

**Washington State Legislature
Joint Transportation Committee (JTC)
with Association of Washington Cities (AWC)**

**Road-Rail Conflicts
Study Context**



Everett Washington

21 June 2016

Bond Street / Forgotten Creek Pedestrian Access



Bond Street / Forgotten Creek Pedestrian Access – Vicinity Map



SCALE: 1" = 80'

PROJECT: 2013 BOND STREET WORK SHEET
 DATE: 12/17/2013 8:30 AM
 DRAWN BY: J. W. WOOD
 CHECKED BY: J. W. WOOD
 DATE: 12/17/2013 8:30 AM
 PROJECT: 2013 BOND STREET WORK SHEET
 DATE: 12/17/2013 8:30 AM
 DRAWN BY: J. W. WOOD
 CHECKED BY: J. W. WOOD
 DATE: 12/17/2013 8:30 AM

NO	DATE	APRVD	REVISION
BID	DATE	APRVD	CONST
ACTION:	DATE	APRVD	ACTION: DATE APRVD

Manager	By: J. W. WOOD
Checked	By: J. W. WOOD
Drawn	By: J. W. WOOD
DATE	12/17/2013 8:30 AM
PROJECT	2013 BOND STREET WORK SHEET

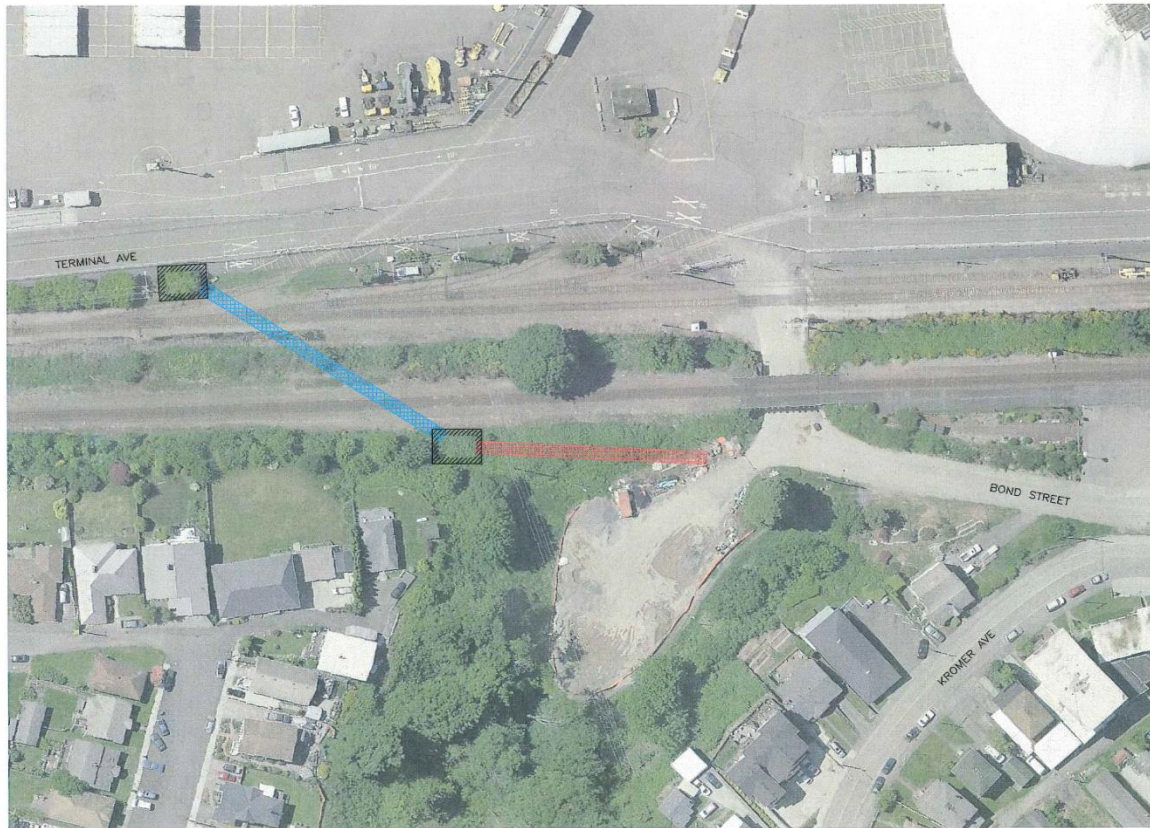


FORGOTTEN CREEK TRAIL
RAIL CROSSING CONCEPTS

BOND STREET/
TERMINAL AVENUE VICINITY

Sheet No.	1
Sheet No.	1
Sheet No.	25

Bond Street / Forgotten Creek Overcrossing Alternatives



LEGEND

PATH	
TOWER	
SPAN	

SCALE: 1" = 40'

Surveyed By: **Chris Williams**
 Date: **4/11/13**
 Inspected By: **Chris Williams**
 Date: **4/11/13**
 Surveyed By: **Chris Williams**
 Date: **4/11/13**
 Inspected By: **Chris Williams**
 Date: **4/11/13**

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 Date: **4/11/13**
 Inspected By: **Chris Williams**
 Date: **4/11/13**

NO.	DATE	APPROV	CHANGED / WHAT
PLANS ISSUED FOR:			
BID	CONST		
ACTION: DATE	APPROV	ACTION: DATE	APPROV



CITY OF EVERETT
PUBLIC WORKS
DEPARTMENT

FORGOTTEN CREEK TRAIL
 RAIL CROSSING CONCEPTS

① FORGOTTEN CREEK LANDING

Drawing No.	2
Sheet No.	2 / 5
of Total	5

Bond Street / Forgotten Creek Overcrossing Alternatives



- LEGEND**
- PATH**
 - TOWER**
 - SPAN**

SCALE: 1" = 40'

CONTRACT NO. 3032 BOND STREET/PM 1615
 PROJECT TITLE: BOND STREET / PM 1615
 DATE: 12/7/2015 8:53 AM

CONTRACT NO. 3032 BOND STREET/PM 1615
 PROJECT TITLE: BOND STREET / PM 1615
 DATE: 12/7/2015 8:53 AM

NO.	DATE	APPROV	CHANGED WHAT?
PLANS ISSUED FOR:			
BID	CONST		
ACTION: DATE	APPROV	ACTION: DATE	APPROV

DESIGNED BY	
CHECKED BY	
DATE	



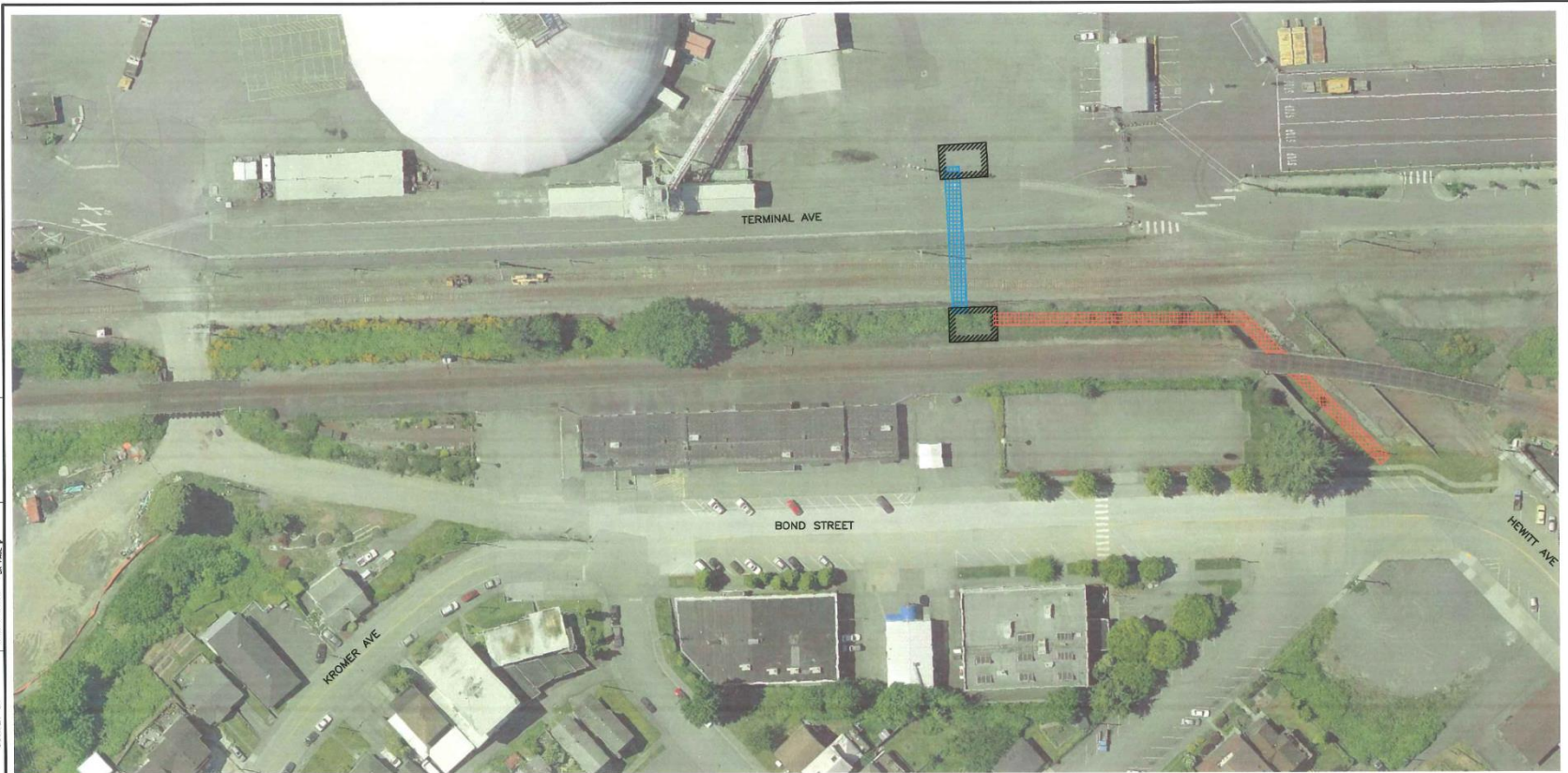
CITY OF EVERETT
PUBLIC WORKS
DEPARTMENT

FORGOTTEN CREEK TRAIL
 RAIL CROSSING CONCEPTS

② BNSF TERMINAL SOUTH

Drawing No.	3
Sheet No.	3
of Total	5

Bond Street / Forgotten Creek Overcrossing Alternatives



LEGEND

- PATH
- TOWER
- SPAN

SCALE: 1" = 40'

PUBLISHED: December 4, 2015
 DESIGNED BY: CIVIL ENGINEERS
 DRAWN BY: CIVIL ENGINEERS
 CHECKED BY: CIVIL ENGINEERS
 APPROVED BY: CIVIL ENGINEERS
 PROJECT NO.: 13/2/2015-043

NO.	DATE	APPROVED	REVISION

**CITY OF EVERETT
PUBLIC WORKS
DEPARTMENT**

FORGOTTEN CREEK TRAIL
RAIL CROSSING CONCEPTS

③ BNSF TERMINAL NORTH
HEWITT AVE

Sheet No.	4
4	5

Bond Street / Forgotten Creek Access Route Improvement & Viewpoint Alternative



SCALE: 1" = 80'

CONSTRUCTION NOTES:

- ① WIDEN SIDEWALKS AND ADA IMPROVEMENTS
- ② ACCESSIBLE ELEVATED VIEWPOINT

PROJECT: EVERETT AIRPORT RAIL CROSSING IMPROVEMENTS
 DRAWING NO.: 5
 DATE: 4/14/2015
 TIME: 2:27 PM
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 SURVEY BY: [Name]

NO.	DATE	APPROVED	REVISION

BID	DATE	APPROVED	ACTION	DATE	APPROVED	ACTION	DATE	APPROVED



**CITY OF EVERETT
PUBLIC WORKS
DEPARTMENT**

FORGOTTEN CREEK TRAIL
RAIL CROSSING CONCEPTS

① VIEWPOINT & ACCESS
IMPROVEMENTS
FOR TERMINAL AVE.

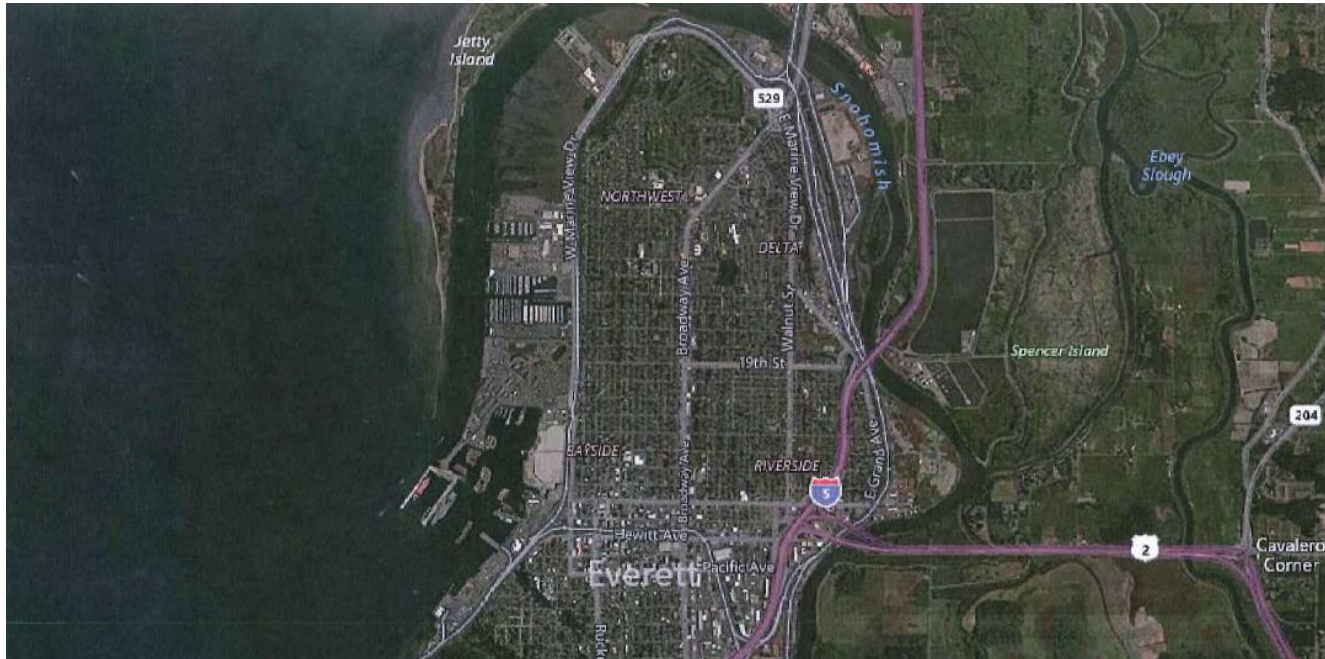
Sheet No.	5
Drawings No.	5

Bond Street / Forgotten Creek Pedestrian Grade Crossing

- Are Pedestrian Grade crossings, with high level safety enhancements viable in the urban environment?
- Are there objective criteria as to when/where acceptable? Are railroad operations the sole arbiter?



BNSF Mainline Tunnel



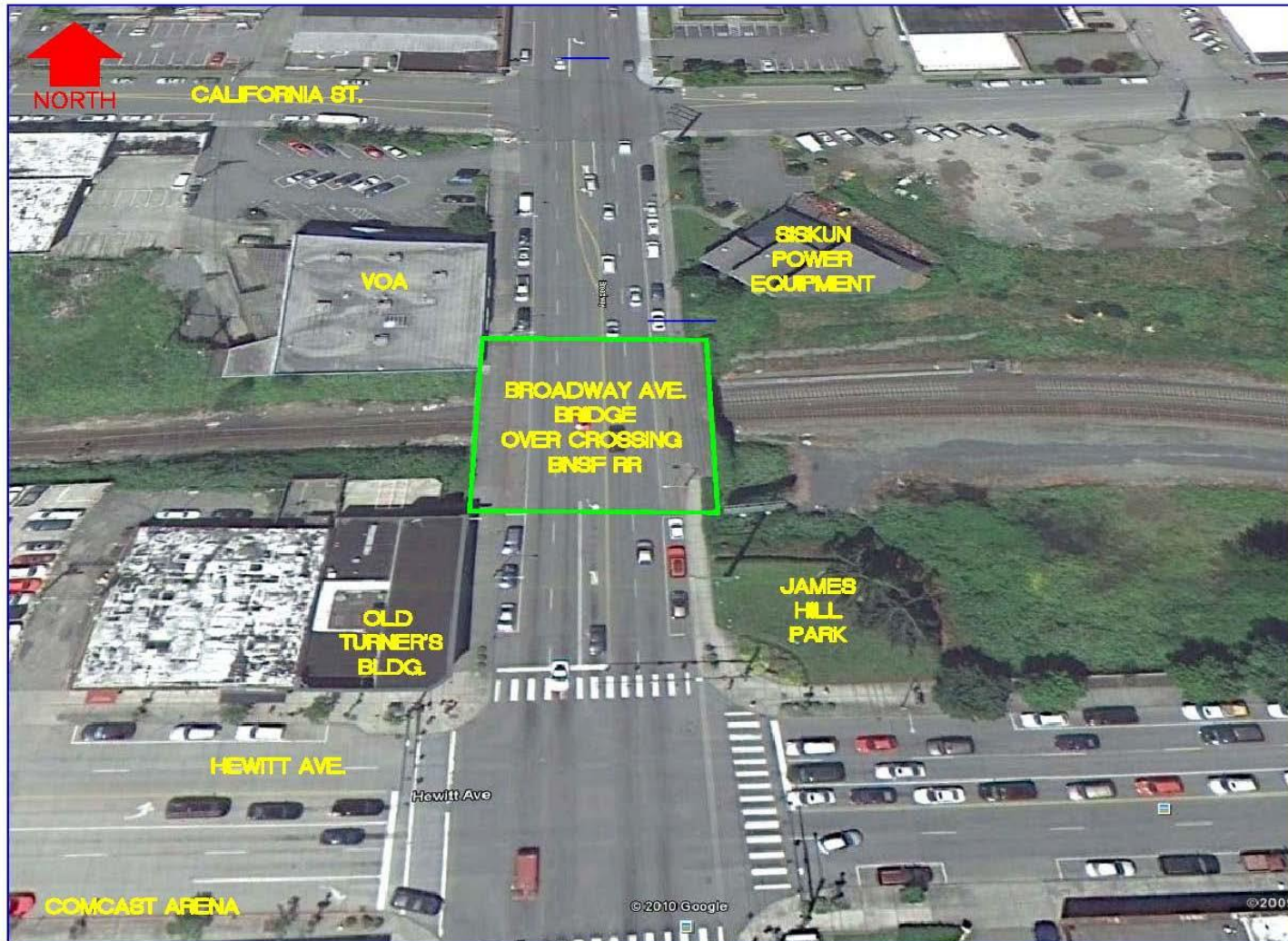
BNSF Mainline Tunnel

- Everett has been separating road and rail for a long time!
- Agreement dating back to 1900
- Railroad built roadway “wagon” bridges in return for right to build rail line through center of City
- Bridges have been gradually replaced using federal, state, local and railway funds
- Ownership of replacement bridges transferred to City

BNSF Mainline Tunnel

- Many road-rail conflicts eliminated in advance
- Emergency Response challenge in the event of a derailment, fire or spill
- Atypical property rights with City road network having the superior R/W over railroad R/W

Broadway Bridge Replacement Project



Project Background

- Broadway Avenue is a Principal Arterial within the City of Everett's CBD (>30,000 ADT)
- Spans the BNSF Mainline; Seattle to Chicago
- 100-foot span bridge built in 1912 based on a 1900 agreement with the railroad; modified in 1931

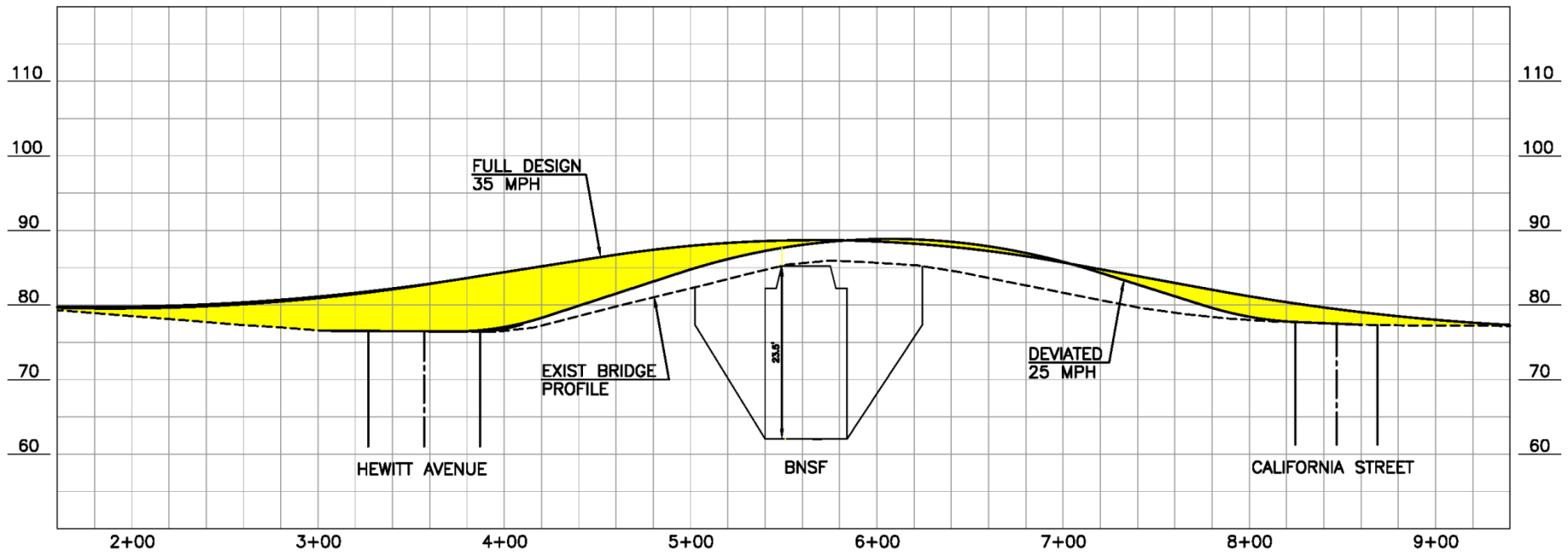


Project Approach



- Major Project Goals
 - Replace Bridge Structure
 - Minimize traffic impacts & disruptions
 - Improve roadway profile
 - Satisfy BNSF clearances
 - Include non-motorized improvements
 - Access to businesses
 - Control costs
 - Provide good Public Information
- Approach
 - Multiple layers of alternate routes
 - Full Closure with Detour Route
 - Safe temporary and permanent access to businesses throughout construction
 - Thin superstructure
 - Pre-cast concrete deck girders
 - Minimize over-track work duration

Geometric Considerations



Project Funding

- **Federal Bridge Funds**

- \$3,116,000 (direct appropriation)
- \$7,580,021 (BRAC directed funds)

- **Other Funds**

- \$1,522,500 CIP 4
- \$293,779 Traffic Mitigation
- \$277,500 Utilities Fund
- \$824,000 BNSF Railway

- **Total Available Funds**

- \$ 13,613,800



Project Costs

- PE (Planning, Design & Engr.)

- \$1,970,000 Engineering, PS&E
- \$ 260,000 Project Management

- R/W & TCE

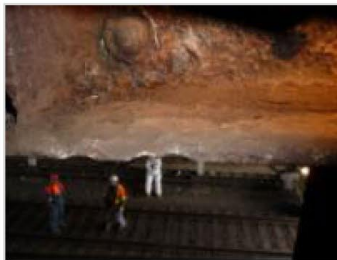
- \$ 337,000

- Construction

- \$8,300,000 Est. Construction Cost
- \$1,250,000 Contingency
- \$1,490,000 Construction Mgmt.



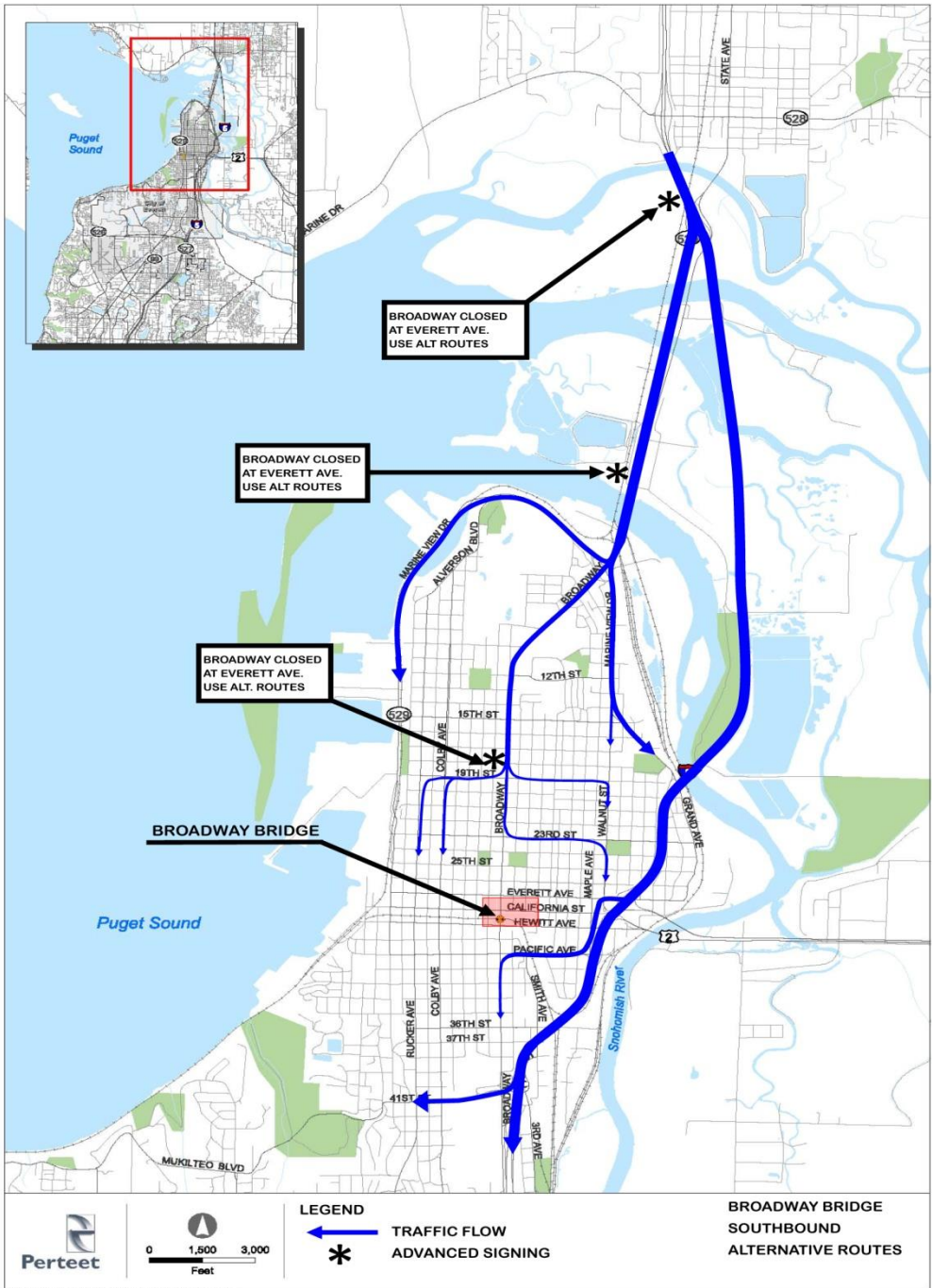
Full Closure Construction



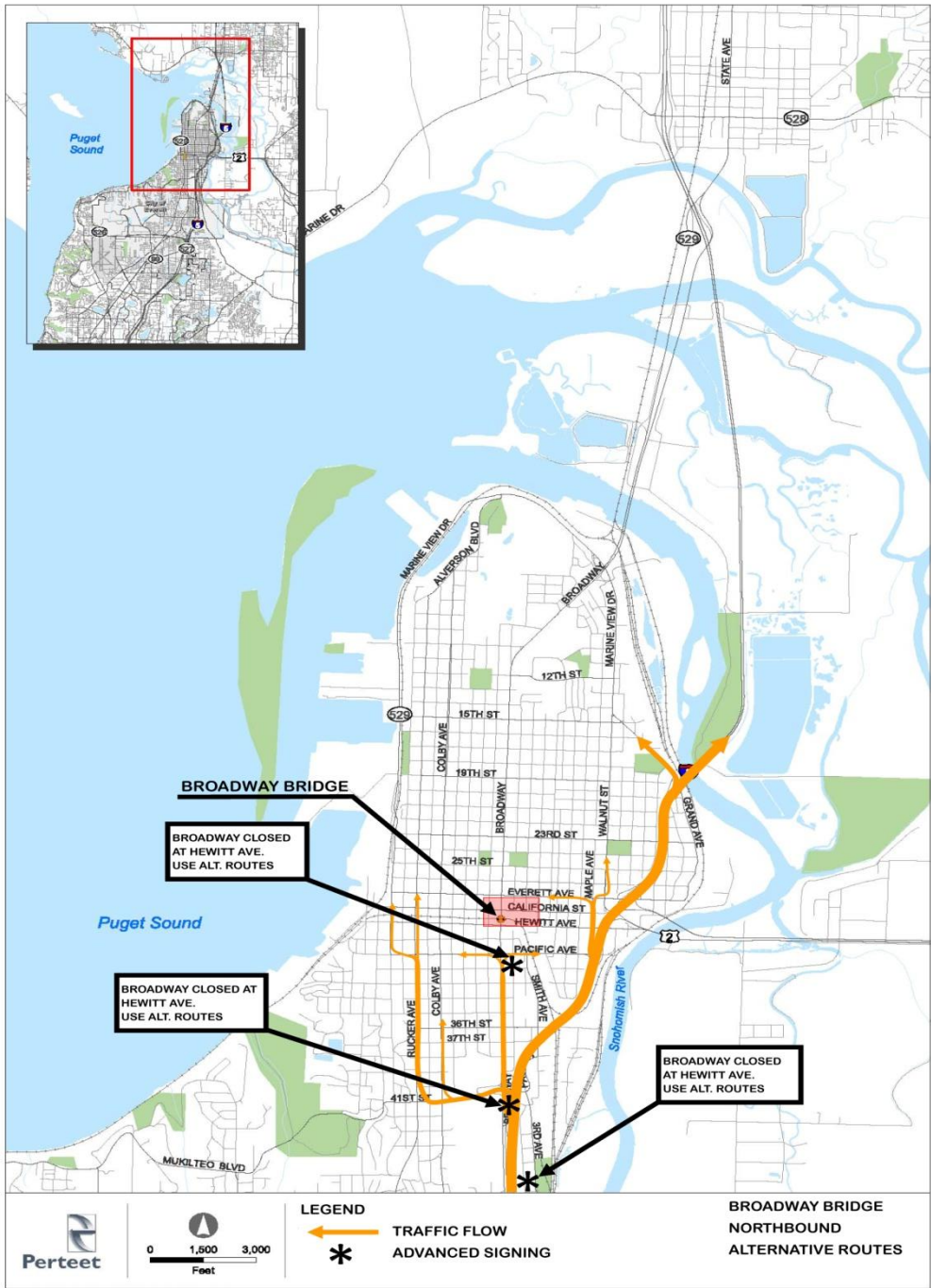
Full Closure Advantages

- Save \$1M on construction
- Save one year in construction
- Safer construction
- Better bridge construction
- Manageable traffic control





Source: City of Everett (2007), ESRI Streetmap Pro



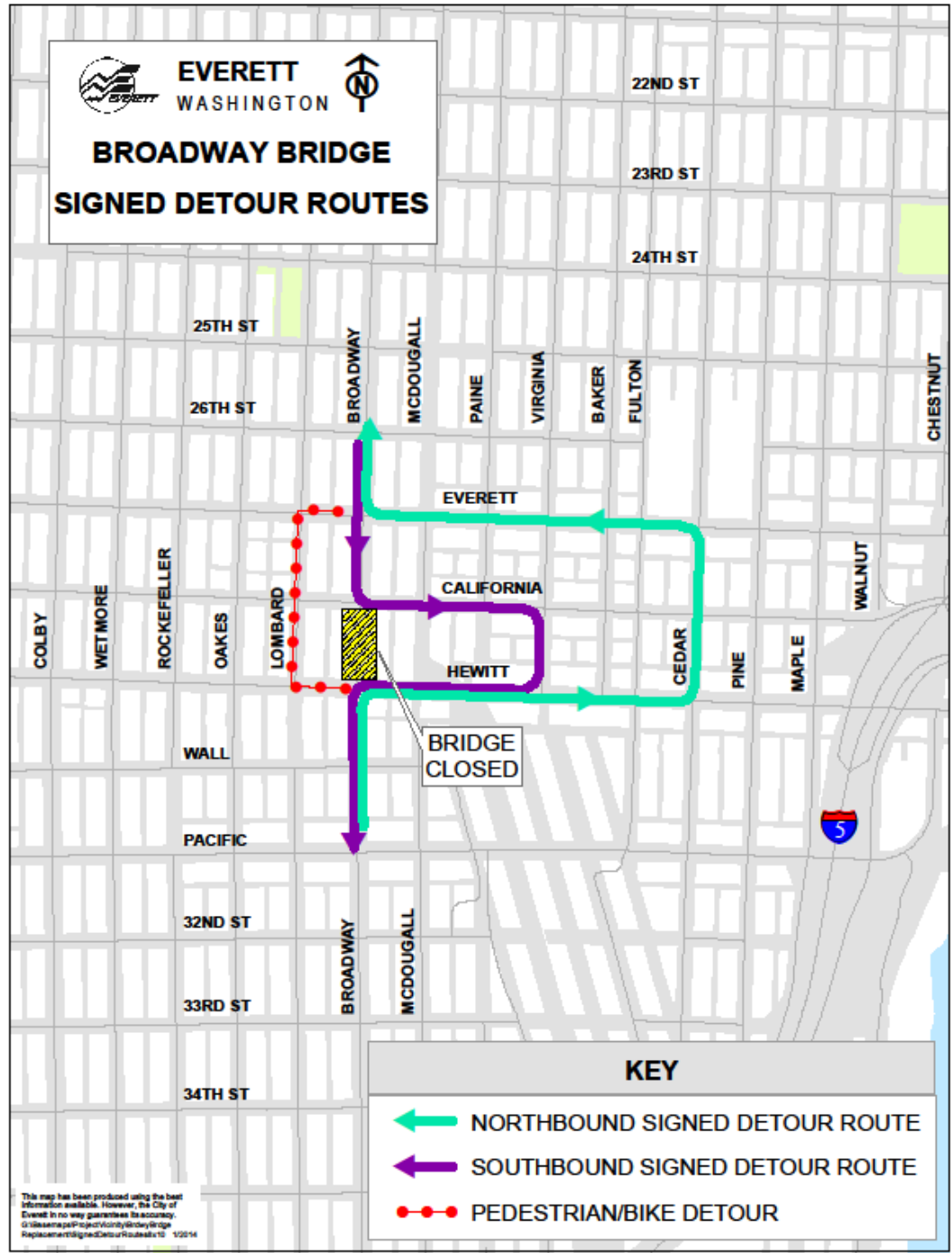
Source: City of Everett (2007), ESRI Streetmap Pro



EVERETT
WASHINGTON






BROADWAY BRIDGE SIGNED DETOUR ROUTES

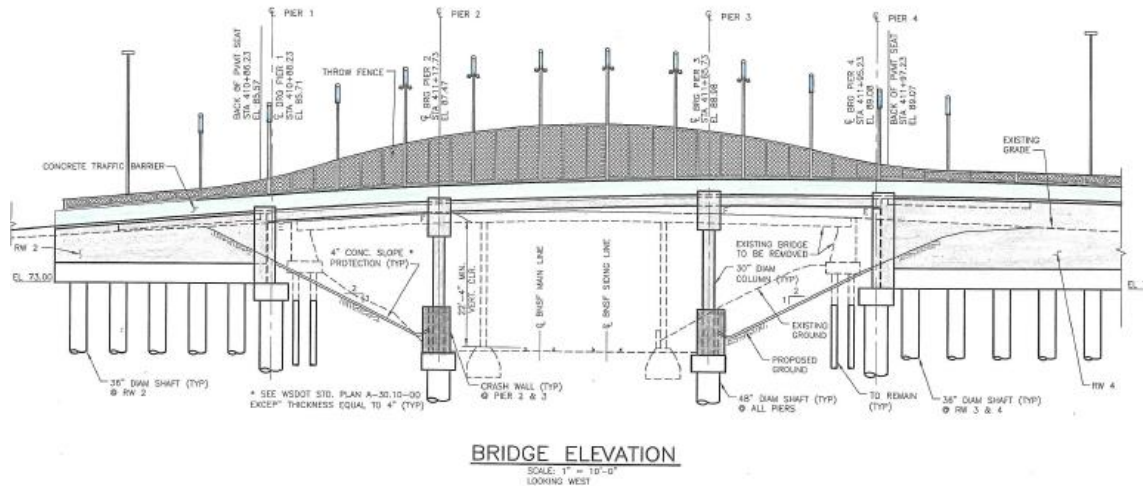


This map has been produced using the best information available. However, the City of Everett in no way guarantees its accuracy. www.everettwa.gov/transportation/roadwork

KEY

-  NORTHBOUND SIGNED DETOUR ROUTE
-  SOUTHBOUND SIGNED DETOUR ROUTE
-  PEDESTRIAN/BIKE DETOUR

Schedule Overview



Bidding & Award

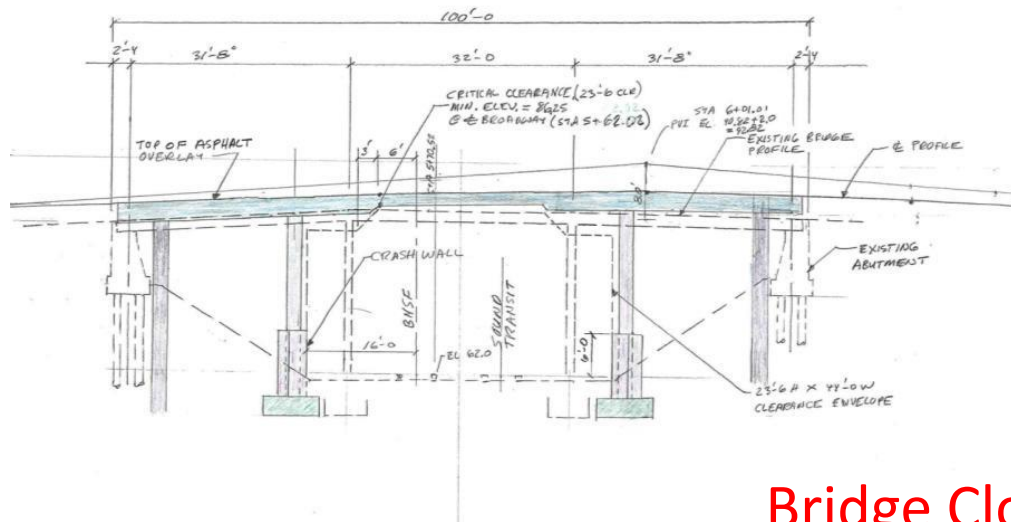
- Bid Advertisement July-August 2014
- Award October 2014

Construction

- Start December 2014
- Detour Route January 2015
- Bridge Demolition February 2015
- Substantial Completion Spring 2016



Construction Milestones



Bridge Closed: January 30th 2015

**Deck Superstructure Demolished:
February 16th 2015**

Drilled Shafts complete: March 30th 2015

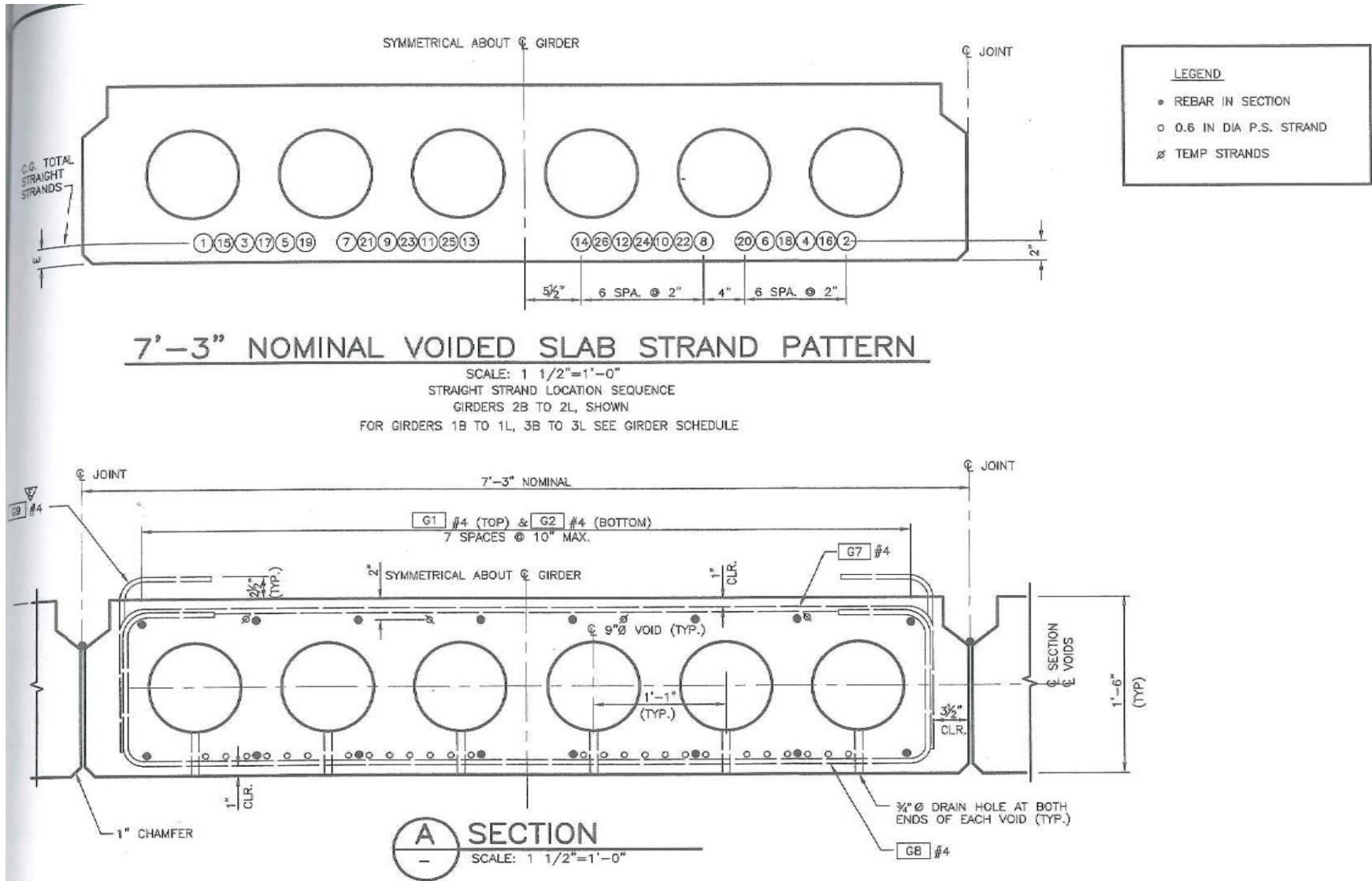
Girder Erection complete: June 30th 2015

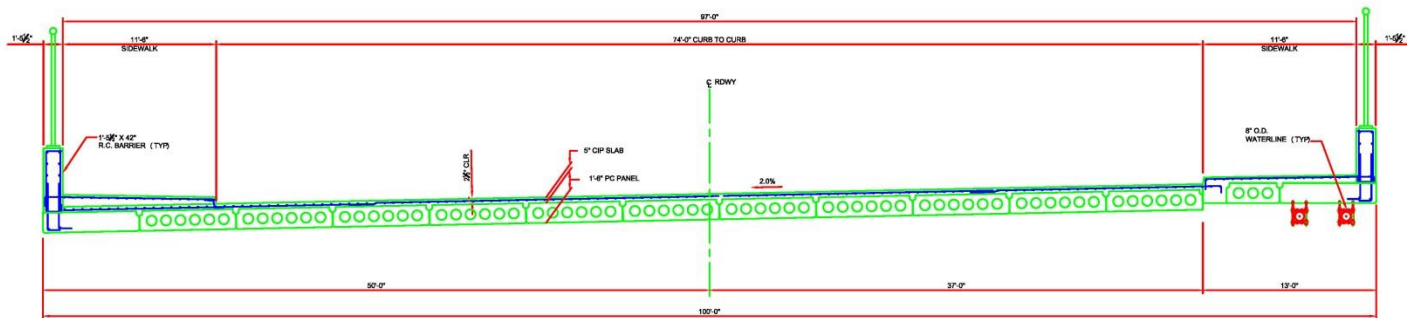
Deck Placed: July 31st 2015

Open to Traffic: December 8th 2015



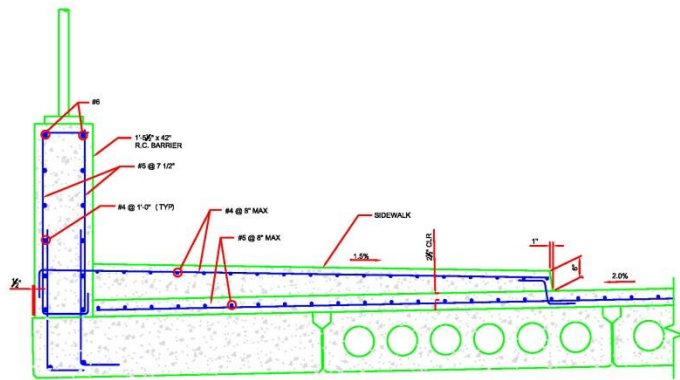
Structure Type Considerations



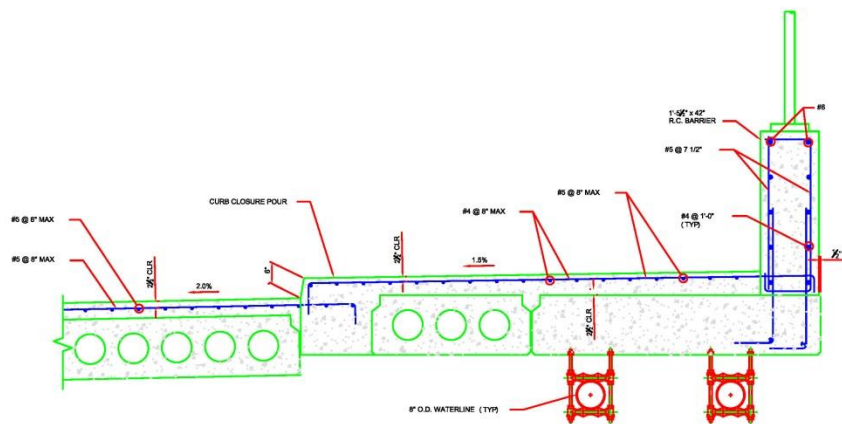


TYPICAL SECTION

SCALE: 1/4"=1'-0"



1 DETAIL
SCALE: 3/4"=1'-0"



2 DETAIL
SCALE: 3/4"=1'-0"



Time-lapse Video #1

Time-lapse Video #2

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