

SRMKII LLC

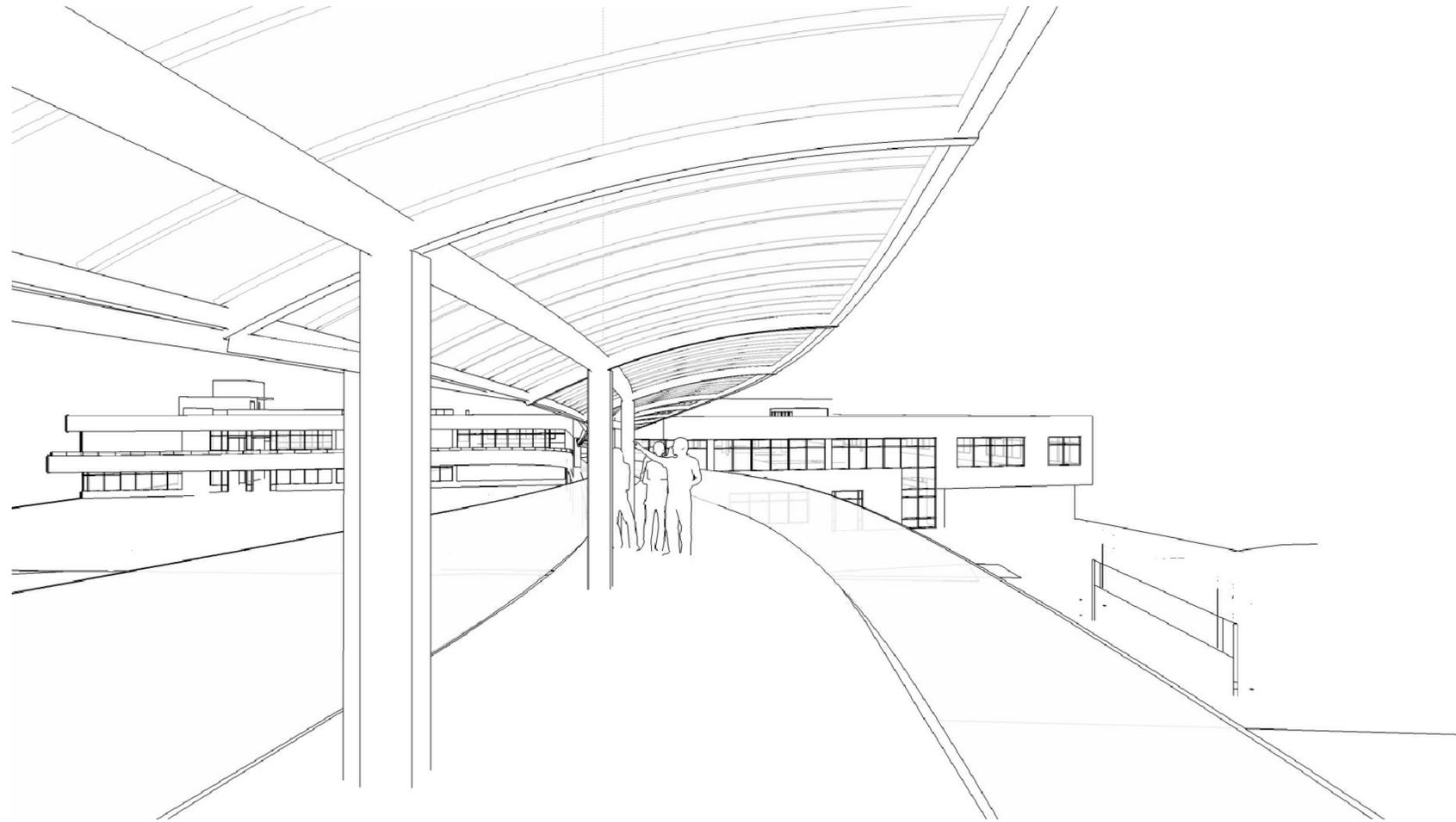
CAMPUS BRIDGE

451 7TH AVE S
KIRKLAND, WA

COMBINED CONTRACT

INDEX OF DRAWINGS

APRIL 29, 2014



CODE ANALYSIS

APPLICABLE CODES (WITH KIRKLAND AND WA AMENDMENTS)

- 2012 INTERNATIONAL BUILDING CODE (IBC)
- 2012 INTERNATIONAL FIRE CODE (IFC)
- 2003 ICC/ANSI A117.1

RIGHT-OF-WAY CLEARANCE

- 15 FEET MINIMUM CLEARANCE PROVIDED AT ROW PER 3202.3.4

ARCHITECTURAL

A0.0 COVER SHEET AND INDEX
A1.1 FLOOR PLANS
A1.2 ENLARGED PLANS
A4.1 CANOPY PLANS
A7.1 SECTIONS & DETAILS
A10.1 MISC. DETAILS

STRUCTURAL

S1.1 GENERAL NOTES
S1.2 GENERAL NOTES
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S5.1 STRUCTURAL DETAILS
S5.2 STRUCTURAL DETAILS

ELECTRICAL

E1.1 LIGHTING PLAN

PERMIT SET
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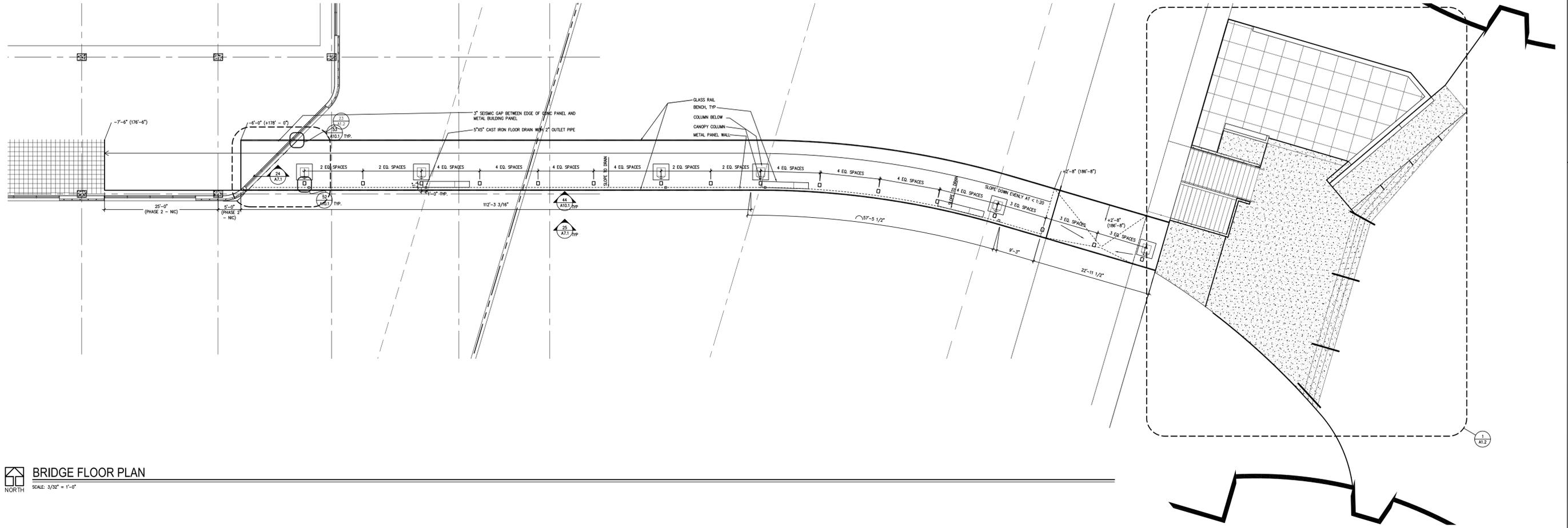


COVER SHEET AND INDEX
CAMPUS BRIDGE

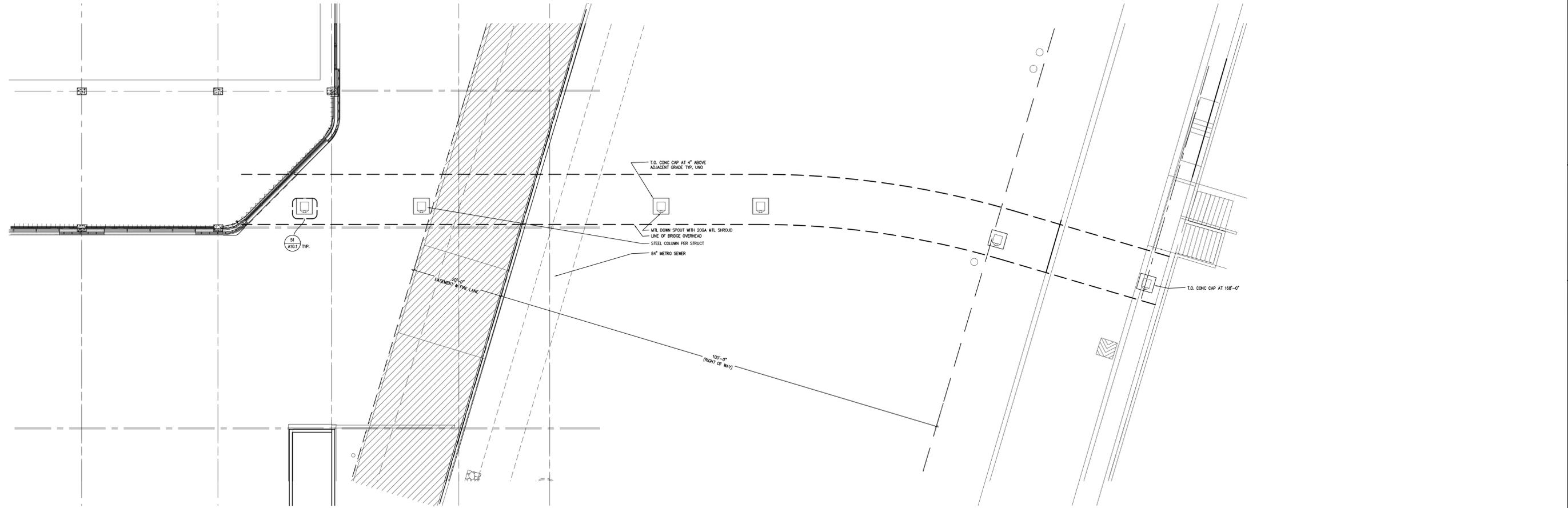
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Architecture Engineering Planning Interiors

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BRIDGE FLOOR PLAN
 NORTH
 SCALE: 3/32" = 1'-0"



BRIDGE FLOOR PLAN
 NORTH
 SCALE: 3/32" = 1'-0"

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FLOOR PLANS
CAMPUS BRIDGE

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ENLARGED PLAZA PLAN

SCALE: 3/16"=1'-0"



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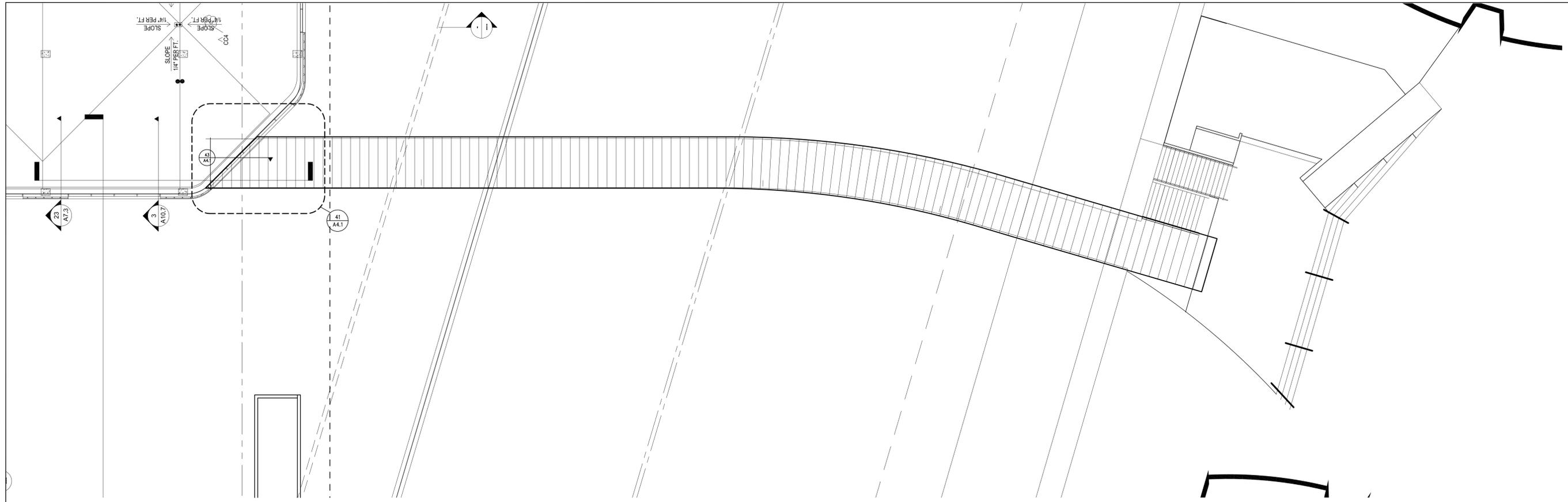
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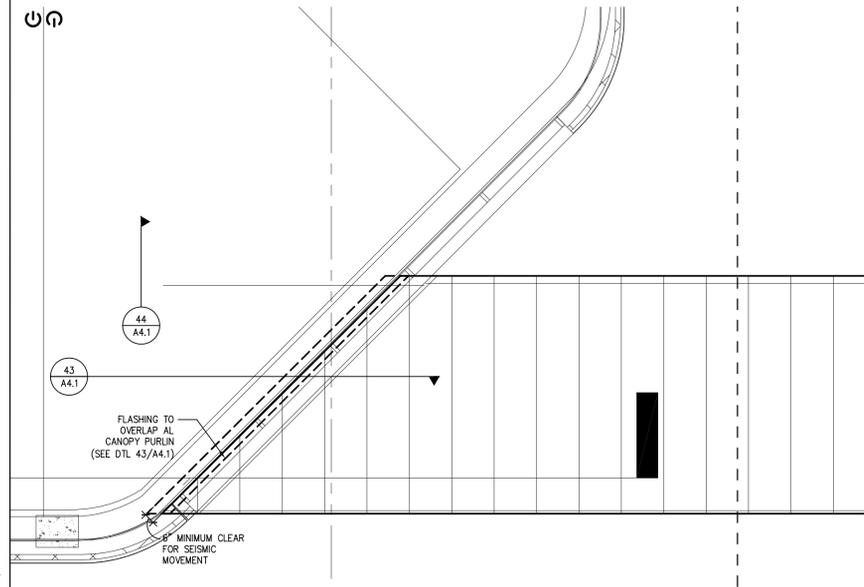
PLAZA PLAN CAMPUS BRIDGE



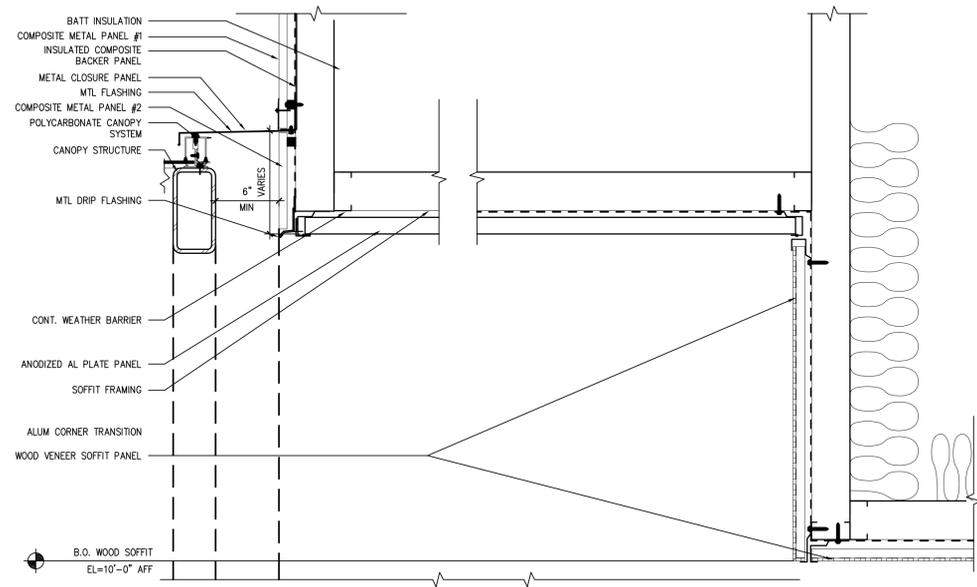
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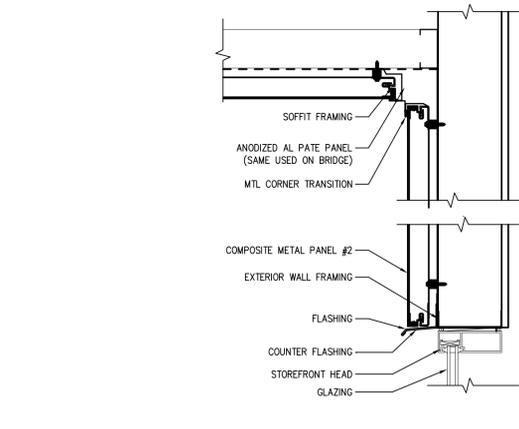
BRIDGE ROOF PLAN
 SCALE: 3/32"=1'-0"
 NORTH



BRIDGE CANOPY AT PHASE II BUILDING
 SCALE: 1/4"=1'-0"



43 CANOPY TO PHASE II SOFFIT TRANSITION
 SCALE: 1 1/2"=1'-0"



44 SOFFIT TRANSITION
 SCALE: 1 1/2"=1'-0"

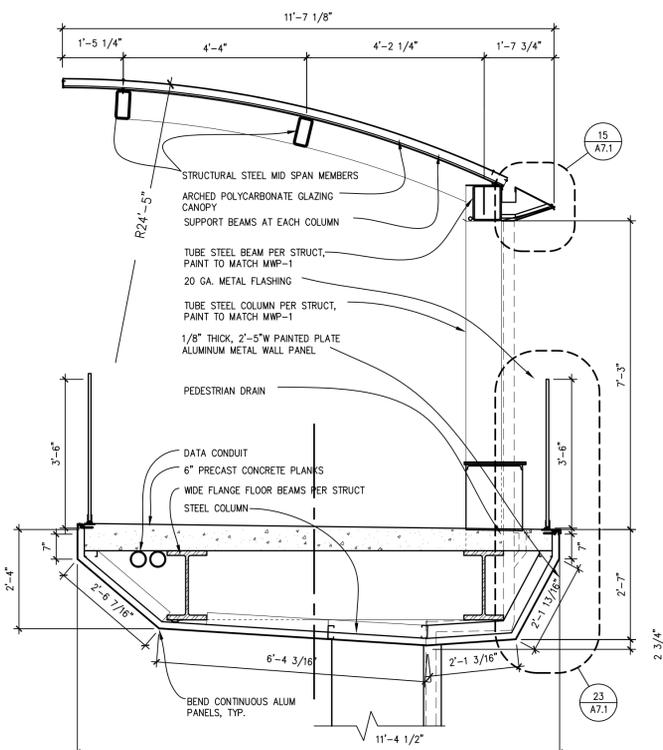
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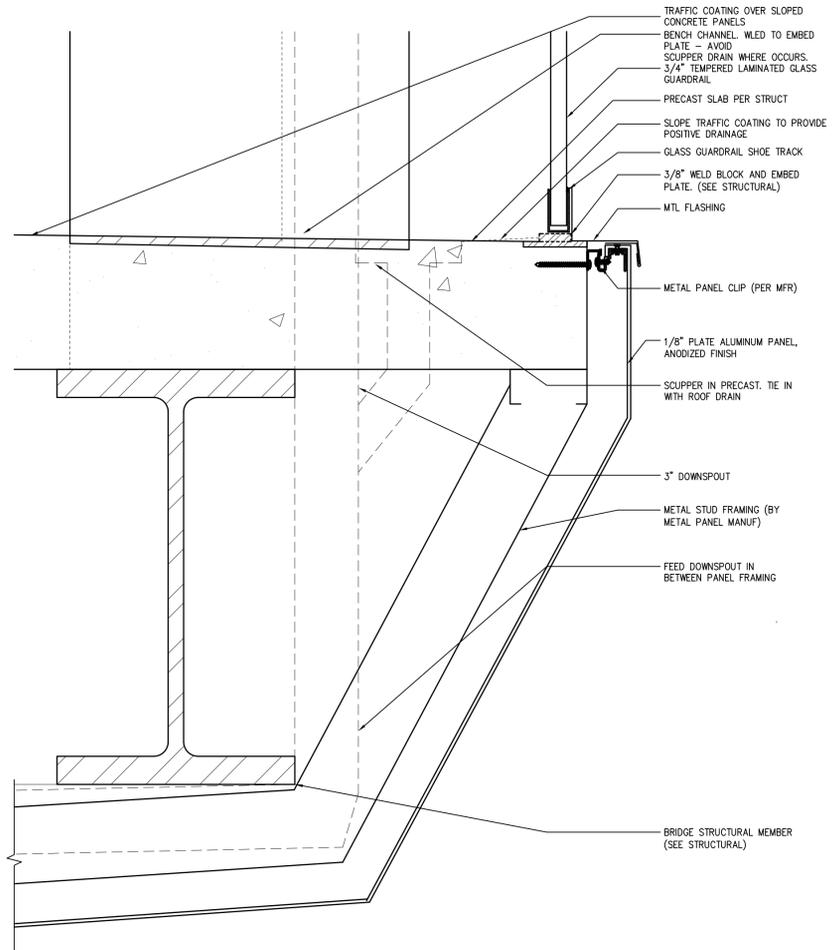


**ROOF PLANS
 CAMPUS BRIDGE**

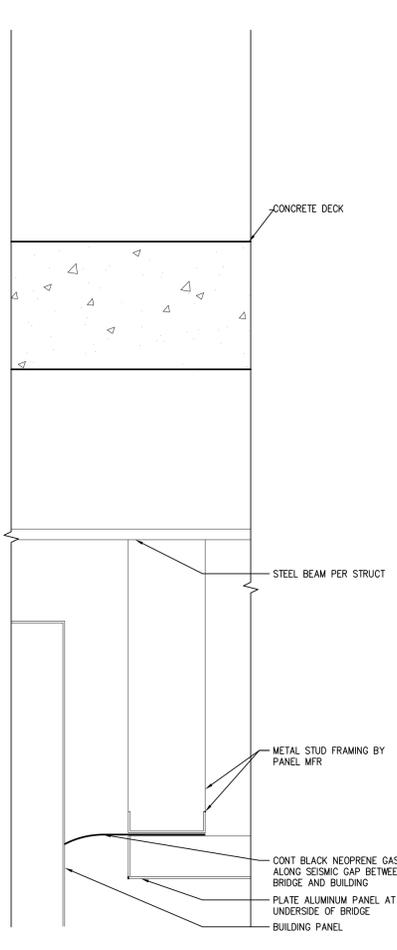
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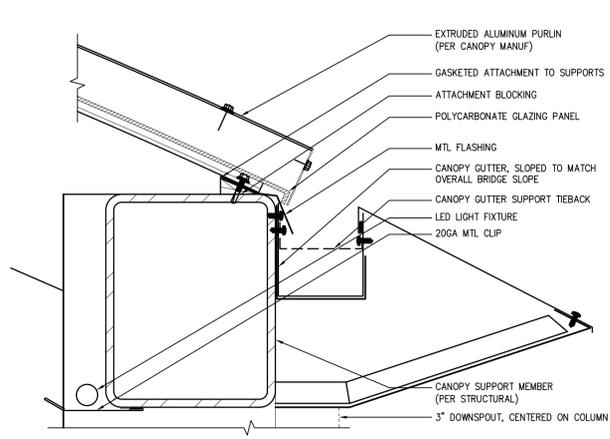
BRIDGE CROSS SECTION
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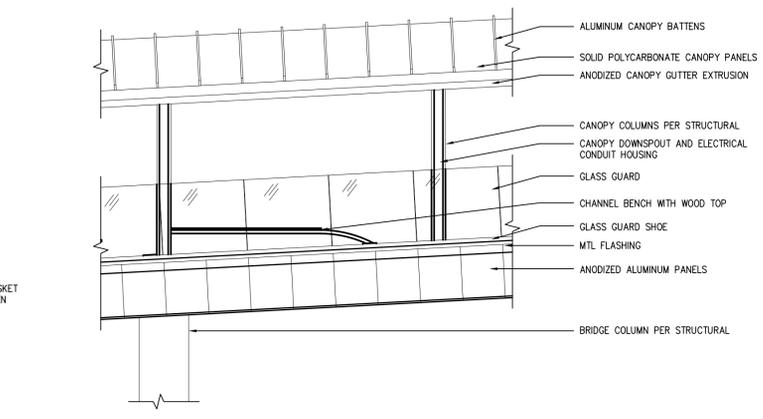
BRIDGE EDGE DETAIL TYP
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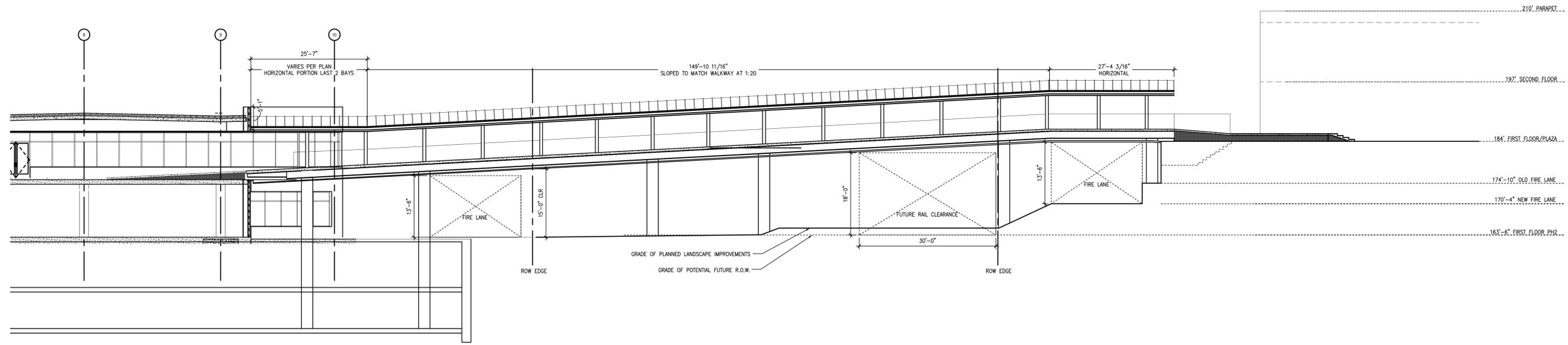
SEISMIC JOINT SECTION
 SCALE: 3"=1'-0"



GUTTER DETAIL AT CANOPY TYP
 SCALE: 3"=1'-0"



TYPICAL BRIDGE ELEVATION
 SCALE: 1/2"=1'-0"



BRIDGE ELEVATION

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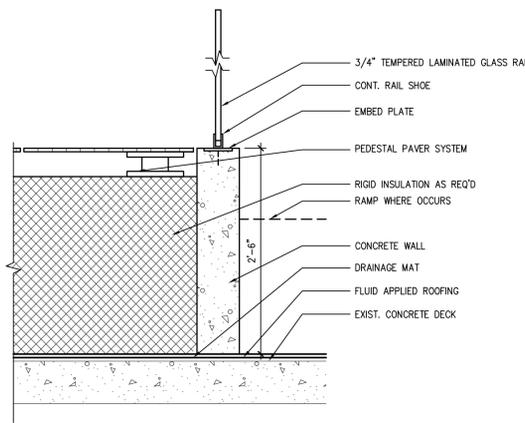


SECTIONS
 CAMPUS BRIDGE

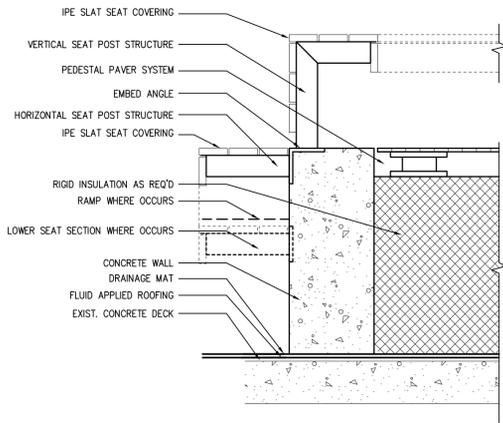
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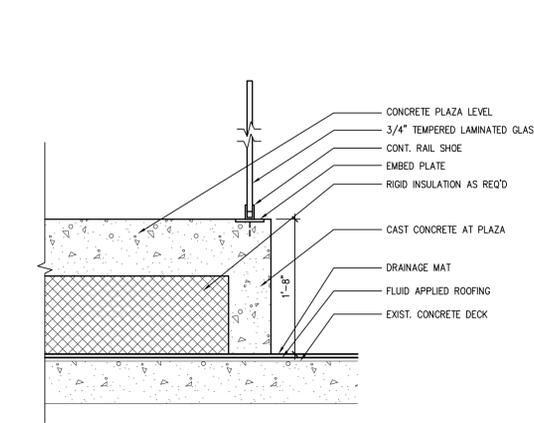
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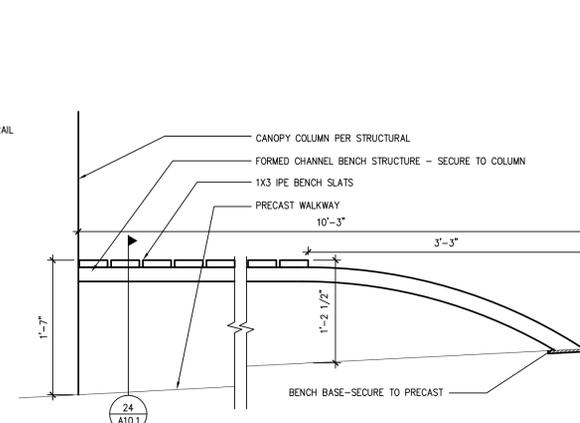
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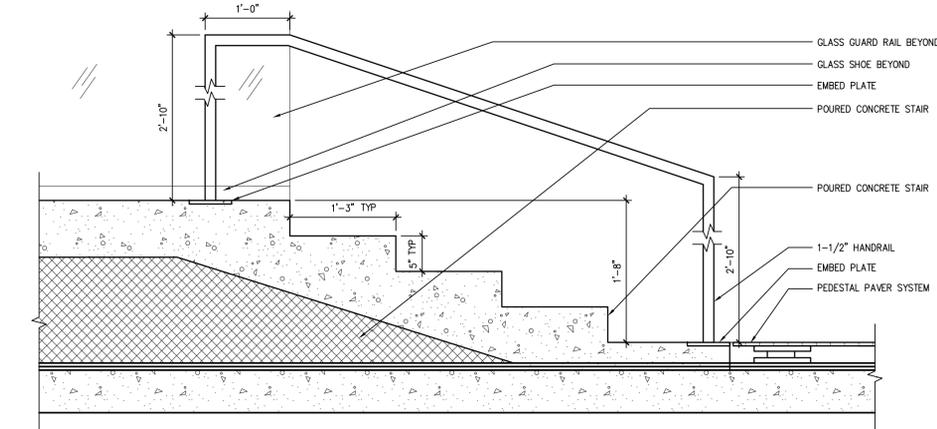
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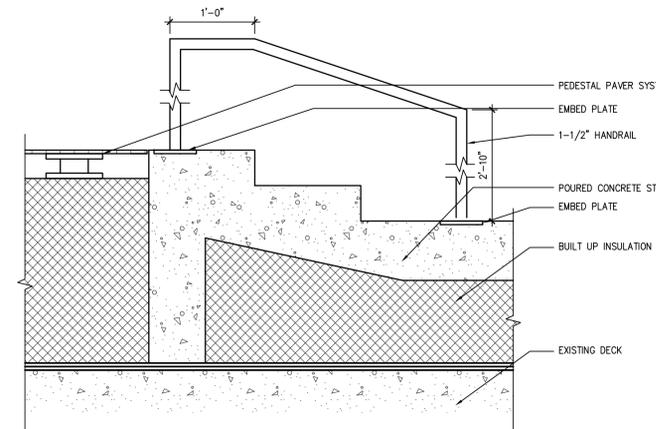
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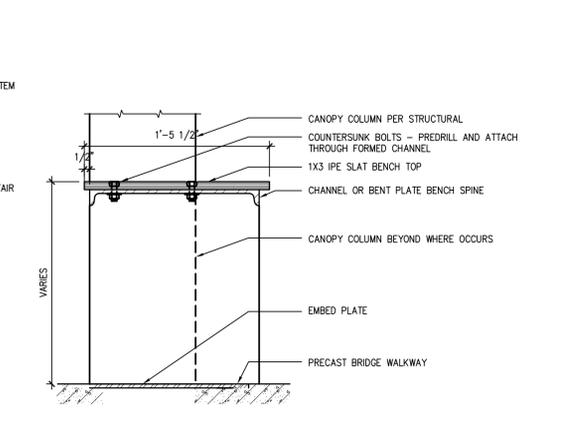
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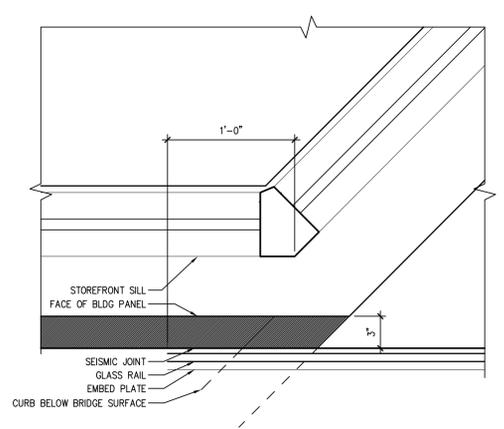
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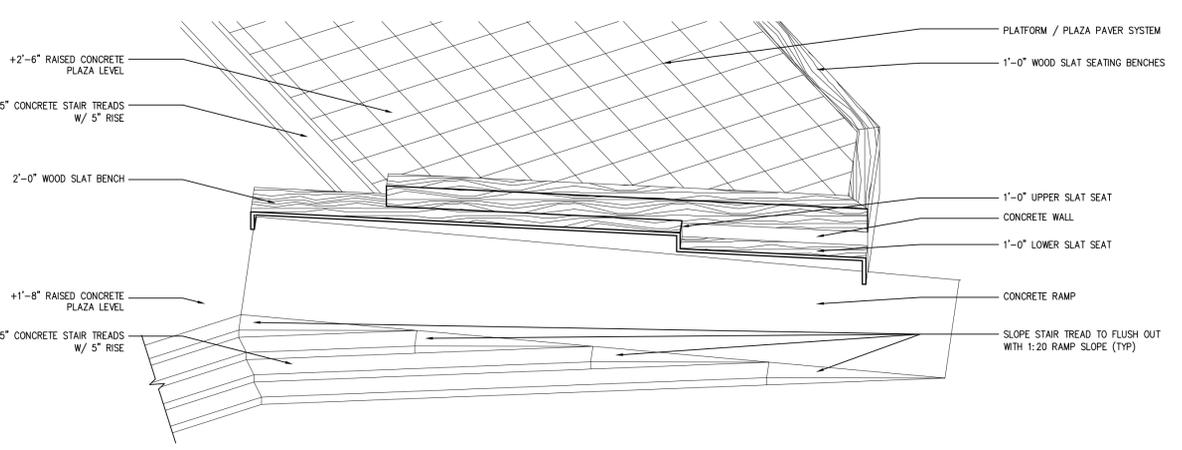
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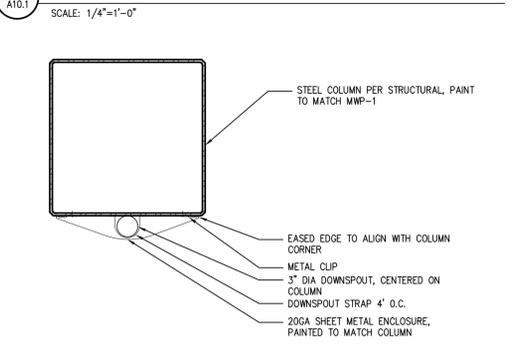
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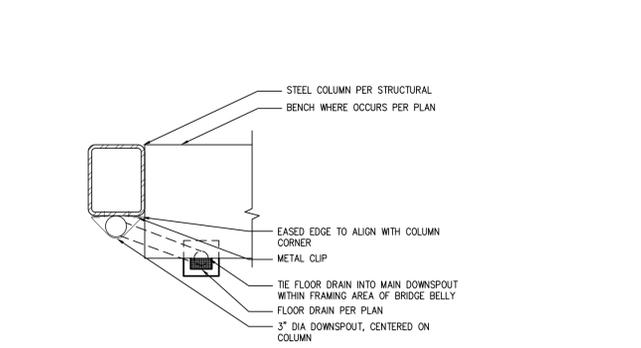
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A10.1
SCALE: 1 1/2"=1'-0"



31
A10.1
SCALE: 1/4"=1'-0"



51
A7.1
SCALE: 1"=1'-0"



52
A7.1
SCALE: 1"=1'-0"



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STRUCTURAL - GENERAL NOTES

GENERAL REQUIREMENTS

GOVERNING CODE: The design and construction of this project is governed by the "International Building Code (IBC)", 2012 Edition, hereafter referred to as the IBC, as adopted and modified by the City of Kirkland Washington, understood to be the Authority Having Jurisdiction (AHJ).

REFERENCE STANDARDS: Refer to Chapter 35 of 2012 IBC. Where other Standards are noted in the drawings, use the latest edition of the standard unless a specific date is indicated. Reference to a specific section in a code does not relieve the contractor from compliance with the entire standard.

DEFINITIONS: The following definitions cover the meanings of certain terms used in these notes:

"Architect/Engineer" – The Architect of Record and the Structural Engineer of Record.

- "Structural Engineer of Record" (SER) – The structural engineer who is licensed to stamp & sign the structural documents for the project. The SER is responsible for the design of the Primary Structural System.
- "Submit for review" - Submit to the Architect/Engineer for review prior to fabrication or construction.
- "Per Plan" – Indicates references to the structural plans, elevations and structural general notes.
- "Specialty Structural Engineer" (SSE) – A professional engineer (PE or SE), licensed in the State where the project is located, (typically not the SER), who performs specialty structural engineering services for selected specialty-engineered elements identified in the Contract Documents, and who has experience and training in the Specialty. Documents stamped and signed by the SSE shall be completed by or under the direct supervision of the SSE.
- "Bidder-designed" – Components of the structure that require the general contractor, sub-contractor, or supplier who is responsible for the design, fabrication and installation of specialty-engineered elements identified in the Contract Documents to retain the services of an SSE. Submittals of "Bidder-designed" elements shall be stamped and signed by the SSE.

SPECIFICATIONS: Refer to the project specifications issued as part of the contract documents for information supplemental to these drawings.

OTHER DRAWINGS: Refer to the architectural, mechanical, electrical, civil and plumbing drawings for additional information including but not limited to: dimensions, elevations, slopes, door and window openings, non-bearing walls, stairs, finishes, drains, waterproofing, railings, and other nonstructural items.

STRUCTURAL DETAILS: The structural drawings are intended to show the general character and extent of the project and are not intended to show all details of the work. Use entire detail sheets and specific details referenced in the plans as "typical" wherever they apply. Similarly, use details on entire sheets with "typical" in the name wherever they apply.

STRUCTURAL RESPONSIBILITIES: The structural engineer (SER) is responsible for the strength and stability of the primary structure in its completed form.

COORDINATION: The Contractor is responsible for coordinating details and accuracy of the work; for confirming and correlating all quantities and dimensions; for selecting fabrication processes; for techniques of assembly; and for performing work in a safe and secure manner.

MEANS, METHODS and SAFETY REQUIREMENTS: The contractor is responsible for the means and methods of construction and all job related safety standards such as OSHA and DOSH (Department of Occupational Safety and Health). Contractor is responsible to adhere to OSHA regulations regarding steel erection items specifically addressed in the latest OSHA regulations. Bolting and field welding at all member connections is to be completed prior to the release of the member from the hoisting mechanism unless reviewed and approved by the General Contractor's temporary bracing and shoring design engineer.

BRACING/SHORING DESIGN ENGINEER: The contractor shall at his discretion employ an SSE, a registered professional engineer for the design of any temporary bracing and shoring.

TEMPORARY SHORING, BRACING: The contractor is responsible for the strength and stability of the structure during construction and shall provide temporary shoring, bracing and other elements required to maintain stability until the structure is complete. It is the contractor's responsibility to be familiar with the work required in the construction documents and the requirements for executing it properly.

CONSTRUCTION LOADS: Loads on the structure during construction shall not exceed the design loads as noted in DESIGN CRITERIA & LOADS below or the capacity of partially completed construction as determined by the Contractor's SSE for Bracing/Shoring.

NOTE PRIORITIES: Plan and detail notes and specific loading data provided on individual plans and detail drawings supplements information in the Structural General Notes.

DISCREPANCIES: In case of discrepancies between the General Notes, Specifications, Plans/Details or Reference Standards, the Architect/Engineer shall determine which shall govern. Discrepancies shall be brought to the attention of the Architect/Engineer before proceeding with the work. Should any discrepancy be found in the Contract Documents, the Contractor will be deemed to have included in the price the most expensive way of completing the work, unless prior to the submission of the price, the Contractor asks for a decision from the Architect as to which shall govern. Accordingly, any conflict in or between the Contract Documents shall not be a basis for adjustment in the Contract Price.

SITE VERIFICATION: The contractor shall verify all dimensions and conditions at the site. Conflicts between the drawings and actual site conditions shall be brought to the attention of the Architect/Engineer before proceeding with the work.

ADJACENT UTILITIES: The contractor shall determine the location of all adjacent underground utilities prior to earthwork, foundations, and excavation. Any utility information shown on the drawings and details is approximate and not necessarily complete.

ALTERNATES: Alternate products of similar strength, nature and form for specified items may be submitted with adequate technical documentation (proper test report, etc.) to the Architect/Engineer for review. Alternate materials that are submitted without adequate technical documentation or that significantly deviate from the design intent of materials specified may be returned without review. Alternates that require substantial effort to review will not be reviewed unless authorized by the Owner.

DESIGN CRITERIA AND LOADS

OCCUPANCY:	Risk Category of Building per 2012 IBC Table 1604.5 =	II
WIND DESIGN:	MAIN WIND FORCE RESISTING SYSTEM	
Ultimate Design Wind Speed, V _{ULT} (MPH)	110	
Exposure Category	C	
Topographic Factor	K _{zt} = 1.0	
COMPONENT & CLADDING PRESSURES FOR DESIGN	PSF	
Wall Cladding, Typical Zone	30	
Wall Cladding, Edge Zone within 6 feet of corners	35	
Roof Cladding, Middle Zone	20	
Roof Cladding, Edge Zone within 6 feet of edge	50	
Roof Cladding, Corner Zone within 6 feet of corners	95	
Uplift Load Net	30	

SEISMIC DESIGN	Seismic Design Category:	SDC =	D
	Basic Structural System		Non Building Structure
	Seismic Force Resisting System		Inverted Pendulum
	Response Modification Factor:	R =	2
	System Over strength Factor	Omega =	2
	Deflection Amplification Factor	Cd =	2
	Site Classification per IBC 1613.3.2 & ASCE 7-10, Ch. 20	Site Class =	D
	Seismic Importance Factor per ASCE 7-10 Table 1.5-2	I _e =	1.0
	Spectral Response Acceleration (Short Period)	S _s =	1.247
	Spectral Response Acceleration (1-Second Period)	S ₁ =	0.424
	Spectral Design Response Coefficient (Short Period)	S _{DS} =	0.831 g
	Spectral Design Response Coefficient (1-Second Period)	S _{1S} =	0.389 g
	Seismic response coefficient(s)	C _s =	0.416
	Redundancy Factor (North/South Direction)	N/S rho =	1.0
	Redundancy Factor (East / West Direction)	E/W rho =	1.0
	Design Base Shear (North/South Direction) (KIPS)		151
	Design Base Shear (East / West Direction) (KIPS)		151
	Base shear governed by:		seismic
	Seismic Analysis procedure used:		Equivalent Lateral Force (ELF)

SNOW LOAD:	(1) Flat Roof Snow Load, (PSF)	p _r =	25 (2)
	Snow Load Importance Factor	I _s =	1.0 (3)

- Snow Load is un-reducible and includes 5 psf rain-on-snow surcharge where ground snow load is greater than zero and 20 psf or less per ASCE 7-10 Section 7.10.
- Snow Load based on WABOSEAW White Paper in Low-Lying Puget Sound Basin.
- Snow Load Importance Factor per ASCE 7-10 Table 1.5-2.

DESIGN LIVE LOADS	AREA	LIVE LOADS (PSF) L _{NO}	REMARKS & FOOT-NOTES
	Handrails & Pedestrian Guardrails	50 PLF or 200 LB	(1)
	Pedestrian Bridge and Plaza Areas	100	

- Top rail shall be designed to resist 50 PLF line load or 200 lb point load applied in any direction at any point. Intermediate rails (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 LB on an area not to exceed 1 ft square. These three loads are to be considered separately with worst case used for design.

SUBMITTALS

SUBMIT FOR REVIEW: SUBMITTALS of shop drawings, product data and mill tests are required for items noted in the individual materials sections and for *bidder designed* elements.

SUBMITTAL REVIEW PERIOD: Submittals shall be made in time to provide a minimum of TWO WEEKS or 10 WORKING DAYS for review by the Architect/Engineer prior to the onset of fabrication.

GENERAL CONTRACTOR'S PRIOR REVIEW: Prior to submission to the Architect/Engineer, the Contractor shall review the submittal for completeness. Dimensions and quantities are not reviewed by the SER, and therefore, must be verified by the General Contractor. Contractor shall provide any necessary dimensional details requested by the Detailer and provide the Contractor's review stamp and signature before forwarding to the Architect/Engineer.

SHOP DRAWING REVIEW: Once the contractor has completed his review, the SER will review the submittal for general conformance with the design concept and the contract documents of the building and will stamp the submittal accordingly. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures there from. The SER will return submittals in the form they are submitted in (either hard copy or electronic). For hard copy submittals, the contractor is responsible for submitting the required number of copies to the SER for review.

SHOP DRAWING DEVIATIONS: When shop drawings (component design drawings) differ from or add to the requirements of the structural drawings they shall be designed and stamped by the responsible SSE.

DEFERRED SUBMITTALS

BIDDER-DESIGNED ELEMENTS
Submit "Bidder-Designed" deferred submittals to the Architect and SER for review. The deferred submittals shall also be submitted to the city for approval, if required by the city.

Design of prefabricated, "bidder designed", manufactured, pre-engineered, or other fabricated products shall be comply with the following requirements:

- Design considers tributary dead, live, wind and earthquake loads in combinations required by IBC.
- Design within the Deflection Limits noted herein and as specified or referenced in the IBC.
- Design shall conform to the specifications and reference standards of the governing code.
- Submittal shall include:
 - Calculations prepared, stamped and signed by the SSE demonstrating code conformance.
 - Engineered component design drawings are prepared, stamped and signed by the SSE.
 - Product data, technical information and manufacturer's written requirements and Agency approvals as applicable.
 - SSE may submit to the Architect/Engineer, a request to utilize relevant alternate design criteria of similar nature and generally equivalency which is recognized by the Code and acceptable to the Authority Having Jurisdiction. Submit adequate documentation of design.

GENERAL CONTRACTOR'S PRIOR REVIEW: Once the contractor has completed his review of the SSE component drawings, the SER will review the submittal for general conformance with the design of the building and will stamp the submittal accordingly. Review of the Specialty Structural Engineer's (SSE) shop drawings (component design drawings) is for compliance with design criteria and compatibility with the design of the primary structure and does not relieve the SSE of responsibility for that design. All necessary bracing, ties, anchorage, proprietary products shall be furnished and installed per manufacturer's instructions or the SSE's design drawings and calculations. These elements include but are not limited to:

- Handrails, Guardrails and Balcony Rail Anchorages
- Precast Structural Elements

INSPECTIONS, QUALITY ASSURANCE VERIFICATIONS AND TEST REQUIREMENTS

INSPECTIONS: Foundations, footings, under slab systems and framing are subject to inspection by the Building Official in accordance with IBC 110.3. Contractor shall coordinate all required inspections with the Building Official.

SPECIAL INSPECTIONS, VERIFICATIONS and TESTS: Special Inspections, Verifications and Testing shall be done in accordance with IBC Chapter 17 and the STATEMENT OF SPECIAL INSPECTIONS herein per IBC Sections 1704 and 1705, as applicable.

SPECIAL INSPECTION AGENCY and SPECIAL INSPECTORS: Owner shall retain a WABO accredited Special Inspections agency to provide Special Inspections for the project. Special Inspectors shall be qualified persons per IBC 1704.2.1.

STATEMENT OF SPECIAL INSPECTIONS, Special Inspections and Testing per IBC Sections 1704 and 1705 are required for the following:

FABRICATION SHOP INSPECTION Where off-site Fabrication of gravity LOAD BEARING MEMBERS & ASSEMBLIES is performed. Special Inspector shall verify that the fabricator complies with IBC 1704.2.5 which includes the following:

- Prior to the start of fabrication, Special Inspector(s), representing the Owner, shall visit the Fabricator's shop(s) where the work is to be performed, and verifies that the Fabricator maintains detailed Fabrication and Quality Control procedures that provide a basis for inspection, control of workmanship, material control and fabricator's ability to conform to approved Construction Documents and referenced Standards.
- Fabricator shall have available for Inspector's review, detailed procedures for material control that demonstrates the fabricator's ability to maintain suitable records and procedures such that, at anytime during the fabrication process, the material specification, grade and applicable test reports for primary load-carrying members, are capable of being determined.

SOILS & FOUNDATION CONSTRUCTION

- Periodic inspection of soils earthwork per Table 1705.6 is required for:
 - Footing soil bearing surfaces prior to placing any reinforcing steel
 - Excavation depth and bearing layer prior to placing any reinforcing steel.
- Continuous inspection per Table(s) 1705.6 required for:
 - Installation of Cast-in-Place Deep Foundations – Drilled Cast-in-place Piers/Caisson per IBC Section & Table 1705.8 and IBC Section 18.10.4.8 & IBC 1705.3 for concrete testing.

CONCRETE CONSTRUCTION

- Periodic inspection required for:
 - Size & placement of all reinforcing steel prior to the pour.
 - Placement clearances around reinforcing steel at embedded conduit.
 - Placing & size of cast-in-place bolts and embedded fabrications prior to the pour.
 - Shape, location & dimensions of members formed.
 - Use of the required design concrete mix.
 - Maintenance of specified curing temperature and techniques.
- Continuous inspection required during the:
 - Placing of reinforced concrete, for proper application techniques.
 - Placing of concrete around cast-in-place bolts and embeds.
 - Sampling of fresh concrete.
 - Determinations of slump, air content and temperature.
 - Grouting operation of post-installed bolts or rebar dowels.

STRUCTURAL STEEL

A qualified Special Inspector of an "approved agency" providing Quality Assurance (QA) Special Inspections for the project shall review and confirm the Fabricator and Erector's Quality Control (QC) procedures for completeness and adequacy relative to AISC 360-10 Chapter N, the AISC 303 Code of Standard Practice, AWS D1.1-2010 Structural Welding Code, and 2012 IBC code requirements for the fabricator's work of work.

- QA Agency providing Special Inspections shall provide personnel meeting the minimum qualification requirements for Inspection and Nondestructive Testing NDT per AISC 360-10 Section N4.
- Verify Fabricator and Erector Quality Control Program per AISC 360-10 Section N2.
- Visual Welding Inspection of welds by both QC and QA personnel shall be per tables listed in AISC 360 Section N5.
- Inspection Tasks for Welding
 - Prior to Welding per AISC 360-10 Table N5.4-1.
 - During Welding per AISC 360-10 Table N5.4-2.
 - After Welding per AISC 360-10 Table N5.4-3.
- Nondestructive Testing (NDT) of welds:
 - Non-Destructive Testing (NDT) of welded joints per AISC 360-10 N.5.
 - Risk Category for determination of extent of NDT per AISC 360 N5.5b is noted in the Design Criteria and Loads section of these General Requirements.
 - NDT performed shall be documented and reports shall identify the tested weld by piece mark and location in the piece.
 - For field work, the NDT report shall identify the tested weld by location in the structure, piece mark and location in the piece.
- Inspection Tasks for Bolting per AISC 360-10 Section N5.6
 - Prior to Bolting per AISC 360-10 Table N5.6-1. Not required for snug-tight joints.
 - During Bolting per AISC 360-10 Table N5.6-2. Not required for snug-tight joints.
 - After Bolting per AISC 360-10 Table N5.6-3.
- Additional Inspection tasks per AISC 360-10 Section N5.7.
- Inspection for Composite Construction shall be done per AISC 360-10 Section N6.

POST-INSTALLED ANCHORS TO CONCRETE: shall comply with IBC Section 1703. Inspections shall be in accordance with the requirements and the approved ICC Evaluation Report and as indicated by the design requirements specified on the drawings. Refer to the POST INSTALLED ANCHORS section of these notes for anchors that are the basis of the design. Special Inspector shall verify anchors are as specified in the POST INSTALLED ANCHORS section of these notes or as otherwise specified on the drawings. Substitutions require approval by the SER and require substantiating calculations and current 2012 IBC recognized ICC Evaluation Services (ES) Report. Special Inspector shall document in their Special Inspection Report compliance with each of the elements required within the applicable ICC Evaluation Services (ES) Report.

INSPECTION SUBMITTALS: Special inspection reports shall be provided on a weekly basis. Final special inspection reports will be required by each special inspection firm per IBC 1704.2.4. Submit copies of all inspection reports to the Architect/Engineer and the Authority Having Jurisdiction for review.

STRUCTURAL OBSERVATION: Structural Observation shall be provided for structures classified as Seismic Design Category D, E and F in accordance with IBC Section 1704.5 and Section 107.3.4. Structural observation site visits will be as follows: After installation but prior to casting in the anchor bolts for the bridge columns and during steel erection, Contractor shall notify the SER in a timely manner to allow scheduled Observations to occur. Field (Observation) Reports will be distributed to the Architect, the Contractor, Special Inspector and the Authority Having Jurisdiction.

CONTRACTOR RESPONSIBILITY: Prior to issuance of the building permit, the Contractor is required to provide the Authority Having Jurisdiction a signed, written acknowledgement of the Contractor's responsibilities associated with the above Statement of Special Inspections addressing the requirements listed in IBC Section 1704.4. Contractor is referred to IBC Sections 1705.11.5 and 1705.11.6 for architectural and MEP building systems that may be subject to additional inspections (based on the building's designated Seismic Design Category listed in the CRITERIA), including anchorage of HVAC ductwork containing hazardous materials, piping systems and mechanical units containing flammable, combustible or highly toxic materials, electrical equipment used for emergency or standby power, exterior wall panels and suspended ceiling systems.

PREFABRICATED CONSTRUCTION: All prefabricated construction shall conform to IBC Section 1703.

SOILS AND FOUNDATIONS

REFERENCE STANDARDS: Conform to IBC Chapter 18 "Soils and Foundations."

GEOTECHNICAL REPORT: Recommendations contained in Geotechnical Engineering Report: Improvements in the Cross Kirkland Corridor Google Campus Expansion by Terracon Consultants Inc. dated March 19, 2014 were used for design.



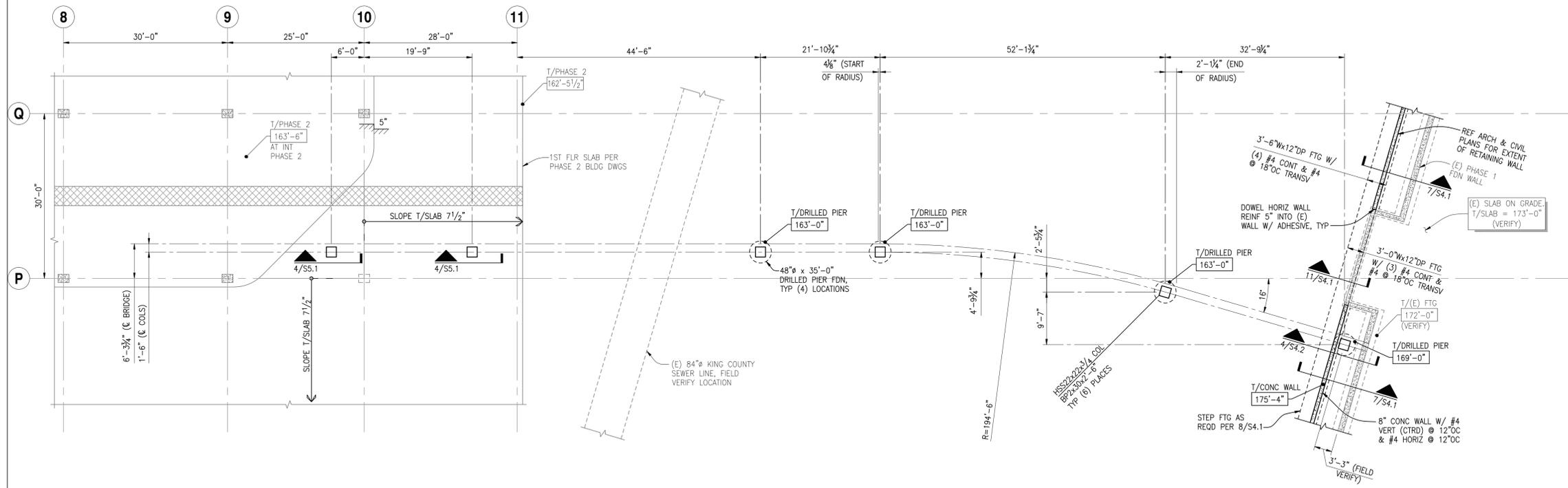
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DRAWING LEGEND

MARK	DESCRIPTION	MARK	DESCRIPTION
F2.0	FOOTING SYMBOL (REFER TO SPREAD FOOTING SCHEDULE)	I	INDICATES WIDE FLANGE COLUMN
(PT)	PILE CAP SYMBOL (REFER TO PILE CAP SCHEDULE)	□	INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR TUBE STEEL (TS) COLUMN
(A)	TILT-UP/PRECAST CONCRETE WALL CONNECTION SYMBOL (REFER TO CONNECTION DETAIL)	○	INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR STEEL PIPE COLUMN
(WB)	SHEAR WALL SYMBOL (REFER TO SHEAR WALL SCHEDULE)	■	INDICATES WOOD POST
(Δ)	REVISION TRIANGLE	■	INDICATES BUNDLED STUDS
(1)	TILT-UP/PRECAST CONCRETE WALL PANEL NUMBER (REFER TO TILT-UP/PRECAST CONCRETE WALL ELEVATIONS)	■	INDICATES CONCRETE COLUMN
(◇)	CMU WALL REINFORCING SYMBOL (REFER TO CMU WALL REINFORCING SCHEDULE)	■	INDICATES PRECAST CONCRETE COLUMN
(8")	CONTINUITY PLATE LENGTH (REFER TO TYPICAL DETAIL)	→	INDICATES MOMENT FRAME CONNECTION
(DS)	INDICATES DOUBLE SHEAR CONNECTION (REFER TO THE DOUBLE SHEAR PLATE CONNECTIONS DETAIL)	→	INDICATES DRAG CONNECTION
(SR)	INDICATES NUMBER OF STUD RAIL REQUIRED AT COLUMN (REFER TO STUD RAIL DETAILS)	⇄	INDICATES WOOD OR STEEL STUD WALL
(◇)	ROOF/FLOOR DIAPHRAGM NAILING SYMBOL (REFER TO DIAPHRAGM NAILING SCHEDULE)	⇄	INDICATES MASONRY/CMU WALL
(CT)	STEEL COLUMN SYMBOL (REFER TO STEEL COLUMN SCHEDULE)	⇄	INDICATES CONCRETE/TILT-UP CONCRETE WALL
T/SLAB "X"-X"	ELEVATION SYMBOL (T/ REFERS TO COMPONENT THAT THE ELEVATION REFERENCES)	⇄	INDICATES WOOD OR STEEL STUD SHEAR WALL
(3)	STUD BUBBLE (INDICATES NUMBER OF STUDS REQUIRED IF EXCEEDS NUMBER SPECIFIED IN PLAN NOTE)	⇄	INDICATES BEARING WALL BELOW
(3)	INDICATES STEP IN FOOTING (REFER TO TYPICAL STEP IN FOOTING DETAIL)	⇄	INDICATES EXISTING WALL
(X/SX.X)	DETAILS OR SECTION CUT (DETAIL NUMBER/SHEET NUMBER)	→	POST-TENSION DEAD END (PLAN)
(X/SX.X)	DETAILS OR SECTION CUT IN PLAN VIEW (DETAIL NUMBER/SHEET NUMBER)	⇄	POST-TENSION STRESSING END (PLAN)
(X/SX.X)	INDICATES LOCATION OF CONCRETE WALLS, SHEAR WALLS OR BRACED FRAME ELEVATIONS	⇄	POST-TENSION PROFILE (PLAN) (IN INCHES)
(X/SX.X)	SPAN INDICATOR (INDICATES EXTENTS OF FRAMING MEMBERS OR OTHER STRUCTURAL COMPONENTS)	⇄	INTERMEDIATE STRESSING (PLAN)
(X/SX.X)	INDICATES DIRECTION OF DECK SPAN	→	

ABBREVIATIONS

Z	Angle	FIN	Finish	PSI	Pounds Per Square Inch
AB	Anchor Bolt	FLR	Floor	PSL	Parallel Strand Lumber
ADDL	Additional	FRP	Fiberglass Reinforced Plastic	P-T	Post-Tensioned
ALT	Alternate	F/	Face of	PT	Pressure Treated
ARCH	Architectural	FTG	Footing	R	Radius
B or BOT	Bottom	F/	Face of	RD	Roof Drain
BLD	Bottom Of	GA	Gage	REF	Reference
R/D	Building	GALV	Galvanized	REFN	Reinforcing
BLKG	Blocking	GEOTECH	Geotechnical	REQD	Required
BMU	Brick Masonry Unit	GL	Glue Laminated	RET	Retaining
BP	Baseplate	TMBR	Timber	SCB	Special Concentric Braced
BRB	Buckling Resisting	GWB	Gypsum Wall Board	SCHED	Schedule
BRC	Braced	HDR	Header	SHTHG	Sheathing
Bearing	HGR	Hem-Fir		SIM	Similar
BTWN	Between	HORZ	Horizontal	SMF	Special Moment Frame
C	Centerline	HD	Hold-down	SOG	Slab on Grade
CB	Castellated Beam	HP	High Point	SPEC	Specification
CIP	Cast in Place	HSS	= TS (Hollow Structural Section)	SQ	Square
CJ	Construction or Control Joint	IBC	International Building Code	SR	Studrail
CJP	Complete Joint Penetration	ID	Inside Diameter	SF	Square Foot
CLR	Clear	IE	Invert Elevation	SST	Stainless Steel
CMU	Concrete Masonry Unit	IF	Inside Face	STAGG	Stagger/Staggered
COL	Column	INT	Interior	STD	Standard
CONC	Concrete	K	Kips	SYM	Symmetrical
CONN	Connection	KSF	Kips Per Square Foot	STIFF	Stiffener
CONST	Construction	LF	Lineal Foot	STL	Steel
CONT	Continuous	LL	Live Load	STRUCT	Structural
C/SINK	Countersink	LLH	Long Leg Horizontal	SWMJ	Soft Web Wood Joist
CTRD	Centered	LLV	Long Leg Vertical	T	Top
DB	Drop Beam	LP	Low Point	T/	Top Of
DBA	Deformed Bar Anchor	LONGIT	Longitudinal	TAB	Top & Bottom
DBL	Double	LSL	Laminated Strand Lumber	TC AX	LD Top Chord
DEMO	Demolish	LVL	Laminated Veneer Lumber	TCX	Axial Load
DEV	Development	MAS	Masonry	TDS	Top Chord Extension
DF	Douglas Fir	MAX	Maximum	TIE	Tie Down System
DIAG	Diagonal	MECH	Mechanical	T&G	Tongue & Groove
DIST	Distributed	MEZZ	Mezzanine	THKND	Thickened
DL	Dead Load	MFR	Manufacturer	THRD	Threaded
DN	Down	MIN	Minimum	THRU	Through
DO	Ditto	MISC	Miscellaneous	TRANSV	Transverse
DP	Depth/Deep	NIC	Not In Contact	TRYP	Typical
DWG	Drawing	NTS	Not To Scale	UBC	Uniform Building Code
(E)	Existing	OCB	Ordinary Concentric Braced	UNO	Unless Noted Otherwise
EA	Each	OD			



FOUNDATION PLAN NOTES:

- STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.1 AND S1.2.
- VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
- VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION AND REPORT ANY DISCREPANCIES TO ARCHITECT AND ENGINEER OF RECORD.
- FIELD VERIFY LOCATION OF EXISTING KING COUNTY SEWER AND ALL OTHER UTILITIES PRIOR TO COMMENCING WORK.
- CONTRACTOR TO VERIFY TOP OF CONCRETE (T/CONC) WALL ELEVATIONS ON ALL PARTIAL HEIGHT RETAINING WALLS. MAINTAIN T/WALL ELEVATION A MINIMUM OF 6" ABOVE FINISH GRADE PER 7/S4.1.
- TYPICAL DETAILS PER:

4/S4.1	STANDARD HOOKS AND BAR BENDS
8/S4.1	TYPICAL STEPPED FOOTING
12/S4.1	TYPICAL LAP SPLICE SCHEDULE

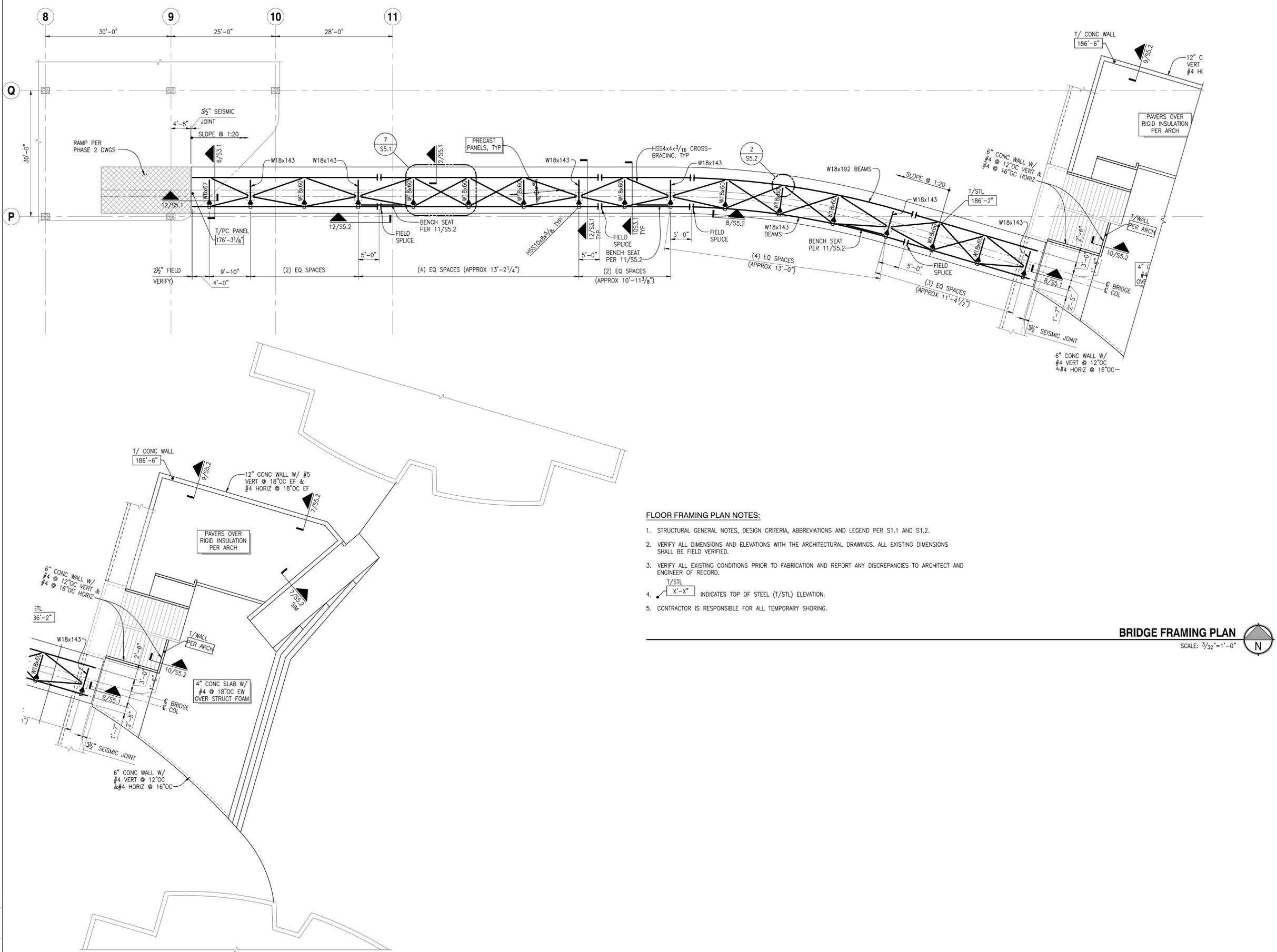
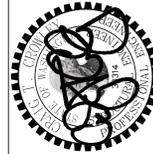
BRIDGE FOUNDATION PLAN
 SCALE: 3/32" = 1'-0"



**FOUNDATION PLAN
 CAMPUS BRIDGE
 SPA ADA MODIFICATIONS**

S2.1
 1204-1-0236
 04.29.14
 Revisions

1204-1-0236-S2.1.dwg 28-Apr-14 9:37 AM jhmoock



- FLOOR FRAMING PLAN NOTES:**
1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.1 AND S1.2.
 2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
 3. VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION AND REPORT ANY DISCREPANCIES TO ARCHITECT AND ENGINEER OF RECORD.
 4. $\frac{T}{STL}$ 'X'-X" INDICATES TOP OF STEEL (T/STL) ELEVATION.
 5. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING.

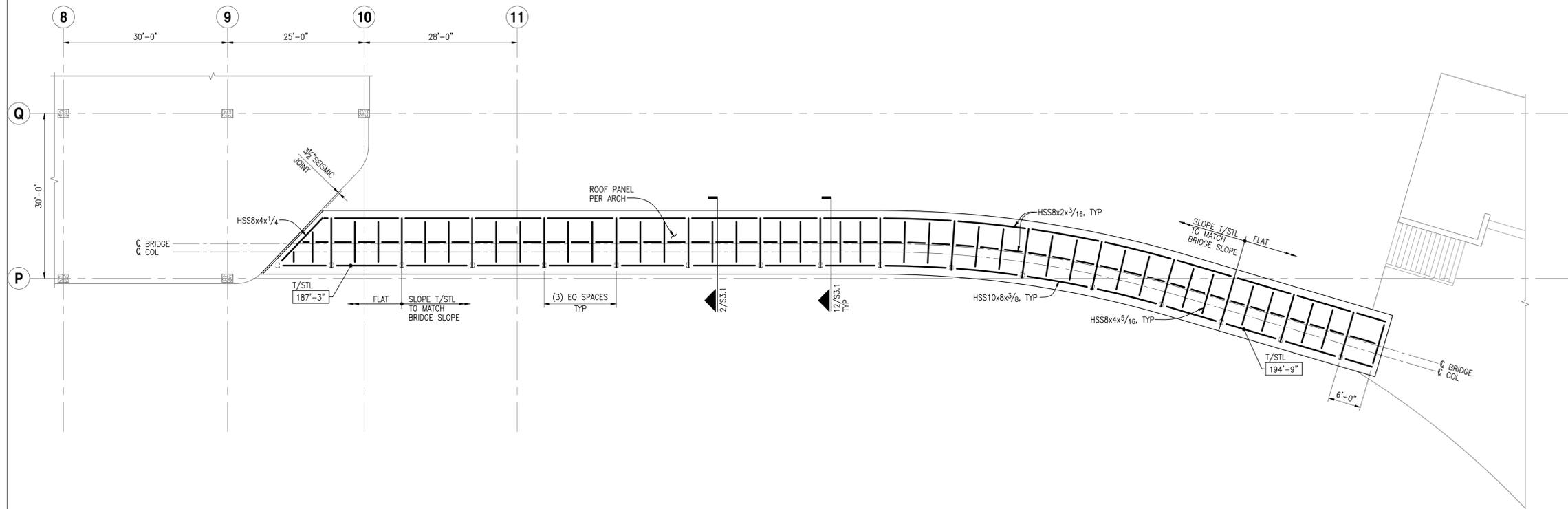
BRIDGE FRAMING PLAN
 SCALE: $\frac{3}{32}'' = 1'-0''$

PHASE 1 OVERFRAMING PLAN
 SCALE: $\frac{3}{32}'' = 1'-0''$

**BRIDGE FRAMING PLAN
 CAMPUS BRIDGE
 SPA ADA MODIFICATIONS**

S2.2
 12041-0236
 04.29.14
 Revisions

12041-0236-S22.dwg 28-Apr-14 9:37 AM jhmoock

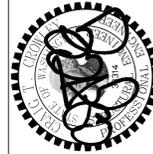


FLOOR FRAMING PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.1 AND S1.2.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
3. VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION AND REPORT ANY DISCREPANCIES TO ARCHITECT AND ENGINEER OF RECORD.
4. $\begin{matrix} \text{T/STL} \\ \swarrow \\ \text{X'-X''} \end{matrix}$ INDICATES TOP OF STEEL (T/STL) ELEVATION.
5. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING.

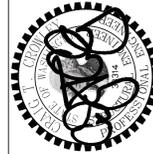
BRIDGE ROOF FRAMING PLAN
 SCALE: $\frac{3}{32}'' = 1'-0''$ 

12041-0236-023.dwg 28-Apr-14 9:38 AM jhmoock



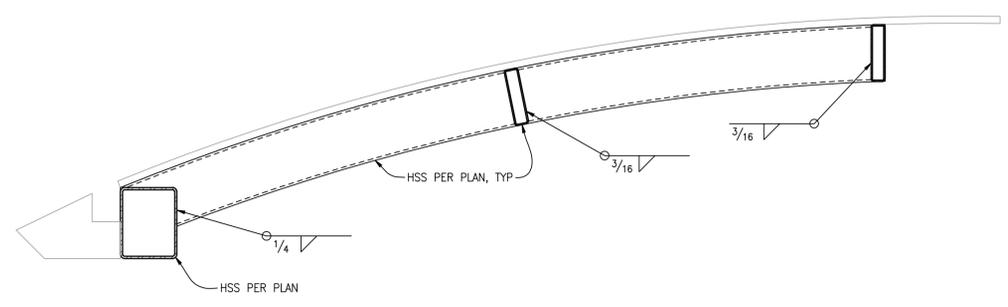
**BRIDGE ROOF FRAMING PLAN
 CAMPUS BRIDGE
 SPA ADA MODIFICATIONS**

S2.3
 12041-0236
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**STRUCTURAL DETAILS
 CAMPUS BRIDGE
 SPA ADA MODIFICATIONS**

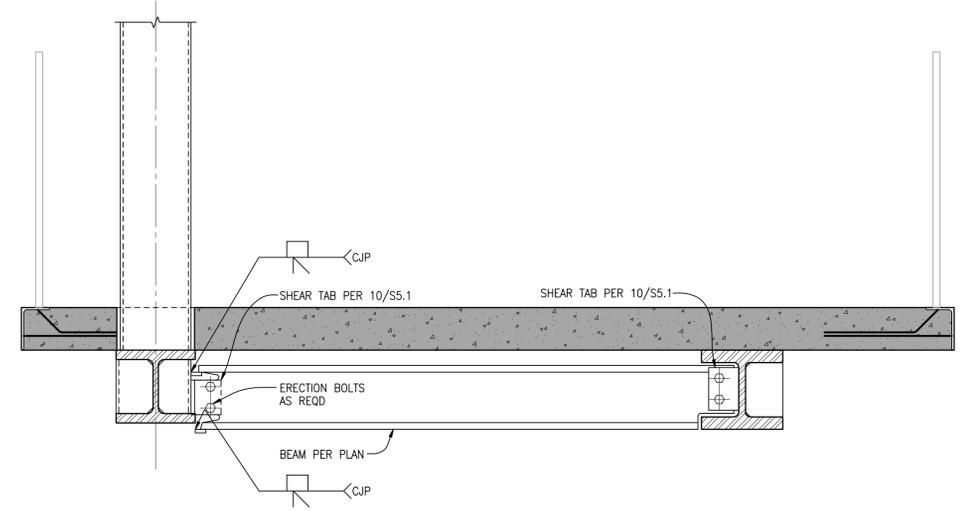
S3.1
 12041-0236
 04.29.14
 Revisions



NOTE:
 ADDITIONAL INFORMATION PER 12/S3.1.

CANOPY SECTION BETWEEN COLUMNS

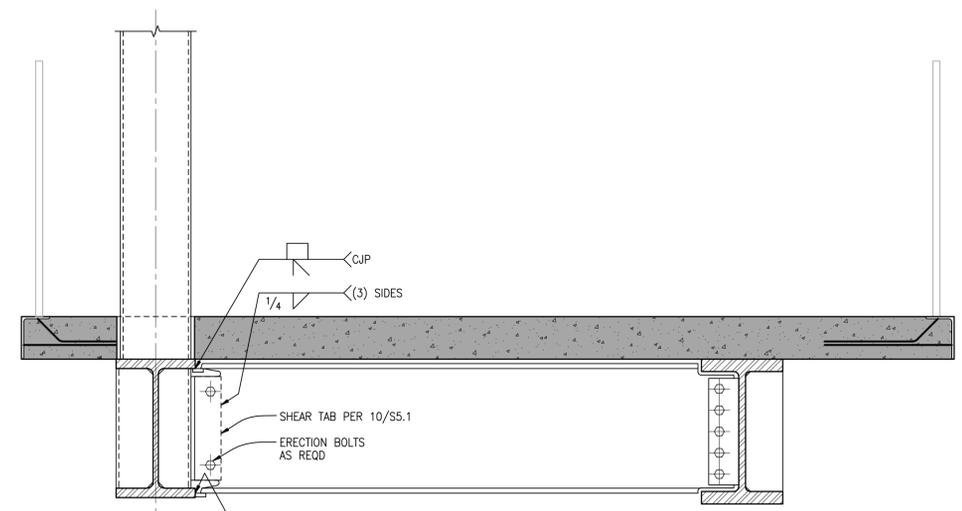
SCALE: 1"=1'-0" **2**



NOTE:
 ADDITIONAL INFORMATION PER 12/S3.1.

BRIDGE SECTION AT TAPERED GIRDERS

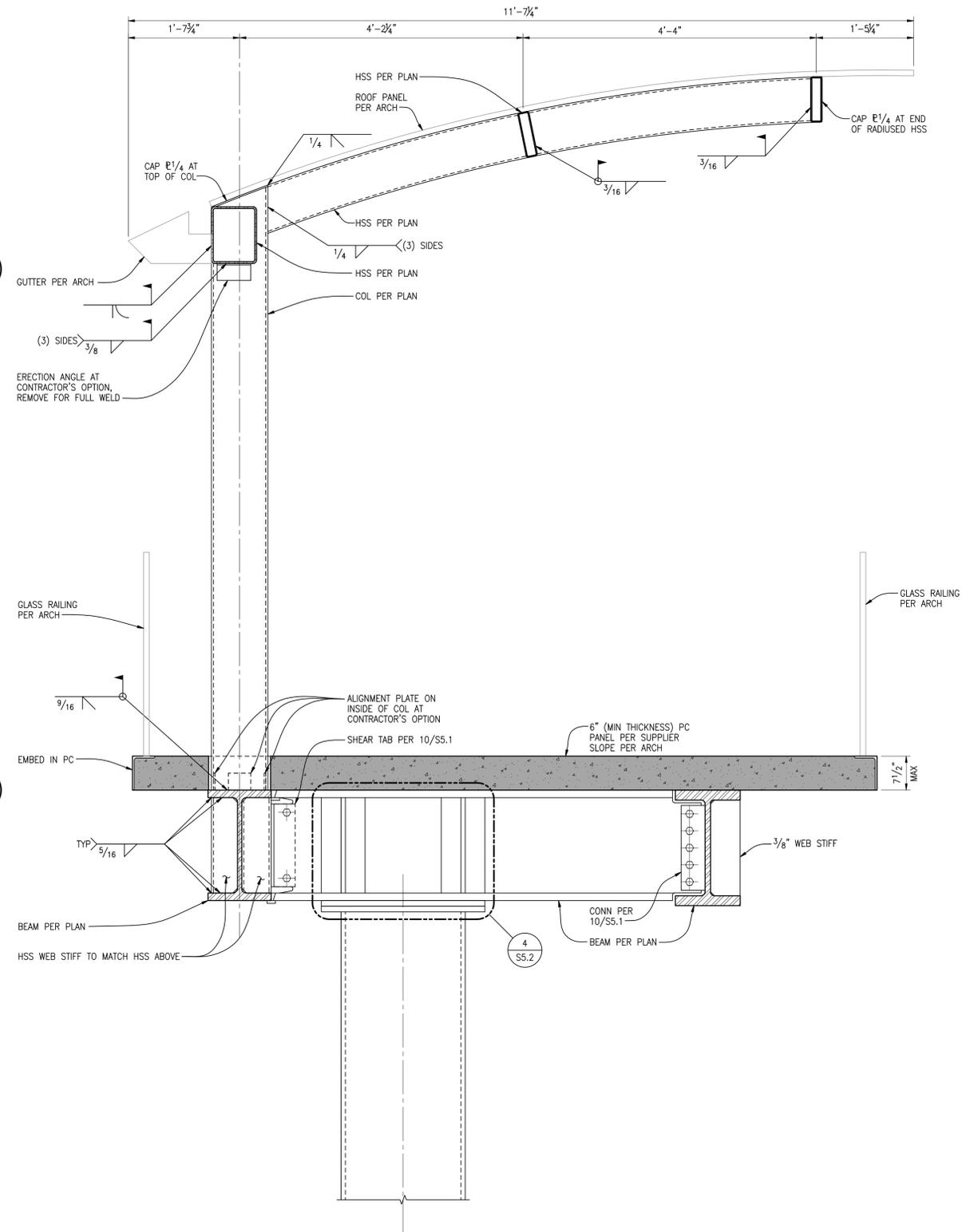
SCALE: 1"=1'-0" **6**



NOTE:
 ADDITIONAL INFORMATION PER 12/S3.1.

BRIDGE SECTION AT INTERMEDIATE COLUMN

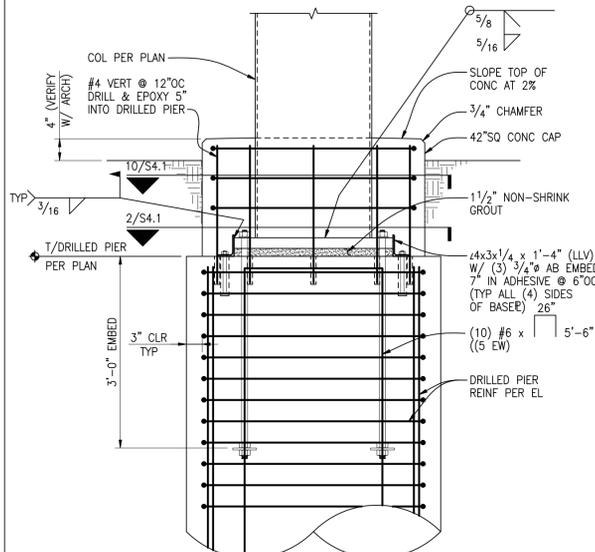
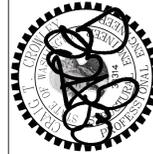
SCALE: 1"=1'-0" **10**



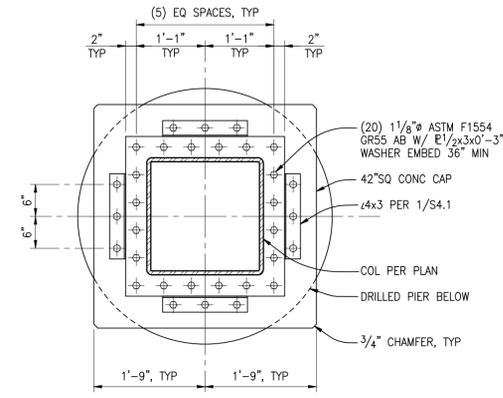
BRIDGE SECTION AT SUPPORT COLUMN

SCALE: 1"=1'-0" **12**

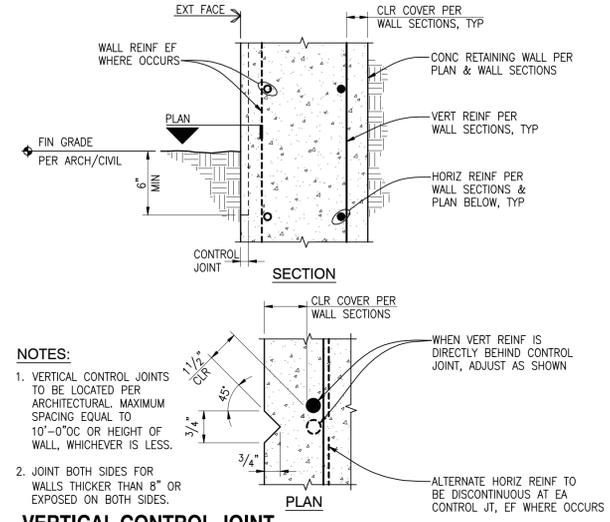
12041-0236-S3.1.dwg 28-Apr-14 9:34 AM jrmocok



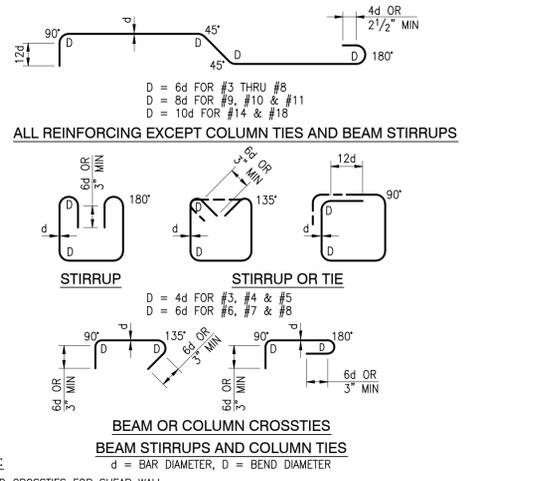
RETAINING WALL AT EXISTING STAIR SCALE: 3/4"=1'-0" **1**



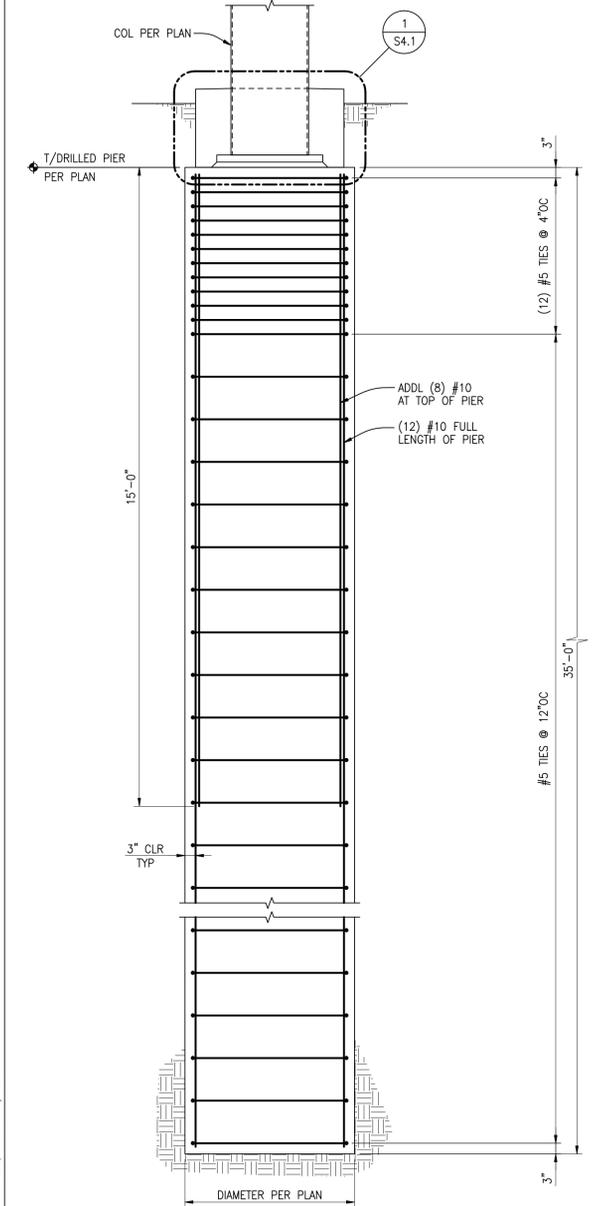
PLAN AT DRILLED PIER SCALE: 3/4"=1'-0" **2**



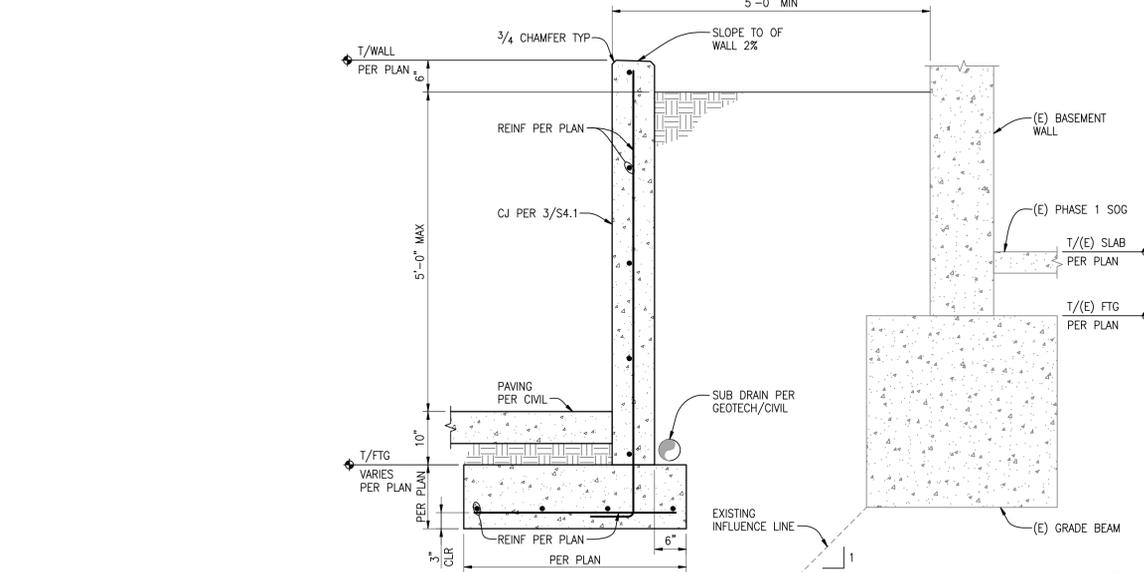
VERTICAL CONTROL JOINT AT CONCRETE RETAINING WALLS SCALE: NONE **3**



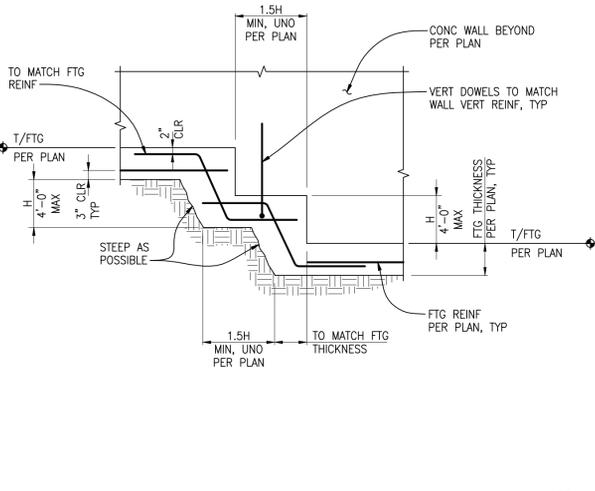
STANDARD HOOKS AND BENDS - BEAM STIRRUPS AND COLUMN TIES SCALE: NONE **4**



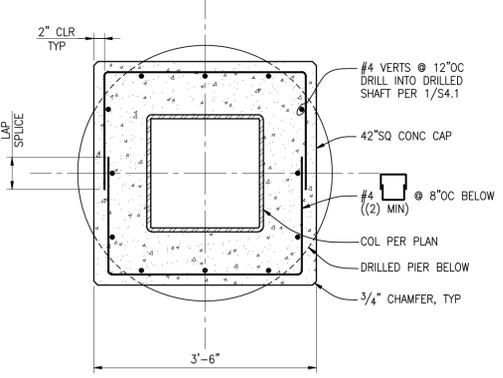
DRILLED PIER ELEVATION SCALE: 1/2"=1'-0" **9**



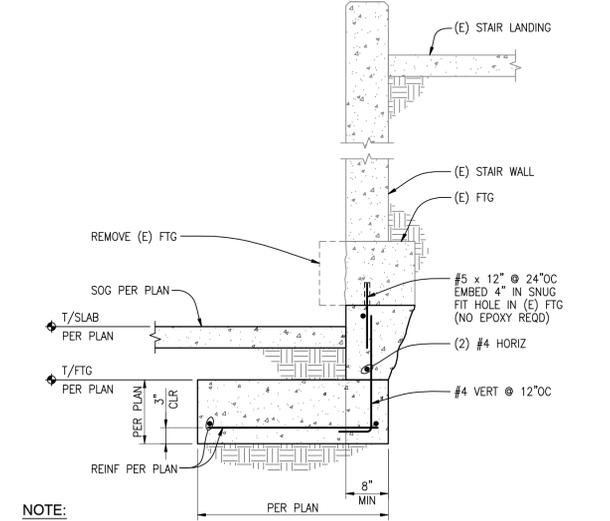
RETAINING WALL AT PHASE 1 SCALE: 3/4"=1'-0" **7**



TYPICAL STEPPED FOOTING SCALE: NONE **8**



SECTION AT CONCRETE CAP SCALE: 3/4"=1'-0" **10**



RETAINING WALL AT EXISTING STAIR SCALE: 3/4"=1'-0" **11**

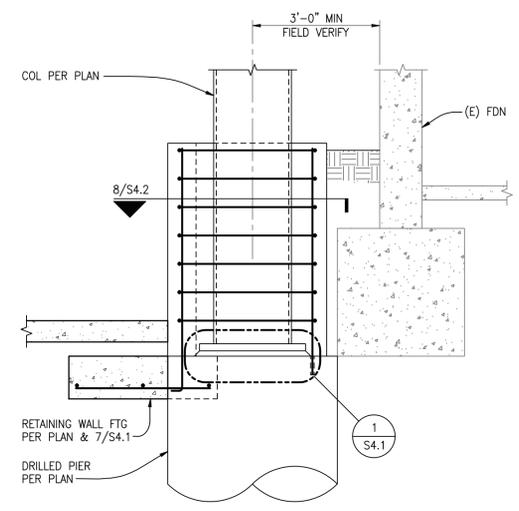
BAR SIZE	MISC BARS		TOP BARS (see note #4)		HOOKED BARS	BAR SIZE	MISC BARS		TOP BARS (see note #4)		HOOKED BARS
	Ld	Splice	Ld	Splice			Ld	Splice	Ld	Splice	
fc = 3000psi						fc = 4000psi					
#3	17	23	22	29	9	#3	15	20	19	25	8
#4	22	29	29	38	11	#4	19	25	25	33	10
#5	28	37	36	47	14	#5	24	32	31	41	12
#6	33	43	43	56	17	#6	29	38	37	49	15
#7	48	63	63	82	20	#7	42	55	54	71	17
#8	55	72	72	94	22	#8	48	63	62	81	19
#9	62	81	81	106	25	#9	54	71	70	91	22
#10	70	91	91	119	28	#10	61	80	79	103	25
#11	78	102	101	132	31	#11	67	88	87	114	27

- NOTES:**
- VALUES FOR UNCOATED REINFORCING AND NORMAL WEIGHT CONCRETE WITH CLEAR SPACING > db. CLEAR COVER > db AND MINIMUM STIRRUPS OR TIES THROUGHOUT Ld OR CLEAR SPACING > 2db AND CLEAR COVER > db.
 - DEVELOP ALL REINFORCING IN STRUCTURAL SLABS WITH MINIMUM DEVELOPMENT LENGTH Ld.
 - Ldh = DEVELOPMENT LENGTH OF BAR WITH STANDARD HOOK.
 - TOP BAR = HORIZONTAL BAR WITH MORE THAN 12" OF FRESH CONCRETE BELOW (EXCLUDING WALL HORIZONTAL REINFORCING) OR AS NOTED ON DOCUMENTS AS "TOP BAR".
 - ALL TABULATED VALUES ARE IN INCHES.

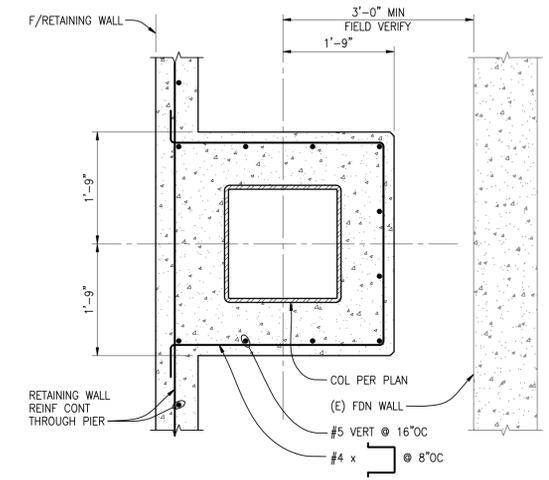
TYPICAL LAP SPLICE AND DEVELOPMENT LENGTH SCHEDULE SCALE: NONE **12**

STRUCTURAL DETAILS
 CAMPUS BRIDGE
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S4.1
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SECTION SCALE: 1/2"=1'-0" **4**

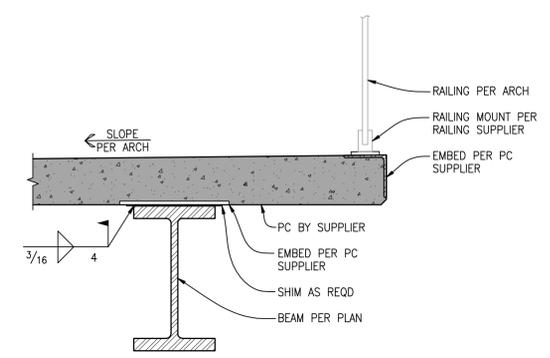
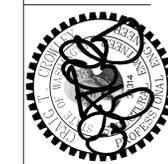


SECTION SCALE: 3/4"=1'-0" **8**

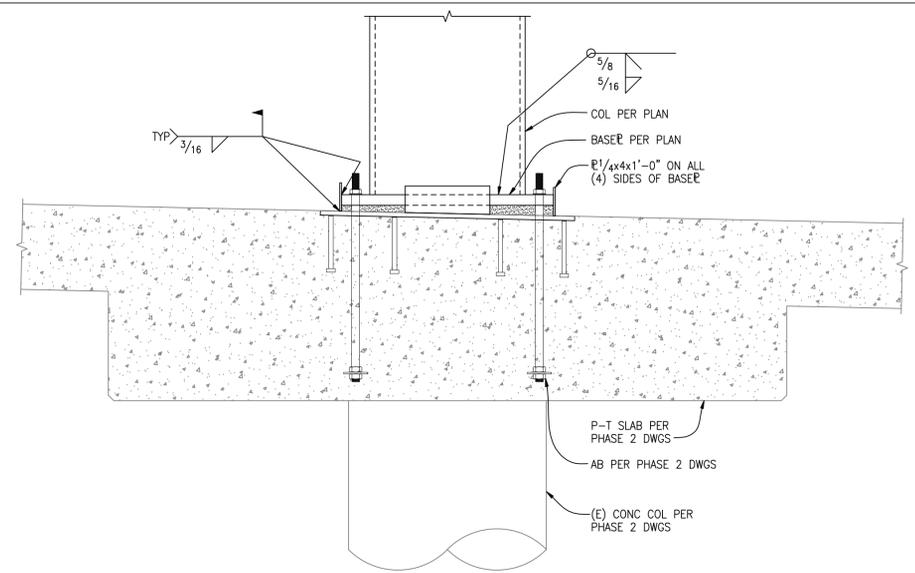


**STRUCTURAL DETAILS
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S4.2
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2 PRECAST ATTACHMENT
 SCALE: 1"=1'-0"



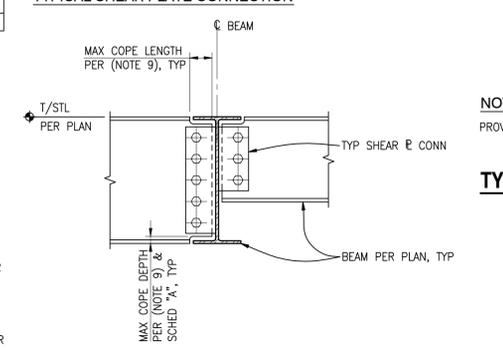
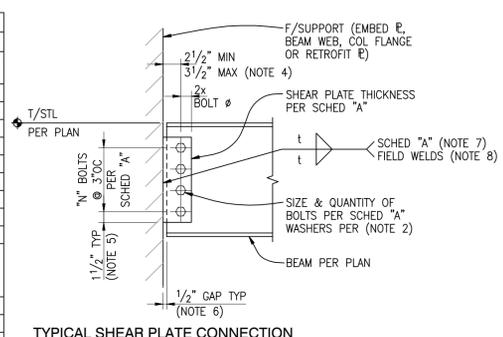
4 PEDESTRIAN BRIDGE ANCHOR BOLTS
 SCALE: 1"=1'-0"

BOLTED SINGLE SHEAR PLATE CONNECTION - SCHEDULE "A"									
BEAM SIZE	"N" BOLTS REQUIRED (1)	SINGLE ROW			BEAM F _y =50KSI - CONNECTION PLATE F _y =36KSI			CONNECTION CAPACITY - ASD (3) (KIPS)	
		MIN SHEAR PLATE OR WT STEM THICKNESS	MIN HSS COLUMN WALL THICKNESS (10)	WELD SIZE (7)	MAX SINGLE COPE DEPTH (9)	MAX DOUBLE COPE DEPTH (9)	UNCOPED	COPED	DOUBLE
C8,C9,C10	2	1/4"	1/4"	3/16"	1 1/4"	NR (11)	13.2	7.6	NR (11)
W8	2	1/4"	1/4"	3/16"	1 1/4"	NR (11)	13.2	7.6	NR (11)
W10	2	1/4"	1/4"	3/16"	2 1/2"	1 1/4"	13.2	11.0	11.0
C12,C15	3	1/4"	1/4"	3/16"	2"	1 1/4"	25.6	17.5	17.5
W12	3	1/4"	1/4"	3/16"	2"	1 1/4"	25.6	18.3	18.3
W14	3	5/16"	1/4"	1/4"	2 1/2"	1 1/2"	27.8		23.9
W16	4	5/16"	1/4"	1/4"	2 1/2"	1 1/2"	42.4		36.6
W18	5	5/16"	5/16"	1/4"	2 1/2"	1 1/2"	53.0		
W21	6	3/8"	5/16"	5/16"	2 1/2"	1 1/2"	63.6		
W24	7	3/8"	5/16"	5/16"	2 1/2"	1 1/2"	74.2		
W27	8	3/8"	3/8"	5/16"	2 1/2"	NR (11)	84.8		
W30	8	7/16"	3/8"	5/16"	2 1/2"	NR (11)	84.8		
W33	9	7/16"	3/8"	5/16"	2 1/2"	NR (11)	95.4		
W36	10	7/16"	3/8"	5/16"	2 1/2"	NR (11)	103.2		

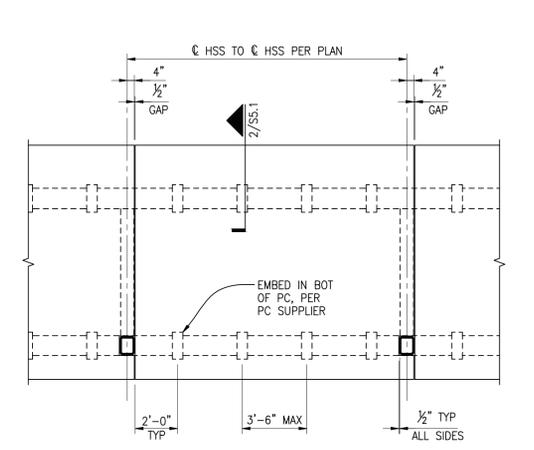
- BOLTED SINGLE ROW SHEAR PLATE CONNECTION NOTES:**
- PROVIDE EITHER STANDARD OR HORIZONTAL SHORT SLOTTED HOLES AS PERMITTED BY AISC J3.2 IN THE BEAM WEB AND/OR THE SHEAR PLATE.
 - WHERE SHORT-SLOTTED HOLES ARE USED, PROVIDE HARDENED WASHERS PER AISC J3.2.
 - CAPACITIES BASED ON AISC 13TH EDITION WITH ASTM A325-N BOLTS.
 - HORIZONTAL DISTANCE FROM SUPPORT FACE TO CENTERLINE OF BOLT GROUP SHALL BE AS SHOWN IN THE DETAILS, BUT SHALL NOT EXCEED 3 1/2" IN THE AS-BUILT CONDITION. SUPPORT FACE FOR TEE IS THE INSIDE FACE OF FLANGE.
 - VERTICAL EDGE DISTANCE FROM BOLT CENTERLINE TO EDGE OF STEEL SHALL BE 1 1/2" TYPICALLY, EXCEPT THAT 1 1/4" IS PERMITTED PER AISC TABLE J3.4 FOR 3/4" DIAMETER BOLTS WITHOUT ANY REDUCTION IN THE TABULATED CAPACITIES.
 - GAP BETWEEN BEAM END AND SUPPORT FACE SHALL BE 1/2" EXCEPT FOR "WT" CONNECTORS USED WITH HSS COLUMNS. WHERE "WT" ARE USED AS SHEAR TAB ELEMENTS, THE GAP BETWEEN FACE OF COLUMN AND END OF BEAM SHALL NOT EXCEED THE LESSER OF 1 1/2" OR THE "k" DISTANCE OF THE "WT" PLUS 1/4".
 - WELD SIZES SHALL BE THE LARGER OF THE SIZE (t), TABULATED IN SCHEDULE "A" OR MINIMUM SHOWN IN TABLE 1.
 - FIELD FILLET WELDS SHALL BE SIZED TO BE AT LEAST 1/8" LARGER THAN THE WELD SIZE SHOWN IN SCHEDULE "A", UNLESS PROPER FIT-UP IS VERIFIED BY A SPECIAL INSPECTOR PRIOR TO WELDING.
 - COPE DEPTHS (SINGLE AND DOUBLE) SHALL NOT EXCEED THE LESSER OF THOSE SHOWN IN SCHEDULE "A", NOR AS ALLOWED BY BOLT HOLE SPACING AND MINIMUM EDGE DISTANCE REQUIREMENTS. SINGLE COPE LENGTH SHALL NOT EXCEED 6 1/2". DOUBLE COPE LENGTHS SHALL NOT EXCEED THAT REQUIRED TO ACCOMMODATE GIRDER FLANGE + 1/2" MAX GAP BETWEEN FLANGES.
 - UNCOPED CAPACITIES OF WT CONNECTIONS ARE VALID WITH MINIMUM NOMINAL HSS COLUMN WALL TABULATED THICKNESS. THE EFFECTIVE THROAT OF FLARE BEVEL GROOVE WELDS IS BASED ON OUTSIDE RADIUS OF HSS, AND IS TAKEN AS 5/8 TIMES THE HSS WALL THICKNESS BASED ON AWS D1.1, TABLE 2.1. WHEN 3/4" A325-N BOLTS ARE USED, A 3/16" HSS COLUMN WALL THICKNESS IS PERMITTED WITH A 20% REDUCTION OF THE WT CONNECTION CAPACITY.
 - NR = NOT RECOMMENDED. DOUBLE COPES FOR THESE BEAMS ARE RESTRICTED BY CONNECTION GEOMETRY AND/OR LARGE REDUCTIONS IN SHEAR CAPACITY. DOUBLE COPES ARE POSSIBLE, BUT CAPACITIES MUST BE CALCULATED FOR SPECIFIC BEAM AND GIRDER GEOMETRIES AND MUST BE DETAILED SEPARATELY.

PLATE OR FLANGE THICKNESS (T) *	MINIMUM FILLET SIZE
T ≤ 1/2"	3/16"
1/2" < T ≤ 3/4"	1/4"
3/4" < T	5/16"

* MINIMUM WELD SIZE TO BE BASED ON THICKNESS OF THE THICKER PART.

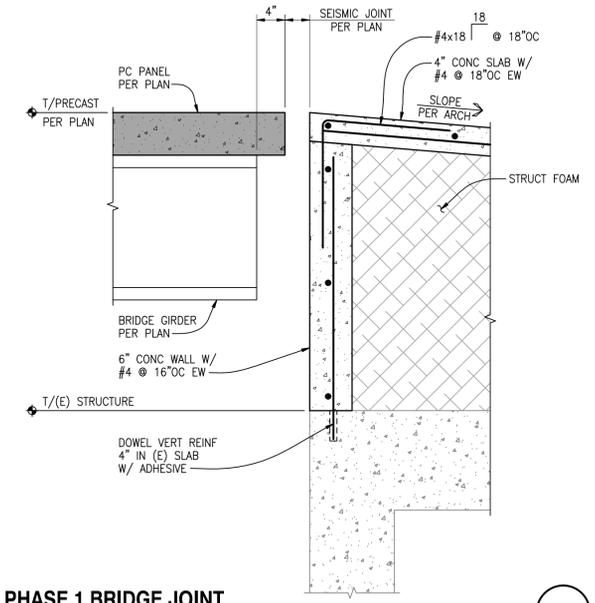


BEAM TO BEAM CONNECTION
 SHEAR PLATE INFORMATION PER TYPICAL SHEAR PLATE CONNECTION.

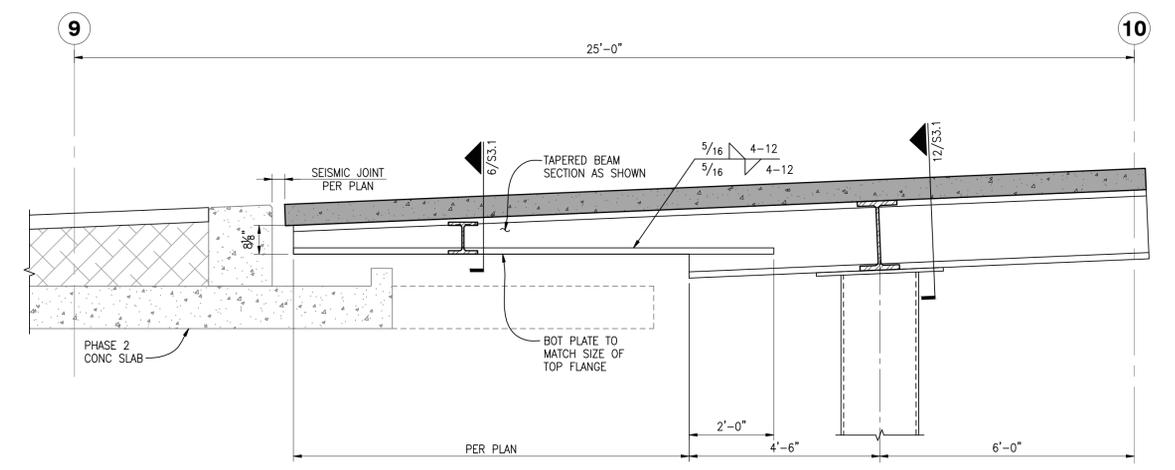


NOTE:
 PROVIDE A MINIMUM OF (4) EMBEDS PER PRECAST PANEL.

7 TYPICAL PRECAST PANEL PLAN
 SCALE: 1/4"=1'-0"



8 PHASE 1 BRIDGE JOINT
 SCALE: 1"=1'-0"

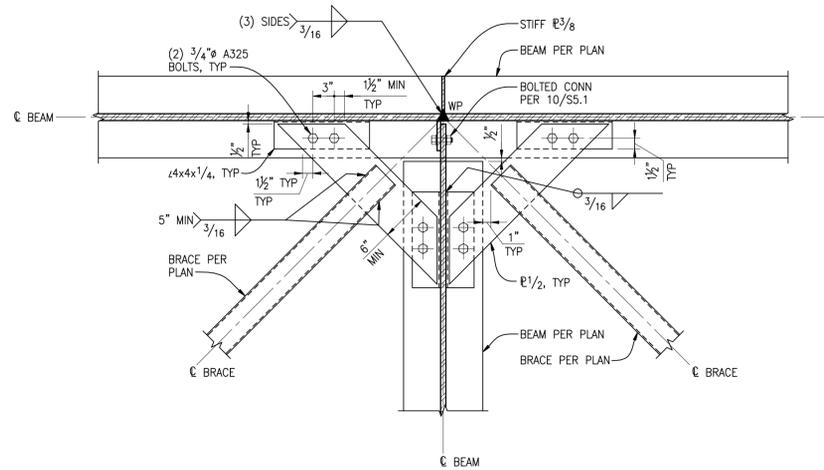
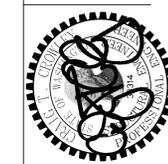


9 PHASE 2 BRIDGE JOINT
 SCALE: 1/2"=1'-0"

10 SINGLE SHEAR PLATE (SINGLE ROW) CONNECTIONS
 SCALE: 1"=1'-0"

STRUCTURAL DETAILS
 CAMPUS BRIDGE
 SPA ADA MODIFICATIONS

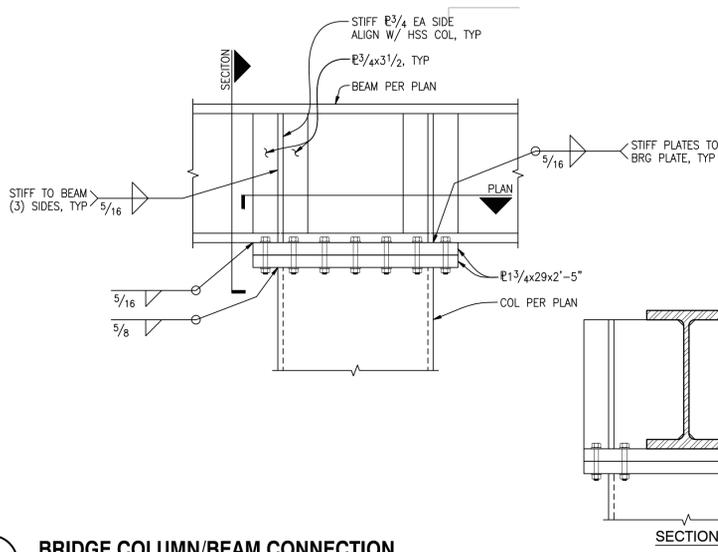
S5.1
 12041-0236
 04.29.14
 Revisions



BRACE TO BEAM CONNECTION

SCALE: 1"=1'-0"

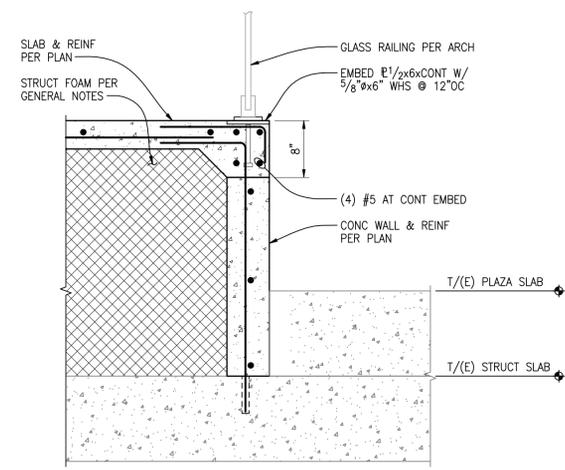
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BRIDGE COLUMN/BEAM CONNECTION

SCALE: 1"=1'-0"

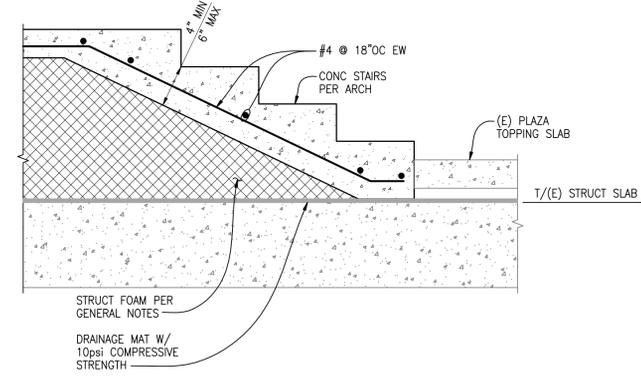
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GLASS RAILING AT PLAZA SLAB

SCALE: 1"=1'-0"

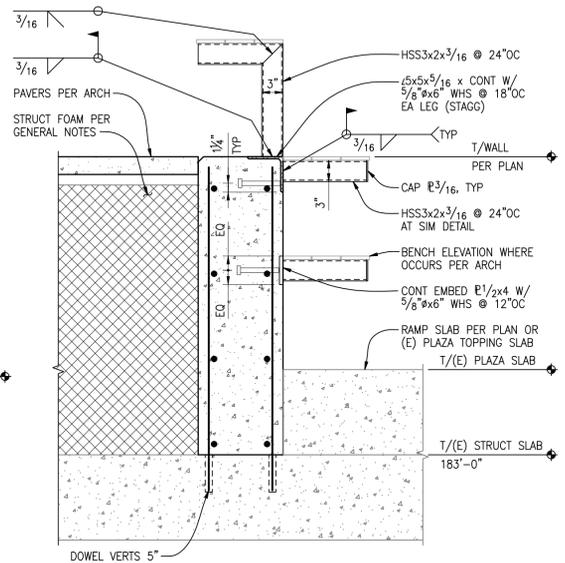
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PLAZA SEAT WALL

SCALE: 1"=1'-0"

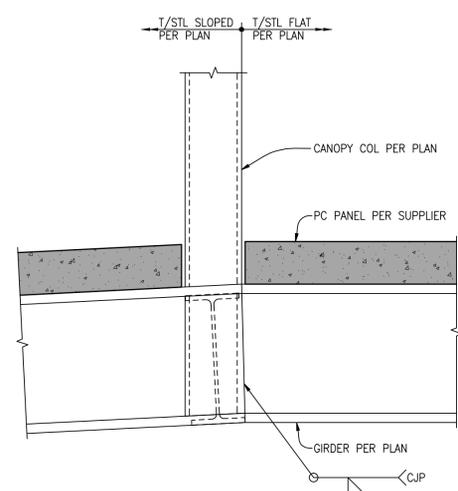
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PLAZA SEAT WALL

SCALE: 1"=1'-0"

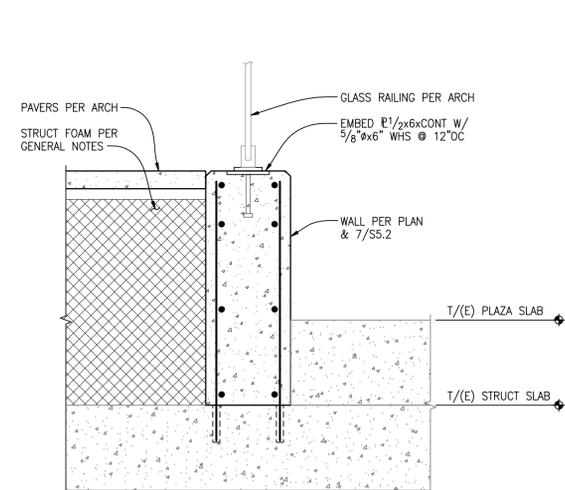
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SLOPE TRANSITION

SCALE: 1"=1'-0"

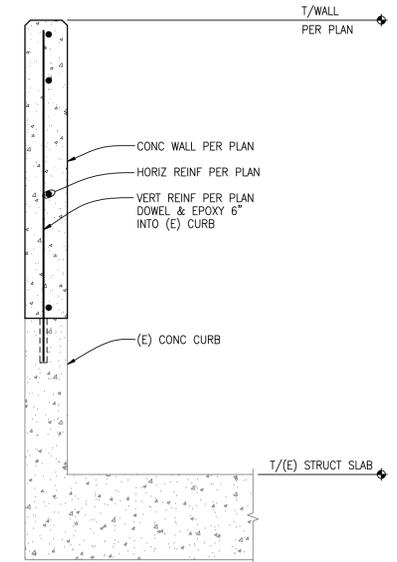
8



GLASS RAILING AT PLAZA PAVERS

SCALE: 1"=1'-0"

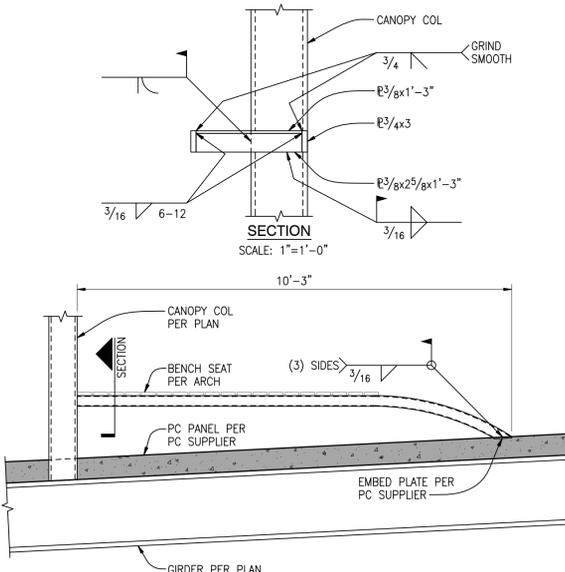
9



NEW CONCRETE RAILING WALL AT STAIRS

SCALE: 1"=1'-0"

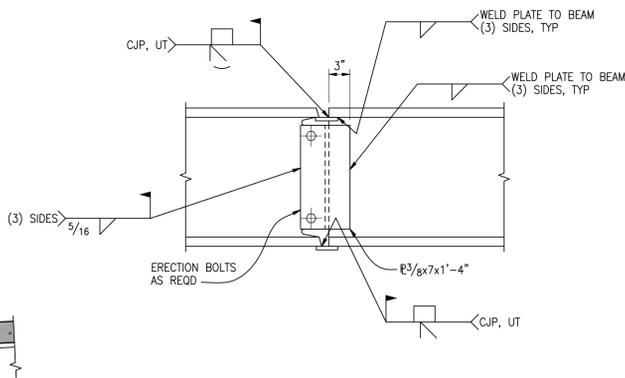
10



BRIDGE BENCH SEAT

SCALE: 1/2"=1'-0"

11



BRIDGE GIRDER FIELD SPLICE

SCALE: 1"=1'-0"

12

NOTE:
 BACKING BARS NEED NOT BE REMOVED UNLESS NECESSARY TO PERFORM UT TESTING.

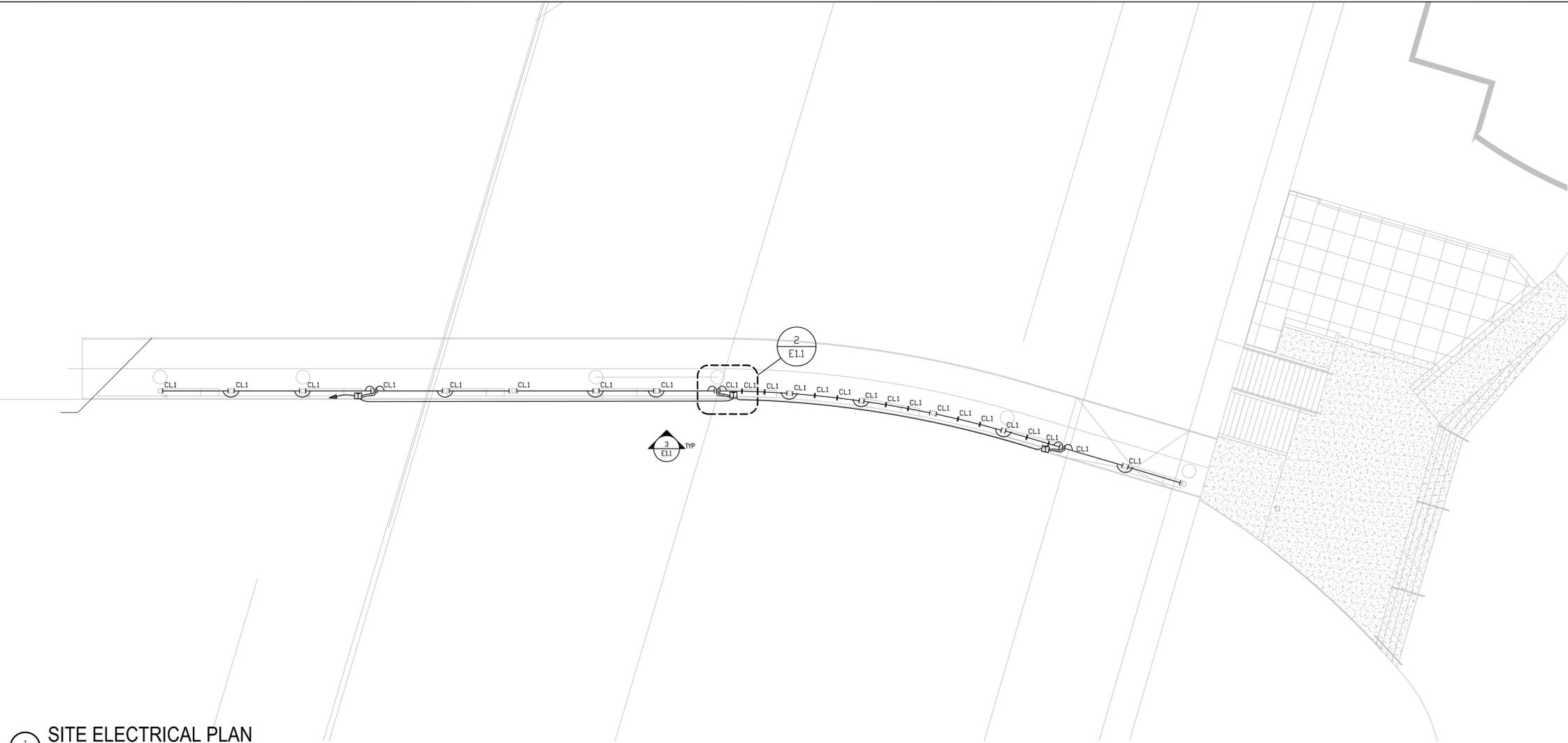
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GENERAL NOTES:

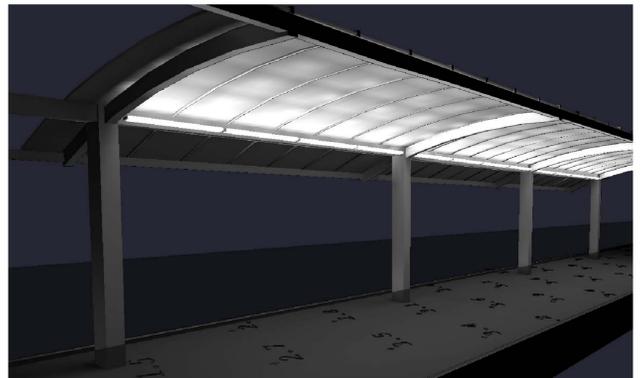
1. ALL EQUIPMENT, DEVICES & LIGHTING FIXTURES SHOWN ARE NEW UNLESS NOTED OTHERWISE.

KEY NOTES:

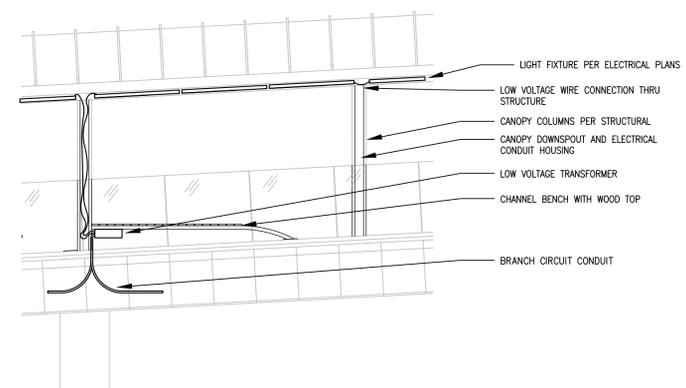
- 1 LIGHT FIXTURE: WINONA 209W SERIES, WET LISTED LED LINEAR STRIP LIGHT, 282LM/FT, 6.2W/FT, 3000K CCT, 30 DEGREE OPTIC, 24V AC OR EQUAL. PROVIDE WITH 500W MULTITAP TRANSFORMER: WINONA TQ SERIES OR EQUAL.



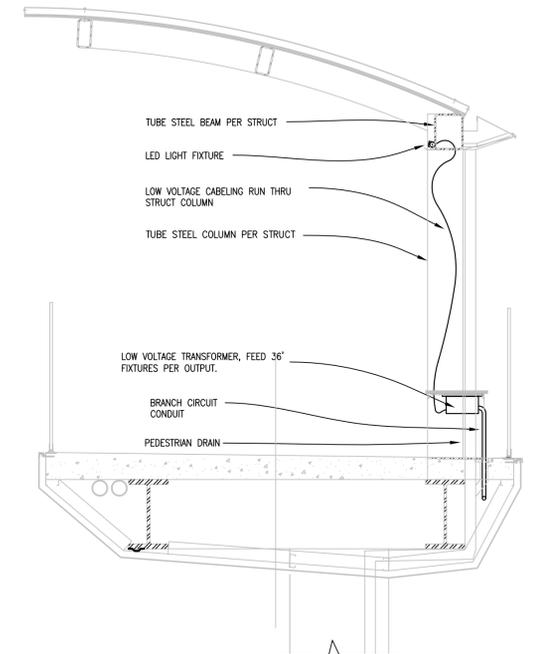
1 E1.1 SITE ELECTRICAL PLAN
SCALE: 1/2"=1'-0"



4 E1.1 BRIDGE LIGHTING RENDERING
SCALE: NTS



3 E1.1 TYPICAL BRIDGE ELECTRICAL ELEVATION
SCALE: 1/2"=1'-0"



2 E1.1 TYPICAL BRIDGE ELECTRICAL DETAIL
SCALE: 1"=1'-0"

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