City Center Utilities Relocation Project

Update for HART Board of Directors

September 24, 2020
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Purpose

Provide the HART Board of Directors an information briefing on or efforts to resolve design challenges with our City partners.

- Come to consensus on Course of Action and design criteria for the Dillingham Corridor.
- Address unanticipated clearance concerns throughout the course of construction.
Executive Summary

- CCUR design to date necessitated variances in select locations due to congestion and the proximity of the various utilities. The City cannot accept this approach and requires the design provide minimum clearances to ensure their ability to complete maintenance.

- There are 3 conceptual alternatives to current design that will meet the clearance requirements.

- Alternatives require changes to current design criteria:
  - Limit RoW takes
  - Underground all utilities
  - Avoid impact to 42” waterline
  - Avoid supplemental EIS / RoD / PA / PUC

- New design results in considerable schedule delays and costs.
- Construction on hold on Dillingham pending redesign.
- Construction beyond Dillingham contingent upon ability to resolve field clearance issues.
Relocate Applicable Utilities off Dillingham

- Only Transmission-type infrastructure could be re-routed in this manner. This limits the candidates to HECO 138kV and the AT&T fibers.
- All other non-City infrastructure is Distribution and must remain in the corridor.
- HECO 46kV is deemed sub-transmission but has numerous laterals and is designed to distribute for future requirements along Dillingham.

**HECO 138kV:**

- To relocate off alignment requires a PUC request. (> 1 Year).
- King Street was not included in the original Area of Potential Effect (APE). An APE amendment would be required.
  - The relocation of the high voltage lines to King Street was evaluated several years ago and eliminated as an option.
Relocate Applicable Utilities off Dillingham

AT&T Transmission Line:

- Relocation does not provide the needed real estate to meet all the clearance requirements.

- City/HART would have to ensure that the AT&T current alignment located on Dillingham Blvd. could be relocated to a side street, which includes private property i.e. Colburn St.

- Colburn Street was not included in the original Area of Potential Effect (APE). An APE amendment would be required.

- AT&T to consider the relocation, given limited access on side streets and current structures on Dillingham Blvd.

- In locations where AT&T occupies usable space, trenchless technology could be used to install deep and out of the way of all.
Consider multi-use/compartamentalized manholes for communication lines

- Using multi-use structures will worsen the situation. Most of the pinch points are at manhole locations, where we need smaller structures, not larger ones.
- In current design, utilities do share duct banks in several locations (HTI-OTWC-HECO and AT&T-TS/SL), as well as structures (HTI and OTWC), where possible.
Consider relocating HTI lines on poles or possibly on the guideway once built

- Utilities on the guideway superstructure pose a security and access issue:
  - Security and access concerns for both HART and the facility owner
  - Sequencing - a temporary location will be required as the guideway superstructure has yet to be installed
  - Utility ROE and agreement needed with DTS
- DTS will need to be part of this determination as they will operate and maintain the rail system.

- The design criteria provided to date has been to underground all utilities. The decision to leave certain utilities aerial allows for a Guideway shift option. (Option presented in subsequent slide).
Offset/Move 42” Waterline to Achieve Clearances

- Current design criteria has been to avoid relocation and interaction with 42” waterline. Any interaction/modification/move of this line will result in substantial cost and schedule impact.
  - AECOM is currently exploring options or the feasibility of offsetting from existing W42 alignment. HART has added straddle bent structures to replace many center piers to eliminate the relocation of W42, due to relocation costs.
  - There are eleven (11) locations on Dillingham Blvd. currently evaluated for options due to clearance requirements for the 42” waterline.
  - There is one (1) clearance location being evaluated for a 12” waterline.
  - One example is shown in the following slides
Evaluate impacts and develop a schedule/timelines/milestones for new design and work

- Schedule and timelines are dependent on each alternative selected. Examples are provided on the included clearance matrix.
- Major impacts to cost and schedules will be presented to the HART Board and for public information.
- Minimum schedule impacts for any new right-of-way is at least 10 months and can exceed 2 ½ years dependent on negotiations, Eminent Domain and potential for PostRoD.
- CCUR has always been on the critical path to the opening of the rail and these delays will directly impact the schedule of the City Center Guideway and Stations build.
Alternate Courses of Action for Dillingham

1. Small RoW takes and relocation of existing utilities to address extremely congested areas.
   1. Basis of alternate matrix provided with this presentation.

2. Guideway shift with minimal RoW takes allowing some utilities to remain aerial and alleviate congestion for future needs.
   1. Example is Mauka shift at HCC

3. Full length RoW take the length of Dillingham in order to underground all utilities.

*Note: Any path forward on Dillingham will require a revised Basis of Design
Kalihi and Dillingham

CoA #1 - Small RoW Takes
CoA #1 - Small RoW Takes

LOCATION 7

ALT. 1 - Shift HECO facilities to 80 m, move HT1 MH out of ROW (mauka), request BWS variance or Horiz. Direct Drill AT&T to dir w42
ALT. 2 - Shift HECO facilities to 80 m, move HECO 12kV MH out of ROW (mauka), request BWS variance or Horiz. Direct Drill AT&T to dir w42
ALT. 3 - Shift HECO facilities to 80 m, move HECO 12kV MH out of ROW (raeana), request BWS variance or Horiz. Direct Drill AT&T to dir w42
ALT. 4 - Shift HECO facilities to 80 m, Micro-Tunnel 12kV, request BWS variance or Horiz. Direct Drill AT&T to dir w42

LOCATION 6

ALT. 1 - Shift HECO facilities to dir 336, move HT1 MH out of ROW (mauka), request BWS variance or Horiz. Direct Drill AT&T to dir w42
ALT. 2 - Shift HECO facilities to dir 336, move HECO 12kV MH out of ROW (mauka), request BWS variance or Horiz. Direct Drill AT&T to dir w42
ALT. 3 - Shift HECO facilities to dir 336, move HECO 12kV MH out of ROW (mauka), request BWS variance or Horiz. Direct Drill AT&T to dir w42
ALT. 4 - Shift HECO facilities to dir 336, Micro-Tunnel 12kV, request BWS variance or Horiz. Direct Drill AT&T to dir w42

Colburn and Dillingham

Notes:
- Construct New Precast Concrete Manhole per HECO add 2017 Std. Sec. 5-1
- Construct New Sewer L笱er per Sewer Latest Schedule and per Detals 6-6 on SHEET I-80006
- Construct New Sewer Reinforced concrete pipe per HECO Std. Sec. 5-53
- Aboveground Exposed Sewer Horizontal Sewer Strands PSPRSA15 in SHEET I-80005
- Implementation of Unified Sewer Nematode
CoA #2 - Partial Guideway Shift
HCC Frontage - Dillingham

CONCEPT FOR DISCUSSION PURPOSES ONLY
CoA #3 - Additional RoW

- Typical section shows a location where a straddle bent was proposed
- Typically straddle bents were avoided due to size and costs
- Center piers typically trigger more utility relocations
- 20’ of additional ROW needed to meet all C&C clearance requirements
- Additional cost to cures (impacts to existing buildings) are likely
Additional ROW Option

Station 1329
Looking Ewa
(for clearance needs)
(Utility placement under road
varies along Dillingham)

Additional row needed for utilities

Insufficient space for new utility

Guideway pier (typ)
## Pros & Cons

<table>
<thead>
<tr>
<th>Option</th>
<th>Small ROW Takes</th>
<th>Partial Guideway Shift</th>
<th>Additional ROW</th>
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| **Pros** | • Most of the designs previously reviewed by C&C and Utilities  
• Current scope already vetted for environmental issues  
• No trigger for PUC or SEIS | • No clearance variance needed  
• Eliminate scope of work by maintaining OH lines on the makai side  
• Provide more space by relocating center columns  
• Minimize the guideway shift to Area 1C (vs. all of Dillingham) | • Provides needed space  
• No clearance variances needed  
• Minimizes congestion in design  
• Addressed current and potential for future capacity for Dillingham Blvd. |
| **Cons** | • Schedule and cost increase  
• Timeframe for the smaller ROW takes still lengthy  
• Still requires a design reset in Areas 1A, 1B, and 1C  
• Additional variances required from others  
• Dillingham remains very congested | • Significant schedule and cost increase  
• Trigger for supplemental EIS/PostROD  
• Attempt to minimize ROW acquisition  
• Change cost for realignment of guideway  
• Time loss for acquisitions  
• Keeping OH lines on makai side  
• Design reset | • Significant schedule and cost increase  
• Trigger for supplemental EIS/PostROD  
• Significant unknowns for ROW acquisitions  
• Time loss for acquisitions  
• Design reset |
# Comparison of CoA

<table>
<thead>
<tr>
<th>Impact\Alternate</th>
<th>Small RoW Takes</th>
<th>Partial Guideway Shift</th>
<th>Additional RoW</th>
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<tbody>
<tr>
<td>Cost</td>
<td>+</td>
<td>+</td>
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<tr>
<td>Schedule</td>
<td>+</td>
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<td>Stakeholder Impact</td>
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<td>Future Access</td>
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Legend:  
+ Better  
- Worse  
o Same  

* Relative to other options
Rough Order Magnitude Cost/Schedule Impact for Courses of Action

- Small ROW Takes
  - Cost: $
  - Delay: 9 month to 2 yrs.

- Partial Guideway Shift
  - Cost: $$
  - Delay: 1.5 – 3 yrs.

- Not Desirable
  - Additional ROW
    - Cost: $$$
    - Delay: 2.5 – 4 yrs.

*Detailed Cost Estimates to be Developed*
Impacts to Current Contract

- Direction to cease work on Dillingham has been provided to Nan. Dillingham to be returned to Full Access condition by November.

- Ability to move forward with work on Dillingham using current contract to be evaluated based on resolution of design.

- HART’s ability to proceed with CCUR in other areas is pending IFC’s and determination of utility conflict resolution as discussed on the following slides.
Continuing Work in Area 2

- **Current Status (53.5%)**
  - At near standstill awaiting pending items

- **Pending to Complete**
  - Finalization of HECO design (Exp. 09/18/20)
  - Finalization of Traffic Signal/Street Light IFC (Dec 2020)

- **Remarks**
  - With design finalization, relocation and new duct install can be completed
  - Cable install of HECO and third parties pending final install and proofing of duct
  - No major roadblocks expected
Continuing Work in Area 3

- **Current Status (5.3%)**
  - Jet Grouting continues in advance of major relocate efforts

- **Pending to Continue**
  - Finalize Design Change Notice for descope of 46kV
  - TS/SL IFC (Nov 2020)

- **Remarks**
  - High probability of encountering unforeseen utility conflicts
  - Restricted clearances will require resolution of variance concerns prior to commencing work
Continuing Work in Area 4

- **Current Status (0%)**
  - Wet IFC’d
  - Nan working towards pre-construction Trenching Permit (TP)

- **Pending to Complete**

- **Remarks**
  - High probability of encountering unforeseen utility conflicts
  - Restricted clearances will require resolution of variance concerns prior to commencing work
Continuing Work in Area 5

- **Current Status (1%)**
  - Wet IFC’d. Dry IFC’d.
  - Nan working towards pre-construction TP

- **Pending to Complete**

- **Remarks**
  - High probability of encountering unforeseen utility conflicts
  - Restricted clearances will require resolution of variance concerns prior to commencing work
Continuing Work in Area 6

- **Current Status (5.9%)**
  - Wet IFC’d
  - Nan working towards pre-construction TP

- **Pending to Complete**

- **Remarks**
  - High probability of encountering unforeseen utility conflicts
  - Restricted clearances will require resolution of variance concerns prior to commencing work
CCUR II Plan Forward

- HART is assessing the continuation of this procurement
- Addendum has been issued which delays the submittal of pricing by a month and a half to November 19, 2020
- Timely resolution of Dillingham design and utility conflicts in Areas 3 through 6 required in order to continue with this solicitation
- Delays in resolution will result in cancellation of current RFP and re-issue with IFC drawings.
Conclusions

Consensus required with the City on:

- Course of Action for Dillingham and supporting Basis of Design
- Addressing unanticipated clearance concerns throughout the course of construction
- HART’s intended action is to:
  - Halt construction on Dillingham pending finalization of design as agreed with the City
  - Proceed with CCUR in Areas 2-6 pending IFC’s and determination as to how to come to consensus with the City on anticipated utility conflicts
Mahalo!