

**Annie and Mary Trail Project  
PS&E Phase  
Updated Scope of Work  
May 5, 2023**

## **Task 2. Phase Two (PS&E)**

### **2.1 Project Management and Coordination**

This task includes the efforts required for GHD's Project Manager to coordinate team personnel and sub-consultants, maintain the project schedule, and prepare monthly invoicing.

GHD will attend regular standing progress/coordination meetings, including meetings with Caltrans, scheduled on a biweekly basis, or as needed, utilizing remote meeting tools (Microsoft Teams), through the duration of this phase of the project.

GHD shall assist the City with preparation of other documentation, as necessary, to facilitate management of funding and approvals with Caltrans. It is assumed the City will fill out the requisite forms for submittal to Caltrans, with input provided by GHD. GHD will also provide progress reports, if requested, for inclusion in the City's reporting to Caltrans.

This task also includes time for GHD staff to communicate with City of Arcata staff, Caltrans staff, and applicable regulatory and permitting agencies to assist the City with obtaining the necessary permits and approvals for this project. GHD assumes that the City of Arcata will be leading the effort to obtain permits and approvals for this project, with technical and design assistance provided by GHD staff.

***Deliverables:***

- One (1) electronic copy of progress reports, as requested, by the City.

### **2.2 Environmental Mapping and Studies**

#### **2.2.1 Wetland Delineation and Report**

The Scope of Work for the Wetland Delineation includes the following components:

- Pre-field work desktop review. The previous Wetland Assessments prepared by SHN for the proposed trail alignment will be reviewed to determine the appropriate locations for additional test pit investigations.
- Field work
  - Two GHD staff (Senior Botanist and Soil Scientist) would conduct a wetland delineation using methods described in U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987) and The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE, 2010) to identify potential wetlands and other waters within the project study area. The USACE method relies on a three-parameter approach, in which criteria for hydrophytic vegetation, hydric soils, and wetland hydrology must each be met (present at the point of field investigation) to conclude that an area qualifies as a wetland.
  - Test pit investigations will be selected to:
    - Achieve appropriate coverage and characterization of wetland and upland habitats,
    - Document potential changes in the vegetative community (such as a shift in the dominant species), and

- Determine the approximate boundary line between wetlands and uplands by evaluating the extent of key wetland criteria (hydrology, hydric soils, and hydrophytic vegetation).
  - All test pits will be dug to a minimum depth of 16 inches, and the thickness of each soil horizon will be measured. The Munsell Soil Color Chart (Kollmorgen Instruments Corporation, 1998) will be referenced to determine the colors of the moist soil matrix and redoximorphic (redox) features (if present). Soils will be closely inspected for hydric soil indicators, as defined by the NRCS “Field Indicators of Hydric Soils in the United States” (Version 8.1; USDA-NRCS, 2017).
  - Hydrology will be examined during the test pit excavations for hydrology indicators (such as water marks, drift deposits, sediment deposits, alpha, alpha-dipyridyl reaction, drainage patterns, geomorphic placement, water-stained leaves, and similar features).
- Post-field visit office work. The results of the field investigation will be presented in a Wetlands and Other Waters Delineation Report including descriptions of each test pit and figures showing wetland boundaries. The report will also include an updated estimate of the area of potential wetland impacts that would result from project construction.

**Deliverables:** One (1) electronic copy each of the DRAFT and FINAL Wetland Delineation Report.

## 2.2.2 Environmental Initial Site Assessment

GHD will complete an Initial Site Assessment (ISA) in the Caltrans format, as Caltrans will require an ISA due to work in their right of way (vs a Phase 1 Assessment, which is an equivalent non-Caltrans document). Due to the length of the corridor, all requirements of the ASTM standards cannot be completed. It will be completed under the direct supervision of a California-Professional geologist. Within this scope of work to complete this ISA, SHN will perform the following work tasks:

- Conduct a site inspection of the corridor to identify visual evidence of surface contamination and potential subsurface sources of contamination.
- Conduct a survey of properties along the corridor to identify ones that may use, produce, or store hazardous materials and/or generate hazardous waste.
- Examine aerial photographs of the corridor taken over the past 50 to 60 years, historical Sanborn Maps, United States Geological Survey (USGS) topographic maps, as available. These examinations will seek to develop a continuous site history dating back to 1940 or the first known development of the corridor, whichever is earlier, as recommended by the ASTM guideline.
- Using the ASTM-designated search radii, review federal, state, county, and other regulatory agency lists and databases (including Comprehensive Environmental Response Compensation and Liability Information System [CERCLIS], National Priorities List [NPL], and Cal-sites) for sites with known hazardous materials contamination and/or registered underground storage tanks located on or near the corridor.
- Review regulatory agency files, if necessary, for identified contaminated sites to determine if the listed sites are potential hazardous-material threats to the corridor.
- Describe local and regional geological and groundwater conditions in the vicinity of the corridor.
- Complete a land-use questionnaire (supplied by GHD).
- Provide photographs of the corridor and areas of concern.
- Provide one PDF on disc or via download link of the report presenting the results of the investigation. The report will include topographic, vicinity, and other maps, and present findings regarding current and former operations pertaining to hazardous materials usage, storage, or disposal, discuss recognized environmental conditions (RECs), and identify data gaps, if any.

**Deliverables:**

- One (1) electronic copy each of the DRAFT and FINAL Initial Site Assessment

**Assumptions:**

- City/County will provide authorization for GHD to access the corridor in a timely manner.
- City/County will provide available information regarding the past operations at the parcels (that is not available on GeoTracker) and a preliminary title report.
- City/County will provide GHD at least two names and phone numbers of persons whom GHD can interview or complete the ESA questionnaires. The persons identified should be able to provide information regarding the corridors former and current uses in a timely manner.

## **2.2.3 Sampling and Analysis Plan**

The Sampling and Analysis Plan (SAP) will describe soil and groundwater sampling methods and laboratory analysis if suspected contaminated areas are identified during the Initial Site Assessment. The plan will show areas of potential contamination, proposed sampling locations, and appropriate laboratory analysis for each area.

**Deliverables:**

- One draft and final Sampling and Analysis Plan.

## **2.2.4 Soil and Groundwater Management Plan**

The Soil and Groundwater Management Plan (SGMP) will describe methods to characterize and properly handle and dispose of any contaminated soils and/or groundwater discovered during construction of the trail. Areas where contamination may be present will be determined during the Phase 1 corridor study, although there is a potential for unidentified areas to contain contamination.

**Deliverables:**

- One (1) electronic copy each of the DRAFT and FINAL Soil and Groundwater Management Plan.

**Assumptions/Exclusions:**

Exclusions from this scope of work includes but not limited to the following:

- Completing evaluations and/or testing for lead-based paints, asbestos-containing materials, mold, or radon
- Soil and or groundwater sampling (Phase II work)
- Completing geotechnical or fault studies
- Other tasks not specifically listed in the scope of work above.
- GHD can provide a scope and cost estimate for these tasks currently not included in this scope of work.

## **2.2.4 Preliminary Environmental Study (PES)**

GHD will prepare and submit the Preliminary Environmental Study (PES) form for the City to review in accordance with the Local Assistance Procedures Manual (Exhibit 6-A) for federally-funded projects. GHD will respond to City comments on the PES and prepare the final PES for submittal to the City and Caltrans. The PES form will include the following sections:

- Project Description: The project description will be the same as the CEQA ISMND project description.
- Preliminary Design Information: Preliminary design information will be used as a starting point for the PES and Area of Potential Effect (APE) map. This will include the current design mark ups and study area used for CEQA studies.
- PES Form: Each of the 36 questions included in this section cover the range of resource topics covered by NEPA. For “No” responses, how the mandate of federal law has been met will be

explained in the separate “Notes to Support the Conclusions of the PES Form”. For “Yes” responses, a technical study or technical memorandum may be required.

- For purposes of this scope, it is assumed that no additional technical studies will be required beyond those scope items identified in this scope of services.
- Draft APE Map: The draft APE map prepared by GHD will be submitted with the PES form to Caltrans for review/concurrence. The APE map will identify the horizontal and vertical limits of project disturbance, including staging areas, and consideration of potential impacts. The APE will be the basis for the Historic Property Survey Report (HPSR) and Archaeological Survey Report (ASR).

***Deliverables:***

- One City review PES, one Caltrans review PES, and one final PES

### **2.2.5 Natural Environment Study (NES)**

The NES will be based on completed CEQA environmental studies. Additional field review will not occur. Avoidance and minimization measures in the NES will be consistent with mitigation measures in the CEQA ISMND.

The most recent version of the California Natural Diversity Database (CNDDDB) will be reviewed to determine the location of documented federally-listed and other special-status plant and wildlife species relative to the project site. Additionally, a species list will be obtained from the US Fish and Wildlife Service (USFWS) information for Planning and Consultation (IPaC) and the National Marine Fisheries Service (NMFS). Readily available aerial photography of the project area, soils maps, and hydrology data will also be reviewed.

Results of the final wetland delineation and Botanical and Sensitive Natural Community Survey will be incorporated into the NES. The potential occurrence of special-status plant and wildlife species will be evaluated based on an analysis of onsite habitats, known home ranges and/or distribution of target species, and other biological characteristics. The habitat types present on and bordering the project site will be noted and any wildlife species observed by SHN, as documented in their existing memo, will be recorded.

Up to two (2) rounds of comments from the City and Caltrans will be responded to in order to develop a final NES. All appropriate revisions will be made, and a final version of the document will be submitted to the City for their submittal to Caltrans.

***Deliverables:***

- One City review NES, one Caltrans review NES, and one final NES

### **2.2.6 Visual Resources Tech Memo**

GHD will prepare a Visual Resources Technical Memorandum. The memorandum will focus on potential impacts of any above-ground improvements associated with the project to the aesthetic environment, including a review of consistency with applicable City policies from the General Plan 2030. The technical memorandum will not include a visual simulation of the proposed project. The assessment will rely on the analysis in the CEQA ISMND. The preparation of a Visual Impact Assessment (VIA) or visual simulations is not included in this scope of services.

***Deliverables:***

- One City review memo, one Caltrans review memo, and one final memo

### **2.2.7 HPSR/ASR**

Roscoe and Associates will prepare the Archaeological Survey Report (ASR) and the Historic Property Survey Report (HPSR) for the project based on the existing, recently completed cultural resources investigation for the project. The objective of the cultural resources investigation is to identify known or unknown cultural resources located within the project’s APE. This will be accomplished by conducting

background historic research, correspondence with knowledgeable individuals and tribes, an intensive pedestrian field survey, and preparation of an HPSR and ASR per professional reporting standards.

Pre-field research will include conducting background and archival research at local libraries, historical societies, and any other repositories that might contain information about the project area. A formal records check of the APE with a 1/2-mile radius will be conducted by Roscoe and Associates at the Northwest Information Center (NWIC), the regional office of the California Historical Resources Information System located in Rohnert Park, CA. All relevant documents will be reviewed and information pertinent to the project area will be included in the report. Roscoe and Associates will conduct consultations with the Native American Heritage Commission and local Native American tribes throughout the duration of the investigation.

The field survey will be limited to the Happy Valley site and will consist of an intensive pedestrian reconnaissance (10 meter transects) of the APE. Where thick ground cover is present, a trowel or shovel will be used to scrape down to mineral soils to allow for adequate survey. All previously recorded and newly identified historic period or prehistoric cultural resources will be documented on DPR 523 series archaeological site records to a standard consistent with the Department of the Interior guidelines for recording historic resources. This is a Phase I – cultural resources investigation; no collecting and no ground disturbance exceeding 10 centimeters below ground surface will be conducted.

An ASR detailing the regional prehistory, ethnographic/ historic background, Native American consultation, study methods, findings and recommendations will be prepared. Maps will be provided showing the cultural resources survey area, any archaeological site locations, and historic imagery. The final report will be supplied to the County and the NWIC.

***Deliverables:***

- One City review HPSR/ASR, one Caltrans review HPSR/ASR, and one final HPSR/ASR

## 2.3 Topographic Survey and R/W Mapping

The previously conducted topographic and right of way surveys for the Rail/Trail are established in the Preliminary Design and the Preliminary Right of Way Analysis prepared by SHN in 2020. The Preliminary Right of Way Analysis (Analysis) identified an area in the Rail/Trail corridor adjacent to the Pick/Gilmer properties (Pick/Gilmer) that has not been surveyed for topography or right of way. The potential Rail/Trail location in the area of Pick/Gilmer will require topographic mapping from the Pick/Gilmer property to the edge of slope, to be compiled into the existing right of way mapping for use in the final design.

The preliminary design of the Rail/Trail based upon the Analysis has further identified several areas that will require additional topographic mapping. These areas were identified and delineated in an email dated March 7, 2023, which included a CAD file prepared by GHD. These areas are described below:

- Because of significant changes in the area of the Humboldt Bay Municipal Water District (HBMWD) facility, a new and revised topographic survey is required from the newly constructed substation building and driveway along the existing railroad roadbed to West End Road. Additional topographic survey will be undertaken across West End Road to and including the facility parking lot. To facilitate geotechnical analysis and conceptual design of the trail realignment, the topographic survey will extend at least 50 feet west of the western substation fence and to the bottom of the gully.
- The Giuntoli Road overpass is being considered to be realigned to accommodate a pedestrian connection to the Rail/Trail from Boyd Road. The topographic survey for this area will include the associated on and off ramp intersections and the intersection West End Road. In addition, a topographic survey of the Frank Martin Court driveway and the West End Road intersection will be provided to accommodate future pedestrian access.
- An area immediately north The Skateboard Park will be topographically surveyed to provide access to the Rail/Trail.

### **Pick/Gilmer Record of Survey**

SHN understands that to complete a previous agreement with the property owners Pick/Gilmer, a Record of Survey of the common boundary between the two properties will be required. That agreement was limited to setting two monuments along their common boundary line and then filing a Record of Survey map with the Humboldt County Surveyor. In recent discussions regarding the possibility of a Quiet Title action between the Pick/Gilmer property and that of the Humboldt Bay Municipal Water District, an additional alternative to aid in that action would be to survey the entire boundary of Pick/Gilmer. This alternative will require additional research and field survey to verify the entire boundaries of those properties, to set monuments at the property corners of both properties, and to file a more complete Record of Survey of the properties with the Humboldt County Surveyor.

#### ***Deliverables:***

- Field topographic survey to locate evidence of the railroad roadbed and establish topography of the areas described above.
- Update field survey data and incorporate into the analysis mapping to facilitate the Rail/Trail design.
- Provide an AutoCAD Civil 3D file to the design team for use in final design.

#### ***Assumptions:***

- The trail alignment developed for the Preliminary Design is the basis for the final design.
- Client will provide right of entry for the survey, as needed.
- To the extent practical, client will be responsible for clearing the expanded areas to facilitate the field survey.
- The design of the Rail/Trail will be incorporated into the expanded areas and no additional right of way will be required.

#### ***Exclusions:***

- A Record of Survey of the Rail/Trail alignment.
- Survey of Temporary Construction Easements.
- Additional topographic survey beyond the limits of the primary trail corridor and the expanded areas described above.

## **2.4 Engineering Studies**

### **2.4.1 Geotechnical Investigation**

The work scope described here is intended to provide a comprehensive geotechnical and geologic hazard investigation to describe conditions and hazards along the proposed alignment of the Annie & Mary alignment. The work scope has been refined through the initial scoping of the project and through completion of the 30% design, which was reviewed to develop the scope and fee estimate outlined below. Additional correspondence and field visits with GHD have clarified conceptual design elements, which are reflected in the scope described below.

The investigation consists of an initial reconnaissance phase, followed by more focused site-specific investigations where the nature of the design or the site conditions require. Based on our current understanding of the project, the proposed work scope includes more focused investigations at two potential realignments (Pick/Gilmer site, WTP site) and at a compromised drainage crossing adjacent to West End Road, as described below.

#### **Preliminary Site Reconnaissance**

SHN will conduct a reconnaissance inspection along the entire trail alignment to review geologic and surficial conditions that may impact design and construction of the trail. As the Annie & Mary Trail alignment follows a former railroad grade, it is by nature associated with favorable geotechnical conditions. Initial reconnaissance confirms most of the alignment leading from Arcata to the Mad River

section follows persistent low gradient natural surfaces associated with low level geologic hazards and stable subgrade soils.

It is assumed that the existing railroad fill materials along the alignment form a durable, strong subgrade surface that supported rail service for many years and can support the proposed trail with minimal improvement. We assume most of the alignment will not require site-specific geotechnical investigation (subsurface investigation, for example) and that general geotechnical recommendations for site preparation and grading will be appropriate.

**Sunset Avenue to Mad River:**

For the proposed trail segment through Arcata, geotechnical characterization will focus on appurtenant structures adjacent to the trail alignment where access points, at-grade crossings and other hardscape features are proposed.

The current conceptual design includes a parklet under the St. Louis overpass. The potential parklet will be relatively small with minimal grading. We will conduct any necessary subsurface investigation at this location utilizing hand boring equipment to develop adequate recommendations.

At Giuntoli Lane the current design includes two short bridges, stairs, concrete walkways, and possible low retaining walls. Due to the limited access at the site, we will conduct any necessary subsurface investigation utilizing hand boring equipment.

**Slope Stability along Mad River (Sta 151+00 to 180+00)**

The trail segment along the Mad River is routed along the left bank, varying distances from the top of the stream bank. We will conduct a site reconnaissance focused on documenting the existing stability conditions of the slope. This is a visual, qualitative evaluation.

**Culvert (Sta 167+70):**

The 30% Design Plans assumed a small bridge adjacent to West End road to span a compromised drainage crossing beneath the trail alignment. However, based on subsequent site reconnaissance it was determined that a bridge was not a feasible design option at the site. Instead, this scope assumes that the existing culvert under West End Rd. will be replaced in its entirety and lengthened to span under the trail. Since no structures will be required at this location, shallow hand borings will be utilized to define geotechnical conditions.

**Substation Realignment:**

An electrical substation has been constructed on the railroad grade adjacent to the HBMWD site, requiring that the trail be realigned around the substation on the south side. It is assumed that this realignment around the substation will be supported on a retaining wall type consisting of either mechanically stabilized earth embankment (MSE), gravity, or cantilever type wall within an adjacent swale. At the east end of the proposed realignment, the trail will encroach into the slope below West End Road. It's assumed this will not require the development of a retaining wall to support the cut slope.

Specifically, SHN's scope of work at this site will consist of the following:

- Review of the geotechnical investigation report (GHD, 2019) completed for the new substation.
- Review of the topographic survey to be completed by SHN as part of Phase 2.
- Recommendation for the type of retaining wall to be constructed on the north side of the gully west of the substation.
- Definition of design parameters for the wall.

**Assumptions:**

- A new subsurface investigation is not necessary and is not included in our cost.
- The realigned segment that traverses between West End Road and the new substation will be accommodated by a cut slope and that a retaining wall on this segment is not required.

- Specific recommendations will not be required for the utility pole located on the slope between the substation and West End Road.
- The City will coordinate access to the site for reconnaissance, if needed.

**Pavement Recommendations:**

General recommendations for pavement design along the entire trail alignment will be provided. This assumes the trail is, for the most part, underlain by stable railroad surfacing.

It's our understanding that a portion of the HBMWD parking lot at the end of the trail is to be paved. SHN will collect soil samples from the parking lot and submit soils to our laboratory to obtain an R-Value. Paving recommendations will be provided for the parking lot, with the results of R-Value laboratory testing.

**Infiltration Testing:**

To facilitate Low Impact Development design, SHN will complete infiltration testing within the parking lot in general accordance with ASTM 3385 09. SHN will provide the design team with the infiltration rate of the soils.

**Assumptions:**

- SHN will be provided access to the parking lot to obtain bulk soil samples and conduct infiltration testing.

**60 and 90% Review:**

SHN will attend up to 3 meetings with the project engineer and design team during the 60 and 90 percent review phases to provide feedback and ensure our recommendations are adequately incorporated.

**Deliverables:**

- One (1) electronic copy each of the DRAFT and FINAL Geotechnical Report.

## Task 2.5 Design

60%, 90%, and 100% no longer included. Realignment retaining wall PS&E no longer included.

## Task 2.6 Habitat Mitigation and Monitoring Plan

The desired project design footprint will result in impacts to delineated wetlands and Sensitive Natural Communities. Permitting agencies will require a Habitat Mitigation and Monitoring Plan (HMMP). Wetland mitigation will be described in accordance with the most current Regional Compensatory Mitigation and Monitoring Guidelines for South Pacific Division U.S. Army Corps of Engineers, which also satisfies requirements from the Regional Water Board. GHD will prepare a HMMP to quantify the area of impacted wetland type and Sensitive Natural Community. The HMMP will propose a detailed plan for creation of new protected habitats at the ratio required by regulatory agencies. The detailed plan will identify the location of creation areas, document success criteria, outline monitoring and reporting requirements, and describe provisions for adaptive management, financial assurances, and site maintenance. The HMMP will be developed in coordination with City prior to submission to permitting agencies. The HMMP excludes a civil design/grading design for wetland creation, piezometer installation or monitoring, and/or general groundwater monitoring.

**Deliverables:**

- Draft and final permit application packages to CDFW, USACE, and the Regional Board
- Draft and final HMMP

**Assumptions:**

- A single, joint field visit will occur for staff from all three agencies.



- City will complete any permits required to be issued by the City.
- Consultation under Section 7 of the federal Endangered Species Act will not be required.
- The project will not impact any state-listed species and authorization under the California Endangered Species Act will not be required.
- All permit fees will be paid directly to each agency by the City and are excluded from the associated cost estimate. Note CDFW now determines permit fees by work location. Thus, three separate culverts result in three separate permit fees, based on the cost of construction at each location.
- GHD assumes the City will provide groundwater data at the Happy Valley site to inform the HMMP and the wetland creation design will be completed by others.
- The project will impact less than half an acre of wetlands. USACE NWP 14 can only be used for projects with under half an acre of wetland impacts. If the project requires additional impacts to wetlands, an individual USACE 404 permit will be needed, which requires an alternatives analysis. An individual USACE 404 permit can be provided for an additional fee.
- GHD assumes a County Use permit will not be required. GHD emailed Trevor Estlow at the Humboldt County Planning Department to determine if a Use Permit would be required. Trevor responded on February 14, 2023, *“Generally, the trail would be considered a Public Use and principally permitted under our code. The only discretionary action I see is the possibility of a Special Permit (SP) for the bridges within a Streamside Management Area. However, we are able to consult with CDFW and waive the SP requirement with their approval. Let me reach out to them and get their take. Hopefully, no discretionary permits are needed from us.”* As of the date of submittal of this scope to the City, the County has not heard back from CDFW on this detail.

## Task 3. Right of Way Engineering

### 3.1 Project Management and Coordination

This task includes the efforts required for GHD’s Project Manager to coordinate team personnel and sub-consultants, maintain the project schedule, and prepare monthly invoicing. GHD will attend up to six, one-hour regular standing progress/coordination meetings utilizing remote meeting tools (Microsoft Teams), through the duration of this phase of the project.

GHD shall assist the City with preparation of other documentation, as necessary, to facilitate management of funding and approvals with Caltrans. It is assumed the City will fill out the requisite forms for submittal to Caltrans, with input provided by GHD. GHD will also provide progress reports, if requested, for inclusion in the City’s reporting to Caltrans.

#### ***Deliverables:***

- One (1) electronic copy of progress reports, as requested, by the City.

### 3.2 Right-of-Way Engineering Services

#### **Additional Survey and Right of Way Certification Allowance as Needed**

SHN will provide engineering services to determine and support any right-of-way needs for the project. The 2020 Preliminary Right of Way Analysis (Analysis) identified areas of potential conflict with adjoining property owners or potential rights of use within the railroad right of way encompassing the new Trail.. SHN understands that within the limits of the City of Arcata, the railroad right of way is subject to Rail Banking which affords the City with rights to use the railroad right of way for the Trail. SHN will assist the City to identify the areas of potential conflict within the railroad right of way and provide the Client with background information, including mapping of the areas of potential conflict, owner names and contact information if available in the public domain, and a description of the conflict, necessary for the Client to pursue resolution. It is SHN’s further understanding that the County portion of the proposed trail in the railroad of right of way is not subject to Rail Banking. SHN will assist the Client with research into the

rights of adjoining property owners to the railroad road bed. It is further understood that the Humboldt Bay Municipal Water District is a partner in the development of the Trail. SHN will research the District properties adjoining or adjacent to the railroad road bed for use in developing the Trail location. An area of the potential Trail location is between District property and the properties of Zephanian D. Pick and Denise Gilmer. This area may be subject to a Quiet Title action for which SHN will provide a perimeter description of the area in question. With the resolution of potential conflicts within the railroad right of way within the City and the determination of the rights to the railroad road bed in the County, SHN will prepare the appropriate Right of Way Certification.

***Deliverables:***

- One (1) electronic copy of the Right-of-Way Report itemizing areas of conflict and the impact to the project design for the City's use in pursuing resolution of potential conflict within the City.
- Report of research of property rights adjoining or adjacent to the railroad road bed to be used for the trail.
- Preparation of a perimeter description of the potential Quiet Title Action for the area between Pick/Gilmer and the Humboldt Bay Municipal Water District.
- Preparation of Right of Way Certification documentation based upon the railroad right of way within the City of Arcata and based upon the results of finalizing the rights to construct the trail on the railroad road bed in the County.
- Digital drawing file of right of way (Civil 3D file and pdf).

***Assumptions:***

- The trail alignment developed for the Preliminary Design is the basis for the final design with specific revisions described in this scope.
- Temporary Construction Easements will be shown graphically on the design drawings and will not require survey and descriptions.
- City will provide Preliminary Title Reports for areas of identified conflict with adjoining property owners as needed to resolve title rights.
- City will facilitate the acquisition of deeds, easements, temporary construction easements, access rights, etc. in the Rail/Trail right of way held by public agencies.

***Exclusions:***

- A Record of Survey of the Rail/Trail right of way filed with the Humboldt County Surveyor other than the area adjacent to the Pick and Gilmer properties.
- Additional right of way survey beyond the limits of the primary trail corridor identified in the Preliminary Design.
- No right-of-way acquisitions are included in this scope of services.

## **General Assumptions and Exclusions**

This proposal is based on the following general assumptions:

- This scope of services does not include anything not specifically described above although additional services can be provided through a contract amendment.
- Street lighting design is limited to solar street lights.
- The scope of services does not include obtaining access agreements or property acquisition assistance. The City will be responsible for contacting, negotiating, and securing any temporary or permanent right-of-way (including easements) if required for proposed improvements. The City will be responsible for valuations, paying of costs and fees, and preparing and recording documents.

- The City will lead all coordination with the GRTA and obtain necessary permissions from the GRTA.
- The City shall be responsible for paying all deposits and fees required for the project.
- The scope of services does not include utility relocation assistance. The City will be responsible for coordinating all necessary relocations directly with utility purveyors.
- The Stormwater Pollution Prevention Plan (SWPPP) will be developed by the construction contractor.
- A California Division of State Architect (DSA) Access Compliance Review will not be required.
- The scope does not include bidding, pre-construction, or construction related services. These services, if required, can be provided through a contract amendment.



### REVISED COST PROPOSAL

PROJECT NAME: Annie and Mary Trail - PS&E, R/W, & CE  
 Date: 5/5/2023 Rev. 2

Task	Classification--> Level--> Rate-->	Sr. Engineer/ Scientist/Planner				Project Engineer/ Scientist/ Planner				Staff Engineer/ Scientist/Planner			CAD/GIS/Tech.				Admin. Support			Prevailing Wage		Total GHD Fees	SHN	SHN (Rev 2, Add'l)	Roscoe	ODC's	Totals								
		IV	III	II	I	IV	III	II	I	III	II	I	IV	III	II	I	III	II	I	Surveyor	Con. Inspector														
		\$243.22	\$215.86	\$200.65	\$190.01	\$174.81	\$159.61	\$144.41	\$129.21	\$114.01	\$98.81	\$83.61	\$114.01	\$98.81	\$83.61	\$68.40	\$83.61	\$68.40	\$53.20	\$173.29	\$173.29														
<b>Task 2 – Phase 2 PS&amp;E</b>																																			
<b>Task 2.1 PM, Meetings and Coordination</b>																																			
Project Management & General Coordination			12					100										12										\$17,669.74						\$17,669.74	
Regular Status Meetings			2					48																				\$7,333.00						\$7,333.00	
Public Meeting Support																											\$0.00						\$0.00		
<i>Task 2.1: Total Hours</i>		0	14	0	0	0	148	0	0	0	0	0	0	0	0	0	0	12	0	0	0														
<i>Task 2.1: Total Cost</i>		\$0.00	\$2,809.16	\$0.00	\$0.00	\$0.00	\$21,372.73	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$820.86	\$0.00	\$0.00	\$0.00							\$25,002.75						\$25,002.75	
<b>Task 2.2 Environmental Mapping and Studies</b>																																			
Task 2.2.1 Wetland Delineation and Report			20					12		88		20																\$18,058.89						\$18,058.89	
Task 2.2.2 Initial Site Assessment (ISA)			2					88		12																		\$16,970.49						\$16,970.49	
Task 2.2.3 Sampling and Analysis Plan			2					36		8																		\$8,131.06						\$8,131.06	
Task 2.2.4 Soil and Groundwater Management Plan (SGMP)			2					36		8																		\$8,032.25						\$8,032.25	
Task 2.2.5 Preliminary Env. Report (PES)			3					4		12																		\$6,355.57						\$6,355.57	
Task 2.2.6 Natural Environmental Study (NES)			3					24		60		60		20														\$23,510.00						\$23,510.00	
Task 2.2.7 Visual Resources Tech Memo			3					80						20														\$14,875.78						\$14,875.78	
Task 2.2.8 HPSR and ASR			3					8																				\$1,894.06			\$14,000.00			\$15,894.06	
<i>Task 2.2: Total Hours</i>		0	38	0	0	160	156	72	148	38	20	67	21	0	0	0	0	12	0	0	0													\$0.00	
<i>Task 2.2: Total Cost</i>		\$0.00	\$7,624.87	\$0.00	\$0.00	\$25,537.83	\$22,528.01	\$9,303.07	\$16,873.21	\$3,754.67	\$1,672.12	\$7,638.55	\$2,074.95	\$0.00	\$0.00	\$0.00	\$820.86	\$0.00	\$0.00	\$0.00								\$97,828.12	\$0.00	\$0.00	\$14,000.00	\$0.00		\$111,828.12	
<b>Task 2.3 Topo Survey &amp; R/W Mapping</b>																																			
<i>Task 2.3: Total Hours</i>		0	0	0	0	0	6	0	0	0	0	24	0	0	0	0	0	0	0	0	0														
<i>Task 2.3: Total Cost</i>		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$866.46	\$0.00	\$0.00	\$0.00	\$0.00	\$2,736.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00								\$3,602.66	\$33,000.00	\$47,748.27			\$84,350.93	
<b>Task 2.4 Engineering Studies</b>																																			
Task 2.4.1 Geotechnical Investigation			2					12		4																		\$2,818.28	\$12,000.00	\$23,084.75			\$37,903.03		
Task 2.4.2 Stormwater Data Report (SWDR)																												\$0.00					\$0.00		
Task 2.4.3 Structures Advanced Planning Study																												\$0.00					\$0.00		
Task 2.4.4 Design Engineering Evaluation Report (DEER)																												\$0.00					\$0.00		
<i>Task 2.4: Total Hours</i>		0	2	0	0	0	12	4	0	0	0	0	2	0	0	0	0	0	0	0	0														
<i>Task 2.4: Total Cost</i>		\$0.00	\$401.31	\$0.00	\$0.00	\$0.00	\$1,732.92	\$516.84	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$167.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00							\$2,818.28	\$12,000.00	\$23,084.75	\$0.00	\$0.00	\$37,903.03		
<b>Task 2.5 PS&amp;E Documents</b>																																			
Task 2.5.1 60% Design																																			
Task 2.5.2 90% Design																																			
Task 2.5.3 100% Design																																			
Task 2.5.4 Realignment Retaining Wall PS&E																																			
<i>Task 2.5: Total Hours</i>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
<i>Task 2.5: Total Cost</i>		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00							\$0.00						\$0.00	
<b>Task 2.6 Environmental Permits</b>																																			
Habitat Mitigation and Monitoring Plan (HMMP)			8					30		80		20																	\$17,338.36						\$17,338.36
<i>Task 2.6: Total Hours</i>		0	8	0	0	0	30	0	80	0	20	0	0	0	0	0	0	0	0	0	0														
<i>Task 2.6: Total Cost</i>		\$0.00	\$1,605.23	\$0.00	\$0.00	\$0.00	\$4,332.31	\$0.00	\$9,120.65	\$0.00	\$2,280.16	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00								\$17,338.36	\$0.00	\$0.00	\$0.00	\$0.00		\$17,338.36
<i>Task 2 : Total Hours</i>		0	62	0	0	160	362	76	228	38	20	111	21	2	0	0	24	0	0	0	0														
<i>Task 2: Total Cost</i>		\$0.00	\$12,440.57	\$0.00	\$0.00	\$25,537.83	\$50,832.44	\$9,819.90	\$25,993.86	\$3,754.67	\$1,672.12	\$12,654.91	\$2,074.95	\$167.21	\$0.00	\$0.00	\$1,641.72	\$0.00	\$0.00	\$0.00	\$0.00								\$146,590.17	\$45,000.00	\$70,833.02	\$14,000.00	\$0.00		\$276,423.19
<b>Task 3 – Phase 3 Right of Way Engineering</b>																																			
Task 3.1 Project Management & General Coordination			4					8																				\$2,231.52						\$2,231.52	
Task 3.2 Right of Way Clearance and Certification			4					8																				\$2,231.52	\$30,629.43	\$12,775.44				\$45,636.39	
Task 3.3 Permits to Enter and Construct																												\$0.00						\$0.00	
Task 3.4 Utility Conflict Evaluation																												\$0.00						\$0.00	
Task 3.5 County Permits																												\$0.00						\$0.00	
<i>Task 3: Total Hours</i>		0	0	8	0	0	16	0	0	0	0	0	0	0	0	0	8	0	0	0	0														
<i>Task 3: Total Cost</i>		\$0.00	\$0.00	\$1,605.23	\$0.00	\$0.00	\$2,310.57	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$547.24	\$0.00	\$0.00	\$0.00	\$0.00							\$4,463.04	\$30,629.43	\$12,775.44	\$0.00	\$0.00		\$47,867.91	
ODC's																												\$317.63						\$317.63	
Anticipated Salary Increases																												\$10,174.66						\$10,174.66	
<b>TOTAL HOURS</b>		0	0	70	0	0	160	368	76	228	38	20	111	21	2	0	32	0	0	0															
<b>TOTAL FEES</b>		\$0.00	\$0.00	\$14,045.81	\$0.00	\$0.00	\$25,537.83	\$53,143.00	\$9,819.90	\$25,993.86	\$3,754.67	\$1,672.12	\$12,654.91	\$2,074.95	\$167.21	\$0.00	\$0.00	\$2,188.96	\$0.00	\$0.00	\$0.00							\$161,545.50	\$75,629.43	\$83,608.46	\$14,000.00	\$0.00		\$334,783.39	

Note: GHD hourly billing rates presented on this Cost Proposal are based on Exhibit 10-H1 prepared for the project.



**EXHIBIT 10-H1 COST PROPOSAL**

Note: Mark-ups are Not Allowed

X Prime Consultant  Subconsultant  2<sup>nd</sup> Tier Subconsultant

Consultant: **GHD Inc.**

Project: Annie and Mary Trail - PS&E, R/W, & CE

Date: 5/5/2023

**DIRECT LABOR**

Classification/Title	Name	hours	Actual or Ave. Hourly Rate	Total
Sr.Engineer/Scientist/Planner/Surveyor IV	TBD	0	\$80.00	\$0.00
Sr.Engineer/Scientist/Planner/Surveyor III	TBD	0	\$71.00	\$0.00
Sr.Engineer/Scientist/Planner/Surveyor II	TBD	70	\$66.00	\$4,620.00
Sr.Engineer/Scientist/Planner/Surveyor I	TBD	0	\$62.50	\$0.00
Pr.Engineer/Scientist/Planner/Surveyor IV	TBD	0	\$57.50	\$0.00
Pr.Engineer/Scientist/Planner/Surveyor III	TBD	160	\$52.50	\$8,400.00
Pr.Engineer/Scientist/Planner/Surveyor II	Andrea Hilton, TBD	368	\$47.50	\$17,480.00
Pr.Engineer/Scientist/Planner/Surveyor I	TBD	76	\$42.50	\$3,230.00
Staff Engineer/Scientist/Planner/Surveyor III	TBD	228	\$37.50	\$8,550.00
Staff Engineer/Scientist/Planner/Surveyor II	TBD	38	\$32.50	\$1,235.00
Staff Engineer/Scientist/Planner/Surveyor I	TBD	20	\$27.50	\$550.00
CAD/GIS/Tech IV	TBD	111	\$37.50	\$4,162.50
CAD/GIS/Tech III	TBD	21	\$32.50	\$682.50
CAD/GIS/Tech II	TBD	2	\$27.50	\$55.00
CAD/GIS/Tech I	TBD	0	\$22.50	\$0.00
Admin. Support II	TBD	0	\$27.50	\$0.00
Admin. Support II	TBD	32	\$22.50	\$720.00
Admin. Support II	TBD	0	\$17.50	\$0.00
PW Surveyor	TBD	0	\$57.00	\$0.00
PW Construction Inspector	TBD	0	\$57.00	\$0.00
		1,126		

**LABOR COSTS**

a) Subtotal Direct Labor Costs	\$49,685.00
b) Anticipated Salary Increases	\$3,346.69
<b>c) TOTAL DIRECT LABOR COSTS [(a) + (b)]</b>	<b>\$53,031.69</b>

**INDIRECT COSTS**

d) Fringe Benefits (Rate: 35.114%)	e) Total Fringe Benefits [(c) x (d)]	\$18,621.55
f) Overhead (Rate: 136.334%)	g) Overhead [(c) x (f)]	\$72,300.22
h) General and Administrative (Rate: 0.000%)	i) Gen & Admin [(c) x (h)]	\$0.00
	<b>j) Total Indirect Costs [(e) + (g) + (i)]</b>	<b>\$90,921.77</b>

**FIXED FEE**

<b>k) TOTAL FIXED FEE [(c) + (j)] x fixed fee 12%</b>	<b>\$17,274.41</b>
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**I) CONSULTANT'S OTHER DIRECT COSTS (ODC) – ITEMIZE (Add additional pages if necessary)**

Description of Item	Quantity	Unit(s)	Unit Cost	Total
Mileage	567.20	Miles	\$0.560	\$317.63
				\$0.00
				\$0.00
				\$0.00
				\$0.00
<b>I) TOTAL OTHER DIRECT COSTS</b>				<b>\$317.63</b>

**m) SUBCONSULTANTS' COSTS (Add additional pages if necessary)**

Subconsultant 1:	Biggs Cardoso	\$0.00
Subconsultant 2:	SHN	\$159,237.89
Subconsultant 3:	Rosco and Associates	\$14,000.00
Subconsultant 4:		
Subconsultant 5:		
<b>m) TOTALSUBCONSULTANTS' COSTS</b>		<b>\$173,237.89</b>

**n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l)+(m)]** **\$173,555.52**

**TOTAL COST [(c) + (j) + (k) + (n)]** **\$334,783.39**

**ANTICIPATED SALARY INCREASES**

**1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)**

Direct Labor <u>Subtotal</u> per Cost Proposal	Total Hours per Cost Proposal	=	Avg Hourly Rate	5 Year Contract Duration
\$49,685.00	1,126	=	\$44.13	Year 1 Avg Hourly Rate

**2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)**

	Avg Hourly Rate		Proposed Escalation			
Year 1	\$44.13	+	3.0%	=	\$45.45	Year 2 Avg Hourly Rate
Year 2	\$45.45	+	3.0%	=	\$46.81	Year 3 Avg Hourly Rate
Year 3	\$46.81	+	3.0%	=	\$48.22	Year 4 Avg Hourly Rate
Year 4	\$48.22	+	3.0%	=	\$49.66	Year 5 Avg Hourly Rate

**3. Calculate estimated hours per year (Multiply estimate % each year by total hours)**

	Estimated % Completed Each Year	*	Total Hours per Cost Proposal	=	Total Hours per Year	
Year 1	0.00%	*	1126.0	=	0.0	Estimated Hours Year 1
Year 2	10.00%	*	1126.0	=	112.6	Estimated Hours Year 2
Year 3	60.00%	*	1126.0	=	675.6	Estimated Hours Year 3
Year 4	30.00%	*	1126.0	=	337.8	Estimated Hours Year 4
Year 5	0.00%	*	1126.0	=	0.0	Estimated Hours Year 5
Total	100%		Total	=	1126.0	

**4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)**

	Avg Hourly Rate (calculated above)	*	Estimated hours (calculated above)	=	Cost per Year	
Year 1	\$44.13	*	0	=	\$0.00	Estimated Hours Year 1
Year 2	\$45.45	*	113	=	\$5,117.56	Estimated Hours Year 2
Year 3	\$46.81	*	676	=	\$31,626.49	Estimated Hours Year 3
Year 4	\$48.22	*	338	=	\$16,287.64	Estimated Hours Year 4
Year 5	\$49.66	*	0	=	\$0.00	Estimated Hours Year 5
Total Direct Labor Cost with Escalation				=	\$53,031.69	
Direct Labor Subtotal before Escalation				=	\$49,685.00	
Estimated total of Direct Labor Salary Increase				=	<b>\$3,346.69</b>	

**EXHIBIT 10-H1 COST PROPOSAL** Page 1 OF 3  
**COST-PLUS-FIXED FEE OR LUMP SUM OR FIRM FIXED PRICE CONTRACTS**  
**(PS&E PHASE)**

Note: Mark-ups are Not Allowed       Prime Consultant       Subconsultant       2nd Tier Subconsultant  
Consultant **SHN Consulting Engineers & Geologist, Inc.**

Project No. Arcata Annie & Mary Trail Connectivity Project-Phase2 Contract No. \_\_\_\_\_ Date 5/5/2023

**DIRECT LABOR**

Classification/Title	Name	Hours	Actual Hourly Rate	Total
Senior Surveyor*	Tom Herman	28	\$70.00	\$1,960.00
Principal Surveyor*	Matt Herman	70	\$53.58	\$3,750.60
Survey Rodman**	Joseph Stuebing	76	\$66.02	\$5,017.52
Non Field Technician	Joseph Stuebing	32	\$32.50	\$1,040.00
Survey Chief**	Mike Lyell	76	\$68.26	\$5,187.76
Non Field Technician	Mike Lyell	40	\$33.99	\$1,359.60
Senior Engineering Geologist*	Gary Simpson	44	\$63.50	\$2,794.00
Senior Geotechnical Engineer*	John Dailey	65	\$55.53	\$3,609.45
Project Geologist	Anson Call	48	\$33.02	\$1,584.96
Project Geologist	Alyssa Troia	20	\$21.50	\$430.00
Technical Writer	Allison Edrington	3	\$30.16	\$90.48
GIS Specialist	Maya Rose	10	\$26.40	\$264.00
Assistant Project Manager	Alyssa Troia	32	\$21.50	\$688.00
Project Manager/Principal in Charge*	Jared O'Barr	26	\$62.52	\$1,625.52
<b>Total Hours</b>			<b>570</b>	

**LABOR COSTS**

a) Subtotal Direct Labor Costs \$29,401.89  
 b) Anticipated Salary Increases (see page 2 for calculation) \$1,987.64  
**c) TOTAL DIRECT LABOR COSTS [(a) + (b)]** \$31,389.53

**INDIRECT COSTS**

d) Fringe Benefits (Rate: 74.60%) e) Total Fringe Benefits [(c) x (d)] \$23,416.59  
 f) Overhead (Rate: 70.04%) g) Overhead [(c) x (f)] \$21,985.23  
 h) General and Administrative (Rate: 34.90%) i) Gen & Admin [(c) x (h)] \$10,954.95  
**j) TOTAL INDIRECT COSTS [(e) + (g) + (i)]** \$56,356.76

**FIXED FEE** (Rate: 10.00%) **k) TOTAL FIXED FEE [(c) + (j) x (q)]** \$8,774.63

**l) CONSULTANT'S OTHER DIRECT COSTS (ODC) – ITEMIZE (Add additional pages if necessary)**

Description of Item	Quantity	Unit	Unit Cost	Total
Mileage Costs	720	mi	\$ 0.560	\$403.20
Survey Equipment	7.5	day	\$ 600.00	\$4,500.00
Encroachment Permit for Giuntoli/Frank Martin Svy	1	lump sum	\$ 1,500.00	\$1,500.00
Geotechnical Laboratory Testing	1	lump sum	\$ 2,000.00	\$2,000.00
Recording Fees for Record of Survey	1	lump sum	\$ 500.00	\$500.00
<b>l) TOTAL OTHER DIRECT COSTS</b>				<u>\$8,903.20</u>

**m) TOTAL SUBCONSULTANTS' COSTS**

**n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l)+(m)]** \$8,903.20

**TOTAL COST [(c) + (j) + (k) + (n)]** \$105,424.13

NOTES:

1. Key personnel **must** be marked with an asterisk (\*) and employees that are subject to prevailing wage requirements must be marked with two asterisks (\*\*). All costs must comply with the Federal cost principles. Subconsultants will provide their own cost proposals.
2. The cost proposal format shall not be amended. Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans.
3. Anticipated salary increases calculation (page 2) must accompany.

**EXHIBIT 10-H1 COST PROPOSAL** Page 2 of 3  
**COST-PLUS-FIXED FEE OR LUMP SUM OR FIRM FIXED PRICE CONTRACTS**  
 (CALCULATIONS FOR ANTICIPATED SALARY INCREASES)

**1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)**

Direct Labor <u>Subtotal</u> per Cost Proposal	Total Hours per Cost Proposal	=	Avg Hourly Rate	5 Year Contract Duration
\$29,401.89	570	=	\$51.58	Year 1 Avg Hourly Rate

**2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)**

	Avg Hourly Rate		Proposed Escalation			
Year 1	\$51.58	+	3.5%	=	\$53.39	Year 2 Avg Hourly Rate
Year 2	\$53.39	+	3.5%	=	\$55.26	Year 3 Avg Hourly Rate
Year 3	\$55.26	+	3.5%	=	\$57.19	Year 4 Avg Hourly Rate
Year 4	\$57.19	+	3.5%	=	\$59.19	Year 5 Avg Hourly Rate
Year 5	\$59.19	+	3.5%	=	\$61.26	Year 6 Avg Hourly Rate
Year 6	\$61.26	+	3.5%	=	\$63.41	Year 7 Avg Hourly Rate

**3. Calculate estimated hours per year (Multiply estimate % each year by total hours)**

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	0.00%	*	570.0	=	0.0	Estimated Hours Year 1
Year 2	10.00%	*	570.0	=	57.0	Estimated Hours Year 2
Year 3	90.00%	*	570.0	=	513.0	Estimated Hours Year 3
Year 4	0.00%	*	570.0	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	570.0	=	0.0	Estimated Hours Year 5
Year 6	#REF!	*	570.0	=	#REF!	Estimated Hours Year 6
Total	#REF!		Total	=	#REF!	

**4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)**

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	\$51.58	*	0.0	=	\$0.00	Estimated Hours Year 1
Year 2	\$53.39	*	57.0	=	\$3,043.10	Estimated Hours Year 2
Year 3	\$55.26	*	513.0	=	\$28,346.44	Estimated Hours Year 3
Year 4	\$57.19	*	0.0	=	\$0.00	Estimated Hours Year 4
Year 5	\$59.19	*	0.0	=	\$0.00	Estimated Hours Year 5
Year 6	\$61.26	*	#REF!	=	#REF!	Estimated Hours Year 6
	Total Direct Labor Cost with Escalation			=	\$31,389.53	
	Direct Labor Subtotal before Escalation			=	\$29,401.89	
	Estimated total of Direct Labor Salary Increase			=	<b>\$1,987.64</b>	Transfer to Page 1

NOTES:

1. This is not the only way to estimate salary increases. Other methods will be accepted if they clearly indicate the % increase, the # of years of the contract, and a breakdown of the labor to be performed each year.
2. An estimation that is based on direct labor multiplied by salary increase % multiplied by the # of years is not acceptable. (i.e. \$250,000 x 2% x 5 yrs = \$25,000 is not an acceptable methodology)
3. This assumes that one year will be worked at the rate on the cost proposal before salary increases are granted.
4. Calculations for anticipated salary escalation must be provided.



**Certification of Direct Costs:**

I, the undersigned, certify to the best of my knowledge and belief that all direct costs identified on the cost proposal(s) in this contract are

- 1 Generally Accepted Accounting Principles (GAAP)
- 2 Terms and conditions of the contract
- 3 Title 23 United States Code Section 112 - Letting of Contracts
- 4 48 Code of Federal Regulations Part 31 - Contract Cost Principles and Procedures
- 5 23 Code of Federal Regulations Part 172 - Procurement, Management, and Administration of Engineering and Design Related
- 6 48 Code of Federal Regulations Part 9904 - Cost Accounting Standards Board (when applicable)

All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files and Local governments are responsible for applying only cognizant agency approved or Caltrans accepted Indirect Cost Rate(s).

**Prime Consultant or Subconsultant Certifying:**

Name: Mike Foget Title \*: CEO  
Signature : \_\_\_\_\_ Date of Certification (mm/dd/yyyy): 5/5/2023  
Email: [mfoget@shn-engr.com](mailto:mfoget@shn-engr.com) 707 441-8855  
Address: 812 West Wabash, Eureka, CA 95501

\*An individual executive or financial officer of the consultant’s or subconsultant’s organization at a level no lower than a Vice President or

List services the consultant is providing under the proposed contract:

Phase 2 services as described in the scope of work.

**EXHIBIT 10-H1 COST PROPOSAL** Page 1 OF 3  
**COST-PLUS-FIXED FEE OR LUMP SUM OR FIRM FIXED PRICE CONTRACTS**  
**(PS&E PHASE)**

Note: Mark-ups are Not Allowed       Prime Consultant       Subconsultant       2nd Tier Subconsultant

Consultant **SHN Consulting Engineers & Geologist, Inc.**

Project No. Arcata Annie & Mary Trail Connectivity Project-Phase2-of      Contract No. \_\_\_\_\_      Date 5/5/2023

**DIRECT LABOR**

Classification/Title	Name	Hours	Actual Hourly Rate	Total
Senior Surveyor*	Tom Herman	8	\$70.00	\$560.00
Principal Surveyor*	Matt Herman	10	\$53.58	\$535.80
Survey Rodman**	Joseph Stuebing	8	\$66.02	\$528.16
Non Field Technician	Joseph Stuebing		\$32.50	\$0.00
Survey Chief**	Mike Lyell	8	\$68.26	\$546.08
Non Field Technician	Mike Lyell	8	\$33.99	\$271.92
Assistant Project Manager	Alyssa Troia	1	\$21.50	\$21.50
Project Manager/Principal in Charge*	Jared O'Barr	1	\$62.52	\$62.52

<b>LABOR COSTS</b>	Total Hours	44
a) Subtotal Direct Labor Costs		\$2,525.98
b) Anticipated Salary Increases (see page 2 for calculation)		\$170.76
<b>c) TOTAL DIRECT LABOR COSTS [(a) + (b)]</b>		<b>\$2,696.74</b>

<b>INDIRECT COSTS</b>		
d) Fringe Benefits (Rate: <u>74.60%</u> )	e) Total Fringe Benefits [(c) x (d)]	\$2,011.77
f) Overhead (Rate: <u>70.04%</u> )	g) Overhead [(c) x (f)]	\$1,888.80
h) General and Administrative (Rate: <u>34.90%</u> )	i) Gen & Admin [(c) x (h)]	\$941.16
<b>j) TOTAL INDIRECT COSTS [(e) + (g) + (i)]</b>		<b>\$4,841.73</b>

<b>FIXED FEE</b> (Rate: <u>10.00%</u> )	<b>k) TOTAL FIXED FEE [(c) + (j) x (q)]</b>	<b>\$753.85</b>
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**l) CONSULTANT'S OTHER DIRECT COSTS (ODC) – ITEMIZE (Add additional pages if necessary)**

Description of Item	Quantity	Unit	Unit Cost	Total
Mileage Costs	165	mi	\$ 0.560	\$92.40
Survey Equipment	3	day	\$ 600.00	\$1,800.00
Recording Fees for Record of Survey	1	lump sum	\$ 500.00	\$500.00

**l) TOTAL OTHER DIRECT COSTS** \$2,392.40

**m) TOTAL SUBCONSULTANTS' COSTS** \_\_\_\_\_

**n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l)+(m)]** \$2,392.40

**TOTAL COST [(c) + (j) + (k) + (n)]** \$10,684.72

NOTES:

1. Key personnel **must** be marked with an asterisk (\*) and employees that are subject to prevailing wage requirements must be marked with two asterisks (\*\*). All costs must comply with the Federal cost principles. Subconsultants will provide their own cost proposals.
2. The cost proposal format shall not be amended. Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans.
3. Anticipated salary increases calculation (page 2) must accompany.

**EXHIBIT 10-H1 COST PROPOSAL** Page 2 of 3  
**COST-PLUS-FIXED FEE OR LUMP SUM OR FIRM FIXED PRICE CONTRACTS**  
 (CALCULATIONS FOR ANTICIPATED SALARY INCREASES)

**1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)**

Direct Labor <u>Subtotal</u> per Cost Proposal \$2,525.98	Total Hours per Cost Proposal 44	=	Avg Hourly Rate \$57.41	5 Year Contract Duration Year 1 Avg Hourly Rate
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**2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)**

	Avg Hourly Rate		Proposed Escalation			
Year 1	\$57.41	+	3.5%	=	\$59.42	Year 2 Avg Hourly Rate
Year 2	\$59.42	+	3.5%	=	\$61.50	Year 3 Avg Hourly Rate
Year 3	\$61.50	+	3.5%	=	\$63.65	Year 4 Avg Hourly Rate
Year 4	\$63.65	+	3.5%	=	\$65.88	Year 5 Avg Hourly Rate
Year 5	\$65.88	+	3.5%	=	\$68.18	Year 6 Avg Hourly Rate
Year 6	\$68.18	+	3.5%	=	\$70.57	Year 7 Avg Hourly Rate

**3. Calculate estimated hours per year (Multiply estimate % each year by total hours)**

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	0.00%	*	44.0	=	0.0	Estimated Hours Year 1
Year 2	10.00%	*	44.0	=	4.4	Estimated Hours Year 2
Year 3	90.00%	*	44.0	=	39.6	Estimated Hours Year 3
Year 4	0.00%	*	44.0	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	44.0	=	0.0	Estimated Hours Year 5
Year 6	#REF!	*	44.0	=	#REF!	Estimated Hours Year 6
Total	#REF!		Total	=	#REF!	

**4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)**

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	\$57.41	*	0.0	=	\$0.00	Estimated Hours Year 1
Year 2	\$59.42	*	4.4	=	\$261.44	Estimated Hours Year 2
Year 3	\$61.50	*	39.6	=	\$2,435.30	Estimated Hours Year 3
Year 4	\$63.65	*	0.0	=	\$0.00	Estimated Hours Year 4
Year 5	\$65.88	*	0.0	=	\$0.00	Estimated Hours Year 5
Year 6	\$68.18	*	#REF!	=	#REF!	Estimated Hours Year 6
	Total Direct Labor Cost with Escalation			=	\$2,696.74	
	Direct Labor Subtotal before Escalation			=	\$2,525.98	
	Estimated total of Direct Labor Salary Increase			=	<b>\$170.76</b>	Transfer to Page 1

NOTES:

1. This is not the only way to estimate salary increases. Other methods will be accepted if they clearly indicate the % increase, the # of years of the contract, and a breakdown of the labor to be performed each year.
2. An estimation that is based on direct labor multiplied by salary increase % multiplied by the # of years is not acceptable. (i.e. \$250,000 x 2% x 5 yrs = \$25,000 is not an acceptable methodology)
3. This assumes that one year will be worked at the rate on the cost proposal before salary increases are granted.
4. Calculations for anticipated salary escalation must be provided.



**EXHIBIT 10-H1 COST PROPOSAL** Page 1 OF 3  
**COST-PLUS-FIXED FEE OR LUMP SUM OR FIRM FIXED PRICE CONTRACTS**  
**(PS&E PHASE)**

Note: Mark-ups are Not Allowed       Prime Consultant       Subconsultant       2nd Tier Subconsultant  
Consultant **SHN Consulting Engineers & Geologist, Inc.**

Project No. Arcata Annie & Mary Trail Connectivity Project-Phase3      Contract No. \_\_\_\_\_      Date 5/4/2023

**DIRECT LABOR**

Classification/Title	Name	Hours	Actual Hourly Rate	Total
Senior Surveyor*	Tom Herman	70	\$70.00	\$4,900.00
Principal Surveyor*	Matt Herman	70	\$53.58	\$3,750.60
Survey Rodman**	Joseph Stuebing	16	\$66.02	\$1,056.32
Non Field Technician	Joseph Stuebing	2	\$32.50	\$65.00
Survey Chief**	Mike Lyell	16	\$68.26	\$1,092.16
Non Field Technician	Mike Lyell	16	\$33.99	\$543.84
Senior Surveyor	Walter White	16	\$50.17	\$802.72
Project Manager/Principal in Charge*	Jared O'Barr	10	\$62.52	\$625.20

**LABOR COSTS**      Total Hours      216

a) Subtotal Direct Labor Costs      \$12,835.84

b) Anticipated Salary Increases (see page 2 for calculation)      \$867.73

**c) TOTAL DIRECT LABOR COSTS [(a) + (b)]**      \$13,703.57

**INDIRECT COSTS**

d) Fringe Benefits      (Rate: 74.60%)      ) e) Total Fringe Benefits [(c) x (d)]      \$10,222.87

f) Overhead      (Rate: 70.04%)      ) g) Overhead [(c) x (f)]      \$9,597.98

h) General and Administrative      (Rate: 34.90%)      ) i) Gen & Admin [(c) x (h)]      \$4,782.55

**j) TOTAL INDIRECT COSTS [(e) + (g) + (i)]**      \$24,603.40

**FIXED FEE**      (Rate: 10.00%)      **k) TOTAL FIXED FEE [(c) + (j) x (q)]**      \$3,830.70

**l) CONSULTANT'S OTHER DIRECT COSTS (ODC) – ITEMIZE (Add additional pages if necessary)**

Description of Item	Quantity	Unit	Unit Cost	Total
Mileage Costs	120	mi	\$ 0.560	\$67.20
Survey Equipment	2	day	\$ 600.00	\$1,200.00
<b>l) TOTAL OTHER DIRECT COSTS</b>				<b>\$1,267.20</b>

**m) TOTAL SUBCONSULTANTS' COSTS** \_\_\_\_\_

**n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l)+(m)]**      \$1,267.20

**TOTAL COST [(c) + (j) + (k) + (n)]**      \$43,404.87

NOTES:

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2. The cost proposal format shall not be amended. Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans.
3. Anticipated salary increases calculation (page 2) must accompany.

**EXHIBIT 10-H1 COST PROPOSAL** Page 2 of 3  
**COST-PLUS-FIXED FEE OR LUMP SUM OR FIRM FIXED PRICE CONTRACTS**  
 (CALCULATIONS FOR ANTICIPATED SALARY INCREASES)

**1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)**

Direct Labor <u>Subtotal</u> per Cost Proposal	Total Hours per Cost Proposal	=	Avg Hourly Rate	5 Year Contract Duration
\$12,835.84	216		\$59.43	Year 1 Avg Hourly Rate

**2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)**

	Avg Hourly Rate		Proposed Escalation			
Year 1	\$59.43	+	3.5%	=	\$61.51	Year 2 Avg Hourly Rate
Year 2	\$61.51	+	3.5%	=	\$63.66	Year 3 Avg Hourly Rate
Year 3	\$63.66	+	3.5%	=	\$65.89	Year 4 Avg Hourly Rate
Year 4	\$65.89	+	3.5%	=	\$68.19	Year 5 Avg Hourly Rate
Year 5	\$68.19	+	3.5%	=	\$70.58	Year 6 Avg Hourly Rate
Year 6	\$70.58	+	3.5%	=	\$73.05	Year 7 Avg Hourly Rate

**3. Calculate estimated hours per year (Multiply estimate % each year by total hours)**

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	0.00%	*	216.0	=	0.0	Estimated Hours Year 1
Year 2	10.00%	*	216.0	=	21.6	Estimated Hours Year 2
Year 3	90.00%	*	216.0	=	194.4	Estimated Hours Year 3
Year 4	0.00%	*	216.0	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	216.0	=	0.0	Estimated Hours Year 5
Year 6	#REF!	*	216.0	=	#REF!	Estimated Hours Year 6
Total	#REF!		Total	=	#REF!	

**4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)**

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	\$59.43	*	0.0	=	\$0.00	Estimated Hours Year 1
Year 2	\$61.51	*	21.6	=	\$1,328.51	Estimated Hours Year 2
Year 3	\$63.66	*	194.4	=	\$12,375.07	Estimated Hours Year 3
Year 4	\$65.89	*	0.0	=	\$0.00	Estimated Hours Year 4
Year 5	\$68.19	*	0.0	=	\$0.00	Estimated Hours Year 5
Year 6	\$70.58	*	#REF!	=	#REF!	Estimated Hours Year 6
	Total Direct Labor Cost with Escalation			=	\$13,703.57	
	Direct Labor Subtotal before Escalation			=	\$12,835.84	
	Estimated total of Direct Labor Salary Increase			=	<b>\$867.73</b>	Transfer to Page 1

NOTES:

1. This is not the only way to estimate salary increases. Other methods will be accepted if they clearly indicate the % increase, the # of years of the contract, and a breakdown of the labor to be performed each year.
2. An estimation that is based on direct labor multiplied by salary increase % multiplied by the # of years is not acceptable. (i.e. \$250,000 x 2% x 5 yrs = \$25,000 is not an acceptable methodology)
3. This assumes that one year will be worked at the rate on the cost proposal before salary increases are granted.
4. Calculations for anticipated salary escalation must be provided.

