The following is a summary of the 'Scope of Services' to be included in the Contract Services Agreement with Schaaf and Wheeler for the Storm Water Trash Capture Devices, Project No. 2017.0540

SCOPE OF SERVICES

This contract provides for the design and preparation of construction bid documents for the installation of trash capture devices (TCD) recommended in the Full Trash Capture Feasibility Study dated June 2023. Six TCD sites are identified in this study and it is anticipated that all sites will be designed and bid at the same time. The requirements and conditions vary for each of the proposed TCD locations: two are in Caltrans right of way (ROW), four are on Alameda County Flood Control District (ACFCD) pipes or ROW, and two are on the East Bay Regional Park District (EBRPD) property. One is located near a pump station, and three are likely to be tidally influenced. At three locations, there may be the opportunity to install an outfall device.

Phase 1 - Preliminary Design

Task 1.1 Project Management and Meetings

This task includes project management and meetings with City staff as needed to accomplish the preliminary design. Consultant to allow for a minimum of two (2) on-site progress and coordination meetings.

Task 1.2 Data Collection and Research

This task includes items related to collecting the necessary background data needed to start design work on the project, including the following:

- Onsite field assessments and reviews of existing stormwater drainage and utility conditions at each proposed location. Review available construction drawings and other available information.
- Investigation of existing site conditions, including existing utilities research and geotechnical desktop analysis and pre-field activities. Includes one day of field visits by the project engineer, geotechnical engineer, and the environmental permitting consultant.
- Recommend brand and model for each TCD location that meets the 1-year event down to 5 mm particles permit requirement.

Task 1.3 Hydraulic Evaluation and Analysis

This task will review and analyze hydraulic impacts of the proposed trash capture devices on existing hydrology, including the following:

- Determine 1-year, 1-hour and peak (15- and 100-year) flow rates using hydraulic models. Either existing models will be obtained from the ACFCD and modified to determine the 1-year flow rate, or Consultant will develop hydrologic models in HEC-

HMS.

- Determine localized hydraulic impacts based on the selected trash capture device. This scope does not include a model of the entire storm drain system but includes impacts for the area directly upstream of the device only. If a device requires a weir in the system for diversion, the weir height will be calculated to capture the 1-year 1-hour event considering device head loss.
- Review of available ACFCD pump station hydraulic design criteria, existing equipment, and operating conditions.
- Should any device result in flooding or cause impacts to upstream hydraulic grade or to the pump stations, such as excessive cycling, alternatives will be considered, or mitigation may be proposed. Mitigation may include altering pump station set points, installing longer weirs, installing diversion piping or placing devices offline. Up to two concept drawings for each location would be developed. Should ACFCD require the installed TCDs to have no hydraulic impact during design storm events, significant and costly design measures would be required for compliance.

Task 1.4 Conceptual Cost Estimates.

This task involves the preparation of construction cost estimates for the proposed alternatives.

Task 1.5 Basis of Design Report.

A Basis of Design report would be prepared to summarize, synthesize, and document information obtained from the above tasks. This report would include the following items:

- An evaluation of possible alternatives and a discussion of their pros and cons; including such issues as cost, complexity, constructability and maintenance.
- Recommended alternatives for each location and an overall scope of work that would achieve regulatory compliance.
- An opinion of regulatory and jurisdictional permit requirements; including California Environmental Quality Act (CEQA), environmental permits, Caltrans, ACFCD and EBRPD. One meeting with each agency is anticipated. Meetings would occur after hydraulic impacts analysis is completed. Includes Biological Resources Technical Report in support of CEQA.
- Identify additional work tasks needed to complete the project that are not already addressed by the current contract and scope of work; such as: geotechnical investigations, structural design, ROW or easement acquisition, additional permits needed, or utility locating and coordination. (The City will complete any identified right of way negotiations, agreements, and appraisals as necessary.)

A draft report would be revised to a final version after review and input by the City. Consultant to meet with City to review and select project alternatives to continue into design. If a location is determined to be infeasible, Consultant will work with the City to identify a more feasible location within the same watershed

Phase 2 – Construction Bid Documents:

Task 2.1 Project Management and Meetings

This task includes consultant costs for project management and meetings with City staff as needed to complete construction bid documents. Consultant to allow for a minimum of four (4) on-site progress and coordination meetings.

Task 2.2 Field Research

This task involves collecting the necessary field data for design and includes the following items:

- Topographic survey and boundary research
- Geotechnical investigations which include one geotechnical boring at each of the 6 sites. Borings will extend approximately 11 to 18 feet below ground surface, which is approximately 5 feet below the inverts of the proposed trash capture systems. Borings exclude the testing of soils for environmental characteristics (i.e. hazardous substances) and assumes the soil cuttings will not be hazardous waste by the landfill facility. Geotechnical investigations include traffic control, private utility locating and USA marking, no-fee encroachment permits, County drilling permits, backfill with cement grout and off-haul of non-hazardous spoils.
- Utility locating assumes three potholes at each project location, with one mobilization. Potholes shall be completed per City Standard Plan 144.

Task 2.3 Environmental Clearances and Permit Applications

This task includes the preparation, submittal, and approval of typical regulatory agency permits needed for completion of the project.

- Prepare required agency encroachment permits, including Caltrans, Alameda ACFC, and the Alameda County Mosquito Abatement District. Assumes 2 coordination meetings with each agency.
- This scope assumes one round of compiled comments from each agency based on the design report and 70% PSE.
- CEQA documentation including in this contract is a single Initial Study /Mitigated Negative Declaration (IS/MND) for all sites.
- City will pay or reimburse Consultant for permit application fees.
- Additional BCDC, CEQA and Aquatic Resources Agency permitting is specific to

the final design alternatives selected and will be determined after completion of the Basis of Design report. Costs for completion of any necessary additional regulatory permits, supporting studies, and documentation would be completed as a negotiated change order to this contract.

Tasks 2.4 - 2.7 Design Documents

This task involved the preparation of construction bid documents for the selected trash capture devices recommended by the Basis of Design Report from Task 1.5 and assumes all 6 trash capture devices would be included in one bid package. This task includes, but is not limited to the following items:

- Concurrently with field investigations, 30% PS&E (Plans, Specifications, and Estimate) will be developed for review by the City to identify proposed structures, project configuration, coordination items, maintenance, and construction access. Assumes a table of specification contents.
- Submittal of 70% / 100% PSE. Construction drawings are to be furnished in AutoCAD using City format. Technical specifications are to be prepared in MS Word, in accordance with the Construction Specifications Institute (CSI) format. City to prepare front end special provisions. Dewatering plan and water pollution control plan specification sections will be developed to provide guidance and limitations to the contractor as part of the bid packages.
- Geotechnical engineer will review 100% design plans for concurrence.
- Incorporate recommendations and comments from City review.
- Structural engineering design work will be determined after completion of the Basis of Design Report. It is anticipated that structural engineering would only be required should outfall alternatives be selected for design. If such structural design is necessary, it would be completed as a negotiated change order to this contract

Task 2.7 Bid Support

Provide Bid Support, responding to bidder RFI's, and issuing addenda.

Deliverables and Schedule:

Completion of all contract work for the 70% PSE and initial permit applications and regulatory reviews is expected to be complete within 22 weeks after the Notice to Proceed (NTP), based on the following deliverable schedule:

- Hydraulic Evaluation and Cost Estimates – 4 weeks after NTP
- Draft Basis of Design Report and Conceptual Designs – 8 weeks after NTP
- Final Basis of Design Report – 12 weeks after NTP
- 30% Design PS&E and Field Investigation Data – 16 weeks NTP
- 70% Design PS&E, CEQA Documentation, and Permit Submittals – 22 weeks after NTP.

After completion of the 70% PS&E package, the Consultant shall submit the design for regulatory agency permit reviews and comments. Completion of CEQA and regulatory permitting approvals is unpredictable and could take several months. The consultant shall complete the project bid documents based on receipt of agency comments as follows:

- 100% Design PS&E - 4 weeks after receipt of initial regulatory review comments on the permit applications.
- Bid Documents - 2 weeks after final Regulatory Permit Approvals.