

Design and Environmental Study For



ARLINGTON AVENUE BRIDGES REPLACEMENT



Design Review Committee Meeting #7 | November 8, 2022

Purpose of Today's DRC Meeting:

- ✓ Utilities
- ✓ RRFB Layout and Sidewalk(s) at Island Avenue
- ✓ Synchro - SimTraffic - Basic Micro-Simulation
- ✓ Recent Project Meetings
- ✓ Public Meeting Results
- ✓ Environmental Updates
- ✓ Schedule
- ✓ Open Questions/Discussion



Utilities



North End

TMWA (Thomas Speer, Steve Volk)

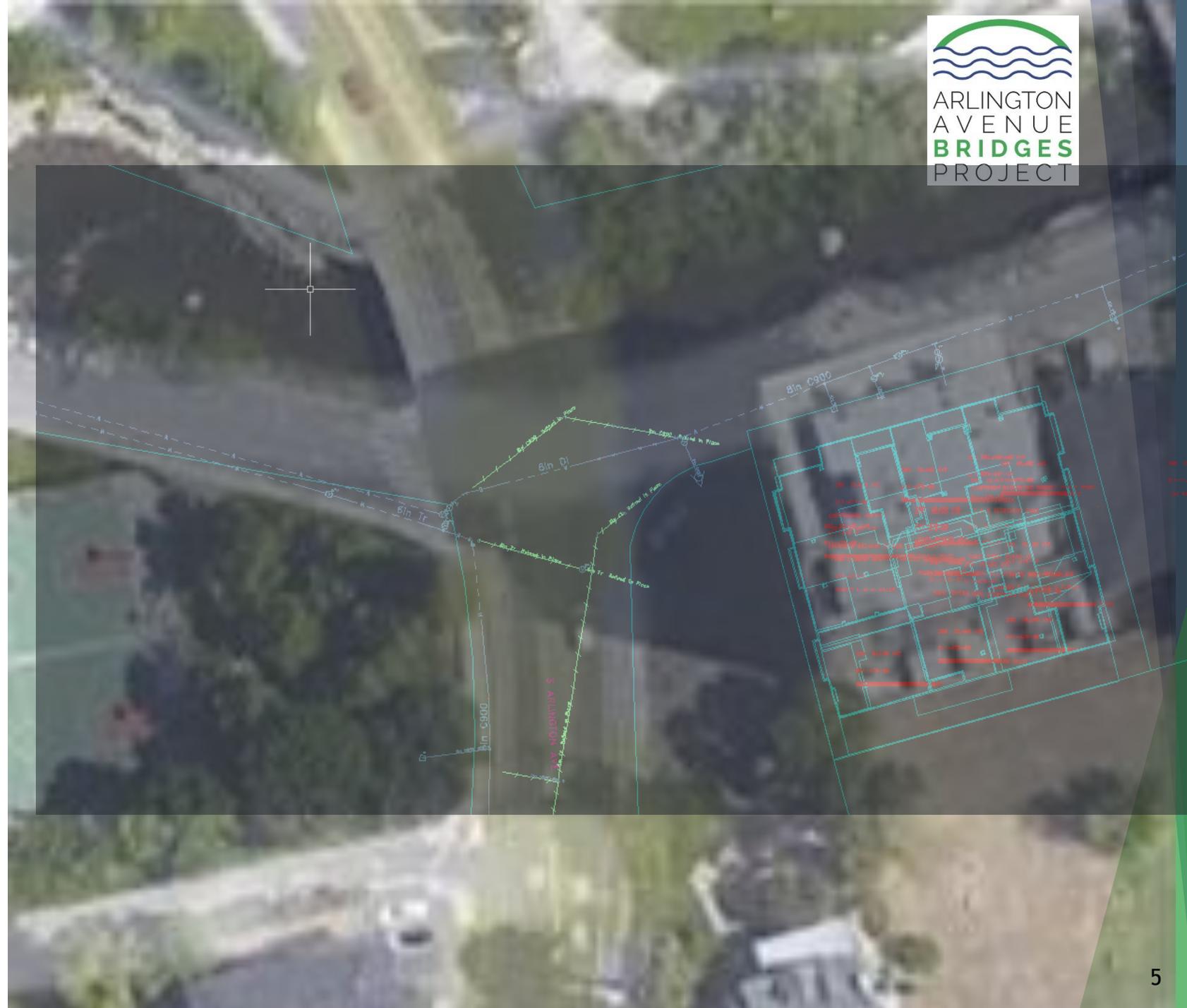
- 8-in Cast Iron within W. 1st Street intersection
- TMWA to replace/realign prior to construction; currently under design
- Protect in Place During Construction - Specification Requirements
- West of Intersection:
8-in Ductile Iron
w/ 2-in HDPE lateral
- East of Intersection:
8-in Transite
- North of Intersection:
8-in Cast Iron along west side
- Assume Park Irrigation Line from this 2-in HDPE lateral



South End

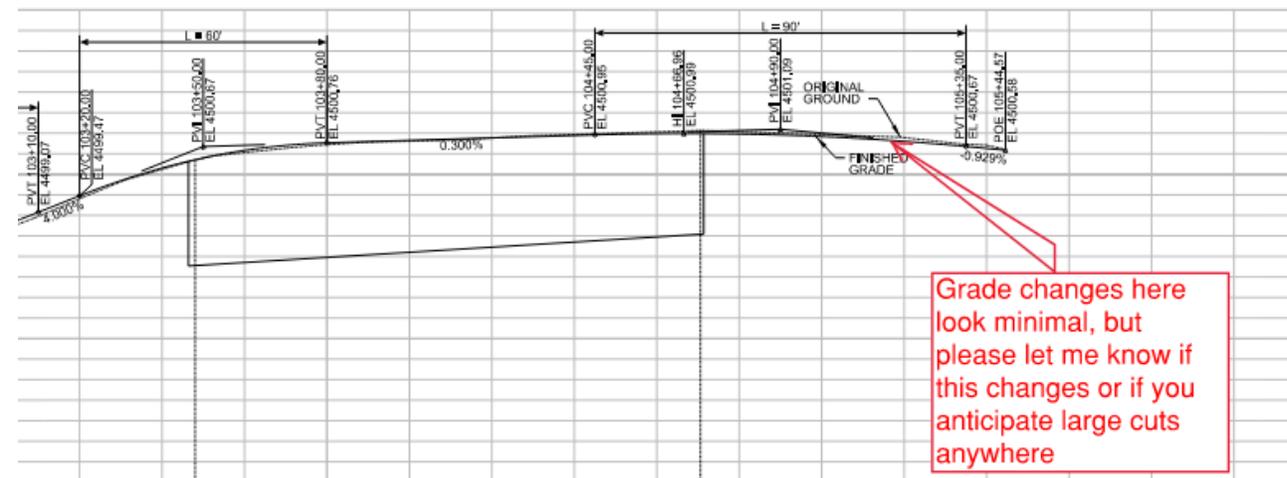
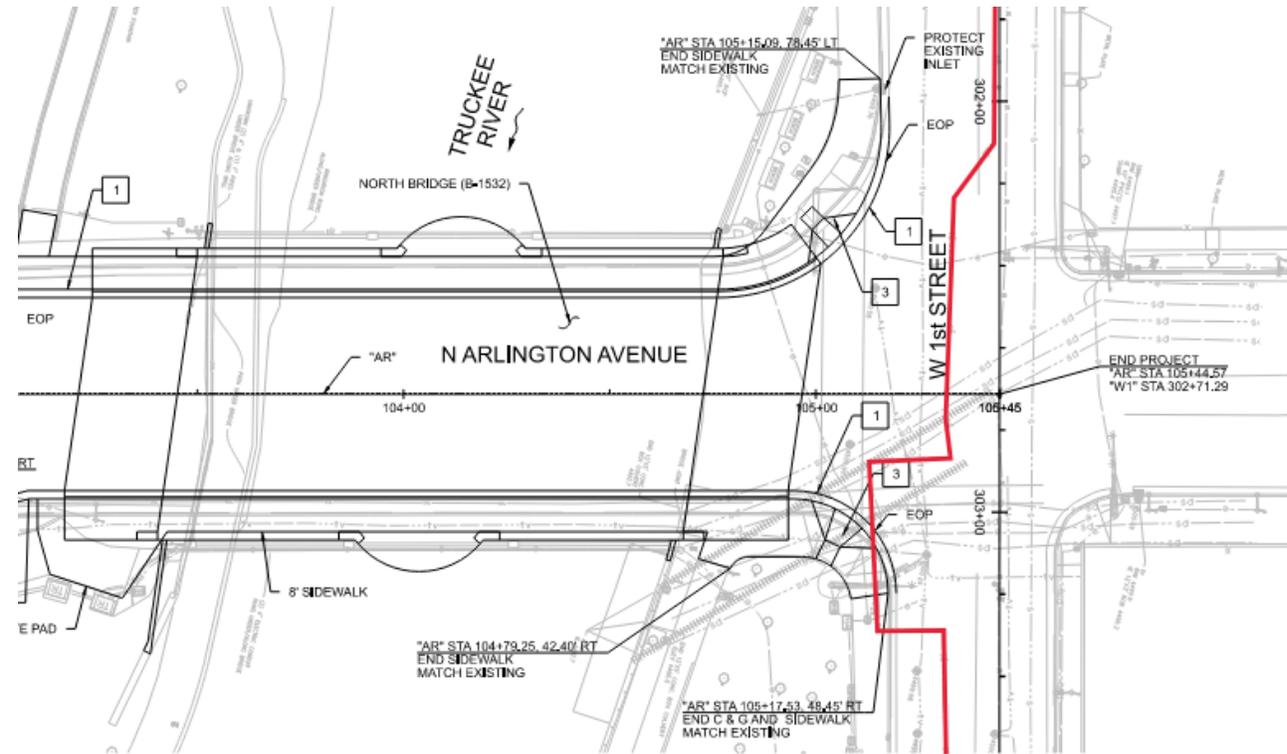
TMWA

- 8-in C900 Retired in Place within Island Ave intersection - Contractor Allowed to Remove During Construction of South Abutment
- 8-in Ductile Iron Across Intersection
- West of Intersection- 2 Lines: 6-in Transite & 8-in C900
- East of Intersection- 1 Line: 8-in C900
- South of Intersection: 6-in Cast Iron and 6-in Transite Retired in Place
- Along Arlington: 6-in Cast Iron retired in place; 8-in C900 along western side



NVE - GAS (Becca Epstein)

- ✓ Existing along W. 1st St.
- ✓ Protect in Place w/ Excavation for Bridge Abutment - Requirements for specifications



Grade changes here look minimal, but please let me know if this changes or if you anticipate large cuts anywhere

North Bridge

NVE - ELECTRIC (Benjamin Eide-Hughes)

- Underground the OH-E
- Remove/Replace UG Primary from Vault to Transformer Through New Bridge (2-4" Conduits)
- Streetlights and Services in this area directly serve the customer - Apply for Formal Electrical Project: info@nvenergy.com

- PROTECT IN PLACE
 - LIMITS OF REMOVAL OF CURB AND GUTTER
 - SAWCUT (NO DIRECT PAVEMENT)
 - REMOVE AND REPLACE BOLLARD, IN-KIND
 - REMOVE OVERHEAD PEDESTRIAN WARNING SYSTEM
 - SEE BRIDGE PLANS FOR BRIDGE REMOVALS
 - REMOVE AND RESET BENCH
- GEND**
- LIMITS OF REMOVAL OF COMPOSITE SURFACE (APPROX 24" DEPTH)
 - LIMITS OF REMOVAL OF P,C,C,P, AND BASE (APPROX 16" DEPTH)
 - LIMITS OF REMOVAL OF COMPOSITE SURFACE (DEPTH VARIES) (SIDEWALK AND PATHS)

NVE ELECTRIC COMMENTS:
SEE COMMENTS BELOW FOR STREET LIGHT POLES AND OH SERVICE WIRE AND PRIMARY CABLE.

PROTECT IN PLACE SL L311604 OR REMOVE/REPLACE FOR CONSTRUCTION?

REMOVE/REPLACE PRIMARY CABLE.

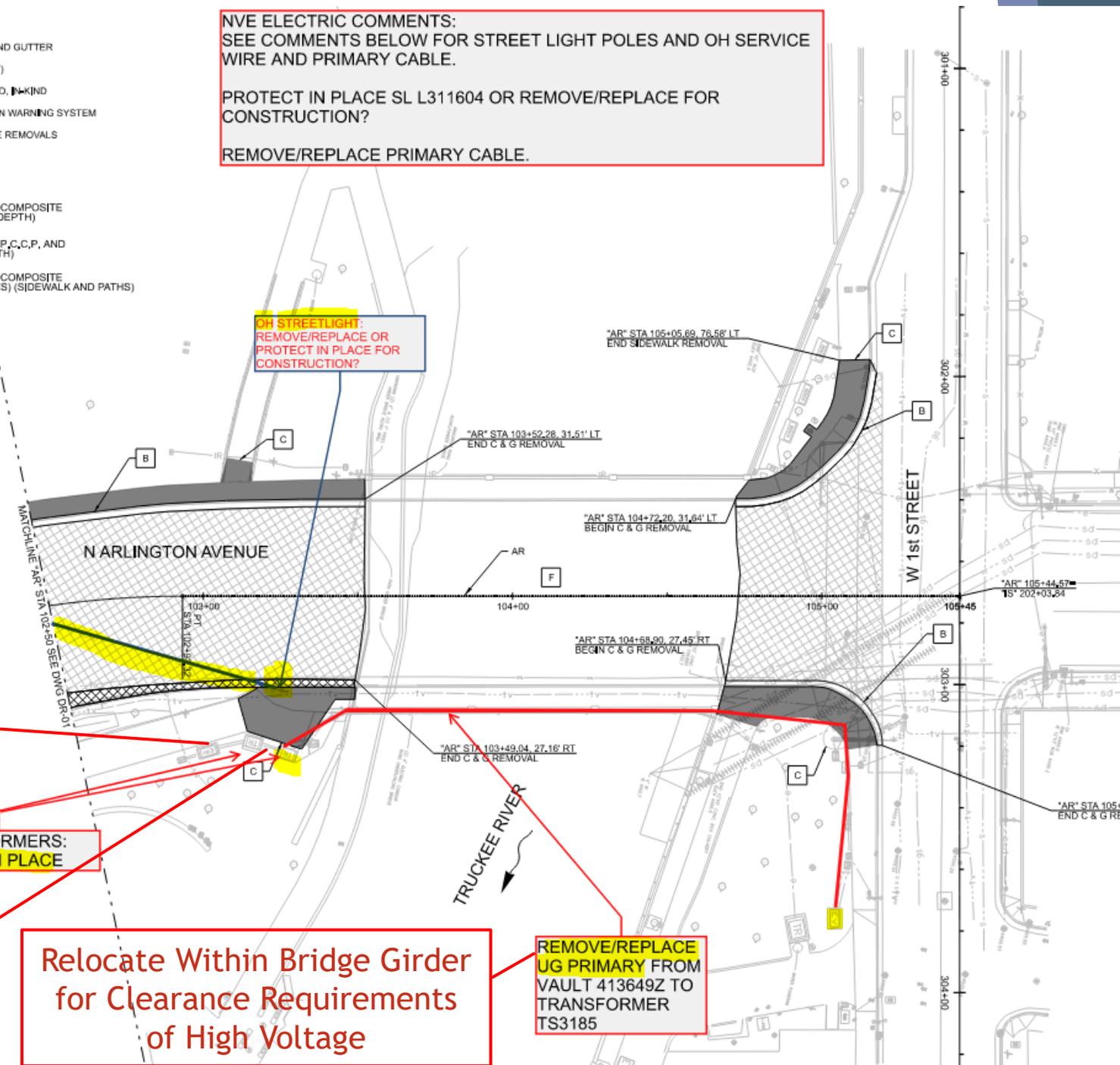
Houses City of Reno Meter(s)

2-TRANSFORMERS:
PROTECT IN PLACE

NVE Transformers (2)
Middle One is Empty - Can be removed or repurposed

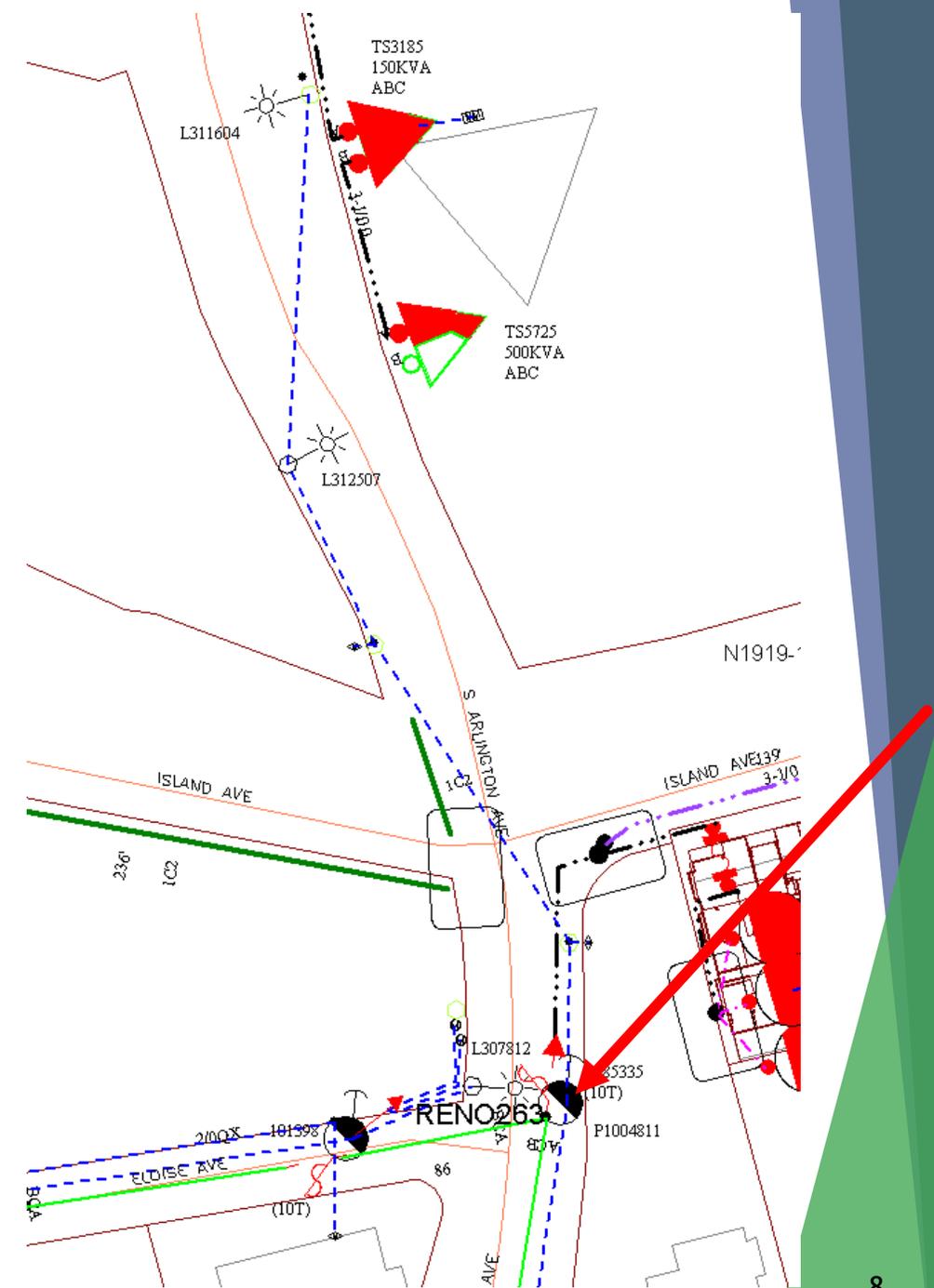
Relocate Within Bridge Girder for Clearance Requirements of High Voltage

REMOVE/REPLACE UG PRIMARY FROM VAULT 413649Z TO TRANSFORMER TS3185



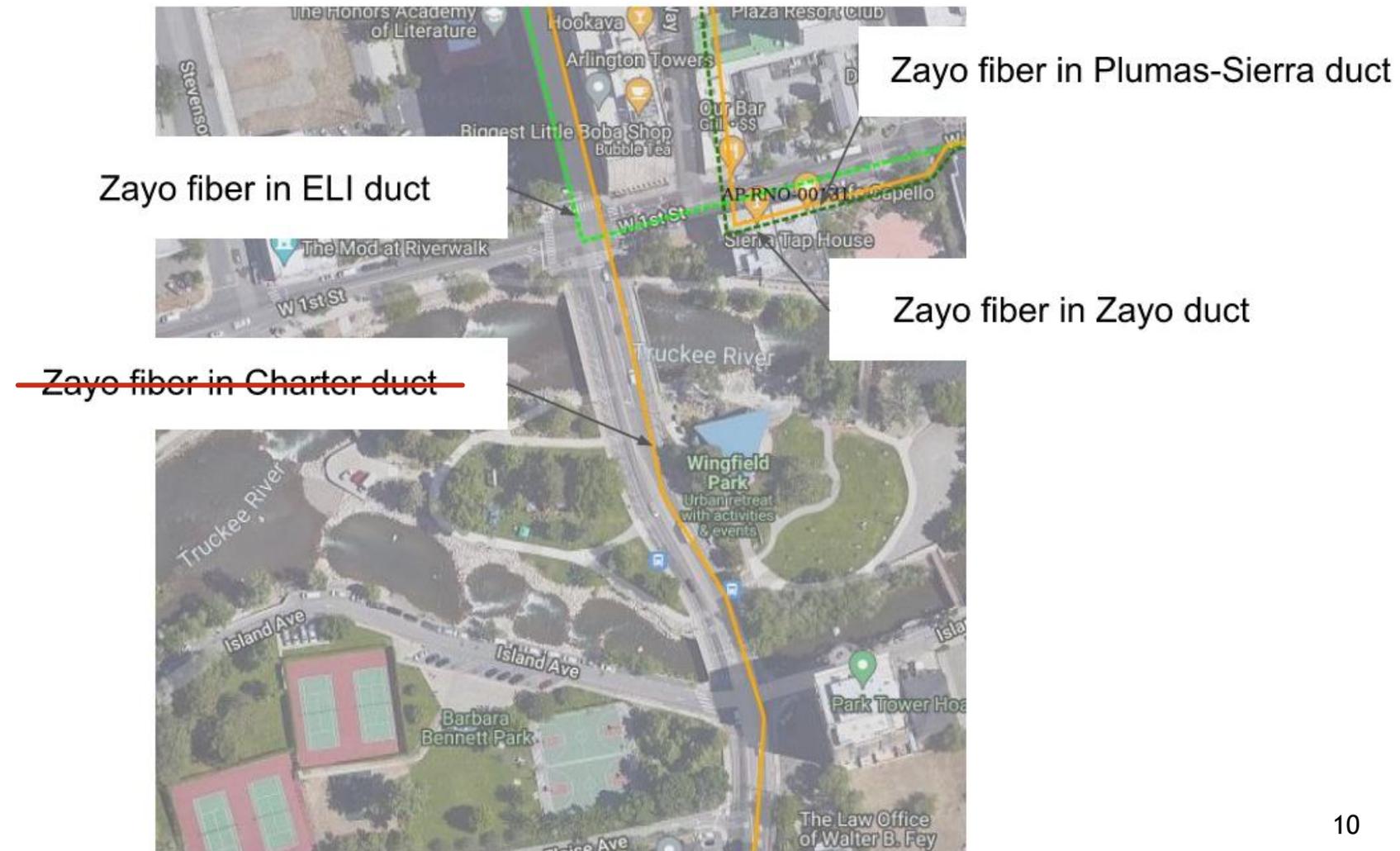
NVE - ELECTRIC

- Underground the existing Overhead
- Pole - P1004811 at end of Elsie Ave.



ZAYO (Gary Getchell, Robert Alford)

- * No Zayo Fiber in Charter Duct across South Bridge to Amphitheater
- * Zayo would like to have conduit across both bridges and along Arlington between bridges; 2-2" min



AT&T (Steve Lewis, Clifford Cooper)

Confirmed Existing:

Bank of 9 conduits across both north and south bridges

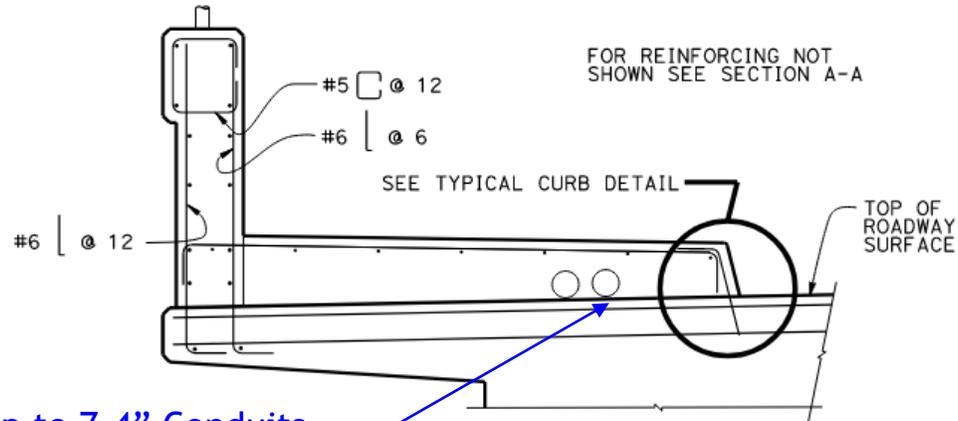
Design:

7-4" Conduits requested across both bridges and along Arlington



Bridge Sidewalk

Potential Utility Routing Detail through Sidewalk



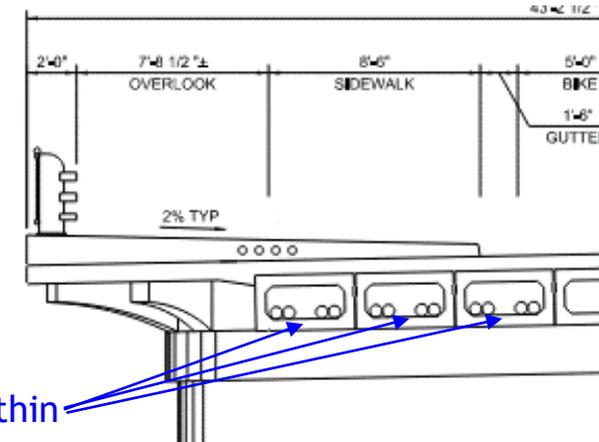
Up to 7-4" Conduits can be run on each side of the bridge (between curb and barrier face)

SECTION B-B
TYPICAL SECTION AT JOINTS

14 Total 4" Conduits within sidewalk

- 7 - AT&T (7-4" requested)
- 2 - Charter (2-2" requested)
- 2 - Zayo (2-2" requested)
- 2 - City Water (N. Bridge - confirm w/ CoR)
- 1 - City Electric for Irrigation (N. Bridge - confirm with CoR)

Potential Utility Routing Detail through Bridge Girder



4-4" Conduits within each of the three outside girders on both sides

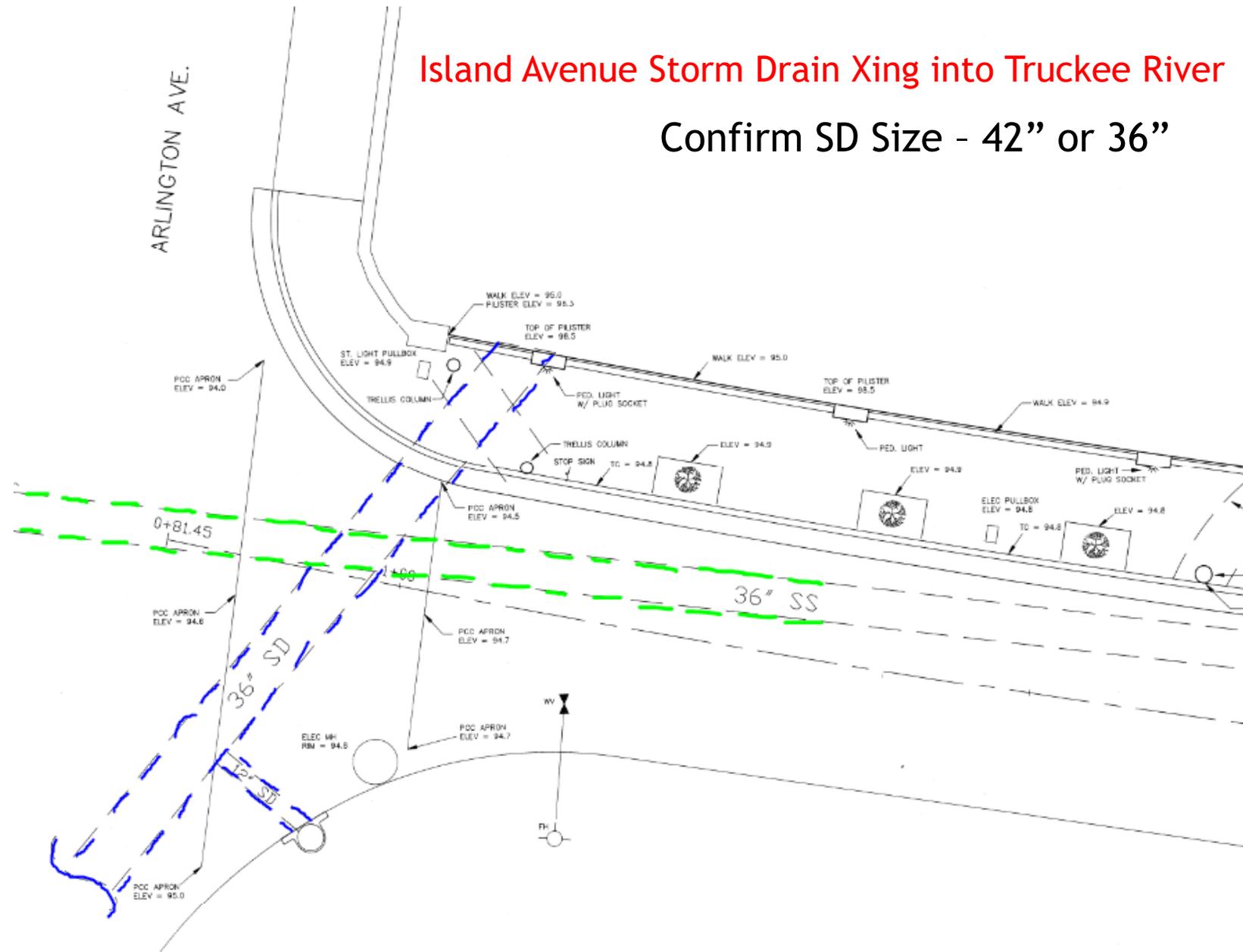
24 Total 4" Conduits Within Bridge Girder

8 - NV Energy (5-4" and 3-3" requested)

South Bridge / Floodwall

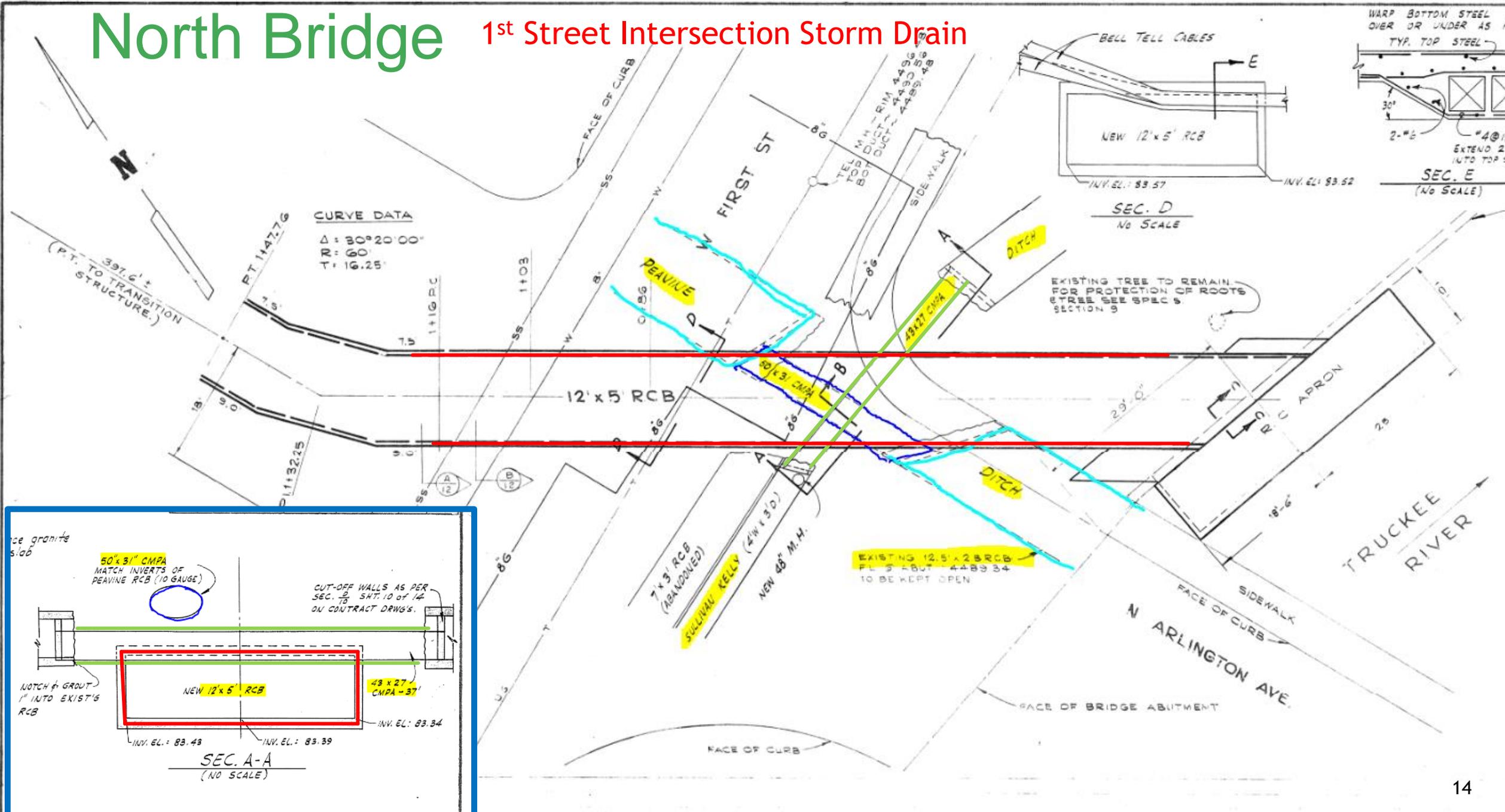
Island Avenue Storm Drain Xing into Truckee River

Confirm SD Size - 42" or 36"



North Bridge

1st Street Intersection Storm Drain



North Bridge

Park Irrigation

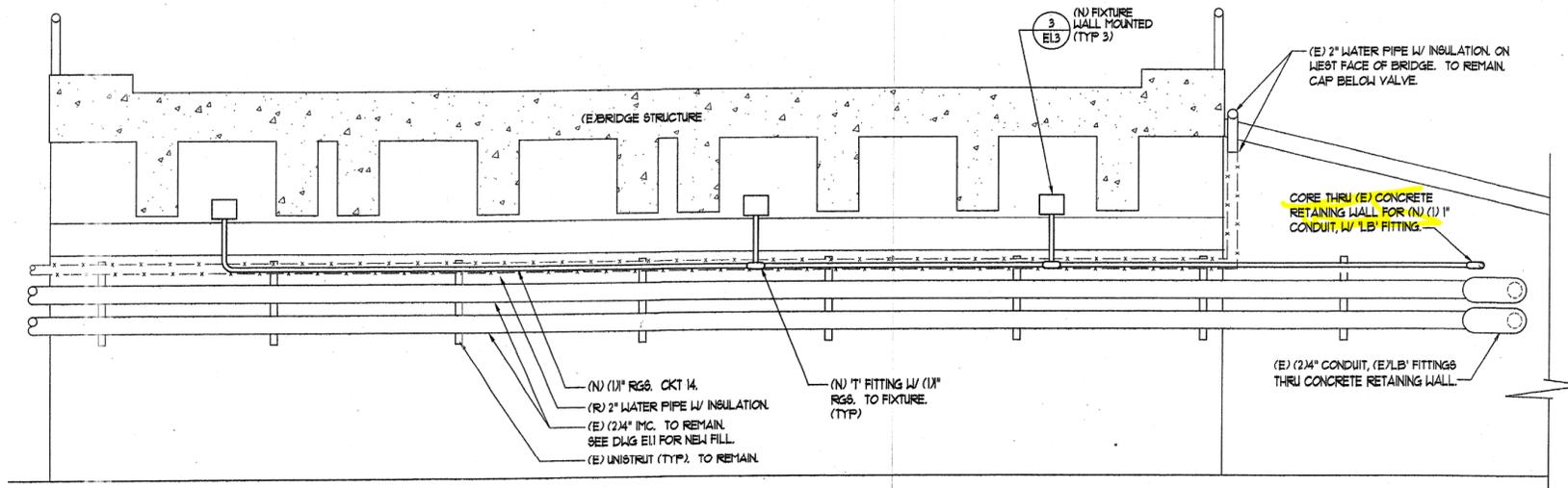
- Across West Face of Bridge - 2 Pipes
- Assume 1 for H₂O and 1 electric for sprinkler system?



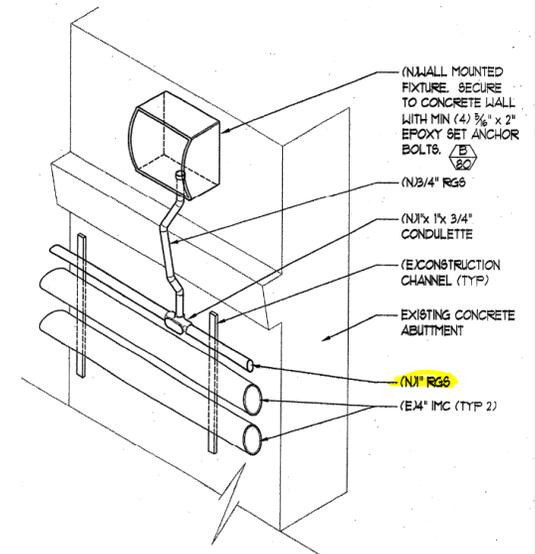
North Bridge

Conduit Along Path

- 1 - 1" Electrical Conduit:
Under bridge lighting?



2 ARLINGTON STREET BRIDGE - SOUTH ABUTMENT ELEVATION
NO SCALE



3 BRIDGE LIGHT DETAIL
NO SCALE

Utilities – Section 408 Permit Categorical Permission Alteration Description

Categorical Permission Alteration Description – 11. Fiber Optic and Dry Utility Pipes

The categorical permission covers the installation, modification, and replacement of dry utility pipes, such as fiber optic cables, subject to certain terms and conditions. The total area of disturbance must not exceed 5 acres. Utility pipes should be designed to prevent (1) flotation from uplift, (2) scour or erosion, (3) damage from debris on the waterside, particularly during flood flows, (4) leakage, (5) seepage along proposed pipes, (6) corrosion, and (7) damage from vehicular loads.

All new fiber optic, electrical and other dry utility pipes installed by open trench methods must go up and over the levee design water surface elevation (DWSE).

Pipes installed through the levee should be as close to right angles to the levee centerline as practicable.

All pipes and related structures that cross the levee foundation at a depth less than or equal to two times the height of the levee should be analyzed for uplift; pipes crossing the levee surface must be designed to counteract buoyant forces at the DWSE.

Pipe location and orientation must be clearly marked in the field so they can be easily identified for flood fighting crews or maintenance (e.g., electrical pipes).

No plastic pipes (HDPE, PVC, etc.) are allowed in the levee embankment or its foundation unless they are embedded in concrete.

Backfill under and around (to 1 foot over) the proposed pipe must be controlled low-strength material (CLSM). Pipes that pass above the DWSE must have 2 feet of cover (low permeability or CLSM) to prevent damage by vehicles and equipment. Cover material on the levee crown must be placed at a ratio of 10H:1V, in the upstream/downstream direction of the levee. Pipes on the sides of the levee should be covered with a minimum of 1 foot of low permeability material, compacted in 4- to 6-inch lifts or CLSM to protect them from debris during high water (waterside) or to keep them from interfering with or being damaged by operations or maintenance of the levee (landside). Fill must be free of deleterious materials and construction debris and placed in 4- to 6-inch-thick loose lifts and compacted to not less than 95% of the maximum density at moistures between -2 and +3 percent of optimum moisture content obtained from ASTM D698 (USACE preferred method), or alternately, 90% of the maximum density at moistures between -2 and +3 percent of optimum moisture content obtained from ASTM D1557. At the sponsor and levee maintaining agency's discretion, pipes on the levee slopes may be left exposed.

Only suitable material must be used as levee fill materials. Fill must be free from: roots and other organic matter, contaminated hazardous or toxic material, trash, debris, and frozen materials. Satisfactory fill material must have a plasticity index between 8 and 25, have a liquid limit less than 45, a minimum fines content of 20%, and 100% passing the 3-inch sieve.

Pipes located within or beneath a levee must have watertight joints that can accommodate movement.

If a chemical or electrochemical reaction is expected, the pipe and pipe couplings must be protected.

The preferred method for abandoning pipes that pass through or over a levee is complete removal. If removal is not feasible, the pipes and other structures may be filled with a cement/bentonite-based grout or flowable fill. The grout needs to be sufficiently fluid so that it can be pumped to completely fill the pipe leaving no voids.

Utilities – Section 408 Permit Categorical Permission Alteration Description

Note: The following checklist is intended for planning purposes only, and includes information that USACE reviewers look for when considering a Section 408 request for fiber optic and dry utility pipes under the Categorical Permission. To be reviewed under the Categorical Permission, the proposed project must adhere to all requirements of the Categorical Permission, including the full alteration description (see previous page). The plans and narrative project description should reflect this information.

Categorical Permission for Section 408 Requests
U.S. Army Corps of Engineers Sacramento District

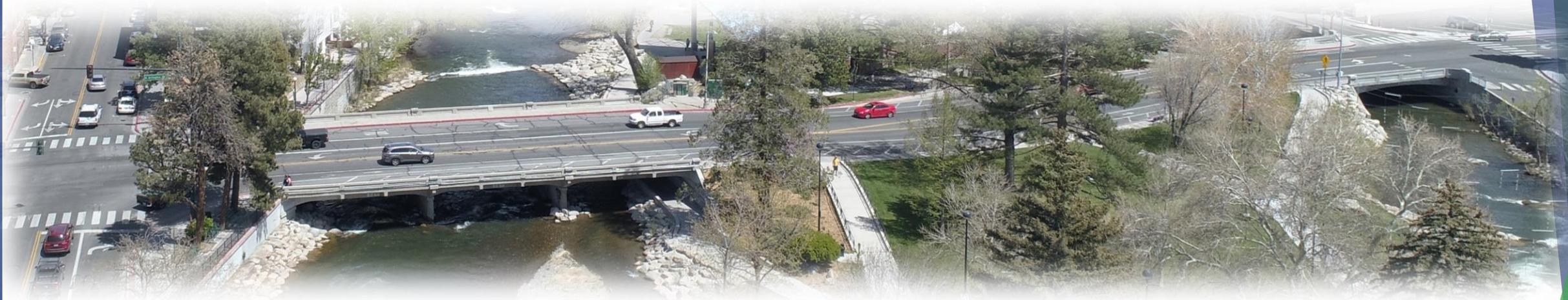
February 2020

1.	<input type="checkbox"/> New Installation	<input type="checkbox"/> Replacement	<input type="checkbox"/> Modification	<input type="checkbox"/> Authorize Existing
2.	Maximum total area of disturbance is 5 acres : <input type="checkbox"/>			
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.			
	Comment: Click to enter rationale, explanation, unique situation, etc.			
3.	New dry utility pipes go up and over the DWSE:		Yes <input type="checkbox"/>	N/A <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.			
	Comment: Click to enter rationale, explanation, unique situation, etc.			
4.	Pipes crossing the levee surface are designed to counteract buoyant forces at the DWSE:		Yes <input type="checkbox"/>	N/A <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.			
	Comment: Click to enter rationale, explanation, unique situation, etc.			
5.	Plans show that pipe location and orientation will be clearly marked in the field: <input type="checkbox"/>			
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.			
	Comment: Click to enter rationale, explanation, unique situation, etc.			
6.	Plastic pipes within the levee embankment or its foundation are embedded in concrete:		Yes <input type="checkbox"/>	N/A <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.			
	Comment: Click to enter rationale, explanation, unique situation, etc.			
7.	Pipes passing over the DWSE will have a minimum of 2 feet of cover (low permeability or CLSM):		Yes <input type="checkbox"/>	N/A <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.			
	Comment: Click to enter rationale, explanation, unique situation, etc.			
8.	If material must be added to the levee crown, the added material must be sloped at a ratio of 10H:1V horizontal to vertical, in the upstream/downstream direction to prevent a “speed bump” effect and facilitate vehicle access:		Yes <input type="checkbox"/>	N/A <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.			
	Comment: Click to enter rationale, explanation, unique situation, etc.			
9.	Fill will be compacted to at least 95% of maximum density as determined by ASTM D698, between -2 and +3% of optimum moisture content: <input type="checkbox"/>			
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.			
	Comment: Click to enter rationale, explanation, unique situation, etc.			

10.	All fill will be free of organics or other inappropriate materials:	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.		
	Comment: Click to enter rationale, explanation, unique situation, etc.		
11.	Satisfactory fill material must have a plasticity index between 8 and 25, have a liquid limit less than 45, a minimum fines content of 20%, and 100% passing the 3-inch sieve:		<input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.		
	Comment: Click to enter rationale, explanation, unique situation, etc.		
12.	Pipes located within or beneath a levee will have watertight joints that can accommodate movement	Yes <input type="checkbox"/>	N/A <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.		
	Comment: Click to enter rationale, explanation, unique situation, etc.		
13.	If a chemical or electrochemical reaction is expected, the pipe and pipe couplings must be protected:	Yes <input type="checkbox"/>	N/A <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.		
	Comment: Click to enter rationale, explanation, unique situation, etc.		
14.	All work above DWSE?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.		
	Comment: Click to enter rationale, explanation, unique situation, etc.		
15.	Any work >3 feet into the levee embankment?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.		
	Comment: Click to enter rationale, explanation, unique situation, etc.		
16.	All work below DWSE?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.		
	Comment: Click to enter rationale, explanation, unique situation, etc.		
17.	Any work within the levee embankment?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.		
	Comment: Click to enter rationale, explanation, unique situation, etc.		
18.	Any work ≤50 feet below the channel invert?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	Reference: Click to enter document source. Example – plan sheet (p. 4), specs, report.		
	Comment: Click to enter rationale, explanation, unique situation, etc.		

Utilities

Misc Additional Utility Discussion



Rectangular Rapid-Flashing Beacon (RRFB)



Keep Sidewalk
Keep Northbound OH RRFB and push button
Relocate southbound OH RRFB; Add ground push button w/ flashing sign

change to RRFB

hand act. button
ring

AVSIA
button



Synchro – SimTraffic - MicroSimulation



- Bike and Ped #s obtained during traffic counts, last October, typical, random weekday; =70
Not 'Peak' bike/ped time; assume June/July/August would be higher
No methodology for bike/ped growth to get to design year 2050
- Field Count 70 rounded up to 100 peds/hour for each crosswalk (for PM critical peak hour)
- 1st Street Intersection - Signalized
- Island Avenue Intersection - Stop Controlled side streets

Misc. Project Meetings



- Coordination with NV State Lands for OHWM for construction easements and permanent easements
- Ongoing Coordination with City of Reno and TRFMA for 100-Year Hydraulic Modeling
- Ongoing Coordination with CTWCD for 14,000 cfs Hydraulic Modeling
- Public Meeting - August 2022
 - Pre-Recorded Presentation on project website www.ArlingtonBridges.com (400 views)
 - In-Person Meeting - August 11, 2022 at McKinley Arts Center (20 public attendees)
- ASWG Mtg #5 - Provide recommendation, based on the public survey results and ASWG discussion, to move forward to final design

Public Meeting Survey Results

- Texas DOT Concrete Railing



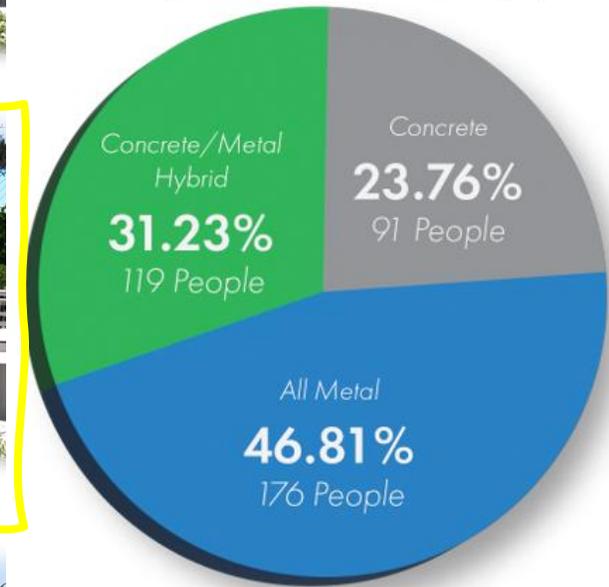
- Metal Railing



- Hybrid Concrete w/ Metal Railing at Overlook



Bridge Railing Type



Public Meeting Survey Results



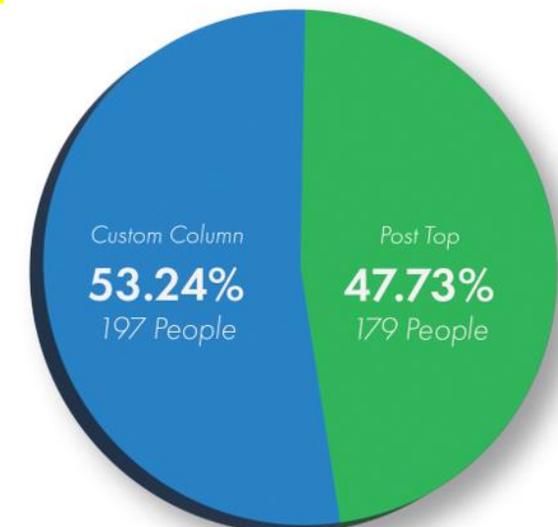
Pole with Post-Top Luminaire Lighting



Custom Column Lighting



Lighting Option



Public Meeting Survey Results



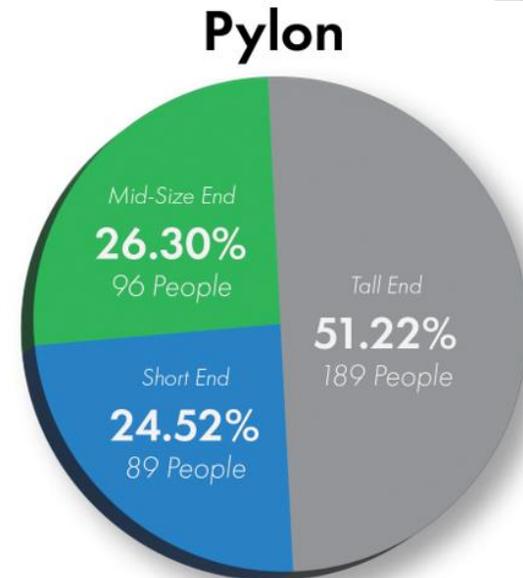
Figure 9. Tall End Pylon



Short End Pylon



Mid-Size End Pylon



Public Meeting Survey Results



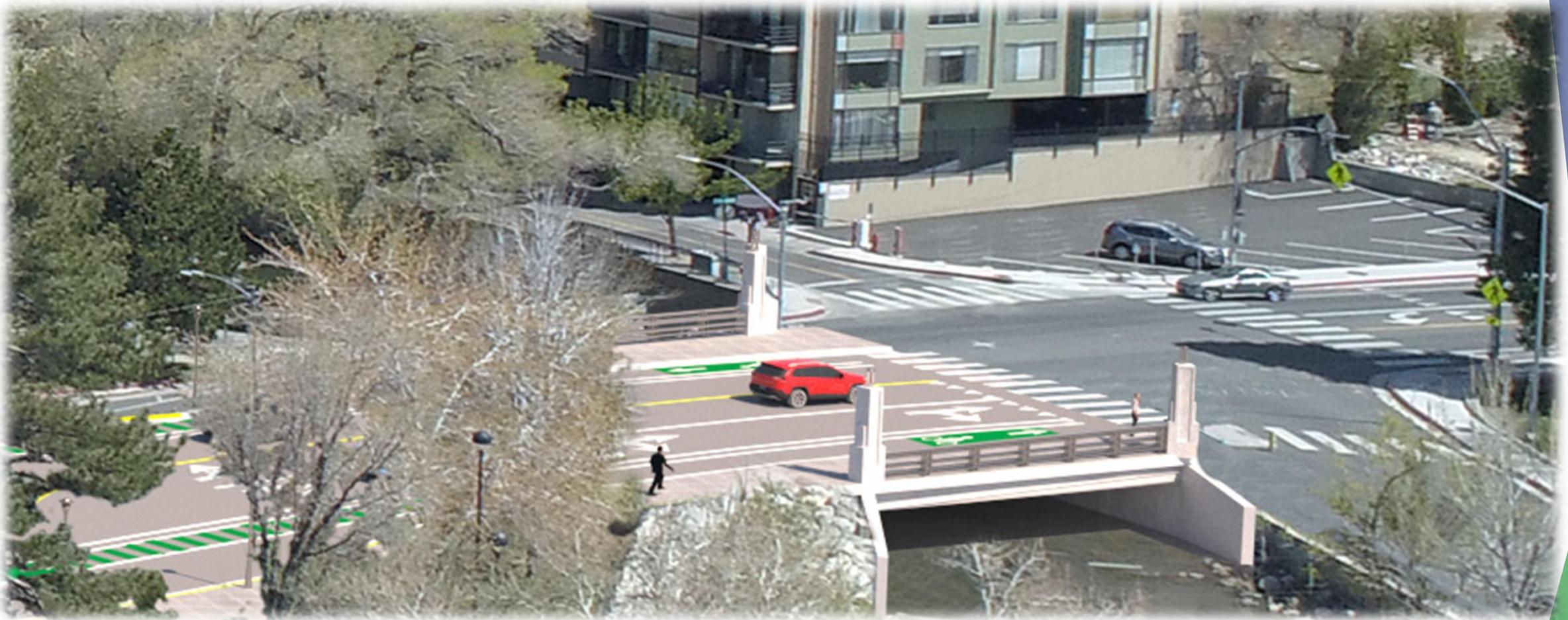
Public Meeting Survey Results



Public Meeting Survey Results



Public Meeting Survey Results



Environmental Updates

- NDOT has initiated Section 106 consultation. SHPO has concurred with the project area of potential effects (APE). NRHP-eligible resources exist in the study area. NDOT will consult with SHPO on eligibility and effects. Section 106 clearance is expected in Jan/Feb 2023.
- FHWA/NDOT consulted with Native American tribes and identified a segment of the Truckee River within the APE that has the potential to be a traditional cultural property (TCP). FHWA/NDOT will leave the potential TCP unevaluated and treat as National Register eligible for the purpose of this project.
- Section 4(f) approval is needed from FHWA for impacts to Wingfield Park (including the whitewater park) and the Truckee River Walk Trail. FHWA agreed that a temporary occupancy exception could be used for the Truckee River Walk Trail and a de minimis impact finding could be made for Wingfield Park. City of Reno concurrence is required for both approvals. However, several written comments were received from the kayak community expressing concerns about closing the whitewater park for two years during construction. These public comments must be considered for the 4(f) approvals and may discourage FHWA from making a de minimis impact finding for Wingfield Park. The alternative is an individual Section 4(f) approval, which is a lengthier process and requires us to demonstrate that there is no “feasible and prudent” way to avoid the impact. Coordination with the City of Reno is on going to determine if river access can be maintained when in-water work is not occurring. This would allow continuous recreational access to at least one channel of the river through the two-year construction period. This approach should facilitate an FHWA de minimis impact finding for Wingfield Park (including the whitewater park).

Environmental Updates

- A Section 408 permit will be obtained for work within the CTWCD 14,000 ft inundation limits. The permit application will be submitted to CTWCD by the end of 2022.
- We will obtain a 404 NWP 14 for linear transportation projects. The PCN will be submitted in spring 2023. USACE can issue the 404 permit when the Section 408 permit is authorized.
- NDOT will use a Categorical Exclusion (CE) for NEPA clearance. FHWA approval is required. Jacobs is preparing technical memorandums to support the CE.
- RTC and NDOT are currently reviewing draft memorandums including the BA, the Initial Site Assessment (ISA) for hazardous materials, the Water Quality Memo, the Floodplain Memo, and the Land Use Memo.
- Additional memorandums are expected for review in November including cultural resources, socio-economics, multi-modal, parks/recreation, visual resources, and wetlands.
- The recreation resources in the study area were not developed or improved with Land and Water Conservation Act funding. Therefore, Section 6(f) does not apply.
- NDOT will prepare the Native American Consultation Report and TCP Report. NDOT will also prepare documentation for the archaeology and paleontology clearances to support the CE.

Schedule

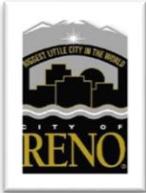


* Schedule changes highlighted in red

Thank You for Participating!



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*Building A Better Community
Through Quality Transportation.*
rtcwashoe.com



PK Electrical, Inc.

