Scope of Work

TASK 1 Project Management

Our understanding of this project leads us to believe that project management and coordination are the most critical functions to achieving a successful outcome in a timely manner. Minimizing complexity wherever possible, staying in front of project stakeholders, and open and continuous communication will ease the process from concept to completion.

SUBTASK 1.1 Project Management

This subtask encompasses a number of functions, including but not limited to, internal coordination, invoicing, tracking scope; schedule; and budget, and providing those regular updates through monthly progress reports and schedule lookaheads (including attention to critical path items), and generally supervising and guiding all discipline leads and subconsultants to ensure conformance with the contract provisions.

SUBTASK 1.2 Project Meetings (18 total)

Shortly after notice to proceed, we will schedule and provide agenda for a project kickoff meeting. We will similarly host up to 18 project development team (PDT) meetings throughout the course of the project, with the majority being virtual and some targeted meetings being held in-person, and provide minutes. The RFP asks for up to 30 meetings. However, we are proposing a 12-month schedule and believe 18 meetings may be sufficient. That said, Kyle is always available to speak with the City at any time before, during, or after the project.

SUBTASK 1.3 Stakeholder Coordination

We will initiate contact with all project stakeholders shortly after notice to proceed, including the City, Alameda County Flood Control District (ACFCD), San Leandro Unified School District (SLUSD), and any impacted utility and private property owners.

We will conduct a design workshop with the City's Facilities and Transportation Committee (FTC) to gain concept approval. We will develop a brief concept presentation, including a rendering, for FTC and City to review and comment on. We will only proceed with developing the 35% PS&E once the City has approved the concept.

SUBTASK 1.4 Research and Data Collection

We will collect all relevant data and documentation related to the project site for our review, to include as-built plans, any utility information (no utilities carried by the bridge, approaches, and future lighting will require review of local utility presence along Haas Avenue and Cary Drive), aerial topography, right-of-way maps, permit requirements and information, and design criteria. Design criteria include but are not limited to American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Guide Specifications for the Design of Pedestrian Bridges (2nd Edition), AASHTO LRFD Bridge Design Specifications (8th Edition), Caltrans Seismic Design Criteria (version 2.0), Caltrans Bridge Design Memos; Structure Technical Policies; Memos to Designers; Bridge Design Aids; Standard Plans; Standard Specifications; and Standard Details as applicable, Federal Highway Administration (FHWA) PROWAG, and any applicable ACFCD and City of San Leandro standards and specifications.

SUBTASK 1.5 Quality Assurance Program

Our **Principal-in-Charge, Shawn Kowalewski, PE**, will be responsible as Quality Manager, assigned to ensure quality control (QC) measures are methodically employed across all deliverables. The Quality Manager will also manage discipline leads in the performance of Interdisciplinary Reviews (IDR) prior to each deliverable to ensure subdiscipline coordination throughout the project. All QC and IDR reviews will be officially documented, stamped, stored, and available for audit upon request. Budgets for project deliverable quality control measures are built into the subdiscipline budgets. The budget for managing those QC and IDR processes is separately annotated as part of Subtask 1.5.

SUBTASK 1.6 Public Outreach

MNS staff will develop public outreach materials for the City to distribute and/or present to the public, including such products as digital or paper flyers and mailers. A total of 36 hours has been budgeted for this effort.

Task 1 Deliverables:

- Monthly Invoices
- Monthly Progress Reports
- Monthly Schedule Lookaheads
- Meeting Agendas and Minutes
- Design Concept Presentation for City FTC
- Public Outreach Collateral
- Project QA/QC documentation *available for audit upon request*

TASK 2 Environmental

The MNS Team has added **EMC Planning Group (EMC)** as a local subconsultant to provide biological services. MNS environmental planners will provide an application and supporting documentation for Categorical Exemption to CEQA.

SUBTASK 2.1 Biological Resources and Jurisdictional Delineation Report

EMC will provide local senior biologists and wetland scientists who will conduct a biological resources assessment and jurisdictional delineation of the bridge footprint. Based on a preliminary review of aerial photographs, the proposed bridge crosses San Leandro Creek, a riverine feature identified in the National Wetlands Inventory (US Fish and Wildlife Service, 2024) which appears to support riparian woodland. The creek is expected to be considered state and federal waters under the jurisdiction of the US Army Corps of Engineers, Regional Water Quality Control Board, and/or the California Department of Fish and Wildlife.

This evaluation will assess potential habitat present for special-status species in the area, map potentially jurisdictional aquatic features, and recommend mitigation measures for the protection of biological resources. If suitable habitat is identified, recommendations may also include the need for additional specific or protocol-level surveys to be conducted during an appropriate time of year. Depending upon the ultimate project design, the letter report will be used to document avoidance of temporary and permanent impacts to jurisdictional waters and sensitive species. Recommendations for avoidance and minimization of impacts to biological resources will be made.

This scope of work includes tasks to conduct a reconnaissance-level biological survey and wetland/waters delineation and prepare a letter report. This scope of work does not include protocol surveys to determine presence/absence of state and federal species.

SUBTASK 2.2 CEQA Exemption

Public Resources Code section 15301 categorically exempts projects from CEQA analysis when the project involves "the repair and minor alteration of existing public structures involving negligible expansion of existing use," which we believe could apply to the replacement of the Cary-Haas pedestrian bridge project. The exemption specifically applies to restoration of deteriorated or damaged structures, including "existing pedestrian trails" to meet current standards of public health and safety. The MNS team will analyze the project description and results of the Biological Resources and Jurisdictional Delineation Letter Report (Subtask 2.1) make recommendations to the City for the applicable CEQA exemption.

MNS will prepare a Notice of Exemption (NOE) pursuant to CEQA Guidelines Section 15303 (New Construction or Conversion of Small Structures). MNS will complete the NOE form, as well as prepare a technical memorandum that outlines the proposed project components and compliance with the requirements of CEQA Guidelines Section 15303. MNS will submit a draft of the NOE and Technical Memo to the City for review. MNS will make revisions based on one compiled set of City comments, and then finalize the NOE. It is assumed the City will be responsible for payment of the filing fees, if any.

SUBTASK 2.3 Multi-Agency Coordination

We will plan to meet with USACE, RWQCB, and CDFW to ensure our environmental permitting strategy is appropriately coordinated. We will assume two meetings per agency.

Task 2 Deliverables:

- Draft and Final Biological Resources and Jurisdictional Delineation Reports
- Draft and Final CEQA Exemption Filing Form and CEQA Technical Memorandum

TASK 3 Survey and Mapping

Since it is the intent of this project to reuse the existing abutments, an aerial topographic survey will not provide the accuracy required in detailed design and a field survey will be performed to confirm structure elevations and topographic contours.

SUBTASK 3.1 Topographic Map and Field Survey

A survey crew will establish controls, perform a field survey, and develop a detailed topographic map of the project site.

SUBTASK 3.2 Legals and Plats

Our survey team is prepared to develop legal descriptions, plats, and right-of-way base maps to support the City's effort in acquiring any properties or easements needed to carry out the scope of work.

Task 3 Deliverables:

- Survey and topographic data to be shown on Structure Foundation Plan, including contours, control, benchmark, and datum.
- Legal descriptions and plat maps to support property and easement acquisition shall be provided for up to six properties.
- Right-of-Way Base Map (optional deliverable)

TASK 4 Utilities

The existing bridge carried no utilities. It is not anticipated the replacement bridge will carry utilities. Existing streetlights appear to be unmetered PG&E-owned facilities with aerial

services. Local residential utilities within the vicinity of the project site may include but are not limited to, water; sewer; telecommunications; coaxial cable; and electrical.

SUBTASK 4.1 Utility Potholing/GPR and Base Map

We will develop a utility base map using ground penetrating radar (GPR) wherever possible. If GPR cannot discover a known utility, we will pothole. We have assumed that only GPR will be required.

Task 4 Deliverables:

- Utility Base Map

TASK 5 Geotechnical Engineering

EMI is providing the full geotechnical engineering scope.

SUBTASK 5.1 Geotechnical Investigation

Caltrans/AASHTO recommends a soil boring at each bridge support location where substructure width is less than 100 feet; minimum of two borings are required per location where substructure width is greater than 100 feet. Based on this, EMI will perform two 50-foot-deep soil borings/CPT soundings. The proposed approximate boring/CPT sounding depth will be raised if refusal is encountered. It is our intent to use CPT if possible, which would be more cost- and schedule-effective for the City.

EMI will prepare a boring location plan to be used to secure the County well permits as well as City encroachment permits.

EMI field personnel will collect soil samples for laboratory testing, including bulk samples of near-surface soils and small disturbed and relatively undisturbed ring samples of deeper soils. The small disturbed and relatively undisturbed soil samples will be collected using split-spoon samplers at a vertical interval of about 5 feet, alternating between the Standard Penetration Test (SPT) sampler and the Modified California Drive (MCD) sampler. Samples of subsurface soils will be logged during the field investigation, secured in their containers or collected in plastic bags, and transported to the EMI laboratory.

SUBTASK 5.2 Laboratory Testing

Field logs of the boreholes will be reviewed to select representative soil samples for laboratory testing. Various laboratory tests will be performed on soil samples to determine or derive their physical and engineering characteristics. Anticipated laboratory tests include: in-situ density and moisture content, grain size, Atterberg Limits, direct shear, Unconsolidated Undrained triaxial, and soil corrosion tests. Laboratory tests will be conducted in general accordance with American Society for Testing and Materials (ASTM) standards or California Test methods.

SUBTASK 5.3 Geotechnical Engineering Analyses

Results obtained from the field investigation and laboratory testing will be used to characterize subsurface soils and conditions and create idealized soil profiles for design purposes. The following analyses will be performed for the project:

- Evaluation of seismicity and estimation of Peak Ground Acceleration based on the Caltrans design criteria, and recommendations of an ARS curve for the bridge structural design.
- Assessment of soil liquefaction potential, seismic settlement, and lateral spreading.
- Foundation analysis for the bridge.
- Assessment of global slope stability.
- Evaluation of soil corrosivity conditions and any recommendations for mitigation measures.

SUBTASK 5.4 Draft Foundation Report (w/ 65% PS&E)

While we will work with the structural designers to provide geotechnical guidance at the early phases of the project, we believe we can save the City cost by avoiding a formal Preliminary Foundation Report for this project. Our first formal report will include results of all the laboratory testing and geotechnical analyses. We will provide a Draft Foundation Report (DFR) to support the 65% PS&E package as a comprehensive set of geotechnical recommendations.

SUBTASK 5.5 Final Foundation Report (w/ 95% PS&E)

Our team will make any updates as needed to the DFR to provide the Final Foundation Report (FR) to support the 95% PS&E package.

Task 5 Deliverables:

- Draft Foundation Report (DFR)
- Final Foundation Report (FR)

TASK 6 Hydrology and Hydraulics

It is assumed there will be very minimal hydrology and hydraulics (H&H) work required for this project. The project approach reuses the existing bridge abutments/locations. Our team has reviewed available documentation that indicates that the San Leandro Creek floodplain and base flood elevations are completely spanned by the existing bridge with the existing abutments outside the mapped flood limits. Additionally, the flow in San Leandro Creek is regulated by the Chabot Dam, approximately 1.9 miles upstream. A simple, single-page

location hydraulic study (LHS) will be prepared to document our findings in regard to FEMA requirements.

The project is not proposing to add impervious material, but only replace and improve existing impervious material. The structure will not capture rainfall but drain directly into the creek in the same manner as the existing bridge. Therefore, it is assumed that Water Pollution Control Plan (WPCP) or Storm Water Pollution Prevention Plan (SWPPP) will not be required by the project development team. The contractor will prepare plans required for construction activities, which is a common strategy.

The FEMA floodplain is shown to be approximately 30-feet-wide (well within the 110-foot bridge span) and at an elevation of approximately 51 feet (well below the base of existing abutment pile caps).

SUBTASK 6.1 Location Hydraulic Study Technical Memorandum

We will provide a Technical Memorandum describing the local FEMA floodplain/floodway and its interaction, if any, on the replacement structure. It is assumed through preliminary research that the replacement structure will not pose an impact to the FEMA floodplain.

Our FEMA Floodplain Manager will coordinate with the FEMA local Floodplain Administrator (FPA) to document whether the improvements impact the FEMA floodplain and to verify specific FEMA permitting requirements. We will coordinate the required FEMA work zone horizontal clearances and vertical freeboard. We will perform a FEMA floodplain analysis for the 100-year storm event and develop a reference map for the 100-year floodplain and flood zone. The finding will be summarized in the LHS Technical Memorandum. We will complete any required FEMA regulatory permit application and process with the FEMA Floodplain Administrator.

Task 6 Deliverables:

- Location Hydraulic Study Technical Memorandum

TASK 7 Civil Engineering

The civil engineering effort will include design of the sidewalk approaches from both Haas Avenue and Cary Drive to the bridge, lighting sufficient to illuminate the approaches and the bridge walkway with electrical supply, detailed bid item quantities and cost estimate, technical special provisions (specifications), constructability review, and a Value Engineering (VE) Study. Drainage, signing, pavement delineation, and wayfinding plans are not anticipated currently. The project contract documents will be prepared using City of San Leandro Standard plans in conjunction with the Standard Specifications for Public Works Construction (GREENBOOK).

SUBTASK 7.1 35% Civil PS&E

We will provide a VE Study and conceptual engineer's estimate of probable construction cost at this stage and a preliminary set of civil drawings, to include the following sheets:

- Title Sheet with Key Map
- Layout and Grading Plan
- Utility Plan

The VE Study would be arranged by the Project Manager toward the conclusion of the 35% design phase. Three engineers from outside the project would spend four hours evaluating the 35% design for any cost saving measures. These proposals would then be provided to the Project Development Team (PDT), including stakeholders, for review and decision on inclusion or rejection. The 35% design phase is the appropriate time to perform the VE as the project direction is set but design is not complete so changes can still be made without much rework.

SUBTASK 7.1.1 Response to Comments

We will review and provide responses to comments from City and ACFCD using a comment response matrix. If needed to resolve comments, we will schedule a comment resolution meeting with oversight engineers.

SUBTASK 7.2 65% Civil PS&E

We will provide a 65% set of plans, an unedited list of specifications applicable to the project, a preliminary set of quantities, constructability review, and a preliminary engineer's estimate of probable construction cost. The 65% preliminary civil plan set will include the following sheets:

- Title Sheet with Key Map
- Layout and Grading Plan
- Utility and Lighting Plan

SUBTASK 7.2.1 Response to Comments

We will review and provide responses to comments from City and ACFCD using a comment response matrix. If needed to resolve comments, we will schedule a comment resolution meeting with oversight engineers.

SUBTASK 7.3 95% Civil PS&E

We will update the 65% deliverables as required and provide a full set of specifications along with an updated engineer's estimate.

SUBTASK 7.3.1 Response to Comments

We will review and provide responses to comments from City and ACFCD using a comment response matrix. If needed to resolve comments, we will schedule a comment resolution meeting with oversight engineers.

SUBTASK 7.4 100% (Final) Civil PS&E

We will update the 95% deliverables as required to deliver the final signed and stamped civil PS&E contract documents. We assume the City will be preparing the contract boilerplate documents (consultant will prepare special provisions).

Task 7 Deliverables:

- Civil Plans
- Special Provisions
- Civil Engineer's Estimate of Probable Construction Cost
- Constructability Review
- Value Engineering Study

TASK 8 Structural Engineering

MNS will provide professional engineering services for the structural design of the foundations and abutments to support a replacement single-span prefabricated steel pedestrian bridge over San Leandro Creek. It is assumed the bridge will be approximately 7 feet wide and 110 feet long, similar to the existing one, and will carry pedestrian traffic. We propose that the most cost- and schedule-effective and right-sized superstructure would be one that is procured through a third-party steel pedestrian bridge manufacturer. These specialty manufacturers design, fabricate, and transport the bridge to the site for the general contractor to then splice and erect onto the appropriately designed substructure. Upon bidding the work, general contractors would include one of these manufacturers in their bid. MNS bridge engineers will coordinate with one or more of these manufacturers during design to ensure that the substructure is designed to accommodate the desired superstructure.

This scope of work is for the structural design and preparation of the construction details of the bridge's abutments and foundations, providing specifications for the superstructure for bidding purposes, and providing coordination during design to ensure the desired superstructure is accommodated.

The structural engineering effort will include a vertical and lateral (seismic) analysis of the existing abutments and piles for reuse or retrofit to support the replacement bridge superstructure, including design of new bridge joints and evaluation or design of abutment; foundation; retaining/wing wall; and approach slab modifications. This scope of work assumes the abutments are located such that they are not subject to scour.

We will assign a senior resident (field) engineer experienced in bridge construction to perform a constructability review and provide comments and resolution. We will also develop an erection plan with step-by-step construction sequence to demonstrate feasibility of transport, on-site splicing, and erection of the superstructure, and construction of the bearings, joints, bridge deck, and any abutment or foundation modifications.

This scope of work assumes we will not perform the bridge independent check calculations indicated in the RFP and they will not be required by the City or ACFCD. Rather, MNS will provide a detailed QC check of the structural plans and calculations. Additionally, it is noted that the City will hire a separate structural engineer to review the structural PS&E package and provide comments on the design.

We will also provide structural specifications, quantity calculations, and cost estimates.

SUBTASK 8.1 35% Structural PS&E

We will provide a preliminary set of bridge drawings at this stage, to include the following sheets:

- General Plan
- Foundation Plan

SUBTASK 8.1.1 Response to Comments

We will review and provide responses to comments from City and ACFCD using a comment response matrix. If needed to resolve comments, we will schedule a comment resolution meeting with oversight engineers.

SUBTASK 8.2 65% Structural PS&E

We will provide a 65% set of plans, an unedited list of specifications applicable to the project, a preliminary set of quantities, and a preliminary cost estimate.

Structure calculations will be performed by a California-registered civil engineer in accordance with the applicable provisions of the LRFD Guide Specifications for the Design of Pedestrian Bridges. A complete bound set of design calculations will be prepared and submitted to the City for review.

We will prepare structure quantity calculations for the pedestrian bridge and abutment work detailed above, and an Engineer's Estimate.

The 65% structure plan set will include the following sheets:

- General Plan
- Index to Plans Sheet
- Construction Sequence and Erection Plan
- Foundation Plan
- Abutment Layout
- Abutment Details
- Approach Slab and Drainage Details
- Log of Test Borings

SUBTASK 8.2.1 Response to Comments

We will review and provide responses to comments from the City and ACFCD using a comment response matrix. If needed to resolve comments, we will schedule a comment resolution meeting with oversight engineers.

SUBTASK 8.3 95% Structural PS&E

We will update the 65% deliverables as required. MNS will provide a full set of edited specification Special Provisions. The Special Provisions for the roadway and structure will be based upon Caltrans Standard Special Provisions (SSPs). The City will incorporate the Caltrans Standard Specifications and project SSPs into their bid documents (i.e. Notice to Contractors, Instructions to Bidders, Contractor Forms, etc.) and coordinate the specifications with any other non-bridge bid items.

SUBTASK 8.3.1 Response to Comments

We will review and provide responses to comments from the City and ACFCD using a comment response matrix. If needed to resolve comments, we will schedule a comment resolution meeting with oversight engineers.

SUBTASK 8.4 100% (Final) Structural PS&E

We will update the 95% deliverables as required.

Task 8 Deliverables:

- Structure Plans
- Structure Design Calculations
- Structure Specifications/Special Provisions
- Structure Quantity Calculations
- Structure Engineer's Estimate of Probable Construction Cost
- Constructability Review

TASK 9 Bidding Support

The City will package the bid documents, advertise the project for bidding, and distribute the plans to prospective bidders. The City's project coordinator will be the designated person to receive contractor inquiries. MNS's project manager and project staff will assist the City as requested during the bidding phase. This work may include:

- Attendance at pre-bid meeting(s)
- Responding to questions from potential bidders concerning PS&E package
- Preparing contract addenda as necessary

TASK 10 Construction Support

We will provide construction support engineering services to the contractor on behalf of the City. A preliminary budget for these services has been included in the fee proposal. This budget may require adjustment depending on the level of MNS involvement required during construction.

SUBTASK 10.1 RFIs and Submittals

MNS will attend the pre-construction meeting. MNS will review questions and/or formal Requests for Information (RFI) received from the contractor. MNS will provide technical review of material submittals and shop drawings for general conformance to design intent as shown on the contract documents. MNS will provide advice and technical support for any construction change orders.

SUBTASK 10.2 Site Visits

Under the direction of the City Engineer, MNS will periodically visit the site to inspect the project construction. MNS will assist the City in evaluating installation work for compliance with bid documents and provide technical support to City inspectors during field visits and through correspondence. Three intermediate site visits are budgeted. Additionally, a final site visit/inspection will be performed prior to final acceptance of the project.

SUBTASK 10.3 As-Built Drawings

MNS will revise PS&E and prepare responses, clarifications, revisions, and supporting documents as necessary to reflect any changes made during construction and to provide an accurate record of the final structure.

Task 10 Deliverables:

- Response to RFIs
- Review and approval of or direction on Material Submittals
- Record As-Built Drawings in .pdf and AutoCAD (.dwg) format
- *Upon request from the City*, MNS will provide a report identifying any deficiencies in the project related to the quality of contractor's workmanship (optional deliverable)