplier's Submittal if a Submittal is provided. Submittals if provided are incorporated herein by reference.

1.01 SUPPLIER / CONTRACTOR

As used herein, "Supplier" or "Contractor" shall be the Supplier(s) entering a Contract with City, whether designated as a Supplier, Contractor, Vendor, Proposer, Bidder, Respondent, Seller, Merchant, Service Provider, or otherwise.

1.02 SUBMITTAL

Submittal means Bids, Proposals, Quotes, Qualifications or other information, content, records or documents submitted in response to a City Solicitation.

1.03 FORMS OF SUBMITTAL

Unless stated otherwise, all submittals must be in SAP Ariba and submitted exactly as specified or directed, and all required forms must be used.

1.04 COSTS TO PREPARE SUBMITTAL

The City is not liable for any costs incurred by Supplier for the preparation of materials or a Submittal provided in response to a solicitation, conducting presentations to the City, or any other activities related to responding to the City's Solicitation.

1.05 LICENSES/PERMITS

- A. Suppliers, if applicable, must have a Washington state business license at the time of Submittal and throughout the term of the Contract. Failure to include a Washington state business license may be grounds for rejection of the Submittal or cancellation of contract award. Information regarding Washington state business licenses may be obtained at <u>http://bls.dor.wa.gov</u>.
- B. Upon award, it is the responsibility of the Supplier to register with the City of Tacoma's Tax and License Division, 733 South Market Street, Room 21, Tacoma, WA 98402-3768, 253-591-5252, <u>https://www.cityoftacoma.org/government/city_departments/finance/tax_and_license/</u>. Supplier shall obtain a business license as is required by Tacoma Municipal Code Subtitle 6C.20.
- C. During the term of the Contract, Supplier, at its expense, shall obtain and keep in force any and all necessary licenses and permits.

1.06 PUBLIC DISCLOSURE: PROPRIETARY OR CONFIDENTIAL INFORMATION

- A. Supplier Submittals, all documents and records comprising the Contract, and all other documents and records provided to the City by Supplier are deemed public records subject to disclosure under the Washington State Public Records Act, Chapter 42.56 RCW (Public Records Act). Thus, City may be required, upon request, to disclose the Contract and documents or records related to it unless an exemption under the Public Records Act or other laws applies. In the event CITY receives a request for such disclosure, determines in its legal judgment that no applicable exemption to disclosure applies, and Supplier has complied with the requirements to mark records considered confidential or proprietary as such requirements are stated below, City agrees to provide Supplier 10 days written notice of impending release. Should legal action thereafter be initiated by Supplier to enjoin or otherwise prevent such release, all expense of any such litigation shall be borne by Supplier, including any damages, attorneys' fees or costs awarded by reason of having opposed disclosure. City shall not be liable for any release where notice was provided and Supplier took no action to oppose the release of information.
- B. If Supplier provides City with records or information that Supplier considers confidential or proprietary, Supplier must mark all applicable pages or sections of said record(s) as "Confidential" or "Proprietary." Further, in the case of records or information submitted in response to a Request for Proposals, an index must be provided indicating the affected pages or sections and locations of all such material identified Confidential or Proprietary. Information not included in the required index will not be reviewed for confidentiality or as proprietary before release. If Supplier fails to so mark or index Submittals and related records, then the City, upon request, may release said record(s) without the need to satisfy the requirements of subsection A above; and Supplier expressly waives its right to allege any kind of civil action or claim against the City pertaining to the release of said record(s).
- C. Submission of materials in response to City's Solicitation shall constitute assent by Supplier to the foregoing procedure and Supplier shall have no claim against the City on account of actions taken pursuant to such procedure.

1.07 SUSTAINABILITY

- A. The City has interest in measures used by its contractors to ensure sustainable operations with minimal adverse impact on the environment. The City seeks to do business with vendors that value community and environmental stewardship that help us meet our sustainable purchasing goals.
- B. The City encourages the use of environmentally preferable products or services that help to minimize the environmental and human health impacts of City operations. Suppliers are encouraged to incorporate environmentally preferable products or services into Submittals wherever possible. "Environmentally preferable" means products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.
- C. Environmental Standards. The City seeks to ensure that all purchases comply with current environmental standards and product specifications. Where appropriate, third party independent certifiers such as Green Seal and USEPA Standards shall be a minimum specification for products to the City, unless specified otherwise herein.
- D. The City encourages the use of sustainability practices and desires any awarded Suppliers to assist in efforts to address such factors when feasible for:
 - 1. Pollutant releases
 - 2. Toxicity of materials used
 - 3. Waste generation
 - 4. Greenhouse gas emissions, including transportation of materials and services
 - 5. Recycle content
 - 6. Energy consumption
 - 7. Depletion of natural resources
 - 8. Potential impact on human health and the environment

1.08 ALTERATIONS NOT ALLOWED

Except as otherwise specifically provided in a Solicitation, Submittals that are incomplete or conditioned in any way, contain erasures, alternatives or items not called for, or not in conformity with law, may be rejected as being non-responsive. Any attempt to condition a Submittal by inserting exceptions to the Solicitation or any conditions, qualifications or additions that vary its terms may result in rejection of the Submittal. The City may reject any submittal containing a material deviation from the Solicitation.

1.09 CORRECTION OF AMBIGUITIES AND OBVIOUS ERRORS

- A. The City reserves the right to correct obvious errors in Supplier's Submittal. In this regard, if the unit price does not compute to the extended total price, the unit price shall govern.
- B. Supplier shall notify the City of Tacoma Procurement and Payables Division in writing of any ambiguity, conflict, discrepancy, omission or other error in a Solicitation no later than five business days prior to the submittal deadline.
 - 1. For solicitations conducted in SAP Ariba, Supplier shall notify the City of Tacoma Procurement and Payables Division on the message board of the event.
 - 2. For all other solicitations, Supplier shall notify the contract person listed in the Solicitation.
- C. The City will make necessary modifications by addendum.
- D. Supplier is responsible for identifying ambiguities, conflicts, discrepancies, omissions or other errors in the Solicitation prior to providing its Submittal or the ambiguity, conflict, discrepancy, omission, or other error is waived. Any Submittal that includes assumed clarifications and/or corrections without the required authentication of the same is subject to rejection.

1.10 WARRANTIES/GUARANTEE

- A. Suppliers warrant that all items, including services, as applicable:
 - 1. Are merchantable.
 - 2. Comply with the City's latest drawings and specifications.
 - 3. Are fit for the City's intended use.
 - 4. Will be performed according to the skill and care required by customarily accepted good practices and procedures followed by service providers rendering the same or similar type of service.
 - 5. Are new and unused unless otherwise stated.
 - Comply with all applicable safety and health standards established for such products by the Occupational Safety and Health Administration (OSHA), Washington Industrial Safety and Health Act (WISHA) and/or Consumer Products Safety Act (CPSA), and all other applicable state and federal laws or agency regulations.
 - 7. Are properly packaged and contain appropriate instructions or warnings, including applicable MSDS sheets.

1.11 PATENTS, TRADEMARKS AND COPYRIGHTS

Suppliers warrant that equipment and/or materials furnished, including software, do not infringe on any patent, trademark or copyright, and agree to indemnify, defend and hold harmless, the City in the event of any infringement or claim thereof.

1.12 DELIVERY OF SUBMITTALS TO THE CITY'S PROCUREMENT AND PAYABLES DIVISION

- A. Submittal packages must be received by the City's Procurement and Payables Division in SAP Ariba (unless another form of delivery is stated), prior to the scheduled time and date stated in the Solicitation.
- B. Supplier is solely responsible for timely delivery of its Submittal.
- C. Submittals received after the time stated in the solicitation will not be accepted.
- D. For purposes of determining whether a Submittal has been timely received in SAP Ariba, the City's Procurement and Payables Division will rely on the submittal clock in SAP Ariba.

1.13 SUBMITTAL IS NON-COLLUSIVE

Supplier acknowledges that by its delivery of a Submittal to the City in response to a Solicitation, it represents that the prices in such Submittal are neither directly nor indirectly the result of any formal or informal agreement with another Supplier.

1.14 PARTNERSHIPS

The City will allow firms to partner in order to respond to a Solicitation. Multiple suppliers may team under a Prime Supplier's Submittal in order to provide responses to all sections in a single submission; however, each Supplier's participation must be clearly delineated by section. The Prime Supplier will be considered the responding vendor and the responsible party at contract award. All contract negotiations will be conducted only with the Prime Supplier. All contract payments will be made only to the Prime Supplier. Any agreements between the Prime Supplier and other companies will not be a part of the Contract between the City and the Prime Supplier. The City reserves the right to select more than one Prime Supplier.

1.15 WITHDRAWAL OF SUBMITTALS

- A. Prior to Submittal Deadline. Submittals may be withdrawn (including in SAP Ariba) prior to the scheduled submittal deadline.
- B. After Submittal Deadline. No Submittal can be withdrawn after having been opened before the actual award of the contract, unless the award is delayed more than 90 calendar days beyond the date of opening. If a delay of more than 90 calendar days does occur, Supplier must submit written notice to the City purchasing manager that Supplier is withdrawing its submittal.

1.16 ACCEPTANCE OF SUBMITTALS

- A. If the solicitation announcement so states, submittals, unless previously withdrawn, will be read aloud, irrespective of any irregularities or informalities in such submittal, at the time and place specified in the solicitation announcement.
- B. All submittals must remain open for acceptance by the City for a period of at least 90 calendar days from the submittal deadline.

1.17 RIGHT TO REJECT

The City of Tacoma reserves the right to reject any and all submittals, waive minor deviations or informalities, supplement, amend, reduce or otherwise modify the scope of work or cancel the solicitation, and if necessary, call for new submittals.

1.18 RESERVED RIGHTS

- A. By providing a submittal in response to a City solicitation, Supplier acknowledges and consents to the below City rights and conditions. With regard to this procurement process, the City reserves, holds without limitation, and may exercise, at its sole discretion, the following rights and conditions:
 - 1. To terminate the procurement process or decide not to award a contract as a result thereof by written notice to the Suppliers for any reason whatsoever with or without substitution of another solicitation.
 - 2. To waive any defect, technicality, or any other minor informality or irregularity in any submittal, or any other response from Suppliers.
 - 3. To issue addenda for any purpose including:
 - a. To make minor or major changes or alterations to the evaluation, selection and/or performance schedule(s) for any events associated with a procurement.
 - b. To supplement, amend, reduce, cancel, or otherwise modify a Solicitation, including but not limited to modifications to the description of services and/or products contained in the solicitation, by omitting services/products and/or including services/products.
 - 4. To request clarifications, additional information, and/or revised Submittals from one or more Suppliers.
 - To conduct investigations with respect to the qualifications and experience of Supplier(s), including inspection of facilities and to request additional evidence to support any such information.

- 6. To eliminate any Supplier that submits an incomplete or inadequate response, or is nonresponsive to the requirements of a Solicitation, or is otherwise deemed to be unqualified during any stage of the procurement process.
- 7. To select and interview a single finalist or multiple finalists to further the City's evaluation of Submittals provided in response to a Solicitation. The City may, in its sole and exclusive discretion as to what is in the City's best interest, elect not to conduct interviews of any or all Suppliers in connection with a solicitation process.
- 8. Except in the case of Requests for Bids, to negotiate any rate/fee offered by a Supplier. The City shall have the sole right to make the final rate/fee offer during contract negotiations. If the selected Supplier does not accept the City's final offer, the City may, in its sole discretion discontinue contract negotiations and commence negotiations with another Supplier, except as otherwise provided in Chapter 39.80, RCW.
- 9. To select and enter into a Contract with one or more Suppliers whose Submittal best satisfies the interests of the City and is most responsive, in the sole judgment of the City, to the requirements of a Solicitation.
- 10. To award by line item or group of line items.
- 11. To not award one or more items.
- 12. To issue additional or subsequent solicitations.
- 13. To seek partnerships between one or more Suppliers.
- 14. Request additional related products and services from the selected Supplier(s) as necessary throughout the term of the Contract.
- 15. Negotiate costs or fees in the event of new legislation or regulatory changes, or issuance of related compliance guidance, technology enhancements, and innovative solutions.
- 16. In the event the City receives questions concerning a Solicitation from one or more Suppliers prior to the deadline for response, the City reserves the right to provide such questions, and the City's responses, if any, to all Suppliers.
- 17. If an award is made and, prior to entering into a contract, subsequent information indicates that such award is not in the best interest of the City, the City may rescind the award without prior notice to Supplier and either award to another Supplier or reject all submittals or cancel this solicitation.
- 18. To cancel award of a contract at any time before execution of the Contract by both parties if cancellation is deemed to be in the City's best interest. In providing a submittal, Suppliers agree that the City is not liable for any costs or damages for the cancellation of an award. Supplier assumes the sole risk and responsibility for all expenses connected with the preparation of its submittal.
- 19. To add additional City departments or divisions to the Contract or develop a separate Contract with the Supplier subject to all terms, conditions and pricing of the original Contract
- 20. To take any other action affecting a Solicitation or a procurement process that is determined to be in the City's best interests.

1.19 SUBMITTAL CLARIFICATION

Suppliers may be asked to clarify their Submittal. This action shall not be construed as negotiations or any indication of intentions to award. If called upon, Supplier must respond to such requests within two business days or the timeframe set forth by the City in its request for clarification. Supplier's failure to respond to such a request may result in rejection of its Submittal.

1.20 EVALUATION OF SUBMITTALS

- A. The City of Tacoma reserves the right to award to the lowest and best responsible Supplier(s) delivering a Submittal in compliance with the Solicitation, provided such Submittals are reasonable and are in the best interest of the City to accept. The City may use a number of criteria for determining award, including evaluation factors set forth in Municipal Code Section 1.06.262. Suppliers who are inexperienced or who fail to properly perform other contracts may have their submittal rejected for such cause.
 - 1. Evaluation Factors. In addition to the factors set forth in Municipal Code Section 1.06.262, the following may be used by the City in determining the lowest and best responsible Submittal:
 - a. Compliance with a Solicitation and with applicable City requirements, including by not limited to, the City's Ethics Code and its Small Business Enterprise and Local Employment and Apprenticeship programs.
 - b. Submittal prices, listed separately if requested, as well as a lump sum total (if the unit price does not compute to the extended total price, the unit price shall govern).
 - c. The total cost to the City, including all applicable taxes, may be the basis for contract award.
 - d. Time of delivery and/or completion of performance (delivery date(s) offered).
 - e. Warranty terms.
 - f. Quality of performance of previous contracts or services, including safety requirements and past compliance with the City's Ethics Code.
 - g. Previous and existing compliance with laws and ordinances relating to contracts or services.
 - h. Sufficiency of financial resources.
 - i. Quality, availability, and adaptability of the supplies or services to the particular use required.
 - j. Ability to provide future maintenance and service on a timely basis.
 - k. Location of nearest factory authorized warranty repair facility or parts dealership.
 - I. Ability, capacity, experience, stability, reputation, integrity, character, judgment, technical qualifications, and skill to perform the contract or provide the services required.
 - Prompt Payment Discount. Payment discount periods of 20 calendar days or more, if offered in the submittal, will be considered in determining the apparent lowest responsible submittal. Discounts will be analyzed in context of their overall cumulative effect.
 - a. ePayable/Credit Card Acceptance. Submittals offering ePayable/Credit card acceptance may be compared against submittals offering a prompt payment discount to evaluate the overall cumulative effect of the discount against the advantage to the City of the ePayable/Credit card acceptance, and may be considered in determining the apparent lowest responsible submittal.
 - All other elements or factors, whether or not specifically provided for in a Solicitation, which would affect the final cost to, and the benefits to be derived by, the City, may be considered in determining the award of a Contract. The final award decision will be based on the best interests of the City.

1.21 CONTRACT OBLIGATION

- A. The Submittal contents of the successful Supplier will become contractual obligations if a Contract ensues.
- B. In the event the City of Tacoma determines to award a Contract, the selected Supplier(s) may be requested to execute Additional Contract Documents.
- C. Supplier shall register with the City of Tacoma on the SAP Ariba Network and be enabled for transactions upon request by the City.
- D. Suppliers may propose amendments to City's Contract documents or to these Terms and Conditions, but the City retains the right to accept or reject proposed amendments.
- E. No costs chargeable for work under the proposed Contract may be incurred before mutual acceptance and execution as directed.

1.22 AWARD

The City reserves the right to award Contracts for any or all items to one or more Suppliers in the best interests of the City.

1.23 SUPPLIER'S REFUSAL TO ENTER INTO CONTRACT

Any Supplier who refuses to enter into a Contract after it has been awarded to the Supplier will be in breach of the agreement to enter the Contract, and Supplier's certified or cashier's check or bid bond, if any, shall be forfeited.

1.24 LEGAL HOLIDAYS

A. The City of Tacoma observes the following holidays, which shall apply to performance of all contracts:

New Year's Day	January 1
Martin Luther King's Birthday	3rd Monday in January
Washington's Birthday	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4
Labor Day	1st Monday in September
Veteran's Day	November 11
Thanksgiving Day	4th Thursday of November
Day after Thanksgiving	4th Friday of November
Christmas Day	December 25

B. When any of these holidays occur on Saturday or Sunday, the preceding Friday or the following Monday, respectively, is a legal holiday for the City of Tacoma.

1.25 CONTRACT TERM

All services shall be satisfactorily completed and all deliverables provided by the termination date stated, and the Contract shall expire on said date unless mutually extended in writing by the parties.

1.26 EXTENSION OF CONTRACT

Contracts shall be subject to extension at City's sole discretion.

1.27 TERMINATION AND SUSPENSION

- A. Termination for Convenience
 - 1. Supplies. The City may terminate a Contract for supplies at any time upon prior written notice to Supplier. Upon the effective date of termination specified in such notice, and payment by the City, all conforming supplies, materials, or equipment previously furnished hereunder shall become its property.
 - 2. Services. The City may terminate a Contract for services at any time, with or without cause, by giving 10 business days written notice to Supplier. In the event of termination, all finished and unfinished work prepared by Supplier pursuant to the Contract shall be provided to the City. In the event City terminates the Contract due to the City's own reasons and without cause due to Supplier's actions or omissions, the City shall pay Supplier the amount due for actual work and services necessarily performed under the Contract up to the effective date of termination, not to exceed the total compensation set forth in the Contract.
- B. Termination for Cause. The City may terminate a Contract for either services or supplies in the event of any material breach of any of the terms and conditions of the Contract if the Supplier's breach continues in effect after written notice of breach and 30 days to cure such breach and fails to cure such breach.
- C. Suspension. For either services or supplies, the City may suspend a Contract, at its sole discretion, upon three business days' written notice to Supplier. Such notice shall indicate the anticipated period of suspension. Any reimbursement for expenses incurred due to the suspension shall be limited to Supplier's actual expenses and shall be subject to verification. Supplier shall resume performance of services under the Contract without delay when the suspension period ends.
- D. Termination or suspension of a Contract by City shall not constitute a waiver of any claims or remaining rights the City may have against Supplier relative to performance under a Contract.

1.28 DEFAULT/BREACH

In the event of material default or breach by Supplier on any of the conditions of a Contract, Supplier agrees that the City may, at its election, procure the goods or services from other sources, and may deduct from the unpaid balance due Supplier, or collect against the bond or security (if any), or may invoice and recover from Supplier all costs paid in excess of the price(s) set forth in the Contract.

1.29 SCOPE OF SERVICES/CONTRACT MODIFICATION

Supplier agrees to diligently and completely perform the services and provide the deliverables required by a Contract.

- A. Supplies. The City at any time by written change order or other form of written contract amendment may make reasonable changes in the place of delivery, installation, or inspection, the method of shipment or packing, identification and ancillary matters that Supplier may accommodate without substantial additional expense.
- B. Services. The City shall have the right to make changes within the general scope of services and/or deliverables upon execution in writing of a change order or other written form of contract amendment. If the changes will result in additional work effort by Supplier the City agrees to reasonably compensate Supplier for such additional effort up to the maximum amount specified in the Contract or as otherwise provided by Tacoma Municipal Code. Any new services accepted by the City may be added to the Contract and/or substituted for discontinued services. New services shall meet or exceed all requirements of original award.
- C. Expansion Clause. A Contract may be further expanded in writing to include other related services or products normally offered by Supplier, as long as the price of such additional services or products have a profit margin equal to or less than that in place at the time of original submittal. Such additions and prices will be established in writing. New items not meeting these criteria will not be added to the Contract. Supplier profit margins are not to increase as a result any such expansion.

1.30 FEDERAL, STATE, AND MUNICIPAL LAWS AND REGULATIONS

Supplier shall comply with all federal, state, municipal, and/or local laws and regulations in the performance of all terms and conditions of the Contract. Supplier shall be solely responsible for all violations of the law from any cause in connection with its performance of work under the Contract.

1.31 PREVAILING WAGES

- A. If federal, state, local, or any applicable law requires Supplier to pay prevailing wages in connection with a Contract, and Supplier is so notified by the City, then Supplier shall pay applicable prevailing wages.
- B. If applicable, a Schedule of Prevailing Wage Rates and/or the current prevailing wage determination made by the Secretary of Labor for the locality or localities where the Contract will be performed is attached and made of part of the Contract by this reference. If prevailing wages do apply to the Contract, Supplier and its subcontractors shall:

1. Be bound by and perform all transactions regarding the Contract relating to prevailing wages and the usual fringe benefits in compliance with the provisions of Chapter 39.12 RCW, as amended, the Washington State Prevailing Wage Act and/or the Davis-Bacon Act (40 U.S.C. 3141- 3144, and 3146- 3148) and the requirements of 29 C.F.R. pt. 5 as may be applicable, including the federal requirement to pay wages not less than once a week,

2. Ensure that no worker, laborer or mechanic employed in the performance of any part of the Contract shall be paid less than the prevailing rate of wage specified on that Schedule and/or specified in a wage determination made by the Secretary of Labor (unless specifically preempted by federal law, the higher of the Washington state prevailing wage or federal Davis-Bacon rate of wage must be paid)and Additionally, in compliance with applicable federal law, contractors are required to pay wages not less than once a week.

3. Immediately upon award of the Contract, contact the Department of Labor and Industries, Prevailing Wages section, Olympia, Washington and/or the federal Department of Labor, to obtain full information, forms and procedures relating to these matters. Per such procedures, a Statement of Intent to Pay Prevailing Wages and/or other or additional documentation required by applicable federal law, must be submitted by Contractor and its subcontractors to the City, in the manner requested by the City, prior to any payment by the City hereunder, and an Affidavit of Wages Paid and/or other or additional documentation required by the City prior to final Contract payment.

1.32 COPELAND ANTI-KICKBACK ACT

For contracts subject to Davis Bacon Act the following clauses will be incorporated into the Contract:

- 1. Contractor. The contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.
- 2. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as FEMA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.
- 3. Breach. A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. § 5.12.

1.33 FEDERAL AID PROJECTS

The City of Tacoma, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, subtitle A, Office of the Secretary, part 21, nondiscrimination in federally assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR, part 26, will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

1.34 FEDERAL FINANCIAL ASSISTANCE

If federal funds, including FEMA financial assistance to the City of Tacoma, will be used to fund, pay or reimburse all or a portion of the Contract, Contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives and the following clauses will be incorporated into the Contract:

- A. EQUAL EMPLOYMENT OPPORTUNITY. During the performance of this Contract, Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:
 - Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
 - The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor; state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
 - 3. The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.
 - 4. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

- 5. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- 6. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- 7. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- 8. The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

B. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

- Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- 2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (B)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (B)(1) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.
- 3. Withholding for unpaid wages and liquidated damages. The City shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (B)(2) of this section.
- 4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (B)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (B)(1) through (4) of this section.

C. CLEAN AIR ACT

- 1. Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
- 2. Contractor agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
- 3. Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

D. FEDERAL WATER POLLUTION CONTROL ACT

- 1. Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
- 2. Contractor agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
- 3. Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

E. DEBARMENT AND SUSPENSION

- 1. This Contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disgualified (defined at 2 C.F.R. § 180.935).
- 2. Contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- 3. This certification is a material representation of fact relied upon by the City. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to (insert name of recipient/subrecipient/applicant), the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- 4. Contractor agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.
- F. BYRD ANTI-LOBBYING AMENDMENT
 - 1. Contractors who apply or bid for an award of \$100,000 or more shall file the required certification with City. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the City.

2. If applicable, Contractor must sign and submit to the City the following certification:

APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

- 1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap.38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official Date

G. PROCUREMENT OF RECOVERED MATERIALS

- 1. In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:
 - a. Competitively within a timeframe providing for compliance with the contract performance schedule;
 - b. Meeting contract performance requirements; or
 - c. At a reasonable price.
- 2. Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines web site, <u>https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program</u>.
- 3. Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

1.35 CONTRACT PRICING

- A. Submitted prices shall include costs of submittal preparation, servicing of the account, all contractual requirements during contract period such as transportation, permits, insurance costs, bonds, labor, wages, materials, tools, components, equipment, and appurtenances necessary to complete the work, which shall conform to the best practice known to the trade in design, quality, material, and workmanship.
- B. Surcharges of any type will not be paid.
- C. If applicable, related additional products and corresponding services of benefit to the City not specifically required in a solicitation, but which Supplier offers to provide, may be included with the submittal. Supplier may request to add new products if the City approves them and Supplier can demonstrate the pricing is from the same pricing structure/profit margin.
- D. Unless specifically stated otherwise, only firm prices will be accepted and all prices shall remain firm during the term of a Contract.
- E. Price increases may at City's discretion be passed along during a contract period if the increase is mandated by statute, or the result of a tariff.
- F. By submitting prices, Supplier warrants prices equal to or better than the equivalent prices, terms, and benefits offered by Supplier to any other government unit or commercial customer.
- G. Should Supplier, during the term of a Contract, enter into any other contract, agreement or arrangement that provides lower prices, more favorable terms or greater benefits to any other government unit or commercial customer, the Contract with the City shall thereupon be deemed amended to provide the same price or prices, terms and benefits to the City. This provision applies to comparable products and purchase volumes by the City that are not less than the purchase volumes of the government unit or commercial customer that has received the lower prices, greater benefits, or more favorable terms.
- H. If at any time during the term of the Contract, Supplier reduces prices to other buyers purchasing approximately the same quantities stated on the Contract, Supplier will immediately notify the City purchasing manager of such fact, and the price(s) for future orders under the Contract shall be reduced accordingly.
- I. The City is entitled to any promotional pricing during the Contract period.
- J. Price decreases shall be immediately passed on to the City.
- K. The City reserves the right to increase or decrease the quantities of any item awarded pursuant to the Contract and pay according to the unit prices quoted in the submittal with no adjustments for anticipated profit.

1.36 APPROVED EQUALS WHEN ALTERNATES ARE ALLOWED

- A. Unless an item is indicated as "no substitute," special brands, when named, are intended to describe the standard of quality, performance, or use desired. Equal items will be considered by the City, provided that Supplier specifies the brand and model, and provides all descriptive literature, independent test results, specification sheets, schematic drawings, photographs, product samples, local servicing, parts availability, etc., to enable the City to evaluate the proposed equal. Performance testing in the field may be required.
- B. The decision of the City as to what items are equal shall be final and conclusive. If the City elects to purchase a brand represented by Supplier to be an "equal," the City's acceptance of the item is conditioned on the City's inspection and testing after receipt. If, in the sole judgment of the City, the item is determined not to be an equal, the item shall be returned at Supplier's expense.
- C. When a brand name or level of quality is not stated in Supplier's submittal, it is understood Supplier's submittal shall exactly confirm with those required in the Contract. If more than one brand name is stated in a Solicitation, Supplier(s) must indicate the brand and model/part number to be supplied.

1.37 RISK OF LOSS, SHIPPING AND DELIVERY

- A. Shipping. Prices must be quoted FOB destination (the place of destination as defined in RCW 62A.2-319, as that statute may hereafter be amended), with freight prepaid and allowed (shipping costs included in unit prices), and risk of loss remaining with Supplier until delivery is tendered.
- B. Delivery. Delivery will be to the designated addresses set forth in a Solicitation or as otherwise stated in the Contract. Deliveries shall be between 9:00 a.m. and 3:30 p.m., Monday through Friday only, except Legal Holidays. Failure to make timely delivery shall be cause for termination of the contract or order and return of all or part of the items at Supplier's expense except in the case of force majeure.

1.38 DELIVERY OF PRODUCTS AND PROVISION OF SERVICES – IDLING PROHIBITED

- A. The City of Tacoma has a commitment to reduction of unnecessary fuel emissions and improving air quality by reducing unnecessary air pollution from idling vehicles. Limiting car and truck idling supports cleaner air, healthier work environments, the efficient use of city resources, the public's enjoyment of City properties and programs, conservation of natural resources, and good stewardship practices.
- B. Vehicles and/or diesel fuel trucks shall not idle at the time and location of the delivery to the City of Tacoma for more than three minutes. The City requires contractors to utilize practices that reduce fuel consumption and emission discharge, including turning off trucks and vehicles during delivery of products to the City. Exceptions to this requirement include when associated power is necessary to make a delivery or provide the service, when the engine is used to provide power to another device, and when a running engine is required for proper warm-up and cool-down of the engine.

1.39 PACKING SLIPS AND INVOICES

- A. Each invoice shall show City of Tacoma purchase order number, release number if applicable, quantity, unit of measure, item description, unit price and extended price for each line if applicable, services and deliverables provided if applicable. Line totals shall be summed to give a grand total to which sales tax shall be added, if applicable.
 - 1. For transactions conducted in SAP Ariba, invoices shall be submitted through Ariba.
 - For invoices paid by ACH or by check, unless stated otherwise, invoices shall be electronically submitted by email with corresponding PO number listed in the subject line to <u>accountspayable@cityoftacoma.org</u>.
 - 3. For invoices paid by credit card, invoices shall also display the last name of the cardholder and last four digits (only) of the card number (e.g., Jones/6311). Unless stated otherwise, invoices shall be electronically submitted by email with corresponding PO number listed in the subject line to (do not combine different POs into one invoice or charge) to pcardadmin@cityoftacoma.org.

- B. Any terms, provisions or language in Supplier's invoice(s) that conflict with the terms of the Contract are superseded and shall not apply to the Contract unless expressly accepted in writing by the City.
- C. Packing slips and shipping notices shall be sent to the specific City Division or Department receiving the item(s) at the address stated in City's Solicitation or as otherwise stated in the Contract and include complete description of items, contents of items if crated or cased, quantity, shipping point, carrier, bill of lading number and City of Tacoma purchase order.
- D. Supplier shall package orders, preferably in environmental friendly packaging such as reduced packaging and recyclable packing materials.

1.40 COOPERATIVE PURCHASING

The Washington State Interlocal Cooperation Act RCW 39.34 provides that other governmental agencies may purchase goods and services based on the Contract with the City in accordance with the terms and prices of the Contract if all parties are agreeable. Each public agency shall formulate a separate contract with Supplier, incorporating the terms and conditions of the Contract with the City of Tacoma. The City shall incur no liability in connection with such contracts or purchases by other public agencies thereunder. It will be Supplier's responsibility to inform such public agencies of the Contract with the City. Supplier shall invoice such public agencies as separate entities.

1.41 TAXES

- A. Unless otherwise stated, applicable federal, state, City, and local taxes shall be included in the submittal and in contract as indicated below. As used herein, the term "taxes" shall include any and all taxes, assessments, fees, charges, interest, penalties, and/or fines imposed by applicable laws and regulations in connection with the procurement of goods and/or services hereunder.
 - 1. Federal Excise Tax. The City of Tacoma is exempt from federal excise tax. The City will furnish a Federal Excise Tax Exemption certificate, if required. If Supplier fails to include any applicable tax in its submittal, then Supplier shall be solely responsible for the payment of said tax.
 - 2. State and Local Sales Tax. The City of Tacoma is subject to Washington state sales tax. It is Supplier's obligation to state the correct sales tax percentage and include the applicable Washington state, city and local sales tax as a separate line item(s) in the submittal.
 - 3. City of Tacoma Business and Occupation Tax. It is Supplier's obligation to include City of Tacoma Business and Occupation tax in the unit and/or lump sum prices submitted; it shall not be shown separately on the submittal. Per Sub-Title 6A of the City of Tacoma Municipal Code, transactions with the City of Tacoma may be subject to the City's Business and Occupation Tax.
- B. Any or All Other Taxes. Any or all other taxes are the responsibility of Supplier unless otherwise required by law. Except for state sales tax, Supplier acknowledges that it is responsible for the payment of all taxes applicable to the Contract and Supplier agrees to comply with all applicable laws regarding the reporting of income, maintenance of records, and all other requirements and obligations imposed pursuant to applicable law.
- C. If the City is assessed, made liable, or responsible in any manner for taxes contrary to the provisions of the Contract, Supplier agrees to hold the City harmless from such costs, including attorney's fees. In the event Supplier fails to pay any taxes, assessments, penalties, or fees imposed by any governmental body, including a court of law, other than those taxes the City is required to pay, then Supplier authorizes the City to deduct and withhold or pay over to the appropriate governmental body those unpaid amounts upon demand by the governmental body. It is agreed that this provision shall apply to taxes and fees imposed by City ordinance. Any such payments shall be deducted from Supplier's total compensation.

1.42 COMPENSATION

- A. The City shall compensate Supplier in accordance with the Contract. Said compensation shall be the total compensation for Supplier's performance hereunder including, but not limited to, all work, services, deliverables, materials, supplies, equipment, subcontractor's fees and all reimbursable travel and miscellaneous or incidental expenses to be incurred by Supplier. Unless stated otherwise the total stated compensation may not be changed without a written change order or other form of contract amendment.
- B. Payment(s) made in accordance with the Contract shall fully compensate Supplier for all risk, loss, damages or expense of whatever nature, and acceptance of payment shall constitute a waiver of all claims submitted by Supplier.

1.43 PAYMENT TERMS

- A. Payment shall be made through the City's ordinary payment process, and shall be considered timely if made within 30 days of receipt of a properly completed invoice. All payments shall be subject to adjustment for any amounts, upon audit or otherwise, determined to have been improperly invoiced. The City may withhold payment to Supplier for any services or deliverables not performed as required hereunder until such time as Supplier modifies such services or deliverables to the satisfaction of the City.
- B. Invoices will not be processed for payment, nor will the period of cash discount commence, until all invoiced items are received and satisfactory performance of the Contract has been attained. Upon CITY'S request, Supplier shall submit necessary and appropriate documentation, as determined by the CITY, for all invoiced services and deliverables. If an adjustment in payment is necessary due to damage or dispute, the cash discount period shall commence on the date final approval for payment is authorized.

1.44 PAYMENT METHOD – EPAYABLES – CREDIT CARD ACCEPTANCE – EFT/ACH ACCEPTANCE

- A. Payment methods include:
 - EPayables (Payment Plus). This is payment made via a virtual, single use VISA card number provided by the City's commercial card provider. Suppliers accepting this option will receive "due immediately" payment terms. Two options for acceptance are available to suppliers. Both are accompanied by an emailed advice containing complete payment details:
 - a. Straight-through processing (buyer initiated). Immediate, exact payments directly deposited to supplier accounts by the City's provider bank; the supplier does not need to know card account details.
 - b. Supplier retrieves card account through the secure, on-line portal provided via email notifications sent by the City's commercial card provider.
 - 2. Credit card. Tacoma's VISA procurement card program is supported by standard bank credit suppliers and requires that merchants abide by the VISA merchant operating rules. It provides "due immediately" payment terms.
 - a. Suppliers must be PCI-DSS compliant (secure credit card data management) and federal FACTA (sensitive card data display) compliant.
 - b. Suppliers must be set up by their card processing equipment provider (merchant acquirer) as a minimum of a Level II merchant with the ability to pass along tax, shipping and merchant references information.
 - 3. Electronic Funds Transfer (EFT) by Automated Clearing House (ACH). Standard terms are net 30 for this payment method.
 - 4. Check or other cash equivalent. Standard terms are net 30 for this payment method.
- B. The City's preferred method of payment is by ePayables (Payment Plus) followed by credit card (aka procurement card). Suppliers may be required to have the capability of accepting the City's ePayables or credit card methods of payment. The City of Tacoma will not accept price changes or pay additional fees when ePayables (Payment Plus) or credit card is used.
- C. The City, in its sole discretion, will determine the method of payment for goods and/or services as part of the Contract.

1.45 NOTICES

Unless otherwise specified, except for routine operational communications, which may be delivered personally or transmitted by electronic mail, all notices required by the Contract shall be in writing and shall be deemed to have been duly given if delivered personally or mailed first-class mail, postage prepaid, to Supplier's registered agent and to the applicable City department representative.

1.46 INDEPENDENT CONTRACTOR STATUS

- A. Supplier is considered an independent contractor who shall at all times perform his/her duties and responsibilities and carry out all services as an independent contractor and shall never represent or construe his/her status to be that of an agent or employee of the City, nor shall Supplier be eligible for any employee benefits. No payroll or employment taxes or contributions of any kind shall be withheld or paid by the City with respect to payments to Supplier. Supplier shall be solely responsible for all said payroll or employment taxes and/or contributions including, but not limited to, FICA, FUTA, federal income tax, state personal income tax, state disability insurance tax and state unemployment insurance tax. If the City is assessed, made liable or responsible in any manner for such taxes or contributions, Supplier agrees to indemnify and hold the City harmless from all costs incurred, including attorney fees.
- B. Unless otherwise specified in writing, Supplier shall provide at its sole expense all materials, working space, and other necessities and instruments to perform its duties under the Contract. Supplier, at its sole expense, shall obtain and keep in force any and all applicable licenses, permits and tax certificates necessary to perform the Contract.

1.47 NONDISCRIMINATION

Supplier agrees to take all steps necessary to comply with all federal, state, and City laws and policies regarding non-discrimination and equal employment opportunities. Supplier shall not discriminate in any employment action because of race, religion, color, national origin or ancestry, sex, gender identity, sexual orientation, age, marital status, familial status, or the presence of any sensory, mental, or physical handicap. In the event of non-compliance by Supplier with any of the non-discrimination provisions of the Contract, the City shall be deemed to have cause to terminate the Contract, in whole or in part.

1.48 REPORTS, RIGHT TO AUDIT, PERSONNEL

- A. Reports. Supplier shall, at such times and in such form as the City may reasonably require, furnish the City with periodic status reports pertaining to the services undertaken or goods provided pursuant to the Contract.
- B. Right to Audit. Upon City's request, Supplier shall make available to City all accounts, records and documents related to the scope of work for City's inspection, auditing, or evaluation during normal business hours as reasonably needed by City to assess performance, compliance and/or quality assurance under the Contract or in satisfaction of City's public disclosure obligations as applicable.
- C. Personnel. If before, during, or after the execution of a Contract, Supplier has represented or represents to the City that certain personnel would or will be responsible for performing services pursuant to the Contract, then Supplier is obligated to ensure that said personnel perform said Contract services to the maximum extent permitted by law. Substantial organizational or personnel changes within Supplier's firm are expected to be communicated to City immediately. Failure to do so could result in termination of the Contract. This provision shall only be waived by written authorization by the City, and on a case-by-case basis.

1.49 INSURANCE

- A. During the course and performance of a Contract, Supplier will provide proof and maintain the insurance coverage in the amounts and in the manner specified in the City of Tacoma Insurance Requirements as is applicable to the services, products, and deliverables provided under the Contract. The City of Tacoma Insurance Requirements document, if issued, is fully incorporated into the Contract by reference.
- B. Failure by City to identify a deficiency in the insurance documentation provided by Contractor or failure of City to demand verification of coverage or compliance by Contractor with these insurance requirements shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

1.50 INDEMNIFICATION – HOLD HARMLESS

- A. Supplier agrees to indemnify, defend, and hold harmless the City of Tacoma, its officers, agents and employees, from and against any and all liability which may accrue to or be sustained by the City of Tacoma for any claim, suit or legal action made or brought against the City for the death of or injury to persons (including Supplier's or subcontractor's employees), or damage to property involving Supplier or subcontractor(s) and their employees or agents, or for any other cause arising out of and in connection with or incident to the performance of the Contract, except for injuries or damages caused by the sole negligence of the City. In this regard, Supplier recognizes it is waiving immunity under Industrial Insurance Law, Title 51 RCW. This indemnification includes attorney's fees and the cost of establishing the right to indemnification hereunder in favor of the City of Tacoma. By Supplier's acceptance of this order, he/she agrees that this subsection has been mutually negotiated.
- B. These indemnifications shall survive the termination of a Contract.

1.51 CONFLICT OF INTEREST

No officer, employee, or agent of the City, nor any member of the immediate family of any such officer, employee or agent as defined by City ordinance, shall have any personal financial interest, direct or indirect, in a Contract, either in fact or in appearance. Supplier shall comply with all federal, state, and City conflict of interest laws, statutes, and regulations. Supplier represents that Supplier presently has no interest and shall not acquire any interest, direct or indirect, in the program to which the Contract pertains that would conflict in any manner or degree with the performance of Supplier's services and obligations hereunder. Supplier further covenants that, in performance of a Contract, no person having any such interest shall be employed. Supplier also agrees that its violation of the City's Code of Ethics contained in Chapter 1.46 of the Tacoma Municipal Code shall constitute a breach of Contract subjecting the Contract to termination.

1.52 CITY OWNERSHIP OF WORK/RIGHTS IN DATA/PUBLICATIONS

- A. To the extent that Supplier creates any work subject to the protections of the Copyright Act (Title 17 U.S.C.) in its performance of a Contract, Supplier agrees to the following: The work has been specially ordered and commissioned by the City. Supplier agrees that the work is a "work made for hire" for copyright purposes, with all copyrights in the work owned by City. To the extent that the work does not qualify as a work made for hire under applicable law, and to the extent that the work includes material subject to copyright, Supplier hereby assigns to City, its successors and assigns, all right, title and interest in and to the work, including but not limited to, all copyrights, patent, trade secret and other proprietary rights, and all rights, title and interest in and to any inventions and designs embodied in the work or developed during the course of Supplier's creation of the work.
- B. Supplier shall be solely responsible for obtaining releases and/or licenses for the reproduction, distribution, creation of derivative works, performance, display, or other use of copyrighted materials. Should Supplier fail to obtain said releases and/or licenses, Supplier shall indemnify, defend, and hold harmless the City for any claim resulting there from.

1.53 DUTY OF CONFIDENTIALITY

Supplier acknowledges that unauthorized disclosure of information or documentation concerning the Scope of Work hereunder may cause substantial economic loss or harm to the City except for disclosure of information and documents to Supplier's employees, agents, or subcontractors who have a substantial need to know such information in connection with Supplier's performance of obligations under the Contract. Supplier shall <u>not</u>, without prior written authorization by the City allow the release, dissemination, distribution, sharing, or other publication or disclosure of information or documentation obtained, discovered, shared or produced pursuant to a Contract.

1.54 DISPUTE RESOLUTION

In the event of a dispute pertaining to ta Contract, the parties agree to attempt to negotiate in good faith an acceptable resolution. If a resolution cannot be negotiated, then the parties agree to submit the dispute to voluntary non-binding mediation before pursuing other remedies. This provision does not limit the City's right to terminate.

1.55 GOVERNING LAW AND VENUE

- A. Washington law shall govern the interpretation of the Contract. The state or federal courts located in Pierce County Washington shall be the sole venue of any mediation, arbitration, or litigation arising out of the Contract.
- B. Respondents providing submittals from outside the legal jurisdiction of the United States of America will be subject to Tacoma's City Attorney's Office (CAO) opinion as to the viability of possible litigation pursuant to a contract resulting from this Specification. If it is the opinion of the CAO that any possible litigation would be beyond reasonable cost and/or enforcement, the submittal may be excluded from evaluation.

1.56 ASSIGNMENT

Supplier shall not assign, subcontract, delegate or transfer any obligation, interest or claim to or under the Contract without the prior written consent of the City.

1.57 WAIVER

A waiver or failure by either party to enforce any provision of the contract shall not be construed as a continuing waiver of such provisions, nor shall the same constitute a waiver of any other provision of the Contract.

1.58 SEVERABILITY AND SURVIVAL

If any term, condition or provision herein or incorporated by reference is declared void or unenforceable or limited in its application or effect, such event shall not affect any other provisions hereof and all other provisions shall remain fully enforceable. The provisions of the Contract, which by their sense and context are reasonably intended to survive the completion, expiration or cancellation of the Contract, shall survive termination of the Contract.

1.59 NO CITY LIABILITY

Neither the City, its officials, staff, agents, employees, representatives, or consultants will be liable for any claims or damages resulting from any aspect of this procurement process.

1.60 SIGNATURES

A signed copy of Submittals, Contract documents, including but not limited to contract amendments, contract exhibits, task orders, statements of work and other such Contract related documents, delivered by email or other means of electronic transmission including by using a third party service, which service is provided primarily for the electronic execution of electronic records, shall be deemed to have the same legal effect as delivery of an original signed copy.