City of Sherwood Oregon

Home of the Tualatin River National Wildlife Refuge

RESOLUTION 2021-089

AUTHORIZING THE CITY MANAGER OR CITY MANAGER PRO TEM TO SIGN A PROFESSIONAL SERVICES CONTRACT WITH KPFF CONSULTING ENGINEERS FOR DESIGN OF THE HWY99W PEDESTRIAN OVERCROSSING

WHEREAS, the Hwy99W Pedestrian Overcrossing project is in the City's 20-Year Capital Improvement Plan (CIP) (P-27, Highway99W Grade Separated Crossing); and

WHEREAS, this is a high priority Council project; and

WHEREAS, the City has determined that a 30% design level effort for this project is necessary and appropriate for determining budget costs for final design and construction; and

WHEREAS, in May of 2021, the City issued two Request for Proposals (RFPs) through the Daily Journal of Commerce (DJC), one RFP for site civil engineering design work, and the second RFP for a Prefabricated Bridge Design; and

WHEREAS, the RFPs were prepared to comply with the requirements of ORS 279C.110 for a Qualifications Based Selection process, with a submittal deadline date of June 18, 2021; and

WHEREAS, the City received two responses for the site civil engineering design work and one response for the prefabricated bridge design work. Of the site civil engineering design work RFP one of the responses was from KPFF Consulting Engineers, and for the prefabricated bridge design work RFP the one response was from Western Wood Structures; and

WHEREAS, In the process of review of the respective scope of work for the prefabricated bridge design, it was determined that it was premature and more work was needed to determine the type and style of prefabricated structure as well as confirmation that a prefabricated structure truly was the most cost effective given the current market conditions; and

WHEREAS, it was therefore determined that it would be in the best interests of the City to have a single contract with KPFF Consulting Engineers to perform both civil site design and structural design; and

WHEREAS, KPFF Consultation Engineers has submitted a Scope of Work (attached as Exhibit A) and a Fee Schedule (attached as Exhibit B) with a submitted Professional Services Contract amount of $568,280.00; and

WHEREAS, City staff is recommending a 15% contingency ($85,242.00) be included for unforeseen conditions which would need to be included in the 30% design level work effort; and

WHEREAS, the City Manager or City Manager Pro Tem would be authorized to amend the Professional Services Contract via change orders up to the limit of the contingency amount noted above; and

WHEREAS, the total project funding amount would therefore be $653,522.00 which is within the $2.0 million State Lottery Fund allocation for this project.

NOW, THEREFORE, THE CITY OF SHERWOOD RESOLVES AS FOLLOWS:

Section 1. The City Manager or the City Manager Pro Tem is hereby authorized to sign a Professional Services Contract with KPFF Consulting Engineers, for design of the Hwy99W Pedestrian Overcrossing project, with a Scope of Work in a form substantially similar to the attached Exhibit A.

Section 2. The Professional Services Contract with KPFF Consulting Engineers shall be in the amount of $568,280.00, in conformance with the approved Fee Schedule (attached as Exhibit B).

Section 3. The City Manager or City Manager Pro Tem is hereby authorized to amend the Professional Services Contract with KPFF Consulting Engineers up to a contingency amount of $85,242.00 (15% of the Professional Services Contract amount), via the Change Order approval process for unforeseen conditions which need to be included in the design.

Section 4. This Resolution shall be effective upon its approval and adoption.

Duly passed by the City Council this 5th of October, 2021.

Keith Mays, Mayor

Attest:

Sylvia Murphy, MMC, City Recorder

CITY OF SHERWOOD, OREGON
99W PEDESTRIAN CROSSING
PROJECT NO. 334
PROFESSIONAL ENGINEERING SERVICES
STATEMENT OF WORK (SOW)

BACKGROUND

In June of 2014, the City of Sherwood (City) adopted its updated Transportation Master Plan (MP), which provides guidance on transportation growth for the next 20-year planning cycle. Part of the MP included 51 project listings for pedestrian connectivity and safety, and two Hwy 99W intersection transportation improvement projects. The MP boundary was set to the existing City Limits and Urban Growth Boundary.

In 2017, the Sherwood School District brought forth plans to construct a 2,400 student Senior High School on the west side of Highway 99W, west of Elwert Road and north of Kruger Road. At that time, the area was located outside the City limits and UGB boundary, but within the City's Urban Reserves area. As such, the MP could not and did not include any impacts from the future development of this area within the MP's 2035 planning year.

Because most of the High School student population is located east of Highway 99W, particularly along the Sunset Boulevard corridor, the City is concerned with how to ensure residents of all ages can safely cross 99W in this vicinity. Therefore, at the direction of City Council, the Sherwood Engineering Department has been tasked with development of a 30% design level plan for a pedestrian bridge over the Pacific Highway located near its intersection with SW Elwert Road and SW Sunset Boulevard.

Preliminary feasibility work has been conducted that identifies the project components including a 620-foot total length span(s) over both Highway 99W and Elwert Road with access provided by (ramps and/or stairs).

PROJECT DESCRIPTION

The City is contracting with KPFF (Consultant) for preliminary design services that will be the next step in developing the proposed pedestrian crossing. Based on the previous study it is likely that prefabricated bridge structures will be the most economical bridge structures, however, this study will evaluate the use of custom designed bridge types as part of the Alternatives Evaluation. Stairs and/or ramps will provide access to the bridge structures at each end of the crossing.

The efforts covered by this scope of work will include providing design for the project elements including:

- Sidewalks or trails connecting from existing sidewalks to the two ends of the proposed bridge.
- Stormwater management facilities to accommodate the proposed bridge and approaches complying with Clean Water Services standards.
- Bridge and its supports and foundations.
- Retaining walls as needed to facilitate the bridge approaches.
- Ramps and/or stairs leading to the bridge at both ends.
- Trail lighting.
- Striping and signage.
- Temporary traffic control to facilitate construction.
- Utility coordination.
- Landscaping and irrigation.

Utilizing the existing project concept plan as shown in the attached Exhibit A, Consultant shall prepare location options for review with ODOT, Washington County and city staff. The concept plan identified a total span of approximately 620 feet in two to three span segments. Following selection of a preferred alternative, Consultant shall prepare 30% plans, and cost estimates.

PROJECT TEAM

KPFF will be providing the following services for this project:

- Project Management and Administration.
- Surveying and Mapping Services.
- Civil Engineering.
- Structural Engineering (retaining walls, stairs and bridge and its supports).
- Utility Coordination.
- Environmental Permitting review.

The following team member firms will provide services as subconsultants to KPFF for this project:

- **GreenWorks PC** will provide landscape architecture services.
- **DKS** will provide traffic engineering and lighting design services.
- **GRI** will provide geotechnical engineering services.
- **Epic Land Solutions** will provide right-of-way acquisition support services.
- **JLA Public Involvement** will provide public involvement services.
- **Architectural Applications P.C.** will provide bridge architecture design services.

CITY OF SHERWOOD RESPONSIBILITIES

The following elements of work will be provided by the City:

- Provide a project manager who is responsible for coordination between Consultant and City staff/Elected Officials.
- Participate in project meetings and City Council work sessions and meetings.
- Participate in discussions with Washington County and ODOT representatives.
- Participate in discussions with franchise utility providers.
- Review Consultant's progress reports and process invoices.
- Provide timely review and comment on reports, drawings and specifications submitted by Consultant to City for review and approval.
- Consolidate all review comments from City staff and submit to Consultant.
- Conduct stakeholder engagement activities.
- Provide available information relating to design criteria, past work, and City regulatory requirements.
- Provide available utility mapping, reports, studies, and as-built information for the project area.
- Facilitate a team site visit with the consultant team and City staff.

ASSUMPTIONS

- Design work will be based on conceptual design developed through prior work defined as Option 1 in Exhibit "A". Alternative alignments will include some variations to the alignment and may extend as far south as Option 2 in Exhibit "A".
- Designs shall comply with all local, state, and federal codes, standards and requirements.

- If the NTP is received after 120 days from this proposal, fees and billing rates may require revision.

EXCLUSIONS

The following items are excluded from the consultant's scope of work:

- Development of Final PS&E and bidding and construction services for the selected alternatives for this phase of work.
- A Pre-Construction Record of Survey is not included with this early phase of work.
- Security and video surveillance systems design.
- Environmental documentation and permitting beyond that described in the following scope of work (biological assessment, wetland delineation, archeological and historical resources, noise studies, hazmat studies, CWS site assessment, environmental permit applications, etc.) are not included with this phase of work. The need for such items may be identified within the 30% Design Development documentation.
- Design of elevator towers as shown in Option 2 of Exhibit "A" is not included.
- Photo-realistic renderings of preferred alternative.

EXHIBITS

The following exhibits are incorporated into this SOW by this reference:

- Exhibit A: Site Map
- Exhibit B: Fee Schedule

TASKS

Consultant shall complete the following tasks and provide the following deliverables according to the delivery schedules as indicated and listed below.

TASK 1 - PROJECT MANAGEMENT AND ADMINISTRATION

Consultant shall provide the management, coordination, and direction to the Project Team throughout the duration of the Project including the following:

1.1 Project Coordination: Consultant shall coordinate with the City Project Manager and City staff as needed throughout the duration of the project. Coordination will occur via telephone communication, written correspondence, e-mail, and meetings.

1.2 Meetings: Consultant shall schedule, prepare for, attend, and document meetings through the Project duration. Meetings include Project Site Kick-off Meeting, Team Meetings, Agency Coordination Meetings and Utility Coordination Meetings.

- **Project Site Kickoff Meeting:** Consultant shall facilitate an in-person team kick-off meeting and site visit (four (4) hours including travel) with City staff to identify site design technical constraints, issues, opportunities, permitting requirements and discuss the preliminary scope of work.
- **Team Meetings:** Consultant shall schedule, prepare for, attend and document up to three (3) Team Meetings with City staff during the course of the initial Project design phase to review work-in-progress and to address and resolve Project issues as they are encountered. This will include one (1) in-person meeting at the City offices (three (3) hours including travel) and two

(2) additional virtual meetings (one (1) hour each). Additional Team Meetings will be necessary during subsequent design phases and construction.

- **Agency Coordination Meetings:** Consultant shall prepare for, attend and document up to a total of six (6) virtual meetings (one (1) hour each) with ODOT, Washington County and/or Clean Water Services to identify and address agency requirements and concerns into the preliminary design.
- **Utility Coordination Meetings:** Consultant shall prepare for, attend and document up to three (3) virtual meetings (one (1) hour each) with franchise utility providers with facilities in the project area to identify and address concerns.

1.3 **Project Schedule:** Based on the information provided by City and received at the Kickoff Meeting, the Consultant shall develop a project schedule defining key milestones and points of input from the City. After Project Schedule has been reviewed and approved by the City Project Manager, the Consultant shall monitor the project schedule for the duration of the contract and shall provide updated project schedules that reflect changes in the project and that track progress on work completed.

1.4 **Monthly Invoices and Progress Reports:** Consultant shall prepare monthly billing invoices in a format approved by the City Project Manager. Monthly project status reports to identify work completed and identify ongoing and upcoming work items and any issues/concerns.

Task 1 Deliverables: *Consultant shall provide the following to City:*

- *Maintenance and records of coordination activities and decisions made, and copies of documentation to City Project Manager as requested.*
- *E-mail/memo and phone call updates.*
- *Meeting agendas for project meetings.*
- *Meeting minutes and action items for project meetings.*
- *Project schedule that shows appropriate milestones for the Project including intermediate and final submittal dates for design documents and key decision points.*
- *Updates of the Project schedule as needed to reflect changes in the Project and track progress on work completed.*
- *Monthly invoices and progress/status reports.*

TASK 2 – RESEARCH & DATA GATHERING

Work performed under this task will include:

- Gathering and reviewing existing data for this site to determine what additional information is needed for design, including: planning documents, bridge feasibility study, mapping data, geotechnical data, and as-built drawings for infrastructure.
- Conducting site visits to review existing conditions.
- Conducting meetings with the City, ODOT, Washington County and Clean Water Services to identify permitting requirements and potential challenges relative to their facilities in the project area. Identify additional permitting agencies requirements (migratory bird, etc.).
- Defining design criteria that capture initial feedback from stakeholders and document findings in a technical memorandum.

Task 2 Deliverables: *Consultant shall provide to the City:*

- *Project photographs (as requested).*
- *Technical memorandum identifying design criteria.*

TASK 3 – PREDESIGN SURVEY

Consultant shall perform the necessary surveying services for the development of a design plan for the pedestrian bridge including the following:

3.1 Field Control and Boundary Survey

- Establish horizontal and vertical control.
  - Horizontal datum will be based on Oregon Coordinate Reference System (OCRS).
  - Vertical datum will be based on Washington County.
- Locate and tie existing monuments.
- Resolve new rights-of-way for SW Elwert Road and SW Kruger Road
- Review title report provided by Owner.

3.2 Topographic Survey

- Locate and map existing above ground features within the subject property.
- Locate and map existing above ground features within the right-of-way fronting the subject property.
- Locate and map all trees 6-inches and larger diameter at breast height (DBH).
- Map a 1-foot contour interval.
- Map underground utilities within the entire right-of-way fronting the subject property based on the following hierarchy of information – (1) above ground evidence, (2) locate paint marks, and (3) reference maps made available by the various utility providers. Note – (a) Some utility providers do not release mapping information to the public; (b) Locate paint marks are limited to those areas within public right-of-way and may not reflect actual locations; and (c) All utility locations should be field verified (potholed) prior to construction.
- Map overhead utility lines including referencing height above grade at sag points.

Task 3 Assumptions and Clarifications:

- *Access to the site is provided to KPFF crews.*
- *New Asphalt within the limits of 99W will not be located as part of this mapping effort.*
- *Survey limits will be as defined in Exhibit "A".*

Task 3 - Deliverables: *Consultant shall provide to the City:*

- *Final signed Right-of-Way and topographic survey.*

TASK 4 –ALTERNATIVES ANALYSIS

Work under this task will focus on further developing the work that DKS provided the City relative to the proposed crossing with the goal of setting the alignment and design treatments for further development. Consultant shall work with the City to develop the design alternatives and scoring criteria, score the alternatives and recommend a preferred alternative. This task will be focused on determining preferred alternatives and construction costs for the following:

- Alignment and location of bridge approaches.
- Retaining wall locations and types.
- Lighting and landscaping.
- Stair and ramp construction.
- Bridge supports.
- Bridge structure type.
- Development of solutions that balance structural, aesthetic, and economic considerations.

Consultant's alternatives development and analysis will include focusing on solutions that meet the following:

- Provides a unique design solution of the civil elements of the pedestrian bridge crossing Hwy. 99W and Elwert Road, exclusive of the bridge elements, that will meet ODOT, Washington County and City of Sherwood approval.
- Provides a unique design solution for access from existing public sidewalks to the overpass.
- Provides a unique design solution that minimizes impacts to existing overhead utility lines.
- Provides a distinctive 'gateway' structure on this major entrance to the City of Sherwood.
- Provides opportunities for public art and collaboration with a public arts group.

The Consultant shall complete the following elements of work:

- Work with the City, and our design team to revisit the previous report and to identify potential route modifications or refinements that should be included in our analysis.
- Work with the City, and our design team to identify challenges that the proposed alignments may pose to the construction/placement of the bridge.
- Define up to (3) alternatives that will be included for further analysis. Of the three alternatives, at least one will incorporate a prefabricated bridge structure and at least one will comprise a purpose-designed structural solution. This will include:
  - Concept level plans and estimates.
  - Exhibits for City use in public involvement efforts to include preliminary plans, elevations, and perspective drawings and views.
- Evaluate up to two (2) light fixtures for lighting on the structure and up to two (2) light fixtures for lighting along the accesses approaching the structure.
- Define up to two (2) options for wayfinding signing alternatives.
- Work with the City, ODOT and Washington County to solicit input relative to the defined alternatives.
- Begin discussions with franchise utility companies with facilities in the project area to better understand the impacts of the proposed improvements on their infrastructure.
- Develop an analysis to compare the identified alternatives with the goal of assisting the City with the selection of a preferred alternative including a review of:
  - Project Cost.
  - Safety.
  - Impacts to adjacent private properties and right-of-way acquisition needs.
  - Environmental permitting considerations.
  - Utility impacts.
  - Aesthetics and user experience.
- Develop a DRAFT and Final Alternatives Analysis Report to document findings and to identify a preferred alternative for Preliminary Design.
- Complete QA/QC reviews of documentation prior to delivering to the City.

Task 4 Deliverables: *Consultant shall provide the following to the City:*

- *Conceptual level plans for alternatives in PDF format.*
- *Preliminary sketches of alternatives for review and coordination.*
- *Alternatives Analysis Memorandum.*
- *Exhibits for three (3) Alternative Concepts - Indicating site context, bridge alignment and approaches, and planting areas on a large format view with the following graphic for each concept:*
  - *One (1) Rendered Plan.*

- *One (1) Conceptual Material Imagery Board.*
- *Exhibits for up to three (3) Bridge Types, including elevation and perspective views.*
- *Updated exhibits for one (1) Preferred Alternative – Generated from selection process indicating site context, preferred bridge alignment and approaches, and planting areas on a large format view with the following graphics:*
  - *One (1) Rendered Plan.*
  - *One (1) Rendered Perspective.*
  - *One (1) Material Imagery Board.*

TASK 5 – PRELIMINARY DESIGN (30%)

Following the selection of the preferred alternative, Consultant shall further develop the design to a 30% level of design completion based on information gathered from survey, field investigations, geotechnical findings, environmental considerations, and permit requirements. The 30% design will be used to better determine costs associated with the various areas of work and to determine the elements of work that will be moved forward for final design and construction. Refinements to the design shall be made in coordination with City staff and project stakeholders. As part of this task, Consultant will:

- Continue on-going coordination with the City to develop the design to a 30% level of completion.
- Develop 30% documents including:
  - Cover Sheet.
  - Construction Staging and Sequencing Plans.
  - Trail and Bridge Alignment Plans and Profiles.
  - Drainage Plans and Profiles.
  - Typical Sections.
  - Wall Plans and Details.
  - Stair Structure Plan and Details.
  - Bridge Plans and Details.
  - Landscape and Irrigation Plans.
  - Lighting Plans.
  - Wayfinding Signing Concepts.
- Consultant shall prepare a 30% design estimate that includes construction costs, acquisition costs, permitting costs, design completion costs, construction management costs, construction inspection costs, utility relocation costs to be paid to others and any other miscellaneous costs that may be incurred during the design/construction of the project for a complete view of all costs that will be incurred for city project budgeting.
- Prepare a Preliminary Design Report documenting the work completed to-date and outstanding items that will need to be addressed during the next phase of work for the project including:
  - Final design criteria.
  - Identified permit needs and schedules.
  - Construction cost estimate for the 30% deliverable.
  - Identification of outstanding items that will need to be addressed in next phase of design.
- Complete QA/QC reviews of documentation prior to delivering to the City.

Subtasks to be completed include:

5.1 Civil Engineering: Consultant shall:

- Develop 30% plans as identified above.
  - Develop proposed solutions for meeting grade – slopes, retaining walls, etc.

- Develop proposed storm water management strategies and associated facilities.
- Coordination with design team re: incorporation of the bridge into the site.

5.2 Utility Coordination: Consultant shall:

- Identify utility providers with facilities in the project area.
- Coordinate with utility providers to identify potential conflicts and solutions and maintain documentation of those discussions.
- Prepare utility conflict mapping and matrix documenting potential utility conflicts and solutions.
- Identify potential project costs and schedule impacts associated with required utility relocation efforts.
- Results of this effort will be included in the preliminary design report.

5.3 Structural Engineering: Consultant shall:

- Provide preliminary design assistance addressing foundation designs for site structures including retaining walls and stair structures.
- Prepare 30% plans, details and estimate for the bridge, retaining walls, bridge supports and stair structures.

5.4 Landscape Architecture: Consultant shall:

- Prepare 30% irrigation and planting plans to include stormwater facility plantings, restoration of disturbed natural areas and proposed landscape areas related to the pedestrian bridge development.
- Provide 30% estimate of construction costs for irrigation and planting work.
- Prepare the following sheets for review:
  - Irrigation Plans.
  - Planting Plans.
  - Irrigation Details.
  - Planting Details.
  - Custom Material Finish Details (aesthetic treatments of walls, stairs/paving, etc.).

5.5 Traffic Engineering and Lighting: Consultant shall:

- Prepare 30% wayfinding signage concept based on selected alternative for pedestrian access routes to bridge structure including proposed sign legends and sign supports information. This task includes development of the following items for review:
  - One (1) Concept Plan (NTS)1 Detail Sheet (NTS).
  - 30% Cost Estimate.
  - Special provisions are not included as part of this task.
- Prepare 30% lighting concept plans to include pedestrian scale lighting along the access routes to the bridge structure and decorative lighting across the structure itself. This task includes development of the following items for review:
  - Lighting Analysis using AGI 32 software and the selected light fixtures.
  - Lighting analysis results included on the plans; no memorandum will be prepared.
  - One (1) Legend Sheet (NTS).
  - Two (2) Concept Plans showing pole locations and bridge mount concepts (1"=20').
  - 30% Cost Estimate.
  - Roadway lighting analysis and lighting design beyond project footprint are not included in this task.
  - Special provisions are not included as part of this task.

- Prepare 30% construction staging and sequencing plans for construction of foundations, retaining walls, stair structures, access paths, etc. Plans to include temporary pedestrian routing concepts where applicable. This task includes development of the following items for review:
  - Two (2) Construction Staging/Sequencing Plans (NTS).
  - 30% Cost Estimate.
  - Temporary Traffic Control Design for Bridge Delivery to Project Site is not included as part of this scope of services.
  - Development of an ODOT Traffic Management Plan (TMP), Mobility Considerations Checklist (MCC), or Work Zone Decision Tree (WZDT) are not included as part of this task.
  - Special provisions are not included as part of this task.

5.6 Right-of-Way Acquisition Services: Consultant shall provide initial technical assistance to the City in identifying construction access easements and permanent access/utility easements across private properties, as needed. Specific efforts under this task include:

5.6.1 Project Meetings:

- Epic shall attend Project Kick Off Meeting (up to 4 hours) and 2 team meetings (1 hour each).

5.6.2 R/W Cost Estimating/Programming Estimate:

- Epic shall perform R/W cost estimating to support project development and alternatives analysis. Epic shall provide preliminary ROW cost estimates for up to 2 parcels that may be impacted by the project.

Task 5.6 Assumptions:

- *There are 2 affected property owners, the YMCA, and Sherwood School District.*
- *Cost estimating does not include appraisal services.*

Task 5.6 Deliverables: *Consultant shall provide the following to the City:*

- *Alternative analysis cost estimate for up to 2 proposed options.*
- *Cost estimate spreadsheet for up to 2 properties.*

5.7 Environmental: Consultant shall:

- Perform a brief desktop review for environmental constraints to inform 30% design. Note that information from this review is preliminary and is subject to change. It is not a substitute for appropriate environmental studies at a later stage in the project.

Task 5 Deliverables: *Consultant shall provide the following to the City:*

- *30% Design submittal including plans, cost estimates and Special Provisions table of contents in PDF format.*
- *DRAFT and Final Preliminary Design Report in PDF format.*

TASK 6 - GEOTECHNICAL ENGINEERING

Consultant shall evaluate the subsurface conditions at the site, perform analyses, and provide geotechnical recommendations for the bridge supports and approaches, and associated foundations and retaining walls. The geotechnical scope provided herein is based on Bridge Option 1 (as provided by the City) and assumes only one Ramp A alignment alternative will be investigated and designed. This scope may require altering if Bridge Option 2 is selected as the preferred option or additional Ramp A options are investigated.

Previous geotechnical investigations by GRI adjacent to the project site suggest the area is underlain by alluvial soils (e.g., Willamette Silt) underlain by stiff residual soil and decomposed to highly weathered basaltic bedrock. Based on the anticipated site conditions, it is assumed the bridge will be supported on

deep foundations (e.g., driven piles or drilled shafts). It is further assumed that the risk of seismic hazards such as liquefaction is low and will not require mitigation.

6.1 Site Reconnaissance and Data Review:

Consultant shall review available site and subsurface information for the project. Such information shall include local geology and hazard maps, previous reports completed by Consultant, and previous geotechnical reports from nearby projects made available by the City.

Consultant shall complete a site reconnaissance to document and confirm surface conditions and site access for the proposed explorations identified in Task 6.2. Consultant shall prepare an Exploration and Testing Work Plan (ETWP) that will summarize the work to be performed in the field and laboratory for Task 6.2.

- The ETWP will include permitting that may be required by the City or ODOT for work in the right-of-way. The ETWP shall address site access, the proposed drilling and sampling procedures, and safety.

6.1 Assumption:

- *A traffic control plan is not required with the ETWP because all explorations will be completed in City or ODOT-owned property outside the roadway.*

6.1 Deliverables:

- *Consultant shall summarize pertinent information from the site reconnaissance and data review in the Geotechnical Report as part of Task 6.6. Consultant shall prepare an Exploration and Testing Work Plan (ETWP) that will summarize the work to be performed in the field that will be provided as Task 6.1.*

6.2 Field Explorations

Consultant shall complete geotechnical explorations with a qualified drilling subconsultant to collect soil and rock samples for the purpose of subsurface characterization and geotechnical analysis. Consultant shall also complete infiltration testing to aid in the design of stormwater facilities. As part of this task, Consultant will:

- Drill up to six (6) borings in total using a truck- or track-mounted drill rig utilizing mud-rotary drilling and HQ-sized rock coring techniques. Representative soil or rock samples will be collected in each boring, typically at intervals of 2.5 feet to 5 feet. If competent bedrock is encountered, continuous rock core will be obtained. Borings will be completed for the bridge and wall structures as indicated:
  - One boring will drilled for each bridge bent (up to 4 borings in total) that will extend to a maximum depth of 80 feet or 20 feet of rock coring, whichever occurs first. The City confirmed that drilling locations are accessible in either City or ODOT-owned property and drilling within OR 99W and traffic control will not be required.
  - One boring will be located along the preferred ramp alignment for each ramp (up to two (2) borings in total). The ramp/retaining wall borings will extend to a maximum depth of 25 feet.
  - Two of the borings will include installation of vibrating wire piezometers (VWPs) to estimate groundwater depths. The VWPs will be periodically monitored with up to three (3) readings during the design phase of the project.
  - One cone penetrometer (CPT) will be pushed within the preferred ramp alignment for each ramp (up to two (2) CPTs in total). One CPT will be pushed to a maximum depth of 50 feet, or until refusal. One CPT will be pushed to a maximum depth of 100 feet, or until refusal, and will include shear wave velocity measurements at 1-meter depth increments.

- Complete up to two (2) infiltration tests using hand-augered borings for stormwater facility design. Testing shall follow guidelines in the current City of Portland Stormwater Management Manual. A maximum test depth of 5 feet is assumed.

6.2 Assumptions:

- *Final exploration locations shall be established based on the selected bridge bent locations, site access with drilling equipment, and the location of existing utilities. The scope assumes the borings will be located outside of the OR 99W roadway, within City or ODOT-owned property. Therefore, the explorations will not require traffic control and all explorations will be completed during daylight hours.*
- *Any fees associated with permits to work in the right-of-way or other activities will be waived.*
- *It is assumed the subsurface soils and groundwater are not contaminated. If contaminated soils are encountered, the exploration will be discontinued, and the Owner will be notified for further direction.*
- *Noise variance needed for exploration work will be completed by others.*

6.2 Deliverables: *Consultant shall provide:*

- *Boring logs from the explorations shall be included in the Geotechnical Report as part of Task 6.6.*
- *Infiltration test results shall be included in the Geotechnical Report as part of Task 6.6.*

6.3 Laboratory Testing

Consultant shall complete laboratory testing on selected soil and/or rock samples from the borings. Laboratory testing will primarily consist of general index and engineering property test including, but not limited to:

- Moisture Content
- Unit Weight
- Atterberg Limits
- Grain Size Determinations and/or Percent Fines
- Primary Consolidation
- Rock Uniaxial Compression (q_u)

6.3 Deliverables:

- *Consultant shall provide a summary of laboratory test results in the Geotechnical Report as part of Task 6.6.*

6.4 Bridge Foundation and Seismic Analysis

Consultant shall complete analysis and provide recommendations for the new bridge foundations. Deep foundations (e.g., driven piles or drilled shafts) are assumed for the pre-manufactured pedestrian bridge. Consultant shall provide design recommendations for the selected foundation option including strength limit and service limit state axial resistance, soil lateral resistance (i.e., LPILE) parameters. Consultant shall also provide an evaluation for constructability of the selected foundation option in consultation with the selected bridge contractor.

Analysis shall be completed to provide seismic design parameters for the bridge and retaining structures that include seismic site class and design response spectra. The parameters will be developed in accordance with the current ODOT Geotechnical Design Manual and AASHTO LRFD Bridge Design Specifications. Seismic evaluation may require site-specific hazard analysis. This scope of work assumes that ground improvement design will not be required.

***6.4 Deliverables**:*

- *Consultant shall provide a summary of foundation analyses in the Geotechnical Report as part of Task 6.6.*

6.5 Approaches, Stair Structures, and Retaining Walls

Consultant shall complete analysis to evaluate the proposed approach ramps, retaining walls, and foundations for stair structures. Consultant shall also provide recommendations for earthwork including site preparation, excavation, structural fill material, fill placement, and compaction.

Analysis shall be completed to address geotechnical design parameters for walls and stair structures that include:

- Foundation soil bearing resistance.
- Settlement (total and differential).
- Sliding resistance.
- Lateral earth pressures and overturning resistance.
- Backfilling requirements and drainage.
- Global stability of retaining walls.

6.5 Deliverables:

- *Consultant shall provide a summary of the walls and bridge approach analyses and design recommendations in the Geotechnical Report as part of Task 6.6.*

6.6 Geotechnical Report

Consultant shall prepare a Geotechnical Design Report for submittal to the City, which includes:

- Summary of the field and laboratory studies completed for Tasks 6.2 and 6.3.
- Summary of the geotechnical analysis and the design and construction recommendations completed with Tasks 6.4 and 6.5 for the proposed pedestrian bridge, approach ramps, retaining walls, and stair structures.
- Geotechnical Data Sheets (GDS) to summarize boring data. One GDS is assumed for the bridge, and one GDS is assumed for each approach ramp (up to 3 GDS in total).

***6.6 Deliverables:** Consultant shall provide the following to the City:*

- *Draft and Final Geotechnical Report (PDF format).*
- *Geotechnical Data Sheets (.dwg and PDF format).*

TASK 7 – PRELIMINARY PERMITTING MEMO

The focus of this task will be developing a preliminary understanding of requirements that may be placed on the project by the permitting agencies with potential interest in the project including Clean Water Services (CWS), U.S. Army Corps of Engineers (Corps), Oregon Department of State Lands (DSL), Oregon Department of Environmental Quality (DEQ), and others. While we do not anticipate significant impacts to environmental resources, providing a preliminary review of the likely required environmental documentation and permitting requirements during this early phase of the work can be critical.

Consultant shall research and develop a list of anticipated necessary environmental documentation and federal, state, and local permits that may be required for the project including information regarding typical permitting timelines. Consultant shall prepare a brief memorandum summarizing this information.

Task 7 Deliverables: *Consultant shall provide:*

- *Preliminary permitting memo summarizing likely environmental permitting and documentation requirements (in electronic MS Word format).*

TASK 8 – PUBLIC INVOLVEMENT

Open Houses: Consultant will conduct two in-person and/or virtual public open houses. The purpose of the first event is to share the project goals, get feedback, and answer questions. The purpose of the second event is to share the preferred alternative, get feedback, and answer questions.

For each event, JLA will:

- Develop an event plan.
- Create a comment form and/or create a mechanism for receiving public comments.
- Provide promotional content for the City to distribute on their website and through their social media and email channels.
- Host the event, including set-up and tear down, if in person, and creating a web platform, if virtual.
- Write an event summary.

Open houses will be attended by Consultant PM, Civil and Structural Engineering Leads, Landscape Architect, and JLA public involvement staff.

City Council Presentations: Consultant will facilitate up to two City Council presentations. The purpose of the presentations is to show design updates and share what was heard during the in-person and/or virtual public open houses.

For each presentation, JLA will:

- Write a presentation plan.
- Organize presentation materials with KPFF.
- Present the community engagement feedback we heard at the open houses.

Public Art Outreach: JLA will lead a community-wide call for bridge art ideas and entries to foster a deeper level of community investment and pride in the new bridge. The City will determine who will ultimately vote on the winning art submissions.

JLA will:

- Meet with the City to create an entry form.
- Write a press release, announcing the call for art entries, to be distributed to the community via social media, the Sherwood Gazette, and school district and City email channels.
- Engage with interested community groups to promote participation.
- Manage and compile the submissions to share with the City.

Meeting Attendance: One JLA staff person will attend the project kick-off meeting and any other project team meetings, as needed, to keep informed about the project and bring a community engagement perspective to the group.

Task 8 Assumptions:

- *If it is an in-person event, the City will help identify a location*

Task 8 Deliverables: *Consultant shall provide:*

- *Public event with documentation.*
- *City Council presentation materials*

Exhibit "A" - Site Map

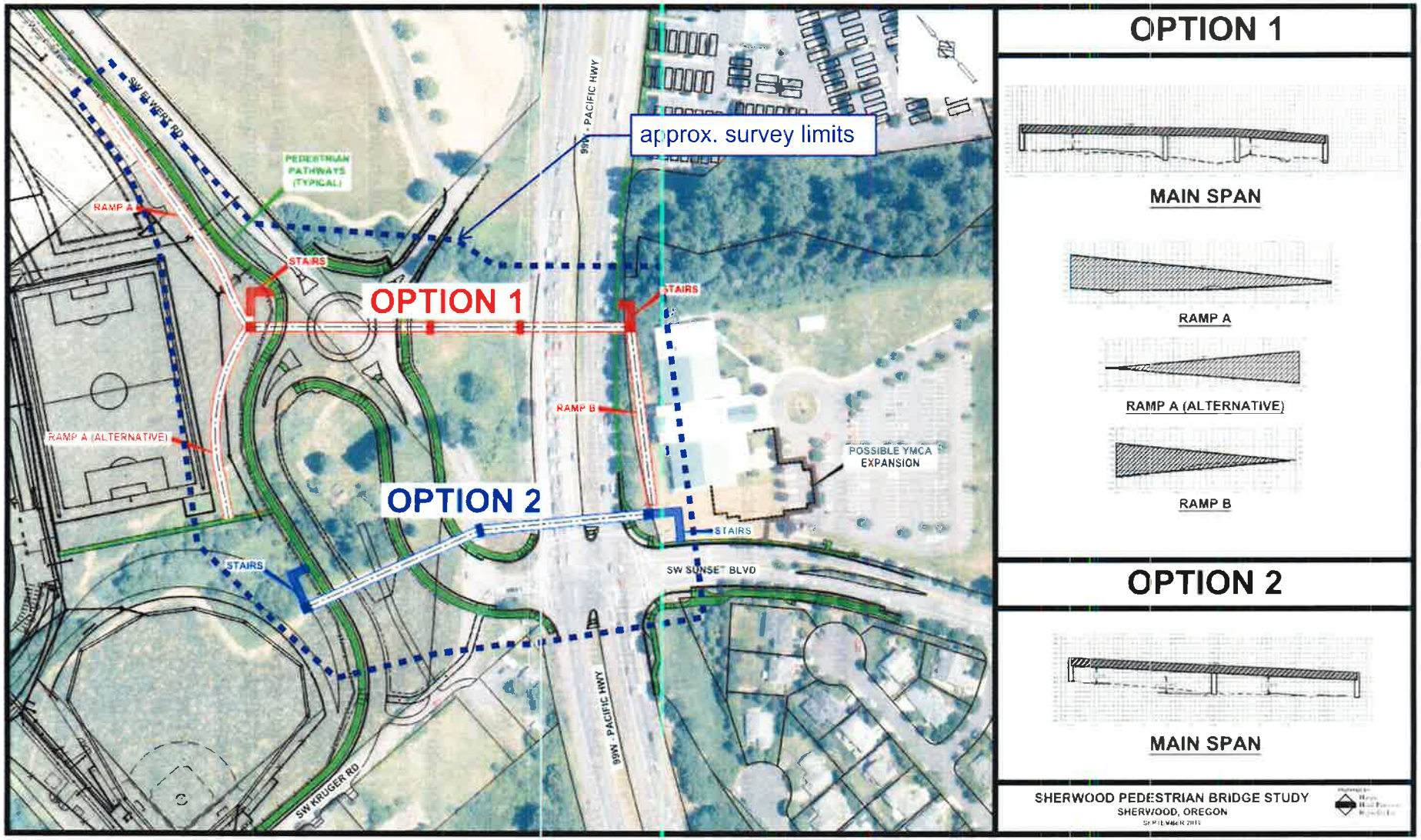

Figure 6: Alignments Used for Cost Estimates of Pedestrian Overcrossing

City of Sherwood
Estimated Fees for Engineering Services
99W PEDESTRIAN CROSSING PROJECT -
PROJECT NO. 334

EXHIBIT B

	Summary - Labor & Expenses by Firm									
Work Item	**KPFF Civil**	**KPFF Survey**	**KPFF Structural**	**GreenWorks**	**DKS**	**GRI**	**Epic Land Svcs**	**JLA**	**Arch. Applications**	**Subtotal**
TASK 1 - PROJECT MANAGEMENT AND ADMIN	$ 25,474	$ -	$ 6,280	$ 3,713	$ 4,660	$ 3,880	$ -	$ -	$ 390	$ 44,397
TASK 2 – RESEARCH & DATA GATHERING	$ 12,209	$ -	$ -	$ 3,305	$ 5,740	$ -	$ -	$ -	$ 780	$ 22,034
TASK 3 – PREDESIGN SURVEY	$ 936	$ 45,555	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 46,491
TASK 4 –ALTERNATIVES ANALYSIS	$ 41,817	$ -	$ 31,740	$ 30,784	$ 16,795	$ -	$ -	$ -	$ 13,520	$ 134,656
TASK 5 – PRELIMINARY DESIGN (30%)	$ 63,305	$ -	$ 77,700	$ 24,847	$ 20,670	$ -	$ 4,180	$ -	$ -	$ 190,702
TASK 6 - GEOTECHNICAL ENGINEERING	$ -	$ -	$ -	$ -	$ -	$ 92,454	$ -	$ -	$ -	$ 92,454
TASK 7 – PRELIMINARY PERMITTING MEMO	$ 3,765	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,765
TASK 8 – PUBLIC INVOLVEMENT	$ 9,437	$ -	$ 6,980	$ 1,469	$ -	$ -	$ -	$15,896	$ -	$ 33,782
Totals :	$156,944	$ 45,555	$122,700	$ 64,117	$ 47,865	$ 96,334	$ 4,180	$15,896	$ 14,690	**$ 568,280**

City of Sherwood
99W PEDESTRIAN CROSSING PROJECT
PROJECT NO. 334
Estimated Fees for Engineering Services

	KPFF Civil										
	$234.39	$179.73	$165.00	$136.89	$114.40	$159.38	$96.56		Labor		
Work Item	PIC	PM	Proj. Eng.	Designer	CADD	Sr. Env. Scientist	Proj. Admin.	Hours	Cost	Expenses	Subtotals
TASK 1 - PROJECT MANAGEMENT AND ADMINISTRATION											
1.1 - Project Coordination (6 months)	6	12					12	30	$ 4,722		
1.2 - Meetings								0	$ -		
Site kick-off meeting (4 hours)	4	4	6			4	2	20	$ 3,477		
Team Meetings (up to 3, 1 in-person & 2 virtual)	6	6	8			4	6	30	$ 5,022		
Agency Coordination Meetings (up to 6 virtual - 1 hr ea.)	6	6	9				6	27	$ 4,549		
Utility Coordination Meetings (up to 3 virtual - 1 hr ea.)	3	3	6	6			3	21	$ 3,343		
1.3 - Project Schedule	4	8						12	$ 2,375		
1.4 - Monthly Invoices and Progress Reports	6						6	12	$ 1,986		
Subtotal:	35	39	29	6	0	8	35	152	$ 25,474	$ -	$ 25,474
TASK 2 – RESEARCH & DATA GATHERING											
Review available relevant documentation	1	1	4	4				10	$ 1,622		
Review design standards	1		4	4				9	$ 1,442		
Site visits (2)		4	8	8		4		24	$ 3,772		
Project Design criteria	2	4	8	4		4		22	$ 3,693		
Tech Memo	2	2	4				2	10	$ 1,681		
Subtotal:	6	11	28	20	0	8	2	75	$ 12,209	$ -	$ 12,209
TASK 3 – PREDESIGN SURVEY											
Coordination		1	4				1	6	$ 936		
Subtotal:	0	1	4	0	0	0	1	6	$ 936	$ -	$ 936
TASK 4 –ALTERNATIVES ANALYSIS											
Define alternatives and evaluation criteria	4	8	12	8	8		2	42	$ 6,559		
Concept level design and estimates (3 alternatives)	4	12	60	40	24	2		142	$ 21,534		
Alternatives evaluation	8	8	16	8		4		44	$ 7,686		
Draft Alternatives Eval Memo	2	8	12			2	4	28	$ 4,592		
Final Alternatives Eval Memo	1	2	4				2	9	$ 1,447		
Subtotal:	19	38	104	56	32	8	8	265	$ 41,817	$ -	$ 41,817

City of Sherwood
99W PEDESTRIAN CROSSING PROJECT
PROJECT NO. 334
Estimated Fees for Engineering Services

	KPFF Civil										
	$234.39	$179.73	$165.00	$136.89	$114.40	$159.38	$96.56		Labor		
Work Item	PIC	PM	Proj. Eng.	Designer	CADD	Sr. Env. Scientist	Proj. Admin.	**Hours**	**Cost**	**Expenses**	**Subtotals**
TASK 5 – PRELIMINARY DESIGN (30%)											
5.1 - Civil Engineering								0	$ -		
Preliminary Plans (30%)	12	24						36	$ 7,126		
Cover Sheet			1	4	2			7	$ 941		
Trail and Bridge Alignment Plans and Profiles			12	24	16			52	$ 7,096		
Drainage Plans and Profiles			12	24	12			48	$ 6,638		
Typical Sections			2	8	4			14	$ 1,883		
Stormwater Design	2	16	24	24	12			78	$ 11,963		
Construction Cost Estimates	2	4	8	16	4			34	$ 5,156		
Draft and Final Preliminary Design Report	2	8	24	8			6	48	$ 7,541		
								0	$ -		
5.2 - Utility Coordination								0	$ -		
Identify and coord. w/ utility providers	2	8	12				4	26	$ 4,273		
Utility conflict mapping and matrix	1	4	4	12	8			29	$ 4,171		
Estimating / schedule impacts	2	4	4					10	$ 1,848		
Input to prelim design report		2	4				1				
								0	$ -		
5.7 - Environmental								0	$ -		
Desktop review for env. Constraints						4		4	$ 638		
								0	$ -		
QA / QC Reviews	8	12						20	$ 4,032		
Subtotal:	31	82	107	120	58	4	11	406	$ 63,305	$ -	$ 63,305

City of Sherwood
99W PEDESTRIAN CROSSING PROJECT
PROJECT NO. 334
Estimated Fees for Engineering Services

	KPFF Civil										
	$234.39	$179.73	$165.00	$136.89	$114.40	$159.38	$96.56		Labor		
Work Item	PIC	PM	Proj. Eng.	Designer	CADD	Sr. Env. Scientist	Proj. Admin.	Hours	Cost	Expenses	Subtotals
TASK 6 - GEOTECHNICAL ENGINEERING											
Subtotal:	0	0	0	0	0	0	0	0	$ -	$ -	$ -
TASK 7 – PRELIMINARY PERMITTING MEMO											
Permit research	1					12		13	$ 2,147		
Technical memorandum	2					6	2	10	$ 1,618		
	3	0	0	0	0	18	2	23	$ 3,765	$ -	$ 3,765
TASK 8 – PUBLIC INVOLVEMENT											
Prep for and attend Open Houses (2)	8	12	8				4	32	$ 5,738		
Prep for and attend Council Presentations (2)	8	8					4	20	$ 3,699		
	16	20	8	0	0		8	52	$ 9,437	$ -	$ 9,437
Totals:	110	191	280	202	90	46	67	979	$ 156,944.09	$ -	$ 156,944.09

Survey Cost Estimate

Sherwood-99W Ped Xing Survey

8/27/2021

Task #	Task Description	Hourly Rates PM $235	PLS $180	Proj. Surveyor $130	Survey Tech $110	Proj. Admin $100	2-Person Crew $185	Labor Cost	Expenses
3.1	**Boundary**								
1	Research		4		2	4		$ 1,340	
2	Control, Pin Ties & Resolution	4	18		2		18	$ 7,730	
3	Title Report Review							$ -	
4	Pin Set & Record of Survey							$ -	
	TOTALS	**4**	**22**	**0**	**4**	**4**	**18**	**$ 9,070**	**$ -**
3.2	**Mapping**								
1	Topographic Survey	4	8		102		108	$ 33,580	
2	Utilities Research & Mapping		2		8		9	$ 2,905	
3	ALTA							$ -	
4	Misc.							$ -	
	TOTALS	**4**	**10**	**0**	**110**	**0**	**117**	**$ 36,485**	**$ -**
	PROJECT TOTAL:	**8**	**32**	**0**	**114**	**4**	**135**	**$ 45,555**	**$ -**

City of Sherwood
99W PEDESTRIAN CROSSING PROJECT
PROJECT NO. 334
Estimated Fees for Engineering Services

	KPFF Structural								
	$240.00	$190.00	$140.00	$130.00	$95.00		Labor		
Work Item	Principal	Project Manager	Struct Engineer	CAD	Admin	**Hours**	**Cost**	**Expenses**	**Subtotals**
TASK 1 - PROJECT MANAGEMENT AND ADMINISTRATION									
1.1 - Project Coordination (6 months)						0	$ -		
1.2 - Meetings	8	16	8			32	$ 6,080	$ 200	
Subtotal:	8	16	8	0	0	32	$ 6,080	$ 200	$ 6,280
TASK 2 – RESEARCH & DATA GATHERING									
Subtotal:	0	0	0	0	0	0	$ -	$ -	$ -
TASK 3 – PREDESIGN SURVEY									
Subtotal:	0	0	0	0	0	0	$ -	$ -	$ -
TASK 4 –ALTERNATIVES ANALYSIS									
Define alternatives and evaluation criteria	4	8				12	$ 2,480		
Concept level design and estimates (3 alternatives)	12	18	32	80		142	$ 21,180	$ 100	
Alternatives evaluation	4	8	8		16	36	$ 5,120		
Draft Alternatives Eval Memo	2	4			6	12	$ 1,810		
Final Alternatives Eval Memo	2	2			2	6	$ 1,050		
Subtotal:	24	40	40	80	24	208	$ 31,640	$ 100	$ 31,740
TASK 5 – PRELIMINARY DESIGN (30%)									
5.3 - Structural Engineering	40	100	160	160	60	520	$ 77,500	$ 200	
Subtotal:	40	100	160	160	60	520	$ 77,500	$ 200	$ 77,700

City of Sherwood
99W PEDESTRIAN CROSSING PROJECT
PROJECT NO. 334
Estimated Fees for Engineering Services

	KPFF Structural								
	$240.00	$190.00	$140.00	$130.00	$95.00		Labor		
Work Item	Principal	Project Manager	Struct Engineer	CAD	Admin	Hours	Cost	Expenses	Subtotals
TASK 6 - GEOTECHNICAL ENGINEERING									
Subtotal:	0	0	0	0	0	0	$ -	$ -	$ -
TASK 7 – PRELIMINARY PERMITTING MEMO									
	0	0	0	0	0	0	$ -	$ -	$ -
TASK 8 – PUBLIC INVOLVEMENT									
Prep for and attend Open Houses (2)	8	8				16	$ 3,440	$ 100	
Prep for and attend Council Presentations (2)	8	8				16	$ 3,440		
	16	16	0	0	0	32	$ 6,880	$ 100	$ 6,980
Totals:	88	172	208	240	84	792	$ 122,100.00	$ 600.00	$ 122,700.00

Project Name: City of Sherwood 99W Pedestrian Bridge (Project No. 334)

Project Breakdown of Costs (BOC)

Updated: GRI to KPFF 7-30-21

Staff Role/Title:	Principal	Senior Engr/Geol	Project Engr/Geol	Engr/Geol Staff	CAD Operator	Technical Editor	Project Accountant			See Expense Detail Tab	See Expense Detail Tab	See Laboratory Tab	
Staff Name:													
2021 Rate Schedule:	$ 250.00	$ 185.00	$ 165.00	$ 135.00	$ 105.00	$ 125.00	$ 130.00						
Task ID	**Task Description**	**Hrs**	**Hrs**	**Hrs**	**Hrs**	**Hrs**	**Hrs**	**Hrs**	**Total Hours**	**Total Labor**	**Subconsultants**	**Direct Expenses**	**Lab Costs**	**TOTALS**
1	**Project Management and Administration**	5	10	-	-	-	-	6	21	$ 3,880.00	$ -	$ -	$ -	$ 3,880.00
1.1	Project Coordination								-	$ -	$ -	$ -	$ -	$ -
1.2	Meetings (1 Kick-off and 4 Teams Meetings - 1 in person)	3	10						13	$ 2,600.00	$ -	$ -	$ -	$ 2,600.00
1.3	Project Schedule								-	$ -	$ -	$ -	$ -	$ -
1.4	Invoices and Progress Report	2						6	8	$ 1,280.00	$ -	$ -	$ -	$ 1,280.00
									-	$ -	$ -	$ -	$ -	$ -
6	**Geotechncial Engineering**	13	102	16	168	30	10	2	341	$ 52,100.00	$ 31,700.00	$ 112.00	$ 8,541.50	$ 92,453.50
6.1	Site Reconnaissance and Data Review & Exploration Wkpln	1	12	16		2	2		33	$ 5,570.00	$ 1,200.00	$ 28.00	$ -	$ 6,798.00
6.2	Field Explorations, Infiltration Testing, and Groundwater Monitoring		10		90			1	101	$ 14,130.00	$ 30,500.00	$ 84.00	$ -	$ 44,714.00
6.3	Laboratory Testing		2		6	4			12	$ 1,600.00	$ -	$ -	$ 8,541.50	$ 10,141.50
6.4	Bridge Foundation and Seismic Analysis	2	50		16				68	$ 11,910.00	$ -	$ -	$ -	$ 11,910.00
6.5	Approaches, Stair Structures, and Retaining Walls	2	12		32				46	$ 7,040.00	$ -	$ -	$ -	$ 7,040.00
6.6	Geotechncial Report	8	16		24	24	8	1	81	$ 11,850.00	$ -	$ -	$ -	$ 11,850.00
									-	$ -	$ -	$ -	$ -	$ -
	Tasks Summary of Hours	18	112	16	168	30	10	8	362	$ 55,960.00	$ 31,700.00	$ 112.00	$ 8,541.50	$ 96,333.50
													Recommended Project Budget:	**$ 96,400.00**

Project Name: City of Sherwood 99W Pedestrian Bridge (Project No. 334)

Project Breakdown of Costs (BOC)

Updated: GRI to KPFF 7-30-21

Laboratory Testing

Reporting Fee **10%**

		Moisture w/ Visual Classification	Moisture/Density	Atterberg	#200 Wash	Sieve w/ Wash	Hydrometer w/ Sieve & Wash	Organic Content	Unconfined Compression	Consolidation (Incremental)	
	Laboratory Test										
	2021 Rate Schedule:	$ 15.00	$ 40.00	$200.00	$ 95.00	$150.00	$250.00	$100.00	$125.00	$450.00	
Task ID	Task Description	Units	Units	Units	Units	Units	Units	Units	Units	Units	Lab Expense Total
6	**Geotechncial Engineering**	75	8	8	16	-	-	-	4	6	$ 8,541.50
6.3	Laboratory Testing	75	8	8	16				4	6	$ 8,541.50
	Test Summary Units	75	8	8	16	-	-	-	4	6	$ 8,541.50
											Total Hours
											Total Fee

Project Name: City of Sherwood 99W Pedestrian Bridge (Project No. 334)

Project Breakdown of Costs (BOC)

Updated: GRI to KPFF 7-30-21

				Subconsultants								
	Expense Activity	Vehicle Mileage	Expense Totals	Track Rig Mud Rotary Drilling (day)	Track Rig Mud Rotary Drilling (night)	CPT Rig	Traffic Control	Vac Truck	Private Locates	Traffic Control Plans	Subconsultant Totals	Notes
	Cost per Item	$ 0.56		$ 4,500.00	$ 5,000.00	$ 5,000.00	$ 3,500.00	$ 1,000.00	$ 100.00	$ 250.00		
Task ID	Task Description	Mile	Direct Expense Totals	Per Day	Per Night	Per Day	Per Night	Per Day	Hours	Hours	Subconsultant Totals	
6	**Geotechncial Engineering**	$ 112.00	**$ 112.00**	$ 22,500.00	$ -	$ 5,000.00	$ -	$ 3,000.00	$ 1,200.00	$ -	**$ 31,700.00**	
6.1	Site Reconnaissance and Data Review &	50	$ 28.00						12		$ 1,200.00	
6.2	Field Explorations, Infiltration Testing, and Groundwater Monitoring	150	$ 84.00	5		1		3			$ 30,500.00	Traffic Control and TCP removed consistent with City comment that drilling will not be required on OR99W> All drilling activity moved to days
6.3	Laboratory Testing		$ -								$ -	
6.4	Bridge Foundation and Seismic Analysis		$ -								$ -	
6.5	Approaches, Stair Structures, and Retaining Walls		$ -								$ -	
6.6	Geotechncial Report		$ -								$ -	
	Tasks Summary of Units/Dollars	200	$ 112.00	5			-	3	12	-	$ 31,700.00	

TASK			GreenWorks, PC					
		Role:	Principal/Tech. Dir.	LA IV	LA II	LD I	Project Admin	Cost by Task
		Hourly Rate:	($180/hr)	($155/hr)	($120/hr)	($90/hr)	($115/hr)	including expenses
1		PROJECT MANAGEMENT AND ADMINISTRATION	9	0	13	0	4	$3,713
	1.1	Project Coordination	0		4		4	
	1.2	Meetings	9		9			
2		RESEARCH & DATA GATHERING	4	0	12	12	0	$3,305
	2.1	Research & Data Gathering	4		12	12		
4		ALTERNATIVES ANALYSIS	16	12	152	80	0	$30,784
	4.1	Alternatvies Analysis	16	12	152	80		
5		PRELIMINARY DESIGN	12	24	64	120	0	$24,847
	5.4	Landscape Architecture	12	24	64	120		
8		PUBLIC INVOLVEMENT	8	0	0	0	0	$1,469
	8.0	PUBLIC INVOLVEMENT	8					

	Individual Totals (hours)	49	36	241	212	4
	Firm Totals (cost)					$62,860.00
2%	Reimbursable Expenses					$1,257.20
	TOTAL FEE					$64,117.20

PROJECT NAME: City of Sherwood: 99W Pedestrian Crossing Project (No. 334)
PROJECT #:
Date: 7/30/2021

	DKS									
	Grade 38 - Principal-in-Charge	Grade 35 - Traffic Engineering Lead	Grade 22 - Traffic Engineer	Grade 15 - Traffic Engineering Assistant	Grade 11 - CAD Technician	Tech T - Project Administrator	Total DKS Hours by Task	DKS Labor Cost by Task	DKS Other Direct Costs (ODC)	Total Cost by Task
DKS Standard Billing Rates	$ 240.00	$ 225.00	$ 160.00	$ 125.00	$ 105.00	$ 130.00				
Task Description										
Task 1 Project Management and Administration	0	20	0	0	0	0	20	$ 4,500.00	$ 160.00	$ 4,660.00
1.2 - Meetings		20					20	$ 4,500.00	$ 160.00	$ 4,660.00
Task 2 Research & Data Gathering	1	2	12	24	0	1	40	$ 5,740.00	$ -	$ 5,740.00
2.1.1 Data Collection - Lighting			4	4			8	$ 1,140.00		$ 1,140.00
2.1.2 Data Collection - Signing & Striping			4	4			8	$ 1,140.00		$ 1,140.00
2.2 Design Criteria Tech Memo	1	2	4	16		1	24	$ 3,460.00		$ 3,460.00
Task 4 Alternatives Analysis	4	9	26	72	0	5	116	$ 16,795.00	$ -	$ 16,795.00
4.1.1 Lighting Layout Alternatives	2	4	12	36		2	56	$ 8,060.00		$ 8,060.00
4.1.2 Wayfinding Signage Alternatives	1	2	6	20		1	30	$ 4,280.00		$ 4,280.00
4.1.3 Alternatives Analysis Memo	1	3	8	16		2	30	$ 4,455.00		$ 4,455.00
Task 5 Preliminary Design (30%)	4	14	26	64	32	8	148	$ 20,670.00	$ -	$ 20,670.00
5.1 Lighting Design	2	8	12	24	8	4	58	$ 8,560.00		$ 8,560.00
5.2 Wayfinding Signing and Striping Design	1	2	6	16	8	2	35	$ 4,750.00		$ 4,750.00
5.3 Temporary Traffic Control	1	4	8	24	16	2	55	$ 7,360.00		$ 7,360.00
Total	DKS						324	$ 47,705.00	$ 160.00	$ 47,865.00

Epic Land Services

KPFF/ City of Sherwood 99W PEDESTRIAN CROSSING PROJECT PROJECT NO. 334 Right of Way Services 8/2/2021										
	Advisory Manager	**Senior Project Manager**	**Senior ROW Agent**	**Financial / Budget Analyst**	**Project Support**					
Hourly Rates	**$ 210.00**	**$ 155.00**	**$ 90.00**	**$ 130.00**	**$ 75.00**					
Right of Way Services:						**Total Hours**	**Total per Task**	**Direct Costs**	**Total**	
•5.4.1 Project Meetings		6		2		8	$ 1,190.00		$1,190	
•5.4.2 R/W Cost Estimating/Programming Estimate	1	10	8	2	2	23	$ 2,890.00	$ 100.00	$2,990	
TOTAL	**1**	**16**	**8**	**4**	**2**	**31**	**$ 4,080.00**	**$ 100.00**	**$ 4,180.00**	
	$210.00	**$2,480.00**	**$720.00**	**$520.00**	**$150.00**					

OR 99W Sherwood Ped Crossing

Task #	Task/Subtasks	Quantity	Tracie Heidt PE 3 $116 /hr Hours	Tracie Heidt PE 3 $116 /hr Cost	Sam Beresky PE 5 $153 /hr Hours	Sam Beresky PE 5 $153 /hr Cost	Coordinator PE 2 $101.51 /hr Hours	Coordinator PE 2 $101.51 /hr Cost	Lesley Yin Admin 1 $109.32 /hr Hours	Lesley Yin Admin 1 $109.32 /hr Cost	Kalin Schmoldt PE 6 $172.10 /hr Hours	Kalin Schmoldt PE 6 $172.10 /hr Cost	Totals Hours	Totals Labor	Totals Expenses	Totals Cost
8.0	Public Involvement Tasks															
	Public Involvement															
8.1	Invoices Assumes 6 month project	6	4	$462	0	$0	0	$0	6	$656	0	$0	10	$1,118	$0	$1,118
8.2	Open houses Assumes in person or virtual	2	38	$4,392	2	$305	28	$2,842	0	$0	5	$861	73	$8,400	$120	$8,520
8.3	Council presentations Plan, organize materials, attend/present	2	10	$1,156	1	$153	0	$0	0	$0	0	$0	11	$1,309	$30	$1,339
8.4	Team meetings One in person with two virtual	3	5	$578	0	$0	0	$0	0	$0	0	$0	5	$578	$10	$588
8.5	Public Art Outreach Team meeting, write press release, outreach with groups, manage submissions		20	$2,312	2	$305	10	$1,015	0	$0	4	$688	36	$4,321	$10	$4,331
	Task 8.0 Subtotal		**77**	**$8,900**	**5**	**$763**	**38**	**$3,857**	**6**	**$656**	**9**	**$1,549**	**135**	**$15,726**	**$170**	**$15,896**
	Totals		**77**	**$8,900**	**5**	**$763**	**38**	**$3,857**	**6**	**$656**	**9**	**$1,549**	135	$15,726	$170	$15,896
													135	$15,726	$170	$15,896
													Sum of all subtotals:			$15,896

Task/ Subtasks	EXPENSE DETAIL Communications	Printing & Copies	Mileage & Parking	Total Expenses	
8.0 Public Involvement Tasks					
0.0 Public Involvement					
8.1 Invoices	$0	$0	$0	$0	
8.2 Open houses	$0	$100	$20	$120	Assumes two staff driving to an in-person event – round trip 35 miles.
8.3 Council presentations	$0	$10	$20	$30	Assumes one staff driving to two in-person meetings – round trip 35 miles.
8.4 Team meetings	$0	$0	$10	$10	Assumes one staff driving to one in-person meeting – round trip 35 miles.
8.5 Public Art Outreach	$0	$10	$0	$10	
	$0	**$120**	**$50**	**$170**	
Totals	**$0**	**$120**	**$50**	**$170**	

Architectural Applications P.C.
Sherwood Bridge Design
Fee Estimate - V2
8/25/2021

Hourly Rates	
Sr Designer	$130.00

TASK 1 - Project Management and Administration			$390.00
Meetings	Sr. Des. Hrs.	**Total**	
Project Site Kickoff Meeting	3	**$390.00**	
Team Meetings	0	**$0.00**	
Agency Coordination Meetings	0	**$0.00**	
TASK 2 – RESEARCH & DATA GATHERING			$780.00
Info Gathering - permit/planning requirements	0	**$0.00**	
Site Visit	2	**$260.00**	
Design Criteria Definition	4	**$520.00**	
TASK 3 – PREDESIGN SURVEY			$0.00
TASK 4 –ALTERNATIVES ANALYSIS			$13,520.00
Alternatives Definition (3) & plans creation, including preliminary sketches	52	**$6,760.00**	
Light Fixture Options (2 for approach, 2 for bridge)	4	**$520.00**	
Signage Options (2)	4	**$520.00**	
Support input gathering	0	**$0.00**	
Comparative Analysis, documented in Memorandum	10	**$1,300.00**	
Support creation of Final Report	8	**$1,040.00**	
Exhibits for 3 Preliminary Concepts	26	**$3,380.00**	
TASK 5 – PRELIMINARY DESIGN (30%)			$0.00
Development to 30% (excludes drafting)	0	**$0.00**	
TASK 6 - Geotechnical engineering	0	**$0.00**	$0.00
Task 7 – PRELIMINARY Permitting memo	0	**$0.00**	$0.00
Task 8 – Public Involvement	0	**$0.00**	$0.00
TOTAL FEE	**113**		**$14,690.00**