



## URA RESOLUTION 2022-001

### **AUTHORIZING THE AGENCY MANAGER TO SIGN A PROFESSIONAL SERVICES CONTRACT WITH KITTELSON & ASSOCIATES FOR THE ICE AGE DRIVE ALIGNMENT ANALYSIS - 30% LEVEL DESIGN**

**WHEREAS**, the Ice Age Drive Alignment Analysis – 30% Design Level project is identified in the Tonquin Employment Area Concept Plan (adopted by City Ordinance 2010-014), the City’s Transportation System Plan (D20 – Tonquin Employment Area East/West Collector, adopted by City Ordinance 2014-012), and the City’s 5-year Capital Improvement Plan (D20); and

**WHEREAS**, intense private site development projects within the Tonquin Employment Area have resulted the City Council reclassifying this project as a High Priority; and

**WHEREAS**, conducting the 30% level design analysis of a preferred alignment will provide private site developments guidance on anticipated road construction, and the URA with sufficient data for continuing design towards 100% design level work, resulting in construction of the remaining Ice Age Drive alignment; and

**WHEREAS**, a Request for Proposal was released through the Daily Journal of Commerce in conformance with ORS 297C.100-125 for Public Contracting for Engineering Services; and

**WHEREAS**, three (3) RFP submittals were received from qualified engineering firms, and after staff review and scoring of the RFP submittals, Kittelson & Associates was selected as the best consultant team to perform the project design services; and

**WHEREAS**, Kittelson & Associates have developed a Scope of Work and associated Fee of \$367,602.52 to perform the work outlined in the Scope of Work; and

**WHEREAS**, staff is recommending a Contingency Amount of \$55,140 (15% of the Professional Services Contract amount) be authorized for use by the Agency Manager via the Contract Change Order approval process, for unforeseen conditions which need to be included in the design; and

**WHEREAS**, the total project budget under this resolution is \$422,742.90 and will be funded from Urban Renewal Agency funds established by Ordinance 2021-005.

**NOW, THEREFORE, THE SHERWOOD URBAN RENEWAL AGENCY BOARD RESOLVES AS FOLLOWS:**

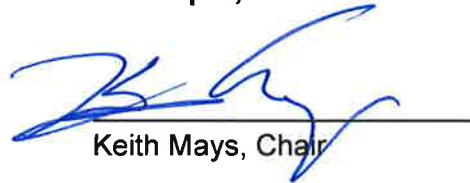
**Section 1.** The Agency Manager is hereby authorized to sign a Professional Services Contract with Kittelson & Associates, for the Ice Age Drive Alignment Analysis – 30% Design Level, with a Scope of Work in a form substantially similar to the attached Exhibit A.

**Section 2.** The Professional Services Contract with Kittelson & Associates shall be in the amount of \$367,602.52, in conformance with a fee schedule in a form substantially similar to the attached Exhibit B.

**Section 3.** The Agency Manager is hereby authorized to amend the Professional Services Contract with Kittelson & Associates up to a Contingency Amount of \$55,140 (15% of the Professional Services Contract amount) via the Contract 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 Urban Renewal Agency Board this 5<sup>th</sup> of April, 2022.**

  
Keith Mays, Chair

Attest:

  
Sylvia Murphy, MMC, Agency Recorder

**Scope of Services**  
**Ice Age Drive Extension**  
**Sherwood Project Number 2020-XX**  
**February 17, 2022**

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**PROJECT BACKGROUND**

Situated in the eastern edge of Sherwood in the Tonquin Employment Area, the future Ice Age Drive will open close to 300 acres for industrial expansion. The new roadway is classified as a Collector Road, connecting SW Oregon Street to SW 124<sup>th</sup> Avenue.

In October of 2010, the City adopted the Tonquin Employment Area Concept Plan - Preferred Concept Plan Report. This report provides the baseline analysis for the layout of future collector and local connector roads (Figure IV-5) within the Tonquin Employment Area (TEA). Mentioned also is the 2015 implementation plan that refined elements further and was also adopted/accepted by Council. The alignment of the Ice Age Drive roadway is dictated in part by existing BPA and PGE power lines, wetlands and limitations on the access locations/connection to SW Oregon Street and SW 124<sup>th</sup> Avenue.

Beginning in 2019 several properties within the TEA have been annexed into the City, have received Land Use Approval, and are currently under construction. As part of the current site development construction processes, a portion of Ice Age Drive (formerly identified in the Concept Plan as Blake Road) is being constructed from SW 124<sup>th</sup> Avenue, westerly to the west property lines between the T-S Corporate Park and Willamette Water Supply Program parcels.

The project is located near the headwaters of drainage paths (Hedges Creek to the land dam at TS Corporate Park, and Rock Creek to the outfall at SW Tonquin Road) that are susceptible to erosion and will need to implement hydromodification management (HM) measures meeting Clean Water Services (CWS) Chapter 4 Design and Construction Standards. HM measures include hydrologic source control and treatment measures that promote infiltration or otherwise minimize the change in the peak flow, volume, and duration of runoff when compared to the pre-project condition. HM measures may also include constructed facilities (such as basins or ponds) that manage the flow rates and volumes of stormwater leaving a site (or from several sites that discharge to a regional facility).

The sanitary service area is bisected by a ridge line roughly running north-west to south-east along the BPA power line easement creating two sub-basins. The northern portion flows to the Rock Creek Interceptor which has sufficient capacity. The south portion flows to the Onion Flat Trunk line, and capacity concerns are being addressed through other projects. Preliminary sizing for the sanitary sewer indicates 12" and 15" pipes. It is our understanding based upon discussions with the City, that the alignment for the sanitary sewer collection system on Ice Age Drive should be confined to the street right-of-way. Therefore, alternative horizontal sanitary sewer alignments will be dictated by the street alignment options.

The water service area is all encompassed within the 380 pressure zone. It is also noted that there is sufficient storage for the anticipated demands. Therefore, the water system layout becomes more straight forward. Preliminary sizing for the water line indicates 12" up to 16" pipes. The alternative water alignments will be dictated by the street alignment options, and the water line will be in the right-of-way.

## **PROJECT UNDERSTANDING**

The primary purpose of this professional & related services contract is prepare 30% concept layout plans for the Ice Age Drive roadway, stormwater and utilities to serve the TEA.

Plans-In-Hand, Final PS&E, Permitting, Construction administrative duties, including: construction engineering, construction management, observations, and inspections will be deferred to a separate contract.

### **Project Limits:**

Ice Age Drive: Oregon Street to Willamette Water Supply Treatment Plant (WWSTP) public improvements

### **Lane Configuration/Geometruely:**

Collector Road; median and on-street parking to be determined.

### **Water Quality/Quantity:**

Stormwater will be treated per CWS standards for quality and detention

### **Lighting:**

Dark Sky Friendly LED lighting will be included; light type to be determined. A photometric analysis will be required.

### **Franchise Utilities:**

Franchise utilities will be designed in public utility easements outside the sidewalk; including Sherwood Broadband. Permitting and ROW will be coordinated with PGE and BPA to cross under the transmission lines. Kinder Morgan Gas will also require coordination to locate and safely cross the high pressure gas line.

### **Sanitary/Water:**

A feasibility study for the extension of sewer will be conducted with a focus on the areas that can be served from the road alignment. Water will be included in the concept design.

### **Natural Resources:**

Wetlands and sensitive areas will be mapped based on aerial imagery and existing knowledge of the site. Detailed delineations will be required for final design and permitting but are not included in this 30% design scope.

**Hazardous Materials:**

No Hazardous Materials are anticipated within the project footprint.

**Walls:**

No walls are anticipated.

**Landscaping:**

Street trees and planter strips will be incorporated into the design. Bark mulch or grass seed will be shown. Minimalist, native, drought tolerant landscape design will be incorporated into the water quality facilities. No irrigation systems will be required.

**Public Involvement/Outreach:**

Public Involvement will be a combination of Public Open Houses and special interest group presentations. We assume a City Council presentation at a regular meeting or work session is anticipated plus up to two additional, similar meetings for council/boards/commissions.

**Right-of-Way (ROW):**

No ROW Acquisition is anticipated with this phase of the project.

**SPECIFIC SCOPE OF SERVICES**

**Summary of Work**

Survey, engineering design, traffic engineering, geotechnical engineering, public involvement/outreach, landscape design services, and ROW estimating services up through 30% design for this project based on the scope of services described herein.

- Task 1.0 Contract Administration
- Task 2.0 Traffic Analysis
- Task 3.0 Geotechnical & Pavement
- Task 4.0 Surveying & Mapping
- Task 5.0 Drainage & Water Quality Studies
- Task 6.0 Sanitary Sewer Design
- Task 7.0 Water Concept Plan
- Task 8.0 Utility Coordination
- Task 9.0 Environmental
- Task 10.0 Public Involvement/Outreach
- Task 11.0 Preliminary Design (30%)
- Task 12.0 ROW Estimate & Permit Support

The duration of this project is assumed to be from April 2022 through December 2022 for the completion of 30% design.

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## Consultant RESPONSIBILITIES

### Task 1.0 Project Management & Coordination

#### 1.1 Contract Administration

Consultant will:

- Prepare and maintain a contract and task decision log documenting all proposed changes to the projects (i.e. change orders and notices to proceed) as well as the proposed schedules and deliverables.
- Complete Subconsultant management tasks as defined in the attached Subconsultant scope of services.
- Prepare monthly invoices and progress reports. Consultant assumes a 9-month timeframe for the project to be designed to 30% level.
- Create a project specific quality management plan. Quality control activities will be completed for each deliverable.

#### 1.2 Project Coordination, Communication & Team Meetings

The proposed approach to project coordination during design is to hold project meetings with key project team members and representatives from the City (Project Management Team "PMT"). The Consultant Project Manager will facilitate all meetings and provide direction to the rest of the team as the project progresses. These meetings will have a specific agenda with a predefined objective and outcome to address and resolve project issues as they are encountered. Agendas will be distributed a minimum of 3-days in advance of the meeting. 3-4 consultant staff will be present at each meeting (PM, Lead Engineer, and rotating discipline staff)

- It is assumed that monthly virtual PMT coordination meetings (1 hours each) will be held during the design phase of the project (9-month time frame). Meetings to be held via Teams.
- Weekly telephone conference calls with the Project Team (1 hour each)

#### 1.3 Project Scheduling

Consultant will prepare a project schedule at the on-set of design. Quarterly updates will be provided with a bi-weekly look-ahead updates.

#### Task 1.0 Deliverables:

- *Contract/Task Decision Log*
- *Monthly Progress Reports*
- *Quality Management Plan*
- *Monthly Invoices*
- *Quarterly Project Schedule Updates and Bi-Weekly Look-Ahead Updates*
- *Meeting Agendas*

### Task 2.0 Traffic Analysis

## **2.1 Data Collection/Processing**

Consultant shall:

- Review TSP assumptions to create anticipated traffic and truck percentages to support of the Pavement Design. The counts shall be compared to those collected for the TSP for possible factoring.
- Conduct vehicle turning movement counts on SW Oregon Street and SW 124<sup>th</sup> Avenue to support signal warrant analyses and intersection operations analyses at the new intersections and to inform intersection lane configurations of Ice Age Drive.

## **2.2 Traffic Memo**

Consultant shall:

- Prepare a summary technical memorandum describing the key findings from tasks 2.1

### **Task 2 Deliverables:**

- *Summary Technical Memorandum of traffic data (.pdf)*

## **Task 3.0 Geotechnical & Pavement**

The key geotechnical issues for the project is pavement design and location/depth of bedrock.

### **3.1 Field Explorations & Lab Analysis**

The geotechnical and pavement investigation will be performed to provide recommendations for construction within the project limits. The pavement project elements are limited to pavement preservation and pavement widening with the following scope:

- Complete two mud rotary borings in new pavement and infiltration locations within the existing Dahlke Lane and BPA Right of ways and one boring near the future SW Oregon Street/ SW Ice Age intersection.
  - Complete borings up to 15 feet below ground surface.
  - Complete up to 5 feet of rock coring in each boring.
  - Obtain soil samples at 2.5- and 5-foot intervals. Up to two (2) locations are estimated.
  - Complete shallow infiltration testing (up to 5.0 feet below ground surface) in up to two of the explorations.
- Obtain one-call utility locates for explorations and obtain permits through the City, Washington County, and BPA.
- Conduct the following laboratory tests using soil samples obtained from the explorations:
  - Up to six moisture content tests in general conformance with American Society for Testing and Materials (ASTM) D 2216
  - Up to two atterberg limit tests in general conformance with ASTM D 4318
  - Up to two tests for soil gradation in general conformance to ASTM D422 for use in infiltration calculations.



- Up to two tests for unconfined compression strength from rock core samples.
- Up to two soil resistivity tests in general conformance to ASTM G187-18.

**Assumptions:**

- Environmental permitting will not be required for the field work related to geotechnical investigations.
- The drill cuttings are not contaminated and may be disposed of off-site by our drilling subcontractor; the City will be notified of the final disposal site. If the drill cuttings appear to be contaminated, the City will be informed immediately, and Consultant will take necessary action upon authorization.
- Flagging and traffic control for drilling will not be required
- Permit fees will be provided by the City.

**3.2 Geotechnical & Pavement Design**

The Geotechnical & Pavement design report will provide recommendations to include the following:

- Provide the results of the infiltration testing.
- A summary review nearby geotechnical and geological reports provided by the City.
- Estimate the traffic loading by reviewing traffic counts from nearby projects and traffic analysis to be completed by the design team.
- Evaluate pavement options based on subgrade conditions, soil borings, laboratory results, and traffic calculations.
- Provide preliminary pavement recommendations for roadway construction
- Provide recommendations for geotechnical construction materials.
- Provide construction recommendations for site preparation, utility installation, structural fill compaction criteria, and wet/dry weather earthwork procedures based on our explorations, the review of the nearby geotechnical information, and our assumptions.

**Task 3 Deliverables**

- *Draft Infiltration Results memo (.pdf)*
- *Draft & Final Pavement Report (.pdf)*

**Task 4.0 Surveying & Mapping**

**4.1 Topographic Survey**

The project's survey limits will include:

- A 200' swath along the following property lines:
  - North line of lot 2S128C00600 (proposed Sherwood Commerce Center)
  - South side of PGE Easement through lot 2S128D00602
  - North line of lot 2S128D00800
  - South and east line of lot 2S128D00700

- A 200' wide swath following Hedges Creek from its headwaters at Dahlke Lane to T-S Corporate Park development.
- Existing Oregon Street ROW 500' north and south of the proposed Ice Age Drive intersection
  - 25' outside existing ROW, up to building fronts, including fenced back yards.
  - 200' radius from the center of the intersection (including the Allied Machinery parking lot)

Consultant will complete a topographic survey in English units for the project area. Survey will be conducted via a combination of aerial methods and ground survey and will include orthorectified photos and LiDAR data collection. Ground survey will include utility locate paint and obscured areas to locate features listed below, but not visible in the aerial survey.

- Establish a survey control network on the current realization of the Oregon Coordinate Reference System (OCRS), Portland Zone horizontal datum and the Washington County Vertical Datum. Vertical datum shall be based on a closed differential level loop utilizing nearby Washington County benchmarks. Level loop shall include all primary survey control points. A conversion of the vertical datum to NAVD88 is to be provided.
- Features to be shown include trees 6" (six-inches) or more in diameter-at-breast-height (dbh), utilities, utility poles, overhead wires, fences, area lights, culverts, driveways (including width and length), walks, crown line of streets, edge of pavement, ditches, traffic and other permanent signs, and structures as accessible.
- Underground features such as utility line sizes, rim elevations, invert elevations, fuel tanks, wells, septic tanks, and drain fields will be shown as indicated by surface features and other information including as-built drawings and utility company data.
- Kinder Morgan gas line locates will be collected as marked by the utility company.
- Existing striping will be mapped by aerial methods within the project area.
- An orthorectified aerial image will be included with the survey.

The field topographic data will be incorporated into an 1" = 40', English units topographic survey base map and digital terrain model utilizing AutoCAD Civil 3D. Contour interval shall be 1 foot.

Photography and LiDAR specifications shall include full feature data collection and achieve an accuracy of not more than 0.33 feet vertically, 0.50 feet horizontally and with an orthopixel resolution of not more than 0.25 feet. LiDAR density shall achieve 10ppsm.

Consultant shall prepare a Survey Notification letter to be sent to all owners and residents in and around the project limits. City to provide mailing addresses.

#### **4.2 Horizontal Control, Monument Recovery, and Pre-Construction Record-of-Survey**

Consultant will:

- Retrace all existing rights-of-way within the project corridor. Consultant shall research relevant roadway survey records on file with Washington County, to reestablish existing centerlines of each right-of-way.
- Research deeds and Record Surveys, including but not limited to all property surveys, county road surveys, original county road resolutions, section corner surveys, and Donation Land Claim

(DLC) surveys to establish private property boundaries crossing or intersecting the proposed right-of-way within the project area.

- Research PGE and BPA right-of-way records and retrace the respective right-of-ways passing through the project area.
- Obtain Title Reports or Public Records Reports, or utilize those obtained by other consultants in Task 11, for each of the affected private properties and map and document all easements disclosed on said reports.
- Keep all copies of the research data collected, including but not limited to surveys, deeds, assessors' maps, county road maps, government corner surveys, and horizontal and vertical control data sheets Consultant's Project file. Consultant shall provide all project-related data and records to the City at the end of the project.
- Survey found property corners, property line fences and the existing edges of pavement to establish existing road centerlines and rights-of-way. Consultant shall tie at least one (1) Public Land Survey System (PLSS) corner as necessary to show a relationship to the road centerlines. Consultant shall provide at least one (1) PLSS corner tie for ROW descriptions and the filing of a Record Survey.
- Show adjacent property lines, easements and existing rights-of-way on the Project Base Map using Consultant's ROW retracement. Consultant shall prepare and file a Pre-Construction Record of Survey, which meets the requirements of ORS 209.155 and conforms to all applicable County standards, with the County Surveyor's office. Scale for survey map will be 1"=40', or as approved.

#### **Task 4 Deliverables**

- *Survey Notification Letters (.pdf)*
- *Topographic Base Map (.dwg (C3D v.2020)*
- *Draft Pre-Construction Record of Survey (.pdf)*
- *Filed Pre-Construction Record of Survey with County indexing number (hardcopy submittal to County for Filing)*
- *Copies of survey records, deeds, Trios, Title Reports and any other public records obtained as part of the Records Research*

#### **Task 5.0 Drainage & Water Quality Studies**

##### **5.1 Existing Stormwater System Review and Downstream Analysis**

Consultant shall:

- Review current City of Sherwood Stormwater Master Plan, including review of the drainage basins and available capacity in the downstream systems. Cross reference the City's stormwater master plan with CWS hydromodification map.
- Review any relevant drainage studies and plans in the vicinity of project.

##### **5.2 Stormwater Management Concept Plan**

Consultant shall:

- Prepare up to three concept management plans that include options for stormwater collection, treatment, and conveyance for Ice Age Drive improvements
- Develop conceptual cost estimate.

### **5.3 Preliminary Stormwater Report**

Consultant shall prepare a preliminary stormwater report that shall be submitted with 30% plans. The purpose of this report is to develop the overall recommendations of the basic storm water conveyance system layout, pipe/culvert outfall locations, treatment, and storage concepts. These recommendations do not contain full facility designs. It is a tool to assist in the selection of the types and locations of the facilities to be designed. Consultant shall prepare the Preliminary Stormwater Report following the outline below:

- **Introduction and Title** – This section shall list Project name, road name, beginning and ending mile points, and date of the report. The introduction will include the names of the engineering staff who prepared the recommendations, the purpose of the report, a brief description of the Project, and a summary of treatment/storage concepts and recommendations on their use.
- **Existing and Proposed Conditions Narrative** – The introduction will be followed by a narrative that describes the proposed changes to the existing conditions. The pollutant removal and storage targets will also be included in the narrative.
- **Proposed Mitigation Alternatives** – This section will include a brief generic discussion of proposed mitigation alternatives. The topics addressed will include location, removal efficiency, storage capacity, constructability, maintenance, and cost. BMP and storage alternatives from respectively will be evaluated and listed.
- **Other Issues** – This section shall discuss mitigation issues that are not addressed in the previous section on alternatives.
- **Recommendations** – This section shall discuss preliminary recommendations about the proposed alternatives. Aspects that shall be addressed include dependability, ease of construction, ease of maintenance, cost, and appearance.

### **Task 5 Deliverables**

- *Basin Hydraulic Analysis Memo (.pdf)*
- *Concept Treatment sketches & estimates (3) (.pdf)*
- *Draft & Final Preliminary Stormwater Report (.pdf)*

## **Task 6.0 Sanitary Sewer Design**

### **6.1 Existing Sanitary System Review**

Consultant shall:

- Review current City of Sherwood Sanitary Sewer Master Plan, including review of the collection basins, review as-builts and projected upgrade design plans, and available capacity in the downstream systems.
- Review the geotechnical report and the topographic survey.
- Review the local zoning and requirements.

## **6.2 Sanitary Sewer Concept Plan**

Consultant shall:

- For each roadway alignment (assume three) prepare a concept sewer plan that includes location, size, depth, material and area within the TEA that can be served.
- Develop conceptual cost estimate.

### **Task 6 Deliverables**

- *Sanitary evaluation and Concept alignment & estimates (3) (.pdf)*

## **Task 7.0 Water System Coordination**

### **7.1 Existing Water System Review**

Consultant shall:

- Review current City of Sherwood Water Master Plan, including review of the pressure zones, review as-builts and projected upgrade design plans.
- Review the geotechnical report and the topographic survey.
- Review the local zoning and requirements.

### **7.2 Water Concept Plan**

Consultant shall:

- For each roadway alignment (assume three) prepare a concept water plan that includes location, looping, size, material, air relief, valving, future connections, pressure to provide service to the TEA.
- Prepare a corrosion control evaluation.
- Develop conceptual cost estimate.

### **Task 7 Deliverables**

- *Water system evaluation and Concept alignment & estimates (3) (.pdf)*

## **Task 8.0 Utility Coordination**

### **8.1 Utility Coordination**

Consultant will initiate coordination with utilities and incorporate utility provided extension plans into the design documents. The locations and elevations of existing utilities and options for resolving conflicts will be investigated, including the Kinder Morgan gas line. It is expected that potholing will be provided by the Kinder Morgan concurrently with the topographic survey.

### **Task 8 Deliverables**

- *Utility Coordination Meeting Notes (.pdf)*

## **Task 9.0 Environmental & Cultural**

### **9.1 Wetland Programmatic Memo**

Consultant shall review available data and conduct a site visit to confirm Local Wetland Inventory Maps. After review, Consultant shall prepare a programmatic memo describing the results of the on-site assessment, plus describing the process and timing for obtaining any needed state, federal, and local permits, and approvals. Wetlands will be mapped from aerial photography, to be confirmed and permitted during future design phases.

### **9.2 Cultural Programmatic Memo**

Consultant shall conduct comprehensive cultural resources background research and literature review for the project area. This shall be accomplished by consulting the Oregon Archaeological Records Remote Access (OARRA) web portal, maintained by the Oregon SHPO, as well as historic maps including, but not limited to: General Land Office (GLO) maps, Metsker Atlases, USGS topographic maps, and Sanborn Fire Insurance Maps, if applicable, as well as ethnographic accounts, environmental survey data, aerial photographs and other available resources. The background research shall include a historic property inventory to locate any historic resources that are 45 years of age or older within, or immediately adjacent to, the APE.

Consultant shall carry out a site visit to confirm the results of the background research and visually identify any previously undocumented historic properties. Prepare programmatic memo for project file summarizing findings. Previously identified cultural resources, including archaeological sites and historic properties will be mapped in relation to the project area, to inform future design phases.

### **Task 9 Deliverables**

- *Wetland & Sensitive Area Programmatic Memo (.pdf)*
- *Approximate Wetland delineation and sensitive area mapping*
- *Cultural Programmatic memo (.pdf)*
- *Approximate Cultural Resources Mapping*

## **Task 10.0 Public Involvement/Outreach**

Public involvement will be carried out in parallel with other alternative development activities. This task includes the work necessary to conduct a variety of public involvement activities. It is assumed the program will consist of open houses, community events, and presentations to City Council.

### **10.1 Open Houses**

Consultant will develop an online open house including:

- Develop a webpage designed to lead the viewer through the project with the ability to jump ahead or navigate back to the start. The webpage shall be designed to allow the user to scroll from top to bottom versus using button links to other pages as this helps lead the viewer

through the project versus wandering from page to page. The virtual open house page will contain the following features:

- Title Screen – The webpage will contain a title screen containing project branding, title, and any contact information.
- Background – This page will contain text and/or graphics to provide project background.
- Project Design – Page containing design graphics and visual simulations.
- Public Feedback – Viewers will be able to view the different improvement features and provide feedback by clicking on the map and entering comments and other details in a form.
- Feedback Trends – Create a live infographic page providing summary details from public comments. This page will show the different trends based on the comments made in the map.
- Contacts – This page will contain contact information if viewers had additional questions.
- The Online Virtual Open House service will be created on and maintained using Kittelson’s web services.
- Prepare invitations for City to distribute.

## **10.2 Community Events**

Consultant will provide staff (2-staff) attendance at community events. Participation will be limited to the budget included with this task and assumes all displays will have been created under a different task, such as re-using displays and/or exhibits created for an Open House or City Council meeting. Events include, but are not limited to: Farmers Market, and other seasonal events near City Hall/Library/Old Town.

## **10.3 Outreach & Presentations**

Consultant will prepare for and attend up to four (4) special interest/private citizen meetings and two (2) City Council/Board/Commission meetings to present the current design of the project.

Consultant will develop an online open house including:

- Develop a webpage designed to lead the viewer through the project with the ability to jump ahead or navigate back to the start. The webpage shall be designed to allow the user to scroll from top to bottom versus using button links to other pages as this helps lead the viewer through the project versus wandering from page to page. The virtual open house page will contain the following features:
  - ♣ Title Screen – The webpage will contain a title screen containing project branding, title, and any contact information.
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  - ♣ Contacts – This page will contain contact information if viewers had additional questions.
- The Online Virtual Open House service will be created on and maintained using Kittelson’s web services.

## **10.4 3D Visualization**

Consultant proposes to create a variety of project design visualizations used for communicating the design to the public. The following scope outlines the different visualization products we expect to create to develop a comprehensive project visualization.

### 10.4.1 3D Modeling and Textures

3D modeling is the foundation for a variety of visualization products. For this project, we will create an existing conditions 3D model and 3 alternative models using a design CAD model. The 3D model will include detailed information along the corridor and up to the neighboring buildings/structures. All 3D modeling beyond the neighboring buildings will be generic shapes used to fill in the background. The 3D model will include the following:

1. Terrain
2. Roadway Surface, Medians, Curb, Gutter, and Sidewalk
3. Neighboring Buildings (buildings will be semi-detailed shapes to represent the building type)
4. Background buildings and terrain (generic shapes)
5. Vegetation/Landscape (realistic trees, bushes, and plants along corridor)
6. Background Trees (generic shapes)
7. Road Signs
8. Streetlights
9. Pedestrians, Bicyclists, and Autos

All 3D features will have detailed textures except for buildings and structures. The buildings and structures will be a gray color to ensure the project focus will be the different project improvements.

### 10.4.2 Photo Simulation and Animation

The finished 3D model will be used to create a variety of “Before and After” photo simulations at key locations along the corridor. Kittelson will utilize oblique images from a drone to illustrate existing conditions and overlay of the different alternatives. We expect to produce up to 3 separate photo



simulation locations for each scenario. The locations will be consistent for each scenario to easily compare the different alternatives.

Animation will be used to demonstrate the project design and activity along the corridor. We will create a 2 to 3 minute video showing automobiles, pedestrians, and bicyclists in motion and properly interacting along the corridor or at intersections. The camera view will start overhead showing the project extents and fly towards one of the intersections and begin a low flight over the corridor to the ending intersection. Depending on the agreed story and message for the video, the camera may slow or pause at locations to demonstrate key improvements, safety, and other alternative benefits.

#### 10.4.3 Video Production

Consultant will develop a final video for public consumption containing the animation, drone footage, information graphics, and narration. The video will be saved in a common video format that supports web technology.

#### **Task 10.0 Deliverables:**

- *Mailers for City to print/distribute*
- *Hosted website for an Online Virtual Open House*
- *Project Graphics (Strip Map, typical section board, 3D visualizations, timeline)*
- *Small Group Outreach Meeting (up to 16 meetings, 1-hour in duration)*
- *Public Involvement Summary (1)*

#### **Task 11.0 Preliminary Design (30%)**

##### **11.1 Roadway Design Charrette**

The intent of the design charrette is to provide an overview of the national trends and how agencies are integrating performance-based design into their project development process. This session will explore various options for cross section and intersection treatments, consider trade-offs about the performance of the interaction of safety, operations, and design, as well as identify opportunities to meet the overall project needs.

Consultant will:

- Prepare for and attend a design charrette with the City.
- Meet with City Engineering and public works staff for a 2-hour workshop to determine which cross-section alternatives will be preferred by the City
- Prepare tool-box of available concepts for consideration as well as discuss suggested cross-section evaluation criteria.

##### **11.2 Alignment and Grade Alternatives**

This task will build on the outcome of the design charrette and develop alternatives to be evaluated based on the evaluation criteria to meet the overall project needs, as well as to reach agreement on the preferred alternative.

Consultant will:

- Provide the roadway elements associated with up to three (3) alignment and cross section alternatives developed for the project corridor. The activity includes but is not limited to shifting the roadway alignment east or west, or modifications of the typical section to avoid significant trees, properties, or utilities.
- Provide an evaluation matrix of the alternatives to compare impacts and benefits of the alternatives. Evaluation criteria will be determined by the City.
- Collaborate with City staff to determine the preferred alternative.

### **11.3 Photometric Analysis (30% submittal)**

Consultant will prepare conceptual lighting memorandum detailing types of lights and approximate locations for approval by City. A photometric analysis will be provided once light types are approved. Conduct up to two (2) photometric analyses of LED fixtures to determine a conceptual-level street light pole layout.

### **11.4 Landscape Concept Memo (30% submittal)**

Consultant will prepare a conceptual memorandum describing the landscape treatments of the proposed landscape planting plan for the roadway corridor and water quality facility. This is intended to summarize the conversations during the design charrettes.

### **11.5 Stormwater Conveyance Concept Alignment and Grade (30% submittal)**

Based on the storm drainage report and design charrette, the Consultant will develop conceptual drainage layout and profile grades. This will validate outfall options and storm drainage system depth. This will also provide locations of potential utility conflicts and potholing needs. Consultant will design storm design system and design of the stormwater quality and quantity facility to the City standards and for the new impervious area being constructed. Consultant will incorporate Clean Water Services guidelines and new criteria in sizing stormwater facility.

### **11.6 Composite Utility Map**

Consultant will consolidate Franchise Utility plans, waterline, storm line, and sanitary lines into a Composite Utility Map showing the locations of conduits, vaults, and street crossings.

### **11.7 Construction Estimate**

Consultant will provide quantities and 30% design construction cost estimates with each alternative.

#### **Task 11.0 Deliverables:**

- *Design Charrette meeting minutes*
- *Conceptual Strip Maps*
- *Alternatives Analysis Documentation*
- *30% Strip Map of Preferred Alternative (one electronic copy in PDF form and one paper copies)*
- *Alternatives & Analysis (one electronic copy and 3 bound copies)*
- *Photometric Plan*
- *Landscape Design concept memo*

- *Conceptual Stormwater Conveyance Layout*
- *Composite Utility map*
- *Cost Estimate*

## **Task 12.0 Permit & ROW Identification/Coordination**

### **12.1 Right-of-Way Research**

Consultant will complete right-of-way research (preliminary title reports) as needed to locate and identify existing easements and property ownership.

### **12.2 Right-of-Way Map**

Consultant will develop right-of-way map showing existing and proposed Right-of-Way line and permanent and temporary easement lines for all ROW files.

- Scale for the right-of-way map, shall be in English units, the scale is to be an appropriate Engineering scale such as 1"=20', 1"=40', 1"=60', 1"=100'.
- For each parcel, show map and tax lot number, site address number and file number.
  - Major improvements within 50 feet of the outer most area of acquisition will be shown. If no acquisition is being acquired for a particular parcel, then show major improvements 50 feet from the existing right-of-way line. (Examples of major improvements to be shown on the right-of-way map are: houses, outbuildings, driveways, fences and other miscellaneous features needed for design.)

### **12.3 Right-of-Way Estimate**

Consultant will develop a cost estimate for the acquisition of the necessary Right of Way to construct the proposed improvements.

### **12.4 PGE/BPA Coordination**

Consultant will coordinate with BPA, PGE, and Kinder Morgan to determine permits and/or acquisition requirements for Ice Age Drive to cross through existing easements and right of way.

### **Task 12.0 Deliverables:**

- *Preliminary Title Reports (7)*
- *Right of Way Map (.pdf strip map)*
- *BPA/PGE crossing memo*
- *ROW Cost Estimate*

### **Reimbursable Expenses:**

The reimbursable budget estimate is based on our experience with this project type and the governing agencies. It is an estimate only. Additional budget may be necessary to complete the project.

Customary reimbursable expenses mean the actual expense incurred in direct connection with the project. Vehicle mileage is reimbursed at the current IRS rate for project related travel.

The following project related expenses are reimbursed at cost:

- ♣ External Reproduction Services
- ♣ Travel Expenses, other than private vehicle mileage
- ♣ Express Postage
- ♣ Other Direct Expenses (survey filing fees; project specific supplies, etc.)

## **ASSUMPTIONS**

The Consultant has made the following additional assumptions related to this project.

1. All permits and application fees will be paid by Sherwood, or as a reimbursable expense at cost.
2. Major access management improvements (i.e. parking lot recirculation plans, frontage road designs, etc.) are not included at this time.

## **CITY'S RESPONSIBILITIES**

The City will:

1. Coordinate the relationship with other jurisdictions involved in the project, with adjacent property owners and with the general public.
2. Provide City standard drawings and details when possible.
3. Provide as-built CAD files of recent construction projects
4. Assist in utilities coordination and facilitate the timely receipt of utility data from the private utility companies.
5. Maintain the public involvement mailing list, obtain public meeting facilities, refreshments, and project press releases.

**Ice Age Drive**  
**City of Sherwood**  
**PROFESSIONAL SERVICES - HOURLY BREAKDOWN**  
**February 25, 2022**  
**Kittelson & Associates**  
Fee Summary



EXHIBIT B

Task	Hourly Rates										KAI Totals	TetraTech See attached breakdown	DEA See attached breakdown	NV5 See attached breakdown	Harris Environmental Group See attached breakdown	Pacific Habitat Services See attached breakdown	Norton Corrosion See attached breakdown	Universal Field Services See attached breakdown	Total
	Principal Darien	Project Manager Taryn	Lead Senior Engineer Claire	SL1 - Designer Megan	SL3 - Drainage Principal Cedo	SL2 - Drainage Engineer Daniel	Associate Technician Helen	Tech II Brad	Tech I Kazden	TOTALS									
<b>Task 1.0 Project Management, Project Coordination, and Project Scheduling</b>																			
1.1 Contract Administration	2.00	18.00	8.00							\$6,660.00								\$6,660.00	
1.2 Project Coordination, Communication & Team Meetings	4.00	14.00	24.00	16.00	4.00	4.00				\$14,150.00	\$11,616.00	\$702.00	\$3,760.00	\$435.12	\$1,050.00	\$624.00	\$406.00	\$32,945.12	
1.3 Project Scheduling	2.00	8.00	4.00							\$3,330.00								\$3,330.00	
<b>Total Hours</b>	8.00	40.00	36.00	16.00	4.00	4.00	0.00	0.00	8.00	116.00	64.00	4.50	16.00	6.00	6.00	8.00	4.00		
<b>Labor Cost</b>	\$3,040.00	\$10,200.00	\$7,020.00	\$2,320.00	\$1,020.00	\$660.00	\$0.00	\$0.00	\$660.00	\$24,140.00	\$11,616.00	\$702.00	\$3,760.00	\$435.12	\$1,050.00	\$624.00	\$406.00	\$42,935.12	
<b>Total Cost This Task</b>	\$2,040.00	\$10,200.00	\$7,020.00	\$2,320.00	\$1,020.00	\$660.00	\$0.00	\$0.00	\$660.00	\$24,140.00	\$11,616.00	\$702.00	\$3,760.00	\$435.12	\$1,050.00	\$624.00	\$406.00	\$42,935.12	
<b>Task 2.0 Traffic Analysis</b>																			
2.1 Data Collection/Processing			2.00	6.00						\$1,260.00								\$1,260.00	
2.2 Traffic Memo	2.00	8.00	24.00	48.00						\$14,190.00								\$14,190.00	
<b>Total Hours</b>	2.00	8.00	26.00	54.00	0.00	0.00	0.00	0.00	0.00	60.00								60.00	
<b>Labor Cost</b>	\$510.00	\$3,040.00	\$5,070.00	\$7,330.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,450.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,450.00	
<b>Total Cost This Task</b>	\$510.00	\$3,040.00	\$5,070.00	\$7,330.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,450.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,450.00	
<b>Task 3.0 Geotechnical &amp; Pavement</b>																			
3.1 Field Explorations & Lab Testing		1.00	2.00							\$645.00				\$4,473.00				\$5,118.00	
3.2 Geotechnical & Pavement Design		1.00	3.00	4.00						\$1,420.00				\$6,601.00				\$8,021.00	
<b>Total Hours</b>	0.00	2.00	5.00	4.00	0.00	0.00	0.00	0.00	0.00	11.00				78.00				89.00	
<b>Labor Cost</b>	\$0.00	\$510.00	\$975.00	\$560.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,045.00	\$0.00	\$0.00	\$11,324.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13,369.00	
<b>Total Cost This Task</b>	\$0.00	\$510.00	\$975.00	\$560.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,045.00	\$0.00	\$0.00	\$11,324.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13,369.00	
<b>Task 4.0 Surveying &amp; Mapping</b>																			
4.1 Topographic Survey		1.00	4.00	2.00					4.00	\$1,865.00			\$39,264.00					\$41,129.00	
4.2 Horizontal Control, Monument Recovery, and Preconstruction ROIS		1.00	4.00							\$1,035.00			\$54,948.00					\$55,983.00	
<b>Total Hours</b>	0.00	2.00	8.00	2.00	0.00	0.00	0.00	4.00	0.00	16.00			785.00					781.00	
<b>Labor Cost</b>	\$0.00	\$510.00	\$1,560.00	\$290.00	\$0.00	\$0.00	\$0.00	\$540.00	\$0.00	\$2,900.00	\$0.00	\$0.00	\$94,212.00	\$0.00	\$0.00	\$0.00	\$0.00	\$97,112.00	
<b>Total Cost This Task</b>	\$0.00	\$510.00	\$1,560.00	\$290.00	\$0.00	\$0.00	\$0.00	\$540.00	\$0.00	\$2,900.00	\$0.00	\$0.00	\$94,212.00	\$0.00	\$0.00	\$0.00	\$0.00	\$97,112.00	
<b>Task 5.0 Drainage &amp; Water Quality Studies</b>																			
5.1 Existing System Review			2.00	4.00	2.00	20.00				\$4,780.00								\$4,780.00	
5.2 Stormwater Management Concept		2.00	6.00	6.00	4.00	36.00				\$9,510.00								\$9,510.00	
5.3 Preliminary Stormwater Report		1.00	2.00		4.00	16.00				\$4,306.00								\$4,306.00	
<b>Total Hours</b>	0.00	3.00	10.00	10.00	10.00	72.00	0.00	0.00	0.00	105.00								105.00	
<b>Labor Cost</b>	\$0.00	\$765.00	\$1,850.00	\$1,450.00	\$2,580.00	\$11,580.00	\$0.00	\$0.00	\$0.00	\$18,595.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18,595.00	
<b>Total Cost This Task</b>	\$0.00	\$765.00	\$1,850.00	\$1,450.00	\$2,580.00	\$11,580.00	\$0.00	\$0.00	\$0.00	\$18,595.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18,595.00	
<b>Task 6.0 Sanitary Sewer Design</b>																			
6.1 Existing Sanitary System Review										\$0.00	\$2,433.00							\$2,433.00	
6.2 Sanitary Sewer Concept Plan		2.00	4.00	4.00						\$1,870.00	\$15,450.00		\$1,456.00					\$18,776.00	
<b>Total Hours</b>	0.00	2.00	4.00	4.00	0.00	0.00	0.00	0.00	0.00	10.00	121.00		7.00					138.00	
<b>Labor Cost</b>	\$0.00	\$510.00	\$780.00	\$580.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,870.00	\$17,883.00	\$0.00	\$1,456.00	\$0.00	\$0.00	\$0.00	\$0.00	\$21,209.00	
<b>Total Cost This Task</b>	\$0.00	\$510.00	\$780.00	\$580.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,870.00	\$17,883.00	\$0.00	\$1,456.00	\$0.00	\$0.00	\$0.00	\$0.00	\$21,209.00	
<b>Task 7.0 Water System Design</b>																			
7.1 Existing Water System Review										\$0.00	\$1,833.00							\$1,833.00	
7.2 Water Concept Plan		2.00	4.00	4.00						\$1,870.00	\$6,658.00					\$4,944.00		\$15,472.00	
<b>Total Hours</b>	0.00	2.00	4.00	4.00	0.00	0.00	0.00	0.00	0.00	10.00	67.00					30.00		107.00	
<b>Labor Cost</b>	\$0.00	\$510.00	\$780.00	\$580.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,870.00	\$10,491.00	\$0.00	\$0.00	\$0.00	\$0.00	\$4,944.00	\$0.00	\$17,305.00	
<b>Total Cost This Task</b>	\$0.00	\$510.00	\$780.00	\$580.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,870.00	\$10,491.00	\$0.00	\$0.00	\$0.00	\$0.00	\$4,944.00	\$0.00	\$17,305.00	
<b>Task 8.0 Utility Coordination</b>																			
8.1 Utility Coordination		2.00	8.00	4.00					12.00	\$3,970.00								\$3,970.00	
<b>Total Hours</b>	0.00	2.00	8.00	4.00	0.00	0.00	0.00	0.00	12.00	26.00								26.00	
<b>Labor Cost</b>	\$0.00	\$510.00	\$1,560.00	\$580.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,320.00	\$3,970.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,970.00	
<b>Total Cost This Task</b>	\$0.00	\$510.00	\$1,560.00	\$580.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,320.00	\$3,970.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,970.00	
<b>Task 9.0 Environmental &amp; Cultural</b>																			
9.1 Wetland Programmatic Memo		1.00	2.00					2.00		\$915.00						\$9,911.00		\$10,826.00	
9.2 Cultural Programmatic Memo		1.00	1.00							\$450.00				\$2,300.72				\$2,750.72	
<b>Total Hours</b>	0.00	2.00	3.00	0.00	0.00	0.00	0.00	2.00	0.00	7.00				32.00				39.00	
<b>Labor Cost</b>	\$0.00	\$510.00	\$585.00	\$0.00	\$0.00	\$0.00	\$0.00	\$270.00	\$0.00	\$1,365.00	\$0.00	\$0.00	\$0.00	\$2,300.72	\$9,911.00	\$0.00	\$0.00	\$13,576.72	
<b>Total Cost This Task</b>	\$0.00	\$510.00	\$585.00	\$0.00	\$0.00	\$0.00	\$0.00	\$270.00	\$0.00	\$1,365.00	\$0.00	\$0.00	\$0.00	\$2,300.72	\$9,911.00	\$0.00	\$0.00	\$13,576.72	

Task	Principal										K&I Totals	TetraTech See attached breakdown	DEA See attached breakdown	NYS See attached breakdown	Harris Environmental Group See attached breakdown	Pacific Habitat Services See attached breakdown	Morton Corrosion See attached breakdown	Universal Field Services See attached breakdown	Total
	Darren	Project Manager Tony	Lead Senior Engineer Claire	SL1 - Designer Megan	SL1 - Principal Cedo	SL2 - Drainage Engineer Daniel	Associate Technician Helen	Tech II Brad	Tech I Kazem										
<b>Task 10.0 Public Involvement</b>																			
10.1 Open Houses (2)		4.00	8.00	12.00				8.00	\$5,200.00								\$294.00	\$5,494.00	
10.2 Community Events		12.00							\$3,060.00									\$3,060.00	
10.3 Outreach & Presentations		12.00	4.00	8.00					\$5,000.00	\$1,916.00							\$1,520.00	\$4,436.00	
10.4 3D Visualization		2.00	4.00				48.00		\$6,970.00									\$6,970.00	
<b>Total Hours</b>	0.00	30.00	16.00	20.00	0.00	0.00	48.00	8.00	122.50	13.00							20.00	155.00	
<b>Laber Cost</b>	\$0.00	\$7,650.00	\$3,120.00	\$2,900.00	\$0.00	\$0.00	\$7,680.00	\$0.00	\$880.00	\$22,230.00	\$1,916.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,814.00	\$25,960.00	
<b>Total Cost This Task</b>	\$0.00	\$7,650.00	\$3,120.00	\$2,900.00	\$0.00	\$0.00	\$7,680.00	\$0.00	\$880.00	\$22,230.00	\$1,916.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,814.00	\$25,960.00	
<b>Task 11.0 Preliminary Design (30%)</b>																			
11.1 Roadway Design Charrette	2.00	8.00	16.00	18.00				12.00	\$9,100.00									\$9,100.00	
11.2 Alignment & Grade Report		8.00	12.00	24.00				8.00	\$6,430.00									\$6,430.00	
11.3 Photometric Analysis		1.00	2.00	6.00					\$1,515.00									\$1,515.00	
11.4 Landscape Concept Memo		2.00	2.00	6.00					\$1,770.00									\$1,770.00	
11.5 Stormwater Conveyance Concept Alignment & Grade		2.00	4.00	2.00	6.00	24.00			\$7,070.00									\$7,070.00	
11.6 Composite Utility Map		1.00	4.00	12.00					\$2,775.00	\$7,852.00								\$10,627.00	
11.7 Construction Estimate		2.00	8.00	12.00					\$3,420.00	\$3,872.00								\$6,292.00	
<b>Total Hours</b>	2.00	20.00	46.00	78.00	6.00	24.00	0.00	20.00	196.00									196.00	
<b>Laber Cost</b>	\$510.00	\$5,100.00	\$6,970.00	\$11,310.00	\$1,530.00	\$3,960.00	\$0.00	\$2,700.00	\$0.00	\$34,080.00	\$10,724.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44,804.00	
<b>Total Cost This Task</b>	\$510.00	\$5,100.00	\$6,970.00	\$11,310.00	\$1,530.00	\$3,960.00	\$0.00	\$2,700.00	\$0.00	\$34,080.00	\$10,724.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44,804.00	
<b>Task 12.0 Permit &amp; ROW Identification/Coordination</b>																			
12.1 ROW Research									\$0.00								\$960.00	\$960.00	
12.2 Right-of-Way Map		1.00	4.00	4.00					\$1,615.00									\$1,615.00	
12.3 Right-of-Way Estimate		1.00	2.00						\$645.00								\$1,224.00	\$1,869.00	
12.4 PG&E/BPA/Kinder Morgan Gas Coordination		8.00	12.00						\$3,870.00								\$3,336.00	\$7,206.00	
<b>Total Hours</b>	0.00	8.00	18.00	4.00	0.00	0.00	0.00	0.00	30.00									30.00	
<b>Laber Cost</b>	\$0.00	\$2,040.00	\$3,510.00	\$680.00	\$0.00	\$0.00	\$0.00	\$0.00	\$6,120.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,520.00	\$11,650.00	
<b>Total Cost This Task</b>	\$0.00	\$2,040.00	\$3,510.00	\$680.00	\$0.00	\$0.00	\$0.00	\$0.00	\$6,120.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,520.00	\$11,650.00	
<b>PROJECT SUMMARY</b>																			
<b>Total Project Hours</b>	12.0	121.0	164.0	200.0	20.0	100.0	48.0	28.0	739.0	265.0	769.5	101.0	35.0	6.0	33.0	24.0			
<b>Total Salary Cost</b>	\$3,060.00	\$30,855.00	\$35,880.00	\$29,000.00	\$5,100.00	\$16,500.00	\$7,680.00	\$3,510.00	\$3,060.00	\$134,895.00	\$52,230.00	\$94,914.00	\$18,540.00	\$2,735.84	\$10,991.00	\$5,768.00	\$7,742.00	\$325,959.84	
<b>Reimbursables Subtotal</b>										\$2,556.33	\$46.80	\$22,648.00	\$10,231.18	\$1,802.20	\$32.18	\$0.00	\$5,550.00	\$41,646.68	
<b>Total Fee</b>	\$3,060.00	\$30,855.00	\$35,880.00	\$29,000.00	\$5,100.00	\$16,500.00	\$7,680.00	\$3,510.00	\$3,060.00	\$137,223.33	\$52,276.80	\$117,562.00	\$26,771.18	\$3,216.04	\$10,893.18	\$5,768.00	\$13,292.00	\$367,602.52	
<b>PROJECT TOTAL</b>										\$137,223.33								\$367,602.52	



Ice Age Drivew

Reimbursable Estimate

Description	Firm	Basis of Estimate	Total
<b>Task 1 - Project Management</b>			<b>\$ 349.83</b>
PMT Meetings	KAI	13 monthly PMT, 46mi RT	\$ 349.83
<b>Task 2 - Traffic Analysis</b>			<b>\$ 1,900.00</b>
Traffic Counts	KAI	Subcontractor Estimate from Quality Counts	\$ 1,600.00
Regional Metro RTP Model	KAI	Estimated	\$ 300.00
<b>Task 3 - Geotechnical &amp; Pavement</b>			<b>\$ 10,169.00</b>
Utility Locate	NV5	Subcontractor Estimate	\$ 800.00
Traffic Control	NV5	Subcontractor Estimate	\$ 1,000.00
Drilling	NV5	Subcontractor Estimate	\$ 6,000.00
Mileage	NV5	200 miles	\$ 117.00
Water Meter	NV5	Rate Schedule	\$ 52.00
Reimbursables	NV5	Estimated	\$ 300.00
Laboratory Testing	NV5	Rate Schedule	\$ 1,900.00
<b>Task 4 - Surveying &amp; Mapping</b>			<b>\$ 22,648.00</b>
County Survey Filing Fee	DEA	Stated Deposit plus fee	\$ 1,295.00
GeoTerra Photogrammetry	DEA	Subcontractor Estimate plus 10%	\$ 20,278.00
Mileage	DEA	\$0.585/mile (2 trucks)	\$ 875.00
Printing & Delivery	DEA	Estimated	\$ 200.00
<b>Task 5 - Storm Water/Hydraulics Related Services</b>			<b>\$ 58.50</b>
Mileage	KAI	50 miles RT, 2 trips	\$ 58.50
<b>Task 6 - Sanitary Services</b>			<b>\$ 23.40</b>
Mileage	TT	\$0.585/mile	\$ 23.40
<b>Task 7 - Water Services</b>			<b>\$ 23.40</b>
Mileage	TT	\$0.585/mile	\$ 23.40
<b>Task 9 - Environmental Reconnaissance &amp; Permitting</b>			<b>\$ 674.55</b>
Field Investigation	HEG	40mi RT x 3 trips	\$ 70.20
EDR & UofO Photos	HEG	Stated Fee	\$ 510.00
Mileage	NV5	55 Miles	\$ 32.18
Mileage	PHS	56 Miles	\$ 32.18
Reimbursables	NV5	Estimated	\$ 30.00
<b>Task 10 - Public Involvement/Outreach</b>			<b>\$ 250.00</b>
Printing & Delivery	KAI	Estimated Printing	\$ 250.00
<b>Task 11 - Final Design</b>			<b>\$ -</b>
Printing & Delivery	KAI	Estimated	\$ -
<b>Task 12 - Right-of-Way Acquisition</b>			<b>\$ 5,550.00</b>
Preliminary Title Report	UFS	10@\$550	\$ 5,500.00
Printing & Delivery	UFS	Estimated	\$ 50.00
			<b>Total \$ 41,646.68</b>
Mileage Rate	\$	0.585	

**Ice Age Drive**  
**City of Sherwood**  
 PROFESSIONAL SERVICES - HOURLY BREAKDOWN

**TetraTech**  
 February 25, 2022

Task	\$ 276.00 \$ 150.00 \$ 110.00 \$ 280.00 \$ 145.00 \$ 129.00 \$ 7.00 \$ 8.00 \$ 9.00									
	PM	PE Hunter Bennett- Daggett	Designer Lesley Martinez	QC Matt Huxley	Technical Editor Dan Portman	Admin Assistance Becky Connelly	Title7 Name7	Title8 Name8	Title9 Name9	TT TOTALS
<b>Task 1.0 Project Management, Project Coordination, and Project Scheduling</b>										
1.2 Project Coordination, Communication & Team Meetings	16.00	48.00								\$11,616.00
Total Hours	16.00	48.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.00
Labor Cost	\$4,416.00	\$7,200.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$11,616.00
<b>Total Cost This Task</b>										<b>\$11,616.00</b>
<b>Task 6.0 Sanitary Sewer Design</b>										
6.1 Existing Sanitary System Review	4.00	8.00				1.00				\$2,433.00
6.2 Sanitary Sewer Concept Plan	8.00	48.00	48.00	4.00	1.00	1.00				\$15,450.00
Total Hours	10.00	56.00	48.00	4.00	1.00	2.00	0.00	0.00	0.00	121.00
Labor Cost	\$2,760.00	\$8,400.00	\$5,280.00	\$1,040.00	\$145.00	\$258.00	\$0.00	\$0.00	\$0.00	\$17,883.00
<b>Total Cost This Task</b>										<b>\$17,883.00</b>
<b>Task 7.0 Water System Design</b>										
7.1 Existing Water System Review	4.00	4.00				1.00				\$1,833.00
7.2 Water Concept Plan	4.00	24.00	24.00	4.00	1.00	1.00				\$8,658.00
Total Hours	8.00	28.00	24.00	4.00	1.00	2.00	0.00	0.00	0.00	67.00
Labor Cost	\$2,208.00	\$4,200.00	\$2,640.00	\$1,040.00	\$145.00	\$258.00	\$0.00	\$0.00	\$0.00	\$10,491.00
<b>Total Cost This Task</b>										<b>\$10,491.00</b>
<b>Task 10.0 Public Involvement</b>										
10.3 Outreach & Presentations	1.00	8.00	4.00							\$1,916.00
Total Hours	1.00	8.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	13.00
Labor Cost	\$276.00	\$1,200.00	\$440.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,916.00
<b>Total Cost This Task</b>										<b>\$1,916.00</b>
<b>Task 11.0 Preliminary Design (30%)</b>										
11.6 Composite Utility Map	2.00	20.00	32.00	3.00						\$7,852.00
11.7 Construction Estimate	2.00	12.00		2.00						\$2,872.00
Total Hours	4.00	32.00	32.00	5.00	0.00	0.00	0.00	0.00	0.00	73.00
Labor Cost	\$1,104.00	\$4,800.00	\$3,520.00	\$1,300.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$10,724.00
<b>Total Cost This Task</b>										<b>\$10,724.00</b>
<b>PROJECT SUMMARY</b>										
Total Project Hours	39.0	172.0	108.0	13.0	2.0	4.0	0.0	0.0	0.0	338.0
Total Salary Cost	\$10,764.00	\$25,800.00	\$11,880.00	\$3,380.00	\$290.00	\$516.00	\$0.00	\$0.00	\$0.00	\$52,630.00
Reimbursables Subtotal										\$46.80
Total Fee	\$10,764.00	\$25,800.00	\$11,880.00	\$3,380.00	\$290.00	\$516.00	\$0.00	\$0.00	\$0.00	\$52,676.80
<b>PROJECT TOTAL</b>										<b>\$ 52,676.80</b>
										<b>TetraTech Subtotal</b>



**Ice Age Drive  
 City of Sherwood**

**David Evans & Associates**

February 25, 2022

**PROFESSIONAL SERVICES - HOURLY BREAKDOWN**

		\$ 244.00	\$ 158.00	\$ 135.00	\$ 130.00	\$ 114.00	\$ 94.00	\$ 136.00	\$ 104.00	
Task	Survey Supervisor, PLS	Project Surveyor, PLS	Survey Analyst	Office Survey Technician Tim Schweitzer	Party Chief	Field Survey Technician	Project Coordinator	Project Accountant	DEA	
	Pat Gaylord	Derek Fiegel	Tyson Mizell		Shaun Potter	Mike Bosca	Laurie Youngs		TOTALS	
<b>Task 1.0 Project Management, Project Coordination, and Project Scheduling</b>										
1.2	Project Coordination, Communication & Team Meetings									\$702.00
	Total Hours	0.00	4.50	0.00	0.00	0.00	0.00	0.00	0.00	4.50
	Labor Cost	\$0.00	\$702.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$702.00
	<b>Total Cost This Task</b>									<b>\$702.00</b>
<b>Task 4.0 Surveying &amp; Mapping</b>										
4.1	Topographic Survey									\$39,264.00
4.2	Horizontal Control, Monument Recovery, and Preconstruction ROS									\$54,948.00
	Total Hours	32.00	92.00	44.00	140.00	220.00	220.00	12.00	5.00	765.00
	Labor Cost	\$7,808.00	\$14,352.00	\$5,940.00	\$18,200.00	\$25,080.00	\$20,680.00	\$1,632.00	\$520.00	\$94,212.00
	<b>Total Cost This Task</b>									<b>\$94,212.00</b>
<b>PROJECT SUMMARY</b>										
	Total Project Hours	32.0	96.5	44.0	140.0	220.0	220.0	12.0	5.0	769.5
	Total Salary Cost	\$7,808.00	\$15,054.00	\$5,940.00	\$18,200.00	\$25,080.00	\$20,680.00	\$1,632.00	\$520.00	\$94,914.00
	Reimbursables Subtotal									\$22,648.00
	Total Fee	\$7,808.00	\$15,054.00	\$5,940.00	\$18,200.00	\$25,080.00	\$20,680.00	\$1,632.00	\$520.00	\$117,562.00
<b>PROJECT TOTAL</b>										<b>\$ 117,562.00</b>
										<b>DEA Subtotal</b>

**Ice Age Drive  
 City of Sherwood**

**NV5**  
 February 25, 2022

**PROFESSIONAL SERVICES - HOURLY BREAKDOWN**

		\$ 235.00	\$ 235.00	\$ 172.00	\$ 152.00	\$ 140.00	\$ 118.00	\$ 102.00	\$ 95.00	\$ 81.00	
Task	Principal	Principal	Project Manager II	Technical Specialist	Staff I I	Senior CAD Technian	Senior Technical Editor	Project Assistant	Support Staff	NV5	
	Krey Younger	Jeff Tucker	Tyler Pierce	Shashwath Sreedhar	Levi Gose	Mike Miller	Kristen Tebbe	Argela Martin			TOTALS
<b>Task 1.0 Project Management, Project Coordination, and Project Scheduling</b>											
1.2	Project Coordination, Communication & Team Meetings										\$3,760.00
	Total Hcurs	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.00
	Labor Cost	\$3,760.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,760.00
<b>Total Cost This Task</b>											<b>\$3,760.00</b>
<b>Task 3.0 Geotechnical &amp; Pavement</b>											
3.1	Field Explorations & Lab Testing										\$4,423.00
3.2	Geotechnical & Pavement Design										\$6,901.00
	Total Hours	8.00	3.00	8.00	15.00	16.00	4.00	3.00	2.00	3.00	78.00
	Labor Cost	\$1,880.00	\$705.00	\$1,376.00	\$2,280.00	\$2,240.00	\$472.00	\$1,938.00	\$150.00	\$245.00	\$11,324.00
<b>Total Cost This Task</b>											<b>\$11,324.00</b>
<b>Task 6.0 Sanitary Sewer Design</b>											
6.2	Sanitary Sewer Concept Plan										\$1,456.00
	Total Hours	0.00	4.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00
	Labor Cost	\$0.00	\$940.00	\$516.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,456.00
<b>Total Cost This Task</b>											<b>\$1,456.00</b>
<b>PROJECT SUMMARY</b>											
	Total Project Hours	24.0	7.0	11.0	15.0	16.0	4.0	19.0	2.0	3.0	101.0
	Total Salary Cost	\$5,640.00	\$1,645.00	\$1,892.00	\$2,230.00	\$2,240.00	\$472.00	\$1,938.00	\$130.00	\$243.00	\$16,540.00
	Reimbursables Subtotal										\$10,231.18
	Total Fee	\$5,640.00	\$1,645.00	\$1,892.00	\$2,230.00	\$2,240.00	\$472.00	\$1,938.00	\$130.00	\$243.00	\$26,771.18
<b>PROJECT TOTAL</b>											<b>\$ 26,771.18</b>
											<b>NV5 Subtotal</b>

**Ice Age Drive  
 City of Sherwood**

**Harris Environmental Group**

February 25, 2022

**PROFESSIONAL SERVICES - HOURLY BREAKDOWN**

		\$ 65.29	\$ 72.52	\$ 72.52	\$ 67.54	\$ 72.52	
<b>Task</b>		Admin III Rodna Thomas	Arch IV Dana Holschuh	Project Manager Dana Holschuh	GIS Technician Dietrich Walker	Arch IV Laura Tenen	<b>HEG TOTALS</b>
<b>Task 1.0 Project Management, Project Coordination, and Project Scheduling</b>							
1.2	Project Coordination, Communication & Team Meetings			6.00			\$435.12
Total Hours		0.00	0.00	6.00	0.00	0.00	6.00
Labor Cost		\$0.00	\$0.00	\$435.12	\$0.00	\$0.00	\$435.12
<b>Total Cost This Task</b>							<b>\$435.12</b>
<b>Task 9.0 Environmental &amp; Cultural</b>							
9.2	Cultural Programmatic Memo		24.00		4.00	4.00	\$2,300.72
Total Hours		0.00	24.00	0.00	4.00	4.00	32.00
Labor Cost		\$0.00	\$1,740.48	\$0.00	\$270.16	\$290.08	\$2,300.72
<b>Total Cost This Task</b>							<b>\$2,300.72</b>
<b>PROJECT SUMMARY</b>							
Total Project Hours		0.0	24.0	6.0	4.0	4.0	38.0
Total Salary Cost		\$0.00	\$1,740.48	\$435.12	\$270.16	\$290.08	\$2,735.84
Reimbursables Subtotal							\$580.20
Total Fee		\$0.00	\$1,740.48	\$435.12	\$270.16	\$290.08	\$3,316.04
<b>PROJECT TOTAL</b>							<b>\$ 3,316.04</b>
							<b>HEG Subtotal</b>

**Ice Age Drive  
 City of Sherwood**

**Pacific Habitat Services**

February 25, 2022

**PROFESSIONAL SERVICES - HOURLY BREAKDOWN**

		\$ 175.00	\$ 122.00	\$ 116.00	\$ 95.00	\$ 85.00	
<b>Task</b>		Project Manager John van Staveren	Wetland Scientist: 3	Wetland Scientist 2	Graphic Specialist	Administ rative Editor	<b>PHS</b>  TOTALS
<b>Task 1.0 Project Management, Project Coordination, and Project Scheduling</b>							
1.2	Project Coordination, Communication & Team Meetings	6.00					\$1,050.00
	Total Hours	6.00	0.00	0.00	0.00	0.00	6.00
	Labor Cost	\$1,050.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,050.00
	<b>Total Cost This Task</b>						<b>\$1,050.00</b>
<b>Task 9.0 Environmental &amp; Cultural</b>							
9.1	Wetland Programmatic Memo	12.00	36.00	24.00	4.00	3.00	\$9,911.00
	Total Hours	12.00	36.00	24.00	4.00	3.00	117.00
	Labor Cost	\$2,100.00	\$4,392.00	\$2,784.00	\$380.00	\$255.00	\$9,911.00
	<b>Total Cost This Task</b>						<b>\$9,911.00</b>
<b>PROJECT SUMMARY</b>							
	Total Project Hours	18.0	36.0	24.0	4.0	3.0	117.0
	Total Salary Cost	\$3,150.00	\$4,392.00	\$2,784.00	\$380.00	\$255.00	\$10,961.00
	Reimbursables Subtotal						\$32.18
	Total Fee	\$3,150.00	\$4,392.00	\$2,784.00	\$380.00	\$255.00	\$10,993.18
<b>PROJECT TOTAL</b>							<b>\$ 10,993.18</b>
							<b>PHS Subtotal</b>

**Ice Age Drive  
 City of Sherwood**

**Norton**  
 February 25, 2022

**PROFESSIONAL SERVICES - HOURLY BREAKDOWN**

		\$206.00	
Task		Corrosion Engineer	<i>Norton</i>
		Eric Shadle	TOTALS
<b>Task 1.0 Project Management, Project Coordination, and Project Scheduling</b>			
1.2	Project Coordination, Communication & Team Meetings	4.00	\$824.00
	Total Hours	4.00	8.00
	Labor Cost	\$824.00	\$824.00
	<b>Total Cost This Task</b>		<b>\$824.00</b>
<b>Task 7.0 Water System Design</b>			
7.2	Water Concept Plan (Corrosion Control-Preliminary Basis of Design & Cost Estimate)	24.00	\$4,944.00
	Total Hours	24.00	30.00
	Labor Cost	\$4,944.00	\$4,944.00
	<b>Total Cost This Task</b>		<b>\$4,944.00</b>
<b>PROJECT SUMMARY</b>			
	Total Project Hours	28.0	38.0
	Total Salary Cost	\$5,768.00	\$5,768.00
	Reimbursables Subtotal		\$0.00
	Total Fee	\$5,768.00	\$5,768.00
<b>PROJECT TOTAL</b>			<b>\$ 5,768.00</b>
			<b>Norton Subtotal</b>

**Ice Age Drive  
 City of Sherwood**

**Universal Field Services**

February 25, 2022

**PROFESSIONAL SERVICES - HOURLY BREAKDOWN**

		\$ 102.00	\$ 88.00	\$ 45.00		
<b>Task</b>		Project Manager Seth Hemelstrand	Sr. Right of Way Agent Barry Bliss	Sr. Title Specialist Edith Solorio	<b>UFS</b>	
					<b>TOTALS</b>	
<b>Task 1.0 Project Management, Project Coordination, and Project Scheduling</b>						
1.2	Project Coordination, Communication & Team Meetings	4.00			\$408.00	
		Total Hours	4.00	0.00	0.00	4.00
		Labor Cost	\$408.00	\$0.00	\$0.00	\$408.00
		<b>Total Cost This Task</b>				<b>\$408.00</b>
<b>Task 10.0 Public Involvement</b>						
10.1	Open Houses (2)	2.00		2.00	\$294.00	
10.3	Outreach & Presentations	8.00	8.00		\$1,520.00	
		Total Hours	10.00	8.00	2.00	20.00
		Labor Cost	\$1,020.00	\$704.00	\$90.00	\$1,814.00
		<b>Total Cost This Task</b>				<b>\$1,814.00</b>
<b>Task 12.0 Permit &amp; ROW Identification/Coordination</b>						
12.1	ROW Research	5.00		10.00	\$960.00	
12.3	Right-of-Way Estimate	12.00			\$1,224.00	
12.4	PGE/BPA/Kinder Morgan Gas Coordination	12.00	24.00		\$3,336.00	
		Total Hours	29.00	24.00	10.00	34.00
		Labor Cost	\$2,958.00	\$2,112.00	\$450.00	\$5,520.00
		<b>Total Cost This Task</b>				<b>\$5,520.00</b>
<b>PROJECT SUMMARY</b>						
		Total Project Hours	43.0	32.0	12.0	58.0
		Total Salary Cost	\$4,386.00	\$2,816.00	\$540.00	\$7,742.00
		Reimbursables Subtotal				\$5,550.00
		Total Fee	\$4,386.00	\$2,816.00	\$540.00	\$13,292.00
<b>PROJECT TOTAL</b>					<b>\$ 13,292.00</b>	
					<b>UFS Subtotal</b>	