



San Francisco Roadway Bridges Project

Board of Directors
October 6, 2016
Agenda Item 12



Overview

- Project Scope
- Location
- Construction Contract
- Challenges
- Unanticipated Site Conditions
- Status and Next Steps



Project Scope

- Remove and replace three existing 112-year old highway bridges over the Caltrain tracks at the following locations:
 - 22nd Street
 - 23rd Street
 - Paul Avenue
- Provide temporary support for existing utilities on the bridges.
- Maintain revenue service during construction.

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Location



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Existing Bridges



22nd Street



23rd Street



Paul Avenue

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Construction Contract

- Contract Awarded: December 2014
- Contract Amount: \$8.4 million
- Construction Start: March 2015
- Anticipated completion: April 2017

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Challenges

- Existing bridges supported multiple utilities.
- Proximity of construction work to existing tracks and 22nd St. Station.
- Extensive detours of pedestrian and vehicular traffic required to perform construction work.

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Existing Utilities Supported by Bridges



22nd Street Bridge

Utility Lines Supported
on Existing Structure



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Temporary Utility Support



Temporary Utility Support Erection



Temporary Utility Support



Transfer of Existing Utilities to Temporary Utility Support

Temporary Utility Support in Place





Proximity to Tracks



Drilled Pile Installation

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Proximity to Tracks



Limits Contractor's Operations

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Vehicular Detours



Paul Avenue Detour

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Unanticipated Site Conditions

- Existing bridge conditions differed from what was expected, resulting in increased demolition effort.
- Differing subsurface conditions increased effort for pile installation.
- Unexpected hazardous materials required special handling and off haul of material.
- Differing site conditions for utilities required additional utility modifications.

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Bridge Demolition



Existing concrete deck thicker than expected

Longer duration to remove concrete deck



Bridge Demolition



Flammable unknown substance altered removal methods

Modified removal method resulted in longer demolition duration





Pile Installation



Subsurface conditions more difficult than expected

Resulted in extended installation duration



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Hazardous Material



Serpentine with Elevated Levels of Naturally Occurring Asbestos

Special Stockpiling of Material for Appropriate Disposal



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Existing Configuration of Utilities



Design modifications made to properly connect to existing utilities

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Status and Next Steps

- 23rd Street Bridge was completed in April 2016
- Paul Ave. Bridge to be completed by Fall 2016
- 22nd Street Bridge to be completed by Spring 2017

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Questions?

