

**HONOLULU AUTHORITY FOR RAPID  
TRANSPORTATION**

**HONOLULU RAIL TRANSIT PROJECT**

**CITY CENTER SECTION UTILITIES AND  
GUIDEWAY**

**PROFESSIONAL SERVICES CONTRACT**

**REQUEST FOR QUALIFICATIONS**

**NO. RFQ-HRT-468902**

**QUESTIONS RELATING TO THIS SOLICITATION, CONTACT:**

**HONOLULU AUTHORITY FOR RAPID TRANSPORTATION  
1099 ALAKEA STREET, SUITE 1700  
HONOLULU, HAWAI'I 96813  
TRANSITMAILBOX@HONOLULU.GOV**

**NOTICE OF REQUEST FOR QUALIFICATIONS  
FOR  
CITY CENTER SECTION UTILITIES AND GUIDEWAY  
HONOLULU RAIL TRANSIT PROJECT  
PROFESSIONAL SERVICES CONTRACT  
REQUEST FOR QUALIFICATIONS NO. RFQ-HRT-468902  
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION**

LETTERS OF INTEREST AND STATEMENTS OF QUALIFICATIONS responding to this Request for Qualifications (RFQ) will be accepted up to 2:00 p.m. Hawai'i Standard Time (HST) on February 9, 2012, to Mr. Kenneth T. Hamayasu, Interim Executive Director and CEO, Honolulu Authority for Rapid Transportation, 1099 Alakea Street, Suite 1700, Honolulu, Hawai'i 96813.

A Pre-Submittal Conference is scheduled to be held from 1:30 p.m. to 3:00 p.m. HST on January 13, 2012, at the Mission Memorial Auditorium, 550 South King Street, Honolulu, Hawai'i 96813. All interested Offerors are encouraged to attend; however, attendance is not mandatory.

Because portions of the work in the City Center Section Utilities and Guideway Contract may be funded with Federal assistance, the selected Offeror is expected to comply with applicable Federal Transit Administration (FTA) terms and conditions.

  
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KENNETH T. HAMAYASU  
Interim Executive Director and CEO  
Honolulu Authority for Rapid Transportation

## **NOTICE TO CONSULTANTS REQUEST FOR PROFESSIONAL SERVICES**

The Honolulu Authority for Rapid Transportation (HART) plans to contract for professional services for architectural and engineering services necessary for the design and preparation of final construction plans, detailed specifications and other contract documents for the City Center Section Utilities and Guideway Contract for the Honolulu Rail Transit Project (HRTP).

The successful firm must be licensed to do business in the State of Hawai'i at the time of Contract award. The City Center Section Utilities and Guideway Contract (Contract) will be supervised and overseen by HART. HART intends to seek New Starts funding assistance from the United States Department of Transportation, Federal Transit Administration (FTA) and must comply with the statutory, regulatory, and administrative requirements for New Starts projects, including FTA third-party contracting requirements.

### **HRTP BACKGROUND**

#### Purpose

The purpose of the HRTP is to provide high-capacity rapid transit in the congested east-west transportation corridor between Kapolei and the University of Hawai'i at Mānoa (UH Mānoa). This corridor includes the majority of housing and employment on O'ahu. The north-south width of the corridor is a maximum of four (4) miles, as much of the corridor is constrained by the Ko'olau and Wai'anae Mountain Ranges to the north and the Pacific Ocean to the south.

#### The HRTP: East Kapolei to Ala Moana Center via the Airport

The HRTP is identified in the Final Environmental Impact Statement (FEIS) as the Airport Alignment. It will include the design, construction and operation of a twenty (20) mile grade-separated fixed guideway transit system between East Kapolei and Ala Moana Center. All parts of the guideway will be elevated, except near Leeward Community College, where it will be at-grade in an exclusive right-of-way. The system will incorporate steel wheel on steel rail technology. The HRTP includes twenty-one (21) stations, the Maintenance and Storage Facility (MSF), and seventy-six (76) light metro vehicles and associated core systems.

#### Planned Extensions

In addition to the HRTP, the Locally Preferred Alternative (LPA) includes four (4) planned extensions connecting the HRTP to West Kapolei, UH Mānoa, Waikīkī, and Salt Lake. The extensions would receive separate detailed environmental review. If funding is identified in the future, engineering design and environmental analysis of the extensions and the appropriate alternatives analysis will be undertaken. The HRTP, as evaluated in the FEIS, has logical termini and independent utility from any extensions that may be constructed in the future.

The FEIS and additional information on the HRTP can be found at: <http://honolulustransit.org>.

### Status of FTA Programmatic Requirements

- October 2006: Completion of an Alternatives Analysis.
- December 2006: The Fixed Guideway Alternative was selected as the LPA by the Honolulu City Council.
- March 2007: FTA publishes a Notice of Intent to prepare an Environmental Impact Statement in the Federal Register.
- November 2008: The Draft Environmental Impact Statement (DEIS) was released for public comment.
- February 2009: The public comment period ended.
- October 2009: FTA authorizes the HRTTP to enter New Starts Preliminary Engineering phase.
- September 2010: The FEIS was submitted to the State of Hawai'i Governor's Office for review.
- December 2010: The FEIS was signed by Governor Abercrombie.
- January 2011: The Record of Decision (ROD) was issued by the FTA.

## **PROJECT DELIVERY AND CURRENT PROCUREMENT EFFORTS**

### Guideway and Stations

The HRTTP's guideway and stations are planned to be constructed starting from the western terminus of East Kapolei in sections:

- Section I - West O'ahu/Farrington Highway: East Kapolei Station to Pearl Highlands Station;
- Section II – Kamehameha Highway: Pearl Highlands Station to Aloha Stadium Station;
- Section III – Airport: Aloha Stadium Station to Middle Street Transit Station; and
- Section IV – City Center: Middle Street Transit Station to Ala Moana Center Station.

HART has entered into a design-build (DB) contract for the West O'ahu/Farrington Highway Guideway. HART has entered into a DB contract for the Kamehameha Highway Guideway.

All station groups will be implemented through the procurement of individual design firms, under professional services contracts, who will prepare design documents for individual construction packages to be procured using the design-bid-build method. HART has entered into a professional services contract for the design of the three (3) stations comprising the Farrington Highway Station Group. HART is in the process of procuring design consultants for the West O'ahu Station Group, the Kamehameha Highway Station Group, and the Airport Segment Guideway and Utilities Contract.

### Core Systems

The Core Systems will be constructed under a design-build-operate-maintain (DBOM) contract. The major subsystems and other end-products to be acquired under the contract over the eight (8) year period include the revenue vehicles, train control, traction power facilities, fare collection, and manufactured products required for operation and maintenance of the system. HART has entered into a DBOM contract for the Core Systems.

### Maintenance and Storage Facility (MSF)

The MSF will be constructed under a DB contract. The MSF DB contractor will be responsible for: completing design; site work; construction of various maintenance buildings; and purchasing, storing, and distribution of rail, special trackwork, switch machines, contact rail and appurtenances for the entire HRT. HART has entered into a DB contract for the MSF.

### **SCOPE OF WORK**

An indicative listing of tasks relating to the Contract Scope of Work (Work) for this RFQ is attached hereto as Appendix A. A final determination of levels of effort, work, scope, responsibilities and schedule will be negotiated with the selected Offeror pursuant to Hawai'i Revised Statutes (HRS) §103D-304(h) (Supp. 2010).

### **TERM OF CONTRACT**

The term of this Contract will be negotiated with the selected Offeror. The Contract may be subject to multiple notices-to-proceed which will authorize portions of the Work under the Contract to commence. Tentative phased design in accordance with FTA procedural requirements and contract durations consistent with current existing schedule constraints are included in Appendix A.

### **PRE-SUBMITTAL CONFERENCE**

A Pre-Submittal Conference to respond to questions from persons interested in submitting statements of qualifications will be held. Although attendance is not mandatory, all interested Offerors are encouraged to attend and pre-registration is not required. Advance questions may be emailed to: [transitmailbox@honolulu.gov](mailto:transitmailbox@honolulu.gov). Additional questions may be addressed during the Pre-Submittal Conference; however, any information provided will be considered unofficial until issued in writing via addenda.

Date of Conference: January 13, 2012  
Time of Conference: 1:30 p.m. – 3:00 p.m. HST  
Place of Conference: Mission Memorial Auditorium  
550 South King Street  
Honolulu, Hawai'i 96813

### **SUBMITTAL MATERIALS REQUIREMENTS**

1. Letter of interest. The letter of interest must include contact information (name, title, name of firm, mailing address, phone number, and email address) for the authorized representative(s) of the firm(s) signing the letter of interest. Please ensure that contact information is up-to-date because should HART need to contact you regarding your submittal materials it will be through the contact person named in the letter of interest. In the case of a team approach, the letter of interest must indicate whether the team members intend to form a partnership, joint venture, prime-major subconsultant or other

legal or organizational structure. If the organizational structure is prime-major subconsultant, the prime firm, which could be a corporation, joint venture, partnership, etc., and the major subconsultant firm(s), must be clearly identified. Signing the letter of interest attests that the information provided therein is current and factual.

2. Information on the Offeror. (In the case of a partnership or joint venture, submit information for the respective partnership or joint venture entity itself and for each member firm making up the partnership or joint venture. In the case of a prime-major subconsultant, submit information for the prime and the major subconsultant(s).)
  - A. Name of the firm, the year the firm was established under the current name, the principal place of business, and location of all its offices.
  - B. Former firm names. Indicate any other previous names for the firm during the last five (5) years and the year the name change was effective.
  - C. Type of ownership or legal structure of the firm (sole proprietor, partnership, corporation, joint venture, etc.).
  - D. The annual revenues and average number of employees over the past five (5) years.
  - E. The names and phone numbers of a maximum of five (5) clients who may be contacted, including at least two (2) for whom services were rendered during the past twelve (12) months, preferably for services similar to those required for the Contract.
  - F. A statement as to whether the firm, its principals or key employees presently, or in the past, are, or have been, involved in any debarment or suspension proceedings.
  - G. A statement identifying any contract involving the firm that was terminated for default within the past three (3) years.
  - H. Provide a list of example projects which best illustrate the firm's relevant qualifications for this Contract. The list must not exceed ten (10) recent projects that include major projects undertaken within the past ten (10) years. Provide the following information for each project listed:
    - 1) Title and location of the project;
    - 2) Project owner and owner's project number;
    - 3) Specific roles of the firm;
    - 4) Brief description of the work;
    - 5) Period of performance (start and end dates);
    - 6) Final contract value;
    - 7) Percent of work completed by the firm under the contract;
    - 8) Identify any project claims and litigation involving your firm (if none, so state); and
    - 9) Did the project involve federal funds (yes or no).
  - I. Any promotional or descriptive literature which the firm desires to submit.
3. Key individuals.

- A. Identify the persons who will be assigned to the key positions listed below:
- 1) Project Manager
  - 2) Design Manager
  - 3) Quality Assurance Manager
  - 4) Lead Structural Engineer
  - 5) Lead Trackwork Engineer
  - 6) Lead Geotechnical Engineer
  - 7) Lead Utilities Engineer
  - 8) Lead Civil Engineer
  - 9) Lead Maintenance of Traffic Engineer
  - 10) Interface Manager (person who interfaces with other contractors/contracts)
  - 11) Public Involvement Liaison
- B. Provide resumes for the persons identified above and for any other individuals deemed to have a major role in providing the services. The resumes must include:
- 1) Total years of experience, number of years with the current firm, name of the current employer, and current assignment location of key employee named;
  - 2) Education (highest relevant academic degree(s) and specialization for each degree);
  - 3) Current professional registration (registration number, state, and discipline). The name on the professional registration must match the name in Section 3.A, above;
  - 4) Work experience on up to five (5) relevant projects. Include a brief description of the project (scope, size, cost, etc), the person's specific role on the project, the year the person's work on the project was completed, and the person's employer for the project; and
  - 5) Names, titles, and contact information for a maximum of three (3) references.
- C. Other related information:
- 1) Identification and roles of each subconsultant firm proposed to work on the Contract (this section must not exceed two (2) pages);
  - 2) An organization chart of the proposed Professional Services team which includes the key individuals identified in Section 3.A, above;
    - a. Provide a narrative describing where key individuals will be located geographically for the duration of the work contemplated – state as a percentage of total estimated billable hours, and;
    - b. Describe how the organizational chart operates in terms of geographical location(s) and describe the interfaces between the prime and its subconsultant(s).
  - 3) Demonstrated capability to undertake the financial responsibilities associated with a Professional Services Contract;
  - 4) A narrative on any unique approaches or design solutions the Offeror will undertake to accomplish the work; and

- 5) Any other pertinent information that should be considered in the evaluation of the firm's qualifications (this section must not exceed five (5) pages).

Should any of the list or page limitations referenced above be exceeded, any submittal materials beyond the limitation will not be considered.

In accordance with Hawai'i Administrative Rules (HAR) §3-122-63(b), the statements of qualifications and related information submitted by the Offerors (submittal materials), except those portions for which a written request for confidentiality has been made per HAR §3-122-58, will be open to public inspection upon posting of the award of this Contract. Offerors shall designate in writing those portions of their submittal materials that contain trade secrets, proprietary, or confidential commercial and financial information that are to remain confidential, subject to HAR §3-122-58. The specific proprietary information, trade secrets, or confidential commercial and financial information must be clearly identified as such. Material designated as confidential must be readily separable from the submittal materials to facilitate inspection of the non-confidential portion of the submittal materials. Designation of the entire submittal materials as confidential will not be acceptable and shall be invalid.

## **SELECTION**

HART will evaluate submittal materials according to the criteria identified below. The criteria are listed in descending order of importance.

### Evaluation Criteria

1. Experience and professional qualifications relevant to the Contract;
2. Past performance on projects of similar scope for public agencies or private industry, including corrective actions and other responses to notices of deficiencies;
3. Capacity to accomplish the work in the required time;
4. Project approach; and
5. The proposed means, methods and approach to providing the requisite Professional Services in their entirety including the distribution of work between the prime and major subconsultants.

## **DEADLINE**

An **original and seven (7) copies** of the submittal materials packet shall be submitted not later than February 9, 2012, 2:00 p.m. HST to:

Mr. Kenneth T. Hamayasu, Interim Executive Director and CEO  
RFQ-HRT-468902  
Honolulu Authority for Rapid Transportation  
1099 Alakea Street, Suite 1700  
Honolulu, Hawai'i 96813

Submittals by facsimiles are not acceptable. The Contract will only be awarded to an Offeror that demonstrates the ability to provide all of the services required for the Contract. Submittal materials received for only part of the required services will be considered non-responsive to this notice.

Any inquiry regarding the services required should be directed in writing to Mr. Wes Mott, Honolulu Authority for Rapid Transportation, at the address above, or to the Transit Mailbox at the following email address: [transitmailbox@honolulu.gov](mailto:transitmailbox@honolulu.gov).

**Honolulu Authority for Rapid Transportation (HART)**

**Appendix A: RFQ Scope of Services – Final Version**

**City Center Section Utilities and Guideway**

**Contract FD-530**

**December 2011**

## **01 CITY CENTER SECTION DESCRIPTION**

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The City Center Section of the Honolulu Rail Transit Project (H RTP) is a 3.9 mile, grade-separated fixed guideway transit system. The Section starts just past the Middle Street Transit Center following Dillingham Boulevard to the vicinity of Kaa'ahi Street and then turns east to connect to Nimitz Highway near Iwilei Road. The guideway will follow Nimitz Highway east to Halekauwila Street, then proceed along Halekauwila Street past Ward Avenue, where it will transition to Queen Street. The guideway will cross from Waimanu Street to Kona Street in the vicinity of Pensacola Street and continue above Kona Street to the Ala Moana Center.

The City Center Section alignment is in a sensitive archeological area. An Archeological Inventory Survey (AIS) is being conducted to identify these areas in advance of Final Design.

Additionally, the design of the guideway structure will support the trackway at eight (8) stations along the route; Kalihi Station, Kapalama Station, Iwilei Station, Chinatown Station, Downtown Station, Civic Center Station, Kaka'ako Station and Ala Moana Station. The design of the eight (8) stations will be part of multiple Station Group (SG) contracts and are not part of the scope of work for this City Center Section Utilities and Guideway Contract (Contract). Also, the design will require the widening of the streets along the route to accommodate the guideway columns, provide bus stops, improve sidewalks and medians, revise traffic signals and other related improvements. The project will also include miscellaneous electrical/mechanical wayside equipment, switch machines, sound barrier walls, running rails and insulated third rail (contact rail).

Numerous utilities along the proposed alignment require relocation to allow for the guideway construction. There are both public and private utilities including, but not limited to, power, sewer, water, gas, telecom, cable, etc.

## **02 PHASED DESIGN AND DURATION OF CONTRACT**

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The work in this Contract will be phased to allow development of the design to occur in accordance with Federal Transit Administration (FTA) procedural requirements. The design phases will be initiated by a Notice to Proceed (NTP) issued by HART. A total of six (6) NTPs are anticipated, as follows:

### **NTP #1a – WORKSHOP, DESIGN SCHEDULE AND SCHEDULE OF MILESTONES (SM)**

- Provide HART, within thirty (30) days of receipt of NTP #1a, with a draft Baseline Design Schedule and SM that include all Work for which the CONSULTANT expects to be compensated. The SM is to be organized by NTP and will serve as the basis for payment. The CONSULTANT's Baseline Design Schedule must be conformed to the SM. HART and the CONSULTANT shall reach agreement on the proposed SM at which time HART will approve the SM.
- A two (2) day Design Workshop is to be included in this phase, as well as the initiation of the Right of Entry permitting request process for field investigations.

**NTP #1b - REVISIONS TO PRELIMINARY ENGINEERING (PE)**

- The PE design has been prepared as an illustration of an acceptable application of the design criteria for the guideway in this area. The CONSULTANT will be expected to review this design and offer further suggestions for possible revisions to enhance aesthetics, reduce costs, simplify construction or otherwise improve the effectiveness of the proposed solution. A wide range of structural types may be considered at this stage.
- Commencing with NTP #1b, revise current PE design and drawings to incorporate the approved guideway Value Engineering (“VE”) recommendations and other changes suggested by the CONSULTANT and/or recommended by HART. These changes might be a result of a contract packaging workshop to be held by the City Center CONSULTANT.
- Ensure compliance of PE design with applicable codes, regulations and design standards.
  - Duration for guideway and utilities design: one hundred thirty (130) days
  - HART Review: thirty (30) days/each design

**NTP #2 - INTERIM DESIGN (ID)**

- Commence ID drawings and detailed working drawings and specifications.
- Incorporate HART standard details provided by HART and develop project-specific details as required; provide consistent material selection that considers pedestrian safety, durability, maintenance, sustainability and aesthetics relating to the transit environment.
  - Duration for utilities design: one hundred twenty (120) days
  - Duration for guideway design: two hundred ten (210) days
  - HART Review: thirty (30) days/each design

**NTP #3 - FINAL DESIGN (FD)**

- Commence FD and preparation of construction contract documents.
- Provide detailed construction contract documents to permit accurate cost estimating and to expedite construction activities.
- The NTP #3 duration for submittal of camera-ready final documents to HART assumes the following:
  - Duration for utilities design: thirty (30) days
  - Duration for guideway design: ninety (90) days
  - HART Review: thirty (30) days/each design for HART review; and thirty (30) days for the CONSULTANT to incorporate review comments and prepare final advertisement-ready (“ad-ready”) construction documents

**NTP #4 - DESIGN SUPPORT DURING BIDDING**

- As requested, assist HART in the construction solicitation process.
- Utilities and guideway duration TBD.

**NTP #5 - DESIGN SUPPORT DURING CONSTRUCTION**

- As requested, assist HART in resolving design issues during construction.
- Utilities and guideway duration TBD.

**03 SCOPE OF WORK**

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The City Center Section Utilities and Guideway scope of work includes the design and preparation of final construction plans, detailed specifications and cost estimates for the City Center Section as described. Separate Construction Contract bid documents will be prepared, one (1) for the guideway and one (1) for the utilities. The design work will be based upon the existing PE design documents, and HART's Standard Documents. All plans will be done in accordance with the Plans Standards and CADD procedures. All work will be done under the supervision of professional engineers licensed by the State of Hawaii Department of Commerce and Consumer Affairs.

The following documents will be provided to the selected firm and will be utilized in preparation of the design:

- PE/Architectural Drawings
  - City Center Section Utilities and Guideway
  - Kalihi Station
  - Kapalama Station
  - Iwilei Station
  - Chinatown Station
  - Downtown Station
  - Civic Center Station
  - Kaka'ako Station
  - Ala Moana Station
- HART Standard and Directive Drawings
  - Standard and Directive Drawings
  - Compendium of Design Criteria
  - Plans Standards and Project CADD Procedures
  - Standard Specifications
- Systemwide Sustainability Report

- Design Language Pattern Book
- City Center Section Drainage and Geotechnical Reports
- HART Interface Control Manual
- HART Quality Management Plan
- Contract Management System (CMS) Requirements
- Final Environmental Impact Statement
- Record of Decision with the attached Section 106 of the National Historic Preservation Act (hereafter, Section 106) Programmatic Agreement (PA)
- Utilities Agreements (examples from other projects provided)
- VE Reports – Stations and Guideway

**Specific tasks include:**

**03.01 Project Management and Administration**

Provide management and administration resources to provide day-to-day oversight of the design of the City Center Section Utilities and Guideway contracts including preparation of a Project Management Plan (PMP), hosting and recording coordination meetings, design cost monitoring and control, design schedule monitoring and control, subconsultant management and coordination, document control, monthly progress reporting and invoicing, and quality control and assurance. Regular interfacing and coordination with both HART and the General Engineering Consultant (GEC) will be required.

The CONSULTANT is required to follow the HART Quality Management Plan (QMP) and shall establish a Quality Assurance Plan (QAP) for the Contract which meets the requirements of the FTA Quality Assurance/Quality Control (QA/QC) Guidelines and shall be reviewed and approved by HART prior to its use.

Prepare design schedule and provide updates to HART using Primavera P6. Non-CADD project correspondence and other documentation shall be controlled using Primavera CMS. HART's web-based file collaboration tool SharePoint shall be used for CADD drawings.

**03.01.01 CONSULTANT Record Keeping Responsibilities Using HART's Contract Management System**

The CONSULTANT shall use HART's hosted Oracle Primavera Contract Management System in accordance with the HART procedures and protocols to manage all documents submitted to HART, including but not limited to, correspondence, transmittals, meeting minutes, requests, deliverables, daily logs, payments, and change management documents as follows:

- **Submittals** – The CONSULTANT is responsible for managing all contract submittals, maintaining submittal logs, and follow-up responses/actions to HART-comments until satisfactorily resolved. Submittal transmittals shall be created using Oracle Primavera Contract Management.

- **Correspondence Logs** – The Oracle Primavera Contract Management Correspondence Received and Sent Logs shall serve as the repository for all correspondence generated during this project between the CONSULTANT and HART. All attached files shall automatically be stored in the content repository software located on the HART-hosted site which is the designated file repository. All correspondence created from the CONSULTANT in Oracle Primavera Contract Management shall be logged into the Correspondence Sent Log.
- **Requests** – All Requests for Review, Information or Changes shall be entered into the Requests Log by the CONSULTANT. The CONSULTANT shall have the security rights to enter the request/comment and pertinent details. An email automatically shall be sent to the “ball-in-court” (BIC) entered by the CONSULTANT. When the answer is returned via an email alert the CONSULTANT shall enter the closed date and status as appropriate to close the document.
- **Meeting Minutes** – The CONSULTANT shall prepare and input meeting minutes for the contract designated meetings into the Meeting Minutes Log of the HART system. All attendees with their email shall be entered. All items discussed shall include a narrative, a BIC and due date if a follow-up action is necessary. All open meeting minute items shall be copied to the next meeting and closed when appropriate. Meeting minutes shall be distributed via email using the designated form provided in Oracle Primavera Contract Management.
- **Baselines and Deliverables** – All deliverables as specified in the contract documents shall be listed into the Oracle Primavera Contract Management Log. The CONSULTANT shall input submissions as they are made to HART, entering the latest revision, current status and attaching a .pdf file of the document.
- **Change Management** – The Change Management Log is used by HART to manage all contract changes. The CONSULTANT shall be given limited access to enter CONSULTANT quotes or proposals and view the latest status of contract changes.
- **Payment Request** – All monthly payment requests shall be prepared using Oracle Primavera Contract Management. A Schedule of Payment Milestones shall be imported into the Payment Requisitions Log.

**Software and Computer Requirements.** HART hosts a Collaborative Contract and Project Management System called Oracle Primavera Contract Management v.16 (also know as CMS). The CONSULTANT is required to input all specified documents into HART’s Contract and Project Management System, accessible via the World Wide Web. The CONSULTANT shall procure one software license that will reside on HART’s hosted system servers. It is the CONSULTANT’s responsibility to procure adequate computer hardware and software to perform its tasks.

HART staff shall be available for technical advice but shall not operate, install, or troubleshoot any software or hardware of the CONSULTANT’s that does not function as intended, or adequately, for this application. All of the responsibilities for these activities are exclusively the CONSULTANT’s. HART shall accept no liabilities arising from

the CONSULTANT's training and use of this software. All scanned documents submitted by the CONSULTANT must be via OCR compliant scanner.

Detailed procedures and workflows for using HART's CMS shall be discussed during the post award meeting. Except where noted, the system shall eliminate the need to submit multiple hard copies, CDs, etc. for required contract submittals. Instead, most documents can be submitted electronically with physical copies required only when copying is impractical or not possible. Original documents may also be necessary when original signatures are required; otherwise, electronic transmittals and documentation shall be used. The detailed requirements shall be worked out following contract award. Once the contract is awarded, the CONSULTANT shall provide to HART, Oracle Primavera Contract Management license's for their designated personnel. Once the licenses are received, the CONSULTANT shall be given restricted access to the Contract and Project Management System by HART.

### **03.02 Design Workshop**

Commence design with a two (2) day workshop to review Section concepts previously completed and, if necessary, update PE design based on HART input. Participants shall include the CONSULTANT's Project Manager, Design Manager, Structural Manager, HART Engineering Staff, GEC staff, and major stakeholders including, but not limited to, the State of Hawaii Department of Transportation (HDOT) Highways Division, the Hawaiian Electric Company (HECO), the United States General Services Administration (GSA), Ala Moana Center and the Housing Finance and Development Corporation (HFDC).

### **03.03 Interface and Coordination with Others**

Extensive and continual interface and design coordination with other contracts or entities is essential for the City Center Section. This interface includes, but is not limited to:

- Core Systems Contract (CSC) – Interface with the CSC for the communications and control, traction electrification, train control and signaling, passenger vehicle and fare vending systems. Guideway design will include the embedded conduits and other embedded components, blockouts, structural supports and mountings, and other enclosures and finishes as needed.
- Airport Section Guideway and Utilities Contract.
- Dillingham Station Group (DSG) and Kaka'ako Station Group (KSG) Contracts – Interface with the Station Group (SG) contracts in the station areas. The design of the guideway superstructure, columns and foundations, station platform support structures and concourse support structures within the limit of the guideway structure is part of the scope of work for this Contract. Roadway, drainage and other features in the station areas are also part of the scope of work for this Contract.
- Elevators and Escalators Contracts – In conjunction with the interface with the SG contracts in the station areas, additional coordination will be required with the elevators and escalators contract during the furnishing, installation and testing of the station elevator and escalator equipment.
- Systemwide Landscaping Design – Interface with the Systemwide Landscaping Designer for proposed permanent irrigation and landscaping along the project alignment in median areas occurring under and adjacent to the guideway and other selected areas.

- Systemwide Signage Design – Interface with the Systemwide Signage Designer who will furnish construction drawings for H RTP signing, along the guideway, on streets and intersections under or adjacent to the guideway and signage for identification, directional or restrictive purposes at or approaching all stations and facility sites, for inclusion in the City Center Section construction contract.
- HDOT – Because of the guideway alignment’s location on or proximity to Kamehameha Highway, Nimitz Highway and Ala Moana Blvd., close coordination with HDOT Highways will be required.
- Public and Private Utilities – Coordinate points of service, utility relocation, sizing and connection points, etc.
- Public and Private Property owners and businesses – Coordinate design and construction staging plan traffic impacts with adjacent or affected property owners and businesses.
- Section 106 PA Consulting Parties.

#### **03.04 Topographic Survey**

Provide additional topographic surveys as required to supplement HART provided topographic survey and controls. Prepare site controls and property right-of-way plans to identify additional right-of-way or easements required.

#### **03.05 Civil Design**

Design and develop civil plans showing alignment data, street or roadway restoration details, trackwork, grading, drainage and paving plans, and details for roadway and other facility sites (excluding the station areas), right-of-way plans, demolition plans (including tree removal), roadway and intersection signing and striping plans, and prepare hydrology and drainage reports as necessary.

#### **03.06 Structural Design**

Perform Load and Resistance Factor Design (LRFD) structural analysis and design and develop structural plans showing foundations, substructure, superstructure and structural details for the guideway and all station support structures. Scour/hydraulic analysis will also be required at the guideway stream crossings. Coordinate with the SG designers and evaluate requirements to protect adjacent buildings or existing structures that may be affected by the guideway or station support construction.

#### **03.07 Geotechnical Exploration and Design**

Geotechnical exploration will be conducted for all guideway and site improvements within the guideway right-of-way and for the station support foundations. Geotechnical explorations for station structures outside of the guideway limits are not included in this scope of work. Station designers will provide their own geotechnical investigators. Coordination with the SG designers for that information will be required to the extent practicable. Geotechnical data from previous investigations for the guideway prepared by HART and from other readily available soils reports for other projects in the vicinity will be used to plan the exploration program. Geotechnical Design will encompass LRFD design and will include non-redundant shafts of six (6) foot diameter or greater.

**03.08 Architectural Design**

Develop aesthetic treatment of selected guideway columns in the vicinity of the stations. An aesthetic design concept report shall be prepared to permit discussion of the ideas with HART prior to initiating design.

**03.09 Utility Design**

Design and develop composite utilities rearrangement plans, utility relocation and service plans, profiles, and details within the City Center Section. Perform additional pothole investigations as needed. Significant coordination and support of HECO's relocation work of domestic and high voltage transmission lines is anticipated.

**03.10 Traffic Signal Design**

Design and develop traffic signal plans for twenty-four (24) existing intersections required by the guideway construction. Included in the design is the Interconnect with HART's system.

**03.11 Electrical Design**

Design and develop electrical plans for street lighting, traffic signals, and power distribution, and coordinate with the SG designers for the design of the Traction Power Sub-Station (TPSS) located at the eight (8) stations in the City Center Section.

**03.12 Intelligent Transportation Systems (ITS) Design**

Design and develop ITS plans for Closed Circuit Television Cameras (CCTV) and License Plate Recognition (LPR) devices at selected intersections along the alignment. Interconnection with HART's CCTV system will be required. Also, travel time information gathered from LPR devices will be connected to HDOT's Travel Information System.

**03.13 Environmental**

Prepare an Environmental Compliance Plan (ECP) that addresses how compliance and documentation will be achieved in design and the design review process to address pertinent mitigation measures and permits specified in the HRTTP's Final Environmental Impact Statement, the Record of Decision and the PA. The CONSULTANT will prepare environmental constraint maps as directed by HART as part of the ECP. Prepare application(s) for pertinent environmental permits and related design plans that reflect achievement of environmental compliance. The CONSULTANT will update the ECP, as needed, when new or modified mitigation or environmental compliance conditions are developed during the term of the Contract.

**03.14 Maintenance of Traffic (MOT) Plans**

Develop construction staging plans to maximize the area available for construction, minimize traffic disruption for both vehicular and pedestrian movement and maximize accessibility to adjacent properties and businesses. Prepare MOT plans for construction and identify where permits are required for access.

**03.15 Public Involvement**

Support and participate in community workshops or meetings hosted by HART to present guideway final design and features to the community. Provide illustrative materials such as plans and other pertinent documents to help convey information to the public.

**03.16 Cost Estimates**

At each submittal, prepare material quantity take-offs and a construction cost estimate to assess the design's adherence to HART's budget. Adjust the design as necessary to maintain compliance with the budget. Format for the material quantity take-offs will be provided by HART.

**03.17 Specifications**

At each submittal, prepare outline and/or detailed specifications, depending on the design completeness for the submittal.

**03.18 Design Support during Bidding (NTP #4)**

For the City Center Section Utilities and Guideway bidding periods, provide support for the bidding process, prepare addenda if necessary, and assist HART in evaluating bids received.

**03.19 Design Support during Construction (NTP #5)**

Two (2) construction contracts for the City Center Section will be advertised for all of the work designed under this scope of work, one (1) for the guideway and one (1) for the utilities. The construction periods are to be determined. The construction periods will overlap, with the guideway construction lagging behind the utilities construction by approximately four (4) to six (6) months. Upon issuance of NTP #5, the CONSULTANT will provide design support during the construction phase including, but not limited to, shop drawing review and approval, material samples review and approval, responding to contractor requests for information, periodic site inspections, development of punchlists, and preparation of as-built drawings based on mark-ups from the contractor(s). Construction Management is not included in this scope of work.