

Amendment No. 1 to the  
Professional Services Agreement between the  
City of Lake Forest Park and Transportation Solutions, Inc.  
Dated January 21, 2021

This first Amendment to the Professional Services Agreement between the City of Lake Forest Park and Transportation Solutions, Inc., AG 21-002 (hereafter the "Agreement"), is made in consideration of the mutual benefits, terms, and conditions hereinafter specified and pursuant to Section 16 of the Agreement.

1. Exhibit A (Scope of Work) of the Agreement is amended to include the attached "Exhibit A – Addendum 1". This addendum to the scope of work generally includes additional design, permitting, and right of way acquisition support services.
2. Section 2 of the Agreement is hereby amended as follows:

**Compensation.**

A. The total compensation to be paid to Consultant for the Work in Exhibit A, including all services and expenses, shall not exceed ~~five hundred sixteen thousand three hundred twenty nine Dollars (\$516,329)~~ **eight hundred eighty thousand two hundred sixteen dollars and seventy-five cents (\$880,216.75)** as shown on Exhibit B, which shall be full compensation for the Exhibit A Work. Consultant shall invoice the City monthly on the basis of the portion of the Work completed each month by the Consultant and sub-consultants.

3. Exhibit B of the Agreement is hereby amended to include the attached "Exhibit B – Addendum 1".

All other terms and conditions remain as provided in the original Agreement.

CITY OF LAKE FOREST PARK

TRANSPORTATION SOLUTIONS, INC.

Signed: \_\_\_\_\_

Signed: \_\_\_\_\_

Printed Name: Jeff Johnson

Printed Name: Victor Salemann

Title: Mayor

Title: President

Dated: 1/26/22

Dated: 1/26/23

## **Exhibit 1**

### **Supplement No. 1**

#### **Scope of Services**

#### **SR 104/40th PI SE Roundabout Plans, Specifications, and Estimates**

### **INTRODUCTION**

#### **A. Project Description**

The work included within this supplemental Scope of Services is to provide additional design and consulting services to the City of Lake Forest Park (CITY) for the SR 104/40th PI SE Roundabout project (PROJECT). The additional design and consulting services by Transportation Solutions, Inc. (CONSULTANT) and its SUBCONSULTANTS are associated with advancing the design documents between the 30% development level to construction bid documents ready to advertise for bids.

Work within this supplemental Scope of Services includes development of designs for several retaining walls including a cut retaining wall system that is over ten feet tall, grading of the approach legs of the roundabout beyond the limits initially anticipated, an enclosed underground stormwater detention and treatment facility system, development of a landscape and irrigation design, coordination of integration of art into the project improvements, additional topographic survey, utility company coordination, survey field staking of proposed relocated Seattle City Light (SCL) utility poles, survey field staking of proposed right-of-way limits and roadway features as part of communications with the affected adjacent parcels owners, documents for two added temporary construction easements from affected parcels, additional requested design documentation from WSDOT as part of its required approval of the roundabout design, and additional related coordination with city staff.

#### **Task 1.0 PROJECT MANAGEMENT AND QUALITY CONTROL**

The CONSULTANT shall provide additional Project Management and Quality Control services that correspond to the services described in the following sections of this supplemental Scope of Services as required for the completion of the PROJECT.

#### **Task 2.0 DATA COLLECTION AND SURVEY**

Additional data collection and survey is required for the design of the project and coordination with adjacent affected parcel owners from which the CITY desires to purchase a portion of private property for a widened right-of-way area for the PROJECT. A detailed scope of services and corresponding budget for the additional survey work prepared by the SUBCONSULTANT is included as an attachment to this scope of services. A summary of the additional work included in this supplemental agreement is as follows:

## **2.5 Site Visits to Obtain Additional Information**

The SUBCONSULTANT will perform additional site visit information to obtain storm drain system information that had been previously paved over by roadway improvements.

## **2.6 Topographic Survey**

The SUBCONSULTANT will conduct additional topographic survey beyond the limits originally anticipated in the original agreement in accordance with the needs of the design team. The additional survey work primarily involves the heavily vegetated and relatively steep northeast quadrant of the intersection and the southeast quadrant of the intersection that is obscured from the roadway by dense hedges. Coordination with the CITY for it to obtain right-of-entry authorization from the parcel owners is required to complete this work.

The SUBCONSULTANT will update the topographic base map to include features surveyed, including trees, streams, wetlands, and structures and the digital terrain model (DTM) previously prepared for the PROJECT. Coordination with the CONSULTANT for the updated survey work and base map and DTM deliverable is required.

## **2.7 Right-of-Way Acquisition Support**

The SUBCONSULTANT will prepare seven (7) temporary construction easement documents for parcels within the PROJECT limits. Two of these parcels were not originally anticipated to require parcels rights to construct the project. Five of the parcels were anticipated to require permanent right-of-way acquisition, but not temporary rights. Existing topography and proposed wall design influences the need for both temporary and permanent property rights for the PROJECT. Coordination with the CONSULTANT for the additional deliverables is required.

## **2.8 Staking – Proposed Utility Poles**

The SUBCONSULTANT will stake with hub and lath the locations of up to (13) proposed utility poles for visual inspection by interested parties, including SCL and CITY staff. Staking of the SCL poles is a requirement of SCL as part of their involvement in the PROJECT. The positions of existing utility poles are shown to conflict with the proposed improvements and new locations of proposed utility poles is required to complete the PROJECT. The new utility poles will also serve as light poles to illuminate the roundabout intersection. Coordination with the CONSULTANT for the locations of the SCL utility poles is required.

## **2.9 Staking – Proposed Project Features**

The SUBCONSULTANT will stake with hub and lath the locations of various features for the project requiring up to one week of field time. Staking of these features will help inform parcel owners and other interested parties of the proposed improvements for the PROJECT. Staking limits will be a useful communication tool during negotiations for acquisition of property rights from parcel owners. Coordination with the CONSULTANT for the locations of the proposed project features is required.

The following locations may be staked in the field as part of project development:

- Proposed right-of-way limits along each affected parcel (5)
- Proposed temporary construction easement limits within each affected parcel (7)
- Proposed back of sidewalks
- Proposed face of retaining walls
- Proposed trees to be removed

### **Task 3.0 WSDOT Approvals/Preliminary Design (30%)**

#### **3.4 WSDOT Channelization Plan for Approval**

WSDOT Channelization Plan for Approval for the PROJECT design requires the preparation and submittal of additional WSDOT documentation not included in the original agreement. This document includes:

- Design Decision, a WSDOT document required to approve lateral clearances to curb faces at the approaches for a roundabout, which vary from those dimensions outlined in Design Manual Section 1239.06.

### **Task 4.0 ENVIRONMENTAL DOCUMENTATION**

#### **4.4 Existing Tree Impacts**

The environmental SUBCONSULTANT shall provide assistance to the PROJECT by preparing additional CITY required environmental documents for permitting in addition to those services identified in Contract Modification #2. These additional services include:

- Preparation of graphics and calculations related to the buffer impacts and the tree removal counts.
- Impact and tree count analysis and incorporation of results into the critical areas report.
- CITY Municipal Code review and analysis related to buffer interruption, tree classifications, removal, replacement, and permitting requirements.
- Coordinate with the arborist to conduct an existing tree inventory and assessment.

Additional work associated with the environmental documentation task is anticipated following the CITY's review of the critical areas report. Coordination with the CITY's Planning Department will be required to determine the level of effort required for consulting services to gain CITY environmental permitting approval of the PROJECT. Management reserve funds included in the fee estimate may be used for this work after the scope is determined.

#### **4.5 Arborist Evaluation and Report**

The arborist SUBCONSULTANT shall provide assistance to the PROJECT by preparing CITY required arborist evaluation and report for permitting. Coordination with the CONSULTANT for the locations proposed improvements in relation to the existing trees is required.

### **Task 6.0 DESIGN (90%)**

The 90% Design Submittal requires additional effort, preparation and submittal of design not included in the original agreement. The civil and structural SUBCONSULTANTS shall prepare additional plans as outlined below, as applicable, and in accordance with the detailed scope of services included as attachments to this scope of services. This additional effort includes:



### **6.3 Horizontal Layout and Grading Plans**

The SUBCONSULTANT and CONSULTANT shall prepare horizontal layout and grading plans that extend further west and north than anticipated in the original agreement to match proposed grades with existing topography. Additional grading for the proposed retaining walls at each quadrant of the intersection will be required in accordance with the updated topographic base map and DTM.

### **6.7 Drainage Plans**

The SUBCONSULTANT shall prepare drainage plans that included enclosed underground detention and water quality facilities in addition to the work identified in the original agreement. Connections to the existing drainage system will be made at two locations and extend further west than originally anticipated.

### **6.9 Illumination Plans**

The structural SUBCONSULTANT shall prepare light pole foundation design for illumination poles that are not able to be provided by SCL. It is anticipated that a light pole at the southeast quadrant of the intersection along a proposed fill retaining wall will require a foundation design that is compatible with the wall design. Coordination between the CONSULTANT and structural SUBCONSULTANT for illumination system is required

### **6.10 Utility Relocation Plans**

The SUBCONSULTANT and CONSULTANT shall coordinate with the utility companies that have overhead and underground facilities within the project limits in coordination with CITY staff. The CONSULTANT shall assist the CITY with coordination related to relocation of existing water facilities owned and maintained by the Lake Forest Park Water District. Coordination involves telephone/video conference calls and field meetings to discuss project status, maintain project schedule, and to facilitate adjustments to planned pole locations required due to field conditions.

The original agreement indicated that the CITY would coordinate utility relocations based upon the roundabout design and utility relocation plan provided by the CONSULTANT and the CONSULTANT would make minor revisions to the roundabout design to avoid utilities if requested. Design development of the project has required more consulting services to augment the coordination efforts by the CITY that were originally anticipated.

### **6.11 Traffic Control Plans**

The CONSULTANT shall prepare Pedestrian Accommodation Detour Plans as part of the WSDOT approval requirements for the project. These plans will be prepared in conjunction with the proposed construction phasing and temporary traffic control plans.

### **6.15 Wall Design Plans**

The civil SUBCONSULTANT shall prepare wall plan and profile plans for the five (5) walls necessitated by the existing topography and proposed project footprint. The requirement of walls was revealed following development of preliminary design plans (30%) and receipt of updated topographic survey for the PROJECT.

The structural SUBCONSULTANT shall prepare structural analysis, design, and drawings for the proposed five (5) walls in the project limits. Coordination between the CONSULTANT and civil and structural SUBCONSULTANTS for the locations, heights, and types of the proposed walls is required.

#### **6.16 Landscape and Irrigation Plans**

The landscape SUBCONSULTANT shall prepare landscape and irrigation plans in accordance with the detailed scope of services included as an attachment to this scope of services. Coordination between the CONSULTANT and civil and landscape/irrigation SUBCONSULTANT for the locations of the proposed landscaping and irrigation is required for inclusion in the 90% plans and specification submittal.

#### **Task 7.0 FINAL DESIGN AND PS&E (100%)**

The 100% Design Submittal requires additional effort, preparation and submittal of design not included in the original agreement. This additional effort is related to the same sets of design plans identified in Task 6.0 Design (90%).

#### **Task 8.0 LANDSCAPE/IRRIGATION DESIGN**

The landscape SUBCONSULTANT shall develop landscape/irrigation design concepts in coordination with CITY staff and in accordance with the detailed scope of services included as an attachment to this scope of services. Coordination between the CONSULTANT and landscape SUBCONSULTANT for the scope of the proposed landscaping is required.

#### **Task 10.0 GEOTECHNICAL**

The geotechnical SUBCONSULTANT shall conduct additional geotechnical analysis required for retaining wall and utility pole foundation design as outlined in the recommendations of the technical memorandum and in accordance with the detailed scope of services included as an attachment to this scope of services. Coordination between the CONSULTANT and the geotechnical and structural SUBCONSULTANTS for the geotechnical investigation and retaining wall and pole foundation design is required.

**Supplement No. 1  
Fee Estimate  
SR 104/40TH PL SE ROUNDAABOUT  
Plans, Specifications, and Estimates**

| Anticipated Work Tasks                                   | KAH        | MLM       | MJS                      | DLH       | JAB       | Task Hours         | Task Cost          |
|--|------------|-----------|--------------------------|-----------|-----------|--------------------|--------------------|
|  | PM         | Sr. Engr  | Sr. Engr<br>Tech<br>CADD | Engr I    | Admin     |                    |                    |
|  | \$263.50   | \$189.50  | \$173.50                 | \$112.50  | \$129.00  |                    |                    |
| <b>Task 1.0 PROJECT MANAGEMENT AND QUALITY CONTROL</b>   | <b>148</b> | <b>0</b>  | <b>0</b>                 | <b>0</b>  | <b>24</b> | <b>172</b>         | <b>\$42,094.00</b> |
| Task 1.1 Project Management                              | 48         |           |                          |           | 12        | 60                 | \$14,196.00        |
| Task 1.2 Monthly Progress Reports and Invoices           | 12         |           |                          |           | 12        | 24                 | \$4,710.00         |
| Task 1.3 Progress Meetings                               | 48         |           |                          |           |           | 48                 | \$12,648.00        |
| Task 1.4 Quality Control/Quality Assurance               | 40         |           |                          |           |           | 40                 | \$10,540.00        |
| <b>Task 2.0 DATA COLLECTION AND SURVEY</b>               | <b>6</b>   | <b>0</b>  | <b>12</b>                | <b>0</b>  | <b>0</b>  | <b>18</b>          | <b>\$3,663.00</b>  |
| Task 2.5 Site Visits to Obtain Additional Information    | 1          |           | 1                        |           |           | 2                  | \$437.00           |
| Task 2.6 Obtain Topographical Survey                     | 1          |           | 2                        |           |           | 3                  | \$610.50           |
| Task 2.7 Right-of-Way Acquisition Support                | 2          |           | 4                        |           |           | 6                  | \$1,221.00         |
| Task 2.8 Staking - Proposed Utility Poles                | 1          |           | 1                        |           |           | 2                  | \$437.00           |
| Task 2.9 Staking - Proposed Project Features             | 1          |           | 4                        |           |           | 5                  | \$957.50           |
| <b>TASK 3.0 WSDOT APPROVALS/PRELIMINARY DESIGN (30%)</b> | <b>4</b>   | <b>0</b>  | <b>4</b>                 | <b>12</b> | <b>0</b>  | <b>20</b>          | <b>\$3,098.00</b>  |
| Task 3.4 WSDOT Channelization Plan for Approval - DD     | 4          |           | 4                        | 12        |           | 20                 | \$3,098.00         |
| <b>TASK 4.0 ENVIRONMENTAL DOCUMENTATION</b>              | <b>8</b>   | <b>0</b>  | <b>4</b>                 | <b>0</b>  | <b>0</b>  | <b>12</b>          | <b>\$2,802.00</b>  |
| Task 4.4 Existing Tree Impacts                           | 4          |           | 2                        |           |           | 6                  | \$1,401.00         |
| Task 4.5 Arborist Evaluation Report                      | 4          |           | 2                        |           |           | 6                  | \$1,401.00         |
| <b>Task 6.0 DESIGN (90%)</b>                             | <b>36</b>  | <b>28</b> | <b>60</b>                | <b>0</b>  | <b>0</b>  | <b>124</b>         | <b>\$25,202.00</b> |
| Task 6.3 Horizontal Layout and Grading Plans             |            | 8         | 12                       |           |           | 20                 | \$3,598.00         |
| Task 6.7 Drainage Plans                                  | 4          | 2         | 8                        |           |           | 14                 | \$2,821.00         |
| Task 6.9 Illumination Plans                              |            | 2         | 4                        |           |           | 6                  | \$1,073.00         |
| Task 6.10 Utility Relocation Plans                       | 20         | 4         | 8                        |           |           | 32                 | \$7,416.00         |
| Task 6.11 Traffic Control Plans                          | 4          | 8         | 16                       |           |           | 28                 | \$5,346.00         |
| Task 6.15 Wall Design Plans                              | 4          | 2         | 6                        |           |           | 12                 | \$2,474.00         |
| Task 6.16 Landscape and Irrigation Plans                 | 4          | 2         | 6                        |           |           | 12                 | \$2,474.00         |
| <b>Task 7.0 FINAL DESIGN AND PS&amp;E (100%)</b>         | <b>18</b>  | <b>18</b> | <b>36</b>                | <b>0</b>  | <b>0</b>  | <b>72</b>          | <b>\$14,400.00</b> |
| Task 7.3 Horizontal Layout and Grading Plans             |            | 2         | 6                        |           |           | 8                  | \$1,420.00         |
| Task 7.7 Drainage Plans                                  | 2          | 2         | 2                        |           |           | 6                  | \$1,253.00         |
| Task 7.9 Illumination Plans                              |            | 1         | 4                        |           |           | 5                  | \$883.50           |
| Task 7.10 Utility Relocation Plans                       | 12         | 2         | 4                        |           |           | 18                 | \$4,235.00         |
| Task 7.11 Traffic Control Plans                          | 2          | 8         | 16                       |           |           | 26                 | \$4,819.00         |
| Task 7.15 Wall Design Plans                              | 1          | 1         | 2                        |           |           | 4                  | \$800.00           |
| Task 7.16 Landscape and Irrigation Plans                 | 1          | 2         | 2                        |           |           | 5                  | \$989.50           |
| <b>Task 8.0 LANDSCAPE/URBAN DESIGN</b>                   | <b>4</b>   | <b>0</b>  | <b>4</b>                 | <b>0</b>  | <b>0</b>  | <b>8</b>           | <b>\$1,748.00</b>  |
| Task 8.1 Initial Landscape/Urban Design Coordination     | 4          |           | 4                        |           |           | 8                  | \$1,748.00         |
| <b>Task 10.0 GEOTECHNICAL</b>                            | <b>2</b>   | <b>0</b>  | <b>4</b>                 | <b>0</b>  | <b>0</b>  | <b>6</b>           | <b>\$1,221.00</b>  |
| Task 10.9 Geotechnical Coordination                      | 2          |           | 4                        |           |           | 6                  | \$1,221.00         |
| <b>Totals</b>  | <b>226</b> | <b>46</b> | <b>124</b>               | <b>12</b> | <b>24</b> | <b>432</b>         | <b>\$94,228.00</b> |
|  |            |           |                          |           |           | <b>Hours Total</b> | <b>Labor Total</b> |

|   |                     |
|---|---------------------|
| <b>Direct Expenses</b>  |                     |
| 1-Alliance, Survey Subconsultant  | \$49,989.00         |
| Terra Vista, Civil Subconsultant  | \$47,969.00         |
| David Evans and Associates, Inc, Structural Subconsultant                           | \$83,369.75         |
| ESA, Environmental Subconsultant (allowance)  | \$8,000.00          |
| Herrera, Arborist Subconsultant   | \$17,681.00         |
| GeoEngineers, Geotechnical Subconsultant  | \$18,761.00         |
| Berger Partnership, Landscape Subconsultant (less allowance from original contract) | \$24,390.00         |
| <b>Subtotal Subconsultants</b>  | <b>\$250,159.75</b> |

**Supplement #1 Design Services Subtotal Total \$344,387.75**

Supplement #1 Management Reserve Fund \$19,500.00  
**Supplement #1 Subtotal with MRF \$363,887.75**

**Right-of-Way Acquisition Services**  
 Abeyta & Associates, Right-of-Way Subconsultant \$0.00

**Supplement #1 Grand Total Not to Exceed \$363,887.75**

Changes to Total Budget Amount after Contract Modification #1 \$0.00  
 Management Reserve Funds Remaining after Contract Modification #2 \$5,283.00  
 Management Reserve Funds Remaining after Supplement #1 \$24,783.00

Original Maximum Amount Payable \$516,329.00  
**New Maximum Amount Payable \$880,216.75**



10/12/2022

20-139

Kirk Harris, PE  
Transportation Solutions  
16932 Woodinville Redmond Rd. NE, Suite A206  
Woodinville, WA 98072

**Re: Professional Surveying Services Proposal – Amendment 1  
Lake Forest Park, SR 104/40<sup>th</sup> Place Roundabout**

Dear Kirk,

1 Alliance Geomatics, LLC (1 Alliance) is pleased to provide this proposal for professional surveying and mapping services in support of Lake Forest Park on the SR 104/40<sup>th</sup> Place Roundabout project.

#### **Background**

This is a skewed, four-legged intersection with stop control for the Southbound (40<sup>th</sup> Place NE) and Westbound (NE 184<sup>th</sup> Street) approaches. The geometry of the intersection is problematic for many users including misaligned legs that lead to confusion over which route is SR 104, and lack of sight distance which makes turning left onto SR 104 and pedestrian crossings hazardous. Moreover, the intersection lacks amenities for those choosing to walk or bike.

#### **Scope of Services**

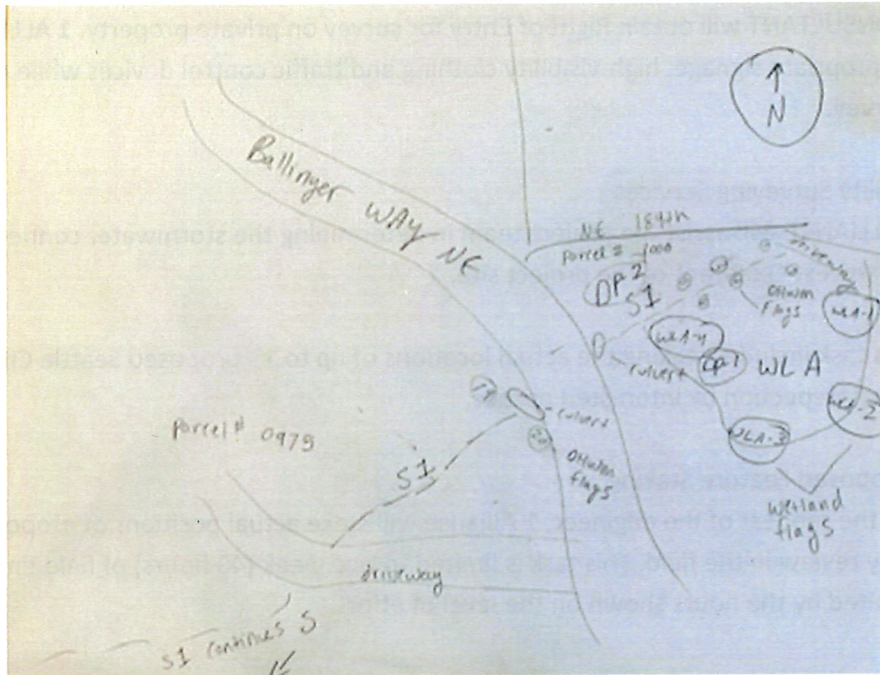
##### **1. Surveying and Mapping**

###### **1.1. Survey PM, Admin, QA/QC**

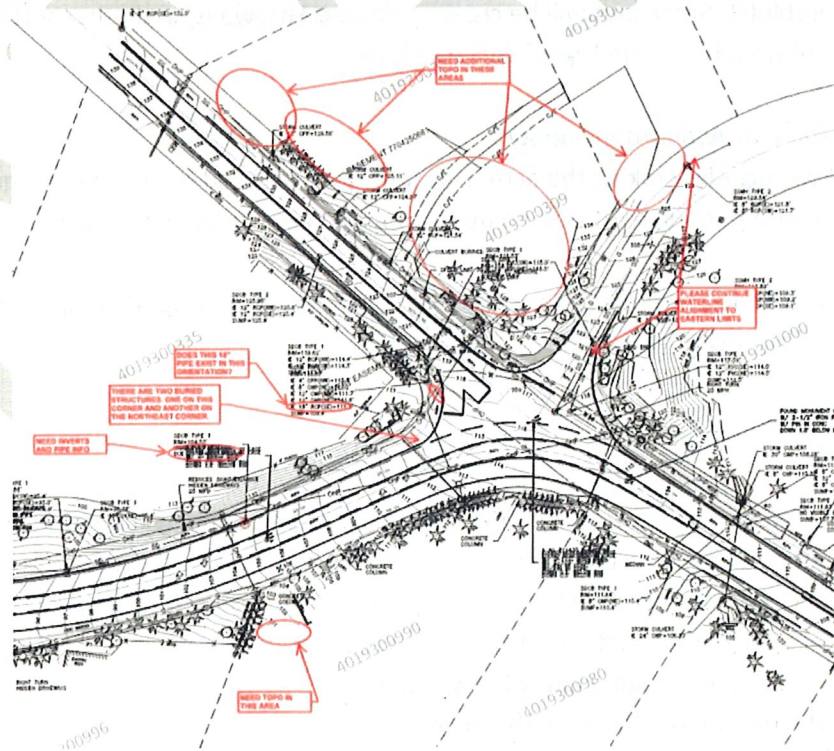
This task includes the survey project management, administrative duties, and quality control required for a project of this complexity and magnitude.

###### **1.2. Field Surveying and Mapping**

This task includes mapping of flagged critical areas as identified by others and as shown below.



This task also includes extending mapping and answering questions from the design team as shown below.







CONSULTANT will obtain Right of Entry for survey on private property. 1 ALLIANCE will use appropriate signage, high-visibility clothing and traffic control devices while performing field survey.

#### 1.3. Utility Surveying Services

1 ALLIANCE will assist the project team in determining the stormwater connections at the Northwest Quadrant of the project site.

This task includes staking the actual locations of up to 13 proposed Seattle City Light poles for visual inspection by interested parties.

#### 1.4. Proposed Feature Staking

At the request of the engineer, 1 Alliance will stake actual positions of proposed features for City review in the field. This task is limited to one week (40 hours) of field time and is also limited by the hours shown on the level of effort.

#### 1.5. Office Processing

This task includes the office processing of the collected survey data, data extraction, field book note reductions, CADD drafting, and other duties required for the generation of the deliverable(s). Breaklines will be created along curbs, walls, and other surface features in order to generate an accurate Digital Terrain Model.

#### 1.6. Right-of-Way Acquisition Support

This task includes staking the actual locations of proposed right-of-way acquisition areas for negotiation purposes. Staking on up to 7 parcels is included in this task.

Up to 2 land descriptions and exhibits will be prepared to support temporary construction easement or ROW acquisition

### **Understandings**

1. Health, Safety, and Security are priority. 1 Alliance personnel will not proceed if the conditions are deemed unhealthy, unsafe, or not secure from harm of any type.
2. 1 Alliance is not responsible for any delays or errors caused by others.
3. Boundary corners will not be set as a part of this scope.
4. A record of Survey is not a part of this scope.
5. Tree driplines are not a part of this scope.
6. Scanning will only be performed during favorable weather conditions.



**1 ALLIANCE**  
GEOMATICS  
SURVEYING & MAPPING

7. Rights-of-Entry will be organized, granted, and confirmed by The Consultant or Others.
8. Title Reports with underlying documents for the affected Parcels to be provided by others.
9. Total duration for this effort, from start to final deliverable, is estimated to be 6 months after completion of anticipated fully executed contract.
10. The fee estimate expires 90 days after this dated proposal and may need to be revised thereafter.

**Deliverables**

1. AutoCAD Civil 3D 2018 survey base map, electronic copy. (not to include terrain model)
2. Autocad Civil 3D 2018 terrain model, electronic copy.
3. .XML terrain model.

**Level of Effort**

\$49,989

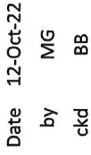
1 Alliance appreciates the opportunity to present this proposal. If you have any questions, please feel free to call.

Sincerely,

1 Alliance Geomatics, LLC

Mark Groot, PLS  
Survey Project Manager



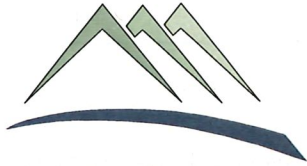


| Amendment 1 |                                  |  | HRS        |
|-------------|----------------------------------|--|------------|
| No.         | DESCRIPTION                      |  |            |
| 1           | PM; Admin; QA/QC                 |  | 17         |
| 2           | Field Surveying and Mapping      |  | 32         |
| 3           | Utility Surveying Services       |  | 40         |
| 4           | Proposed Feature Staking         |  | 132        |
| 5           | Office Processing                |  | 15         |
| 6           | Right-of-Way Acquisition Support |  | 149        |
| 7           |                                  |  | 0          |
|             | <b>TOTAL HOURS</b>               |  | <b>385</b> |

|                                    |           |
|------------------------------------|-----------|
| TOTAL DIRECT BURDENED SALARY COSTS | \$ 49,351 |
|------------------------------------|-----------|

1000 JOURNAL OF CLIMATE





# *TerraVista NW LLC*

## **Consulting Engineers**

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### **Exhibit A**

#### **Scope Description**

##### Stormwater Flow Control and Water Quality Measures

The original contract anticipated that stormwater flow control and water quality measures would not be required. This is based on a review of the provisions of the stormwater manual and information available related to the anticipated design of project at the time the contract was prepared. During the 30% design phase, a survey of existing conditions was performed and a layout of the proposed design was developed. Once this information was available an analysis of the required stormwater improvements was performed and it was determined that stormwater flow control and water quality measures would be required to meet the provisions of the stormwater regulations.

To prepare a comprehensive opinion of probable cost for the 30% design phase and meet the project schedule, the design team proceeded with developing the overall stormwater improvements which included flow control and water quality measures, under the current budget. However, as this expenditure was not included in the original scope, a contract amendment is requested for the design and documentation for the additional stormwater infrastructure.

The complexity of the storm drain system greatly increased thus requiring additional coordination time and documentation of the system, in both construction plans and technical reports. The stormwater design currently developed by the design team currently includes catch basins and associated piping, as well as a treatment train that includes a stormwater detention vault, oil water separator, and two water quality systems. The original scope assumed that only catch basins and some minor piping to connect to existing storm mains would be required. Additionally, due to the large size of the flow control and water quality systems, time was spent to strategically locate the facilities to minimize disruption project phasing, traffic flow, and to other existing critical infrastructure in the project limits, such as water and sewer mains as well as electrical utilities.

Although the stormwater detention vault and water quality systems are large, the design team has taken many steps in an effort to keep the facility sizes to a minimum and thus manage potential project costs. These steps include strategic grading of the paved surfaces and placing catch basin inlets in such a manner as to only route the required amount of stormwater to the flow control and water quality systems, rather than the entire project limits of work. Flows not required to be routed to the stormwater facilities would be bypassed and connected to the existing stormwater infrastructure. This is allowed by the stormwater regulations and beneficial to the project as without this effort, the size of the flow control and water quality facilities could potentially be three to four times as big. This effort also required additional time to be spent by the design team.

##### Change of Agency Project Leadership

At the completion of the 30% design phase, the project leadership at the Agency changed. This resulted in an extension to the schedule to allow for Agency staff to be brought up to speed. Additional time was expended by the design team to assist the new leadership team in becoming familiar with the design and addressing outstanding issues.

##### Retaining Walls

The original scope of services did not include design and detailing of retaining walls within the project. Although the structural design will be provided by other consultants, TerraVista NW will need to prepare wall profiles to support the structural design of the walls. Also, additional time was spent in determining the extents of the retaining walls and viable locations within the project site and private property.

### Increased Project Complexity

The original scope of services was based on what was known at the time the contract was drafted and what would be anticipated for the project. As the design progressed through 30% and 90% development, the complexities of a project that had significant topographic differences resulted in additional time being spent to develop grading of the roadway approaches, beyond what was originally assumed. Roadway approach grading needed to be significantly adjusted several times to try to minimize impacts to driver experience, adjacent driveways, overall earthwork, existing utilities, and so on. This added effort would benefit the overall project budget and coordination with property owners.

## Scope of Work

### Task 1 – Project Management and Coordination

TerraVista NW will perform the following additional tasks:

- Contract management
- Coordinate with the design team on aspects related to flow control and water quality systems
- Coordinate with Agency on allowable treatment systems and code interpretations.
- Participate in additional periodic online coordination meetings.
- Perform QA/QC review

### Task 2 – Data Gathering and Engineering

TerraVista NW will perform the following tasks:

- Review studies and documentation provided by others
- Perform up to one (1) additional site visits

### Task 3 – Preliminary Design

TerraVista NW will perform the following tasks:

- Review options for capturing stormwater and routing to treatment facilities.
- Perform additional stormwater hydrologic and hydraulic calculations
- Prepare additional supporting documentation for the stormwater drainage report
- Review options for placement of retaining walls

TerraVista NW will prepare 30% design documents that will also include:

#### Plans

- Add information to the drainage plans
- Additional stormwater details

#### Additional Technical Specifications

Additional information on Opinion of Probable Cost



#### Task 4 and 5 - Final Design

TerraVista NW will perform the following tasks:

- Review options for capturing stormwater and routing to treatment facilities.
- Perform additional stormwater hydrologic and hydraulic calculations
- Prepare additional supporting documentation for the stormwater drainage report
- Review options for placement of retaining walls

TerraVista NW will prepare 90% and 100% design documents that will also include:

##### Plans

- Add information to the drainage plans
- Additional stormwater details

##### Additional Technical Specifications

Additional information on Opinion of Probable Cost

## Assumptions

1. Placement of stormwater flow control and water quality facilities will not significantly change as of the date of this contract amendment.
2. Extents of new or replaced impervious surfaces will not change as of the date of this contract amendment.
3. Project grading will not significantly change as of the date of this contract amendment
4. Roadway profiles will not be required to be included in the construction documents. Grading will be identified through the use of spot elevations.
5. Roadway improvements shall utilize applicable published codes and regulations for reference. The City Agency will identify any non-published requirements that need to be incorporated into the project, early in the 90% design phase.

## Exhibit B

| Task #           | Description  | PIC/PM<br>ES<br>\$194 | Engineer III<br>RP<br>\$143 | Total<br>Hours   |
|------------------|--|-----------------------|-----------------------------|------------------|
| Task 1           | Project Management and Coordination                  |                       |                             |                  |
|                  | Coorespondence and coordination with team            | 20                    | 8                           | 28               |
|                  | Contract management                                  | 8                     |                             | 8                |
|                  | Attend Meetings                                      | 4                     |                             | 4                |
|                  | QA/QC  | 40                    |                             | 40               |
| Task 2           | Data Gathering and Engineering                       |                       |                             |                  |
|                  | Review additional technical information              |                       | 4                           |                  |
|                  | Perform additional site visits                       |                       | 4                           | 4                |
| Task 3           | Preliminary Design                                   |                       |                             |                  |
|                  | Review drainage options                              | 2                     | 6                           | 8                |
|                  | Perform additional stormwater calculations           | 1                     | 6                           | 7                |
|                  | Prepare 30% Plans                                    | 4                     | 24                          | 28               |
|                  | Prepare 30% Technical Specifications                 |                       |                             |                  |
|                  | Prepare 30% Opinion of Probable Cost                 | 2                     | 8                           | 10               |
| Task 4           | Final Design   |                       |                             |                  |
|                  | Review drainage options                              | 4                     | 16                          | 20               |
|                  | Perform additional stormwater calculations           | 2                     | 9                           | 11               |
|                  | Provide additional documentation for drainage report | 2                     | 12                          | 14               |
|                  | Prepare 90% Plans                                    | 4                     | 60                          | 64               |
|                  | Prepare 90% Technical Specifications                 | 8                     |                             | 8                |
|                  | Prepare 90% Opinion of Probable Cost                 | 2                     | 6                           | 8                |
| Task 5           | 100% Design  |                       |                             |                  |
|                  | Prepare 100% Plans                                   |                       | 26                          | 26               |
|                  | Prepare 100% Technical Specifications                | 2                     |                             | 2                |
|                  | Prepare 100% Opinion of Probable Cost                |                       | 4                           | 4                |
|                  | Subtotal Hours                                       | 105                   | 193                         | 294              |
|                  | Subtotal Fee   | \$ 20,370             | \$ 27,599                   |                  |
| <b>TOTAL FEE</b> |  |                       |                             | <b>\$ 47,969</b> |

**City of Lake Forest Park**  
**SR 104 and 40<sup>TH</sup> Place NE Roundabout Project**  
**Wall Design Scope of Services**

DEA is being retained by Transportation Solutions (TSI) to support the SR 104 and 40<sup>th</sup> PL NE Roundabout Project for the City of Lake Forest Park (CITY). The scope of services is to include the conceptual and final design of retaining walls, project coordination time and project management and invoicing time.

**General Assumptions:**

- Design codes:
  - AASHTO LRFD Bridge Design Specifications, 9th Edition with Interims.
  - WSDOT Bridge Design Manual – June 2022
- Construction Specifications
  - 2023 Washington State Department of Transportation (WSDOT) Standard Specification for Road, Bridge and Municipal Construction.
- A cast-in place wall fascia may be provided for some wall types although it is not required.
- Level of effort based upon the design of two wall types: a soldier pile wall without tie-backs, with a cast-in-place fascia, and developing a performance specification and cross section for a gravity block wall
- The existing slope is stable from a global stability standpoint.
- Fall protection will be required on walls. Design anticipates using a standard WSDOT or CITY supplied railing detail.
- Plan set assumes 9 sheets including:
  - Wall Plan and Elevation sheets
  - Wall Details
  - Fall Protection Details
- Level of effort assumes that DEA is provided survey data and Initial Wall Profile and Alignment sheets in CADD
- Geotechnical information is provided by others, not subconsulted to DEA, in accordance with assumed Design Codes.
- 100% Deliverables, excluding Cost Opinions, shall be signed and sealed by a Professional Engineer in the state of WA and be marked Issued For Construction.

**Task 100 – Project Management**

Direction of the DEA staff and review of their work over the course of the PROJECT shall be provided. This work element includes preparing monthly progress reports including the status of individual work elements, number of meetings attended, outstanding information required and work items planned for the following month

Periodic monitoring of the PROJECT budge will occur over the course of the PROJECT. Assessment of current PROJECT status, as well as projections of future status, shall be developed by the DEA. This work element is intended to monitor costs and budgets, and to propose corrective actions. These actions could include formal requests for budge increases, or scope modifications or reductions.

Drawings and documents generated over the course of the PROJECT require review, coordination, and file management. Level of effort for Technical Reviews and Quality Control activities is included in individual tasks. This information will be filed to facilitate ready and selective retrieval.

DEA will develop monthly invoices which include progress reports.

Scope, schedule and budget will be monitored regularly by DEA for their work. In the event of a change in scope or schedule, DEA will communicate changes to TSI as soon as possible, and where deemed required develop an amendment to modify this agreement.

Deliverables:

- Project coordination with CITY and/or TSI and DEA staff on project scope and work tasks
- Management of the project scope, deliverables, budget, and schedule
- Monthly Invoices and Progress Reports

Assumptions:

- Meetings where DEA is involved are held via phone, Zoom, Team, or other virtual. Travel time to additional locations has not been included but can be added by amendment.
- Duration of the Project will be six (6) months.

### **Task 200 – Conceptual Design and Concept Coordination**

#### **Task 200.1 - Development of a Conceptual Design Memo**

DEA shall develop a high level summary memo containing primary constraints for each wall and determine preferred wall type deemed most practical for this location. The document will provide illustrations of similar wall construction options and basic input to cost to verify impact to project budget.

#### **Task 200.2 – Field Visit**

DEA will send one engineer to the field to visit site and examine existing conditions. The site visit is assumed to last 3 hours plus travel time.

Deliverables:

- Conceptual Wall Design Memo

### **Task 300 – Retaining Wall Design**

#### **Task 300.1 – Coordination with Geotechnical Engineer**

DEA will meet as needed, up to the level of effort assumed in this agreement, to coordinate geotechnical parameters and verify that provided parameters are in alignment with project design codes and design constraints.

#### Task 300.2 – 90% Retaining Wall Design (Design and Drawings)

Project includes 5 walls of various heights. Preliminary data indicates that:

- Wall GR01 (184+00 to 184+50 RT), block fill wall anticipated, abutting driveway, max exposed height shows as approximately 4'
- Wall GR02 (184+70 to 185+20 RT), block fill wall anticipated, abutting driveway, max exposed height shows as approximately 4'
- Wall GR03/GR05 (SE quadrant), fill wall, between back of walkway and wetland buffer, max exposed height shows as approximately 7' is assumed to be a soldier pile wall.
- Wall GR04/GR05 (NE quadrant), cut wall – expected soldier pile wall for some segments, max exposed height shows as approximately 12.5'
- Wall GR04 (NE quadrant, north of driveway), cut wall/type unknown, near 48" DBH deciduous tree, max exposed height shows as approximately 5' is anticipated to be a block wall or soldier pile wall as determined by the conceptual design memo.

Walls are assumed to be either a soldier pile wall or gravity block wall for determining Level of Effort. Level of Effort shall be re-evaluated following the selection of wall types in the Conceptual Wall Design Memo. Level of effort is based upon only one soldier pile wall and a performance based specification for a gravity block wall to be designed by the Contractor. This task includes the design, drawing development and quality control of retaining walls during Consultant Design Phase.

#### Task 300.3 – 90% Retaining Wall Specifications

DEA will develop supplemental construction specifications, where required, to address wall aesthetic features and colors. It is assumed that all other construction specifications are included in the WSDOT Standard Specifications. A block wall performance specification will be provided to accommodate a Contractor facilitated design.

#### Task 300.4 – 90% Retaining Wall Opinion of Construction Cost

DEA will develop a 90% level probable Opinion of Construction Cost for work designed under Task 300.2 to be included in overall project Opinion of Construction Cost.

#### Task 300.5 – 100% Retaining Wall Design (Design and Drawings)

DEA will update the design and construction drawings from Task 300.2 to address comments received and in accordance with the design.

#### Task 300.6 – 100% Retaining Wall Specifications

DEA will update the retaining wall specifications from Task 300.3 to address comments received and in accordance with the design.

#### Task 300.7 – 100% Retaining Wall Opinion of Construction Cost

DEA will develop a 100% level probable Opinion of Construction Cost for work designed under Task 300.5 to be included in overall project Opinion of Construction Cost.

#### **Task 400 – Pole Foundation Design**

Pole foundation design is excluded from this agreement but may be included by amendment.

#### **Task 500 – Design Support During Bidding**

Engineering support during bidding will be provided assuming that only minor questions from the contractor are requested and no significant changes involving drawings are required. Additional design support during bidding may be added by amendment to this agreement.

#### **Task 600 – Engineering Support During Construction**

No engineering support during construction is assumed at this time although can be added by amendment to this agreement once Tasks 300 and 400 are complete. This may include review of Contractor facilitated designs.



# PROJECT FEE ESTIMATE

Owner: City of Lake Forest Park  
 Client: Transportation Solutions  
 PR22053 - SR104 & 40th PI NE Roundabout  
 Structural Engineering Services



11/15/2022

| WORK<br>DESCRIPTION   | PERSONNEL AND HOURLY RATES |           |         |         |           | Total<br>Hours | Direct<br>Salary<br>Cost | OH<br>177.62% | Negotiated Profit<br>10%<br>DSC + OH | All Inclusive<br>Hourly Rate |
|---|----------------------------|-----------|---------|---------|-----------|----------------|--------------------------|---------------|--------------------------------------|------------------------------|
|   | PM                         | Str Dsgnr | QC Eng  | CAD     | Prj Coord |                |                          |               |                                      |                              |
|   | \$84.00                    | \$44.00   | \$82.00 | \$45.00 | \$46.00   |                |                          |               |                                      |                              |
| <b>Task 100 - Project Mangement</b>                                     | 12                         | 0         | 0       | 0       | 12        | 24             | \$ 1,560.00              | \$ 2,770.87   | \$ 433.09                            | \$ 4,763.96                  |
| Project Setup, Monthly Progress Report and Invoice (6 months)           | 6                          |           |         |         | 12        | 18             | \$ 1,056.00              |               |                                      |                              |
| Project communication, and coordination                                 | 6                          |           |         |         |           | 6              | \$ 504.00                |               |                                      |                              |
| <b>TASK 200 - Conceptual Design and Concept Coordiantion</b>            | 7                          | 25        | 6       | 0       | 0         | 38             | \$ 2,180.00              | \$ 3,872.12   | \$ 605.21                            | \$ 6,657.33                  |
| 200.1 - Development of a Conceptual Design Memo                         |                            |           |         |         |           |                |                          |               |                                      |                              |
| Draft Conceptual Design Memo  | 1                          | 25        | 6       |         |           | 32             | \$ 1,676.00              |               |                                      |                              |
| 200.2 - Field Visit   | 6                          |           |         |         |           | 6              | \$ 504.00                |               |                                      |                              |
| <b>TASK 300 - Retaining Wall Design</b>                                 | 22                         | 202       | 70      | 138     | 0         | 432            | \$ 22,686.00             | \$ 40,294.87  | \$ 6,298.09                          | \$ 69,278.96                 |
| 300.1 - Coordination with Geotechnical Engineer                         | 2                          | 8         |         |         |           | 10             | \$ 520.00                |               |                                      |                              |
| 300.2 - 90% Retaining Wall Design (Design and Drawings)                 |                            |           |         |         |           |                |                          |               |                                      |                              |
| Calculations  | 4                          | 60        | 18      |         |           | 82             | \$ 4,452.00              |               |                                      |                              |
| Plans Preparation   | 6                          | 48        | 23      | 98      |           | 175            | \$ 8,912.00              |               |                                      |                              |
| 300.3 - 90% Retaining Wall Specifications                               | 2                          | 20        | 6       |         |           | 28             | \$ 1,540.00              |               |                                      |                              |
| 300.4 - 90% Retaining Wall Opinion of Construction Cost                 | 1                          | 8         | 3       |         |           | 12             | \$ 682.00                |               |                                      |                              |
| Response to 90% Comments  |                            | 4         | 2       |         |           | 6              | \$ 340.00                |               |                                      |                              |
| 300.5 - 100% Retaining Wall Design (Design and Drawings)                |                            |           |         |         |           |                |                          |               |                                      |                              |
| Calculations  | 2                          | 18        | 6       |         |           | 26             | \$ 1,452.00              |               |                                      |                              |
| Plans Preparation   | 3                          | 30        | 10      | 40      |           | 83             | \$ 4,192.00              |               |                                      |                              |
| 300.6 - 100% Retaining Wall Specifications                              | 1                          | 3         | 1       |         |           | 5              | \$ 298.00                |               |                                      |                              |
| 300.7 - 100% Retaining Wall Opinion of Construction Cost                | 1                          | 3         | 1       |         |           | 5              | \$ 298.00                |               |                                      |                              |
| <b>TASK 400 - Pole Foundation Design (Not Used)</b>                     | 0                          | 0         | 0       | 0       | 0         | 0              | \$ -                     | \$ -          | \$ -                                 | \$ -                         |
| <b>TASK 500 - Design Support During Bid</b>                             | 2                          | 8         | 2       | 4       | 0         | 16             | \$ 864.00                | \$ 1,534.64   | \$ 239.86                            | \$ 2,638.50                  |
| Review of RFIs  | 2                          | 8         | 2       | 4       |           | 16             | \$ 864.00                |               |                                      |                              |
| <b>TASK 600 - SUPPORT DURING CONSTRUCTION (EXCLUDE FROM CURRNET AGF</b> | 0                          | 0         | 0       | 0       | 0         | 0              | \$ -                     | \$ -          | \$ -                                 | \$ -                         |
| Construction Observation and Field Report                               |                            |           |         |         |           | 0              | \$ -                     |               |                                      |                              |
| Review of Submittals  |                            |           |         |         |           | 0              | \$ -                     |               |                                      |                              |
| Respond to RFI  |                            |           |         |         |           | 0              | \$ -                     |               |                                      |                              |
| <b>DIRECT EXPENSES</b>  |                            |           |         |         |           |                |                          |               |                                      | \$ 31.00                     |
| <b>TOTAL LABOR</b>  | 43                         | 235       | 78      | 142     | 12        | 510            | \$ 27,290.00             | \$ 48,472.50  | \$ 7,576.25                          | \$ 83,338.75                 |

| Direct Expenses                                |             |
|--|-------------|
| Reproduction (Full Size)                       | \$0         |
| Mileage at \$0.625/mile (1 Rd Trip @ 50 miles) | \$31        |
| Parking  | \$0         |
| FedEx  | \$0         |
| <b>Total</b>                                   | <b>\$31</b> |

| Cost Estimate Summary              |                     |
|------------------------------------|---------------------|
| Direct Salary Cost (DSC)           | \$ 27,290.00        |
| Overhead @ 177.62% x DSC           | \$ 48,472.50        |
| Negotiated Profit @ 10% x (DSC + O | \$ 7,576.25         |
| Direct Expenses                    | \$ 31.00            |
| <b>Grand Total</b>                 | <b>\$ 83,369.75</b> |

# CITY OF LAKE FOREST PARK STATE 104 ROUNABOUT PROJECT – TREE INVENTORY AND ARBORIST REPORT

On **Monday, October 3, 2022**, Environmental Science Associates (ESA) authorized Herrera Environmental Consultants (Herrera) to prepare a scope of work and cost estimate to conduct a tree inventory and prepare an arborist report for the State 104 Roundabout Project design for Transportation Solutions, Inc. (TSI) and the City of Lake Forest Park.

Herrera will provide labor, materials, equipment, and supplies to perform a tree inventory, provide associated data collection and data reporting services for baseline conditions required to facilitate project permitting and restoration design. This scope of work includes a discussion of the activities, assumptions, and deliverables. Schedule will be determined after this proposal has been approved

|                                   |   |
|-----------------------------------|---|
| • Task 1.0 – Tree Inventory ..... | 1 |
| • Task 2.0 – Arborist Report..... | 3 |
| • Project Schedule.....           | 3 |
| • Project Cost Estimate.....      | 3 |

## TASK 1.0 – TREE INVENTORY

Herrera will review background materials provided by ESA and City Code LFPMC 16.14 for tree regulations for City of Lake Forest Park. An ISA Arborist from Herrera and a field biologist will conduct a tree inventory along State Route 104 project area for all significant trees (as determined by City of Lake Forest Park [Chapter 16.14](#)). Tree inventory data that will be collected from within the project area will include the following information:

- Tree Genus and Species
- Tree trunk diameter in inches 4.5 feet above grade (diameter at breast height, DBH)
- Critical Root Zone (CRZ), and interior Critical Root Zone
- Tree Category indicating if tree is Significant (6" or greater DBH) or Landmark (greater than 24" DBH)

## SCOPE OF WORK

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- The general health condition of each tree recorded as one of six categories: Excellent, Good, Fair, Poor, Critical, Dead and general observations warranting recognition.
- Level I Tree Risk Assessment for all trees
- Level II Tree Risk Assessment for any trees with structural or biological issues determined by Level I assessment.
- Existing and proposed canopy coverage.
- Each inventoried tree will be tagged with an aluminum numbered tree tag.
- GPS coordinates of trees inventoried using ArcGIS Field Maps on digital tablet with approx. 1-meter accuracy

## Assumptions

- Arborist inventory and assessment will meet standards as defined in City of Lake Forest Park's Chapter 16.14 Tree Canopy Preservation and Enhancement tree code which states all trees over 6 inches in diameter are significant, including invasive species.
- Two Herrera staff will conduct a tree survey along State 104 within the project area.
- Only trees with DBH 6 inches and greater will be included in inventory
- Trees will be evaluated through visual inspection only. No physical inspection of the upper canopy, sounding, root crown excavation, or resistograph or other technologies will be used in the evaluation of trees.
- Access will be provided to all trees requiring inventory through private property ahead of fieldwork, provided by TSI or ESA.
- ESA will provide background data, site maps and project area limits to Herrera prior to fieldwork. ESA will provide base layers (CAD or GIS) showing where the project area limits are located prior to fieldwork, specifically all contour lines, utilities, property lines, and existing and proposed structures within the CAD plans.
- Deliverables for Task 1 will be included in the Task 2: Arborist Report deliverable package.



## SCOPE OF WORK

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### Deliverables

- Tree Inventory table showing unique tree identification number, species, common name, DBH, health and general notes (Excel, PDF)
- Site plan showing tree locations and their unique tree identification number (PDF, GIS shapefiles)
- A scale 1" = 20' site plan detailing the location of property lines, critical areas and buffers, critical and interior critical roots zones of all trees, existing and proposed utilities, 2-foot contours, and existing and proposed structures.

## TASK 2.0 – ARBORIST REPORT

Herrera will provide a summary technical memo that will include the following:

- Discussion of tree inventory methodology and data collection
- Appendices with tree inventory data, photos and maps collected during Task 1
- Trees in the vicinity of construction that could be impacted by the proposed development activity
- Recommendations for trees to be removed
- Recommendations for trees to be protected
- Tree protection fencing (type and locations)
- Timeline for tree protection activities
- List of protection measures and conditions to be taken during all development activities to ensure code compliance during development activities.

## PROJECT SCHEDULE

Subject to change based on contract, it is estimated that fieldwork will take place in October 2022 and the arborist report and associated deliverables will be submitted by November 2022.

## PROJECT COST ESTIMATE

Work described above will be completed for a budget not to exceed \$17,681.

**ADDITIONAL GEOENGINEERS SCOPE OF SERVICES**  
**BALLINGER WAY NE (SR 104) AND 40<sup>TH</sup> PLACE NE ROUNDABOUT**  
**LAKE FOREST PARK, WASHINGTON**

FILE NO. 197-009-00

GeoEngineers is pleased to present our proposed additional scope of services for the proposed roundabout to be located at the intersection of Ballinger Way NE, 40th Place NE and NE 184th Street in Lake Forest Park, Washington. We understand the proposed grading to construct the roundabout will result in higher cut walls along the northwest portion of the site, which are more suited to permanent soldier pile walls. Our additional services will include subsurface borings with a limited access drill rig to evaluate subsurface soil and groundwater conditions at the proposed wall location and geotechnical recommendations for the permanent walls. Our scope is based on our discussions with Transportation Solutions, our experience working during the preliminary design of the project, and our experience on similar soldier pile wall projects. Based on our project understanding, we propose our scope of services include the following tasks:

1. Review our previous report prepared for the project and the 30 percent design documents to plan the exploration program.
2. Coordinate site access with Transportation Solutions and City of Lake Forest Park including proposed boring locations, access restrictions, working hours, and other on-site drilling requirements.
3. Visit the project site to mark out preliminary locations for explorations and contact the Washington State One Call Utility Locate Service. We will also retain a private utility locating service. We will make follow up site visits to check that all notified utilities have marked their lines in the vicinity of the exploration locations.
4. Advance two or three borings up to 25 feet below existing ground surface (bgs). The field explorations will be performed under the direction of an engineer or geologist from our firm. The explorations will be located in the field by pacing or tape measurements from existing site features such as structures, roads and property features. Our representative will maintain a detailed log of each exploration and obtain samples of the various materials encountered. The samples will be returned to our office for additional examination and analysis.
5. Evaluate pertinent physical and engineering characteristics of the site soils based on laboratory tests from the borings. The laboratory tests will likely include moisture content, percent fines content, and grain-size distribution, as appropriate.
6. Provide geotechnical design recommendations for design of the walls including lateral earth pressure diagrams, appropriate surcharge pressures, minimum diameter and embedment of soldier piles, LRFD reduction factors, axial capacity, lateral design (L-Pile parameters), temporary lagging, and drainage.

7. Provide seismic design criteria based on the WSDOT Geotechnical Design Manual (GDM) and the AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications.
8. Evaluate the potential for liquefaction and lateral spreading of the site soils and provide estimates of liquefaction-induced settlements.
9. Confirm our previous recommendations for earthwork including excavation considerations, temporary slopes, suitability of on-site soil for reuse as structural fill, imported fill specifications, and placement and compaction criteria, and the effects of weather and construction equipment on the site soils.
10. Prepare a draft and final written report containing our findings, conclusions and recommendations for your review. Our final report will incorporate comments from the project team.

## **SCHEDULE**

We are prepared to begin our services upon your authorization to proceed. At this time drilling can typically be scheduled approximately 5 to 6 weeks out. Site exploration will be completed in 1 day. Laboratory testing will require up to 7 to 10 days, depending on the specific tests selected for the soils encountered. Preliminary verbal recommendations will be provided as information is developed. The draft report summarizing results of our geotechnical engineering evaluation can be completed within 2 weeks following the laboratory testing. If this tentative schedule does not meet your needs, please contact us regarding any modifications that will allow us to meet your time schedule.

Attachment: GeoEngineers Fee Estimate



# GEOENGINEERS LABOR HOURS ESTIMATE

| Job Number: |  | 197-009-00              | Job Name:            |                       | Additional Geotechnical Services<br>SR104 and 40th Ave NE Roundabout |                     |          |          | Owner:   | City of Lake Forest Park |                     |
|-------------|--|-------------------------|----------------------|-----------------------|--|---------------------|----------|----------|----------|--------------------------|---------------------|
| Client:     |  | TSI                     |                      |                       |  |                     |          |          |          |                          |                     |
|             |  | \$260.00                | \$243.00             | \$199.00              | \$173.00   | \$152.00            | \$145.00 | \$120.00 | \$105.00 |                          |                     |
| Task        | Task Description   | Principal/<br>Associate | Senior 2<br>Engineer | Project 1<br>Engineer | Staff 3<br>Engineer  | Staff 2<br>Engineer | GIS/CAD  | Admin 3  | Admin 2  | Total<br>Hours           | Total Labor<br>Cost |
| 1,2         | Data Review/Project Setup, Coordination and Management, Subcontracts | 1                       |                      | 4                     |  |                     |          | 2        | 2        | 9                        | 1,506               |
| 3           | Site Visit, Mark Explorations, Complete Locate, Briefing             |                         |                      | 2                     | 6  | 2                   |          | 1        |          | 11                       | 1,860               |
| 4           | Field Exploration/Drilling   | 0.5                     |                      | 2                     |  | 10                  |          | 1        |          | 13.5                     | 2,168               |
| 5           | Sample Review and Laboratory Testing, Logs                           | 0.5                     |                      | 2                     | 2  | 2                   |          |          | 2        | 8.5                      | 1,388               |
| 6-9         | Engineering Analyses/Recommendations                                 | 2                       |                      | 6                     | 4  |                     | 2        |          |          | 14                       | 2,696               |
| 10          | Technical Memorandum, Site Plan and Figures                          | 2                       |                      | 4                     | 6  |                     | 4        | 2        | 2        | 20                       | 3,384               |
| Total Labor |  | 6                       | 0                    | 20                    | 18   | 14                  | 6        | 6        | 6        | 76                       | \$13,002            |

Total Labor Costs

\$13,002

## Expenses

|                                       |         |
|---------------------------------------|---------|
| Field Equipment and Expenses/ Mileage | 832     |
| Subcontracted Drilling                | 4,087   |
| Subcontracted Private Locate          | 400     |
| Laboratory Tests                      | 440     |
| Total Expenses                        | \$5,759 |

Total Fee Estimate

\$18,761

10.7.22 (revised 11.11.22)



Kirk Harris, PE, PMP, Principal  
Transportation Solutions, Inc.  
8250 – 165th Avenue NE, Suite 100  
Redmond, WA 98052

### **Lake Forest Park: Ballinger & 40th: Proposal for Landscape Architectural Services**

Kirk:

Thanks again for inviting us to join your team for the project in Lake Forest Park. We are looking forward to working together to incorporate a roundabout with artwork at this intersection. Below is our fee proposal reflecting our scope landscape architectural services.

#### **Project Understanding**

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We will be joining a multidisciplinary consultant team led by TSI. The scope of the project includes a new roundabout intersection, sidewalks and associated site improvements per plan titled "LFP RAB\_Improvement Exhibit\_2022-09-06" as provided by TSI. As landscape architect, our scope of services will include design and documentation of planting and irrigation as indicated by task below.

#### **Task 1.0 Landscape Design - Roundabout**

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- 1.1 Project Management & QA/QC: Provide project/contract management, and coordination with consultant/internal team throughout phase. Participate in periodic design coordination meetings or conference calls with client and/or consultant team (assumes up to 1.5 hours/month through CD for this task).
- 1.2 Design Development: Develop planting concepts, typologies (e.g. street trees, shrubs, bioretention) & overall landscape character.
- 1.3 Construction Documents: Prepare drawings (plans/material callouts, schedules, details) suitable for permitting and bidding. Coordinate above with all utility locations, setbacks, etc. Prepare technical specifications related to our scope of work in WSDOT/APWA format.

#### **Task 2.0 Irrigation Design - Roundabout**

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- 2.1 Project Management & QA/QC: Provide project/contract management, and coordination with consultant/internal team throughout phase. Participate in periodic design coordination meetings or conference calls with client and/or consultant team (assumed total hours for this task).
- 2.2 Design Development: Review codes, as-builts and coordinate irrigation point of connection.



- 2.3 Construction Documents: Prepare drawings (plans/material callouts, schedules, details) suitable for permitting and bidding. Prepare technical specifications related to this scope of work in WSDOT/APWA format.

### Assumptions

If your assumptions differ from those noted below, please let us know immediately.

- We will be a subconsultant to TSI (Prime Consultant) and this proposal will be included as an attachment to an AIA Standard Consultant Agreement (or equivalent).
- Fees for sub-consultant services (except irrigation) are not included in our fees.
- The Prime Consultant, prior to the beginning of each design phase, will provide up to date and accurate base information from previous phase. Civil and Landscape will provide, and be provided, with information in AutoCAD format.
- The project will be documented in a single phase.
- Specific services excluded from our proposal include Bid & CA scope for Landscape & Irrigation Design, Hardscape Design, Art Concept Development, life-cycle costs analysis, environmental graphics, wayfinding, lighting design, presentation-quality physical and/or electronic models and 3D renderings, sustainability rating system (e.g. Envision) documentation, cost estimating, record document production at completion of CA. Detailed tree retention plans, if required by governing agency, shall be provided by consulting arborist. Construction Documents and Construction Administration services for Artwork are not included at this time.
- Attendance and preparation for all special topic meetings (Design Review, City Council, etc.) not previously mentioned will be invoiced on an hourly basis unless specifically described above.
- We will coordinate with the team to facilitate completion of permit documents, however, permit submittal and administration of applications/ fees/ etc. will be done by Prime Consultant.

### Fees

Based on the scope of services identified at this time, we have established a Time & Expenses Basic Services fee for landscape architectural services as follows:

|   |                 |
|---|-----------------|
| <b>1.0 Landscape Design – Roundabout Total</b>  | <b>\$26,220</b> |
| 1.1 PM & QA/QC                                  |                 |
| 1.2 Design Development                          |                 |
| 1.3 Construction Documents                      |                 |
| <b>2.0 Irrigation Design – Roundabout Total</b> | <b>\$7,920</b>  |
| 2.1 PM & QA/QC                                  |                 |
| 2.2 Design Development                          |                 |
| 2.3 Construction Documents                      |                 |
| <b>3.0 Reimbursable Expenses</b>                | <b>\$250</b>    |



If applicable printing, reprographic expenses, CAD plots, travel costs, and other reimbursable expenses will be billed against estimated amount above and include a 10% mark-up. Fees will be billed on a monthly basis for hours accumulated at the following rates. Services beyond those noted in this proposal will be billed as additional services on an hourly basis at rates listed below, or lump sum fees can be negotiated prior to the commencement of the services.

|                               |                   |
|-------------------------------|-------------------|
| Principal                     | \$225.00 per hour |
| Associate                     | \$180.00 per hour |
| Project Manager               | \$150.00 per hour |
| Landscape Architectural Staff | \$120.00 per hour |
| Administrative Staff          | \$105.00 per hour |

We look forward to working with you on this project. If this proposal meets with your approval, please sign one of the copies and return it to our office. Work will be scheduled upon our receipt of the signed proposal. Please do not hesitate to call if you wish to discuss or need additional information.

Sincerely,

**The Berger Partnership PS**

A handwritten signature in black ink, appearing to read "Jonathan Morley", written over a horizontal line.

Jonathan Morley  
Principal, ASLA, LEED

**APPROVED:**

\_\_\_\_\_  
Date

Attachments: Berger Partnership Labor Hour Estimate 11.11.22

**Lake Forest Park: Ballinger & 40th**

Berger Partnership Level of Effort (LOE) Estimate 11.11.22

| Description                                    |   | Principal<br>\$ 225.00 | Associate/<br>PM<br>\$ 180.00 | LA Staff &<br>Irrigation<br>\$ 120.00 | Admin<br>\$ 105.00 | Fee                 |
|--|---|------------------------|-------------------------------|---------------------------------------|--------------------|---------------------|
| <b>Task 1.0 Landscape Design – Roundabout</b>  |   |                        |                               |                                       |                    |                     |
| 1.1  | Project Management & QA/QC: Provide project/contract management, and coordination with consultant/internal team throughout phase. Participate in periodic design coordination meetings or conference calls with client and/or consultant team (assumes up to 1.5 hours/month through CD for this task). | 18                     | 18                            |                                       | 2                  | \$ 7,500.00         |
| 1.1  | Design Development: Develop planting concepts, typologies (e.g. street trees, shrubs, bioretention) & overall landscape character.  | 12                     | 16                            | 24                                    |                    | \$ 8,460.00         |
| 1.2  | Construction Documents: Prepare drawings (plans/material call-outs, schedules, details) suitable for permitting and bidding. Coordinate above with all utility locations, setbacks, etc. Prepare technical specifications related to our scope of work in WSDOT/APWA format.                            | 12                     | 18                            | 36                                    |                    | \$ 10,260.00        |
| <b>Task Totals</b>                             |   | <b>42</b>              | <b>52</b>                     | <b>60</b>                             | <b>2</b>           | <b>\$ 26,220.00</b> |
| <b>Task 2.0 Irrigation Design – Roundabout</b> |   |                        |                               |                                       |                    |                     |
| 2.1  | Project Management & QA/QC: Provide project/contract management, and coordination with consultant/internal team throughout phase. Participate in periodic design coordination meetings or conference calls with client and/or consultant team (assumed total hours for this task).                      | 6                      | 6                             | 8                                     | 2                  | \$ 3,600.00         |
| 2.2  | Design Development: Review codes, as-builts and coordinate irrigation point of connection   |                        | 2                             | 6                                     |                    | \$ 1,080.00         |
| 2.3  | Construction Documents: Prepare drawings (plans/material call-outs, schedules, details) suitable for permitting and bidding. Prepare technical specifications related to this scope of work in WSDOT/APWA format.   |                        | 2                             | 24                                    |                    | \$ 3,240.00         |
| <b>Task Totals</b>                             |   | <b>6</b>               | <b>10</b>                     | <b>38</b>                             | <b>2</b>           | <b>\$ 7,920.00</b>  |

Subtotal \$ 34,140.00

Total Reimbursables \$ 250.00

Total Estimated Fee: \$ 34,390.00

**Supplement No. 1  
Fee Estimate  
SR 104/40TH PL SE ROUNDAABOUT  
Plans, Specifications, and Estimates**

| Anticipated Work Tasks                                   | KAH             | MLM             | MJS<br>Sr. Engr | DLH             | JAB             | Task<br>Hours | Task Cost          |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|--------------------|
|  | PM              | Sr. Engr        | Tech<br>CADD    | Engr I          | Admin           |               |                    |
|  | <b>\$263.50</b> | <b>\$189.50</b> | <b>\$173.50</b> | <b>\$112.50</b> | <b>\$129.00</b> |               |                    |
| <b>Task 1.0 PROJECT MANAGEMENT AND QUALITY CONTROL</b>   | <b>148</b>      | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>24</b>       | <b>172</b>    | <b>\$42,094.00</b> |
| Task 1.1 Project Management                              | 48              |                 |                 |                 | 12              | 60            | \$14,196.00        |
| Task 1.2 Monthly Progress Reports and Invoices           | 12              |                 |                 |                 | 12              | 24            | \$4,710.00         |
| Task 1.3 Progress Meetings                               | 48              |                 |                 |                 |                 | 48            | \$12,648.00        |
| Task 1.4 Quality Control/Quality Assurance               | 40              |                 |                 |                 |                 | 40            | \$10,540.00        |
| <b>Task 2.0 DATA COLLECTION AND SURVEY</b>               | <b>6</b>        | <b>0</b>        | <b>12</b>       | <b>0</b>        | <b>0</b>        | <b>18</b>     | <b>\$3,663.00</b>  |
| Task 2.5 Site Visits to Obtain Additional Information    | 1               |                 | 1               |                 |                 | 2             | \$437.00           |
| Task 2.6 Obtain Topographical Survey                     | 1               |                 | 2               |                 |                 | 3             | \$610.50           |
| Task 2.7 Right-of-Way Acquisition Support                | 2               |                 | 4               |                 |                 | 6             | \$1,221.00         |
| Task 2.8 Staking - Proposed Utility Poles                | 1               |                 | 1               |                 |                 | 2             | \$437.00           |
| Task 2.9 Staking - Proposed Project Features             | 1               |                 | 4               |                 |                 | 5             | \$957.50           |
| <b>TASK 3.0 WSDOT APPROVALS/PRELIMINARY DESIGN (30%)</b> | <b>4</b>        | <b>0</b>        | <b>4</b>        | <b>12</b>       | <b>0</b>        | <b>20</b>     | <b>\$3,098.00</b>  |
| Task 3.4 WSDOT Channelization Plan for Approval - DD     | 4               |                 | 4               | 12              |                 | 20            | \$3,098.00         |
| <b>TASK 4.0 ENVIRONMENTAL DOCUMENTATION</b>              | <b>8</b>        | <b>0</b>        | <b>4</b>        | <b>0</b>        | <b>0</b>        | <b>12</b>     | <b>\$2,802.00</b>  |
| Task 4.4 Existing Tree Impacts                           | 4               |                 | 2               |                 |                 | 6             | \$1,401.00         |
| Task 4.5 Arborist Evaluation Report                      | 4               |                 | 2               |                 |                 | 6             | \$1,401.00         |
| <b>Task 6.0 DESIGN (90%)</b>                             | <b>36</b>       | <b>28</b>       | <b>60</b>       | <b>0</b>        | <b>0</b>        | <b>124</b>    | <b>\$25,202.00</b> |
| Task 6.3 Horizontal Layout and Grading Plans             |                 | 8               | 12              |                 |                 | 20            | \$3,598.00         |
| Task 6.7 Drainage Plans                                  | 4               | 2               | 8               |                 |                 | 14            | \$2,821.00         |
| Task 6.9 Illumination Plans                              |                 | 2               | 4               |                 |                 | 6             | \$1,073.00         |
| Task 6.10 Utility Relocation Plans                       | 20              | 4               | 8               |                 |                 | 32            | \$7,416.00         |
| Task 6.11 Traffic Control Plans                          | 4               | 8               | 16              |                 |                 | 28            | \$5,346.00         |
| Task 6.15 Wall Design Plans                              | 4               | 2               | 6               |                 |                 | 12            | \$2,474.00         |
| Task 6.16 Landscape and Irrigation Plans                 | 4               | 2               | 6               |                 |                 | 12            | \$2,474.00         |
| <b>Task 7.0 FINAL DESIGN AND PS&amp;E (100%)</b>         | <b>18</b>       | <b>18</b>       | <b>36</b>       | <b>0</b>        | <b>0</b>        | <b>72</b>     | <b>\$14,400.00</b> |
| Task 7.3 Horizontal Layout and Grading Plans             |                 | 2               | 6               |                 |                 | 8             | \$1,420.00         |
| Task 7.7 Drainage Plans                                  | 2               | 2               | 2               |                 |                 | 6             | \$1,253.00         |
| Task 7.9 Illumination Plans                              |                 | 1               | 4               |                 |                 | 5             | \$883.50           |
| Task 7.10 Utility Relocation Plans                       | 12              | 2               | 4               |                 |                 | 18            | \$4,235.00         |
| Task 7.11 Traffic Control Plans                          | 2               | 8               | 16              |                 |                 | 26            | \$4,819.00         |
| Task 7.15 Wall Design Plans                              | 1               | 1               | 2               |                 |                 | 4             | \$800.00           |
| Task 7.16 Landscape and Irrigation Plans                 | 1               | 2               | 2               |                 |                 | 5             | \$989.50           |
| <b>Task 8.0 LANDSCAPE/URBAN DESIGN</b>                   | <b>4</b>        | <b>0</b>        | <b>4</b>        | <b>0</b>        | <b>0</b>        | <b>8</b>      | <b>\$1,748.00</b>  |
| Task 8.1 Initial Landscape/Urban Design Coordination     | 4               |                 | 4               |                 |                 | 8             | \$1,748.00         |
| <b>Task 10.0 GEOTECHNICAL</b>                            | <b>2</b>        | <b>0</b>        | <b>4</b>        | <b>0</b>        | <b>0</b>        | <b>6</b>      | <b>\$1,221.00</b>  |
| Task 10.9 Geotechnical Coordination                      | 2               |                 | 4               |                 |                 | 6             | \$1,221.00         |
| <b>Totals</b>  | <b>226</b>      | <b>46</b>       | <b>124</b>      | <b>12</b>       | <b>24</b>       | <b>432</b>    | <b>\$94,228.00</b> |

**Hours Total**

**Labor Total**

**Direct Expenses**

|   |                     |
|---|---------------------|
| 1-Alliance, Survey Subconsultant  | \$49,989.00         |
| Terra Vista, Civil Subconsultant  | \$47,969.00         |
| David Evans and Associates, Inc, Structural Subconsultant                           | \$83,369.75         |
| ESA, Environmental Subconsultant (allowance)  | \$8,000.00          |
| Herrera, Arborist Subconsultant   | \$17,681.00         |
| GeoEngineers, Geotechnical Subconsultant  | \$18,761.00         |
| Berger Partnership, Landscape Subconsultant (less allowance from original contract) | \$24,390.00         |
| <b>Subtotal Subconsultants</b>  | <b>\$250,159.75</b> |

**Supplement #1 Design Services Subtotal Total \$344,387.75**

Supplement #1 Management Reserve Fund \$19,500.00

**Supplement #1 Subtotal with MRF \$363,887.75**

**Right-of-Way Acquisition Services**

Abeyta & Associates, Right-of-Way Subconsultant \$0.00

**Supplement #1 Grand Total Not to Exceed \$363,887.75**

|   |             |
|---|-------------|
| Changes to Total Budget Amount after Contract Modification #1     | \$0.00      |
| Management Reserve Funds Remaining after Contract Modification #2 | \$5,283.00  |
| Management Reserve Funds Remaining after Supplement #1            | \$24,783.00 |

Original Maximum Amount Payable \$516,329.00

**New Maximum Amount Payable \$880,216.75**

Amendment No. 2 to the  
Professional Services Agreement between the  
City of Lake Forest Park and Transportation Solutions, Inc.  
Dated January 21, 2021

This second Amendment to the Professional Services Agreement between the City of Lake Forest Park and Transportation Solutions, Inc., AG 21-002 (hereafter the "Agreement"), is made in consideration of the mutual benefits, terms, and conditions hereinafter specified and pursuant to Section 16 of the Agreement.

1. Exhibit A (Scope of Work) of the Agreement is amended to include the attached "Exhibit A – Addendum 2". This addendum to the scope of work generally includes additional design, permitting, and right of way acquisition support services.
2. Section 2 of the Agreement is hereby amended as follows:

**Compensation.**

A. The total compensation to be paid to Consultant for the Work in Exhibit A, including all services and expenses, shall not exceed ~~eight hundred eighty thousand two hundred sixteen dollars and seventy-five cents (\$880,216.75)~~ **one million, forty-three thousand, five hundred, twenty dollars and seventy-five cents (\$1,043,520.75)** as shown on Exhibit B, which shall be full compensation for the Exhibit A Work. Consultant shall invoice the City monthly on the basis of the portion of the Work completed each month by the Consultant and sub-consultants.

3. Exhibit B of the Agreement is hereby amended to include the attached "Exhibit B – Addendum 2".

All other terms and conditions remain as provided in the original Agreement.

CITY OF LAKE FOREST PARK

TRANSPORTATION SOLUTIONS, INC.

Signed:  \_\_\_\_\_

Printed Name: Jeff Johnson

Title: Mayor

Dated: 12/14/2023

Signed:  \_\_\_\_\_

Printed Name: KIRK HARRIS

Title: PRINCIPAL

Dated: 12/18/23

## **Exhibit 1**

### **Amendment No. 2**

#### **Scope of Services**

#### **SR 104/40th PI SE Roundabout Plans, Specifications, and Estimates**

### **INTRODUCTION**

#### **A. Project Description**

The work included within this supplemental Scope of Services is to provide additional design and consulting services to the City of Lake Forest Park (CITY) for the SR 104/40th PI SE Roundabout project (PROJECT). The additional design and consulting services by Transportation Solutions, Inc. (CONSULTANT) and its SUBCONSULTANTS are associated with the relocation of existing utility facilities and addressing permitting requirements resulting from City ordinances adopted since the execution of previous agreements.

Work within this supplemental Scope of Services includes development of design concepts for required relocations of overhead electrical power lines for Seattle City Light (SCL) on behalf of the CITY to correlate with the layout of the roundabout. Design concepts of relocated overhead facilities (utility lines, utility poles, guy anchors, and associated clearances to relocated overhead lines) are needed for updating exhibits associated with acquiring property rights for the PROJECT. Property rights acquisition exhibits are developed to identify locations for new right-of-way, permanent utility easements, and temporary construction easements. Work also includes coordination with other franchise utility providers of utility facilities including Lumen, Comcast, University of Washington, WSDOT, and PSE gas. Work also includes coordination with the Lake Forest Park Water District (LFPWD) for relocation of their facilities through the intersection area. Coordination of utility facility relocations is necessary for the sequencing and locations of construction activities, and development of contract specifications and temporary traffic control plans.

Work within this supplemental Scope of Services also includes providing design and consulting services associated with updated permitting requirements for revised LFPMC 16.14 Tree Canopy Preservation and Enhancement as detailed in Ordinance No. 23-1271, and for revised LFPMC 12.50 Retaining Walls as detailed in Ordinance No. 23-1272. Work involves providing a canopy coverage study, a canopy replacement plan, a noise analysis, and participation in a public meeting.

#### **Task 1.0 PROJECT MANAGEMENT AND QUALITY CONTROL**

The CONSULTANT shall provide additional Project Management and Quality Control services that correspond to the services described in the following sections of this supplemental Scope of Services as required for the completion of the PROJECT.

## **Task 4.0 ENVIRONMENTAL DOCUMENTATION**

The CONSULTANT and SUBCONSULTANTS shall work with the CITY to provide design and consulting services associated with updated permitting requirements for revised LFPMC 16.14 Tree Canopy Preservation and Enhancement as detailed in Ordinance No. 23-1271. Work associated with LFPMC 16.14 involves providing a canopy coverage study and a canopy replacement plan.

Detailed scope of services and corresponding budget for the canopy related work prepared by the arborist SUBCONSULTANT is included as an attachment to this scope of services.

The work also involves revised LFPMC 12.50 Retaining Walls as detailed in Ordinance No. 23-1272, which requires a noise study and participation in a public meeting.

Detailed scope of services and corresponding budget for the noise analysis work prepared by the noise SUBCONSULTANT is included as an attachment to this scope of services.

### **4.3 SEPA**

The CONSULTANT and environmental SUBCONSULTANT shall provide assistance to the PROJECT by preparing updates to SEPA documentation as part of additional CITY required environmental documents for permitting. A budget allowance to update the SEPA, Critical Areas Report and other related environmental documentation for the PROJECT is set aside for the environmental SUBCONSULTANT to provide additional services.

### **4.6 Canopy Replacement**

The CONSULTANT and arborist SUBCONSULTANT shall provide assistance to the PROJECT by preparing CITY required canopy replacement plans. Coordination between the CONSULTANTS and the CITY is required for the locations proposed canopy improvements.

### **4.7 Noise Analysis**

The CONSULTANT and noise analysis SUBCONSULTANT shall provide assistance to the PROJECT by preparing a CITY required noise analysis for permitting associated with the proposed walls. Coordination between the CONSULTANTS and the CITY is required for the work.

## **Task 5.0 RIGHT-OF-WAY ACQUISITION**

The CONSULTANT and SUBCONSULTANT shall provide additional Right-of-Way Acquisition services that correspond to the services described in the following sections of this supplemental Scope of Services as required for the completion of the PROJECT.

### **5.10 Right-of-Way Plan Adjustments**

The CONSULTANT shall develop revised right-of-way plans in coordination with SCL and the CITY. The revised right-of-way plans shall be developed in accordance with communications with, and design concepts approved by SCL of relocated overhead facilities (utility lines, utility poles, guy anchors, and associated clearances to relocated overhead lines).

The original scope of services identified that acquisition for permanent right-of-way and temporary construction easements (TCE) for five (5) parcels. Two (2) additional parcels require TCE acquisitions to accommodate the construction of a retaining wall and the connection of a private driveway to the new grade of the roadway. One (1) additional parcel requires the acquisition of a permanent utility easement associated with the relocation of SCL overhead lines. Four (4) of the originally estimated five (5) parcels also require permanent utility easements associated with the relocation of SCL overhead lines. The additional parcels and property rights sought for the PROJECT, including the relocation of SCL overhead lines, require additional effort on behalf of the CONSULTANT and right-of-way SUBCONSULTANT.

A budget allowance proportionate to the increase in parcels and property rights sought for the PROJECT is set aside for the right-of-way SUBCONSULTANT to provide additional services.

## **Task 6.0 DESIGN (90%)**

The 90% Design Submittal requires additional effort, preparation and submittal of design not included in previous agreements. The CONSULTANT and civil SUBCONSULTANT shall prepare additional plans as outlined below, as applicable, and in accordance with the detailed scope of services included as attachments to this scope of services. This additional effort includes:

### **6.10 Utility Relocation Plans**

The CONSULTANT and SUBCONSULTANT shall prepare additional design concept exhibits for, and provide additional design coordination with, the utility companies that have overhead and underground facilities within the project limits in coordination with CITY staff.

Work includes additional and refined development of design concepts for required relocations of overhead electrical power lines for Seattle City Light (SCL) on behalf of the CITY to correlate with the layout of the roundabout. Design concepts of relocated overhead facilities (utility lines, utility poles, guy anchors, and associated clearances to relocated overhead lines) are needed for updating exhibits associated with acquiring property rights for the PROJECT.

Work also includes coordination with other overhead utility providers of utility facilities including Lumen, Comcast, University of Washington, WSDOT. Work also includes coordination with underground utility providers including PSE gas and the Lake Forest Park Water District (LFPWD) for relocation of their facilities through the intersection area.

Coordination of utility facility relocations is necessary for the sequencing and locations of construction activities, development of contract specifications and temporary traffic control plans.

## **Task 7.0 FINAL DESIGN AND PS&E (100%)**

The 100% Design Submittal requires additional effort, preparation and submittal of design not included in the original agreement. This additional effort is related to the same sets of design efforts and coordination as identified in Task 6.0 Design (90%).



**Amendment No. 2  
Fee Estimate  
SR 104/40TH PL SE ROUNDABOUT  
Plans, Specifications, and Estimates**

| Anticipated Work Tasks                                       | KAH        | MJS                      | JAB      | Task Hours         | Task Cost          |
|--|------------|--------------------------|----------|--------------------|--------------------|
|  | PM         | Sr. Engr<br>Tech<br>CADD | Admin    |                    |                    |
|  | \$289.00   | \$179.00                 | \$167.00 |                    |                    |
| <b>Task 1.0 PROJECT MANAGEMENT AND QUALITY CONTROL</b>       | <b>48</b>  | <b>0</b>                 | <b>8</b> | <b>56</b>          | <b>\$15,208.00</b> |
| Task 1.1 Project Management                                  | 32         |                          | 2        | 34                 | \$9,582.00         |
| Task 1.2 Monthly Progress Reports and Invoices               | 4          |                          | 6        | 10                 | \$2,158.00         |
| Task 1.3 Progress Meetings                                   | 12         |                          |          | 12                 | \$3,468.00         |
| <b>TASK 4.0 ENVIRONMENTAL DOCUMENTATION</b>                  | <b>28</b>  | <b>14</b>                | <b>0</b> | <b>42</b>          | <b>\$10,598.00</b> |
| Task 4.3 SEPA / Permitting Updates                           | 12         | 4                        |          | 16                 | \$4,184.00         |
| Task 4.6 Canopy Replacement Plan Coordination                | 12         | 8                        |          | 20                 | \$4,900.00         |
| Task 4.7 Noise Analysis Coordination                         | 4          | 2                        |          | 6                  | \$1,514.00         |
| <b>Task 5.0 RIGHT-OF-WAY ACQUISITION</b>                     | <b>12</b>  | <b>8</b>                 | <b>0</b> | <b>0</b>           | <b>\$4,900.00</b>  |
| Task 5.10 Revise Right-of-Way Plans                          | 12         | 8                        |          | 20                 | \$4,900.00         |
| <b>Task 6.0 DESIGN (90%)</b>                                 | <b>26</b>  | <b>8</b>                 | <b>0</b> | <b>34</b>          | <b>\$8,946.00</b>  |
| Task 6.10a Utility Relocation Plans (SCL/Dry Utilities)      | 16         | 8                        |          | 24                 | \$6,056.00         |
| Task 6.10b Utility Relocation Coordination/Specs/Est (LFPWD) | 10         |                          |          | 10                 | \$2,890.00         |
| <b>Task 7.0 FINAL DESIGN AND PS&amp;E (100%)</b>             | <b>14</b>  | <b>4</b>                 | <b>0</b> | <b>18</b>          | <b>\$4,762.00</b>  |
| Task 7.10a Utility Relocation Plans (SCL/Dry Utilities)      | 8          | 4                        |          | 12                 | \$3,028.00         |
| Task 7.10b Utility Relocation Coordination/Specs/Est (LFPWD) | 6          |                          |          | 6                  | \$1,734.00         |
| <b>Totals</b>  | <b>128</b> | <b>34</b>                | <b>8</b> | <b>150</b>         | <b>\$44,414.00</b> |
|  |            |                          |          | <b>Hours Total</b> | <b>Labor Total</b> |

**Direct Expenses**

|  |                    |
|--|--------------------|
| Terra Vista, Civil Subconsultant             | \$49,091.00        |
| ESA, Environmental Subconsultant (allowance) | \$8,000.00         |
| DCG/Watershed, Arborist Subconsultant        | \$16,465.00        |
| Michael Minor & Associates Subconsultant     | \$3,334.00         |
| <b>Subtotal Subconsultants</b>               | <b>\$76,890.00</b> |

**Amendment #1 Design Services Subtotal Total** **\$121,304.00**

Amendment #2 Management Reserve Fund \$0.00  
**Amendment #2 Subtotal with MRF** **\$121,304.00**

**Right-of-Way Acquisition Services**

Abeyta & Associates, Right-of-Way Subconsultant (allowance) \$42,000.00

**Amendment #2 Total Not to Exceed** **\$163,304.00**

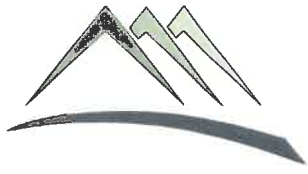
Management Reserve Funds Remaining after Contract Modification #5 \$24,783.00  
Management Reserve Funds Remaining after Amendment #2 \$24,783.00

Maximum Amount Payable after Amendment 1 \$880,216.75

**New Maximum Amount Payable** **\$1,043,520.75**

Amendment No. 2  
Fee Estimate  
SR 104/40TH PL SE ROUNDBOUT  
Plans, Specifications, and Estimates

| Anticipated Work Tasks                          | TerraVista NW |          |               |         |          |          | DCG / Watershed Arborist | Michael Minor & Assoc. Noise | Abeyta & Assoc. Right-of-Way | Combined | Project Design | 2023 Tree Ordinance | 2023 Wall Ordinance | SCL Relo. Coordination | LFPWD Relo. Coordination |
|---|---------------|----------|---------------|---------|----------|----------|--------------------------|------------------------------|------------------------------|----------|----------------|---------------------|---------------------|------------------------|--------------------------|
|   | TSI Prime     | Civil    | Environmental | ESA     | NW       |          |                          |                              |                              |          |                |                     |                     |                        |                          |
| Task 1.0 PROJECT MANAGEMENT AND QUALITY CONTROL | \$15,208      | \$7,210  |               |         |          |          |                          |                              |                              | \$22,418 | \$3,015        | \$3,552             | \$2,441             | \$9,299                | \$4,111                  |
|   |               |          |               |         |          |          |                          |                              |                              |          |                |                     |                     |                        |                          |
|   |               |          |               |         |          |          |                          |                              |                              |          |                |                     |                     |                        |                          |
|   |               |          |               |         |          |          |                          |                              |                              |          |                |                     |                     |                        |                          |
| TASK 4.0 ENVIRONMENTAL DOCUMENTATION            | \$4,184       | \$2,929  |               |         |          |          |                          |                              |                              | \$7,113  | \$2,860        | \$3,860             | \$393               |                        |                          |
|   | \$4,900       | \$5,355  |               | \$4,000 |          | \$16,465 |                          |                              |                              | \$30,720 |                | \$30,720            |                     |                        |                          |
|   | \$1,514       | \$1,465  |               | \$4,000 |          |          | \$3,334                  |                              |                              | \$10,313 |                |                     | \$10,313            |                        |                          |
|   |               |          |               |         |          |          |                          |                              |                              |          |                |                     |                     |                        |                          |
| Task 5.0 RIGHT-OF-WAY ACQUISITION               | \$4,900       | \$1,674  |               |         |          |          |                          | \$42,000                     |                              | \$48,574 | \$3,287        |                     |                     | \$45,287               |                          |
|   |               |          |               |         |          |          |                          |                              |                              |          |                |                     |                     |                        |                          |
| Task 6.0 DESIGN (90%)                           | \$6,056       | \$8,372  |               |         |          |          |                          |                              |                              | \$14,428 | \$1,782        |                     |                     | \$12,646               |                          |
|   | \$2,890       | \$6,857  |               |         |          |          |                          |                              |                              | \$9,747  |                |                     |                     |                        | \$9,747                  |
|   |               |          |               |         |          |          |                          |                              |                              |          |                |                     |                     |                        |                          |
| Task 7.0 FINAL DESIGN AND PS&E (100%)           | \$3,028       | \$8,372  |               |         |          |          |                          |                              |                              | \$11,400 | \$891          |                     |                     | \$10,509               |                          |
|   | \$1,734       | \$6,857  |               |         |          |          |                          |                              |                              | \$8,591  |                |                     |                     |                        | \$8,591                  |
|   |               |          |               |         |          |          |                          |                              |                              |          |                |                     |                     |                        |                          |
| Totals  | \$44,414      | \$49,091 | \$8,000       |         | \$16,465 | \$3,334  | \$42,000                 |                              | \$163,304                    | \$11,835 | \$38,132       | \$13,147            | \$77,741            | \$22,449               |                          |



# *TerraVista NW LLC*

## **Consulting Engineers**

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### **Exhibit A**

#### **Scope Description**

##### Dry Utilities Coordination and Design Efforts

During the 90% Design Phase, complexities arose with coordination with the franchise utility purveyors, such as SCL, UW, Lumen, PSE, and so on, regarding the phasing and location of the associated dry utilities. Typically, dry utilities can be relocated by the purveyor ahead of the transportation project, or at least at a convenient time during construction that doesn't disrupt the project. However, it became an evolving level of effort during the roundabout design that the intricacy of the overhead and underground utilities needed a higher level of coordination between the design team, the City, and the utility purveyors to steer their relocation efforts to a positive outcome for the project. If left to their own internal planning efforts without adequate cross coordination of efforts, the project could be significantly delayed during construction as well as unnecessary impacts to the local residents utilizing their services.

TerraVista NW's original scope of services assumed that franchise utility relocations would be provided by the utility purveyors. This assumed a hands off approach by TerraVista NW, whereby we would be provided a utility relocation plan with minimal involvement by TerraVista NW. This also assumes that the purveyors simply work around the proposed roundabout design, however, due the complexity of the amount of utilities onsite, adjustments had to be made to the roundabout design to accommodate some of the utility relocations.

This added coordination helped facilitate a smooth construction process that could potentially avoid unnecessary change orders by the roundabout contractor.

##### Water District Coordination and Design Efforts

TerraVista NW's original contract assumed that the water and sewer mains would not need to be relocated. This is true for the sewer main, however, the existing water main needs to be relocated due to the placement of the drainage system in the roundabout. The water district has elected to provide the design of the water main relocation to the City to be included in the Contract Documents, in lieu of the design team providing it. For similar reasons as the dry utility coordination, additional effort has been expended by TerraVista NW to participate in meetings and other coordination associated with supporting the water district in relocating the water mains in a location that would not impact the design of the roundabout. The coordination effort became an evolving level of effort without a clear definition of the total amount of time required to coordinate with the water district.

##### Utility Sequencing Efforts

The design team facilitated ongoing meetings and follow up communication with the utility purveyors to discuss the logistics of relocating their respective utilities, and how this would integrate with the other utility purveyor relocation efforts. Due to the amount of regrading of the site as well as the size of the stormwater system, TerraVista NW needed to provide a supporting role in this effort to assist with development of a sequencing plan that would identify when the roundabout contractor needed to onsite and the windows of time when they shut down and allow each purveyor to access the site to relocate their utilities. Exhibits and other documents have been produced for clarity in the process, some of which will be included in the bid documents as well.

##### Canopy Replacement Plan Coordination

The City recently adopted a new tree ordinance that preserves tree canopies within the City. The project will remove several trees within the project limits, and the design team will need to provide additional

coordination with the City to evaluate the impacts of the proposed tree removal with regard to the new ordinance as well as review options for tree preservation.

#### Additional support for permitting

At the time TVNW's original scope was prepared, the full extent of permitting of the project was not outlined by the City. At this time more is known about the permitting and additional support will be needed from TVNW to support the permitting effort.

- Assistance to City staff for preparation of clearing and grading permit
- Assistance to City staff for preparation/update of SEPA checklist (ESA)
- Assistance to City staff for preparation Critical Areas Permit application (ESA)
- Work resulting from the City's new wall ordinance

#### Additional Right of Way Plan Assistance

Provide assistance with integrating additional Temporary Construction Easement (TCE) and Right of Way (ROW) boundaries into construction documents.

## Assumptions

1. Extents of new or replaced impervious surfaces will not change as of the date of this contract amendment, which would require redesign of the drainage system.
2. Project grading will not significantly change as of the date of this contract amendment.
3. Site improvements shall utilize applicable published codes and regulations for reference. Any non-published requirements by the permit agency during permit review, may be considered an additional service and will be discussed at that time.
4. The permit agency will prepare a comprehensive list of comments with the 1st round review. Responding to additional comments received at subsequent reviews may be considered an additional service.
5. Significant changes to the design of the documents prepared by TerraVista NW will not occur after documents are issued by TerraVista NW for the 90% submittal. Minor adjustments will be accommodated.

## Exhibit B

| Task #           | Description   | PIC/PM<br>ES<br>\$206           | Engineer III<br>RP<br>\$151   | Total<br>Hours                   |
|------------------|---|---------------------------------|-------------------------------|----------------------------------|
| Task 1           | Project Management and Coordination<br>Project Management   | 35                              |                               | 35                               |
| Task 2           | Data Gathering and Engineering<br>Review additional technical information   |                                 |                               |                                  |
| Task 3           | Preliminary Design<br>Prepare 30% Plans<br>Prepare 30% Technical Specifications<br>Prepare 30% Opinion of Probable Cost   |                                 |                               |                                  |
| Task 4           | 90% Design<br>Dry Utilities Coordination<br>Water District Coordination<br>Utility Sequencing Efforts<br>Canopy Replacement Plan Coordination<br>Additional support for permitting<br>Add'l ROW Plan Assistance | 30<br>30<br>30<br>13<br>12<br>3 | 20<br>20<br>3<br>10<br>8<br>7 | 50<br>50<br>33<br>23<br>20<br>10 |
| Task 5           | 100% Design<br>Dry Utilities Coordination<br>Water District Coordination<br>Utility Sequencing Efforts<br>Canopy Replacement Plan Coordination<br>Additional support for permitting                             | 7<br>6<br>6<br>2<br>2           | 5<br>4<br>1<br>5<br>2         | 12<br>10<br>7<br>7<br>4          |
|                  | Subtotal Hours  | 176                             | 85                            | 261                              |
|                  | Subtotal Fee  | \$ 36,256                       | \$ 12,835                     |                                  |
| <b>TOTAL FEE</b> |   |                                 |                               | <b>\$ 49,091</b>                 |

August 30, 2023

Kirk Harris, PE, PMP  
Principal  
Transportation Solutions  
425.375.2329  
kirkh@tsinw.com

## Re: Proposal for Arborist Services

DCG/Watershed Reference Number: 230120

Dear Kirk:

Thank you for requesting a proposal for arborist services. We would be pleased to assist you with a canopy coverage study and tree replacement plan for your ROW project along SR-104, 40<sup>th</sup> PI NE, and NE 184<sup>th</sup> St in the City of Lake Forest Park. Under this proposal, we will conduct the following Scope of Services.

### Scope of Services:

#### Task 1. Canopy Coverage Study

| Task  | Scope of Work  | Staff | Estimated Hours | Cost       |
|-------|--|-------|-----------------|------------|
| 1.0   | Preliminary review, respond to prime consultant  | LFW   | 2               | \$250.00   |
| 1.1   | Set up file and invoicing software   | BT    | 1               | \$115.00   |
| 1.2   | A canopy coverage study will be conducted using tree inventory canopy radius data to determine the extent of canopy loss from significant trees proposed for removal and provide tree replacement calculations using LFPMC 16.14 – General Tree List for Lake Forest Park 15' to 30' Height. | LFW   | 18              | \$2,250.00 |
| 1.3   | Create GIS map for tree canopy coverage calculation.   | NB    | 12              | \$1,500.00 |
| 1.4   | Respond to City/prime consultant review, comments, and questions   | LFW   | 4               | \$500.00   |
| 1.5   | Internal review  | JKB   | 2               | \$450.00   |
| Total | \$5,065.00   |       |                 |            |



### Deliverables for Task 1:

- One canopy coverage study
- One map depicting calculated canopy coverage from removed trees

### Task 2. ROW Planting Site Reconnaissance

| Task  | Scope of Work  | Staff | Estimated Hours | Cost       |
|-------|--|-------|-----------------|------------|
| 2.0   | Preliminary review, respond to prime consultant  | LFW   | 2               | \$250.00   |
| 2.1   | Identify suitable tree replacement planting sites prioritizing first areas within the proposed project's ROW, followed by off-site replanting areas within other city ROWs. Request and review underground facility locations related to planting locations. | LFW   | 20              | \$2,500.00 |
| 2.2   | Create GIS map indicating proposed planting sites.   | NB    | 8               | \$1,000.00 |
| 2.3   | Respond to City/prime consultant review, comments, and questions   | LFW   | 4               | \$500.00   |
| 2.4   | Internal review  | JKB   | 2               | \$450.00   |
| Total | \$4,700.00   |       |                 |            |

### Deliverables for Task 2:

- One memo detailing proposed replanting site suitability
- One map depicting areas of proposed replanting

### Task 3. Canopy Replacement Plan

| Task | Scope of Work  | Staff | Estimated Hours | Cost       |
|------|--|-------|-----------------|------------|
| 3.0  | Preliminary review, respond to prime consultant  | LFW   | 2               | \$250.00   |
| 3.1  | Provide a canopy replacement plan which will document mitigation of significant tree canopy loss, a 3-year maintenance and monitoring plan for replanted trees, and a 3-year maintenance, monitoring and watering plan for at- | LFW   | 24              | \$3,000.00 |

|       |   |     |    |            |
|-------|---|-----|----|------------|
|       | risk trees including a replacement plan if an at-risk tree fails. |     |    |            |
| 3.2   | Create GIS map for tree canopy replacement plan                   | NB  | 20 | \$2,500.00 |
| 3.3   | Respond to City/prime consultant review, comments, and questions  | LFW | 4  | \$500.00   |
| 3.4   | Internal review   | JKB | 2  | \$450.00   |
| Total | \$6,700.00  |     |    |            |

### Deliverables for Task 3:

- One canopy replacement plan
- One map of tree replacement plan

### Project Management

Throughout the course of the project, we will coordinate with you and the design team regarding project planning, budget, progress, and timeline. Lars Freeman-Wood will be the project manager and primary point of contact for communication. Kenny Booth will be advising principal. We will provide project invoices on a monthly basis. Based on the project scope, we assume the project duration to be four to six weeks.

### Project Assumptions:

1. *If the project alignment changes, any additional analysis required will be completed on a time and materials basis beyond the scope provided above, but only with client approval.*
2. *This proposal does not include critical areas reconnaissance or delineation.*
3. *This proposal does not include preparation of any deliverables other than those specified above (e.g. critical areas report, landscape plans).*
4. *Assessment of geologically hazardous areas is not included in this scope.*
5. *This proposal does not guarantee issuance of permits.*
6. *This proposal does not include permit submittals.*
7. *The assessment represents a snapshot at the time of the field work and may not necessarily remain accurate in the future.*
8. *Any required access permissions will be acquired by others.*

9. *No construction observation and monitoring are included with this proposal, but can be added on a time and materials basis or under an additional proposal.*
10. *This proposal assumes that an AutoCAD file of proposed project extents, existing conditions, and alignment will be provided following contract approval and/or when preliminary drawings become available.*
11. *Unless noted in the scope of services above, all deliverables will be provided in PDF format.*
12. *One day of site visits is included as reconnaissance for suitable replanting sites. If additional site visits are needed, these can be completed on a time and materials basis beyond the scope provided above, but only with client approval.*

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**Payment:**

Our Services will be billed on a time and materials basis, with a not-to-exceed figure of \$15,965.00.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,



Lars Freeman-Wood  
ISA Certified Arborist® WE-8769AU  
Qualified Tree Risk Assessor (TRAQ)  
ISA Certified Utility Specialist®

**Proposal approved by:**



Kenny Booth, AICP  
Principal

**Michael Minor & Associates**

Sound . Vibration . Air  
4923 SE 36th Avenue  
Portland, Oregon 97202  
503.220.0495 — fax 866.847.0495

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To: Katheryn Seckel, Environmental Planner  
From: Michael Minor, Principal, MM&A  
Date: April 6, 2023  
Subject: Scope and Fee for Noise:  
SR-104 at 40th Place NE Roundabout Project Noise Analysis Review

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## Noise Analysis Scope of Work for WSDOT/FHWA Compliance

Michael Minor & Associates (MM&A) will provide a noise memorandum for the SR-104 at 40th Place NE Roundabout Project. The level of analysis will be determined by reviewing the project to first determine if it meets the level of a Type 1 Project as defined in the current Federal-Aid Policy Guide, Subchapter H, Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (FHWA 2010) and the *2011 Traffic Noise Policy and Procedures* (WSDOT 2012).

If the project is not considered Type 1, a noise review of the proposed retaining walls will be performed under the Lake Forest Park Ordinance Number 23-1272, Section 12.50.020 C6. This section requires consideration of retaining wall design to minimize noise reflections. The analysis will not include any noise measurements or predicted noise levels using the FHWA TNM. The analysis will consist of a review of the noise wall design to verify it meets the applicable ordinance on retaining walls.

If the project meets FHWA Type 1 requirements, a complete noise analysis is normally required. However, because this project is not receiving federal funding, a detailed noise study is not required. At the request of the City of Lake Forest Park, a scope and fee for a detailed noise analysis meeting WSDOT standards can be provided.

## Noise Screening: Type 1

The project will be reviewed to determine the level of noise analysis typically required under the FHWA and WSDOT policy for federal funded projects. Under FHWA and WSDOT, only projects that are determined to be a Type 1 project are required to have a detailed noise study. For a project to be considered Type 1, the project must meet one or more of the following criteria:

- 1) The construction of a highway on a new location; or,
- 2) The physical alteration of an existing highway where there is either:
  - a. Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition.
  - b. Substantial Vertical Alteration. A project that removes shielding, therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either

altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor; or

- 3) The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a HOV lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,
- 4) The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,
- 5) The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,
- 6) Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,
- 7) The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot, or toll plaza.

If a project is determined to be a Type I project under this definition, then the entire project area as defined in the environmental document is a Type I.

The initial review of the project area indicates that the proposed project is not likely meet these criteria on any noise-sensitive properties as defined under FHWA and WSDOT policy. The project will not add any new through lanes and does not appear to change the vertical or horizontal alignment sufficiently to meet Type 1 requirements (half the distance to the travel lanes or expose a previously shielded receiver).

The noise technical memorandum will be submitted in MS Word format for review and comments. After revisions based on the comments are completed, a final memorandum will be produced in PDF electronic format.

#### *Noise Analysis Assumptions:*

- > A review of planned and permitted properties will be performed to identify any potential new noise sensitive land uses.
- > CAD files (MicroStation or Civil 3D) will be provided.
- > If it is determined that the project meets the Type 1 requirements, then additional noise analysis may be required that is outside of this scope of services.

#### *Noise Analysis Deliverables:*

- > Noise Memorandum (draft and final)

#### *Noise Analysis Time Frame:*

- > Typical time to complete the memorandum is typically two week from NTP and receipt of the most current project design.

### **Type 1 Screening and Retaining Wall Analysis Fee:**

The cost estimate for the noise is \$3,334.08.

Details below.



## SR-104 at 40th Place NE Roundabout Project Noise Analysis Review

| Noise Analysis and Abatement |                                  |           |             |            |            |                    |
|------------------------------|----------------------------------|-----------|-------------|------------|------------|--------------------|
| Task #                       | Description                      | M. Minor  | Lead Noise  | Noise/Air  | Noise      | Labor Cost by Task |
|                              |                                  | Principal | Analyst     | Technician | Technician |                    |
|                              |                                  | M. Minor  | M. Cordasco | B. Bloom   | R. Roy     |                    |
| 1                            | Project Introduction/Preparation | 1         | 1           | 0          | 0          | \$112.00           |
| 2                            | Type 1 noise analysis review     | 2         | 12          | 0          | 0          | \$594.00           |
| 3                            | Review retaining walls           | 6         | 2           | 0          | 0          | \$524.00           |
| 4                            | Meetings                         | 2         | 0           | 0          | 0          | \$150.00           |
| 5                            |                                  | 0         | 0           | 0          | 0          | \$0.00             |
| 6                            |                                  | 0         | 0           | 0          | 0          | \$0.00             |
| 7                            |                                  | 0         | 0           | 0          | 0          | \$0.00             |
| 8                            |                                  | 0         | 0           | 0          | 0          | \$0.00             |
| Labor Cost by Personnel      |                                  | \$825.00  | \$555.00    | \$0.00     | \$0.00     | \$1,380.00         |

### Indirect Cost Calculations

|       |                                    |        |        |      |      |         |
|-------|------------------------------------|--------|--------|------|------|---------|
| 1.116 | WSDOT approved Rate from 7/17/2023 | 920.70 | 619.38 | 0.00 | 0.00 | 1540.08 |
|-------|------------------------------------|--------|--------|------|------|---------|

### Fixed Fee Calculations

|     |  |        |        |      |      |        |
|-----|--|--------|--------|------|------|--------|
| 0.3 |  | 247.50 | 166.50 | 0.00 | 0.00 | 414.00 |
|-----|--|--------|--------|------|------|--------|

### Total Labor Costs

|  |  |         |         |      |      |         |
|--|--|---------|---------|------|------|---------|
|  |  | 1993.20 | 1340.88 | 0.00 | 0.00 | 3334.08 |
|--|--|---------|---------|------|------|---------|

### Direct Expense

| <b>Travel</b>                       | <b>Per-Diem</b> | <b>Hotel</b>  | <b>Miles/Car</b> | <b>Air/Train/Cab</b> | <b>Count #</b> |
|-------------------------------------|-----------------|---------------|------------------|----------------------|----------------|
| Depart (use First & Last Day rates) | \$0.00          | \$0.00        | \$0.00           | \$0.00               |                |
| Overnight                           | \$0.00          | \$0.00        | \$0.00           | \$0.00               |                |
| Return (use First & Last Day rates) | \$0.00          | \$0.00        | \$0.00           | \$0.00               |                |
| <b>Totals</b>                       | <b>\$0.00</b>   | <b>\$0.00</b> | <b>\$0.00</b>    | <b>\$0.00</b>        | <b>\$0.00</b>  |

|        |        |
|--------|--------|
| Other  |        |
| Item A | \$0.00 |
| Item B | \$0.00 |
| Item C | \$0.00 |

**Direct Expense Total**

\$0.00

**Total not to Exceed Cost Estimate**

**\$3,334.08**

**Amendment No. 2  
Fee Estimate  
SR 104/40TH PL SE ROUNDABOUT  
Plans, Specifications, and Estimates**

| <b>Anticipated Work Tasks</b>                                | <b>KAH<br/>PM<br/>\$289.00</b> | <b>MJS<br/>Sr. Engr<br/>Tech<br/>CADD<br/>\$179.00</b> | <b>JAB<br/>Admin<br/>\$167.00</b> | <b>Task<br/>Hours</b> | <b>Task Cost</b>   |
|--|--------------------------------|--|-----------------------------------|-----------------------|--------------------|
| <b>Task 1.0 PROJECT MANAGEMENT AND QUALITY CONTROL</b>       | <b>48</b>                      | <b>0</b>   | <b>8</b>                          | <b>56</b>             | <b>\$15,208.00</b> |
| Task 1.1 Project Management                                  | 32                             |  | 2                                 | 34                    | \$9,582.00         |
| Task 1.2 Monthly Progress Reports and Invoices               | 4                              |  | 6                                 | 10                    | \$2,158.00         |
| Task 1.3 Progress Meetings                                   | 12                             |  |                                   | 12                    | \$3,468.00         |
| <b>TASK 4.0 ENVIRONMENTAL DOCUMENTATION</b>                  | <b>28</b>                      | <b>14</b>  | <b>0</b>                          | <b>42</b>             | <b>\$10,598.00</b> |
| Task 4.3 SEPA / Permitting Updates                           | 12                             | 4  |                                   | 16                    | \$4,184.00         |
| Task 4.6 Canopy Replacement Plan Coordination                | 12                             | 8  |                                   | 20                    | \$4,900.00         |
| Task 4.7 Noise Analysis Coordination                         | 4                              | 2  |                                   | 6                     | \$1,514.00         |
| <b>Task 5.0 RIGHT-OF-WAY ACQUISITION</b>                     | <b>12</b>                      | <b>8</b>   | <b>0</b>                          | <b>0</b>              | <b>\$4,900.00</b>  |
| Task 5.10 Revise Right-of-Way Plans                          | 12                             | 8  |                                   | 20                    | \$4,900.00         |
| <b>Task 6.0 DESIGN (90%)</b>                                 | <b>26</b>                      | <b>8</b>   | <b>0</b>                          | <b>34</b>             | <b>\$8,946.00</b>  |
| Task 6.10a Utility Relocation Plans (SCL/Dry Utilities)      | 16                             | 8  |                                   | 24                    | \$6,056.00         |
| Task 6.10b Utility Relocation Coordination/Specs/Est (LFPWD) | 10                             |  |                                   | 10                    | \$2,890.00         |
| <b>Task 7.0 FINAL DESIGN AND PS&amp;E (100%)</b>             | <b>14</b>                      | <b>4</b>   | <b>0</b>                          | <b>18</b>             | <b>\$4,762.00</b>  |
| Task 7.10a Utility Relocation Plans (SCL/Dry Utilities)      | 8                              | 4  |                                   | 12                    | \$3,028.00         |
| Task 7.10b Utility Relocation Coordination/Specs/Est (LFPWD) | 6                              |  |                                   | 6                     | \$1,734.00         |
| <b>Totals</b>  | <b>128</b>                     | <b>34</b>  | <b>8</b>                          | <b>150</b>            | <b>\$44,414.00</b> |
|  |                                |  |                                   | <b>Hours Total</b>    | <b>Labor Total</b> |

**Direct Expenses**

|  |                    |
|--|--------------------|
| Terra Vista, Civil Subconsultant             | \$49,091.00        |
| ESA, Environmental Subconsultant (allowance) | \$8,000.00         |
| DCG/Watershed, Arborist Subconsultant        | \$16,465.00        |
| Michael Minor & Associates Subconsultant     | \$3,334.00         |
| <b>Subtotal Subconsultants</b>               | <b>\$76,890.00</b> |

**Amendment #1 Design Services Subtotal Total** **\$121,304.00**

|                                       |                     |
|---------------------------------------|---------------------|
| Amendment #2 Management Reserve Fund  | \$0.00              |
| <b>Amendment #2 Subtotal with MRF</b> | <b>\$121,304.00</b> |

**Right-of-Way Acquisition Services**

|   |             |
|---|-------------|
| Abeyta & Associates, Right-of-Way Subconsultant (allowance) | \$42,000.00 |
|---|-------------|

**Amendment #2 Total Not to Exceed** **\$163,304.00**

|   |             |
|---|-------------|
| Management Reserve Funds Remaining after Contract Modification #5 | \$24,783.00 |
| Management Reserve Funds Remaining after Amendment #2             | \$24,783.00 |

|  |              |
|--|--------------|
| Maximum Amount Payable after Amendment 1 | \$880,216.75 |
|--|--------------|

**New Maximum Amount Payable** **\$1,043,520.75**