HONOLULU RAIL TRANSIT PROJECT

October 2016
MONTHLY PROGRESS REPORT

HONOLULU AUTHORITY for RAPID TRANSPORTATION

www.HonoluluTransit.org

THIRD PARTY DISCLAIMER

This report and all subsidiary reports are prepared for the Federal Transit Administration (FTA). This report should not be relied upon by any party, except the FTA or HART, in accordance with the purposes as described below.

For projects funded through the FTA Full Funding Grant Agreements (FFGAs) program, the FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a project sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of FTA Contract No. DTFT60-09-D-00012, Task Order No. 2. Its purpose is to provide information and data to assist the FTA as it continually monitors the grantee's technical capability and capacity to execute a project efficiently and effectively, and hence, whether the grantee continues to be ready to receive federal funds for further project development.

This report covers the project and quality management activities on the Honolulu Rail Transit Project managed by the Honolulu Authority for Rapid Transportation (HART) with HART as the grantee and partially financed by the FTA FFGA.

ON THE COVER:
Left: Guideway along Kamehameha Highway looking west bound.
Upper right: Kamehameha Highway Guideway along Kamehameha Highway near Aloha Stadium.
Lower right: Guideway along Kamehameha Highway looking toward Aloha Stadium.

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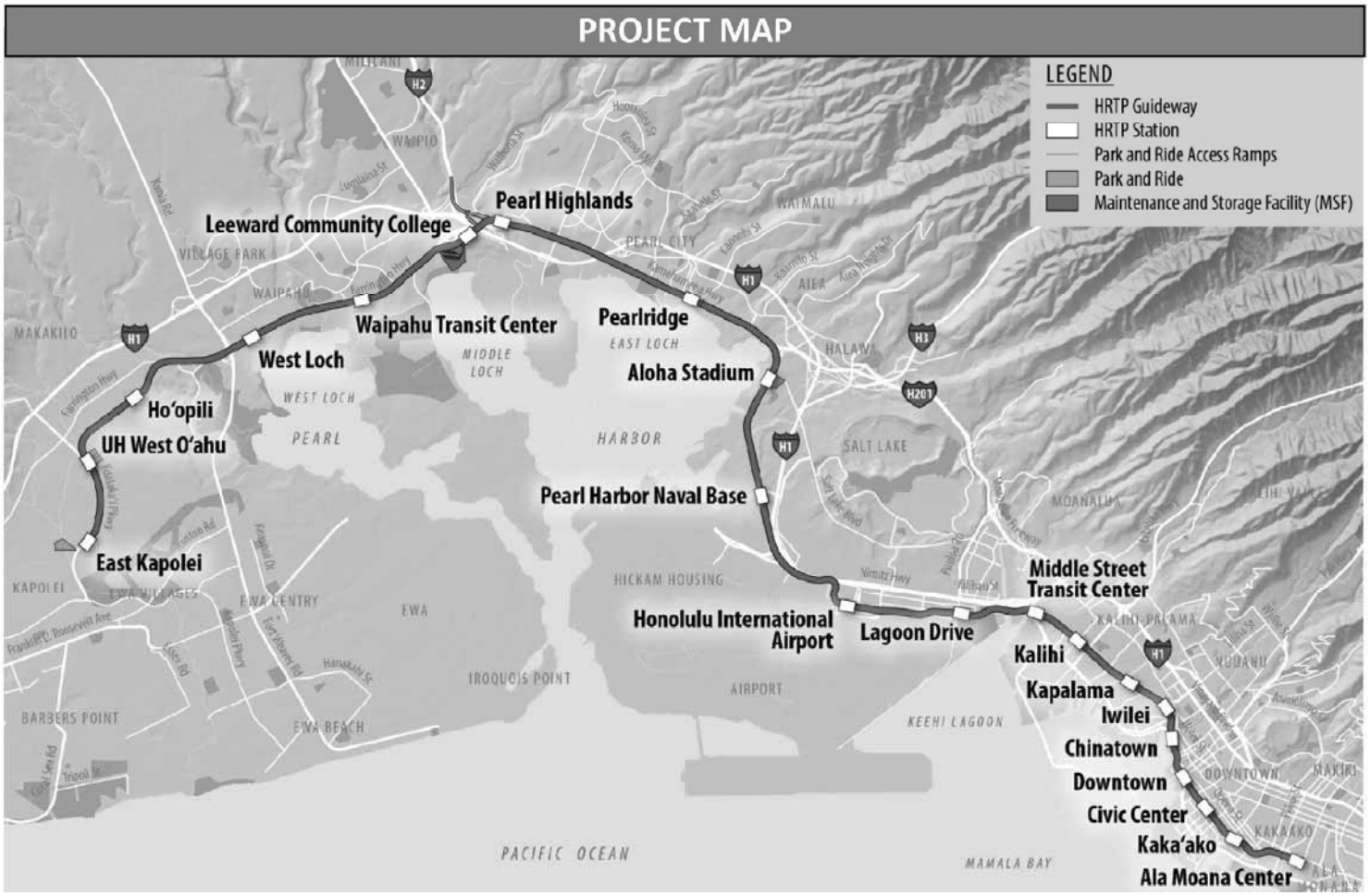
LIST OF ACRONYMS

AB	AnsaldoBreda
ACHP	Advisory Council on Historic Preservation
ACS	Access Control System
AFE	Authorized for Expenditure
AGS	Airport Guideway and Stations
AHJV	Ansaldo Honolulu Joint Venture
AIS	Archaeological Inventory Survey
APTA	American Public Transportation Association
ARRA	American Recovery and Reinvestment Act
ASG	Airport Station Group
ASU	Airport Section Utilities
ATC	Automatic Train Control
ATO	Automated Train Operation
AVA	Anil Verma Associates, Inc.
BA	Buy America
BAC	Buy America Compliance
BACM	Buy America Compliance Matrix
BAFO	Best and Final Offer
BCS	Balanced Cantilever System
BFS	Budget and Fiscal Services
BLS	Bureau of Labor Statistics
BMP	Best Management Practice
BOD	Board of Directors
BPS	Baseline Project Schedule
BUE	Bottom-Up Estimate
BUEG	Back-up Emergency Generator
CAM	Construction Access Milestone
CAR	Corrective Actions
CCGS	City Center Guideway and Stations
CCO	Contract Change Order
CCTV	Closed Circuit Television
CDC	Compendium of Design Criteria
CDL	Commercial Driver License
CDR	Conceptual Design Review
CE&I	Construction Engineering and Inspection
CEL	Certifiable Elements List
CIC	Communication Interface Cabinet
CIL	Certifiable Items List
CIP	Cast-in-place
CJA	Condon- Johnson & Associates
CM	Construction Manager
CMP	Corrugated Metal Pipe
CMS	Contract Management System
CMU	Concrete Masonry Unit
CNMMP	Construction Noise Mitigation and Monitoring Plan
CO	Certificate Occupancy
COI	Conflict of Interest
COMMs	Communications
CONRAC	Consolidated Rental Car Facility
COR	Corporation Counsel
CP	Consulting Party
CPM	Critical Path Method
CPO	Chief Procurement Officer
CPP	Contract Packaging Plan
CROE	Construction Right-of-Entry
CSC	Core Systems Contract
CSCC	Construction Specification Conformance Checklists
CSL	Cross Hole Sonic Logging
CSOC	Core Systems Oversight Consultant
CSSP	Construction Safety & Security Plan
CTS	Communications Transmission System
CWR	Continuous Welded Rail
CWRM	Commission on Water Resource Management
CZM	Coastal Zone Management
DAGS	Department of Accounting & General Services
DB	Design-Build
DBB	Design-Bid-Build
DBE	Disadvantaged Business Enterprise
DBEDT	Department of Business, Economic Development and Tourism
DBOM	Design-Build-Operate-Maintain
DCAB	Disability and Communication Access Board
DCCC	Design Criteria Conformance Checklists
DCN	Design Change Notice
DDC	Department of Design and Construction
DES	Department of Environmental Services
DFF	Direct Fixation Fastener
DFIM	Design Furnish Install Maintain
DFM	Department of Facility Maintenance
DHHL	Department of Hawaiian Homelands
DHR	Department of Human Resources
DIT	Department of Information Technology
DKSG	Dillingham and Kakaʻako Station Group
DLIR	Hawaiʻi Department of Labor and Industrial Relations
DLNR	Department of Land and Natural Resources
DOE	Department of Education
DOH	Department of Health
DOL	Department of Labor
DPM	Deputy Project Managers
DPP	Department of Planning and Permitting
DPR	Department of Parks and Recreation
DPS	Department of Public Safety
DS	Downstream
DTS	Department of Transportation Services
DVT	Design Verification Test
EAC	Estimate at Completion
ECP	Environmental Compliance Plan
E/E	Elevator/Escalator
EK	East Kapolei
EMC	Electromagnetic Compatibility
EMF	Electromagnetic Forces
EMI	Electromagnetic Interference
EMP	Environmental Management Plan
EOR	Engineer of Record
EOS	Electrically Operated Switch
ESA	Engineering Services Agreement
FAA	Federal Aviation Administration
FAI	First Article Inspection
FAT	Factory Acceptance Tests
FCN	Field Change Notice
FD	Final Design
FDAS	Fire Detection Alarm System
FDC	Field Design Change
FDR	Final Design Review
FEIS	Final Environmental Impact Statement
FFC	Fixed Facility Contractors
FFGA	Full Funding Grant Agreement
FHSG	Farrington Highway Station Group
FHWA	Federal Highway Administration
FISC	Fleet and Industrial Supply Center
FLSWG	Fire Life Safety Working Group
FOCN	Fiber Optic Communication Network
FPO	Federal Preservation Officer
FTA	Federal Transit Administration
FTE	Full-Time Equivalent
FWS	Fish and Wildlife Service
GAT	Great Aleutian Tsunami
GBS	Gap Breaker Station
GDR	Geotechnical Data Report
GEC	General Engineering Consultant
GET	General Excise Tax
GIS	Geographic Information System
GPR	Ground Penetrating Radar
GSA	General Services Administration
GT	General Terms
HA	Hazard Analysis
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HALS	Historic American Landscape Survey
HART	Honolulu Authority for Rapid Transportation
HCC	Honolulu Community College
HCDA	Hawaii Community Development Authority
HCSD	Hawaiʻi Capital Special District

HDCC	Hawaiian Dredging Construction Company
HDOE	Hawai'i Department of Education
HDOH	Hawai'i Department of Health
HDOT	Hawai'i Department of Transportation
HDOT-A	Hawai'i Department of Transportation Airports Division
HDPE	High-density polyethylene
HECO	Hawaiian Electric Company
HFD	Honolulu Fire Department
HHF	Historic Hawai'i Foundation
HHFDC	Hawaii Housing Finance & Development Corporation
HHPRB	Hawai'i Historic Places Review Board
HIE	Hawaii Independent Energy
HILT	Hawaiian Islands Land Trust
HIOSH	Hawaii Occupational Safety and Health Division
HP	Historic Preservation
HPC	Historic Preservation Committee
HPCA	Historic Preservation Certification Application
HPD	Honolulu Police Department
HPF	Historic Preservation Fund
HRHP	Hawai'i Register of Historic Places
HRI	Hitachi Rail Italy
HRTP	Honolulu Rail Transit Project
HRU	Hitachi Rail USA, Inc.
HTI	Hawaiian Telcom
HTL	Hazard Tracking Log
HVAC	Heating, Ventilation and Air Conditioning
I&T	Inspection & Testing
IAMR	Interstate Access Modification Report
ICCS	Integrated Communications Control System
ICD	Interface Control Documents
ICE	Independent Cost Estimate
ICM	Interface Control Manual
ICWG	Interim Certification Working Group
IDS	Intrusion Detection System
IFB	Issued for Bid
IFC	Issued for Construction
IJ	Isolation Joint
INMS	Integrated Network Management System
IP	Implementing Procedures
ITP	Inspection and Test Plan
ITS	Intelligent Transportation Systems
IVR	Interactive Voice Response
JTMS	Joint Traffic Management System
JU&O	Joint Use & Occupancy
JUOA	Joint Use and Occupancy Agreement
JV	Joint Venture
KCDD	Kaka'ako Community Development District
KCH	Kanehili Cultural Hui
KHG	Kamehameha Highway Guideway
KHSG	Kamehameha Highway Station Group
KIWC	Kiewit Infrastructure West Company
KKJV	Kiewit/Kobayashi Joint Venture
LCC	Leeward Community College
LEED	Leadership in Energy and Environmental Design
LPR	License Plate Reader
LRV	Light Rail Vehicle
MIM	Manufacture-Install-Maintain
MITT	Multimodal Integration Technical Team
MMIS	Maintenance Management Information System
MMP	Mitigation Monitoring Program
MOS	Minimum Operable Segment
MOT	Maintenance of Traffic
MOU	Memorandum of Understanding
MOW	Maintenance of Way
MPS	Master Project Schedule
MPSS	Master Project Schedule Summary
MPV	Multiple Purpose Vehicle
MS4	Municipal Separate Storm Sewer System
MSE	Mechanically Stabilized Earth
MSF	Maintenance and Storage Facility
MTM	Modern Track Machineries
NCE	Non-Conformance Evaluation
NCR	Non-Conformance Report
NDC	Notice of Design Change
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NR	National Register
NRHP	National Register of Historic Places
NSM	Negotiation Strategy Memo
NTP	Notice to Proceed
NTS	Network Time Server
O&M	Operations and Maintenance
OCC	Operations Control Center
OCIP	Owner-Controlled Insurance Program
OIBC	O'ahu Island Burial Council
OIL	Open Items List
OMPO	Oahu Metropolitan Planning Organization
ORCC	Operational Readiness Conformance Checklists
OSB	Operations and Servicing Building
OSHA	Occupational Safety and Health Administration
OTS	O'ahu Transit Services
OTW	Oceanic Time Warner
OTWC	Oceanic Time Warner Cable
P3	Public-private partnership
PA	Programmatic Agreement
PAIS	Programmatic Agreement Implementation Schedule
PARs	Preventative Actions
PB	Parsons Brinckerhoff, Inc.
PDR	Preliminary Design Review
PE	Preliminary Engineering
PGC	Pacific Guardian Center
PHA	Preliminary Hazard Analysis
PHPR	Pearl Highlands Park and Ride
PICM	Project Interface Control Manual
PIG	Permitted Interaction Group
PIM	Project Interface Manager
PLA	Project Labor Agreement
PLO	Priority-Listed Offerors
PM	Project Managers
PMC	Project Management Consultant
PMIM	Project Management and Interface Management
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
PMSC	Program Management Support Consultant
PPE	Personal Protective Equipment
PRTCC	Pre-revenue Testing Conform Checklist
PSG	Platform Screen Gate
PSGS	Platform Screen Gate System
PSIT	Pre-shipment Inspection Test
PT	Post Tensioning
PUP	Property Utilization Plan
PV	Passenger Vehicle
QA	Quality Assurance
QAM	Quality Assurance Manager
QAP	Quality Assurance Plan
QC	Quality Control
QMP	Quality Management Plan
QMS	Quality Management System
QTF	Quality Task Force
R&R	Revise & Re-submit
RAC	Rail Activation Committee
RAMP	Real Estate Acquisition and Relocation Management Plan
RCMP	Risk and Contingency Management Plan
RCP	Reinforced Concrete Pipe
RE	Resident Engineer
READ	Real Estate Acquisition Database
RFC	Request for Change
RFI	Request for Information
RFID	Requests for Interface Data
RFMP	Rail Fleet Management Plan
RFP	Request for Proposals
RFQ	Request for Qualifications
ROC	Rail Operations Center
ROD	Record of Decision
ROE	Right of Entry

ROW	Right-of-Way
RR	Risk Register
RSD	Revenue Service Date
RTM	Requirements Traceability Matrix
RTSA	Regional Transit Stabilization Agreement
S&S	Safety and Security
S1	Segment 1
SAIS	Supplemental Archaeological Inventory Survey
SCADA	Supervisory Control and Data Acquisition
SCAP	Stream Channel Alteration Permit
SCC	Standard Cost Category
SHPD	State Historic Preservation Division
SIC	Sandwich Isle Communications
SIT	System Integration Testing
SLAN	Station Local Area Network
SOG	Slab on Grade
SOI	Secretary of the Interior
SOW	Scope of Work
SP	Special Provisions
SQP	Supplemental Quality Plan
SSC	Safety Security Certification
SSCP	Safety and Security Certification Plan
SSCWG	Safety and Security Certification Working Group
SSI	Sensitive Security Information
SSMP	Safety and Security Management Plan
SSRC	Safety and Security Review Committee
SSSP	Site Safety Security Plan
STCC	Specification/Testing Conform Checklists
SWPPP	Storm Water Pollution Prevention Plan
T&M	Time and Material
TAP	Transportation Alternatives Program
TC	Train Control
TCCR	Train Control and Communications Room
TCE	Temporary Construction Easement
TCO	Temporary Certificate Occupancy
TCP	Traffic Control Plan
TCS	Train Control System
TES	Traction Electrification System
TIGER	Transportation Investment Generating Economic Recovery
TIP	Transportation Improvement Program
TOC	The Outdoor Circle
TOD	Transit-Oriented Development
TPO	Thermoplastic Olefin
TPSS	Traction Power Sub-Station
TSA	Transportation Security Administration
TSI	Transportation Safety Institute
TVA	Threat & Vulnerability Assessments
TVM	Ticket Vending Machine
TWF	Train Wash Facility
UCA	Utility Construction Agreement
UFRCRA	Utility Facilities Relocation and Cost Reimbursement Agreement
UH	University of Hawai‘i
UHWO	University of Hawai‘i West O‘ahu
UL	Underwriters Laboratories
UPS	Uninterrupted Power Supply
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USN	United States Navy
VAR	Volt-Ampere Reactive
VE	Value Engineering
VECP	Value Engineering Cost Proposal
VRC	Vertical Raceway Column
VRCS	Voice Radio Communication System
VRF	Variable Refrigerant Flow
WA	Work Area
WHS	Waipahu High School
WL	West Loch
WLO	West Loch
WOEDA	West Oahu Economic Development Association
WOFH	West O‘ahu/Farrington Highway
WOSG	West O‘ahu Station Group
WSS	West Side Stations
WSSG	West Side Station Group
WTB	Wheel Truing Building
WTC	Waipahu Transit Center
WYL	West Yard Lead
YCB	Yard Control Bungalow
YOE	Year of Expenditure


PROJECT MAP
LEGEND
HRTP Guideway
HRTP Station
Park and Ride Access Ramps
Park and Ride
Maintenance and Storage Facility (MSF)
Pearl Highlands
Leeward Community College
Waipahu Transit Center
Pearlridge
West Loch
Aloha Stadium
Ho'opili
UH West O'ahu
Pearl Harbor Naval Base
East Kapolei
Middle Street Transit Center
Honolulu International Airport
Lagoon Drive
Kalihi
Kapalama
Iwilei
Chinatown
Downtown
Civic Center
Kaka'ako
Ala Moana Center
PACIFIC OCEAN
MAMALA BAY
PEARL HARBOR
EWA
IROQUOIS POINT
AIRPORT
KEEHI LAGOON
HICKAM HOUSING
SALT LAKE
MAKAKILO
KAPOLEI
BARBERS POINT
EWA BEACH
WAIPAHU
PEARL CITY
AIEA
HALAWA
MOANALUA
KALIHI-PALAMA
KAKAAKO
MAKIKI
DOWNTOWN

1 SUMMARY

KEY ACTIVITIES THIS MONTH

Project Overview

More than 10 miles of guideway have been built for the Honolulu Rail Transit Project, with crews having built more than 450 columns and stressed more than 425 spans.

In October, the Honolulu Authority for Rapid Transportation (HART) and Nan, Inc. held a groundbreaking ceremony at the future site of the Pearl Highlands Station in Pearl City. The Pearl Highlands Station is one of three rail stations for the Kamehameha Highway Stations Group, and will be located on Kamehameha Highway near Pearl Highlands Center and Home Depot. Nan, Inc. is the contractor for the Kamehameha Highway Stations Group, which consists of the Aloha Stadium, Pearlridge and Pearl Highlands Stations.

Interim Executive Director

The Board of Directors of HART announced its unanimous selection of K.N. Murthy as the authority's Interim Executive Director and CEO. Murthy has more than 40 years of experience in transit design and construction and has managed and implemented several multi-billion dollar light rail and heavy rail projects throughout the United States.

Murthy's first day on the job at HART will be December 5 and his employment agreement is for a term of one year.

HART Board

HART Board Chair Colleen Hanabusa has resigned from the Board of Directors to run for the United States House of Representatives. An attorney, Hanabusa had been a member of the Board since June 2015, and had served as the chair of the Board since April 2016.

Mayor Kirk Caldwell has appointed Glenn M. Nohara, a professional engineer and licensed general contractor, to serve on the HART Board through June 30, 2021. He will serve the remainder of Hanabusa's term, and the HART Board members will vote to select their new Chair.

Currently the Chair of the Board of Directors at Koga Engineering and Construction, Inc., Nohara served for nearly two decades as the company's President and C.O.O.

"Glenn's years of private sector engineering and construction experience, particularly in estimating construction costs for projects, give him the background and knowledge needed to oversee the rail project and carefully review costs before they are approved," said Mayor Caldwell.

Interim Plan

HART has provided an Interim Plan to the Federal Transit Administration (FTA). The City is requesting an extension of the December 2016 Recovery Plan submittal date to June 30, 2017, and offered an Interim Plan to describe the City's plan for moving forward and its commitment to a financial Recovery Plan that achieves the objectives of the Full Funding Grant Agreement (FFGA) to the maximum extent possible.

The Interim Plan included a proposed process for Plan A – The City's Preferred financial Recovery Plan, and Plan B – Build to Budget. "Plan A" represents the City's financial Recovery Plan in support of building the minimum operable segment (MOS) between East Kapolei and Ala Moana Center. "Plan B" represents the build to budget option, describing the process the City will undertake to deliver a transit system with independent utility within the program's existing $6.8 billion budget.

The Interim Plan is posted on the project's website, and can be downloaded at: http://hartdocs.honolulu.gov/docushare/dsweb/Get/Document-19327/20160930-hart-interim-plan.pdf

Cost:

Project Costs Summary Through September 30, 2016		
	Current FFGA Budget ($M)	Incurred To Date ($M)
Project Budget	$4,480.8	$2,347.6
Project Contingency	$467.8	$0.7
Finance Charges*	$173.1	$0.0
TOTAL	**$5,121.7**	**$2,348.3**

* $173.1 million represents the project debt financing costs that are federally eligible. The total estimated debt financing costs of the project is $215 million, per the FFGA Financial Plan.

Schedule:

Project Progress* Through September 30, 2016				
	Actual		Early FFGA Plan	Late FFGA Plan
Overall Project Progress	53.7%		83.1%	77.7%
Overall Construction Progress	47.4%		78.9%	72.2%
Overall Design Progress	90.3%		100%	100%
Overall Utilities Progress	47.8%		100%	100%

* Reported percentages complete are based on the Full Funding Grant Agreement (FFGA) budget and Revenue Service Date (RSD). HART will revise its progress curves when the project budget and RSD are re-baselined.

PROGRESS REPORT SUMMARY OF CHANGES

HART continues to revamp the Monthly Progress Report, with changes made throughout the report. The following is a brief summary of major changes that have occurred from the previous month's report. For more information and detail, please refer to the respective pages in the report.

Project Progress

- The actual percentage amount for the Design Progress graph has been adjusted due to executed change orders. Please see page 12.

Project Contingency

- $4.3M contingency increase during September 2016. Please see page 13.

Project Funding

- The New Starts drawdown amount processed and received in September 2016 is $8.7 million. Please see page 14.
- The total amount of cash received has increased due to the New Starts drawdown. Please see page 14.

Contract Status

- Contracts in Procurement
  - HART entered into a contract for artwork at the Pearlridge Station under the Art-in-Transit Program. Please see page 17.
  - HART awarded the contract for Outside Counsel for Land Court Petition Services to the law firm of Imanaka Asato, LLLC. Please see page 17.
  - The On Call Appraisers "II" contract has been added to the Remaining Contracts table. Please see page 17.
  - Contracts that are under evaluation have been removed from the Remaining Contracts table, and are mentioned under the Upcoming Procurements section. Please see page 17.
  - The On Call Auditor contract is under evaluation. Please see page 17.

- Changes have been made to all of the contract pages, including a section at the top of each contract page depicting the percentages complete and the schedule status for each contract. The progress curve graphic has been removed as the percentages that were in that graphic are now at the top of each contract page. In addition, a Key Milestones section has been included. Please see pages 18-45.

- Core Systems Contract (CSC)
  - The percentage complete based on expenditures has been adjusted due to provisional costs being removed. Please see page 18.
  - The incurred-to-date amount has decreased due to provisional costs being removed. Please see page 18.

- Elevators and Escalators Manufacture-Install-Maintain (MIM)
  - The current contract value amount has increased due to change orders. Please see page 21.
  - A Quality Management section has been included. Please see page 22.

- Fare Collection System
  - A Quality Management section has been included. Please see page 24.

- West O'ahu/Farrington Highway (WOFH)
  - The current contract value amount has decreased due to change orders. Please see page 25.

- West O'ahu Station Group (WOSG)
  - The projected substantial completion date has changed from March 2018 to TBD. Please see page 28.

- Farrington Highway Station Group (FHSG)
  - The current contract value has increased due to a change order. Please see page 30.

- Kamehameha Highway Guideway (KHG)
  - The current contract value amount has decreased due to a change order. Please see page 34.

- Kamehameha Highway Station Group (KHSG)
  - The Full Notice to Proceed (NTP) date has been updated to October 2016. Please see page 38.
  - The contract substantial completion date has been updated from NTP+32 months to May 2019. Please see page 38.

- Airport Section Utilities (ASU) Construction
  - The projected substantial completion has been changed to actual substantial completion. Please see page 41.
  - The current contract value has been corrected. Please see page 41.

- Airport Station Group (ASG) Final Design
  - The projected substantial completion has changed from October 2016 to December 2016. Please see page 43.

- Dillingham and Kakaʻako Station Group (DKSG) Final Design
  - The projected substantial completion has changed from October 2016 to December 2016. Please see page 45.

- Contract Status
  - Contract pages formerly in Section 4.6 have been removed, and a new Contract Status report has been included. Please see pages 46-49.

Utility Agreements

- An Issues section has been included. Please see page 52.

Right-of-Way

- A Key Issues section has been included. Please see page 53.

Safety and Security

- A Look Ahead section has been added. Please see page 57.

Appendices

- The Project Costs by Contract cost report has been removed as the information is included in the new Contract Status report. Please see pages 46-49.
- The Awarded Contracts table has been removed as the information is included in the new Contract Status report. Please see pages 46-49
- The organizational chart has been updated. Please see page 74.

2 OVERALL PROJECT PROGRESS AND FINANCIALS

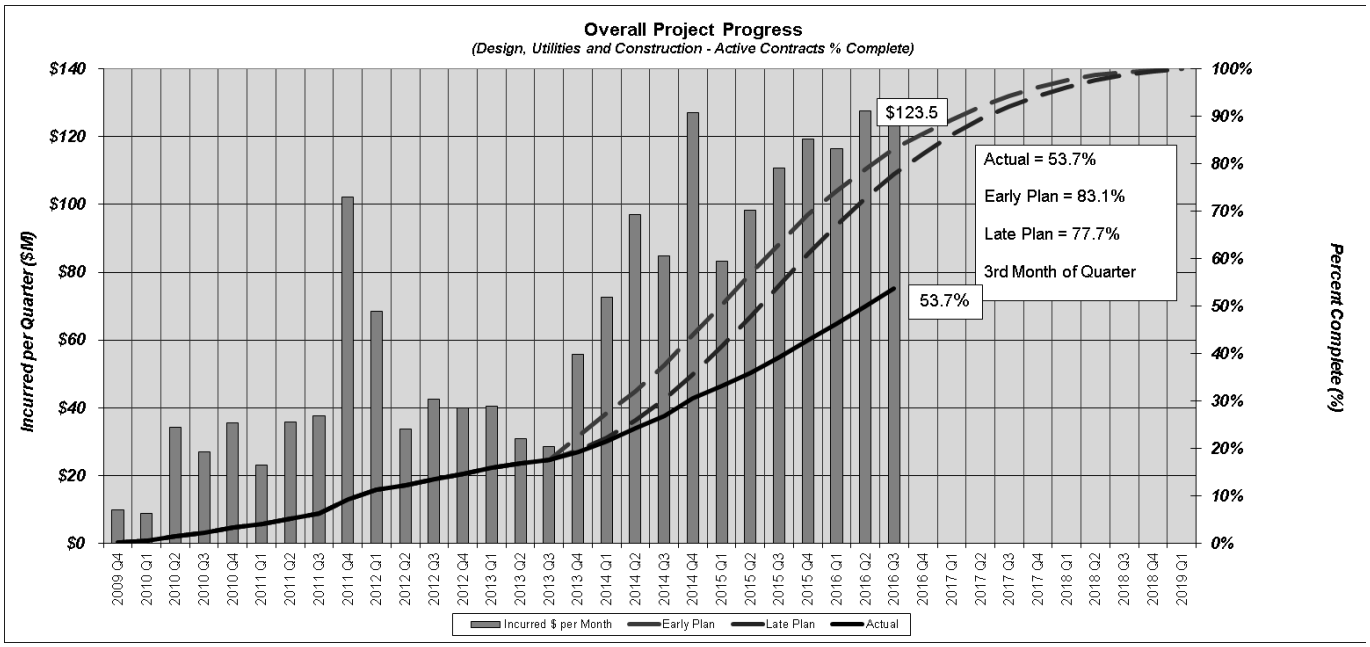
2.1 Project Progress (data as of September 30, 2016)

Reported percentages complete are based on the Full Funding Grant Agreement (FFGA) budget and Revenue Service Date (RSD). HART will revise its progress curves when the project budget and RSD are re-baselined.

Note:

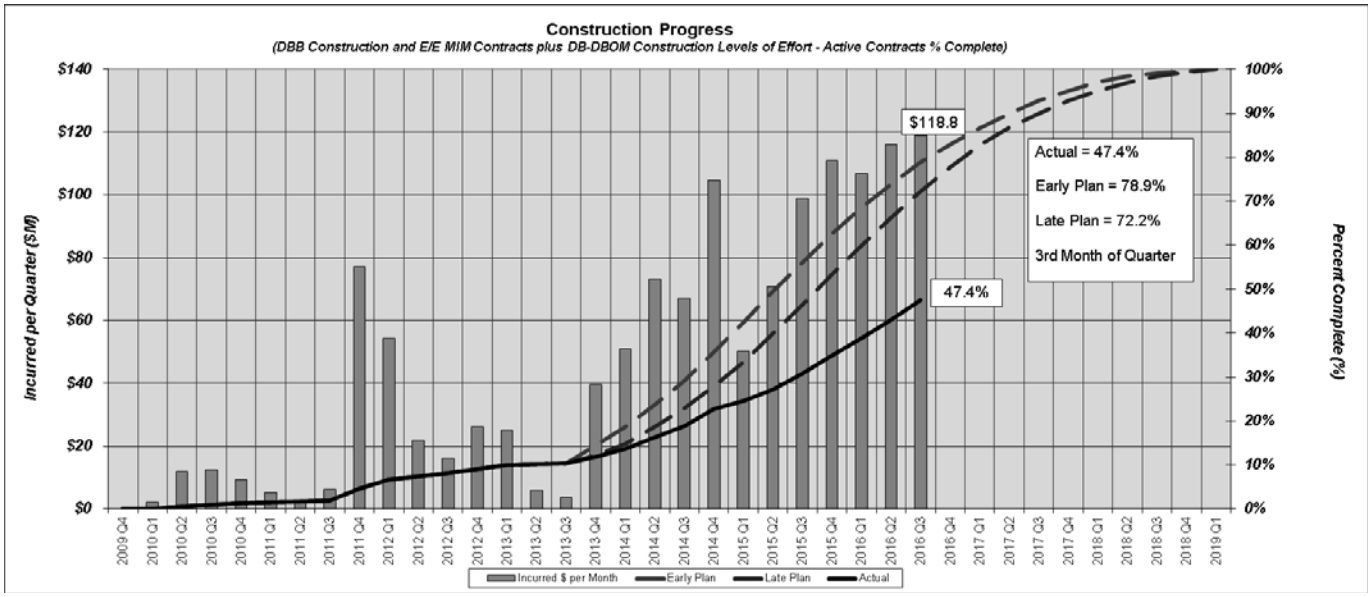
- Actual = Actual cost of work performed, based on invoiced-to-date amount.
- Early Plan = Earliest dates activities can begin and finish, based on logic and durations used in the schedule.
- Late Plan = Latest dates activities can begin and finish and not have an impact on completion date, based on logic and durations used in the schedule.

Figure 1. Overall Project Progress (% Complete)



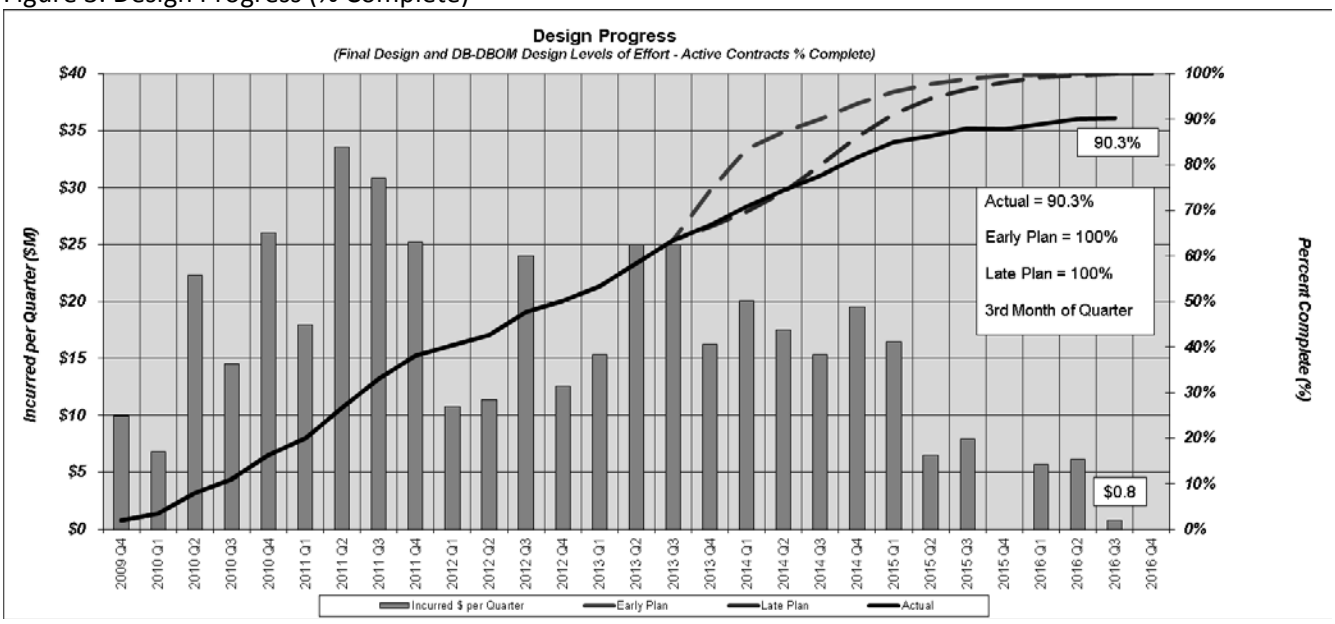
At present "overall" project progress is based on the weighted value progress of the individual construction and design contracts (Design-Build [DB], Design-Bid-Build [DBB], Design-Build-Operate-Maintain [DBOM], Elevator/Escalator Manufacture-Install-Test-Maintain [MIM], Final Design [FD] and DB-DBOM design levels of effort), not including City or non-design consultant labor. Overall Project Progress reflects all project elements as budgeted.

Figure 2. Construction Progress (% Complete)



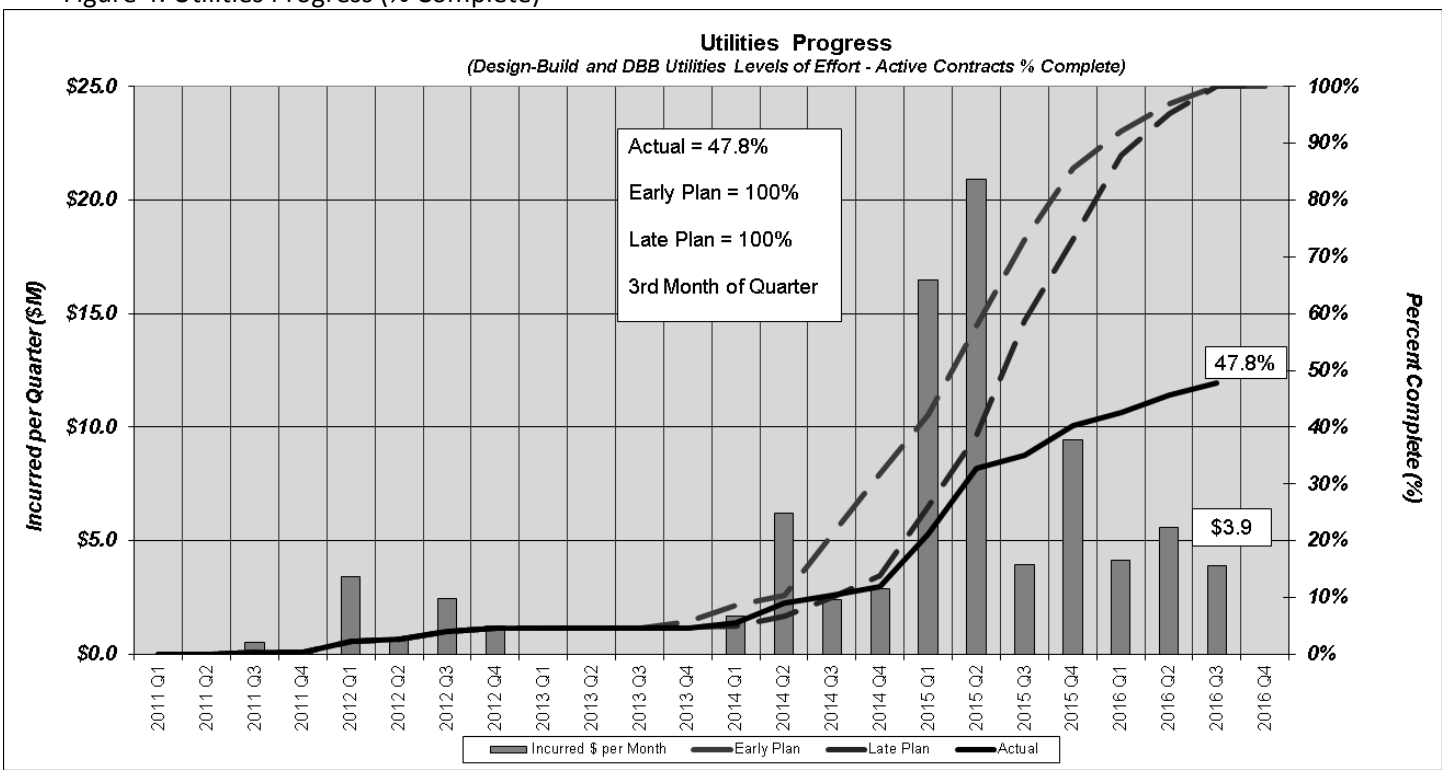
Overall construction progress is based on the weighted average progress of the individual DBB and E/E MIM construction contracts and the DB-DBOM construction levels of effort, not including consultant construction engineering and inspection (CE&I) services.

Figure 3. Design Progress (% Complete)



Overall design progress is based on the weighted average progress of the individual FD contracts and the design levels of effort of the DB and DBOM construction contracts, not including City or non-design consultant labor.
Note: Design responsibility will be transferred to DB, once DB packages are awarded. Deductive change orders will be issued to correct the total contract amount.

Figure 4. Utilities Progress (% Complete)



Overall utilities progress is based on the weighted average progress of the DB and DBB utilities levels of effort.

2.2 Project Budget (data as of September 30, 2016)

- FFGA Project Budget = **$5,121.7M**
  - Current Project Budget - $4,480.8M
  - Current Project Contingency - $467.8M
  - Project Finance Charges - $173.1M

- Total Incurred Cost = **$2,348.3M** (52.4% of current project budget)
  - September 2016 Incurred Cost = $36.7M

- The FFGA budget was $5.122 billion, as presented in the section above. In 2016, the City and County of Honolulu passed an ordinance to extend the General Excise Tax (GET) to 2027, thereby increasing the current project budget to $6.8 billion.

- The Project Budget is being updated to reflect current program expectations and will be finalized in collaboration with the Federal Transit Administration (FTA). The Project Management Oversight Contractor's (PMOC's) predicted Estimate at Completion (EAC) value, not including finance costs, was $7.623 billion, based on FTA's Beta Range model.

2.3 Project Contingency (data as of September 30, 2016)

Note: A breakdown of Project contingency drawdowns is discussed in further detail in Appendix A.

- Current Project Contingency Balance = **$467.8M**
  - Contingency drawdown to date – $175.8M (27% of baseline project contingency budget)
  - $4.3M contingency increase during September 2016. Please see Appendix A for more details.

- The Draft Cost Contingency Drawdown Chart is being updated to reflect current program forecast needs, and will be included in a future Progress Report.

2.4 Project Funding (data as of September 30, 2016)

Figure 5. Planned vs. Received Project Funding

Planned vs. Received Project Funding				
Funding Source	*Pre-FFGA Project*[1]	FFGA Project Period		Total Project
	2007 - 2009 Actuals Received	Planned[2] ($YOE M)	2009 - Present Actuals Received	2007 - Present Actuals Received
	[A]		[B]	[C] = A +B
Beginning Project Cash Balance[3]	*0*	**298**	298	**n/a**
Interest Income on Cash Balance	*7*	**3**	2	**9**
FTA Section 5309 New Starts Revenue[4]	*0*	**1,550**	598	**598**
FTA Section 5307 Formula Funds 5	*0*	**210**	0	**0**
ARRA Funds	*0*	**4**	4	**4**
Net General Excise Tax (GET) Surcharge revenues FY2010-FY2022 5	*378*	**3,291**	1,377	**1,755**
Total	***385***	**5,356**	**2,279**	**2,366**

[1] GET and Interest Income received during Pre-Preliminary Engineering (pre-PE) phase prior to entry into PE

[2] FFGA Financial Plan, Table A-1 *Capital Plan Cash Flows* .

[3] Beginning Project Cash Balance at Entry into Preliminary Engineering (PE) on October 16, 2009 (the FFGA Project start date) = Pre-PE GET, investment and miscellaneous income minus pre-PE expenditures. The $298 million is included in the Pre-FFGA actual amounts received between 2007-2009 of $378 million.

[4] New Starts Funds Obligated Through Federal Fiscal Year 2014 Totals $806.3 Million

[5] On January 27, 2016 the City Council of Honolulu passed Bill 23 which extended the GET surcharge to December 31, 2027. The planned amounts for funding will be adjusted in a future Monthly Progress Report to reflect the extension of the GET surcharge.

- General Excise Tax (GET) Surcharge
  - $0 = GET surcharge received in September 2016.
- Full Funding Grant Agreement (FFGA)
  - $8.7M = New Starts drawdown processed and received in September 2016.

Figure 6. New Starts Drawdown by Federal Fiscal Year (data date as of September 28, 2016)

New Starts Grant Information by Federal Fiscal Year (Amounts in italics are pending)				
Federal Fiscal Year Allocation	FTA Obligated Amounts	Actual Drawdown Amounts to Date	Available Balance	FFGA Base Case Cash flow
2008	$15,190,000	$15,190,000	$0	
2009	$19,800,000	$19,800,000	$0	
2010	$30,000,000	$30,000,000	$0	
2011	$55,000,000	$55,000,000	$0	$20,607,242
2012	$200,000,000	$200,000,000	$0	$99,382,758
2013	$236,277,358	$236,277,358	$0	$258,280,277
2014	$250,000,000	$41,256,672	$208,743,328	$441,719,724
2015 (pending award of grant)	*$250,000,000*	$0	*$250,000,000*	$250,000,000
2016 (pending award of grant)	*$250,000,000*	$0	*$250,000,000*	$250,000,000
2017 (pending appropriation and award of grant)	*$243,732,642*	$0	*$243,732,642*	$230,010,000
Total	**$1,550,000,000**	**$597,524,030**	**$952,475,970**	**$1,550,000,000**

Note: Project Cost Reports can be found in Appendix B.

3 SCHEDULE

(data as of Sept. 30, 2016)

OVERVIEW and KEY ISSUES

- HART updated the construction Notice to Proceed (NTP) date for Kamehameha Highway Stations Group (KHSG) to Oct. 3, 2016. KHSG is the third western station group construction contract. Construction NTP was delayed due to access issues with preceding guideway contractor's work. This delays the Core Systems' Interim Revenue Service Date related contract work. The deferred KHSG NTP impacts the Interim Revenue Service Date to December 2020.

- The Revenue Service Date (RSD) continues as planned with completion in December 2025. The two eastern guideway contracts are planned as follows:
    - Airport Guideway and Stations' (AGS) construction NTP is planned for November 2016.
    - City Center Guideway and Stations (CCGS) construction NTP is forecasted for August 2018.

- CCGS options are being evaluated to address the shortfall in revenue needed to construct the full FFGA scope.

- The overall critical path to full Revenue Service is the CCGS guideway and stations' construction, core systems installation, testing and commissioning.

- The following bullets summarize schedule forecasts:
    - West O'ahu/Farrington Highway (WOFH) construction progress is behind the approved schedule by four months. A change request is planned for board approval to address LCC delays and traffic signals.

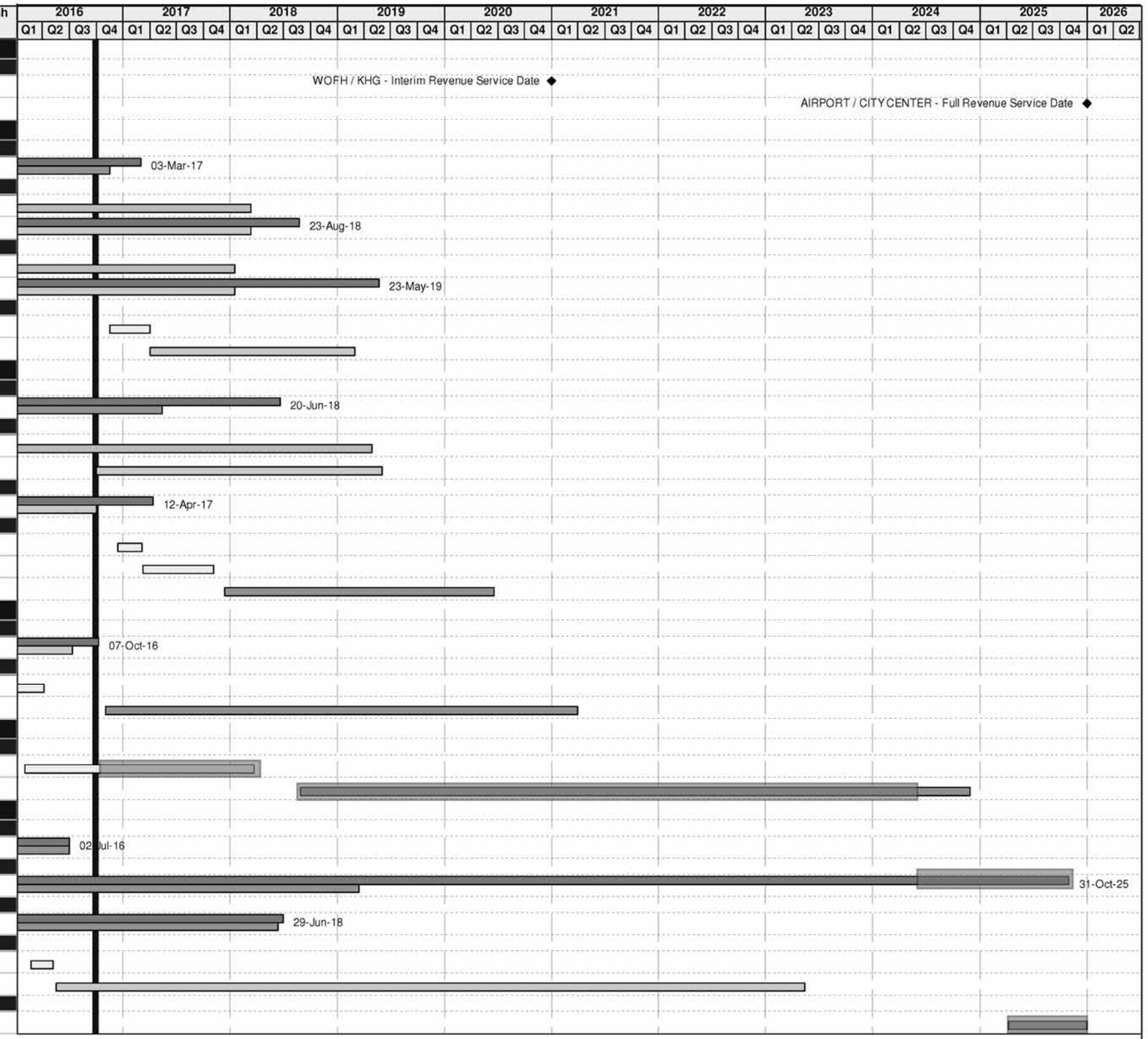
    - West O'ahu Station Group's (WOSG's) schedule is finalizing acceptance and progress is behind by six months. This is due to additional electrical conduit and delay in Ho'opili's box girder submittal.

    - Farrington Highway Station Group (FHSG) projects six months delay beyond contract substantial completion. This project is on the critical path for Interim Revenue Service Date.

Figure 7. HRTP Master Project Schedule Summary (MPSS)

The Master Program Summary Schedule reflects currently approved schedule end dates for contracts that have been awarded, and planned dates for future contracts. Active contracts' end dates will not change, unless a change order is issued.

Activity Name	Contract Start	Contract Finish
KEY DATA		
MILESTONES		
WOFH / KHG - Interim Revenue Service Date		31-Dec-20*
AIRPORT / CITY CENTER - Full Revenue Service Date		31-Dec-25
WEST OAHU / FARRINGTON HIGHWAY (WOFH) - SECTION 1		
WOFH Guideway & Utilities		
DB-120 - WOFH Guideway - Design & Construction	01-Dec-09 A	16-Nov-16
West Oahu Station Group (WOSG)		
FD-140 - West Oahu Station Group - Including Design Services During Construction	15-Jun-12 A	12-Mar-18
DBB-171 - West Oahu Station Group - Construction	13-Oct-15 A	12-Mar-18
Farrington Hwy Station Group (FHSG)		
FD-240 - Farrington Highway Station Group - Including Design Services During Construction	30-Sep-13 A	16-Jan-18
DBB-271 - Farrington Highway Station Group - Construction	17-Aug-15 A	16-Jan-18
UH West Oahu Park n Ride & Ho`opili Station Finishes		
DBB-600 - East Kapolei and UH/West Oahu Park and Ride Lots - Bid & Award	14-Nov-16	02-Apr-17
DBB-600 - East Kapolei and UH/West Oahu Park and Ride Lots - Construction	03-Apr-17	01-Mar-19
KAMEHAMEHA HIGHWAY (KH) - SECTION 2		
Kamehameha Highway Guideway & Utilities		
DB-320 - KHG Guideway - Design & Construction	12-Jul-11 A	12-May-17
Kamehameha Highway Stations		
FD-340 - Kamehameha Highway Station Group - Including Design Services During Construction	26-Nov-12 A	30-Apr-19
DBB-371 - Kamehameha Highway Station Group - Construction	03-Oct-16*	02-Jun-19
Ramp H2R2		
DBB-385 - Ramp H2R2 - Construction	18-May-15 A	02-Oct-16
Pearl Highlands Parking Structure & Ramps		
Pearl Highlands Transit Center and Ramp H2R1 - Design Build Procurement Part 1 (Tentative)	12-Dec-16*	07-Mar-17
Pearl Highlands Transit Center and Ramp H2R1 - Design Build Procurement Part 2 (Tentative)	08-Mar-17	03-Nov-17
Pearl Highlands Transit Center and Ramp H2R1 - Design and Construction (Tentative)	13-Dec-17	17-Jun-20
AIRPORT - SECTION 3		
Airport Utility Relocation		
DBB-505 - Airport Section Utilities - Construction	06-Oct-14 A	13-Jul-16 A
Airport Guideway & Stations (AGS)		
DB-450 - Airport Guideway & Stations - Design Build Procurement Part 2	01-Sep-15 A	05-Apr-16 A
DB-450 - Airport Guideway & Stations - Design & Construction	01-Nov-16	31-Mar-21
CITY CENTER (CC) - SECTION 4		
City Center Guideway & Stations (CCGS)		
DB-550 - City Center Guideway & Stations - Design Build Procurement Part 2	02-Feb-16 A	24-Mar-18
DB-550 - City Center Guideway & Stations - Construction	28-Aug-18	27-Nov-24
PROJECT WIDE - ALL SECTIONS		
Maintenance & Storage Facility (MSF)		
DB-200 - MSF - Design & Construction (Design-Build)	25-Jul-11 A	02-Jul-16 A
Core Systems		
DBOM-920 - Core Systems - Design & Construction	13-Jan-12 A	15-Mar-19
Elevators & Escalators		
MI-930 - Elevators and Escalators - Design, Manufacture, Install, & Test	02-Aug-13 A	13-Jun-18
On-Call Construction Contract "III"		
MM-948 - On-Call Construction Contract "III" - Bid & Award	23-Feb-16 A	09-May-16 A
MM-948 - On-Call Construction Contract "III" - Construction (Duration To Be Determined)	16-May-16 A	15-May-23
Final Testing and Commissioning		
Final Testing and Commissioning	07-Apr-25	31-Dec-25



HART — HONOLULU AUTHORITY for RAPID TRANSPORTATION

Design Build
Contractor's Forecast
Construction
Design
Bid/Award
Milestone

Honolulu Rail Transit Project
As of: 30-Sep-16

Pg 1 of 1

MPS Summary
Design & Construction Contracts

4 CONTRACT STATUS

Contracts in Procurement

OVERVIEW

- Awarded Contracts:
  - HART entered into a contract for artwork at the Pearlridge Station under the Art-in-Transit Program.
  - HART awarded the contract for Outside Counsel for Land Court Petition Services to the law firm of Imanaka Asato, LLLC.

- Active Procurements:
  - Art-in-Transit: HART continues its negotiations with the highest-ranked artists for each of the stations. To date, seven contracts have been awarded.
  - City Center Guideway and Stations (CCGS) Design-Build RFP: RFP Part 2 was issued on Feb. 2, 2016. The solicitation is on hold pending additional funding.
  - Program Management Contractor Contract RFQ: The RFQ was issued on May 9, 2016. Proposals were received on July 14, 2016. Negotiations are nearing conclusion. Once finalized, the NTP of the contract is expected in January 2017.

Remaining Contracts						
Contract Code	Contract Name	Advertise Date	Bids Due/Part 1 Proposals/BAFO Due	RFP Part 2 Proposals/BAFO Due	Issue NTP	Projected Contract Substantial Completion Date
AP-00	Art-in-Transit	May 09 '13	-	NA	TBD/Staggered	TBD
DB-550	City Center Guideway and Stations	Aug 04 '15	Nov 18 '15	TBD	TBD	TBD
MM-902	Program Management Contractor Contract	May 09 '16	Jul 14 '16	NA	TBD	Dec 31 '22 + 3 Year Option
	On Call Appraisers "II"	Nov 2016	Jan 2017	NA	Mar 2017	NTP + 4 Years

- Upcoming Procurements:
  - Procurements for On-Call Auditor; UH West O'ahu Temporary Park and Ride and UH West O'ahu Campus Road "B" Design-Bid-Build Contract; Pearl Highlands Garage, Transit Center and Ramp H2R1; Core Systems Back-up Generators; East Kapolei and UH West O'ahu Park and Ride (Design); and East Kapolei and UH West O'ahu Park and Ride (Construction) are under evaluation.

4.1 System-wide

A. Core Systems Contract (CSC)

Contract No.: DBOM-920
DBOM Contractor: Ansaldo Honolulu Joint Venture (AHJV)
Contract Start Date: January 2012
Contract Substantial Completion: March 2019
Projected Substantial Completion: October 2025

Project Description: Providing rail passenger vehicles, automated train control system, traction electrification system (TES), communication systems, passenger platform screen gates (PSGs), and operation and maintenance of the project.

% Complete		Schedule Status
Based on Expenditures*	38.2%	On time**
Weighted Value	39.1%	
Early Plan*	62.9%	
Late Plan*	55.8%	

*Data as of Sept. 30, 2016. The progress chart reflects early program expectations. When the overall schedule is rebaselined and Construction Access Milestone dates are revised, the cost curve will be revised.
**Based on draft Rebaseline Rev J.

COST INFORMATION:

Original Contract:	$573,782,793	Incurred-to-Date:	$229,705,257
Current Contract Value[1]:	$600,820,687	Incurred in September:	($11,000,000)[2]

[1] *Current Contract Value = Original contract value (excluding $823.6M O&M budget) + executed Change Orders*
[2] *The incurred amount has decreased due to provisional costs being removed.*

Disadvantaged Business Enterprise (DBE) Participation	
Actual DBE Participation:	$129,165
DBE % Attained:	0.029%

September Change Orders		
Change No.	Description	Amount ($)
None	---	---
	Cumulative to Date	**$27,037,894**

SCHEDULE:

Upcoming Schedule Status per October 2016

- Traction Power Sub-Station (TPSS) feeder cables installation at SS #8 (Waipahu) started in September 2016.
- Installations for Train Control and Communications Room (TCCR) at the stations will start in early 2017 at Ho‘opili and West Loch.
- Car shell fabrication and vehicle delivery is ongoing, along with Train #1 and #2 testing. Delivery of Train #2 to Honolulu is scheduled for February 2017.
- Train Design Verification Test will start around February 2017.
- Third Rail Energization at Maintenance and Storage Facility (MSF) is scheduled for December 2016.
- TPSS delivery is scheduled for early 2017 for West Loch and Ho‘opili.

WORK PROGRESS:

	Base Design Percent Complete	East Kapolei – Aloha Stadium Design	Aloha Stadium – Middle Street Design
Passenger Vehicles	93%		
PSGS	90.9%		
Communications	69%	64%	0%
Fire Detection	100%	100%	0%
ATC / SCADA	100%	100%	100%
TES	100%	100%	100%

Activities this Month:

Design:

- Review of design submittals is ongoing.

Manufacturing:

- Performed oversight of passenger vehicle (PV) assembly activities at Hitachi Rail factory in Pittsburg, CA. Equipment installation work on the second, third, and fourth train is ongoing.
- Three of four car shells for Train #5 have been delivered to Pittsburg, CA.
- The DRS fabricated truck frames and bolsters have been installed on Train #2 in Pittsburg.
- Pre-shipment inspection and test of Traction Electrification System (TES) Traction Power Sub-Station (TPSS) continues.
- Pre-shipment inspection and test of Supervisory Control and Data Acquisition (SCADA) continues.
- Qualification test on Platform Screen Gate System (PSGS) continues.

Installation, Testing and Commissioning:

- Low Voltage Functional Test started on Train #1.
- Automatic Train Control (ATC) installation in the MSF is 74% complete.
- TES installation in the MSF is 98.5% complete.
- Continued coordination with HECO to energize Waipahu TPSS.
- AHJV continues to pull and terminate train control cabling in the Yard Control Bungalow (YCB).
- Continued coordination with FHSG and KHSG station contractors.
- AHJV started the installation of Communications system cable in the Maintenance of Way (MOW) building.

Look Ahead:

Design:

- Continue Final Design of all subsystems.

Manufacturing:

- Passenger Vehicle Manufacturing – Continue car shell fabrication in Italy.
- Continue final assembly activities on Trains #3, #4 and #5 in Pittsburg, CA.
- PV Truck Fabrication – Continue truck frame and bolster fabrication activities in Italy.
- Continue manufacturing of automated train control, traction power, and other subsystems equipment.

Installation, Testing and Commissioning:

- Installation and testing of communications system cabling and devices in MSF buildings.
- Installation and testing of communications devices in MSF yard.
- Continue Routine and Design Verification testing on Train #1 in Honolulu.
- Continue Routine and initiate Design Verification testing on Train #2 in Pittsburg, CA.
- Continue installation of TES cabling in the MSF and guideway.
- Continue installation and termination of Train Control cabling and devices in MSF.
- Installation of Operations Control Center (OCC) technical room equipment.
- Installation of CIC (Communication interface Cabinet) cabinets in MSF.
- Coordination with FHSG and KHSG station contractors.

KEY ISSUES:

- Delays in the west side guideway and station contracts have affected the Core Systems Contract. HART issued revised Construction Access Dates in April 2016 with an anticipated shift in project completion from January 2020 to December 2022 (i.e., three years). The CSC submitted the revised Baseline Project Schedule (BPS Rev J) and intent to claim in October.
- The deferred NTP for City Center Guideway and Stations will further delay the Core Systems Contract. Delays to the Revenue Service Date impact the Core Systems Contract. The current projected project completion date has now shifted from December 2022 to as late as December 2025 (i.e., another three years).
- Operations and Maintenance (O&M) costs, for both the Design-Build (DB) portion of the contract and the Full System O&M portion of the contract, are under review as a result of the revised project completion date.
- The CSC's Communications System design completion is delayed. The communications system delay is an internal AHJV delay and not affecting any critical path activities at this time. HART is monitoring this subsystem delay as it is a key component needed for future signaling system qualification testing and can affect system wide integrated testing if it is not adequately addressed.
- Hawaiian Electric provided HART with results of the power quality study which shows that HART will need to mitigate the voltage variations caused by the operation of the trains leaving the stations. Mitigation measures being reviewed by HART include the installation of Static Volt-Ampere Reactive (VAR) Compensation equipment or other solutions including refining the operation of the trains.

KEY MILESTONES:

- Hitachi Rail Italy (HRI) is focusing on the passenger vehicle test activities necessary to begin dynamic test activities (under manual control) on the guideway Dynamic Section.
- Dynamic testing without ATC in February 2017.

QUALITY MANAGEMENT:

- Core Systems Oversight Consultant (CSOC) continues to monitor quality of PV assembly in Pittsburg, CA.

CSC NCR Log			
	TOTAL	CLOSED	OPEN
AHJV & Subs	33	31	2
Hitachi Rail	733	561	172
TOTAL	**766**	**592**	**174**

B. Elevators and Escalators Manufacture-Install-Maintain (MIM)

Contract No.: MI-930
Contractor: Schindler Elevator Corporation
Contract Start Date: August 2013
Contract Substantial Completion: June 2018
Projected Substantial Completion: The June 2018 completion date will change to a later date predicated on the award of the DB contracts for the east portion of the guideway.

Project Description: Furnish / install / test / maintain all elevator and escalator equipment located at the 21 stations.

% Complete		Schedule Status
Based on Expenditures*	12.9%	Pending**
Weighted Value	12.9%	
Early Plan*	81.0%	
Late Plan*	70.5%	

*Data as of Sept. 30, 2016. The progress chart reflects early program expectations. When the overall schedule is rebaselined and Construction Access Milestone dates are revised, the cost curve will be revised.
**The Elevators and Escalators schedule is dependent on other contractor's schedules. Actual release for manufacturing will be coordinated for a 'just in time' delivery.

COST INFORMATION:

Original Contract: $50,982,714
Current Contract Value[1]: $52,051,922
Incurred-to-Date: $6,572,230
Incurred in September: $140,825

[1]*Current Contract Value = Original contract value with Design Allowance + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$0
DBE % Attained:	0%

September Change Orders		
Change No.	**Description**	**Amount ($)**
003	East Kapolei Elev & Esc Design Change	$46,233
004	LCC Relocate Oil Cooler Fan	$5,085
005	East Kapolei Esc #2 Seismic Connection	$12,000
006	UH W Oahu Elec & Esc Design Change	$3,952
007	Hoʻopili Elevator #1 & 2 Change	($62,950)
008	Aloha Stadium Elev #1 & 2 Cab Change	($26,000)
009	Aloha Stadium Esc Design Change	$74,567
	Cumulative to Date	**$1,069,208**

SCHEDULE:

- Elevators' schedule for the FHSG and WOSG has been established. Elevators' schedule for KHSG will be finalized once the station baseline schedule is accepted and all access dates are transmitted to Schindler. Elevators' schedule for the remaining 12 eastside stations will be established once these DB contracts are awarded and the DB schedules are accepted.

WORK PROGRESS:

Activities this Month:

- The release for manufacturing of the required Elevator and Escalator for the Farrington Highway Station Group and West O'ahu Station Group occurred in October.
- Final Design is approximately 41% complete, as 9 of the 21 stations are ready to be released for manufacturing once the contractor's schedules are approved.
- All draft equipment drawings for the 21 stations have been submitted for review and have been accepted.
- Design is complete on the three FHSG stations, three WOSG stations, and the three KHSG stations.
- Permits for the installation of all elevators and escalators for the FHSG, KHSG and the WOSG have been issued. These permits are for installation only, not operation.

Look Ahead:

- KHSG will be released for construction later this year, once a schedule has been accepted by HART.

KEY ISSUES:

- The release for manufacturing the E&E equipment will be coordinated for a 'just in time' delivery. FHSG and WOSG E&E equipment has been released for manufacturing. The release of the equipment required for KHSG will be dependent upon the acceptance of the construction schedule for the KHSG contract. Final completion of the equipment requirements for the four stations included in the DB contract for Airport Guideway and Stations will be subject to the final design of the DB. This work will resume with the issuance of the NTP for this contract. The eight stations included in the City Center Guideway and Stations contract is also on hold pending contract award of the DB contract for this work. Both of the DB solicitation packages contain the size and configuration of the elevators and escalators purchased for these twelve remaining stations.
- Coordination with station contractors on construction interface milestones.
- The re-bidding of the Airport and City Center sections of guideway with stations as Design-Build contracts will impact the completion of the Elevator Escalator contract.

KEY MILESTONES:

- The need dates for the elevator and escalator equipment for both the WOSG and FHSG have been established and the NTP 2 for manufacturing the equipment has been issued in response to meeting said dates.

QUALITY MANAGEMENT:

Elevators and Escalators NCR Log		
Total NCRs Issued To Date	CLOSED	OPEN
0	0	0

C. Fare Collection System

Contract No.: MI-900
Contractor: INIT, Innovations in Transportation Inc.
Contract Start Date: April 2016
Contract Substantial Completion: September 2021
Projected Substantial Completion: 60 days after full rail revenue service date

Project Description: The fare collection system is a joint HART and City and County of Honolulu (DTS, DIT, BFS) project that will consist of a multi-modal, closed loop, account based smart card system. The Fare System Vendor will be responsible for design, manufacture, testing, installation and operation of the entire system inclusive of hardware and software.

The rail portion of the project will consist of Ticket Vending Machines (TVMs) and fare gates at stations that accept smart cards which can also be used for payment on board TheBus and facilitate a seamless transfer between modes. Equipment and software to be used by both HART and the City and County will include transaction processing, fare equipment monitoring, and customer service systems, as well as a Data Warehouse. TheBus equipment will consist of stand-alone smart card readers on board.

% Complete		Schedule Status
Based on Expenditures*	7.7%	On time
Weighted Value	8%	
Early Plan*	0.1%	
Late Plan*	0.1%	
*Data as of Sept. 30, 2016.		

COST INFORMATION:

Original Contract: $15,464,198
Current Contract Value[1]: $15,464,198
Incurred-to-Date: $1,187,680
Incurred in September: $0

[1]*Current Contract Value = Original contract value with Design Allowance + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$0
DBE % Attained:	0%

September Change Orders		
Change No.	Description	Amount ($)
None	---	---
	Cumulative to Date	**$0**

SCHEDULE:

- The baseline schedule for the fare systems project has the following milestones and is currently tracking to schedule:
  - Conceptual Design Review (CDR), Preliminary Design Review (PDR) and Final Design Review (FDR) completed by March 31, 2017
  - Field Integration testing for Bus and Back Office completed by June 30, 2017

WORK PROGRESS:

Activities this Month:

- Completed Preliminary Design Review workshops and review of PDR package 1 documents.
- Started review of PDR package 2 documents.
- Completed draft fare model memo for review.
- Ongoing business rules document development.

Look Ahead:

- Complete review of PDR package 2 and begin review of PDR package 3. Kick off card branding work.

KEY ISSUES:

- Starting and completing three design reviews on time in order to maintain schedule with final design milestone acceptance by May 2017.
- PDR Acceptance by Dec. 31, 2016.

KEY MILESTONES:

- PDR completion by Dec. 31, 2016.
- FDR completion by March 31, 2017.

QUALITY MANAGEMENT:

Fare Collection NCR Log		
Total NCRs Issued To Date	CLOSED	OPEN
0	0	0

4.2 Section I – West O'ahu/Farrington Highway: East Kapolei to Pearl Highlands

A. West O'ahu/Farrington Highway Guideway (WOFH)

Contract No.: DB-120
DB Contractor: Kiewit Infrastructure West Company (KIWC)
Contract Start Date: December 2009
Contract Substantial Completion: November 2016
Projected Substantial Completion: March 2017

Project Description: Design and construction of 6.8 miles of rail alignment, starting at the East Kapolei Station and ending at the Pearl Highlands Station.

% Complete		Schedule Status
Based on Expenditures*	95.7%	4 months behind
Weighted Value	96.3%	
Early Plan*	100%	
Late Plan*	98.1%	

*Data as of Sept. 30, 2016.

COST INFORMATION:

Original Contract: $482,924,000
Current Contract Value[1]: $647,337,660
Incurred-to-Date: $622,445,119
Incurred in September: $6,280,639

[1]*Current Contract Value = Original contract value + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$10,716,908
DBE % Attained:	2.22%

September Change Orders		
Change No.	Description	Amount ($)
0105	Defer Emergency Lighting	($2,492,713)
0107	Elimination of West Loch Station	($595,000)
0108	Elimination of Waipahu Transit	($443,000)
0109	Station Load Construct Change Ho'opili	$430,000
0111	Contaminated Material Station 663	$82,586
	Cumulative to Date	**$164,413,660**

SCHEDULE:

- As of the September 2016 progress update, the project is scheduled for substantial completion in March 2017.

WORK PROGRESS:

WOFH Construction Status as of 10/26/16

Utility Status	Qty to Date	Final Qty	% Complete
Water Line	9,105	9,348	98%
Sewer Line	555	570	97%
Fuel Line	340	340	100%
Gas line	1,591	1,591	100%
Drainage Line	5,030	5,166	97%
Elec/Telecom	19,300	21,374	90%
Street Lights	7,600	8,357	90%
Traffic Sig/ITS Duct bank	10,300	10,802	95%
System Sites	7,046	7,046	100%
ITS Systems Devices	3,940	4,121	95%

Structure Element	***Total to Date	Planned to Date		Total Qty	% Complete
		Accepted Schedule*	Revised Schedule**		
Shafts	309	309	309	309	100%
Columns	283	283	283	283	100%
Segment Casting	3,209	3,209	3,209	3,209	100%
Spans Stressed	274	274	274	274	100%
Track work	277	278	278	278	99.6%
Third Rail	277	278	278	278	99.6%
Mill & Overlay	27,353	N/A	N/A	27,643	99.0%

* Accepted Schedule was submitted in 2013.
** The planned values are based on KIWC's pending July schedule revision dated August 24, 2015. Revised schedule reflects a 6-month delay in completion.
*** Total quantity for the construction items has been revised to reflect the latest Issued for Construction number of shafts, columns, segments and spans.

Activities this Month:

Utility Relocation

- KIWC continues to work with third party utilities to relocate utilities conflicts to facilitate station and traffic signal construction.

Track Construction

- Civil work for track on grade between 251 and North Access road is complete and has been turned over to the track crews. Crews continue correcting punch list items.

KIWC/Third-Party Coordination

- HECO and KIWC continued to resolve station and traffic signal utility relocation conflicts.

Civil Structures

- KIWC continues with median restoration, constructing curb, gutter and sidewalks.

Station Contractor Interfaces

- KIWC, FHSG, CSC and WOSG continue holding Interface closeout meetings to resolve current design and construction conflicts.

Traffic Signals

- KIWC is working to complete the installation of the traffic signals improvements along Farrington Highway and at the intersections.

LCC- Access Structure and Pedestrian Tunnel

- LCC: Station Access Structure pedestrian tunnel is complete. The Mechanically Stabilized Earth (MSE) wall at pier 252 has started.

Look Ahead:

Design Progress

- KIWC will continue to work on obtaining Department of Planning and Permitting (DPP) sign off on the last design package – Guideway Conflicts.

Column

- KIWC will continue work correcting punch list items.

Guideway Segment Erection

- KIWC will continue work correcting punch list items.

Utility Relocation

- KIWC will continue to relocate utility conflicts to facilitate traffic signal improvements.

Balanced Cantilever Structure

- KIWC will continue work to complete concrete plinth construction and correcting punch list items.

Track Construction

- KIWC will continue work to complete the construction of concrete plinths and track on grade.
- Continue to correct punch list items.

KIWC/Third-Party Coordination

- Continue to resolve utility conflicts with third parties.

Civil Structures

- KIWC will continue with road restoration work.

Traffic Signals

- KIWC will work to complete traffic signal improvements.

LCC Station Access Structure

- KIWC will continue with the construction of the LCC structure.
- Installing wet and dry utilities.

KEY ISSUES:

- **Closeout and Coordination –** KIWC has continued coordination with station contractors and HART on project closeout documentation requirements, including QA-QC final acceptance checklists. As-built and record drawings are currently being reviewed and five packages have been completed and accepted. Per the contract, written agreements are being executed between HART and KIWC to document partial occupancy requirements where other HART contractors require access to complete their work.
- **Shared Access –** Ansaldo has requested access from piers 156 – 251 to start the traction power cabling work. Hawaiian Dredging will be given access to West Loch Station by November. Nan, Inc. has assumed Pearl Highland site and has begun station work from piers 259 – 263.
- **Shims –** Currently, independent test results are being reviewed as they are completed. The final report is still pending.
- **Tendons –** HART has closed NCR 549 because the tendons in these spans were replaced. However, KIWC and HART are planning to further investigate the condition of all tendons using vibration and impact-echo testing.

KEY MILESTONES:

- Punch List: 65% of KIWC's list has been verified and closed by CE&I. The remaining items are scheduled to be closed by March 2017.
- Joint Use: KIWC, Ansaldo, and the station contractors continue to work together in order for work to progress.
- LCC: Station Access Structure pedestrian tunnel is complete. Civil work for track on grade between 251 and North Access road is complete and has been turned over to the track crews. The MSE wall at pier 252 has started and is scheduled to be complete by the end of November.
- Traffic Signal Improvements: Phase 1 is scheduled to be complete by the end of November. Phase 2 interconnect work has started and is scheduled to be complete by end of November.

SUBSTANTIAL COMPLETION:

- No progress to report this month.

QUALITY MANAGEMENT:

- KIWC continues to follow their established quality processes through quality monitoring and audits.
- **Closing Out NCRs –** KIWC has been working to correct, validate, and close out NCR's during this period. 3 NCRs were closed this period. The three that were closed are 549 – Post Tension Cables, 552 – Rail Profile Spans 248 – 250, and 555 – Segment 190-12 Drain Configuration.
- **KIWC Issued 2 New NCR's (556 and 557) This Period –** These NCR's were issued to address miscellaneous ponding and drainage issues on the guideway. KIWC has informed CE&I that they will be issuing more of these types of NCR's to address other issues moving forward.
- **NCR 553 – Track Shim Material –** Currently, independent test results are being reviewed as they are completed. The final report is still pending.
- **Post Tension Strands –** HART has closed NCR 549 because the tendons in these spans were replaced. However, KIWC and HART are planning to further investigate the condition of all tendons using vibration and impact-echo testing.

WOFH NCR LOG		
Total NCRs Issued To Date	CLOSED	OPEN
557	553	4

B. West O'ahu Station Group (WOSG)

Contract No.: DBB-171
Contractor: Nan, Inc.
Contract Start Date: October 2015
Contract Substantial Completion: March 2018
Projected Substantial Completion: TBD

Project Description: The West O'ahu Station Group Construction contract includes services to build three (3) transit stations along Kualaka'i Parkway and Farrington Highway. The stations are East Kapolei (EK), UH West O'ahu (UHWO) and Ho'opili Stations. In addition to the transit stations, operational ancillary buildings, traction power substation and adjacent areas are included in this project.

% Complete		Schedule Status
Based on Expenditures*	6.1%	6 months behind**
Weighted Value	8.4%	
Early Plan*	21.2%	
Late Plan*	21.2%	

*Data as of Sept.30, 2016.
**Further explanation is provided in the Schedule section.

COST INFORMATION:

Original Contract: $56,088,470 Incurred-to-Date: $3,416,523
Current Contract Value[1]: $56,088,470 Incurred in September: $0

[1]*Current Contract Value = Original contract value + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$0
DBE % Attained:	0%

September Change Orders/Amendments		
Change No./Amend	Description	Amount ($)
None	---	---
	Cumulative to Date	**$0**

SCHEDULE:

- Baseline schedule has been approved under the condition that the outstanding comment be resolved before any further pay requests are submitted by the contractor. HART is working with the contractor on the last comment to approve the proposed sequencing and turnover of the train control and communications room at Ho'opili.
- The schedule status reported above reflects the contractor's progress schedule as of August 2016. HART is working with the contractor to mitigate any delays, if possible, and is evaluating the contract substantial completion date and warranted time extensions.

WORK PROGRESS:

Activities this Month:

- The baseline schedule is conditionally approved, awaiting the contractor to address the comment before any further pay requests will be approved.
- Progress schedule has been updated to the current month.
- The contractor has addressed as-built conditions for the Ho'opili platform and continues box girder formwork. The contractor has submitted revisions to their cost proposal and were provided additional information to address negotiable profit percentages.
- Construction of the Ho'opili TCCR/TPSS have been resolved, so the contractor is proceeding with Field Change Notice (FCN) work.
- The contractor has completed all drilled shafts at UH West O'ahu.
- The contractor is installing fencing at East Kapolei.
- Poured concrete footings at UHWO TCCR.

Look Ahead:

- East Kapolei mobilization at the site to prepare for drilled shaft work.
- Construction of the platform box girder at Ho'opili.
- Foundation work and soil compaction at West Entrance Building at UHWO.
- TCCR/UPS Slab-on-Grade concrete pour at Ho'opili.
- Install 8'x16' HECO 46kV Manholes #1 and #2 at UHWO in early November.
- Continuing to excavate UHWO West Entrance Building foundation.

KEY ISSUES:

- De-energization of the 46kV to accommodate the drilled shaft work has been completed. Relocation of the 46kV line at UH West Oʻahu Station to be done upon completion of coordination with HECO.
- Construction of Traction Power Sub-Station (TPSS) foundation and Train Control and Communications Room (TCCR)/Uninterrupted Power Supply (UPS) room to meet the program schedule needs.
- Providing infrastructure for power to Hoʻopili.
- Executing change orders to incorporate the Issued for Construction (IFC) set and other design changes into the contract, as deemed appropriate.

KEY MILESTONES:

- Hoʻopili TCCR/UPS Rooms partial access to CSC/Ansaldo for Systems Installation March 18, 2017.
- UHWO TCCR/UPS Rooms partial access to CSC/Ansaldo for Systems Installation Sept. 1, 2017.
- East Kapolei TCCR/UPS Rooms partial access to CSC/Ansaldo for Systems Installation June 20, 2017.

QUALITY MANAGEMENT:

- Open NCR is on the UHWO Kualakaʻi Parkway intersection traffic signal activation to cross the highway from the NAN Field Trailer Jobsite; safety issue that is being worked on.

WOSG NCR Log		
Total NCRs Issued To Date	CLOSED	OPEN
4	3	1

C. Farrington Highway Station Group (FHSG)

Contract No.: DBB-271
Contractor: Hawaiian Dredging Construction Company, Inc.
Contract Start Date: August 2015
Contract Substantial Completion: January 2018
Projected Substantial Completion: TBD

Project Description: The Farrington Highway Station Group construction contract includes services to build three (3) transit stations along Farrington Highway. The stations are West Loch (WLO), Waipahu Transit Center (WTC) and Leeward Community College (LCC) Station. The station work includes operational ancillary buildings, a traction power substation at WLO, kiss and ride lots, and parking lots.

% Complete		Schedule Status
Based on Expenditures*	1.3%	6 months behind**
Weighted Value	0.57%	
Early Plan*	42.1%	
Late Plan*	42.1%	

*Data as of Sept. 30, 2016.
**Further explanation is provided in the Schedule section.

COST INFORMATION:

Original Contract: $78,999,000 Incurred-to-Date: $1,060,212
Current Contract Value[1]: $79,848,580 Incurred in September: $610,212

[1]*Current Contract Value = Original contract value + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$0
DBE % Attained:	0%

September Change Orders/Amendments		
Change No./Amend	Description	Amount ($)
0005	West Loch Station Upflo Inlet	$49,406
	Cumulative to Date	**$849,580**

SCHEDULE:

- HDCC is developing the re-baselined BPS. The revised Construction Access Milestone (CAM) dates are based on the addition of 6 months' time to the contract CAM dates and the contract substantial completion date.

WORK PROGRESS:

Activities this Month:

- HDCC is working on addressing technical comments regarding the Value Engineering Cost Proposal (VECP). Several scoping meetings have been held to bring cost differences in line.
- Quantification of changes from the Bid set and addendum compared to revision sets is ongoing.
- HDCC has completed all drilled shaft work on both the makai and mauka sides of WLO.
- Vertical raceway ductbank work began at WLO.
- Ancillary building slab was formed, rebar installed, and poured.
- Positive power line installation began.

Look Ahead:

- Underground utility work continues.
- Vertical raceway column (VRC) ductbank installation will continue.
- Installation of waterline at Zippy's.
- Maintenance of Traffic (MOT) implementation at WLO for start of platform construction work.

KEY ISSUES:

- Access to LCC – Kiewit is prepared to give partial access at LCC station site. HART is working with HDCC to mitigate cost and time impacts related to the delay in LCC access.
- HDCC delay in providing critical submittals is also impacting the critical path.
- Rebaselining the BPS and becoming current with monthly updates is critical.
- Timing of the VECP and how the work will impact the project schedule and projected substantial completion is being assessed.
- Quantification of change work included in plan revisions versus Issued for Bid (IFB) plus addendum, and how those changes are incorporated into HDCC's contract.

KEY MILESTONES:

- Assuming addition of 6 months additional time to contract CAM dates – TCCR should be ready to be provided to CSC in January 2017.
- The TPSS work should be complete by Dec. 31, 2016. It is an anticipated 4 month construction duration, and therefore, approximately 2 months behind schedule.
- Partial access to CSC of the TCCR room at Waipahu Station was to be provided on Oct. 17, 2016. No work has commenced at Waipahu and therefore this CAM date is delayed.
- Kiewit is prepared to give partial access at LCC station site.

QUALITY MANAGEMENT:

- CE&I is working with HDCC to ensure required submittals are approved prior to related construction activities.

FHSG NCR Log		
Total NCRs Issued To Date	CLOSED	OPEN
8	2	6

D. Maintenance and Storage Facility (MSF)

Contract No.: DB-200
Contractor: Kiewit/Kobayashi Joint Venture (KKJV)
Contract Start Date: July 2011
Actual Substantial Completion: July 2016

Project Description: The MSF contract consists of the Operations and Servicing Building (OSB), Maintenance of Way (MOW), Train Wash Facility (TWF) and Wheel Truing Building (WTB). In addition to the four (4) facility buildings, MSF includes rail procurement, special trackwork, ties, third rail and other track material for the four guideway segments on the project.

% Complete		Schedule Status
Based on Expenditures*	99.9%	On time**
Weighted Value	99.9%	
Early Plan*	100%	
Late Plan*	100%	

*Data as of Sept. 30, 2016.
**Further explanation is provided in the Schedule section.

COST INFORMATION:

Original Contract: $195,258,000 Incurred-to-Date: $274,518,245
Current Contract Value[1]: $274,858,568 Incurred in September: $237,201

[1]*Current Contract Value = Original contract value + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$709,541
DBE % Attained:	0.36%

September Change Orders		
Change No.	**Description**	**Amount ($)**
None	---	---
	Cumulative to Date	**$79,600,568**

SCHEDULE:

- The Maintenance and Storage Facility project is currently in the close-out stage and has a target date of Dec. 1, 2016 for closing out punch list items.

MSF Construction Status 99.9 % Complete Overall as of 10/15/16	
Element	**% Complete***
OSB	99.9%
MOW Building	99.9%
WTB	99.9%
TWF	99.9%
Rail	99.9%
Paving	100%

*Not including testing and commissioning.

WORK PROGRESS:

Activities this Month:

Yard/Utilities

- Submitting final documents for training, O&M manuals, etc. for project close-out continued.

Operations and Servicing Building (OSB)

- Submitting final documents for training, O&M manuals, etc. for project close-out continued.
- As-built drawing for the OSB Building Finishes was submitted for review.
- Trench drains were installed.

Maintenance of Way (MOW)

- Submitting final documents for training, O&M manuals, etc. for project close-out continued.

Look Ahead:

Yard/Utilities

- Final documents for training, O&M manuals, etc. for project close-out submitted.
- Civil As-built drawings to be submitted for review.

OSB

- Testing of the hydraulic lifts, pending delivery of train bogies by CSC.
- Final documents for training, O&M manuals, etc. for project close-out submitted.

Activities this Month (continued):

- As-built drawing for the MOW Building Finishes was submitted for review.

Wheel Truing Building (WTB)

- Submitting final documents for training, O&M manuals, etc. for project close-out continued.
- As-built drawing for the WTB was submitted for review.

Train Wash Facility (TWF)

- Submitting final documents for training, O&M manuals, etc. for project close-out continued.
- As-built drawing for the TWF was submitted for review.

Rail Procurement and Installation

- As-built drawing for the Track and Systems were submitted for review.

Administration

- Assisting with the completion of final documents for final acceptance of the MSF project.

Look Ahead (continued):

- OSB Foundation and Structural As-built drawings to be submitted for review.

MOW

- Final documents for training, O&M manuals, etc. for project close-out submitted.
- MOW Foundation and Structural As-built drawings to be submitted for review.

WTB

- Final documents for training, O&M manuals, etc. for project close-out submitted.

TWF

- Final documents for training, O&M manuals, etc. for project close-out submitted.

KEY ISSUES:

- **Final Acceptance –** Coordination with KKJV has continued for equipment and building commissioning, final punchlist, submittals, training, O&M manuals, spare parts, and equipment turnover for final acceptance. Most of this work has been completed pending final documentation to be submitted; however, the drainage installation at the OSB and testing of the hydraulic lifts once the bogies arrive in November are still pending.
- **As-Built Drawings** – As-built drawings were reviewed for the Mass Grading, OSB and MOW Building Finishes, Track and Systems, Train Wash Facility and Wheel Truing Building. The OSB and MOW Foundation and Structural As-built drawings and Civil As-Built drawings are pending.
- **Leadership in Energy and Environmental Design (LEED) Commissioning –** KKJV completed the punchlist items noted during the LEED commissioning tests of HVAC, domestic water, and building lighting controls.
- **3/16" Direct Fixation Isolation Pads –** KKJV/LB Foster stated that they will replace about 165,000 isolation pads for Direct Fixation Fasteners (DFF), which did not meet specifications. The test results for the replacement isolation pads were to be provided at the end of September and are still pending.
- **Dispute Mediation –** HART and KKJV met on Oct. 6 and 7 for a non-binding mediation to resolve approximately 20 items. Mediation continues.

KEY MILESTONES:

- **Commissioning, Testing and Training of the In-Ground Floor Lifts, Wheel Lathe, Wheelset Press, Portable Lifts, and Buffer Stop:** The bogies for the train provided by Ansaldo are set to start arriving onsite in mid-November 2016. A meeting is currently being scheduled between HART CSC, MSF, KKJV, AHJV O&M, and HRI to coordinate personnel and dates to perform the commissioning and testing.

QUALITY MANAGEMENT:

- Overall quality of the contract is good.

MSF NCR Log		
Total NCRs Issued to Date	CLOSED	OPEN
34	32	2

4.3 Section II – Kamehameha Highway: Pearl Highlands to Aloha Stadium

A. Kamehameha Highway Guideway (KHG)

Contract No.: DB-320
Contractor: Kiewit Infrastructure West Company (KIWC)
Contract Start Date: June 2011
Contract Substantial Completion: May 2017
Projected Substantial Completion: May 2017

Project Description: Kamehameha Highway Guideway DB Contract (KHG) consists of 3.9 miles and starts 400 feet east of the Pearl Highlands Station and terminates 1,400 feet beyond the Aloha Stadium Station. KHG work scope is made up of utility relocations, traffic signal improvements, highway widening, drilled shaft foundations, columns and aerial structure.

% Complete		Schedule Status
Based on Expenditures*	82.6%	On time**
Weighted Value	84.5%	
Early Plan*	99.8%	
Late Plan*	99.8%	

*Data as of Sept. 30, 2016.
**Further explanation is provided in the Schedule section.

COST INFORMATION:

Original Contract: $372,150,000
Current Contract Value[1]: $389,299,185
Incurred-to-Date: $321,531,245
Incurred in September: $25,057,879

[1]*Current Contract Value = Original contract value + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$321,558
DBE % Attained:	0.09%

September Change Orders		
Change No.	Description	Amount ($)
00032	Defer Emergency Lighting	($1,536,000)
	Cumulative to Date	**$17,149,185**

SCHEDULE:

KHG Contract Change Order (CCO) No. 35 has extended the substantial completion date by 238 calendar days to May 12, 2017 for Traffic Signal modification work.

KIWC continues to have challenges meeting schedule due to various factors including lower productivity and resource sharing between the KHG and WOFH projects, and self-directed work stoppage for traffic signal and civil roadway work. HART's position is that the projected substantial completion will be May 2017, although the contractor's progress schedule shows guideway to be completed in July 2017 and overall project schedule to be completed in June 2018.

WORK PROGRESS:

KHG Construction Status as of 10/26/16

Utility Status	Qty to Date	Final Qty	% Complete
Water Line	4,362	4,362	100%
Gas Line	12,641	12,641	100%
Sewer Line	492	492	100%
Drainage Line	880	1,469	60%
Elec/Telecom	17,721	19,455	91%
System Sites	65%	N/A	65%
Signals/ITS/ Lights	14,098	18,486	76%

Structure Element	Total to Date	Planned to Date: Accepted Schedule*,	Planned to Date: Revised Schedule**	Total Qty	% Complete
Shafts	186	186	186	186	100%
Columns	169	169	169	169	100%
Segment Casting	2,029	2,029	2,029	2,029	100%
Spans Stressed	153	166	136	163	93.9%
Track work	64	166	56	166	38.6%
Third Rail	36	166	50	166	21.7%
Mill & Overlay Roadway	0	N/A	0	20,500	0%

* Accepted Schedule was submitted in 2013.
, Forecasted delays for track work extended the guideway completion by 3 weeks from prior updates.
** These quantities are based on KIWC's pending August 2015 schedule revision dated Sept. 23, 2015. Revised schedule reflects a 12 month delay in completion.

Activities this Month:

Shaft/Column/Segments

- Balanced Cantilever Structure (BCS) is complete.
- Column construction was completed in late October.
- Heading #1 Truss is in operation erecting Span 397.
- Heading #3 Truss was demobilized on Oct. 14.
- Construction of straddle bents 400 and 401 at Aiea Access Road is in progress.

Utility Relocation Progress

- The relocation of HECO electrical lines and Hawaiian Telcom, Oceanic Time Warner Cable and Intelligent Transportation Systems (ITS) ductbanks is occurring in various phases along the alignment.
- Systems Site #10 and #24 work is ongoing.
- Construction of Storm Drain Line in Phase 5 is complete.

Roadway Widening

- Center median restoration in Phases 1, 3 and 5 continues.

Traffic Signals

- Traffic Signal Change Order (CO) work in progress for Phases 1-5.

Look Ahead:

Design Progress

- KIWC is working to complete final design. To date, 46 of 49 drawing packages have been issued for construction.

Shaft/Column/Segments

- Anticipate remaining spans will be erected by late December 2016.

Utility Relocation

- Acquisition of Right of Entry (ROE) for utility relocations is being pursued by HART and KIWC jointly, and meetings with property owners are ongoing.

Roadway Widening

- Center median restoration in Phase 10.

KEY ISSUES:

- **HECO/HDOT Utility Priorities** – HECO Aerial "sway" Easement needed for conflict 9-883-E1. HART and the property owner are working to mitigate the delay.
- **Access Coordination between Contracts** – Coordination between contractors is ongoing and requires turnover of guideway work to follow-on station contractors.
- **Civil Roadway Work** – HART is considering removing portions of this work to reduce the extended construction period on the KHG contract and is evaluating options to remove roadway work from the KHG that conflicts with the KHSG contract. This work could be accomplished at a later date by either the station or On-Call contractor. KIWC's latest progress schedules have been forecasting 9 additional months of civil work due to changing Walls 2, 3 and 4 from mechanically stabilized earth (MSE) to cast-in-place (CIP), and longer construction duration. Consequently, HART has removed construction of Walls 2, 3 and 4 from the KHG contract via RFCR 43.

KEY MILESTONES:

- Column construction was completed in late October.
- The remaining spans are anticipated to be complete in late December 2016.
- A small number of utility conflicts are anticipated to be completed by January 2017.

QUALITY MANAGEMENT:

- **Quality Process** – KIWC continues to follow an established quality process.
- **Longitudinal Tendons** – Due to WOFH NCR 509, longitudinal tendons have been monitored for possible indications of rust. KIWC added two witness points to their Pre-Grout Inspection Checklist for HART to visually inspect the tendon anchorages for corrosion, and witness the removal of the deviator boots to ensure no water had accumulated at the low points of the duct.
- **Shims** – NCR #225 was issued to KIWC on Oct. 17, for non-compliance with ASTM testing requirements.

KHG NCR Log		
Total NCRs Issued to Date	CLOSED	OPEN
225	**213**	**12**

B. Ramp H2R2

Contract No.: DBB-385
Contractor: Royal Contracting Co. Ltd.
Contract Start Date: May 2015
Contract Substantial Completion: October 2016
Projected Substantial Completion: May 2017

Project Description: Ramp H2R2 is an off-ramp from the H2 Interstate which will connect the north bound H2 Interstate to east bound Kamehameha Highway. The off-ramp terminates just west of the intersection of Kamehameha Highway and Waihona Street.

% Complete		Schedule Status
Based on Expenditures*	27.3%	7 months behind
Weighted Value	27.1%	
Early Plan*	100%	
Late Plan*	100%	

*Data as of Sept. 30, 2016. The progress chart reflects early program expectations. When the overall schedule is rebaselined, the cost curve will be revised.

COST INFORMATION:

Original Contract: $5,203,646
Current Contract Value[1]: $5,246,168
Incurred-to-Date: $1,421,386
Incurred in September: $109,808

[1]*Current Contract Value = Original contract value + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$162,023
DBE % Attained:	3.11%

September Change Orders/Amendments		
Change No./Amend	Description	Amount ($)
None	---	---
	Cumulative to Date	**$42,522**

SCHEDULE:

- Royal Contracting was awarded this project on May 4, 2015, and issued NTP on May 18, 2015. Start of construction was delayed due to unforeseen HDOT required soil remediation and submittal of required documentation. The contractor has projected a substantial completion of May 2017. Contract Change Order CCO-0002 extended the original completion date by 124 days to Oct. 2, 2016.
- A change order is in process to approve additional delay time that is associated with the unforeseen HDOT required soil remediation that extends beyond the original 124 day extension. There are no anticipated delay claims at this time, since the remediation delays were concurrent with contractor delays.

WORK PROGRESS:

Activities this Month:

- Surcharge settlement monitoring continued.
- Backfill and mechanical compaction around the existing 30 inch CMP (corrugated metal pipe) stormwater pipe was completed.
- Underground conduit ducts were excavated and poured. Light pole bases 1 thru 3 were excavated and poured.
- Installation of reinforcement for the retaining wall foundation.

Look Ahead:

- Continue surcharge settlement monitoring.
- Installation of reinforcement and placement of concrete for the retaining wall.
- Installation of slope stabilization seeding and matting.

KEY ISSUES:

- A change order is in process to approve additional delay time that is associated with the unforeseen HDOT required soil remediation that extends beyond the original 124 day extension. There are no anticipated delay claims at this time, since the remediation delays were concurrent with contractor delays.

KEY MILESTONES:

The following milestones were completed in October:

- Excavate for Underground Electrical
- Install Underground Electrical Conduit / Pullboxes
- Construct Light Pole Bases
- Monitor Settlement
- Install Concrete Reinforcement Jacket (30" reinforced concrete pipe)

QUALITY MANAGEMENT:

- HART Quality Task Force Audit October 18th and 19th
- PGH Wong Quality Audit Week of October 17th
- HART Quality Audit Week of October 24th

Ramp H2R2 NCR Log		
Total NCRs Issued To Date	CLOSED	OPEN
2	**2**	**0**

C. Kamehameha Highway Stations Group (KHSG)

Contract No.: DBB-371
Contractor: Nan, Inc.
Contract Start Date:
Notice to Commence Administrative Work: April 2016
Notice to Commence Investigative/Pre-Construction Work at Pearl Highlands: July 2016
Full Notice to Proceed (NTP): October 2016
Contract Substantial Completion: May 2019
Projected Substantial Completion: May 2019

Project Description: The Kamehameha Highway Station Group construction contract includes services to build three (3) transit stations along Kamehameha Highway. The stations are Pearl Highlands Station, Pearlridge Station, and Aloha Stadium Station. In addition to the transit stations, operational ancillary buildings, bus stops/transit centers, park-and-ride lots, kiss-and-rides, pedestrian crossing improvements, Train Control and Communications Rooms (TCCRs), and landscaping of the station sites are included.

% Complete		Schedule Status
Based on Expenditures*	0.6%	On time
Weighted Value	0%	
Early Plan*	1.4%	
Late Plan*	1.4%	
*Data as of Sept. 30, 2016.		

COST INFORMATION:

Original Contract: $115,805,845
Current Contract Value[1]: $115,805,845
Incurred-to-Date: $646,955
Incurred in September: $111,184

[1]*Current Contract Value = Original contract value with Design Allowance + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$0
DBE % Attained:	0%

September Change Orders/Amendments		
Change No./Amend	Description	Amount ($)
None	---	---
	Cumulative to Date	**$0**

SCHEDULE:

- HART is working with the contractor to finalize the Baseline Project Schedule.

WORK PROGRESS:

Activities this Month:

- Submittals and RFIs (Request for Information) are being submitted and are being responded to.
- Began negotiations for CO 00001, a change order to incorporate Issued for Construction drawings and specifications into the contract.
- **Pearl Highlands** – NTP was granted and the contractor began work on-site which included office trailer complex setup, clearing and grubbing, temporary fencing, BMP (Best Management Practice) repair, temporary power, and dewatering pit excavation activities.
- **Pearlridge Station** – The northern and southern station sites have been made available.
- **Aloha Stadium** – Continuing coordination with the KHG contractor to get site access.

Look Ahead:

- Finalize CO 00001.
- Continue ongoing third party utility coordination with the KHG contractor, Hawaiian Telcom (HTI), Hawaiian Electric Company (HECO), and Oceanic Time Warner (OTW).
- **Pearl Highlands** – Complete office trailer complex, install sheet piles to form the retaining wall by Waiawa Stream, complete clearing and grubbing activities, and begin work on a sewer/water lines on Kamehameha Highway.
- **Pearlridge Station** – Begin site investigation and preconstruction activities.
- **Aloha Stadium** – Continuing coordination with the KHG contractor to get site access.

KEY ISSUES:

- Existing overhead utilities continue to be relocated underground at the Pearlridge Station site on Kamehameha Highway, as part of the KHG contract. KHSG continues to coordinate with the KHG contractor and third party utilities to monitor the installation of new utilities and the completion of utility relocations.
- Coordinating with HART ROW for easement acquisition required for relocation of an existing overhead HECO 46kV line near the Pearlridge Station site.
- HART is exploring options for the construction of a third lane by the mauka side of Pearlridge Station to allow for platform construction to begin. A design for the third lane is being developed.
- Executing a change order to incorporate Issued for Construction drawings and specifications (CO 00001) into the contract.

KEY MILESTONES:

- Partial Access for Systems Equipment Installation at Pearl Highlands Station – The Train Control and Communications Room (TCCR) and the Uninterruptible Power Supply (UPS) Building/Rooms are to be turned over from the KHSG contractor to the CSC contractor in November 2017.
- Station Site Turnover at Pearlridge Station – Both the northern and southern sites at the Pearlridge Station have been vacated by the KHG contractor. Work will begin at both sites by the first week of November 2016.
- Station Site Turnover at Aloha Stadium – HART continues to work with the KHG contractor to get access to the Aloha Stadium site which is projected in April 2017.

QUALITY MANAGEMENT:

KHSG NCR Log		
Total NCRs Issued To Date	CLOSED	OPEN
0	0	0

4.4 Section III – Airport: Aloha Stadium to Middle Street Transit Center Station

A. Airport Section Guideway and Utilities

Contract No.: FD-430
Contractor: AECOM Technical Services, Inc., Final Design Consultant (Engineer of Record)
Contract Start Date: January 2012
Construction Completed:

- Airport 7-Piers (DBB-525 – Hawaiian Dredging):
  - Project acceptance on May 2, 2015; project closed out in April 2016
- Airport Section Utilities (DBB-505 - Nan Inc.):
  - Contract start date: July 2014; see Airport Section Utilities (section 4.4.B) for Substantial Completion date.

Projected Substantial Completion: April 2017, based on closeout activities of Airport Section Utilities DBB construction contract.

Project Description: The Airport Segment Guideway and Utilities contract consists of 5.2 miles of elevated transit guideway serving four (4) passenger stations, in addition to roadway widening, utility relocation, and other improvements to create space for these transit facilities. Two construction contracts have been split out and expedited from the larger Airport Section package. These two contracts are the expedited Airport Section Utilities (ASU) and expedited Airport 7-Piers (A7). For both of these expedited contracts, the design and construction have been completed. The remaining scope of design has been terminated and will be completed under a design-build procurement.

% Complete		Schedule Status
Based on Expenditures*	96.6%	On time
Earned Value	97%	
Early Plan*	100%	
Late Plan*	100%	

*Data as of Sept. 30, 2016. The progress chart reflects early program expectations. When the overall schedule is rebaselined, the cost curve will be revised.

COST INFORMATION:

Original Contract: $38,840,960
Current Contract Value[1]: $43,134,472
Incurred-to-Date: $41,668,159
Incurred in September: $7,475

[1] *Current Contract Value = Original contract value with Design Allowance + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$162,813
DBE % Attained:	0.42%

September Change Orders/Amendments		
Change No./Amend	Description	Amount ($)
None	---	---
	Cumulative to Date	**$4,293,512**

SCHEDULE:

- The only remaining work under this contract is design services during construction, which are scheduled to conclude as noted above.

WORK PROGRESS:

Activities this Month:

- Design services concluded with notice of award of AGS DB.
- Supported Airport Section Utilities DBB construction.

Look Ahead:

- Provide as-needed support for Right-of-Way (ROW) acquisition in the Airport Section.

KEY ISSUES:

- N/A.

KEY MILESTONES:

- Substantial Completion of Airport Section Utilities contract was achieved. See Airport Section Utilities construction report for details.

B. Airport Section Utilities Construction

Contract No.: DBB-505
Contractor: Nan, Inc.
Contract Start Date: July 2014
Contract Substantial Completion: July 2016
Actual Substantial Completion: October 2016

Project Description: The Airport Utilities contract consisted of relocating utilities lines and facilities that have been determined to be impacted by the construction of the HART aerial guideway and associated facilities between Aloha Stadium and Middle Street Transit Center. The scope of utilities that were adjusted included underground communications lines, Navy electrical lines, fuel lines, gas lines, water lines, storm sewer lines, sanitary sewer lines and street light conduits and poles/fixtures. HECO work was excluded from this contract.

% Complete		Schedule Status
Based on Expenditures*	64.9%	3 months behind
Weighted Value**	68%	
Early Plan*	100%	
Late Plan*	100%	

*Data as of Sept. 30, 2016. The progress chart reflects early program expectations. When the overall schedule is rebaselined, the cost curve will be revised.
**Based on a preliminary September invoice.

COST INFORMATION:

Original Contract:	$27,993,290	Incurred-to-Date:	$17,788,126
Current Contract Value[1]:	$27,285,754	Incurred in September:	$1,319,879

[1] *Current Contract Value = Original contract value + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$36,094
DBE % Attained:	0.13%

September Change Orders		
Change No.	Description	Amount ($)
None	---	---
	Cumulative to Date	**($707,585)**

SCHEDULE:

- Nan, Inc. has completed the underground portion of the utility relocation work along Kamehameha Highway and Aolele Street. Paving, striping and landscaping have been completed as of the substantial completion date of Oct. 7, 2016, per the contractor's schedule. Project walk-through has occurred to develop the punch list for the project. Nan has completed work on the punch list. Additional unforeseen utility items, not originally identified in this contract, will be transferred to a different HART contractor while several contract work items have been removed from Nan's scope due to unresolved conflicts resulting in potential cost and schedule impacts, including the removal of asbestos contaminated Chevron fuel lines. These items are still being reviewed and negotiated into contract change orders. Contract completion with submittals and as builts is in progress. The balance of outstanding work will be transferred to either the DB AGS contractor or On-Call service contractor.

WORK PROGRESS:

Activities this Month:

- Substantial completion inspection occurred on Oct. 11 and 13.
- Chevron fuel lines removed from the ASU contract will be abated by the On-Call group.
- Other unforeseen utilities, not in the ASU contract, will also be resolved by the On-Call group. These include installation of the Navy 8" waterline, relocation of the Navy 24" waterline, and the removal of the abandoned Air Force 8" fuel line.
- The punch list was established and presented to Nan. Nan has completed all punch list items.

Look Ahead:

- Final submittal requirements are being prepared by the contractor for close out review of the CE&I team.
- CE&I-II team continues to work on completing outstanding change orders, including a time delay claim.

KEY ISSUES:

- Completion of outstanding change claims by the contractor.
- Review of final close out submittals and documents.

KEY MILESTONES:

- Substantial completion field inspection occurred on Oct. 11 and 13.
- CE&I has issued the final punch list to the contractor.
- Contractor has completed all items listed on the final punch.

QUALITY MANAGEMENT:

- Overall quality of the contract is good.

Airport Utilities NCR Log		
Total NCRs Issued To Date	CLOSED	OPEN
19	19	0

C. Airport Station Group (ASG)

Contract No.: FD-440
Contractor: AECOM Technical Services, Inc., Final Design Consultant (Engineer of Record)
Contract Start Date: November 2012
Construction Docs Bid-Ready: N/A
Projected Substantial Completion: December 2016

Project Description: Architectural and engineering services for the design of four (4) transit stations serving the Airport Guideway. The four (4) stations comprising the ASG contract are the Pearl Harbor Naval Base Station, the Honolulu International Airport Station, the Lagoon Drive Station, and the Middle Street Station. These four stations have been combined with the guideway into a single Airport Guideway and Stations Design-Build (DB) package. Due to the change in delivery method from DBB to DB, the design of the Airport Stations Group will not be advanced to completion under this FD-440 contract.

% Complete		Schedule Status
Based on Expenditures*	87%	On time
Earned Value	87%	
Early Plan*	100%	
Late Plan*	100%	

*Data as of Sept. 30, 2016. The progress chart reflects early program expectations. When the overall schedule is rebaselined, the cost curve will be revised.

COST INFORMATION:

Original Contract: $10,177,365 Incurred-to-Date: $10,059,820
Current Contract Value[1]: $11,573,852 Incurred in September: $0

[1]*Current Contract Value = Original contract value with Design Allowance + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$234,762
DBE % Attained:	2.31%

September Change Orders		
Change No.	Description	Amount ($)
None	---	---
	Cumulative to Date	**$1,396,487**

SCHEDULE:

- There is no work scheduled under this contract.
- The change order to remove remaining scope is planned for December 2016.

WORK PROGRESS:

Activities this Month:
- Administrative closeout activities are ongoing.

Look Ahead:
- Future efforts will be administrative only.

KEY ISSUES:

- N/A.

KEY MILESTONES:

- N/A.

4.5 Section IV – City Center: Middle Street Transit Center Station to Ala Moana Center

A. City Center Section Guideway and Utilities

Contract No.: FD-530
Contractor: AECOM Technical Services, Inc., Final Design Consultant (Engineer of Record)
Contract Start Date: July 2012
Projected Substantial Completion: April 2018, based on projected completion of design services for Dillingham Temporary Utilities DBB construction.

Project Description: The City Center Guideway and Utilities final design contract consists of 4.2 miles of elevated transit guideway serving eight (8) passenger stations, in addition to roadway widening, utility relocation, and other improvements to facilitate construction of the guideway.

% Complete		Schedule Status
Based on Expenditures*	93%	On time
Earned Value	93%	
Early Plan*	100%	
Late Plan*	100%	

*Data as of Sept. 30, 2016. The progress chart reflects early program expectations. When the overall schedule is rebaselined, the cost curve will be revised.

COST INFORMATION:

Original Contract: $43,948,220
Current Contract Value[1]: $47,097,562
Incurred-to-Date: $43,627,298
Incurred in September: $2,848

[1]*Current Contract Value = Original contract value with Design Allowance + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$191,227
DBE % Attained:	0.44%

September Change Orders/Amendments		
Change No./Amend	Description	Amount ($)
None	---	---
	Cumulative to Date	**$3,149,342**

SCHEDULE:

- Supplemental design services for early utilities are scheduled to conclude as noted above.

WORK PROGRESS:

Activities this Month:

- Supplemental design services are progressing for early utilities designs.

Look Ahead:

- Provide as-needed support for ROW acquisition, when acquisition activities resume in the City Center Section.
- Perform supplemental design services for early utilities.

KEY ISSUES:

- Completion of Dillingham Temporary Utilities design is critical to program schedule.

KEY MILESTONES:

- Preliminary 138kV design submitted to HECO for review in mid-October.
- Completion of Dillingham Temporary Utilities design is scheduled for early 2017.

B. Dillingham and Kaka'ako Station Group (DKSG)

Contract No.: FD-550
Contractor: Perkins+Will (P+W), Final Design Consultant (Engineer of Record)
Contract Start Date: August 2013
Construction Docs Bid-Ready: N/A
Projected Substantial Completion: December 2016

Project Description: Design of eight (8) stations for the fourth and final phase of the current project that will connect Dillingham Boulevard to Ala Moana Center. The DKSG stations have been combined with the City Center Guideway into a single City Center Guideway and Stations Design-Build package. Due to the change from a DBB to a DB delivery method, the design for these stations has been suspended and will not be completed under this FD-550 contract.

% Complete		Schedule Status
Based on Expenditures*	62.6%	On time
Earned Value	63%	
Early Plan*	100%	
Late Plan*	100%	

*Data as of Sept. 30, 2016. The progress chart reflects early program expectations. When the overall schedule is rebaselined, the cost curve will be revised.

COST INFORMATION:

Original Contract: $18,321,918
Current Contract Value[1]: $19,631,717
Incurred-to-Date: $12,293,535
Incurred in September: $0

[1]*Current Contract Value = Original contract value with Design Allowance + executed Change Orders*

DBE Participation	
Actual DBE Participation:	$0
DBE % Attained:	0%

September Change Orders		
Change No.	Description	Amount ($)
None	---	---
	Cumulative to Date	**$1,309,799**

SCHEDULE:

- There is no work scheduled under this contract.
- The change order to remove remaining scope is planned for December 2016.

WORK PROGRESS:

Activities this Month:

- Administrative closeout activities are ongoing.

Look Ahead:

- Future efforts will be administrative only.

KEY ISSUES:

- N/A.

KEY MILESTONES:

- N/A.

4.6 Contract Status

Cost reports are run from the HART Contract Management System (CMS)

HONOLULU AUTHORITY for RAPID TRANSPORTATION

Contract Status

Reporting Month: 9/30/16

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Contract	Description	Contractor	A Base Value	B Change Orders	C = A + B Current Contract Value	D Incurred	E = D/C % Exp.	Award Date	Completion Date	Revised Completion Date
ART	ART Contracts	Multiple Contracts	$245,000	$0	$245,000	$12,250	5.00			
CCH-100	Inactive Hart/City CCH	Multiple Contracts	$15,348,443	$0	$15,348,443	$14,925,228	97.24			
CCH-101	HART/ City Dept of BFS	CCH-Budget & Fiscal Services	$105,092	$0	$105,092	$0	0.00	7/1/2011	6/30/2016	6/30/2016
CCH-102	HART/ City DDC Land Division	CCH-Dept of Design and Construction	$256,201	$0	$256,201	$173,182	67.60	7/1/2011	6/30/2016	
CCH-107	HART/ City Corporation Counsel (COR)	Multiple Contracts	$1,616,253	$250,000	$1,866,253	$274,606	14.71			
CCH-108	HART / Board of Water Supply (BWS)	CCH-Board of Water Supply	$928,325	$0	$928,325	$928,325	100.00	7/1/2011		
DB-120	West Oahu/Farrington Hwy Guideway DB	Kiewit Infrastructure West Co.	$482,924,000	$164,413,660	$647,337,660	$622,445,119	96.15	11/11/2009	10/21/2013	11/16/2016
DB-200	Maintenance & Storage Facility DB	Kiewit Kobayashi a Joint Venture	$195,258,000	$79,600,568	$274,858,568	$274,518,245	99.88	6/30/2011	12/20/2014	7/2/2016
DB-320	Kamehameha Hwy Guideway DB	Kiewit Infrastructure West Co.	$372,150,000	$17,149,185	$389,299,185	$321,531,245	82.59	6/30/2011	10/15/2014	5/12/2017
DB-450	Airport Section Guideway and Sta. DB	Shimmick/Traylor/Granite JV	$875,000,000	$0	$875,000,000	$3,885	0.00	8/12/2016		
DBB-171	West Oahu Station Group DBB	Nan, Inc.	$56,088,470	$0	$56,088,470	$3,416,523	6.09	7/20/2015	3/12/2018	
DBB-271	Farrington Highway Station Group DBB	Hawaiian Dredging	$78,999,000	$849,580	$79,848,580	$1,060,212	1.33	6/22/2015	12/17/2017	12/17/2017
DBB-371	Kamehameha Hwy Stations Grp. DBB	Nan, Inc.	$115,805,845	$0	$115,805,845	$646,955	0.56	1/27/2016		
DBB-385	Ramp H2R2	Royal Contracting	$5,203,646	$42,522	$5,246,168	$1,421,386	27.09	5/18/2015	10/2/2016	10/2/2016
DBB-505	Airport Section Utilities Cnstr. DBB	Nan, Inc.	$27,993,290	($707,536)	$27,285,754	$17,788,126	65.19	6/30/2014	2/6/2016	7/13/2016
DBB-525	Airport Section Guideway 7 Pier DBB	HDCC CJA JV	$3,973,000	$54,843	$4,027,843	$4,027,843	100.00	9/18/2014	2/28/2015	4/24/2015
DBOM-920	Core Systems Design Build O/M	Ansaldo Honolulu Joint Venture	$573,782,793	$27,037,894	$600,820,687	$229,705,257	38.23	12/9/2011	3/15/2019	3/15/2019
FD-140	West Oahu Station Group FD	URS Corporation	$7,789,000	$2,411,643	$10,200,643	$9,489,489	93.03	6/15/2012	11/14/2016	6/21/2017

*** Current Contract Value = Base Contract Value + Change Order**

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HONOLULU AUTHORITY for RAPID TRANSPORTATION

Contract Status

Reporting Month: 9/30/16

Contract	Description	Contractor	A Base Value	B Change Orders	C = A + B Current Contract Value	D Incurred	E = D/C % Exp.	Award Date	Completion Date	Revised Completion Date
FD-240	Farrington Highway Stations Group FD	URS Corporation	$9,300,696	$4,994,235	$14,294,931	$12,706,447	88.89	1/12/2011	1/15/2012	3/23/2012
FD-340	Kamehameha Hwy Station Group FD	Anil Verma Associates, Inc.	$8,702,592	$1,257,636	$9,960,228	$9,317,068	93.54	11/16/2012	2/8/2014	6/14/2017
FD-430	Airport Sect. Guideway/Util FD	AECOM Technical Services, Inc.	$38,840,960	$4,293,512	$43,134,472	$41,668,159	96.60	12/22/2011	6/30/2017	
FD-440	Airport Station Group FD	AECOM Technical Services, Inc.	$10,177,365	$1,396,487	$11,573,852	$10,059,820	86.92	11/7/2012	1/27/2014	7/1/2015
FD-530	City Center Guideway/Util FD	AECOM Technical Services, Inc.	$43,948,220	$3,149,342	$47,097,562	$43,627,298	92.63	7/30/2012	4/30/2018	4/30/2018
FD-550	SPCD - Dillingham and Kaka'ako S G FD	Perkins+Will	$18,321,918	$1,309,799	$19,631,717	$12,293,535	62.62	8/8/2013	11/1/2014	1/15/2016
HRT-200	HART Labor	Multiple Contracts	$54,451,942	$0	$54,451,942	$54,056,597	99.27			
HRT-201	HART ODC Contracts	Multiple Contracts	$23,943,584	$82,122	$24,025,706	$24,822,299	103.32			
MI-900	Fare Collection DFI	INIT Innovations in Transportation	$15,464,198	$0	$15,464,198	$1,187,680	7.68	3/18/2016	1/15/2029	
MI-930	Elevators & Escalators Install/Maint	Schindler Elevator Corporation	$50,982,714	$1,069,208	$52,051,922	$6,572,230	12.63	7/31/2013	7/12/2018	7/12/2018
MM-290	Construction Engrg & Insp CEI West	PGH Wong Engineering, Inc.	$54,232,480	$0	$54,232,480	$31,342,847	57.79	1/9/2014	1/9/2020	
MM-595	Const. Engrg & Insp. CEI East	URS Corporation	$63,083,417	($50,377,317)	$12,706,100	$12,382,150	97.45	1/7/2014	1/6/2019	1/6/2016
MM-596	Construction Engrg & Insp CEI East 2	Stantec Consulting Services Inc.	$55,036,130	$0	$55,036,130	$8,391,455	15.25	9/10/2015	12/31/2019	
MM-900	Program Mgt Support Constl (PMS C-1)	InfraConsult LLC	$15,952,569	$0	$15,952,569	$0	0.00	11/19/2009	11/18/2012	11/18/2012
MM-901	Program Mgt Support Constl (PMS C-2)	InfraConsult LLC	$33,376,897	$18,444,023	$51,820,920	$45,687,996	88.17	2/23/2012	2/23/2015	3/7/2017
MM-905	MM-905 Gen Engrg Constl EIS/PE	Parsons Brinckerhoff, Inc.	$0	$78,564,942	$78,564,942	$74,157,822	94.39	8/24/2007	2/9/2010	2/26/2011
MM-910	MM-910 Gen Engrg Constl FD-Construct	Parsons Brinckerhoff, Inc.	$150,000,000	$0	$150,000,000	$149,439,999	99.63	6/30/2011		
MM-913	MM-913 Gen Engrg Recompete	CH2M Hill, Inc	$46,143,277	$398,451	$46,541,728	$32,228,240	69.25	12/5/2013	4/4/2019	4/4/2019
MM-915	HDOT Traffic Mgmt. Consult.	ICX Transportation Group, Inc.	$1,600,000	$2,400,000	$4,000,000	$3,726,351	93.16	6/5/2012	6/6/2019	

*** Current Contract Value = Base Contract Value + Change Order**

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HONOLULU AUTHORITY for RAPID TRANSPORTATION

Contract Status

Reporting Month: 9/30/16

Contract	Description	Contractor	A Base Value	B Change Orders	C = A + B Current Contract Value	D Incurred	E = D/C % Exp.	Award Date	Completion Date	Revised Completion Date
MM-920	HDOT Coordination Constl WOFH	AECOM Technical Services, Inc.	$3,000,000	$6,500,000	$9,500,000	$7,532,096	79.29	6/7/2011	6/7/2018	6/7/2018
MM-921	HDOT Coordination Constl KHG	AECOM Technical Services, Inc.	$10,000,000	($1,400,000)	$8,600,000	$4,683,906	54.46	6/29/2012	6/30/2017	
MM-922	HDOT Coordination Constl. Airport	SSFM International, Inc.	$12,000,000	($5,600,000)	$6,400,000	$3,001,758	46.90	6/8/2012	6/13/2017	
MM-925	HDOT Labor - WOFH/KHG Agreements	Hawaii Department of Transportation	$550,000	$2,865,633	$3,415,633	$1,895,505	55.49	7/23/2013	6/7/2018	6/7/2018
MM-930	HDOT State SOA Manager & Consultant	Hawaii Department of Transportation	$1,272,400	$583,142	$1,855,542	$923,889	49.79	2/3/2012		
MM-935	Real Estate Consultant	Paragon Partners Ltd.	$3,000,000	$5,077,665	$8,077,665	$7,286,395	90.20	3/14/2012	3/13/2017	3/13/2017
MM-936	Real Estate Consultant II	Colliers International	$8,190,000	$0	$8,190,000	$0	0.00	9/13/2016	9/12/2020	
MM-937	Real Estate Consultant - Maps/Surv.	R.M. Towill Corporation	$2,998,000	$0	$2,998,000	$1,199,969	40.03	5/22/2014	5/21/2017	
MM-940	Kako'o Consultant	Pacific Legacy, Inc.	$1,000,000	$0	$1,000,000	$526,643	52.66	3/13/2012	3/29/2022	
MM-941	Kako'o Consultant II	Honua Consulting	$200,000	$0	$200,000	$50,000	25.00	12/8/2015	12/7/2017	
MM-945	On-Call Contractor	Royal Contracting	$1,000,000	$1,000,000	$2,000,000	$1,993,482	99.67	8/6/2014	7/6/2019	
MM-946	On-Call Hazmat Removal Contractor	CH2M Hill, Inc	$3,075,000	$2,075,000	$5,150,000	$3,305,924	64.19	8/23/2012	8/22/2017	8/22/2019
MM-947	On-Call Contractor 2	Royal Contracting	$7,500,000	$0	$7,500,000	$6,272,099	83.63	5/21/2015	5/21/2020	
MM-948	On-call Contractor 3	Royal Contracting	$20,000,000	$0	$20,000,000	$210,541	1.05	5/9/2016	5/16/2023	
MM-950	OCIP Consultant	Marsh USA Inc.	$1,250,000	$0	$1,250,000	$1,128,594	90.29	5/3/2012	5/3/2017	
MM-951	Owner-Controlled Insurance Program	Aon Risk Services, Inc. of Hawaii	$41,000,000	$0	$41,000,000	$33,493,433	81.69	4/9/2014	4/9/2021	
MM-960	Archeological & Cultural Monitoring	Cultural Surveys Hawaii, Inc.	$1,658,474	$0	$1,658,474	$1,529,264	92.21	1/15/2014	1/24/2019	
MM-962	Core Systems Support	Lea + Elliott	$43,988,989	$0	$43,988,989	$18,553,620	42.18	2/10/2014	9/10/2019	

*** Current Contract Value = Base Contract Value + Change Order**

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HONOLULU AUTHORITY for RAPID TRANSPORTATION

Contract Status

Reporting Month: 9/30/16

Contract	Description	Contractor	A Base Value	B Change Orders	C = A + B Current Contract Value	D Incurred	E = D / C % Exp.	Award Date	Completion Date	Revised Completion Date
MM-964	Safety and Security Consultant	Lawson & Associates	$4,699,573	$112,751	$4,812,324	$4,187,263	87.01	4/23/2014	1/31/2017	
MM-970	Fare Collection Consultant	CH2M Hill, Inc	$1,178,300	$0	$1,178,300	$84,543	7.17	9/24/2015	12/31/2019	
MM-975	LEED Commissioning Services for MSF	Enovity, Inc.	$278,630	$39,900	$318,530	$216,555	67.99	10/6/2010	1/14/2016	8/31/2017
MM-980	Construct. Claims and Litigation Svc	Multiple Contracts	$270,000	$0	$270,000	$0	0.00			
MM-981	Complex Real Property Nego. Lit. Sup	Stam O'Toole Marcus & Fisher	$600,000	$0	$600,000	$0	0.00	9/9/2016		
MM-982	On Call Appraiser	ACM Consultants Inc	$1,000,000	$0	$1,000,000	$0	0.00	6/15/2016		
PA-102	Programmatic Agreement HPC	Fung Associates, Inc.	$400,000	$0	$400,000	$197,716	49.43	8/1/2013	5/1/2016	10/28/2016
ROW	Real Estate Docs/ 3P Agreements	Multiple Contracts	$115,885,511	$0	$115,885,511	$116,844,922	100.83			
UTIL	Utility Contracts and Agreements	Multiple Contracts	$95,637,272	($1,920,761)	$93,716,512	$57,110,961	60.94			
Total Project:			**$3,888,657,464.90**	**$367,418,129**	**$4,256,075,594**	**$2,348,264,944.68**	**55.17**			

*** Current Contract Value = Base Contract Value + Change Order**

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5 OVERALL PROJECT-WIDE ACTIVITIES

5.1 Permits

- **Permits Submitted and In-Progress**
  - HART submitted a request to authorize Royal Contracting to represent HART on the Airport section National Pollutant Discharge Elimination System (NPDES) for construction and hydrotesting.
  - Royal Contracting submitted a NPDES permit application for hydrotesting in the Airport section.
  - Nan, Inc. submitted an application for the Community Noise Variance for Pearl Highlands Station construction.

- **Look Ahead**
  - Upcoming significant permit activity:
    - HART is coordinating the NPDES Form B permit application with the Core Systems' contractor Ansaldo.

5.2 Hawai'i Department of Transportation (HDOT) Agreements

- **Activities this Month**
  - Grant application is being processed for the FY16 $3M associated with the Federal Highway Administration (FHWA) fund transfer to FTA for the Hawai'i Department of Transportation requested highway improvements.
  - HDOT has completed review of a draft amendment to the WOFH Master Agreement and Joint Use and Occupancy Agreement (JUOA). The amendment addresses maintenance responsibilities and reimbursements.
  - A draft amendment to the KHG, AGS, CCGS Master Agreement has been sent to Corporation Counsel for legal review. Currently, there is an approximate ½ mile gap in the Joint Use and Occupancy area along Kamehameha Highway in the vicinity of Aloha Stadium. The amendment would provide a continuous JUOA segment, allowing HART to take on responsibility for street usage permits and maintenance during the construction of the Aloha Stadium Station and Airport guideway construction.
  - The Airport Section Joint Use and Occupancy Agreement has been executed.

- **Look Ahead**
  - Execution of the City Center Joint Use and Occupancy Agreement.
  - Execution of the West O'ahu Farrington Highway Master Agreement and Joint Use and Occupancy Agreement Amendment 1.
  - Execution of Amendment 1 to the Master Agreement for the sections to and from: Kamehameha Highway Guideway, Airport Guideway and City Center Guideway.

5.3 Utility Agreements

Utility Agreements Status Matrix

Utility Owner	*Status*	WOFH		KHG		Airport		City Center	
		ESA	UCA	ESA	UCA	UCA	COMBINED ESA		UCA
AT&T (Corporation)	Executed	05/11/11	12/20/11	5/18/12	Including with ESA	Not Required	12/26/13		Draft sent to AT&T
	NTP	05/12/11	12/21/11						
	Amd 01	07/01/11	HRS Ch 104	Draft sent to AT&T					
AT&T (Government Solutions)	Executed			12/26/13		Not Required	12/26/13		Combined with AT&T Corp
	NTP								
Chevron	Executed	12/04/09		11/04/11					
	NTP	12/22/09		11/15/11					
	Amd 01	07/01/11							
Hawaiian Telcom	Executed	05/20/10	11/17/14	05/10/12	12/31/14	05/28/15	09/27/13		Draft sent to HTI for review
	NTP	06/14/10	11/18/14						
	Amd 01	07/01/11		04/13/15		Draft sent to HTI			
	Amd 02	05/10/12							
	Executed								Temp OH Pending Signature
	NTP								
HECO		Design Services	Construction Services	Design Services	Construction Services	Design Services	Construction Services	Design Services	Construction Services
	Executed	11/20/13	11/29/13	11/20/13	11/29/13	11/20/13	Draft agreement under review.	11/25/13	HECO revision to include Temp Poles
	NTP	11/20/13	11/29/13	11/20/13	11/29/13	11/20/13		11/25/13	
	Amd 01								
	Memorandums of Understanding	08/07/14 – Construction Drawings							
		05/01/15 - Access							
		05/15/15 - Derrick Truck							
		06/23/15 - Master Agreement							
		06/09/15 - MSF Advanced Construction							
		09/16/15 - Right of Entry							
		10/12/15 – Clearance (West)				11/10/15 - Dillingham Blvd Materials			
		07/13/16 – KHG Vertical Clearance							
		Power Quality - Pending							
Oceanic Time Warner Cable	Executed	12/08/09	12/21/11	01/09/12	06/02/14	12/19/14	04/03/13		Draft sent to OTWC for review
	NTP	12/22/09					04/04/13		
	Amd 01	**07**/01/11	02/27/14		HRS Ch 104	HRS Ch 104			
	Amd 02	10/07/13	HRS Ch 104						
	Executed								9/22/16
	NTP								9/30/16
Pacific Lightnet/ Wavecom	Executed	04/28/10	03/12/12	02/15/12					
	NTP	04/29/10	03/13/12	02/16/12					
	Amd 01	07/01/11	HRS Ch 104						
Sandwich Isle Communications	Executed	05/20/10		04/20/12					
	NTP	06/08/10							
	Amd 01	07/01/11							
Hawai'i GAS	Executed	12/18/09	06/30/11	06/01/12	04/14/14	08/19/14	09/27/13		05/08/15
	NTP	12/22/09	07/12/11			08/20/14			05/11/15
	Amd 01	07/01/11	10/17/14		08/28/14	HRS Ch 104			HRS Ch 104
	Amd 02		05/09/16		10/23/15				
	Amd 03				HRS Ch 104				

Utility Agreements Status Matrix

Utility Owner	*Status*	WOFH		KHG		Airport	City Center	
		ESA	UCA	ESA	UCA	UCA	COMBINED ESA	UCA
Level 3/TW Telecom	Executed	12/02/09		02/14/12	Oceanic to relocate for TW Telecom		10/11/12	Draft sent to TW Telecom
	NTP	12/22/09		02/16/12				
	Amd 01	07/01/11						
	Amd 02							
Tesoro	Executed			02/15/12	09/12/13		08/27/13	
	NTP			02/16/12			09/03/13	
	Amd 01				09/12/14			
	Amd 02				05/13/15			
	Amd 03				HRS Ch 104			

Legend: = Action this month; = Not applicable

COR = Corporation Counsel; ESA = Engineering Services Agreement; UCA = Utility Construction Agreement; UFRCRA = Combined Engineering and Construction Utility Agreement

ISSUES

- No major issues to report this month.

General

- Coordinating with Board of Water Supply to provide stray current information and maintenance plans.

HECO

- **Davis-Bacon requirements –** HECO has a collective bargaining agreement that has different wage scales and allows payment to its labor forces bi-weekly, which does not satisfy Davis-Bacon. Based on the State of Hawaii Department of Labor and Industrial Relations correspondence, HECO has begun the process to pay their employees weekly. HECO has submitted a rate conformance request that has so far been denied by the United States Department of Labor (DOL), although HECO has appealed. HECO and HART are still awaiting a final decision from the DOL for the applicable rates.
- **HECO 46kV Substation near MSF area –** HECO indicated a need in the 2019 timeframe for a new dedicated 46kV substation to feed the MSF area due to requirements in the HECO Rule 13 for line extensions and substations. HART is reviewing the various options with HECO.
- **Additional Clearances –** HECO requires the need for additional horizontal working clearances from overhead line conductors to the guideway for their 138kV and 46kV overhead lines along portions of all guideway segments.
- **Horizontal Working Clearances Analysis –** For Airport and City Center, HART and HECO have agreed to underground the overhead 138kV lines. HART's designers are progressing to a preliminary engineering design with feedback from HECO. For AGS, a HECO-HART combined solution of increased Navy easements and redesigned (shortened) pole conductors may alleviate undergrounding the 9-pole 138kv system fronting Pearl Harbor. Combined with specialized equipment from the west side, to maintain and replace the 46kv system, zero undergrounding of HECO transmission lines is possible. For WOFH and KHG, HECO has successfully tested two new bucket trucks (not in their fleet) that can do the 46kV work with less than their required working clearance. This would mitigate the need to relocate 90% of the 46kV poles/lines that do not meet their required working clearances. For the 138kV lines at WOFH and KHG, Hawaiian Electric and HART went to Colorado to review the operational capabilities of the Phoenix and Skybird bucket trucks. Hawaiian Electric will evaluate their findings on whether a reduction in the 138kV clearances is possible without having to bring the rental equipment to Hawaiʻi.
- **Alternative Equipment –** For WOFH and KHG, HECO has proposed that HART purchase (9) new Altec bucket trucks to mitigate the 46kV clearance. HART is reviewing this. HECO and HART will continue to look for alternative equipment that could possibly mitigate the 138kV working clearance areas.

5.4 Right-of-Way (data as of Oct. 2, 2016)

KEY ISSUES

- The amended Memorandum of Understanding is being executed which paves the way to obtain the right of entry for the construction of the Aloha Stadium Station park-and-ride. HART has obtained the right of entry to construct the guideway.
- In order to support the Airport Guideway and Stations Design-Build contract and to maintain the project schedule, eminent domain proceedings were authorized by the HART Board and the Honolulu City Council for several parcels. However, negotiations are still continuing with all private property owners in the Airport section in an attempt to reach mutual agreement.
- HART will have approximately 100 new private easements that will be acquired for HECO undergrounding. Another 146 small parcels will be located in public streets and Hawai'i Department of Transportation (HDOT) property. These parcels will eventually be turned over to HECO. The PMOC suggested this turnover could be viewed by FTA as a disposition, so the PMOC have asked that FTA be provided the opportunity to review the settlement document and approve the process.
- At the direction of the HART Board in executive session at its regular June 16, 2016 meeting, the Right-of-Way Section is temporarily suspending certain acquisition transactions beyond the planned Middle Street Station, including any new eminent domain actions and negotiations that have not resulted in a signed agreement amongst the parties. However, relocations are continuing at the option of the displacee, if the suspended relocation will result in harm to the displacee.
- Support is continuing for the negotiations with UH Honolulu Community College to secure construction right of entry.
- A City Council resolution is pending that could terminate all ROW actions in City Center.
- The US Navy Base Command change occurred without the license agreement being finalized. HART and the United States Navy (USN) are working on the agreement regarding how to pay for relocations. The main outstanding issue is how the national register nomination is handled for Big Makalapa and Little Makalapa. HART's consultant is working directly with the USN Federal Preservation Officer (FPO) on the nomination.

BUDGET

	Baseline Budget	Expended	Remaining Budget Balance	Estimate to Completion	Forecast Variance
Acquisition	$ 201.70	$ 92.10	$ 109.60	$ 96.50	$ 13.10
Relocation	$ 20.50	$ 14.40	$ 6.10	$ 12.10	$ (6.00)
Total (Million)	$ 222.20	$ 106.50	$ 115.70	$ 108.60	$ 7.10

Note
* Administrative overhead costs aggregated with the Acquisition and Relocation numbers
* Estimate to complete based on offers, appraisals or assessed values

ACQUISITIONS

Figure 8. Right-of-Way Status for the Parcels [data provided by Real Estate Acquisition database (READ)]

	Current No. of Parcels Needed (a)	Current Square Feet Needed (b)	No. of Completed Acquisitions (c)	Square Feet of Completed Acquisitions (d)	No. of Acquisitions Not Completed & Site Access Obtained (e)	Square Feet of Acquisitions Not Completed & Site Access Obtained (f)
W.Oahu/Farrington	35	9,800,872	25	7,504,307	10	2,296,565
Kamehameha	13	3,027,319	8	2,623,469	5	403,850
Airport	50	1,007,392	13	334,130	31	581,263
City Center	125	825,291	33	192,454	17	34,992
GRAND TOTAL	***223***	***14,660,874***	***79***	***10,654,360***	***63***	***3,316,670***

During design development, the real estate requirements have been adjusted to accommodate the design refinements. Parcel requirements are adjusted as design is finalized.

Footnotes:
(a) & (b) Current No. of Parcels Needed, Square Feet Needed - Parcels identified as needed by the project.
(c) & (d) No. of Completed Acquisitions, Square Feet of Completed Acquisitions - Acquisitions are closed and the right to access and construct is obtained for 56 private owners and agreements on 23 government parcels.
(e) & (f) No. of Acquisitions Not Completed & Site Access Obtained, Square Feet of Acquisitions Not Completed & Site Access Obtained - Acquisitions may not be completed, but the right to access and construct has been obtained.

RELOCATIONS

Figure 9. Relocation Status for the Occupants (data provided by READ)

	Active Relocations	Relocations Completed	Total Relocations
W.Oahu/Farrington	0	25	25
Kamehameha	1	4	5
Airport	3	9	12
City Center	10	61	71
Grand Total:	***14***	***99***	***113***

- *Relocations are pursuant to the Uniform Relocation Act.*
- *Relocations are reported by the number of displacees.*
- *During design development, the relocation requirements have been adjusted to accommodate the design refinements. Relocation requirements are adjusted as design is finalized.*

STATUS OF INTER-GOVERNMENTAL AGREEMENTS / THIRD-PARTY AGREEMENTS

Figure 10. Inter-Governmental Agreement / Third-Party Agreement Status – These are agreements between HART and other government entities, with the exception of D.R. Horton. Agreements to be executed are in white. Completed agreements are in grey at the end of the table.

Inter-Governmental Agreements / Third-Party Agreements				
Agreement	Status	Target	Section	Notes/Remarks
State Agreements				
UH - University of Hawai'i Master Agreement	On Hold		WOFH, KHG, City Center	Construction is not impacted as the ROE for right to access and construct will be executed for each campus.
UH – Urban Gardens Conveyance to HDOT(H)	Pending	Jan 2017	KHG	In process. Consent to construct in place.
UH - Honolulu Community College (HCC) Construction Right of Entry for Guideway & Station	Pending	May 2017	City Center	In review.
DLNR - Dept. of Land & Natural Resources Kapolei Easement Agreement	Pending	Jan 2017	WOFH	Easement agreement in process. Consent to construct in place.
DLNR – Keehi Lagoon Easement Agreement	Pending	Jan 2017	Airport	Easement Agreement in process. Consent to construct in place.
DLNR – City Center Right of Entry	Pending	May 2017	City Center	In process.
DLNR – City Center Easement Agreement	Pending	May 2017	City Center	In process.
DLNR/C&C Wastewater Div Easement Agreement. Formerly: HDOT(Har) Dept. of Transportation Harbors / DLNR, which was changed to DLNR per State Executive Order 1552)	Pending	May 2017	City Center	In process.
DLNR/C&C Wastewater Div Easement Agreement. Formerly: HDOT(Har) Dept. of Transportation Harbors / DLNR, which was changed to DLNR per EO 1552)	Pending	May 2017	City Center	In process.
Aloha Stadium / Department of Accounting & General Services (DAGS) Easement for guideway	Pending	Jan 2017	KHG	In process.
Aloha Stadium / Department of Accounting & General Services (DAGS) Right of Entry for station park and ride	Pending	Nov 2016	KHG	In process.
Aloha Stadium / Department of Accounting & General Services (DAGS) Easement for station park and ride	Pending	Jan 2017	KHG	Process Easement Agreement.
HDOT(H) – Dept. of Transportation Highways Master Agreement Amendment	Pending	March 2017	WOFH	Review completed & being executed.
HDOT(H) – Joint Use & Occupancy (JU&O) Sub-agreement	Pending	May 2017	City Center	In process.
HDOT(A) - Easement Agreement for Airport Division parcel	Pending	Jan 2017	Airport	In process.

Inter-Governmental Agreements / Third-Party Agreements				
Agreement	Status	Target	Section	Notes/Remarks
OCCC - Dept. of Public Safety, Oahu Community Correctional Center, Easement Agreement	Pending	May 2017	City Center	In process.
OCCC - Dept. of Public Safety, Oahu Community Correctional Center, Right of Entry	Pending	May 2017	City Center	Draft Right of entry under review.
HCDA -HI Community Development Construction ROE & License Agreement, & Final Disposition	Pending	May 2017	City Center	Coordination is ongoing.
DAGS – Dept. of Accounting & General Services / Hi Housing Finance & Development Corp (HHFDC) Right of Entry	Pending	May 2017	City Center	In process.
DAGS / HHFDC Easement Agreement	Pending	May 2017	City Center	Process Easement Agreement.
DAGS – City Center Right of Entry	Pending	May 2017	City Center	To be processed.
DAGS – City Center Easement Agreement	Pending	May 2017	City Center	To be processed.
Federal Agreements				
U.S. Post Office (USPS) Honolulu Processing Center acquisition	Pending	Jan 2017	Airport	In review.
U.S. Gov't/General Services Administration (GSA)/Federal Courthouse Master Agreement to include Security & Landscape Plan	Pending	May 2017	City Center	Master agreement under review.
U.S. Gov't/GSA/Federal Courthouse License (Right of Entry) & Temporary Construction Easement (TCE) Agreements	Pending	May 2017	City Center	In final review.
U.S. Gov't/GSA/Federal Courthouse Quitclaim Easement Document	Pending	May 2017	City Center	Easement document under review.
Other Agreement				
D.R. Horton Final Easement Agreement	Pending	Jan 2018	WOFH	Easement Agreement in process and subject to owner's development plans.
Executed Agreements				
DFM – Dept. of Facility & Maintenance (Kamehameha Hwy/Makalapa Manor)	Executed		Airport	Jurisdictional transfer from DFM to HART in place.
DPR - Dept. of Parks & Recreation (MSF drainage)	Executed		WOFH	Consent to construct in place.
UH – University of Hawaii Pre-Construction Right of Entry and Amendment	Executed		WOFH, KHG, City Center	Consent to construct in place.
UH - West O'ahu (UHWO) Construction Right of Entry for Station	Executed		WOFH	Consent to construct in place.
UH - Leeward Community College (LCC) Construction Right of Entry for Guideway	Executed		WOFH	Consent to construct in place.
UH - Leeward Community College (LCC) Construction Right of Entry for Station	Executed		WOFH	Consent to construct in place.
UH - Urban Gardens Construction Right of Entry	Executed		KHG	Consent to construct in place.
DLNR – Dept. of Land and Natural Resources Kapolei Right of Entry	Executed		WOFH	Consent to construct in place to be followed by execution of the easement agreement.
DLNR – Keehi Lagoon Right of Entry	Executed		Airport	Consent to construct in place to be followed by execution of the easement agreement.
DOE – Dept. of Education Master/Construction Agreement for Waipahu H.S.	Executed		WOFH	Set-aside from DLNR to HART in process.
DOE/DLNR Right of Entry for Waipahu High School	Executed		WOFH	DLNR Consent to construct in place with DOE concurrence.
Aloha Stadium / Department of Accounting & General Services (DAGS) MOU for guideway & station – Being revised	Executed		KHG	MOU in place.

Inter-Governmental Agreements / Third-Party Agreements				
Agreement	Status	Target	Section	Notes/Remarks
Aloha Stadium / Department of Accounting & General Services (DAGS) Right of Entry for guideway	Executed		KHG	Consent to construct in place to be followed by execution of the easement agreement.
HDOT(H) – Dept. of Transportation Highways Master Agreement	Executed		WOFH	Master Agreement in place.
HDOT(H) (A) - Master Agreement for KHG, Airport and City Center and Amendment	Executed		KHG, Airport, City Center	Master Agreement in place.
HDOT(H) – Joint Use & Occupancy (JU&O) Sub-agreement	Executed		WOFH	Consent to construct in place.
HDOT(H) – Joint Use & Occupancy (JU&O) Sub-agreement	Executed		KHG	Consent to construct in place.
HDOT(H) – Joint Use & Occupancy (JU&O) Sub-agreement	Executed		Airport	Consent to construct in place.
HDOT(A) – Dept. of Transportation Airports Joint Use & Occupancy (JU&O) Sub-agreement for Airport Division parcels	Executed		Airport	Consent to construct in place.
DHHL - Dept. of Hawaiian Home Lands Master Agreement	Executed		WOFH, MSF	Master Agreement in place.
DHHL – Dept. of Hawaiian Home Lands License	Executed		WOFH, MSF	Consent to construct in place.
HCDA -HI Community Development Authority Pre-construction Right of Entry	Approved		City Center	Verbal approval granted by the HCDA Board in 6/2016.
U.S. Navy Licenses	Executed		WOFH, KHG, Airport	Consent to construct in place.
U.S. Navy Easement Agreements	Executed		WOFH, KHG, Airport	Grant of Easement executed
U.S. Navy Pearl Harbor Station Acquisition of Fee Transfer	Executed		Airport	Quitclaim deed executed.
D.R. Horton Agreement for Construction	Executed		WOFH	Consent to construct in place to be followed by execution of the easement agreement.

6 MANAGEMENT AND ADMINISTRATIVE UPDATES

6.1 Safety and Security (S&S)

KEY ISSUES

- Core Systems lost their full-time Ansaldo/H-JV Safety and Security Certification point of contact in Honolulu that poses a concern of certification expertise and experience at the Core Systems contactor level, and will impose a hardship to the HART Safety and Security Department efforts until a full-time, qualified/certified replacement is on AHJV staff. Discussions are underway on the status of the replacement manager.
- Ansaldo/H-JV's deliverable schedule for the MOW Vehicles DCCC "Means of verification" has significantly slipped as communicated at the weekly CSC certification coordination meetings. HART S&S has received and performed verification on 4 of the 8 DCCC checklists. All 8 MOW vehicles are on island and undergoing STCC verification efforts, since March 2016.
- The rail shims remain an outstanding issue. An extensive number of the 3/16" shims along WOFH Guideway are cracking and shim heights are exceeding the 2" allowable height. An investigation is underway and HART requested an analysis of why the shims are cracking. In addition, Ansaldo is performing a 3rd party independent review to identify any track construction concerns and potential long term maintenance issues.
- Rusting and/or failing tendons in WOFH span segments have been identified. KIWC has been put on notice. The condition is being investigated to avoid impacting the loading capacity of the spans.
- The specification and testing conformance checklist verification effort (% verified) lags behind construction completion percentage due to the fact that a significant percentage of the needed submittals are submitted at the end of the project; such as test reports, O&M manuals, training, and as-built drawings.
- Safety and Security is presently lacking one (1) position (Safety Specialist, OSHA).

Two Month Look Ahead

- No major meetings are scheduled.

6.1.1 S&S Certification Documents

Key HART S&S Certification Documents			
S&S Project Plans, PHAs, Core Systems SSHA and & O&SHA, and TVA			
Documents	REV #	Date Approved	Comments
Documents Pending Approval			
HART SAFETY AND SECURITY			
1. Project Preliminary Hazard Analysis (PHAs)	Rev 2. A		Rev 2A - DRAFT annual update completed 9/3/2015
a. Traction Power	Rev 2. A		Update on-hold - pending approval of TES SSHA and O&SHA
b. Train Control	Rev 2. A		Update on-hold - pending approval of ATC SSHA & O&SHA
c. Vehicles	Rev 2. A		Update on-hold - pending approval of PT SSHA & O&SHA
d. Communications	Rev 2. A		Update on-hold - pending approval of Comms SSHA and O&SHA
2. Elevator/Escalators System HA	Rev A		Under Development
3. Project OHAs	Rev A		Under development
HART CORE SYSTEMS			
4. Technologies PHAs	Rev D		7/14/2016 - CSC R&R (CMS # 545)
5. Passenger Train Fire Hazard Analysis (FHA)	Rev D		8/2/2016 - CSC UTR (CMS# 749)
6. Passenger Train ATC System HA	Rev C		3/18/2015 – HART Accept, (CMS # 751) On Hold pending open issues
7. Passenger Train SSHA	Rev B		10/19/2016 - CSC R&R (CMS # 1273)
8. Passenger Train O&SHA	Rev A		10/26/2015 - CSC R&R (CMS # 1320)
9. PSGS SSHA	Rev C		10/4/2016 - CSC R&R (CMS # 938)
10. PSGS O&SHA	Rev C		10/7/2016 - AAN Re-submit, (CMS # 880)
11. Communications SSHA	Rev B		09/29/2016 - CSC R&R, (CMS # 1205)
12. Communications O&SHA	Rec C		1/27/2016 - CSC R&R (CMS # 1206)
13. MOW Support Vehicles O&SHA	Rev A		Under development

6.1.2 S&S Certification "Open Items List" Status

"Open Items List"						
"Open Items" - Design/Construction and Verification Issues						
Month - 2016	Total #	Total # Open	Total # Closed	% Closed Overall	# Closed In Month	% Closed In Month
Aug	**250**	39	211	**84%**	4	2%
Sept	**251**	39	212	**85%**	1	1%
Oct	**258**	46	212	**82%**	0	0

6.1.3 S&S Construction Specification Conformance Checklists (CSCC) - Civil Contracts

Construction Specification Conformance Checklists (CSCC)			
Civil - Contracts *- CSCC Verification Status*			
Construction - Installation – Start-up & Testing Phases			
Contracts	% Verified	+ / - % Change	Comments
WOFH / KHG Interim Revenue Service Date (2020)			
Civil Contracts Under Construction			
DB-200, MSF and Rail Yard	**97%**	**+5%**	Verification underway – IC Certificate issued – Final Cert - Pending
DB-120, WOFH Guideway	**81%**	**+1%**	Verification underway
DB-320, KHG Guideway	**49%**	**+1%**	Verification underway
DBB-385, H2R2 Ramps	**35%**	**+8%**	Verification underway
DBB-171, West O'ahu Station Group (WOSG)			Pre-verification activities
DBB-271, Farrington Hwy Station Group (FHSG)			Pre-verification activities
DBB-371, Kamehameha Hwy Stations Grp (KHSG)			Pre-verification activities
MI-930, Elevators & Escalators, WOSG			Pre-verification activities
MI-930, Elevators & Escalators, FHSG			Pre-verification activities
MI-930, Elevators & Escalators, KHSG			Pre-verification activities
Civil Contracts Under Design or in Pre-bidding or Pre-Award Phases			
AP00 Art-in-Transit, 12 Artists/contracts			SSRC – Approved Base CSCC, 10/28/2016
DB-275, Pearl Highlands PS/ Bus Transit Center			TBD – waiting for 100% conformed specifications
MI-900 Fare Collection System			Base CSCC SSRC approved 4/27/2016
DBB-600, West O'ahu Park & Ride			TBD – waiting for 100% conformed specifications
Airport / City Center Final Revenue Service Date (2025)			
Civil Contracts Under Construction			
DBB-525, Airport Section, 7 - Drilled Shafts	**100%**	**N/A**	8/26/2015 SSRC approved –Certification Completed
DBB-505, Airport Utilities - Construction	**64%**	**+1%**	Verification underway – project close-out underway
Civil Contracts Under Design or in Pre-bidding or Pre-Award Phases			
DBB-511, Dillingham Utilities & Road Widening			TBD – waiting for 100% conformed specifications
DB-450, Airport Guideway			TBD – waiting for 100% conformed specifications
DB-450, Airport Stations			TBD – waiting for 100% conformed specifications
DB-550, City Center Guideway			TBD – waiting for 100% conformed specifications
DB-550, City Center Stations			TBD – waiting for 100% conformed specifications
MI-930, Elevators & Escalators, Airport Stations			Base CSCC - SSRC approved, 8/26/2015
MI-930, Elevators & Escalators, City Center Stations			Base CSCC - SSRC approved, 8/26/2015
AP00 Art-in-Transit, 11 Artists/contracts			SSRC – Approved Base CSCC, 10/28/2016
MI-900 Fare Collection System			Base CSCC SSRC approved 4/27/2016

6.1.4 S&S Specification / Testing Conformance Checklists (STCC) - Core Systems

Specification / Testing Conformance Checklists (STCC)			
Core Systems – Contracts *- STCC Verification Status*			
Procurement - Production - Manufacture - Installation - Start-up & Testing Phases			
Contracts	% Verified	+ / - % Change	Comments
WOFH / KHG Interim Revenue Service Date (2020)			
DBOM-920 Core System Contracts under Design / Procurement - Production - Manufacture - Installation - STCC			
Yard Control Bungalow (YCB) CSC Civil - Contract	**59%**		Verification underway
MOW Vehicles (8-support vehicles) overall	**75%**		
1) Rail car mover	**43%**		Verification underway
2) Multipurpose Vehicle	**71%**		Verification underway
3) Enclosed trailer containing re-railing equip	**71%**		Verification underway
4) Rail 15-ton flatbed trailer	**71%**		Verification underway
5) Rail grinder	**86%**		Verification underway
6) Tamper	**86%**		Verification underway
7) Sperry (Geometry) car	**86%**		Verification underway
8) Hi-reach lift truck	**86%**		Verification underway
Passenger Trains (PT)/Cars			
1) General Requirements - Applies to all PTs	**11%**	**+4%**	Verification underway
2) PT-001- Certification (E-1, E-2, M-1, M-2 Cars)			Pre-verification activities
3) PT-001- Interim Cert - for Dynamic Testing			Pre-verification activities
4) PT-002 – Certification (E-1, E-2, M-1, M-2 Cars)			Pre-verification activities
5) PT-002- Interim Cert – for Dynamic Testing			Pre-verification activities
6) PT Certification for Pre-Revenue Service (STCC)			Base STCC under CS PM review
Traction Electrification System (TES)			
1) General Requirements TES - Project Wide	**53%**	**+2%**	Base STCC SSRC Approved 9/28/2016, verification underway
2) MSF - Rail Yard	**29%**		Base STCC SSRC Approved 9/28/2016, verification underway
3) Dynamic Section Test Track - WOFH Guideway	**23%**	**+4%**	Base STCC SSRC Approved 9/28/2016, verification underway
4) Functional Section SIT Test Track			
4) WOFH and KHG Guideways	**7%**		Base STCC SSRC Approved 9/28/2016, verification underway
Uninterrupted Power Supply (UPS)			
1) General Requirements UPS -Project Wide	**62%**		Base STCC SSRC Approved 9/28/2016, verification underway
2) MSF-UPS	**50%**		Base STCC SSRC Approved 9/28/2016, verification underway
3) Segment 1 - UPS, WOFH & KHG	**23%**		Base STCC SSRC Approved 9/28/2016, verification underway
Communication Systems			
1) General Requirements Comm- Project Wide	**52%**		SSRC approved 6/22/2016, verification underway
2) MSF and Rail Yard Communications			SSRC approved 6/22/2016
3) KHG and WOFH Communications			SSRC approved 6/22/2016
Fire Detection Alarm System (FDAS)			
1) General Requirements FDAS - Project Wide	**61%**		SSRC Approved 9/28/2016, verification underway
2) MSF - FDAS	**67%**	**+8%**	SSRC Approved 9/28/2016, verification underway
3) Segment 1 – FDAS, WOFH & KHG	**21%**	**+6%**	SSRC Approved 9/28/2016, verification underway
Platform Screen Gate System (PSGS)			
1) General Requirements PSGS -Project Wide	**33%**	**+3%**	SSRC Approved 9/28/2016, verification underway
2) Segment 1 – PSGS, WOFH & KHG			SSRC Approved 9/28/2016
Traction Power Generators Back-up System			SSRC approved 3/23/2016
ATC / SCADA			
1) ATC / SCADA General Requirements - Project Wide	**66%**	**+8%**	Base ATC/SCADA STCCs pending SSRC approval
2) MSF / ROC - ATC / SCADA	**26%**		Base ATC/SCADA STCCs pending SSRC approval
3) Segment 1 WOFH & KHG Guideways & Stations	**6%**	**+2%**	Base ATC/SCADA STCCs pending SSRC approval
4) PT – ACT - Initial Revenue Service Date (7-PTs)	**15%**		Base ATC/SCADA STCCs pending SSRC approval
System Integration Testing (SIT) & Demonstration			
1)SIT General Requirements - Project Wide SIT/DEM	**25%**	**+10%**	Base SIT STCCs pending SSRC approval
2) MSF SIT/DEM	**28%**	**+7%**	Base SIT STCCs pending SSRC approval
3) Functional Section - SIT - Test Track			Base SIT STCCs pending SSRC approval
4) Segment-1 WOFH & KHG - SIT / DEM			Base SIT STCCs pending SSRC approval
Operational Requirements			
Ops Readiness Conform Checklists (ORCC)	**31%**	**+1%**	ORCC REV-0 - SSRC approved 12/09/2015, verification underway
Pre-revenue Testing Conform Checklist (PRTCC)			TBD

Specification / Testing Conformance Checklists (STCC)			
Core Systems – Contracts *- STCC Verification Status*			
Procurement - Production - Manufacture - Installation - Start-up & Testing Phases			
Contracts	% Verified	+ / - % Change	Comments
Airport & City Center Final Revenue Service Date (2025)			
Passenger Trains (PT)/Cars			
1) PT-008-20 Certification (E-1, E-2, M-1, M-2 Cars)			SSRC approved 12/09/2015
2) PT-008-20- Interim Cert - for Dynamic Testing			SSRC approved 12/09/2015
3) PT-011-20 Cert for Pre-Revenue Service			Base STCC under development
Traction Electrification System (TES)			
1) Airport and City Center Guideways			SSRC Approved 9/28/2016
Uninterrupted Power Supply (UPS)			
1) Segment 2 – UPS, Airport	**47%**		SSRC Approved 9/28/2016, verification underway
2) Segment 3 – UPS, City Center	**48%**		SSRC Approved 9/28/2016, verification underway
Communication Systems			
1) Airport Communications			SSRC approved 6/22/2016
2) City Center Communications			SSRC approved 6/22/2016
Fire Detection Alarm System (FDAS)			
1) Segment 2 – FDAS, Airport			SSRC Approved 9/28/2016
2) Segment 3 – FDAS, City Center			SSRC Approved 9/28/2016
Platform Screen Gate System (PSGS)			
1) Segment 2 – PSGS, Airport			SSRC Approved 9/28/2016
2) Segment 3 – PSGS, City Center			SSRC Approved 9/28/2016
ATC / SCADA			
1) Segment 2 Airport Guideways & Stations			Base ATC/SCADA STCCs pending SSRC approval
2) Segment 3 City Center & Stations			Base ATC/SCADA STCCs pending SSRC approval
3) PT – ACT Final Revenue Service Date (13-PTs)			Base ATC/SCADA STCCs pending SSRC approval
System Integration Testing (SIT) Demonstration			
1) Segment – 2 Airport & C&C - SIT / Dem			Base SIT STCCs under review pending final SIT Plan
Operational Requirements			
Ops Readiness Conform Checklists (ORCC)			SSRC approved 12/09/2015
Pre-revenue Testing Conform Checklist (PRTCC)			Base PRTCC under development

6.1.5 Twelve (12) Month Certification Projected Milestones and Work Priority:

12 Month Certification Projected Milestones												
Contract and Interim Certification (IC)	*Next 30-90 days*			*Next 90-180 days*			*Next 180-270 days*			*Next 270-365 days*		
X – Projected Month **P** – Pending / High Priority	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	July 2017	Aug 2017	Sept 2017	Oct 2017
1. YCB DCCC and CSCC Civil Certification (CSC)	P											
2. FD-430 & DBB-505, Airport Utilities Civil Certification	P											
3. DB-200 MSF Civil Contract Final Certification	P											
4. PT-001 Truck (Bogies) Delivery - IC		x										
5. MSF TES Certification			x									
6. PT-002 Delivery – IC				x								
7. Dynamic Section Test Track IC					x							
8. PT-001, IC to enter Dynamic Testing					x							
9. DB-120, WOFH Guideway Civil Certification					x							
10. Eight (8) MOW Vehicles Final Certification					x							
11. PT-002, IC to enter Dynamic Testing						x						
12. DB-320, KHG Guideway Civil Certification							x					
13. FD-340 & DBB-385 Ramp H2R2 Civil Certification								x				

6.1.6 S&S Certification Certificates Issued to Date

S&S Certification Certificates Issued to Date		
Contracts / Interim Certification (IC) Certificates Issued	***Date Signed***	***Comments***
1. FD-430 / DBB-525 Airport 7-Piers Civil Cert Certificate	**9/21/2015**	SSRC approved
2. Three (3) – MOW Vehicles Delivery & M-7, M-2, M-1 MSF Tracks – IC Certificate	**2/4/2016**	SSRC approved
3. MSF Yard M-4 and M-6 Tracks – IC Certificate	**3/10/2016**	SSRC approved
4. PT-001 Delivery, OSB, M-5/M-4 Tracks, ORCC, MOW MPV - IC Certificate	**3/29/2016**	SSRC approved
5. Five (5) – MOW Vehicles Delivery – IC Certificate (Vehicles Only)	**5/20/2016**	SSRC approved
6. MOW Facility Early Occupancy – IC Certificate (Administrative Areas Only)	**5/23/2016**	SSRC approved
7. MSF Civil IC Certificate - Tracks and Facilities	**7/6/2016**	SSRC approved

6.1.7 Construction Safety and Security

Safety and Security Incidents

Incidents for Oct. 1, 2016-Oct. 27, 2016:

- **FHSG:** A delivery truck scraped and bent a fence post at the site entrance.
- **KHG:** A light plant tipped over when it was being moved by forklift, breaking a light.
- **KHG:** A driver forgot to disconnect the cables from their tractor trailer when they moved their rig. The lines snapped and shattered the rear window of the truck.
- **KHG:** A subcontractor backed his pickup into a low cement pedestal, causing minor damage.
- **KHSG:** A generator was destroyed by an unknown party.
- **FHSG:** A water truck struck a pickup truck on the worksite, causing minor damage.

	2014			2015			2016		
	Hours worked	No. of Recordable	No. of Loss Time	Hours worked	No. of Recordable	No. of Loss Time	Hours worked	No. of Recordable	No. of Loss Time
January				145,806	1	0	172,799	0	0
February				126,526	1	0	172,950	1	0
March				139,422	3	1	183,147	0	0
April				71,856	1	0	230,808	2	0
May				167,204	0	0	181,979	1	0
June				123,391	2	1	165,737	0	0
July				130,954	0	0	167,039	0	0
August	52,834	1	0	154,381	1	1	129,067	1	1
September	108,337	1	1	102,224	1	0			
October	126,351	0	0	172,845	0	0			
November	116,929	3	3	45,913	0	0			
December	102,942	1	0	154,215	0	0			
Total	507,393	6	4	1,534,735	10	3	1,403,526	5	1
OSHA Annual Incident Rate				1.3					
Work Hours for WOFH, KHG, MSF, Airport, CORE System as reported to OCIP and certified.									

6.2 Quality Management

- **Key Issues**

HART NCR Log		
Total NCRs Issued To Date	CLOSED	OPEN
59 (Audits)	38	21
1 (Construction)	1	0

  - Resolution of two (2) major WOFH NCRs that need to be addressed and corrected to prevent recurrence and to mitigate impact on the overall progress of the project. The major NCRs are described below:
    - **Tendons:** Grouting of six (6) tendons on Spans 33, 38, 45 and 51 were found defective. KIWC's disposition is to remove and replace the affected tendons, then stress and grout. Removal and replacement work began in late July and completed in mid-October 2016. KIWC and HART are planning to further investigate the condition of all tendons using vibration and impact-echo testing.
    - **Shims:** Direct Fixation Fastener (DFF) high-density polyethylene (HDPE) Shims. Currently, independent test results are being reviewed as they are completed. The final report is still pending.
  - Resolution of one (1) major KHG NCR that needs to be addressed and corrected to prevent recurrence and to mitigate impact to the overall progress of the project. The major NCR is described below:
    - **Shims:** Direct Fixation Fastener (DFF) high-density polyethylene (HDPE) Shims. NCR #225 was issued to KIWC on Oct. 17, for non-compliance with ASTM testing requirements.
- **Audit Look Ahead**
  - Perform Quality Assurance (QA) Audit of AHJV on the Configuration Management Plans of the CSC contract on Nov. 3-4, 2016.
  - Perform Combined QA and Buy America Audit of Schindler on the Elevators and Escalators contract on Nov. 9-10, 2016.
  - Perform Combined QA, Buy America and Environmental Compliance Audit of Nan, Inc. on the KHSG contract on Nov. 29-30, 2016.

6.3 Buy America Compliance (49 CFR 661 and 49 CFR 663)

- **Overview and Key Issues**
  - Variable refrigerant flow (VRF) Heating Ventilation Air Conditioning (HVAC) system for the train control and communications rooms. FTA confirmed that the VRFs are classified as components of the train control and communications equipment and are therefore subject to the "rolling stock" domestic content requirements under Buy America. As a result, HART's unavailability waiver request is no longer needed and is considered withdrawn. To implement this FTA determination, acquisition and installation of the VRF HVAC systems at all stations will be accomplished by contract amendment to the AHJV Core Systems contract.
  - Vehicles: In accordance with FTA clarification on the definition of "post-delivery audit period" as the "'time period in the procurement process when the rolling stock' (first vehicle) 'is delivered to the recipient until title to the rolling stock' (last vehicle) 'is transferred to the recipient or the rolling stock' (last vehicle) 'is put into revenue service, whichever is first,'" HART intends to conduct a post-delivery audit during the defined "post-delivery audit period," when actual costs can be verified. We anticipate this to occur on or around first quarter of 2017.

6.4 Disadvantaged Business Enterprise (DBE)

- **Activities this Month**
  - $44,327,089 = total dollar participation for all DBEs on all HART contracts from 9/24/07 to 10/31/16
    - 7.08% = DBE utilization on total disbursed FTA funds received to date ($44,327,089 divided by $625,957,807)
    - 2.51% = DBE utilization to date on total Project FTA funds ($44,327,089 divided by $1,763,903,901)

6.5 Planning and Environment

- **Activities this Month**
  - Programmatic Agreement Activities:
    - HART submitted Big Makalapa and Little Makalapa National Register nominations to the Navy's Federal Preservation Officer (FPO) on Sept. 23, 2016. The nominations are currently under review by the FPO.
    - The monthly Kākoʻo meeting with the Programmatic Agreement (PA) Consulting Parties (CPs) was held on Oct. 20, 2016.
    - HART initiated implementation of PA Stipulation VII ("Educational and Interpretive Programs, Materials, and Signage"). A strategic plan and a Scope of Work is being prepared that will identify timelines, goals, objectives, and community outreach programs. Future consultation with PA CPs will occur.
  - Planning, Environmental, and Cultural Activities:
    - HART established mitigation monitoring measures for the recently awarded Airport Guideway and Stations (AGS) contract, and continued work establishing AGS environmental requirements and plan review.
    - HART submitted revised draft text to FTA for an FTA letter to the State Historic Preservation Division (SHPD) requesting concurrence of no additional adverse impacts for the proposed Airport and City Center Segments' casting yards.

- **Looking Ahead**
  - Prepare and submit final Post-ROD Documentation to FTA for approval:
    - Airport Casting Yard, pending SHPD concurrence letter of no additional effect
    - City Center Casting Yard, pending SHPD concurrence letter of no additional effect
    - Additional Right-of-Way, on hold awaiting potential project refinements
    - Hōlau Market/Ai-Goto, 4th quarter 2016
    - West Oʻahu Park & Ride Lots, on hold pending identification of potential Park & Ride sites
    - Phased System Openings, 1st quarter 2017
    - Final System Opening, 1st quarter 2020

6.6 Risk Management

The primary goal of risk management is to maintain a reserved contingency balance throughout the life of the Project that is acceptable to HART and the FTA. Effective management of project risks is necessary to significantly increase the likelihood of delivering a successful project. Risk management is the systematic process of identifying, analyzing, and responding to risk in a timely manner. Risk management is integral to all phases leading up to revenue service opening including: planning, design, construction, systems testing, system operation start up, safety and security certification, and ultimately to project construction closeout.

The HART program is implementing a new Risk Management System that focuses on mitigation strategies to assist the project teams in project delivery. The program performed a bottoms up risk assessment for every project in the program. A network model was then developed to evaluate the cost and schedule contingencies of the program, including relationships between each of the individual projects and contracts. This data is then updated monthly by the project teams and modelled periodically. Risk assessment discussions with the project teams are held on a regular basis to identify, assess, prioritize, manage and mitigate risk exposure, and develop prudent contingency plans. The Project Risk Register (RR) is the depository for all risks identified for the Project. Every month, risks contained in the RR are reviewed to confirm risks are appropriately identified, identify new risks, and close out risks that no longer pose an issue. HART has been training the project managers to use the risk management system. The individual project register updates are now on path to be updated on a monthly basis and outputs will be compared to forecasting reports. These updates are verified and reviewed by the risk manager prior to being incorporated into the master Risk Database.

The new risk management system quantifies the risk as schedule impact or direct cost impact independently. The schedule impact is than monetized based in the model and based upon the contracts impacted. The top risks to the program are then evaluated on both schedule and cost.

As HART implements the risk management system focused on mitigation, monitoring, and control, the PMOC has requested to work with HART to possibly develop a new tracking mechanism or data reporting set to better assist in the oversight of the program.

NOTES OF SIGNIFICANCE

- HART is currently going through an exercise in developing a recovery plan to manage the funding gap.
- Intensive focus continues to be placed on issues involving Hawaiian Electric Co. (HECO) coordination and clearance issue resolution; this includes alternative equipment studies.
- On-call contractor is verifying the existing as-built data of the utilities in the City Center Section.
- Specifications are being developed for the City Center project to assist the design-builder in pricing unidentified and misidentified utilities.
- Developing agreements with landowners and utilities for access during construction is mitigating potential construction schedule delays.
- Award of the AGS contract.
- NTP of the KHSG contract.
- Review and quantifying the impacts of the funding delay to the program.

AREAS OF FOCUS

A) Market Conditions – The construction market in Hawaiʻi continues to outpace other major metropolitan US cities. The years 2015 and 2016 are expected to set new records for construction in the state. This translates to increased escalation of about 1% per month from late 2014 through the end of 2016, according to the Rider Levett Bucknall, Quarterly Construction Cost Report. These conditions may impact the supply of experienced craft labor which will in turn affect contractor productivity rates and traffic mobility issues.

Mitigation Progress:

- HART's continuous improvement in estimating methodology has led to more confidence in the likely construction pricing, but continued pricing pressures in the market could still lead to higher than expected price proposals and bids.
- The combined guideway and station packages on the City Center Guideway and Stations contract are still in active procurement.

B) Utilities – Utilities continue to be an issue for the project, as they are for most Transit and Rail projects.

Mitigation Progress:

- Resources to relocate HECO facilities are now keeping up with scheduled requests to resolve utility conflicts through improved coordination efforts between agencies at all levels from project management to executive levels.
- Identifying existing utilities along the City Center corridor.

C) Right-of-Way – There are parcels on the east and west segments that are still in an active acquisition process. The goal is to provide site access to the contractors on the east to avoid associated inefficiencies related to re-sequencing the work plan which would have a negative impact to the revenue service date.

Mitigation Progress:

- Nearly all west side property transactions have been accomplished.
- East side – there are a number of third-party agreements needed on the Airport Section and private parcels on the City Center Section. Cost-to-cure partial property improvement impacts have now been mostly resolved.

6.7 Community Outreach

- **Overview**
  - Since the inception of HART, the outreach team has participated in:
    - 1,026 Presentations and Events
      - 16 Presentations and Events in October 2016
    - 576 Neighborhood Board Meetings
      - 8 Neighborhood Board Meetings in October 2016
- **Community Input**
  - HART's public outreach team responded to more than 100 public inquiries and comments this month. Inquiries were related to project construction plans, and a majority of the comments urged that the project not stop at Middle Street but continue on to Ala Moana Center. In addition, some callers to the project hotline asked about how to go about filing a claim.

6.8 Staffing

- **Overview**
  - Project Staffing:
    - Target: 139 Full-Time Equivalents (FTE)
    - Actual: 129 FTE (reflects employees hired during this period as well as employees who left the project from both HART and the PMC staffs)
      - City Staff: 112
      - PMC Staff: 17
  - The Deputy Director of Operations and Maintenance started employment at HART in October.
  - Both new Board support positions were filled in October.
  - Two new accountant positions have been added to the Budget and Finance Division.
  - A new position has been added to the Procurement Division: Agreements Arbiter and Manager/Insurance Risk Manager.
  - The Grants Manager resigned in October. An internal replacement has been selected and is being trained by subject matter experts.
  - A Procurement and Specifications Specialist resigned in October.
  - The Core Systems Secretary position was filled in October.

Figure 11. Staffing Activities

Staffing Activities				
Title	Group	New/Existing HART position (City or PMC)	Position Status	Start Month
Design and Construction				
Project Manager (WOSG)	Construction	Existing (City)	Recruiting	
Secretary	Core Systems	Existing (City)	Filled	October
Budget and Finance				
Financial Analyst	Budget and Finance	Existing (City)	Recruiting	
Accountant (Budget Analyst)	Budget and Finance	Existing (City)	Selected	November
Accountant (2)	Budget and Finance	New (City)	Selected (2)	November
Quality Assurance				
Quality Assurance Engineer * (Civil)	Quality Assurance	Existing (City)	Recruiting/Interviewing	
Administrative Services				
Information Technology Support Technician	Administrative Services	Existing (City)	Recruiting/Interviewing	
Personnel Clerk	Administrative Services	Existing (City)	Recruiting via Civil Service	
Public Information				
Information Specialist	Public Information	Existing (City)	Recruiting via Civil Service	
Project Controls				
Scheduler	Project Controls	Existing (City)	Recruiting/Interviewing	
CMS Trainer	Project Controls	Existing (City)	Selected	November
Project Controls Manager	Project Controls	Existing (PMC)	Recruiting/Interviewing	
Procurement & Contracts				
Procurement & Specifications Specialist (2)	Procurement	Existing (City)	Recruiting	
Agreements Arbiter and Manager/Insurance Risk Manager	Procurement	New (City)	Recruiting	
Safety				
Safety Specialist	Safety	Existing (City)	Recruiting/Interviewing	
Operations & Maintenance				
Deputy Director	Operations & Maintenance	New (City)	Filled	October
Secretary	Operations & Maintenance	New (City)	Recruiting/Interviewing	
Planning, Permitting & ROW				
Planner VI (Land Use/Sustainability)	Planning	Existing (City)	Recruiting	
Right-of-Way Agent IV	Right-of-Way	New (City)	Recruiting	
Executive Management				
Board Staff Assistant	HART Board	New (City)	Filled	October
Board Clerk	HART Board	New (City)	Filled	October

*Actual hiring level will be commensurate with candidate's qualifications.

For the latest project organization chart, see Appendix E.

APPENDICES

Appendix A. Project Contingency Management

HART Project Contingency Drawdown with Details

Data as of 10/18/16

#	Project No.	Project Desc.	Budget Transfer/Change Description	Contingency Drawdown (+/-)	Contingency Code
		Jan'16	**Beg. Balance**	**$487.3**	
1)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 070 - Equipment Escalation	($768,374)	90.01 - Unallocated Contingency
2)	DB-200	Maintenance & Storage Facility DB	Executed Contract Change Order No. 040 - Layout Direct Fix/Ballasted Turnout	$422,634	90.02 - Allocated Contingency
3)	DB-200	Maintenance & Storage Facility DB	Executed Contract Change Order No. 042 - Mainline Rail Material Quantities	$38,000	90.02 - Allocated Contingency
4)	DBB-525	Airport Section Guideway 7 Pier Construction	Executed Change Order No. 004 - Adjustment for Un-used Allowances	$521,728	90.02 - Allocated Contingency
5)	DBB-525	Airport Section Guideway 7 Pier Construction	Executed Change Order No. 005 - CMP Elevation Change, Access to Pier 549-551R	($68,330)	90.02 - Allocated Contingency
			Jan '16 Contingency Drawdown	$145,658	
			Jan'16 - Ending Contingency Balance	**$487.4**	
		Feb'16	**Beg. Balance**	**$487.4**	
1)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 073 - Escal Due to Schedule Impacts Pt 2	($11,750,000)	90.01 - Unallocated Contingency
2)	DBOM-920	Core Systems Contract Design Build O/M	Executed Change Order No. 020 - Airport-City Center Alignment	($490,000)	90.02 - Allocated Contingency
3)	DBOM-920	Core Systems Contract Design Build O/M	Executed Change Order No. 021 - FOC Pearlridge To DTS Patch Panel	($47,500)	90.02 - Allocated Contingency
			Feb '16 Contingency Drawdown	($12,287,500)	
			Feb'16 - Ending Contingency Balance	**$475.1**	
		Mar'16	**Beg. Balance**	**$475.1**	
1)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 076 - Additional Demo of Existing Structures	($245,000)	90.01 - Unallocated Contingency
2)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 077 - Pre-Cast Yard Extended Lease	($518,835)	90.01 - Unallocated Contingency
3)	DB-200	Maintenance & Storage Facility DB	Executed Contract Change Order No. 034 - Credit of CCO 18 Rail Material Storage	$99,030	90.02 - Allocated Contingency
4)	DB-320	Kamehameha Highway Guideway DB	Executed Contract Change Order No. 021 - HDOT Fence in Roadway Median, Transite Pipe at TS Ductbank	($75,215)	90.02 - Allocated Contingency
5)	DB-320	Kamehameha Highway Guideway DB	Executed Contract Change Order No. 022 - HECO Single Line Diagrams	($413,319)	90.02 - Allocated Contingency
6)	DBB-505	Airport Section Utilities	Executed Change Order No. 001 - Added Stub for future Downsprout at Valkenburgh Street and Nimitz Highway	($4,600)	90.03 - Contract Allowance
7)	DBB-505	Airport Section Utilities	Executed Change Order No. 002 - Potholing at Water Line JW1012 conflict	($25,063)	90.03 - Contract Allowance
8)	DBB-505	Airport Section Utilities	Executed Change Order No. 004 - RFCR 00009 - OCIP and Builder's Risk Credit	$303,388	90.03 - Contract Allowance
9)	DBOM-920	Core Systems Contract Design Build O/M	Executed Change Order No. 022 - Obstruction Detection	($330,000)	90.02 - Allocated Contingency
10)	DBOM-920	Core Systems Contract Design Build O/M	Executed Change Order No. 023 - Removal of Station Fire Sprinklers	($72,500)	90.02 - Allocated Contingency
11)	FD-140	West Oahu Stations Group FD	Executed Contract Amendment No. 020 - Elevator Modifications	($43,000)	90.03 - Contract Allowance
12)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 097 - RFOC 00084 Additional Drainage Requirements	($275,000)	90.02 - Allocated Contingency
			Mar '16 Contingency Drawdown	($1,600,114)	
			Mar'16 - Ending Contingency Balance	**$473.5**	
		Apr'16	**Beg. Balance**	**$473.5**	
1)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 079 - 86 Horiz clearance at Conflict 3-665-E1	($5,402)	90.02 - Allocated Contingency
2)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 080 - Unknown Utility 2 inch Gas Line	($16,368)	90.02 - Allocated Contingency
3)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 081 - ATT Ductbank in 705-M1	($6,308)	90.02 - Allocated Contingency
4)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 082 - RFOC 00118 Transite Pipe Removal at Sta 616+61	($4,872)	90.02 - Allocated Contingency
5)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 083 - Guy Wire Mobilizations (RFOC 00121)	($44,119)	90.02 - Allocated Contingency
6)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 084 - HTI Issue at Utility Conflict 602-T1 (RFOC 00125)	($6,200)	90.02 - Allocated Contingency
7)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 085 - LCC Campus Construction Impacts (RFCC 149)	($2,214,613)	90.01 - Unallocated Contingency
8)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 086 - LCC Station Access Construction Impacts (RFCC#149)	($1,447,123)	90.01 - Unallocated Contingency
9)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 087 - RFOC 00130 Hazardous Material at Cutter Building	($42,027)	90.02 - Allocated Contingency
10)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 088 - RFOC 00133 Debris at Shaft 258	($31,792)	90.02 - Allocated Contingency
11)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 089 - RFOC 00134 Shaft 211 650-E1 Conflict	($22,975)	90.02 - Allocated Contingency
12)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 090 - RFOC 00136 Unknown Irrigation Lines at WHS	($2,874)	90.02 - Allocated Contingency
13)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 091 - Issue 00319 AIS Provisional Sum Reconciliation	$3,023,600	90.02 - Allocated Contingency
14)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 092 - RFCR 00028 East Kapolei/UHWO Vertical Clearance Provisions	($512,328)	90.02 - Allocated Contingency
15)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 093 - RFCR 00084 Delete HECO Transformer Pads @ 5 Stations	$6,215	90.02 - Allocated Contingency
16)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 095 - RFCR 00037 Emergency/Walkway - Guideway Areas	($587,110)	90.02 - Allocated Contingency
17)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 096 - RFOC 00029 Unforeseen 24" Storm Drain Line	($300,154)	90.02 - Allocated Contingency
18)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 098 - WOFH Precast Yard Lease Extension to Jun16	($518,836)	90.01 - Unallocated Contingency
19)	DB-200	Maintenance & Storage Facility DB	Executed Contract Change Order No. 044 - Extend Rail Storage Yard Lease	($136,112)	90.02 - Allocated Contingency
20)	DB-200	Maintenance & Storage Facility DB	Executed Contract Change Order No. 045 - Patented Keys, Deletion of Rail Progression System	($28,845)	90.02 - Allocated Contingency
21)	DBOM-920	Core Systems Contract Design Build O/M	Executed Change Order No. 024 - TC Design for Future Platform TWF	($355,000)	90.02 - Allocated Contingency
22)	DBOM-920	Core Systems Contract Design Build O/M	Executed Change Order No. 025 - UPS Transformer Winding Temperature	$15,000	90.02 - Allocated Contingency
23)	DBB-505	Airport Section Utilities	Executed Change Order No. 005 - RFCC 00006 - Impacts Due to Navy ROE Delay	($649,420)	90.03 - Contract Allowance
24)	MM-975	LEED Commissioning Services	Executed Change Order No. 003 - Post Construction Services	($29,990)	90.02 - Allocated Contingency
25)	MI-930	Elevators & Escalators Install/Maint	Executed Change Order No. 002 Elevator Battery Lowering Systems	($162,358)	90.02 - Allocated Contingency
			Apr '16 Contingency Drawdown	($4,080,011)	
			Apr'16 - Ending Contingency Balance	**$469.5**	
		May '16	**Beg. Balance**	**$469.5**	
1)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 078 - Left Turn Farrington Hwy at Tanlokas	($125,000)	90.01 - Unallocated Contingency
2)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 099 - Deletion of Station Platform Girders (RFCR00080)	$451,846	90.02 - Allocated Contingency
3)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 100 - RFOC 00126 - Hazmat Transite Pipe Removal at STA	($48,296)	90.02 - Allocated Contingency
4)	DB-320	Kamehameha Highway Guideway DB	Executed Contract Change Order No. 023 - Provisional Sum - HECO Utility Conflict	($80,000)	90.02 - Allocated Contingency
5)	DB-320	Kamehameha Highway Guideway DB	Executed Contract Change Order No. 024 - Issue 225 HECO Conflict 12-943-E1 Ductbank Constr.	($550,000)	90.02 - Allocated Contingency
6)	DB-320	Kamehameha Highway Guideway DB	Executed Contract Change Order No. 027 - RFOC00077 Station Loads and Configuration Changes - Construction	($610,000)	90.02 - Allocated Contingency
7)	DB-320	Kamehameha Highway Guideway DB	Executed Contract Change Order No. 029 - AIS Provisional Sum Reconciliation Issue 00133	$1,223,824	90.02 - Allocated Contingency
8)	DBB-505	Airport Section Utilities	Executed Change Order No. 006 - RFCR 00002-HTI Scope Revision - Kamehmeha Hwy	$854,172	90.03 - Contract Allowance
9)	FD-530	City Center Guideway Utilities FD	Executed Change Amend No. 008 - Impact Associated with HECO	($900,000)	90.02 - Allocated Contingency

HART Project Contingency Drawdown with Details

Data as of 10/18/16

#	Project No.	Project Desc.	Budget Transfer/Change Description	Contingency Drawdown (+/-)	Contingency Code
			May '16 Contingency Drawdown	$216,546	
			May'16 - Ending Contingency Balance	**$469.7**	
		Jun '16	**Beg. Balance**	**$469.7**	
1)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 102 - Hazardous Materials at Cutter Property	($182,299)	90.02 - Allocated Contingency
2)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 103 - Ho'opili Station Relocation	($832,414)	90.02 - Allocated Contingency
3)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Contract Change Order No. 104 - Contaminated Material at Median	($1,875,000)	90.02 - Allocated Contingency
4)	DBB-271	Farrington Highway Station Group	Executed Change Order No. 004 - Install TPSS Foundation & Switchgear	($785,600)	90.02 - Allocated Contingency
			June '16 Contingency Drawdown	($3,675,313)	
			Jun'16 - Ending Contingency Balance	**$466.0**	
		Jul '16	**Beg. Balance**	**$466.0**	
1)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Change Order No. 101 - RTD Standrd & Directive Dwgs Rev 1.0	($47,745)	90.02 - Allocated Contingency
2)	DB-200	Maintenance & Storage Facility DB	Executed Change Order No. 046 - Relocate Chain-link Fence at OSB	($7,792)	90.02 - Allocated Contingency
3)	DBOM-920	Core Systems Contract Design Build O/M	Executed Change Order No. 026 - TPSS at Civic Center	($727,000)	90.02 - Allocated Contingency
4)	DBOM-920	Core Systems Contract Design Build O/M	Executed Change Order No. 027 - Additional Minor field work	($250,000)	90.02 - Allocated Contingency
5)	DBB-505	Airport Section Utilities	Executed Change Order No. 007 - Delete Sewer Relocation at First Hawaiian Bank	$142,106	90.03 - Contract Allowance
6)	DBB-505	Airport Section Utilities	Executed Change Order No. 008 - Potholling at 1059+45 for Pier 476	($12,103)	90.03 - Contract Allowance
7)	DBB-505	Airport Section Utilities	Executed Change Order No. 009 - Delete HDOT Airport Division Utility Relocation	$106,119	90.03 - Contract Allowance
8)	DBB-505	Airport Section Utilities	Executed Change Order No. 010 - Added Potholing at Piers 434L & 434R	($7,014)	90.03 - Contract Allowance
9)	MI-930	Elevators & Escalators Install/Maint	Executed Change Order No. 002 - Counterweight safeties for 9 machine Room less(MRL) Station Elevators	($853,963)	90.02 - Allocated Contingency
10)	FD-140	West Oahu Stations Group FD	Executed Contract Amendment No. 021 - WOSG Ala Moana Canopy Design	$5,202	90.02 - Allocated Contingency
11)	FD-140	West Oahu Stations Group FD	Executed Contract Amendment No. 022 - Extension of WOSG PMIM Services	($132,886)	90.02 - Allocated Contingency
12)	FD-140	West Oahu Stations Group FD	Executed Contract Amendment No. 023 - Hoopili Septic System	($8,654)	90.02 - Allocated Contingency
13)	FD-340	Kamehameha Highway Stations Group FD	Executed Contract Amendment No. 010 - Misc RFID's items and Revise Sta's/Common Dwgs for Elev	($100,938)	90.02 - Allocated Contingency
14)	FD-340	Kamehameha Highway Stations Group FD	Executed Contract Amendment No. 011 - Redesign/Lowering H2R2 Ramp	($11,936)	90.02 - Allocated Contingency
15)	FD-550	Dillingham Kaka'ako Stations Group FD	Executed Contract Amendment No. 006 - DB Compliance	($323,675)	90.02 - Allocated Contingency
			July '16 Contingency Drawdown	($2,230,279)	
			Jul'16 - Ending Contingency Balance	**$463.8**	
		Aug '16	**Beg. Balance**	**$463.8**	
1)	DB-320	Kamehameha Highway Guideway DB	Executed Contract Change Order No. 033 - Escalation due to schedule Impact	($267,817)	90.02 - Allocated Contingency
			Aug '16 Contingency Drawdown	($267,817)	
			Aug'16 - Ending Contingency Balance	**$463.5**	
		Sep '16	**Beg. Balance**	**$463.5**	
1)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Change Order No. 105 - Emergency Lighting Guideways	$2,492,713	90.02 - Allocated Contingency
2)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Change Order No. 107 - Elimination of West Loch Roadway SC	$595,000	90.02 - Allocated Contingency
3)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Change Order No. 108 - Elimination of WTC Roadway scope	$443,000	90.02 - Allocated Contingency
4)	DB-120	West Oahu Farrington Highway Guideway DB	Executed Change Order No. 109 - Station Load Construct Change Ho'opili	($430,000)	90.02 - Allocated Contingency
5)	DB-320	Kamehameha Highway Guideway DB	Executed Contract Change Order No. 032 - Eliminate Emerg Light GW SON 070913	$1,536,000	90.02 - Allocated Contingency
6)	DB-320	Kamehameha Highway Guideway DB	Executed Contract Change Order No. 034 - HECO Ductline at Pole 25	($275,000)	90.02 - Allocated Contingency
7)	FD-240	Farrington Highway Stations Group-2 FD	Executed Contract Amendment No. 013 - City Fiber	($12,886)	90.02 - Allocated Contingency
8)	MI-930	Elevators & Escalators Install/Maint	Executed Change Order No. 003 - East Kapolei Elevator & Escalator Design Changes	($46,233)	90.02 - Allocated Contingency
9)	MI-930	Elevators & Escalators Install/Maint	Executed Change Order No. 004 - Leeward Community College Hydraulic Oil Cooler Fan	($5,085)	90.02 - Allocated Contingency
10)	MI-930	Elevators & Escalators Install/Maint	Executed Change Order No. 005 - East Kapolei Station Seismic Connection	($12,000)	90.02 - Allocated Contingency
11)	MI-930	Elevators & Escalators Install/Maint	Executed Change Order No. 006 - UH West Oahu Elevator & Escalator Design Change	($3,952)	90.02 - Allocated Contingency
12)	MI-930	Elevators & Escalators Install/Maint	Executed Change Order No. 007 - Ho'opili Elevator Design Changes	$62,950	90.02 - Allocated Contingency
13)	MI-930	Elevators & Escalators Install/Maint	Executed Change Order No. 008 - Aloha Stadium Elevator Cab Changes	$26,000	90.02 - Allocated Contingency
14)	MI-930	Elevators & Escalators Install/Maint	Executed Change Order No. 009 - Aloha Stadium Escalator Change	($74,567)	90.02 - Allocated Contingency
			Sep '16 Contingency Drawdown	$4,295,940	
			Sep'16 - Ending Contingency Balance	**$467.8**	
		Oct '16 - Board Approved Changes Only - Pending Execution	**Beg. Balance**	**$467.8**	
1)	DB-320	Kamehameha Highway Guideway DB	Revision of the Trench Restoration detail for Untility Relocation	$1,140,000	90.02 - Allocated Contingency
2)	DB-120	West Oahu Farrington Highway Guideway DB	RFCC 00113 - HNTB Technical Design Management	($4,517,160)	90.02 - Allocated Contingency
3)	DB-320	Kamehameha Highway Guideway DB	HNTB Technical Design Management	($3,810,560)	90.02 - Allocated Contingency
			Oct '16 Contingency Drawdown	($7,187,720)	
			Oct '16 - Ending Contingency Balance (Pending Execution)	**$460.6**	

Appendix B. Project Cost Reports (data as of Sept. 30, 2016)

Cost reports are run from the HART Contract Management System (CMS)

Project Costs by SCC – Level 2

HART
HONOLULU AUTHORITY for RAPID TRANSPORTATION

Costs Reported as of Month Ending: September 2016

Project Monthly Cost Report by SCC Details

9/30/16

Page: 1 of 3

SCC	Title	A Baseline	B Transfers	C=A+B Current	D Committed Current *	E AFE**	F Changes ID'd***	G Est. At Completion****	H=C-G Variance	I Incurred To Date
		BUDGET			COMMITTED	AFE	ESTIMATE AT COMPLETION			INCURRED
1. Subtotal 10 - 80 SCC Costs										
		0	0	0	600,000	0	0	0	0	0
80.06	Legal; Permits,Review Fees ect..	0	0	0	600,000	0	0	0	0	0
10. Guideway & Track Elements		1,114,215,147	44,642,329	1,158,857,476	1,424,447,923	35,812,361	77,500	1,158,857,476	0	481,046,931
10.02	Guideway: At-grade semi-exclusive	0	17,378	17,378	17,378	17,378	0	17,378	0	17,378
10.04	Guideway: Aerial Structure	1,022,380,671	42,082,252	1,064,462,923	1,339,561,169	26,566,718	77,500	1,064,462,923	0	409,095,913
10.05	Guideway: Built-up fill	0	0	0	0	0	0	0	0	4,588,992
10.08	Guideway: Retained Cut or Fill	7,492,944	(1,056,688)	6,436,256	6,436,256	0	0	6,436,256	0	0
10.09	Track: Direct Fixation	79,347,205	2,664,360	82,011,565	74,204,369	9,197,389	0	82,011,565	0	67,313,772
10.11	Track: Ballasted	3,293,724	(595,849)	2,697,875	2,697,875	0	0	2,697,875	0	0
10.12	Track:Special (Switches, turnouts)	1,700,603	1,530,876	3,231,479	1,530,876	30,876	0	3,231,479	0	30,876
20. Stations,Stops,Terminals,Intermodal		421,804,740	(1,351,143)	420,453,597	303,730,837	1,854,808	208,591	420,453,597	0	8,634,374
20.01	At-grade station, stop, shelter,..	6,111,332	(6,111,332)	0	0	0	0	0	0	0
20.02	Aerial Station, stop, shelter,mall	294,563,457	7,429,453	301,992,910	251,678,915	785,600	0	301,992,910	0	2,062,145
20.06	Automobile parking multi-story str	66,408,765	0	66,408,765	0	0	0	66,408,765	0	0
20.07	Elevators, Escalators	54,721,186	(2,669,264)	52,051,922	52,051,922	1,069,208	208,591	52,051,922	0	6,572,230
30. Support Facilities;Yards,Shops, Admin		92,535,015	22,875,559	115,410,574	115,410,574	19,066,910	(52,816)	115,410,574	0	119,154,465
30.01	Administration Bldg: Office, sales	0	231,250	231,250	231,250	231,250	0	231,250	0	231,250
30.02	Light Maintenance Facility	7,591,888	(9,184)	7,582,704	7,582,704	(4,089)	0	7,582,704	0	7,582,704
30.03	Heavy Maintenance Facility	38,099,138	5,108,668	43,207,806	43,207,806	5,350,776	(118,707)	43,207,806	0	45,522,379
30.04	Storage or Maintenance of Way Buil	7,797,460	955,782	8,753,242	8,753,242	1,017,332	65,891	8,753,242	0	8,826,848
30.05	Yard and Yard Track	39,046,529	16,589,043	55,635,572	55,635,572	12,471,641	0	55,635,572	0	56,991,284
40. Sitework & Special Conditions		983,178,121	36,791,913	1,019,970,034	734,815,645	167,639,971	(1,374,679)	1,019,970,034	0	623,675,729
40.01	Demolition, Clearing, Earthwork	29,980,158	(9,066,868)	20,913,290	10,804,041	1,505,797	(155,082)	20,913,290	0	5,358,244
40.02	Site Utilities, Utility Relocation	299,449,756	(252,106)	299,197,650	197,004,333	5,019,848	(783,541)	299,197,650	0	142,263,609
40.03	Haz. mat'l, contam'd soil removal	9,199,237	(3,172,433)	6,026,804	7,707,872	4,448,872	(305,336)	6,026,804	0	4,691,737
40.04	Environmental Mitigation	26,979,122	4,990,976	31,970,098	16,557,672	16,864	0	31,970,098	0	11,391,864
40.05	Site structures, retaining walls,	7,998,960	11,000,743	18,999,703	14,696,105	4,749,257	0	18,999,703	0	9,236,197
40.06	Pedestrian/bike access/landscaping	41,073,897	(8,120,587)	32,953,310	3,326,175	(2,019,259)	(138,000)	32,953,310	0	3,568,704
40.07	Auto, bus, van accessways	181,979,367	(18,630,167)	163,349,200	37,510,873	1,443,357	0	163,349,200	0	25,262,824
40.08	Temporary Facilities/Indirect Cost	386,517,624	60,042,355	446,559,979	447,208,575	152,475,234	7,280	446,559,979	0	421,847,550
80.07	Surveys, Testing, Investigation, I	0	0	0	0	0	0	0	0	55,000

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*** Current Committed = Original Contract + CCO/Amendment**

**** AFE = Authorized For Expenditure (Latest NTP Amounts or equal to current commitment Plus Executed Change Orders/Amendments)**

***** Changes Identified= Pending + Probable + Potential Changes**

****** Est. At Completion = Original Contract + CCO/Amendments + Changes Identified**

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HART
HONOLULU AUTHORITY for RAPID TRANSPORTATION

Costs Reported as of Month Ending: September 2016

Project Monthly Cost Report by SCC Details

9/30/16

		A	B	C=A+B	D	E	F	G	H=C-G	I
		BUDGET			COMMITTED	AFE	ESTIMATE AT COMPLETION			INCURRED
SCC	Title	Baseline	Transfers	Current	Current *	AFE**	Changes ID'd***	Est. At Completion****	Variance	Incurred To Date
1. Subtotal 10 - 80 SCC Costs										
50. Systems		221,284,301	27,911,531	249,195,832	249,499,816	27,680,099	(433,806)	249,195,832	0	70,312,604
50.01	Train control and signals	81,982,556	24,381,140	106,363,696	106,363,696	23,961,050	(446,391)	106,363,696	0	17,704,714
50.02	Traffic signals and crossing prot.	10,458,226	(206,890)	10,251,336	0	0	0	10,251,336	0	0
50.03	Traction power supply: substation	29,500,926	1,816,880	31,317,806	31,317,806	397,515	48,000	31,317,806	0	6,114,252
50.04	Traction power distribution: cate	32,878,150	5,059,838	37,937,988	33,029,111	7,941,115	0	37,937,988	0	24,764,174
50.05	Communications	53,691,339	6,133,477	59,824,816	59,824,816	5,730,419	(35,415)	59,824,816	0	21,589,142
50.06	Fare collection system and equipme	9,159,277	(9,112,878)	46,399	15,510,597	(10,350,000)	0	46,399	0	140,322
50.07	Central Control	3,613,827	(160,036)	3,453,791	3,453,791	0	0	3,453,791	0	0
60. ROW, Land, Existing Improvements		197,397,947	515,616	197,913,563	129,142,326	2,066,815	5,000,000	197,913,563	0	124,448,133
60.01	Purchase or lease of real estate	179,360,664	237,816	179,598,480	108,446,849	39,015	5,000,000	179,598,480	0	109,289,631
60.02	Relocation of existing households	18,037,283	277,800	18,315,083	20,695,477	2,027,800	0	18,315,083	0	15,158,502
70. Vehicles		186,829,020	4,645,501	191,474,521	191,474,521	1,446,224	0	191,474,521	0	51,075,860
70.01	Light Rail	166,721,386	5,847,191	172,568,577	172,568,577	1,446,224	0	172,568,577	0	40,117,914
70.06	Non-revenue vehicles	14,346,923	(1,320,375)	13,026,548	13,026,548	0	0	13,026,548	0	10,957,946
70.07	Spare parts	5,760,711	118,685	5,879,396	5,879,396	0	0	5,879,396	0	0
80. Professional Services		1,087,830,119	39,729,426	1,127,559,545	1,100,296,873	113,626,046	(11,967,590)	1,127,559,545	0	869,225,394
80.01	Preliminary Engineering	94,055,262	24,644,185	118,699,447	109,567,127	20,905,682	0	118,699,447	0	104,455,137
80.02	Final Design	228,321,632	(3,721,482)	224,600,150	208,573,909	33,754,483	(1,584,278)	224,600,150	0	176,596,223
80.03	Project Management Design & Cons	363,849,768	(28,315,655)	335,534,113	408,738,547	84,939,428	(9,176,494)	335,534,113	0	348,665,752
80.04	Constr. Admin. & Management	199,656,728	(34,420,307)	165,236,421	131,252,384	(44,789,988)	0	165,236,421	0	102,180,657
80.05	Professional Liability & other Ins	46,549,724	28,781,938	75,331,662	43,174,657	700,500	0	75,331,662	0	35,581,326
80.06	Legal; Permits,Review Fees ect..	67,641,005	(3,206,464)	64,434,541	39,894,525	6,632,053	0	64,434,541	0	24,705,263
80.07	Surveys, Testing, Investigation, I	21,759,336	47,250,396	69,009,732	101,279,246	1,574,480	(431,009)	69,009,732	0	38,373,791
80.08	Start up	65,996,664	8,716,816	74,713,480	57,816,477	9,909,409	(775,809)	74,713,480	0	38,667,247
Subtotal:		4,305,074,410	175,760,733	4,480,835,143	4,249,418,516	369,193,234	(8,542,801)	4,480,835,143	0	2,347,573,490
2. NTP										
NTP Authorized For Expediture		0	0	0	0	2,328,563,143	0	0	0	0
NTP	Notice To Proceed	0	0	0	0	2,328,563,143	0	0	0	0
Subtotal:		0	0	0	0	2,328,563,143	0	0	0	0

*** Current Committed = Original Contract + CCO/Amendment**

**** AFE = Authorized For Expenditure (Latest NTP Amounts or equal to current commitment Plus Executed Change Orders/Amendments)**

***** Changes Identified= Pending + Probable + Potential Changes**

****** Est. At Completion = Original Contract + CCO/Amendments + Changes Identified**

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HONOLULU AUTHORITY for RAPID TRANSPORTATION

Costs Reported as of Month Ending: September 2016

Project Monthly Cost Report by SCC Details

9/30/16

		A	B	C=A+B	D	E	F	G	H=C-G	I
		BUDGET			COMMITTED	AFE	ESTIMATE AT COMPLETION			INCURRED
SCC	Title	Baseline	Transfers	Current	Current *	AFE**	Changes ID'd***	Est. At Completion****	Variance	Incurred To Date
3. Contingency										
CNTR	Allocated Contingency	541,689,343	(99,786,019)	441,903,324	6,657,078	3,031,222	295,201,442	441,903,324	0	691,455
90.02	Allocated Contract Contingency	540,101,329	(102,595,441)	437,505,888	4,031,222	3,031,222	295,446,744	437,505,888	0	691,455
90.03	Allowances	1,588,014	2,809,422	4,397,436	2,625,855	0	(245,302)	4,397,436	0	0
90.07	Known Change Contingency	0	0	0	0	0	0	0	0	0
PRJ	Unallocated Contingency	101,871,170	(75,974,714)	25,896,456	0	0	0	25,896,456	0	0
90.01	Unallocated Project Contingency	101,871,170	(75,974,714)	25,896,456	0	0	0	25,896,456	0	0
Subtotal:		643,560,513	(175,760,733)	467,799,780	6,657,078	3,031,222	295,201,442	467,799,780	0	691,455
4. Finance Charges - Eligible										
OTH	Finance Charges	173,058,243	0	173,058,243	0	0	0	173,058,243	0	0
100.1	Finance Charges:Project-Eligible	173,058,243	0	173,058,243	0	0	0	173,058,243	0	0
Subtotal:		173,058,243	0	173,058,243	0	0	0	173,058,243	0	0
FTA TOTAL PROJECT COSTS		**5,121,693,166**	**(0)**	**5,121,693,166**	**4,256,075,594**	**2,700,787,600**	**286,658,642**	**5,121,693,166**	**0**	**2,348,264,945**
4. Finance Charges -Ineligible Costs										
FINC	Finance Charges	42,000,000	0	42,000,000	0	0	0	42,000,000	0	0
100.2	FTA Non-Eligible Costs	42,000,000	0	42,000,000	0	0	0	42,000,000	0	0
Subtotal:		42,000,000	0	42,000,000	0	0	0	42,000,000	0	0
INELIGIBLE COSTS		**42,000,000**	**0**	**42,000,000**	**0**	**0**	**0**	**42,000,000**	**0**	**0**
Total Project:		**5,163,693,166**	**(0)**	**5,163,693,166**	**4,256,075,594**		**286,658,642**	**5,163,693,166**	**0**	**2,348,264,945**

* Current Committed = Original Contract + CCO/Amendment

** AFE = Authorized For Expenditure (Latest NTP Amounts or equal to current commitment Plus Executed Change Orders/Amendments)

*** Changes Identified= Pending + Probable + Potential Changes

**** Est. At Completion = Original Contract + CCO/Amendments + Changes Identified

Report: M_CW_pmcc_monthly_Scc_details - No. 23

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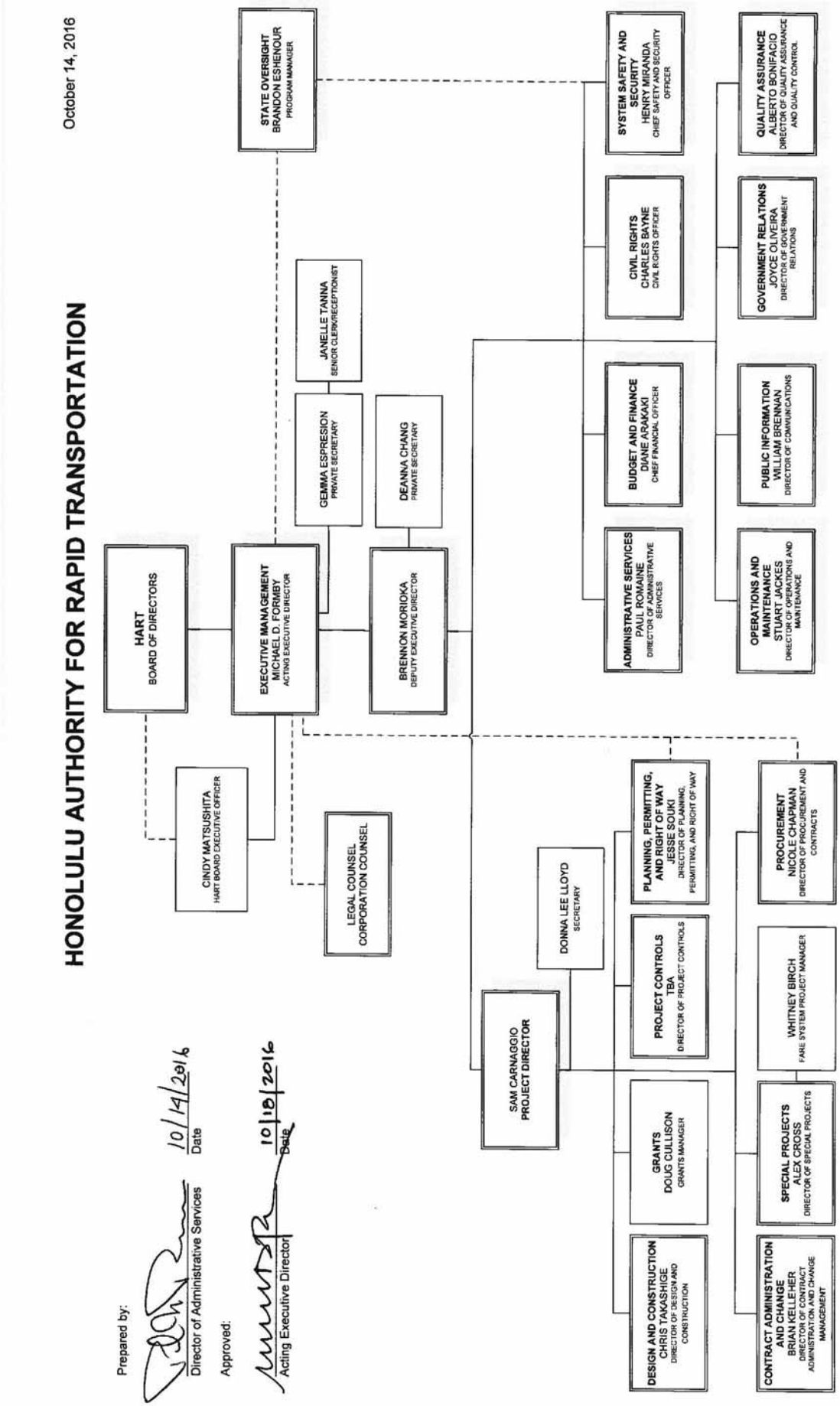
Appendix C. Vehicle Car Shell Progress Tracker

HONOLULU AB R.C. FABRICATION TRACKER

TRAIN NUMBER	CAR SHELL SERIAL NUMBER	CENTER ROOF ASSY & WELDING	CENTER FLOOR ASSY & WELDING (2 PANEL SET)	CENTER ROOF MACHINING	CENTER FLOOR MACHINING (2 PANEL SET)	ROOF ASSY & WELDING	ROOF WELDING PARTS	FINAL ROOF INSPECTION	UNDER FRAME ASSY & WELDING	UNDERFRAME WELDING PARTS	UNDERFRAME INSPECTION	UNDER FRAME CLEANING AND PAINTING	CAR SHELL ASSY & WELDING Station #7	CAR SHELL ASSY & WELDING Station #8	CAR SHELL CALIBRATION & TESTING	WATER TEST	PAINTING	INSULATION	FLOORING	FRONT MASK (E CAR ONLY)	CAR SHELL FINAL INSPECTION	COMPLETED CAR SHELL	FAI	CRADLES INSTALLED	DATE SHIPPED FROM RC	DATE OF PORT DEPARTURE	DATE OF ETA TO PITTSBURG
#1	M/001 (CAR 1)															N/A				N/A							
	E/001 (CAR 2)															N/A					N/A						
	M/002 (CAR 3)															N/A				N/A	PARTIAL		N/A				
	E/002 (CAR 4)	E/003		E/003												N/A							N/A				
#2	M/003 (CAR 5)															N/A				N/A			N/A				
	E/003 (CAR 6)	USED FOR E/2		USED FOR E/2												N/A							N/A				
	M/004 (CAR 7)															N/A				N/A			N/A				
	E/004 (CAR 8)															N/A							N/A				
#3	M/005 (CAR 10)															N/A				N/A			N/A				
	E/006 (CAR 11)															N/A							N/A				
	M/006 (CAR 12)															N/A				N/A			N/A			04/21/16	06/06/16
	E/007 (CAR 13)															N/A			04/28/16	04/28/16	04/28/16	04/29/16	N/A	04/29/16	04/29/16	05/03/16	06/06/16
#4	M/007 (CAR 14)															N/A	05/10/16	05/16/16	05/18/16	N/A	05/19/16	05/23/16	N/A	05/23/16	05/26/16	06/06/16	07/11/16
	E/008 (CAR 15)													04/29/16	05/02/16	N/A	05/23/16	05/30/16	05/31/16	05/30/16	05/30/16	05/31/16	N/A	05/31/16	05/31/16	06/06/16	07/11/16
	M/008 (CAR 16)											05/02/16	05/06/16	05/10/16	05/13/16	N/A	06/13/16	06/16/16	06/22/16	N/A	06/23/16	06/24/16	N/A	06/27/16	06/27/16	07/09/16	08/03/16
	E/009 (CAR 17)								05/09/16	05/13/16	05/16/16	05/20/16	05/27/16	06/13/16	06/16/16	N/A	06/23/16	06/27/16	06/28/16	06/27/16	06/29/16	06/29/16	N/A	06/30/16	06/30/16	07/09/16	08/03/16
#5	M/009 (CAR 18)								06/09/16	06/16/2016	06/17/2016	06/24/16	07/01/16	07/07/16	07/08/16	N/A	07/23/16	07/27/16	07/28/16	N/A	07/29/16	07/29/16	N/A	07/29/16	07/29/16	08/13/16	09/19/16
	E/005 (CAR 9)											07/08/16				N/A	07/16/16	07/21/16	07/25/16	07/22/16	07/26/16	07/26/16	N/A	07/26/16	07/27/16	08/13/16	09/19/16
	M/010 (CAR 20)				05/27/16				06/24/16	06/30/16	07/01/16	07/13/16	07/15/16	07/22/16	07/25/16	N/A	08/05/16	08/05/16	08/29/16	N/A	08/30/16	08/30/16	N/A	08/30/16	08/31/16	09/10/16	10/20/16
	E/010 (CAR 19)					04/29/16	05/11/16	05/12/16	06/17/16	06/24/16	06/27/16	07/04/16	07/11/16	07/15/16	07/18/16	N/A	07/29/16	08/03/16	08/03/16	07/30/16	08/04/16	08/04/16	N/A	08/04/16	08/05/16	08/13/16	09/19/16
#6	M/011 (CAR 21)		05/31/16		06/24/16	06/06/16	06/13/16	07/19/16	07/07/16	07/18/16	07/31/16	07/22/16	07/29/16	08/26/16	08/30/16	N/A	09/19/16	09/22/16	09/24/16	N/A	09/26/16	09/26/16	N/A	09/26/16	09/27/16	10/07/16	10/11/16 ETA HOU
	E/011 (CAR 22)		05/11/16		06/30/16	05/20/16	05/26/16	09/09/16	07/26/16	07/29/16	08/26/16	09/06/16	09/09/16	09/16/16	09/19/16	N/A	09/22/16	09/24/16	09/27/16	09/28/16	09/29/16	09/29/16	N/A	09/29/16	09/30/16	10/07/16	10/11/16 ETA HOU
	M/012 (CAR 23)	04/29/16	06/27/16	06/01/16	07/04/16	06/17/16	06/24/16	07/13/16	07/14/16	07/19/16	07/22/16	07/25/16	08/30/16	09/06/16	09/09/16	N/A	09/22/16	09/26/16	09/27/16	N/A	09/28/16	09/29/16	N/A	09/29/16	09/30/16	10/07/16	10/11/16 ETA HOU
	E/012 (CAR 24)		06/16/16	04/29/16	06/30/16	06/22/16	06/27/16	09/06/16	08/30/16	09/09/16	09/13/2016	09/19/16	09/15/16	09/22/16	09/26/16	N/A	10/10/16	10/13/16	10/19/16	10/17/16	10/19/16	10/20/16	N/A	10/20/16	10/21/16		
#7	M/013 (CAR 25)	05/31/16	07/05/16	06/24/16	09/02/16	07/14/16	07/21/16	09/07/16	09/07/16	09/22/16	09/23/16	09/26/16	09/29/16	10/03/16	10/06/16	N/A	10/19/16	10/21/16	10/24/16	N/A	10/25/16	10/25/16	N/A	10/25/16	10/26/16		
	E/013 (CAR 26)	05/23/16	07/19/16	06/24/16	09/02/16	07/01/16	07/08/16	07/25/16	09/26/16	09/29/16	09/30/16	10/06/16	10/17/16	10/22/16	10/25/16	N/A	11/07/16	11/09/16	11/12/16	11/11/16	11/14/16	11/14/16	N/A	11/15/16	11/16/16		
	M/014 (CAR 27)	06/10/16	08/23/16	07/08/16	09/09/16	07/29/16	08/23/16	09/08/16	09/16/16	09/23/16	09/26/16	09/30/16	10/08/16	10/13/16	10/15/16	N/A	10/25/16	10/26/16	10/27/16	N/A	10/28/16	10/28/16	N/A	10/28/16	10/28/16		
	E/014 (CAR 28)	06/10/16	09/09/16	06/24/16	10/03/16	08/29/16	09/05/16	09/06/16	10/03/16	10/11/16	10/13/16	10/18/16	10/27/16	11/03/16	11/07/16	N/A	11/12/16	11/16/16	11/19/16	11/18/16	11/21/16	11/21/16	N/A	11/22/16	11/22/16		
#8	M/015 (CAR 29)	06/30/16	09/09/16	09/09/16	10/03/16	09/15/16	09/22/16	09/23/16	10/24/16	11/02/16	11/04/16	11/09/16	11/14/16	11/19/16	11/22/16	N/A	11/25/16	11/30/16	12/05/16	N/A	12/06/16	12/06/16	N/A	12/07/16	12/07/16		
	E/015 (CAR 30)	06/24/16	09/30/16	07/21/16	10/19/16	10/07/16	10/13/16	10/14/16	10/13/16	10/21/16	10/22/16	10/26/16	11/05/16	11/09/16	11/11/16	N/A	11/21/16	11/24/16	11/28/16	11/25/16	11/29/16	11/29/16	N/A	11/30/16	11/30/16		
	M/016 (CAR 31)	07/11/16	09/30/16	09/09/16	10/19/16	10/13/16	10/17/16	10/18/16								N/A				N/A			N/A				
	E/016 (CAR 32)	07/12/16	10/07/16	09/09/16		10/26/16	11/03/16	11/04/16								N/A							N/A				
#9	M/017 (CAR 33)	09/09/16	10/13/16	10/05/16												N/A				N/A			N/A				
	E/017 (CAR 34)	09/20/16	10/14/16	10/05/16												N/A							N/A				
	M/018 (CAR 35)	10/18/16	10/20/16													N/A				N/A			N/A				
	E/018 (CAR 36)	10/07/16														N/A							N/A				
#10	M/019 (CAR 37)															N/A				N/A			N/A				
	E/019 (CAR 38)															N/A							N/A				
	M/020 (CAR 39)															N/A				N/A			N/A				
	E/020 (CAR 40)															N/A							N/A				

COMPLETE	
IN-PROCESS OR NEXT STATION	
CHANGED	
TEST UNIT	
DATES	ESTIMATED TIME OF COMPLETION OR SHIPPING

*=Notes:	
? = Notes:	roof welding parts HVAC

Date: 10/24/2016

Appendix D. Project Organization Chart