

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS

LAWRENCE COUNTY KY 1 OVER DRY FORK

LETTING DATE

CONSTRUCTION PROJECT NO.

INDEX OF SHEETS

Sheet No.	Description
S1	Title Sheet
S2	General Notes
S3	Layout
S4-S7	Construction Phases
S8	End Bents & Piers
S9	Framing Plan
S10	Box Beam SB21 Details
S11-S13	Superstructure
S14-S15	Construction Elevations

SPECIAL NOTES

Special Note for Concrete Sealing
Special Note for Epoxy Injection Crack Repair
Special Note for Embedded Galvanic Anodes Type 1A
Special Note for Traffic Control on Bridge Repair Contracts

SPECIAL PROVISIONS

STANDARD DRAWINGS

BBP-003-02	Elastomeric Bearing Pads for Box Beams
BGX-006-10	Stencils for Structures
BGX-012-02	Geotechnical Legend
BJE-001-14	Neoprene Expansion Dams and Armored Edges
BGX-022	Joint Waterproofing
BHS-010	Railing System 40 Inch Single Slope
TTC-110-04	Lane Closure Using Traffic Signals
RBM-115-10	Concrete Barrier Wall Type 9T (Temporary)
RBM-120-02	Box Beam Stiffening of Temporary Concrete Barrier
BHS-012	Railing System Type T631 Details

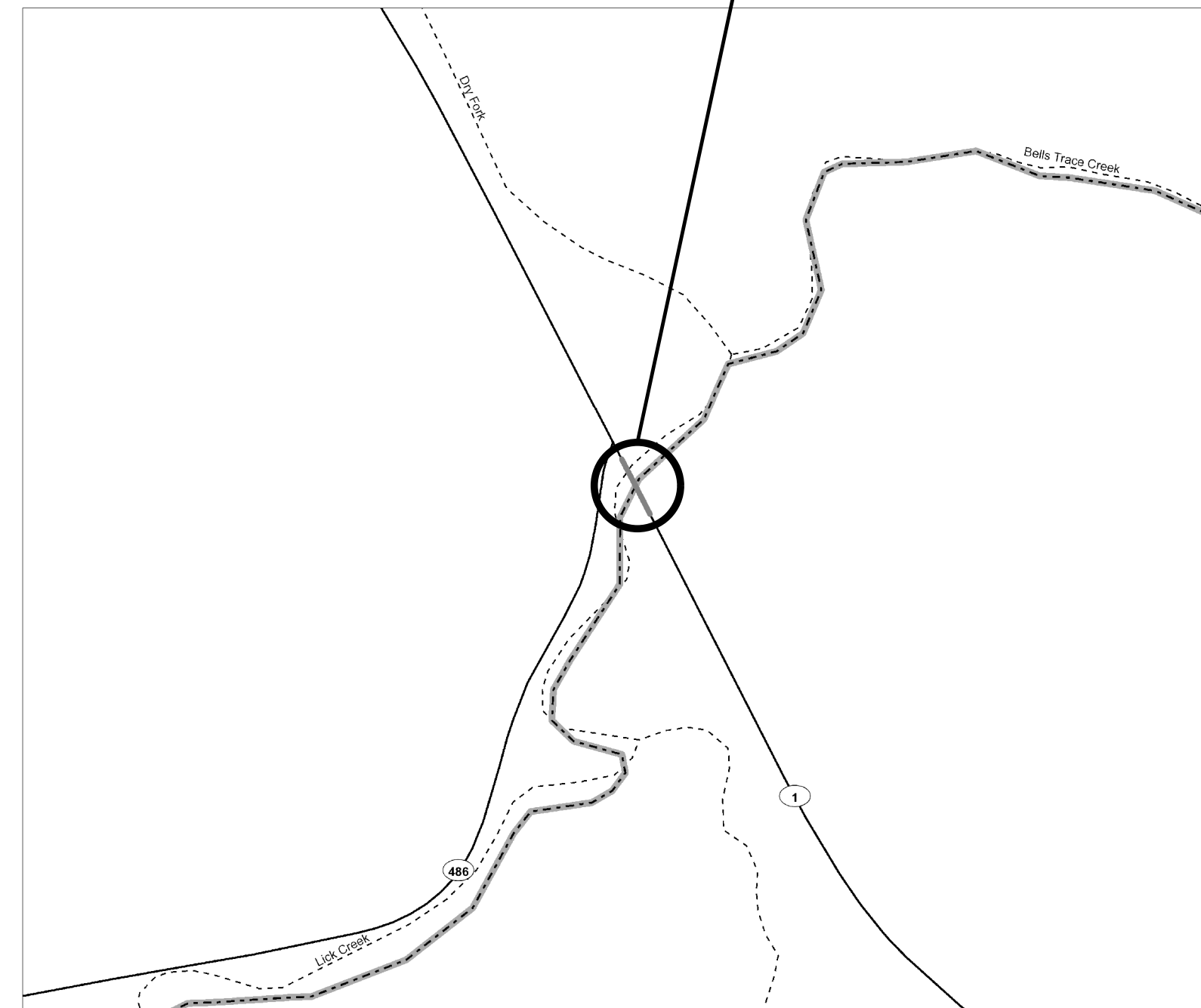
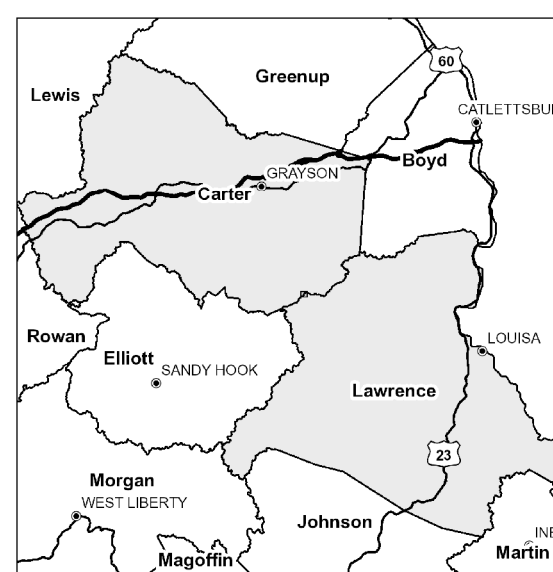
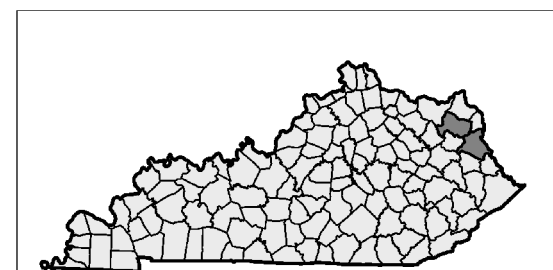
SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction.
2020 AASHTO LRFD Bridge Design Specifications

ESTIMATE OF QUANTITIES

BID ITEM CODE	08100	08104	23378EC	02998	08151	08301	08669	25028ED	03299	02383	02585	02014	26141EC	08003	23744EC	02726	08140	
BID ITEM	Concrete Class "A"	Concrete Class "AA"	Concrete Sealing	Masonry Coating	Steel Reinforcement, Epoxy Coated	Remove Superstructure	PPC Box Beams, SB-21	Rail System Single Slope 40 Inch	Armored Edge for Concrete	Remove & Reset Guardrail	Edge Key	Barricade Type III	Galvanic Anode-XPX	Foundation Preparation	Epoxy Injection Crack Repair	Staking	Mechanical Rein. Coupler #5 Epoxy Coated	
UNIT	C.Y.	C.Y.	S.F.	S.Y.	LBS.	L.S.	L.F.	L.F.	L.F.	L.F.	L.F.	Each	Each	L.S.	L.F.	L.S.	Each	
Substructure	End Bent #1	8.3		26									133		15		4	
Substructure	End Bent #2	7.3		26									62		15		4	
Substructure	Pier #1	9.9		37	1558								162		15		4	
Substructure	Pier #2	9.8		37									162		15		4	
	Superstructure		136.3	8138		34241		570.7	286.8	67.8							586	
	BRIDGE TOTALS	35.3	136.3	8138	126	35799	1	570.7	286.8	67.8	200	77	2	519	1	60	1	602
BID ITEM CODE	02650	02569	26233EC	00001	00214	00339	02562	02653	04934	24896ED	03171	02403	25078ED	02367	25079ED	02231	02351	
BID ITEM	Maintain and Control Traffic	Demobilization	Mobilization-For Concrete Sealing	DGA Base	CL3 ASPH BASE 1-00D PG64-22	CL3 ASPH SURF 0-38D PG64-22	Temporary Signs	Lane Closure	Temp Signal Multi-phase	Railing System Type T631	Temporary Barrier Type 9T	Remove Concrete Masonry	Three Beam Guardrail Transition TL-3	Guardrail End Treatment Type 1	Three Beam Guardrail Transition TL-2	Structure Granular Backfill	Guardrail Steel W-Beam - S Face	
UNIT	L.S.	L.S.	L.S.	Ton	Ton	Ton	S.F.	EA.	EA.	L.F.	L.F.	C.Y.	EA.	EA.	EA.	C.Y.	L.F.	
Substructure	End Bent #1											3.5					27	
Substructure	End Bent #2											1.3					23	
Substructure	Pier #1											3.7						
Substructure	Pier #2											3.7						
	Superstructure																	
	BRIDGE TOTALS	1	1	1	36	35.2	128.1	93	2	1	144	200	12.2	3	2	1	50	120
BID ITEM CODE	06549	06550	06551	06514	05985	05964	02381	02575	00356									
BID ITEM	Pave Stripping-Temp Rem Tape-B	Pave Stripping-Temp Rem Tape-W	Pave Stripping-Temp Rem Tape-Y	Pave Stripping-Perm Paint-4in	Seeding And Protection	Fertilizer 20-10-10	Remove Guardrail	Ditching And Shouldering	Asphalt Material for Tack									
UNIT	L.F.	L.F.	L.F.	L.F.	S.Y.	TON	L.F.	L.F.	Ton									
Substructure	End Bent #1																	
Substructure	End Bent #2																	
Substructure	Pier #1																	
Substructure	Pier #2																	
	Superstructure																	
	BRIDGE TOTALS	1000	2000	2000	2400	330	0.1	235	300	0.5								

PROJECT LOCATION



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION DATE

REVISION	DATE

PREPARED BY
**Division of
Structural Design**

DATE: OCT 2024
DESIGNED BY: J. VAN ZEE
CHECKED BY: K. EE
DETAILED BY: M. BAWITHAWNG
J. VAN ZEE

TITLE SHEET
CROSSING
DRY FORK

ROUTE: KY 1
BRIDGE ID: 064B00027N
SHEET NO.: S1
COUNTY OF: LAWRENCE
DRAWING NUMBER: 28961

GENERAL NOTES

SPECIFICATIONS: All references to the Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO Specifications are to the current edition of the AASHTO LRFD Bridge Design Specs, with interims.

DESIGN LOAD: This bridge is designed for a KYHL-93 live load. The KYHL-93 live load is arrived at by increasing the standard HL-93 truck and lane loads as specified in the AASHTO Specifications by 25%.

FUTURE WEARING SURFACE: This structure is designed for a 15 PSF future wearing surface load.

DESIGN STRESSES:

Concrete Class "A"	~	f'c = 3500 psi
Concrete Class "AA"	~	f'c = 4000 psi
Steel Reinforcement	~	Fy = 60,000 psi
Structural Steel Yield Strength	~	Fy = 50,000 psi

DESIGN METHOD: All reinforced concrete members are designed by the load and resistance factor method as specified in the current AASHTO Specifications.

WIND LOAD: This bridge is designed for a wind load based on a wind velocity of 100 mph.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2", unless otherwise noted. Any reinforcement bars designed be suffix (e) in the plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a bill of reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: Bevel all exposed edges 3/4" unless otherwise noted.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropriate to the work involved. This may include cofferdams, shoring, excavations, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor or anything else required to complete the structure.

SHOP DRAWINGS: Submit shop drawings that are required by the plans and specifications directly to the Division of Structural Design. Is any changes in the design plans are proposed by a fabricator or supplier, submit those changes to the Department through the Contractor.

MASONRY COATING: Apply masonry coating to substructures in accordance with the Specifications.

SUPERSTRUCTURE SLAB: Ensure the entire superstructure slab is poured continuously, out to out, before allowing any concrete to set.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal dimensions.

CONCRETE: Class "AA" Concrete is to be used throughout the superstructure. Class "A" concrete is to be used in the substructures. Prestressed beam concrete shall be in accordance with the plans and specifications.

REMOVAL OF EXISTING SUPERSTRUCTURE: The existing superstructure shall be removed in accordance with section 203 of the Specifications, except all materials of the superstructure shall become property of the contractor and shall be removed from the right-of-way. Care shall be taken to prevent damage to the substructure during this procedure. The cost of removing the superstructure shall be included in the lump sum bid for "Remove Existing Superstructure".

Foam Rubber: The cost for the foam rubber is incidental to the unit price bid for Class "AA" Concrete.

CONCRETE SEALER: Apply concrete sealer to the deck, beams, and barriers in accordance with the Special Note for Concrete Sealing.

PAVEMENT: Pavement structure shall consist of a minimum of 8" DGA, 2~4" lifts of Asphalt base, and a minimum of 1.25" of asphalt surface. Install in accordance with the plans and specifications as the Engineer directs.

CONCRETE REMOVAL: Any concrete removal outside the detailed limits shall be replaced at the contractor's expense. The contractor shall make a saw cut at the removal limits to form a neat construction joint. All costs for the saw cut & concrete removal are included in the price bid for, "Remove Concrete Masonry".

DAMAGE TO THE SUBSTRUCTURE: The contractor is responsible for any and all damages to the existing substructures during reconstruction even to the replacement of the entire substructure, should they be damaged due to their actions.

ON-SITE INSPECTION: Each contractor submitting a bid for this work shall make a thorough inspection of the project site prior to submitting a bid and shall be thoroughly familiarized with existing conditions so that work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department of Highways.

FIELD MEASUREMENTS: Prior to beginning work or ordering any materials, the contractor shall verify all dimensions and elevations. No claim shall be honored by the Department of Highways regarding site conditions.

ELEVATIONS: The contractor is to verify existing elevations and make a reference benchmark before removing any concrete.

EXISTING STRUCTURE: See drawing number 14061 and std. G-526-B for details of existing structure.

EPOXY CRACK INJECTION: A quantity of 15ft has been set up for each substructure. This has been set up for use if cracks are found that are not being taken care of by other repairs. Engineer shall determine locations and quantity of crack injection that will be used. If no cracks are found, no crack injection will be required.



The following abbreviations may have been used in the preparation of these plans:

bet.	between
b.f.	Back Face
BOF	Bottom of Footing
BOS	Bottom of Slab
bot.	Bottom
Brg.	Bearing
C to C	Center to Center
c.e.	Current Edition
C.Y.	Cubic Yards
Chd.	Chord
CL	Center Line
Clr.	Clear
Conc.	Concrete
Cu.	Cubic
Dwg.	Drawing
e.f.	Each Face
El.	Elevation
eq.	Equal
Est.	Estimate
Ext.	Exterior
F to F	Face to Face
f.f.	Front Face
f.s.	Far Side
fr.	Front
ft.	Feet
I.D.	Inside Diameter
in.	Inch
Int.	Interior
L	Left
LBS	Low Bridge Seat
LBS.	Pounds
M	Meter
MPH	Miles Per Hour
n.s.	Near Side
O.D.	Outside Diameter
Opp.	Opposite
PC	Point of Curvature
Perp.	Perpendicular
PI	Point of Intersection
PPC	Precast Prestressed Concrete
PPCDU	Precast Prestressed Deck Unit
PSI	Pounds per Square Inch
PT	Point of Tangency
R	Radius
R	Right
RCBC	Reinforced Concrete Box Culvert
RCDG	Reinforced Concrete Deck Girder
Req'd	Required
RR	Railroad
Shld.	Shoulder
spa.	Spaces
Sta.	Station
Std.	Standard
Str.	Straight
Tan	Tangent
Thru	Through
TOF	Top of Footing
TOS	Top of Slab
Tot.	Total
Typ.	Typical
Vert.	Vertical
W.P.	Working Point
Yd.	Yard



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



USER: joseph.vanzee

REVISION

DATE

PREPARED BY

Division of
Structural Design

DATE: NOVEMBER 2024

DESIGNED BY: J. VAN ZEE

DETAILED BY: M. BAWITHAWNG

CHECKED BY

K. EE

J. VAN ZEE

GENERAL NOTES

CROSSING
DRY FORK

ROUTE

KY 1

BRIDGE ID.

064B00027N

SHEET NO.
S2

COUNTY OF

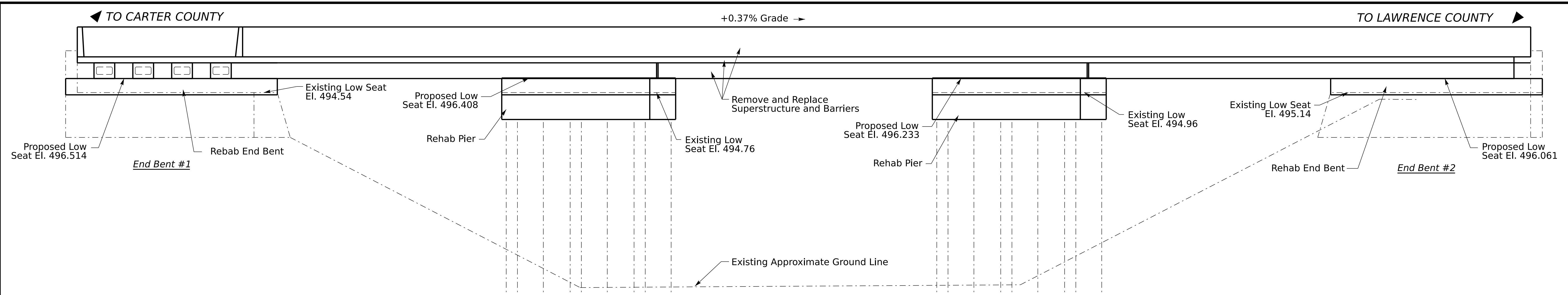
LAWRENCE

DRAWING NUMBER
28961

MicroStation v10.16.3.31

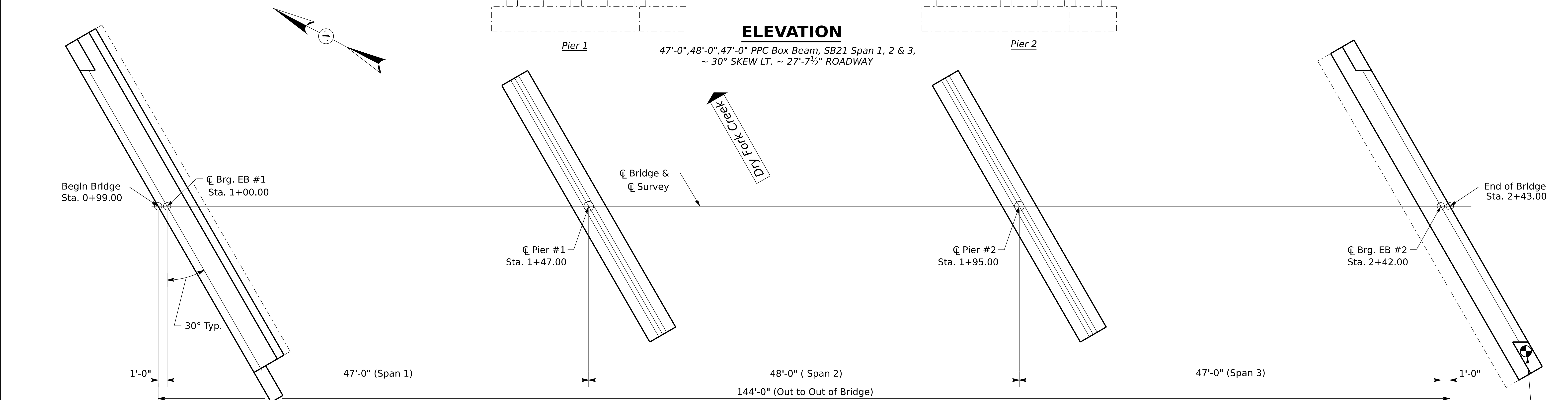
DATE PLOTTED: 17-FEB-2025

FILE NAME: J:\District12\RS&M\064B00027N\28961.dgn



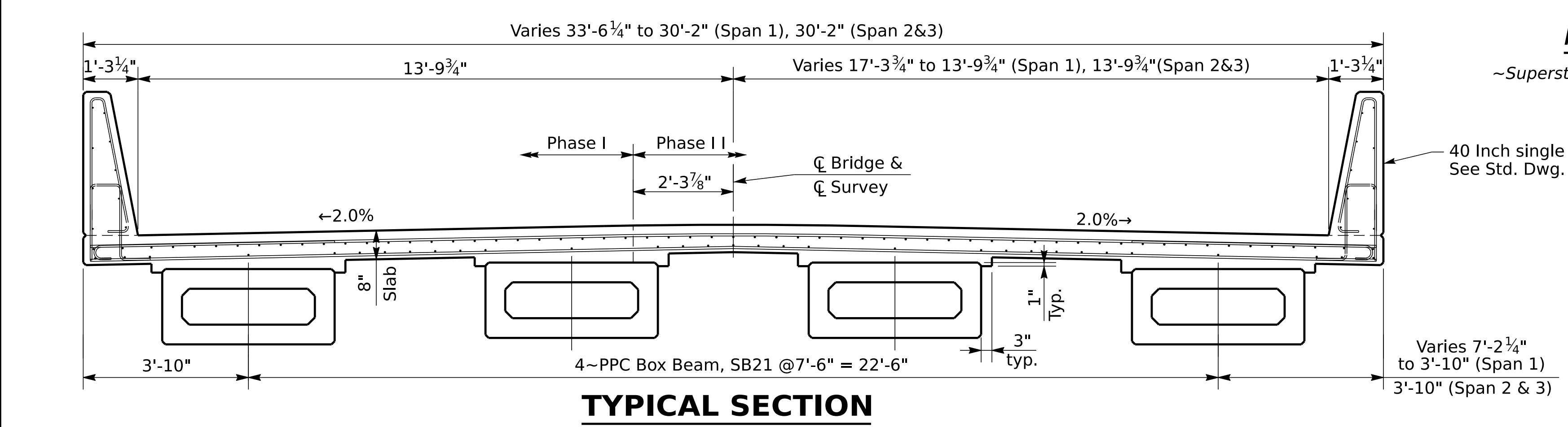
ELEVATION

47'-0", 48'-0", 47'-0" PPC Box Beam, SB21 Span 1, 2 & 3,
 ~ 30° SKEW LT. ~ 27'-7½" ROADWAY



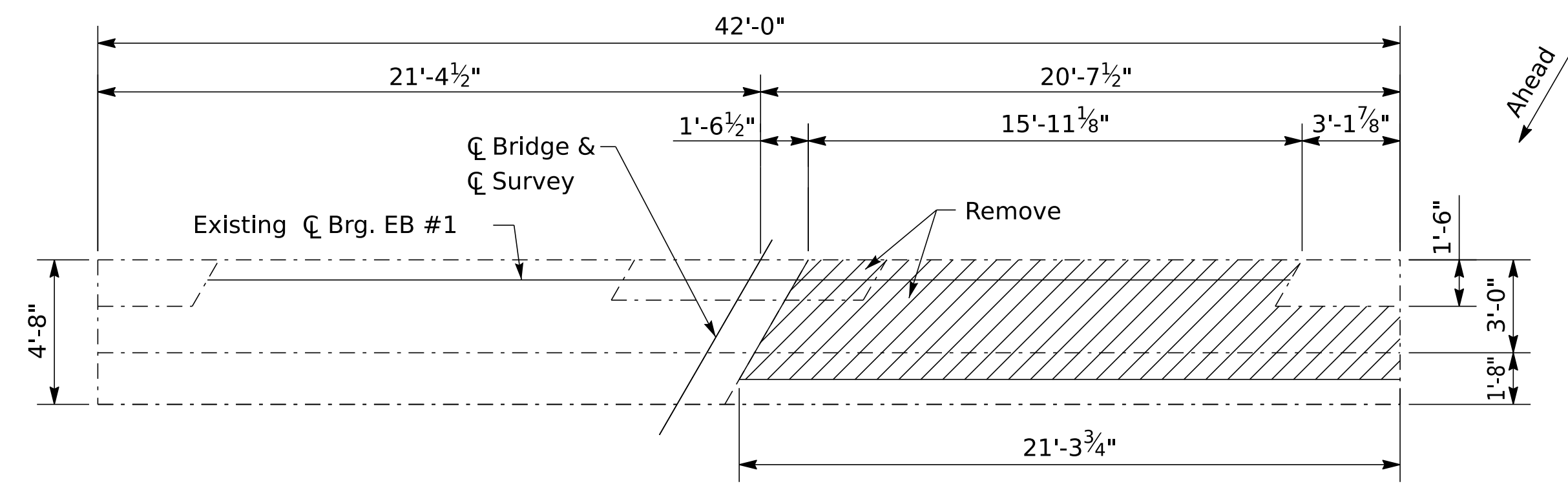
PLAN

~Superstructure not shown~

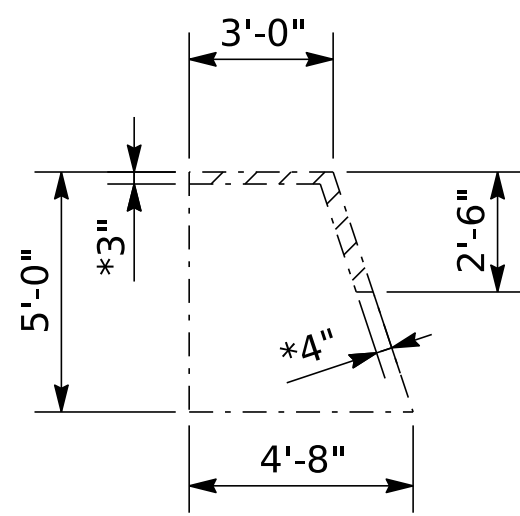


TYPICAL SECTION

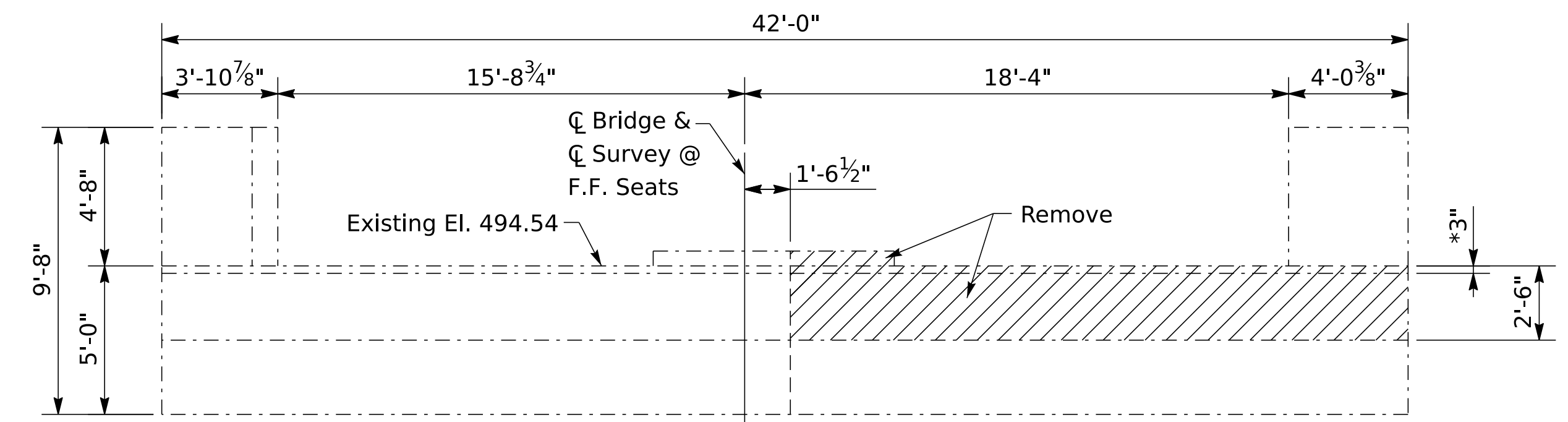
	REVISION	DATE	PREPARED BY	DATE: NOVEMBER 2024	CHECKED BY	LAYOUT CROSSING DRY FORK	ROUTE	BRIDGE ID.	COUNTY OF
				Division of Structural Design	DESIGNED BY: J. VAN ZEE		K. EE	KY 1	064B00027N
MicroStation v10.16.3.31 USER: joseph.vanzee		DATE PLOTTED: 17-FEB-2025		FILE NAME: J:\District12\RS&M\064B00027N\28961.dgn	DETAILED BY: M. BAWITHAWNG	J. VAN ZEE		SHEET NO. S3	DRAWING NUMBER 28961



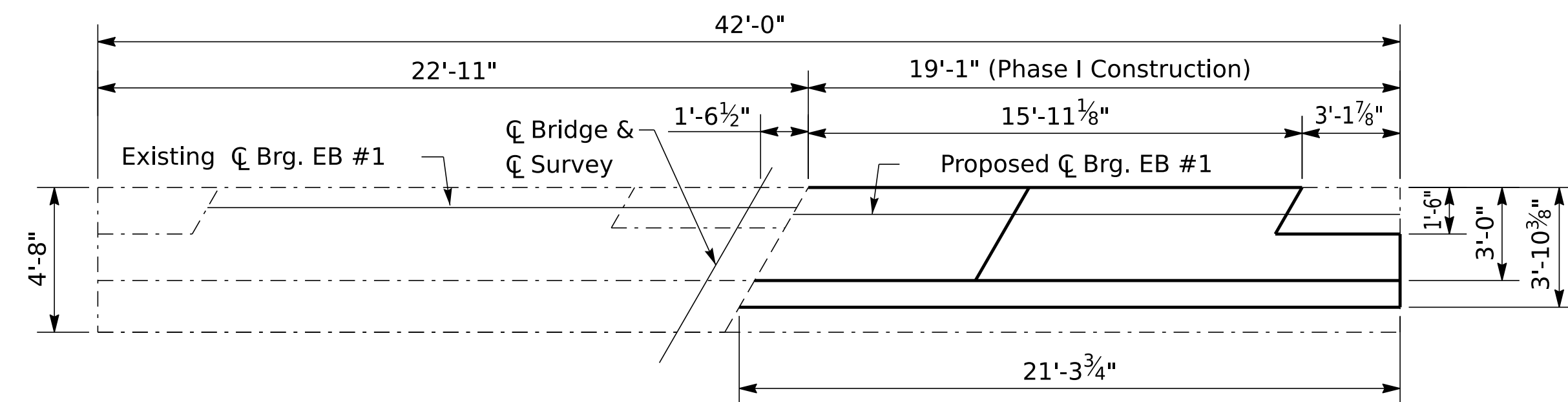
PLAN - PHASE I REMOVAL
End Bent #1 Removal



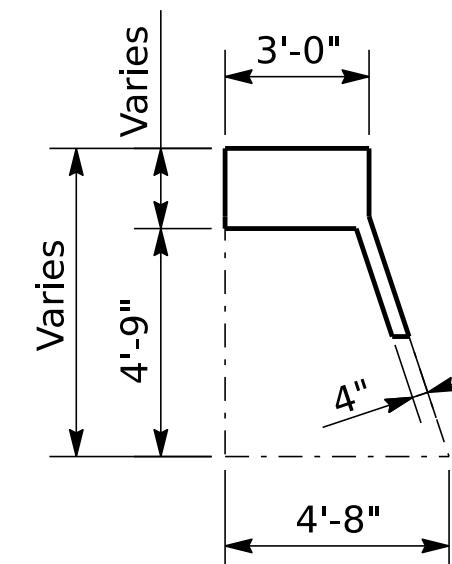
SIDE ELEVATION
End Bent #1 Removal



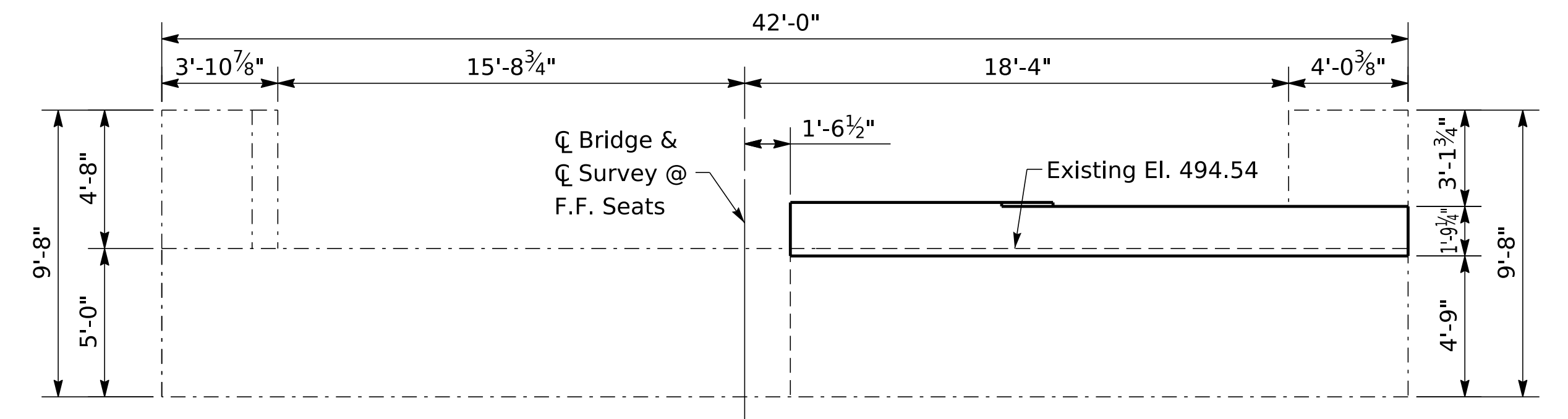
ELEVATION - PHASE I REMOVAL
End Bent #1 Removal



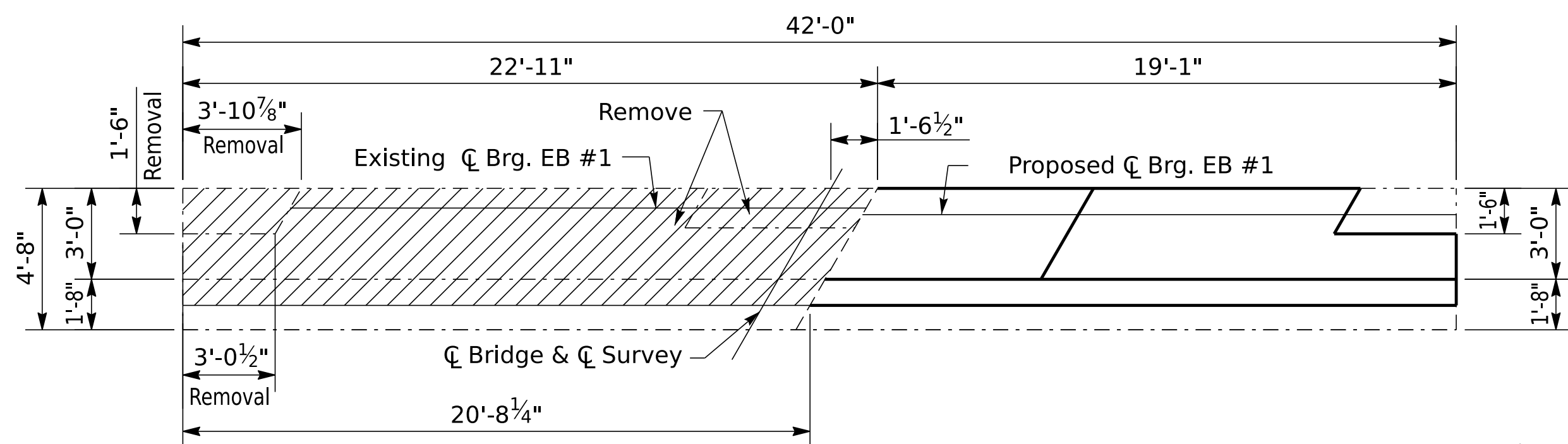
PLAN - PHASE I CONSTRUCTION
End Bent #1 Construction



SIDE ELEVATION
End Bent #1 Construction

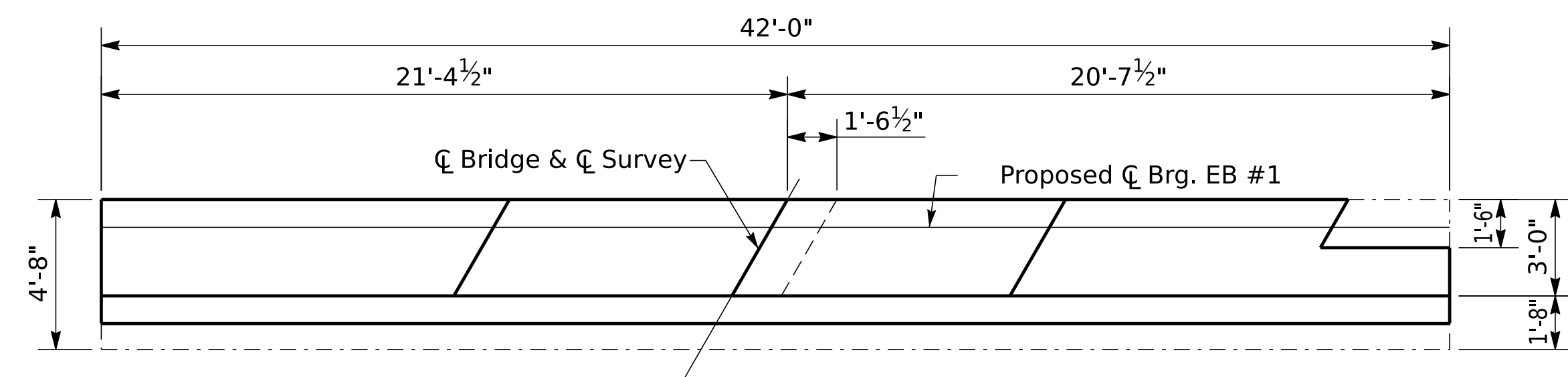


ELEVATION - PHASE I CONSTRUCTION
End Bent #1 Construction

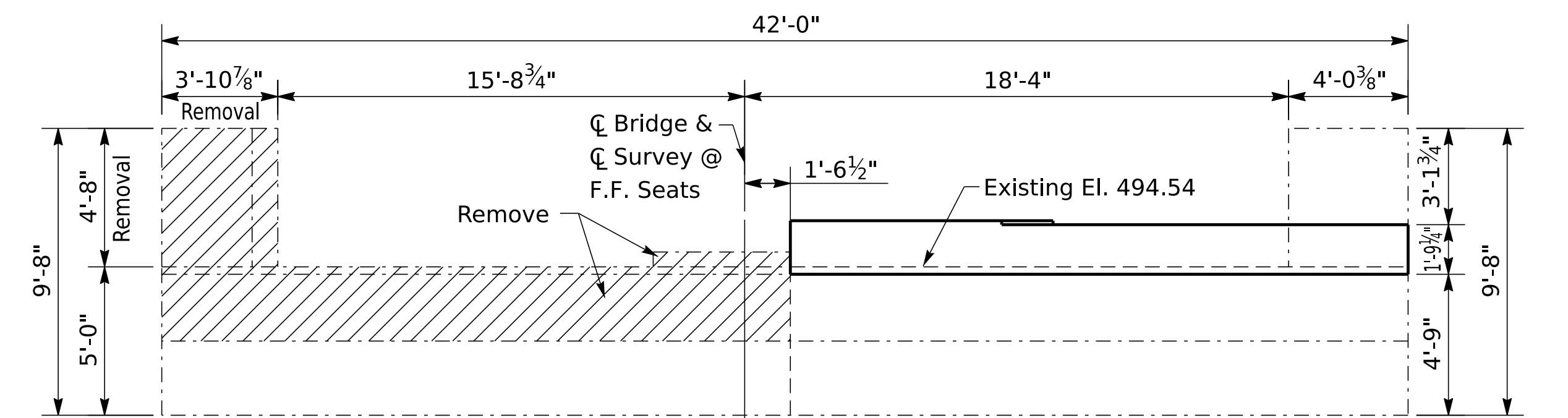


PLAN - PHASE II REMOVAL
End Bent #1 Removal

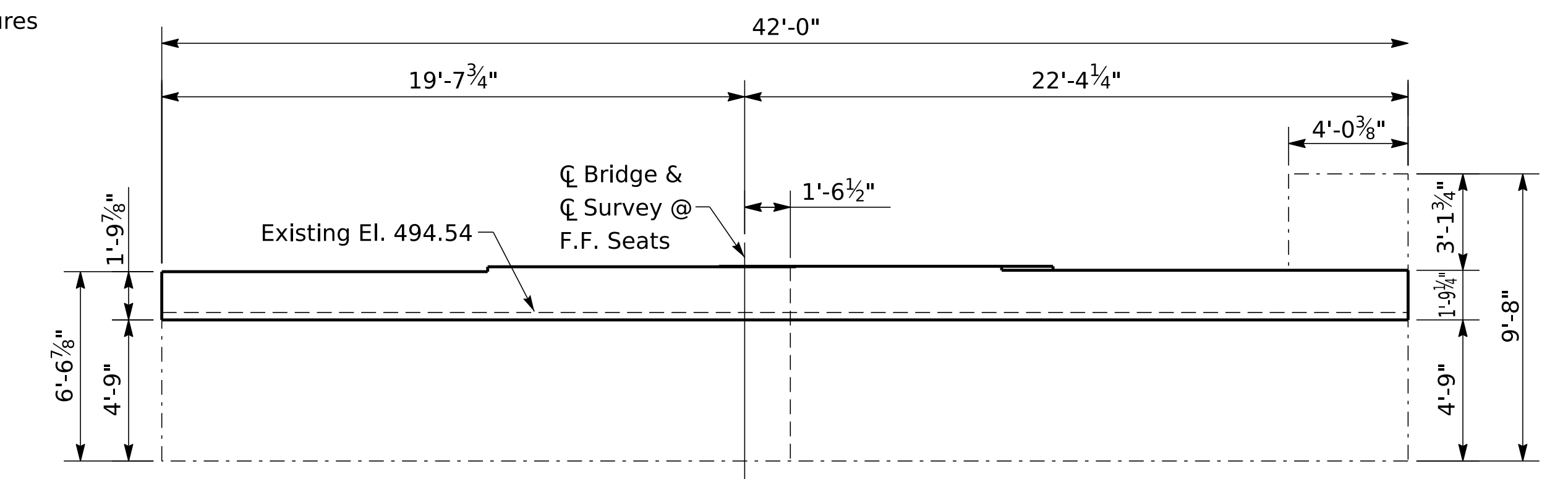
*Note: 3" & 4" removal shown, but exact depth shall be determined in the field to ensure all bad concrete is removed. Engineer shall determine final removal limits. Concrete removal on the substructures is paid under the unit price bid for Remove Concrete Masonry.



PLAN - PHASE II CONSTRUCTION
End Bent #1 Construction



ELEVATION - PHASE II REMOVAL
End Bent #1 Removal



ELEVATION - PHASE II CONSTRUCTION
End Bent #1 Construction



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION DATE

USER: joseph.vanzee

DATE PLOTTED: 17-FEB-2025

PREPARED BY

Division of
Structural Design

FILE NAME: J:\District12\RS&M\064B00027N\28961.dgn

DATE: NOVEMBER 2024

DESIGNED BY: J. VAN ZEE

DETAILED BY: M. BAWITHAWNG

CHECKED BY

K. EE

J. VAN ZEE

CONSTRUCTION PHASES

CROSSING
DRY FORK

ROUTE

KY 1

BRIDGE ID.

064B00027N

SHEET NO.

S4

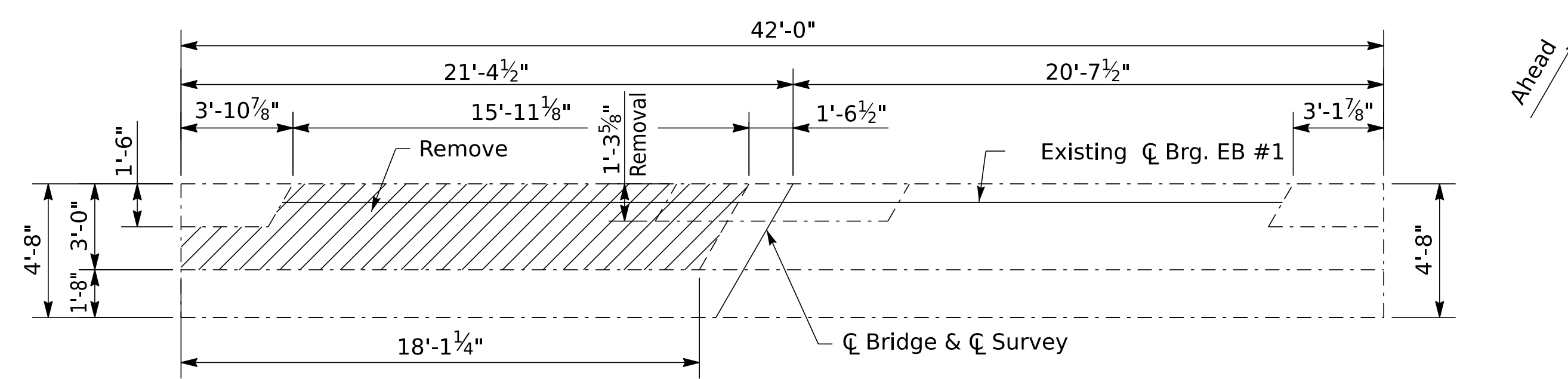
COUNTY OF

LAWRENCE

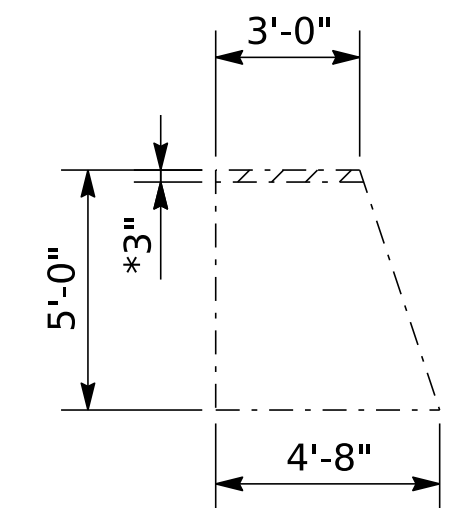
DRAWING NUMBER

28961

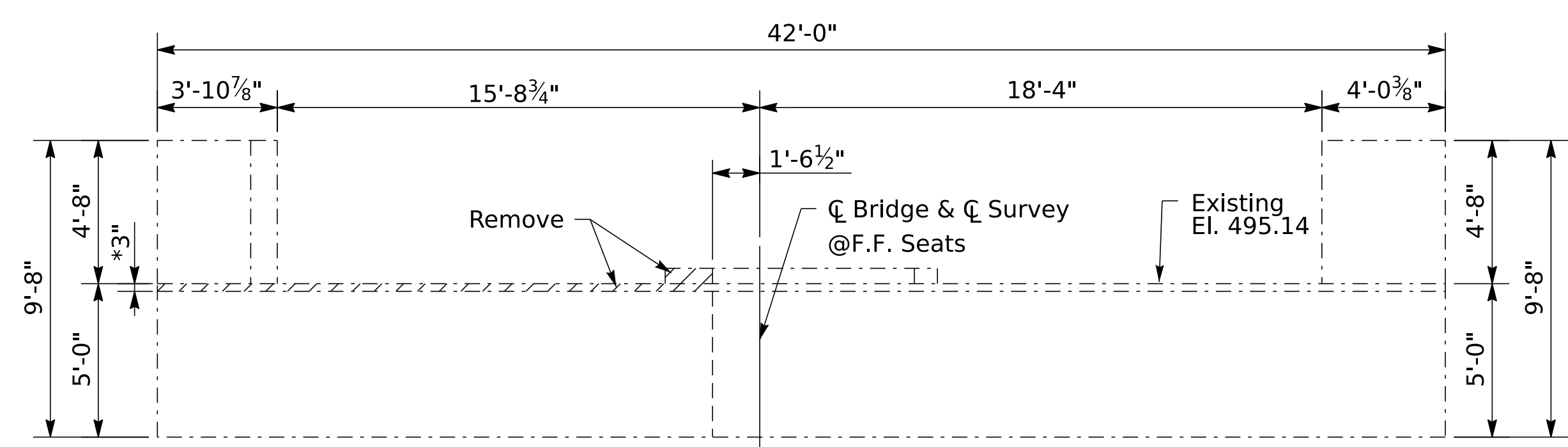
MicroStation v10.16.3.31



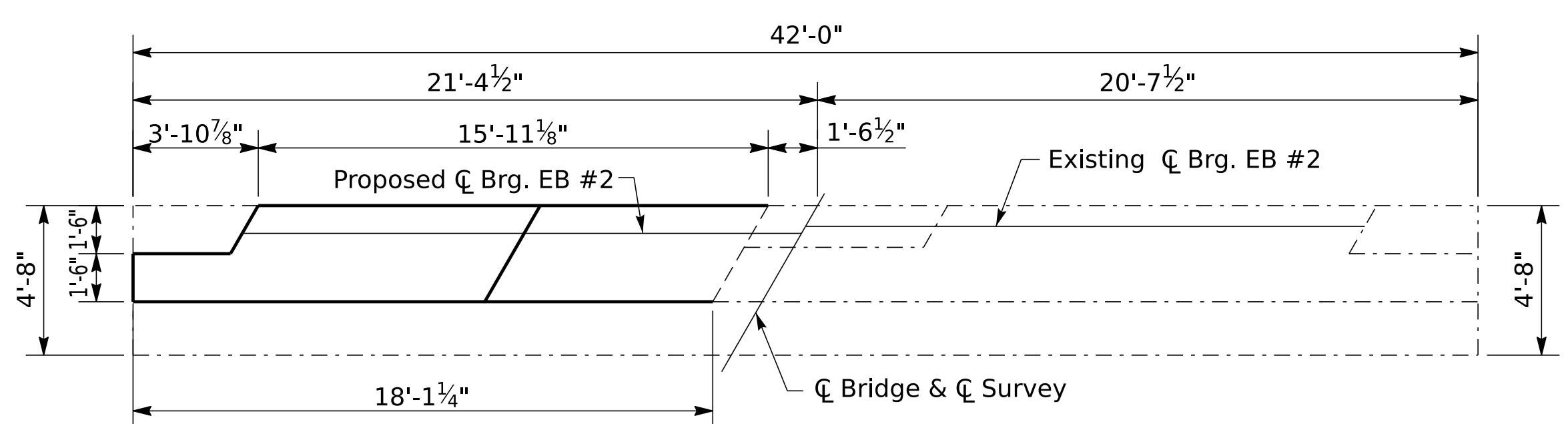
PLAN - PHASE I REMOVAL
End Bent #2 Removal



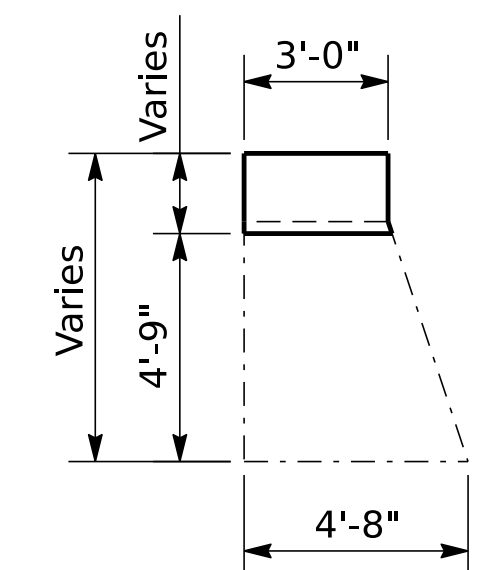
SIDE ELEVATION
End Bent #2 Removal



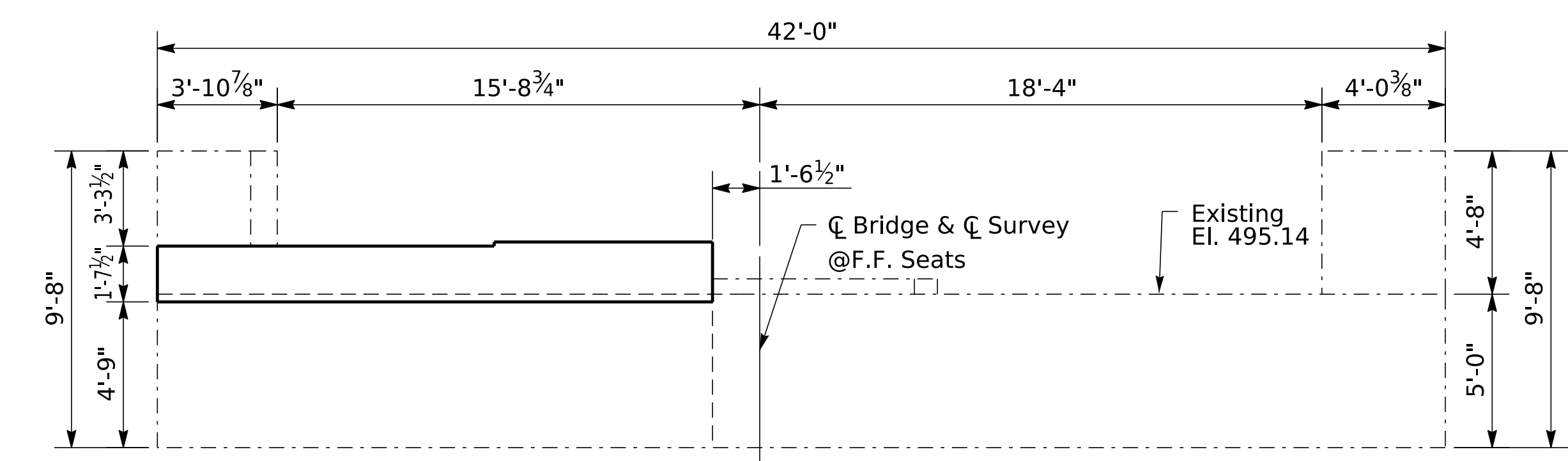
ELEVATION - PHASE I REMOVAL
End Bent #2 Removal



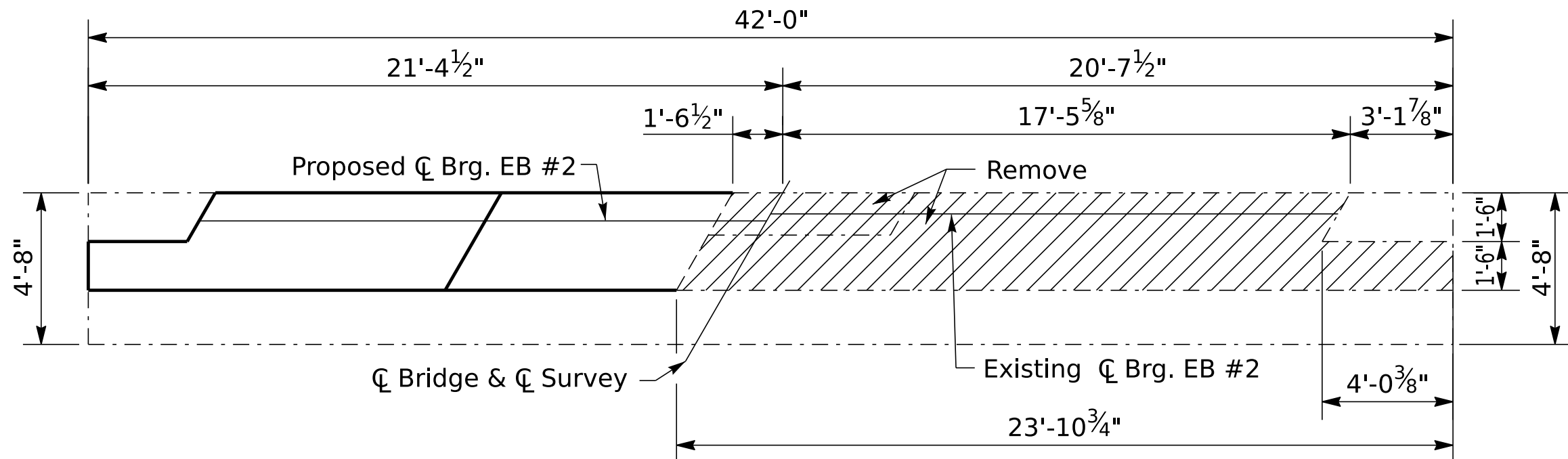
PLAN - PHASE I CONSTRUCTION
End Bent #2 Construction



SIDE ELEVATION
End Bent #2 Construction

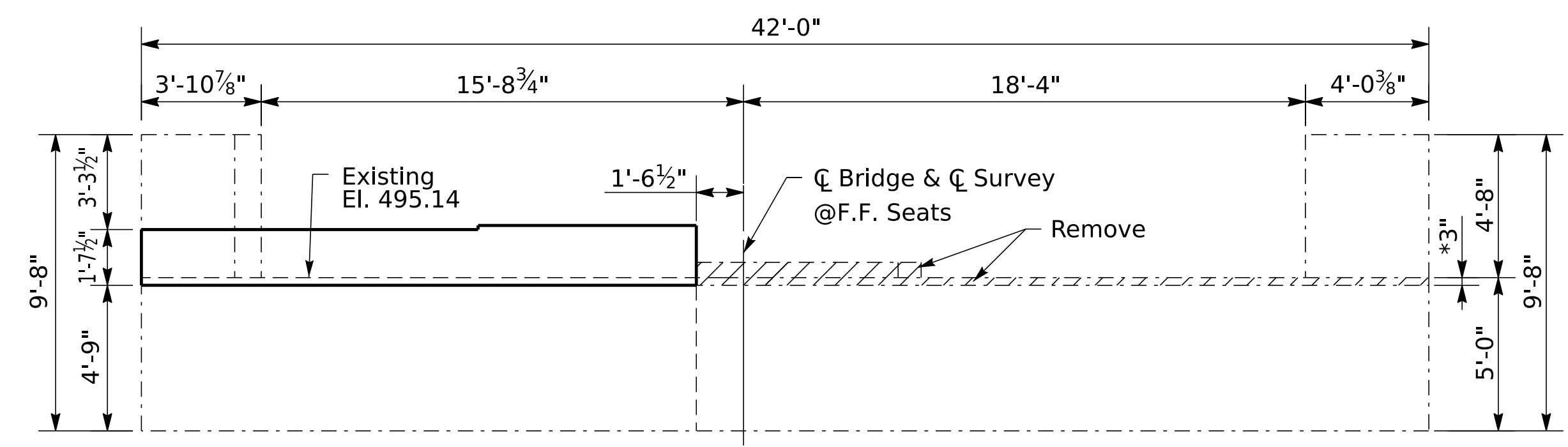


ELEVATION - PHASE I CONSTRUCTION
End Bent #2 Construction

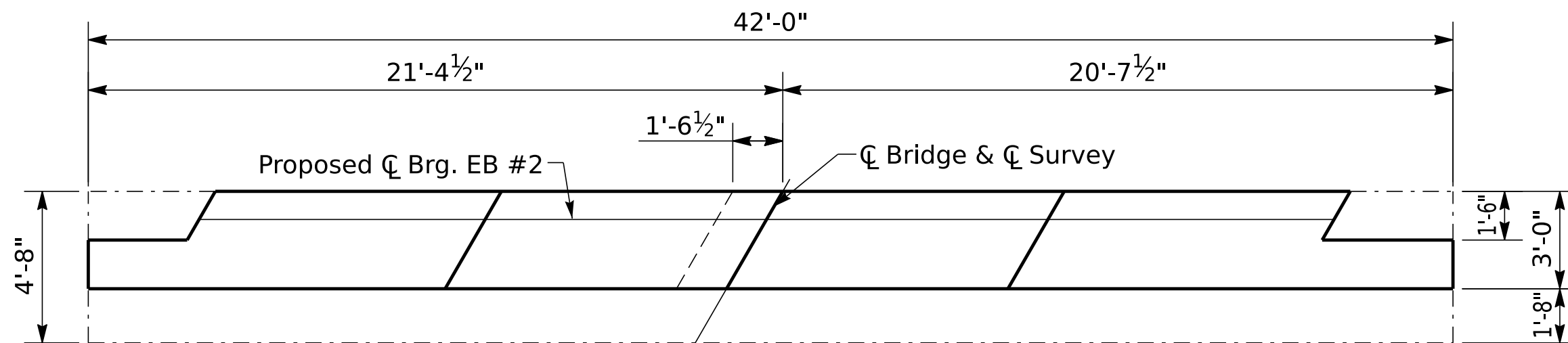


PLAN - PHASE II REMOVAL
End Bent #2 Removal

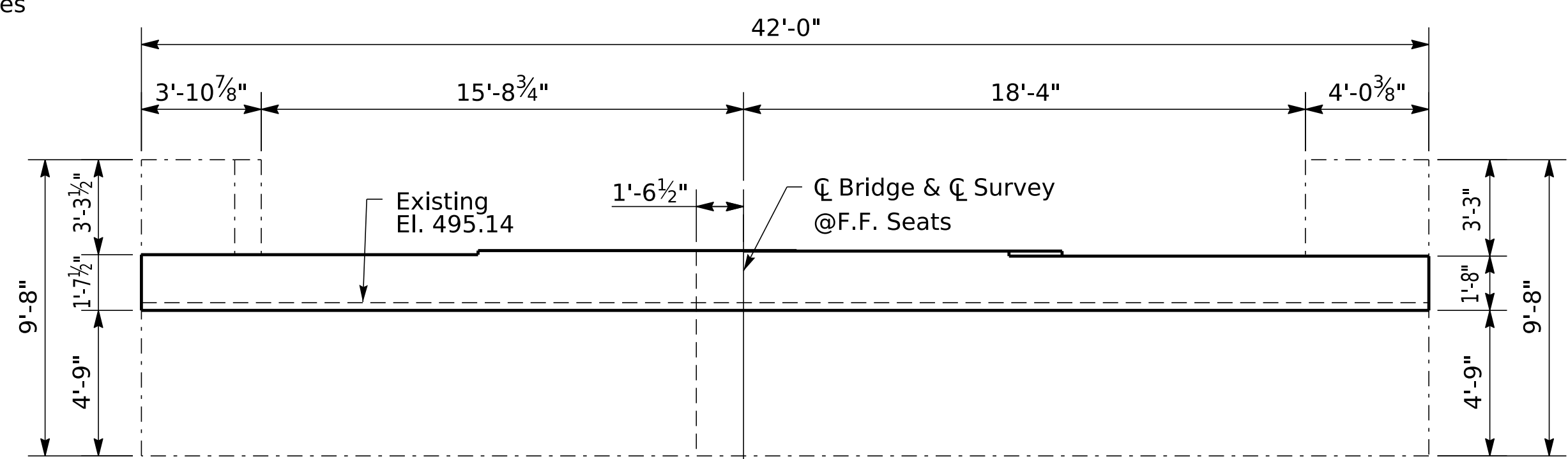
*Note: 3" removal shown, but exact depth shall be determined in the field to ensure all bad concrete is removed. Engineer shall determine final removal limits. Concrete removal on the substructures is paid under the unit price bid for Remove Concrete Masonry.



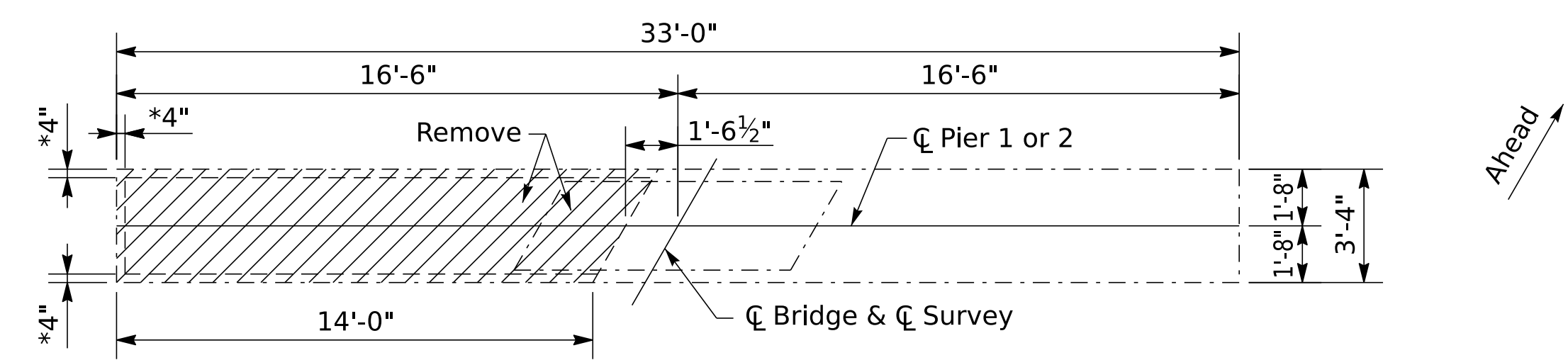
ELEVATION - PHASE II REMOVAL
End Bent #2 Removal



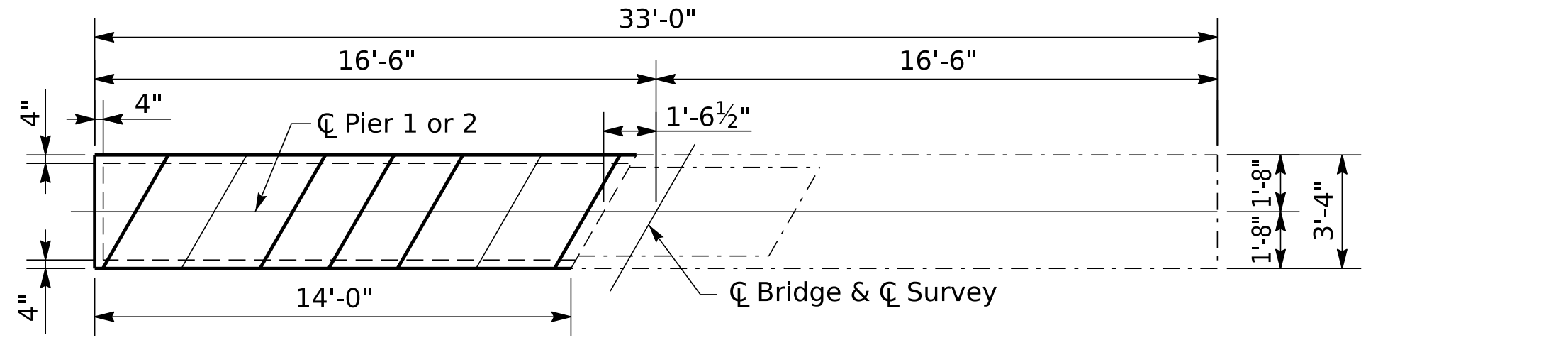
PLAN - PHASE II CONSTRUCTION
End Bent #2 Construction



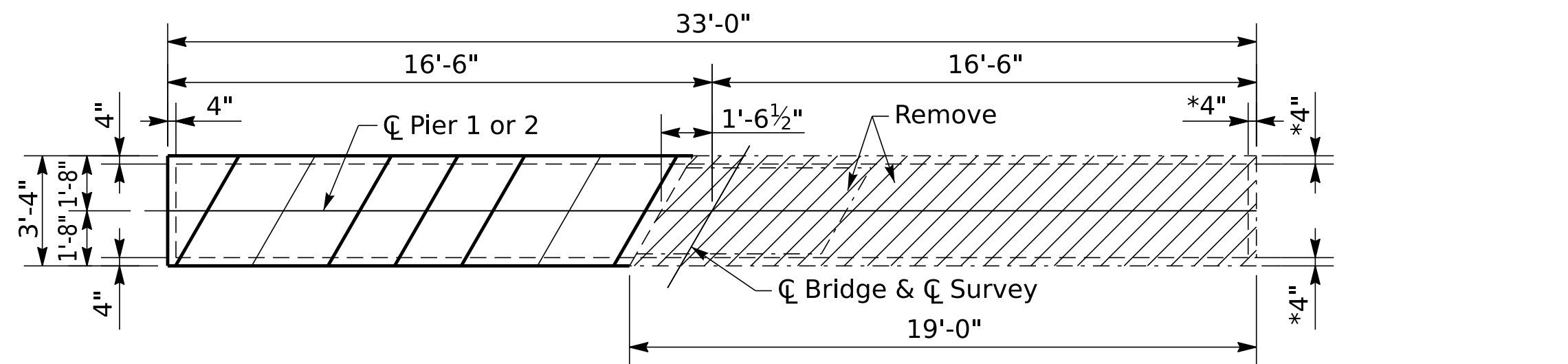
ELEVATION - PHASE II CONSTRUCTION
End Bent #2 Construction



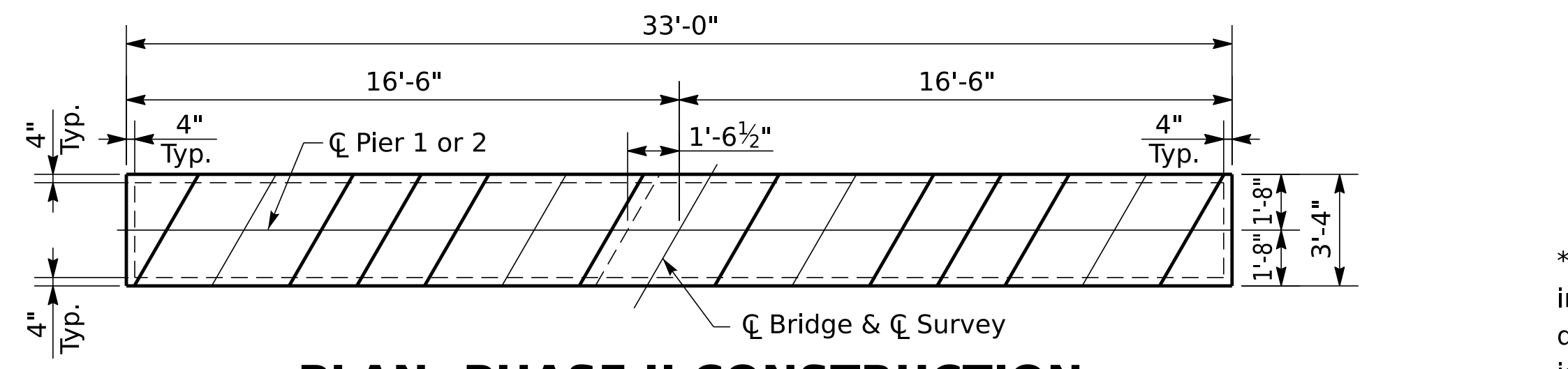
PLAN - PHASE I REMOVAL
Pier 1 & 2 Removal



PLAN - PHASE I CONSTRUCTION
Pier 1 & 2 Construction

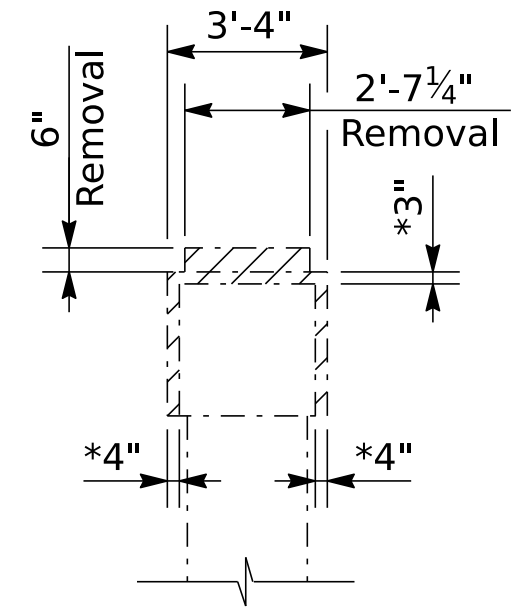


PLAN - PHASE II REMOVAL
Pier 1 & 2 Construction

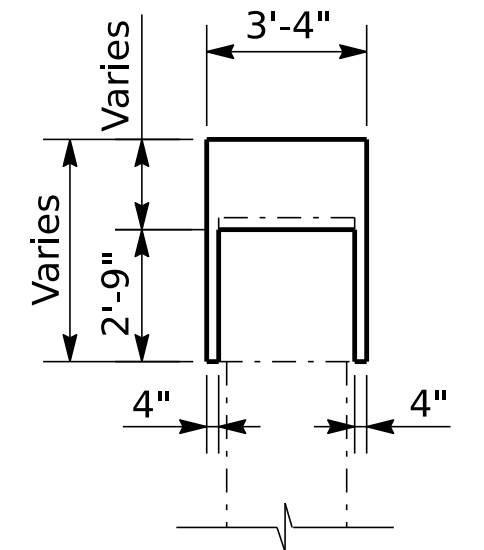


PLAN - PHASE II CONSTRUCTION
Pier 1 & 2 Construction

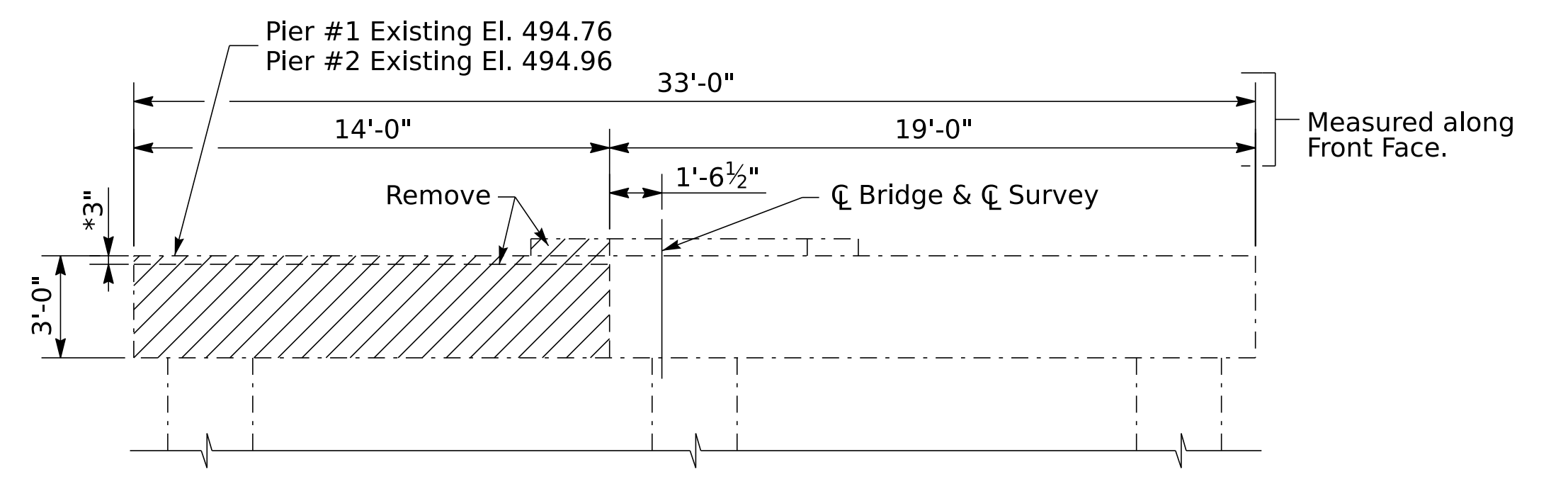
Ahead



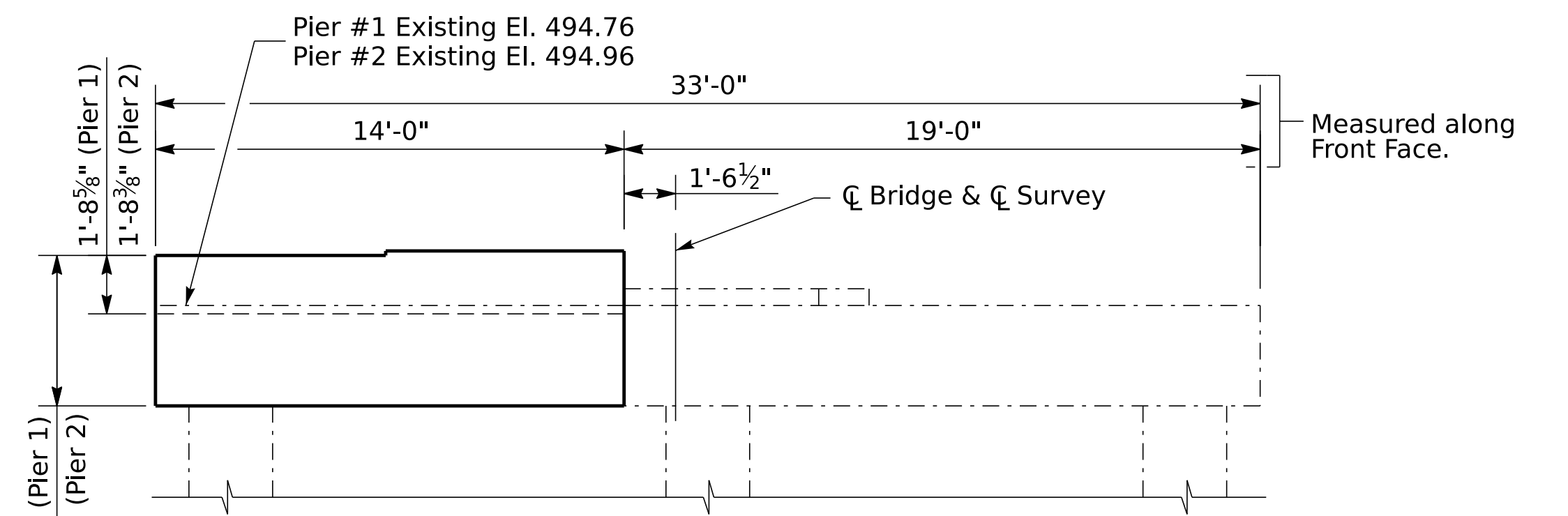
SIDE ELEVATION
Pier 1 & 2 Removal



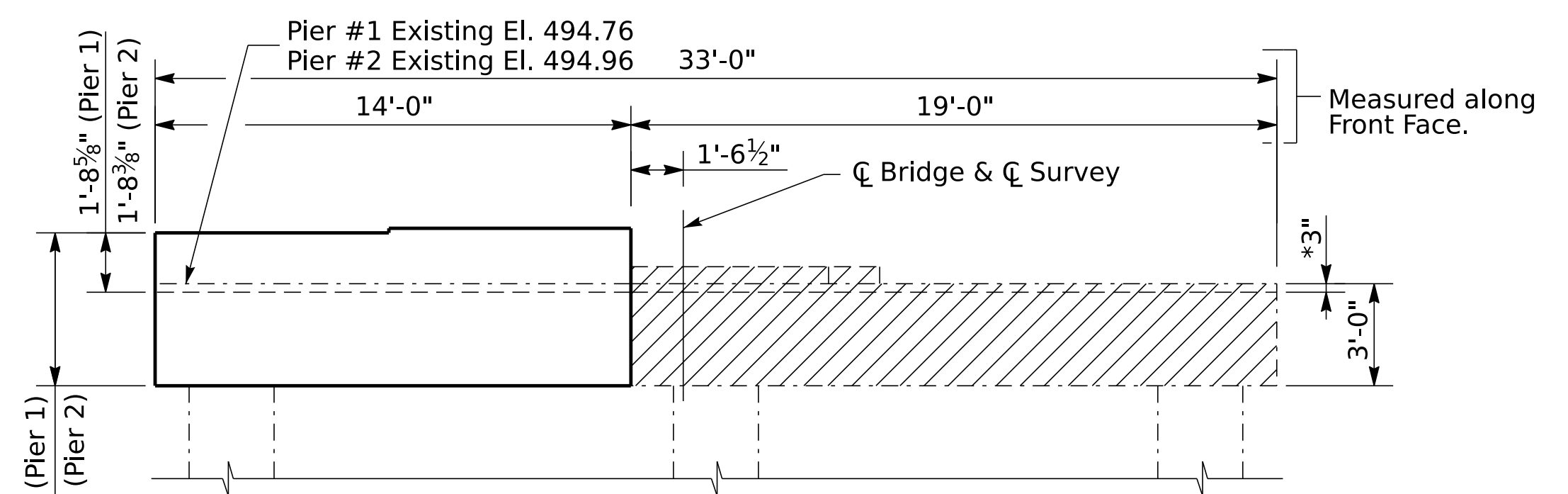
SIDE ELEVATION
Pier 1 & 2 Construction



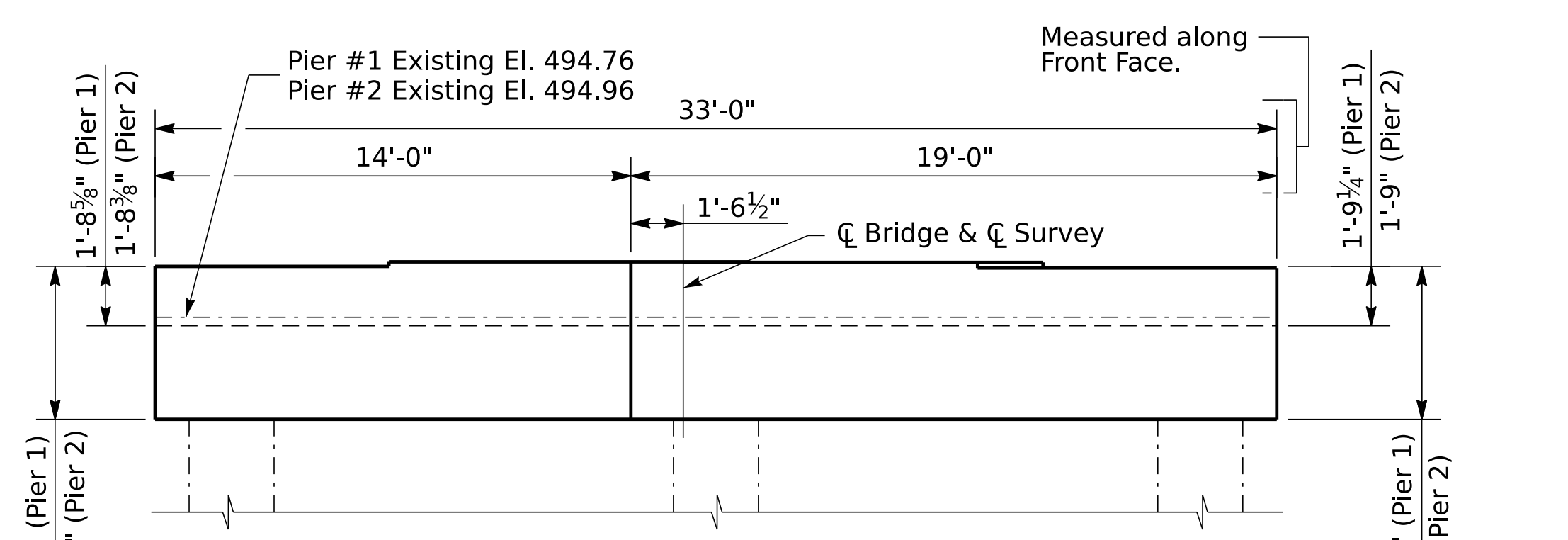
ELEVATION - PHASE I REMOVAL
Pier 1 & 2



Elevation-PHASE I CONSTRUCTION
Pier 1 & 2

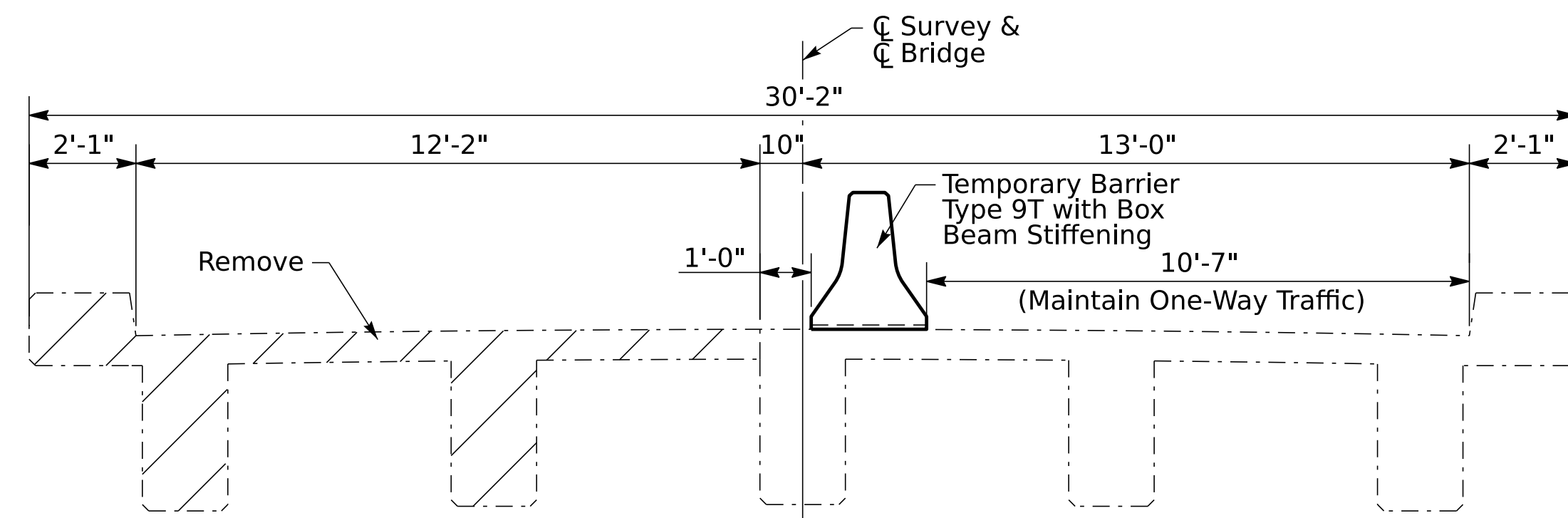


ELEVATION- PHASE II REMOVAL
Pier 1 & 2

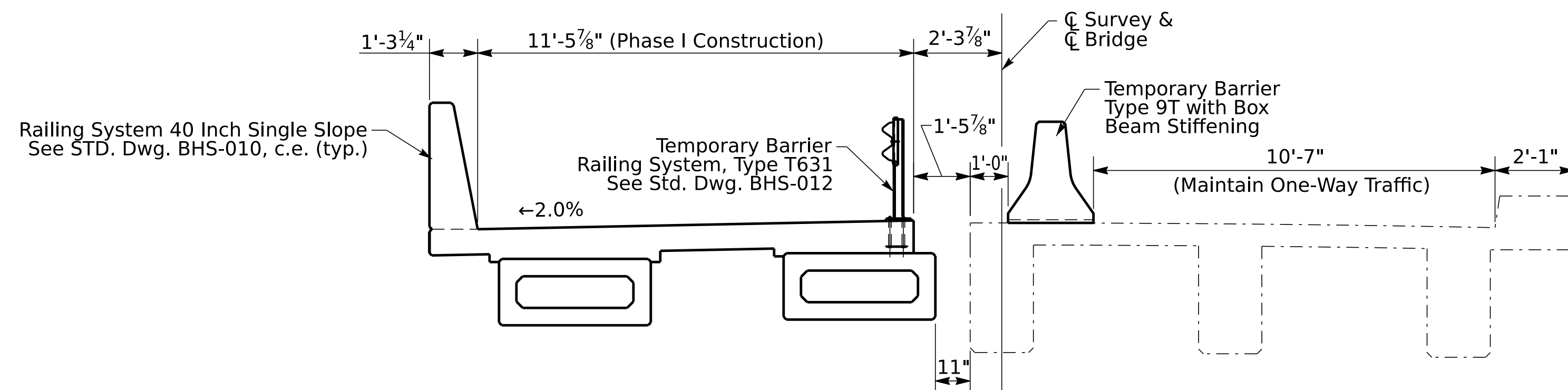


ELEVATION -PHASE II CONSTRUCTION
Pier 1 & 2

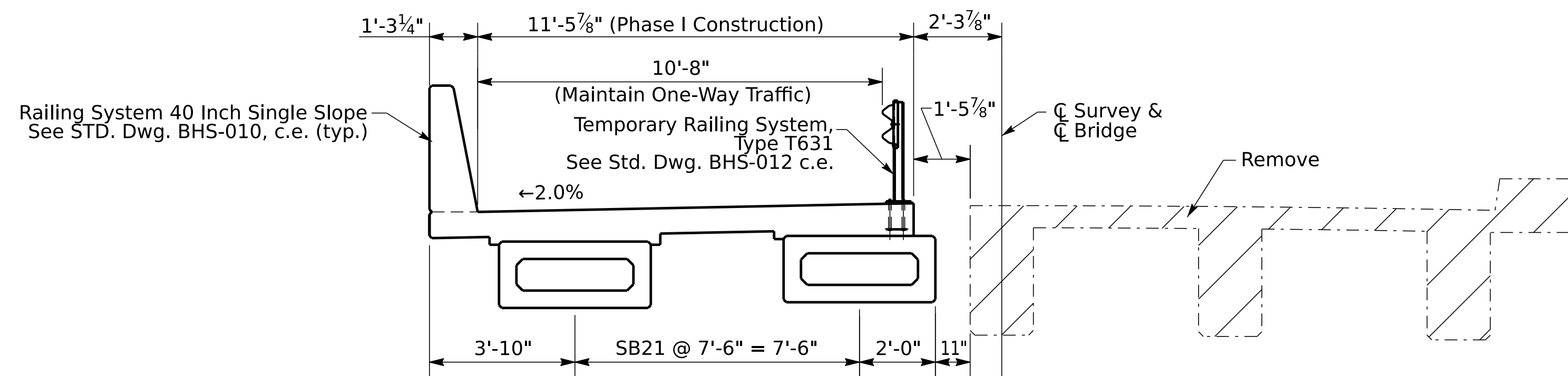
*Note: 3" & 4" removal shown, but exact depth shall be determined in the field to ensure all bad concrete is removed. Engineer shall determine final removal limits. Concrete removal on the substructures is paid under the unit price bid for Remove Concrete Masonry.



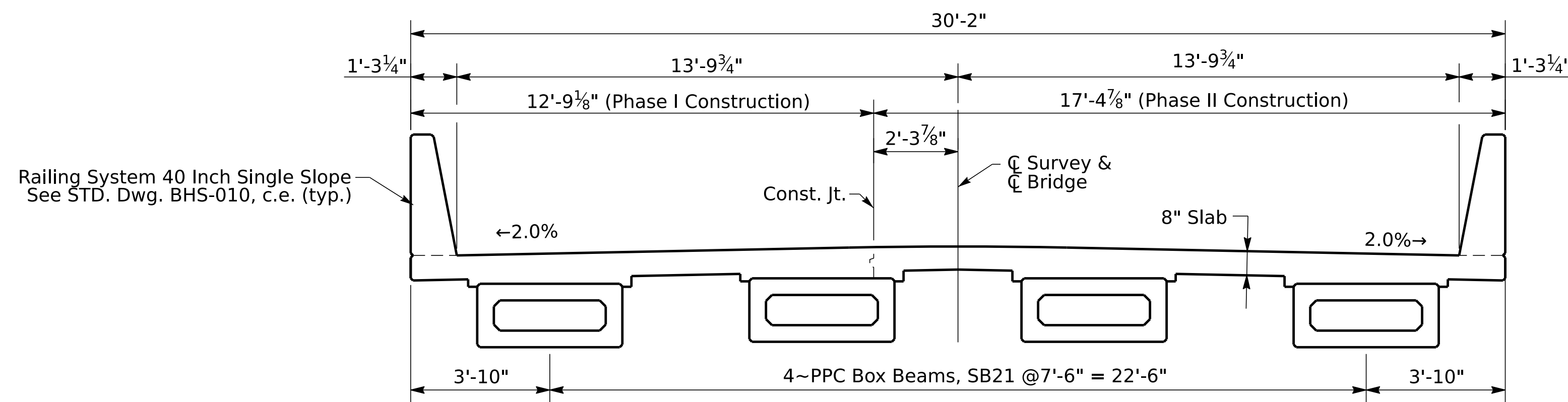
PHASE I REMOVAL



PHASE I CONSTRUCTION



PHASE II REMOVAL



PHASE II CONSTRUCTION

Note: Install temporary T631 railing with hot-dip galvanized bottom plate embedded in slab. Tack weld nuts to plate if necessary and use A325 or A449 bolts with threads in embedded plate. Do not form holes. Remove bolts after phase is complete and fill holes with non-shrink grout. Place an epoxy concrete sealer over filled holes to completely seal them off from moisture. All costs incidental to unit price bid for T631 railing.

Note: Provide Temporary Railing System, Type T631 (Std. Dwg. BHS-012 c.e.), temporary concrete barrier Type 9T (Std. Dwg. RBM-115 c.e.) and Box Beam Stiffening (Std. Dwg. RBM-120 c.e.) Include Box Beam Stiffening in price bid for 9T Barrier. Quantities for temporary Barriers are included in Roadway Quantities.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION

DATE

PREPARED BY

Division of
Structural Design

DATE: NOVEMBER 2024

DESIGNED BY: J. VAN ZEE

DETAILED BY: M. BAWITHAWNG

CHECKED BY

K. EE

J. VAN ZEE

CONSTRUCTION PHASES

CROSSING
DRY FORK

ROUTE

KY 1

BRIDGE ID.

064B00027N

SHEET NO.

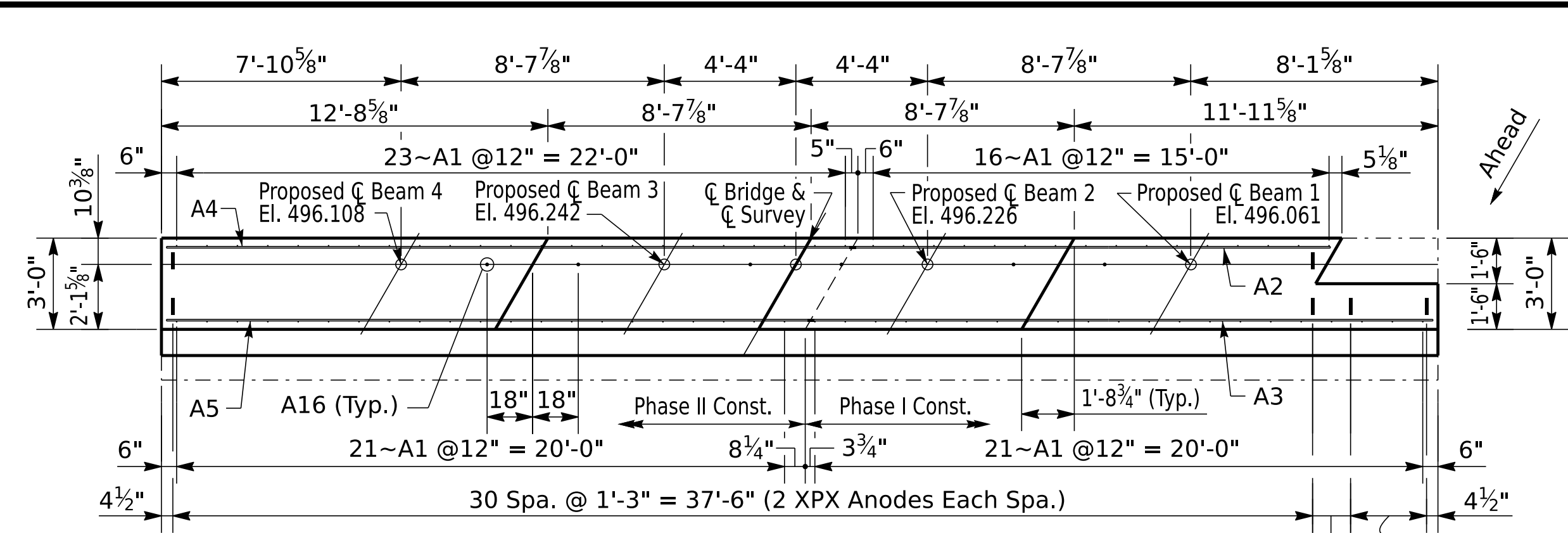
57

COUNTY OF

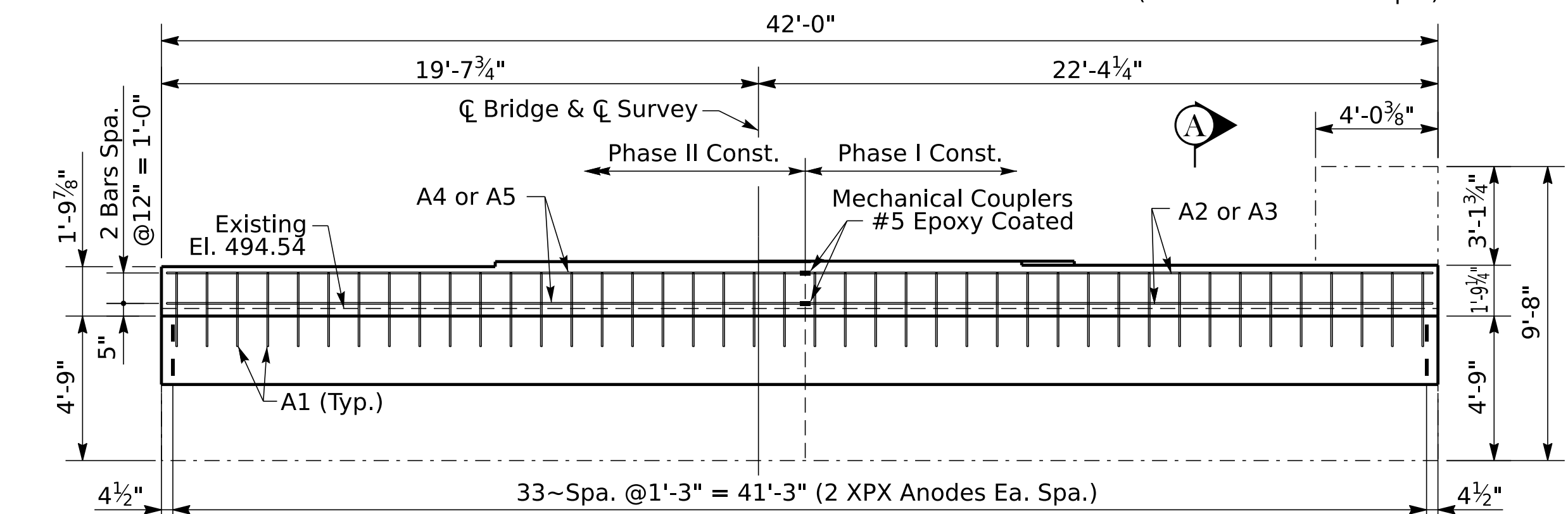
LAWRENCE

DRAWING NUMBER

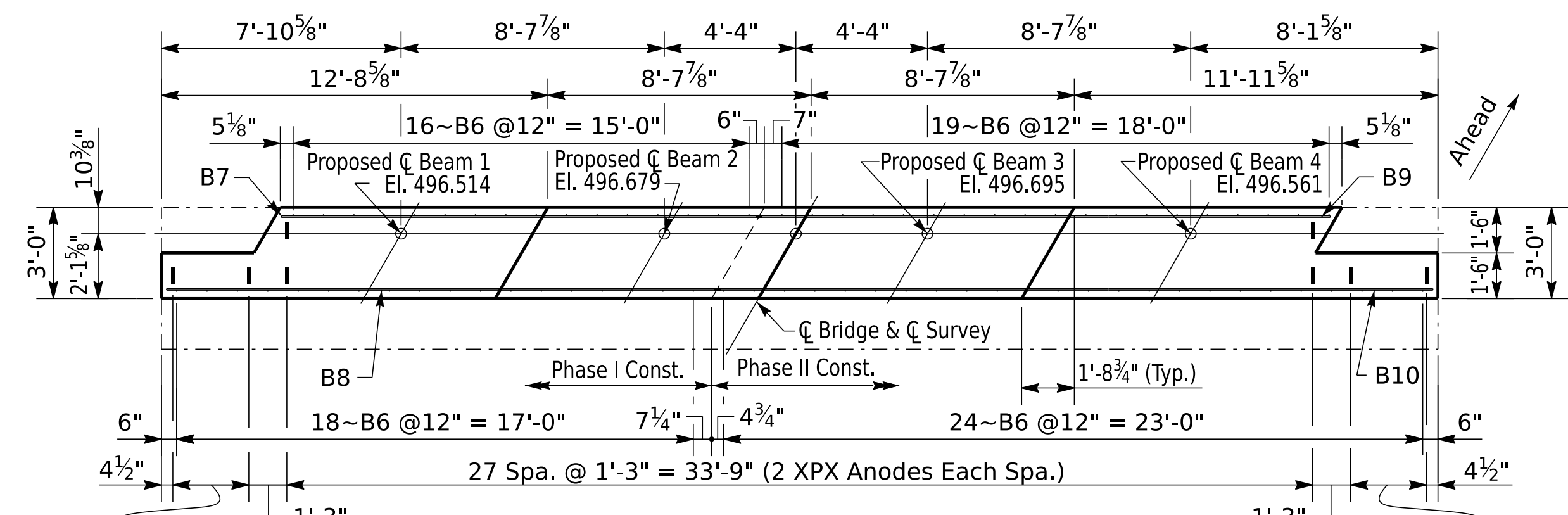
28961



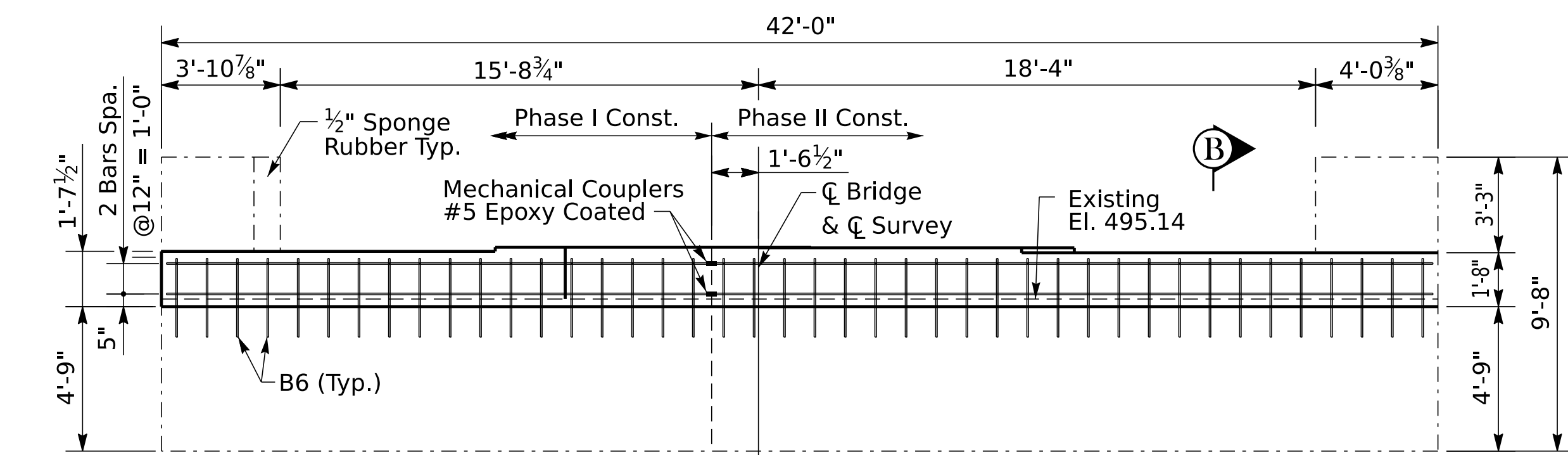
End Bent 1 - PLAN



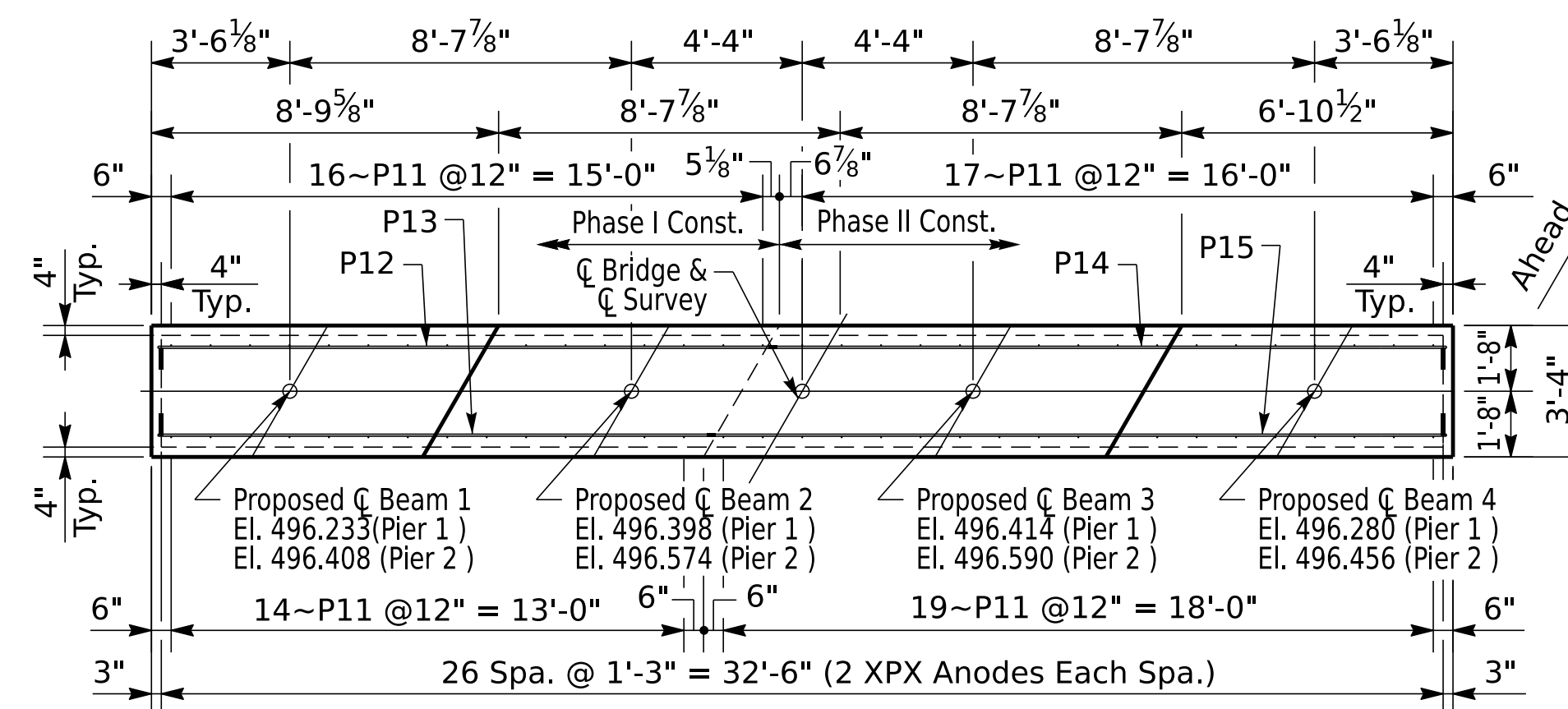
End Bent 1 - ELEVATION



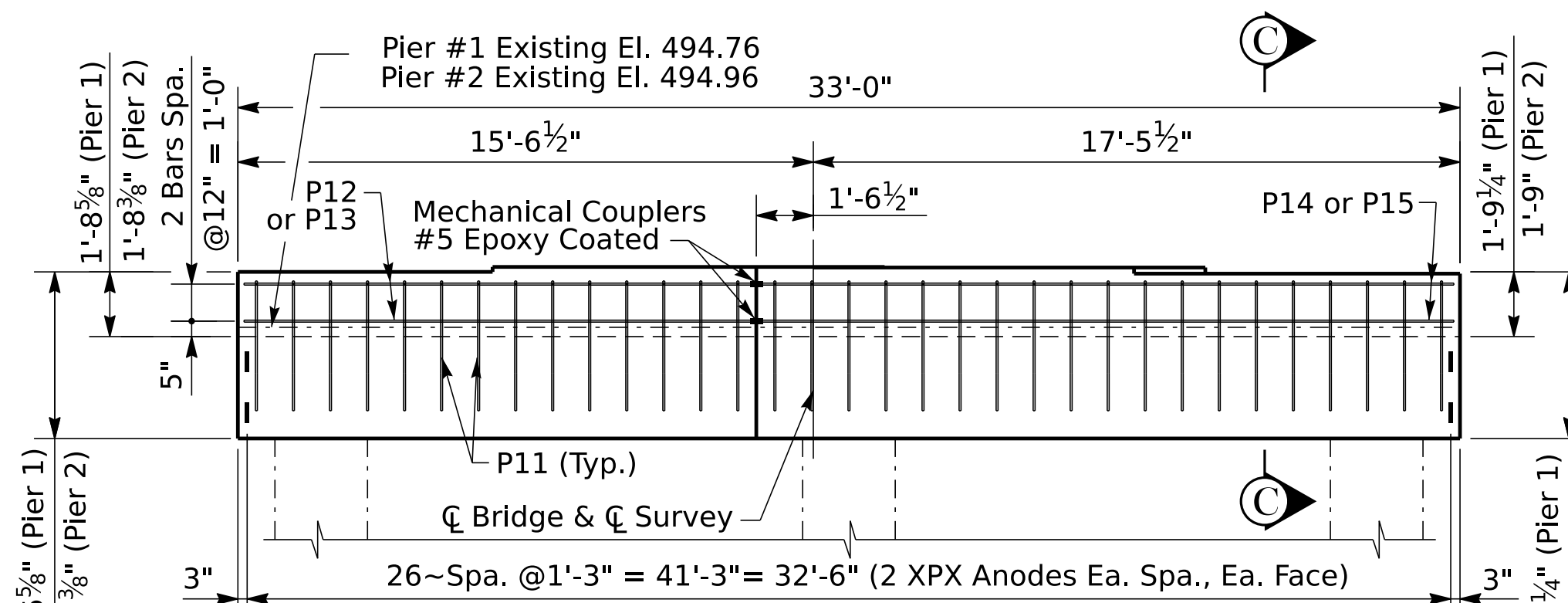
End Bent 2 - PLAN



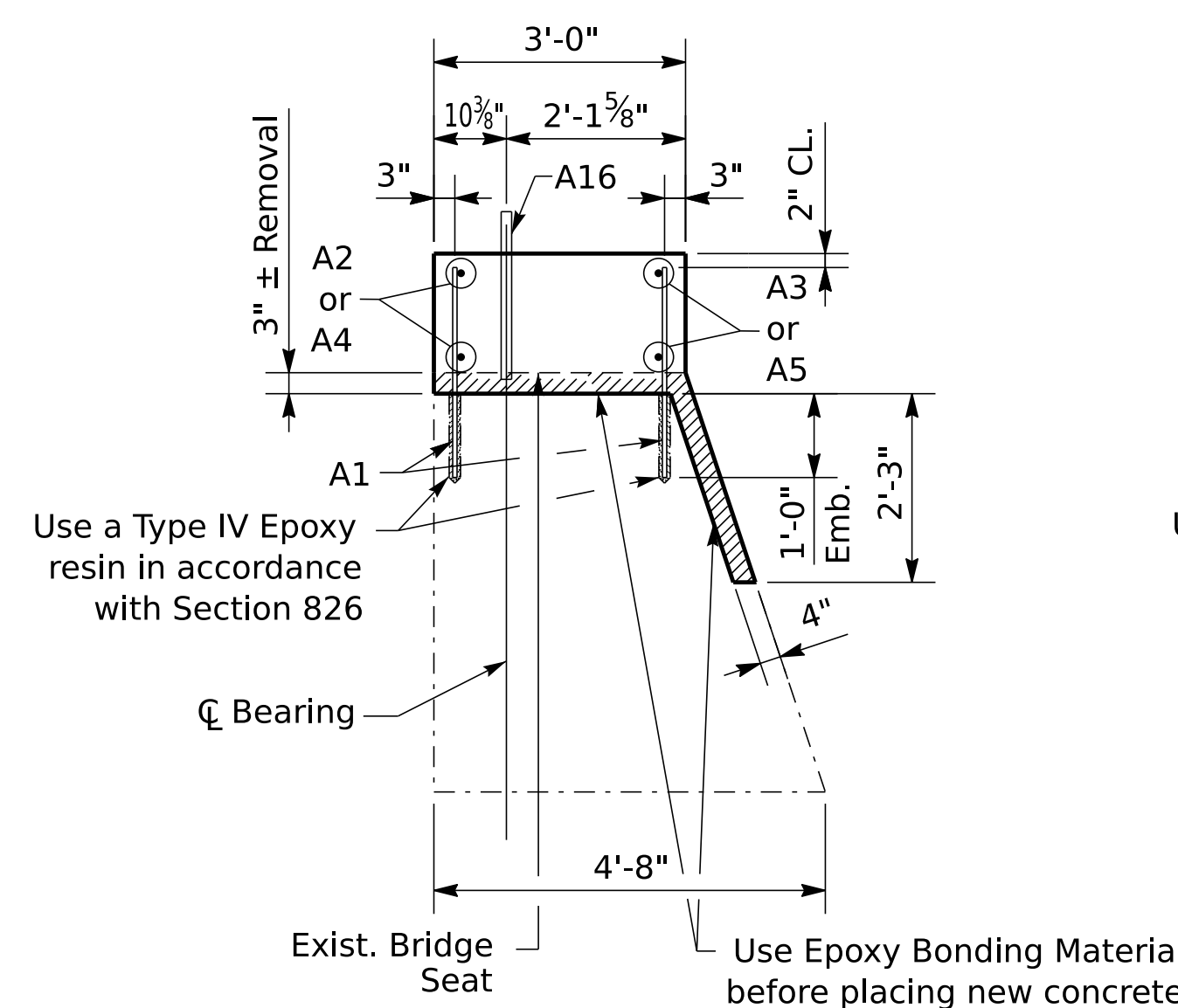
End Bent 2 - ELEVATION



PIER 1 & 2 - PLAN

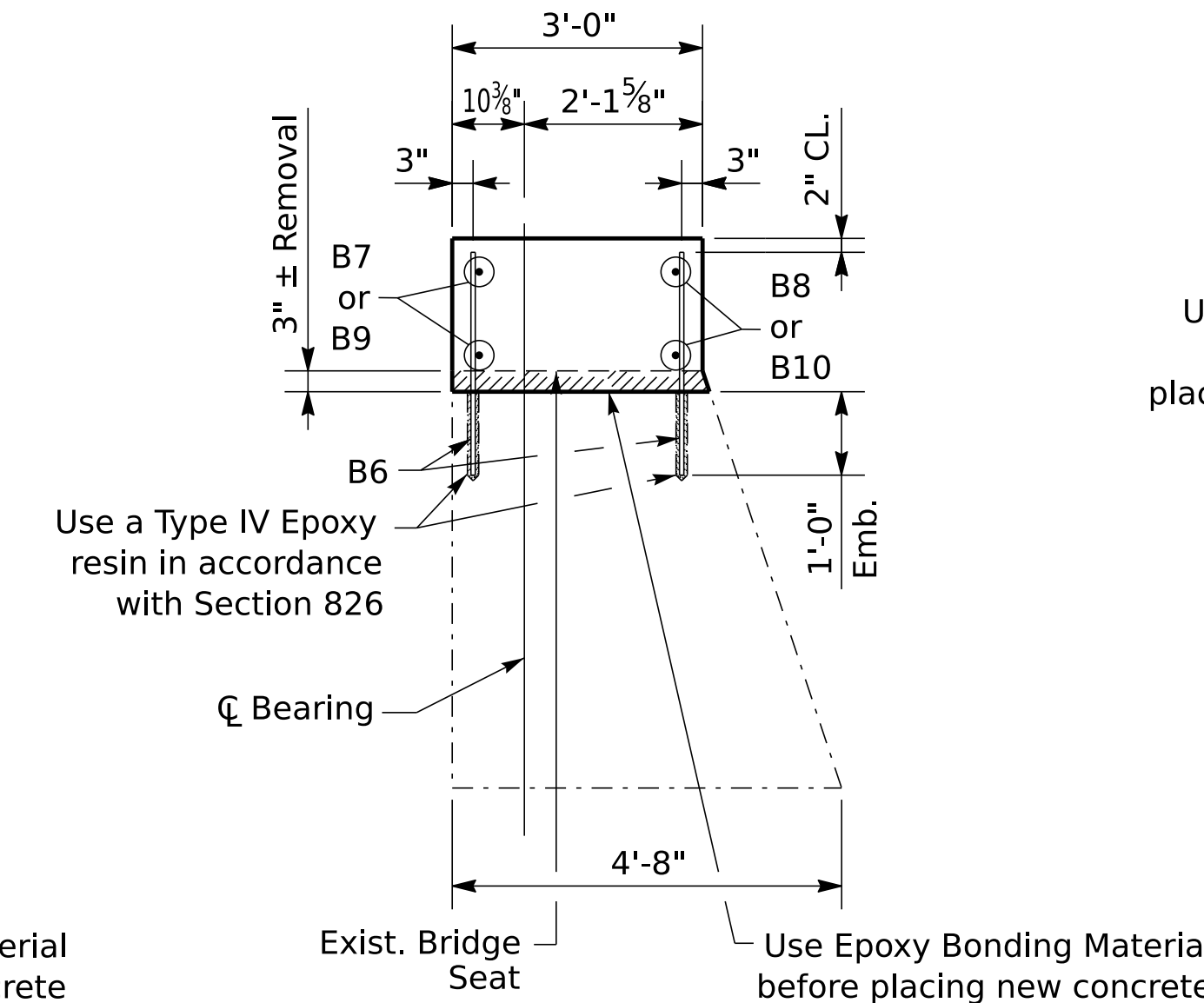


PIER 1 & 2 - ELEVATION



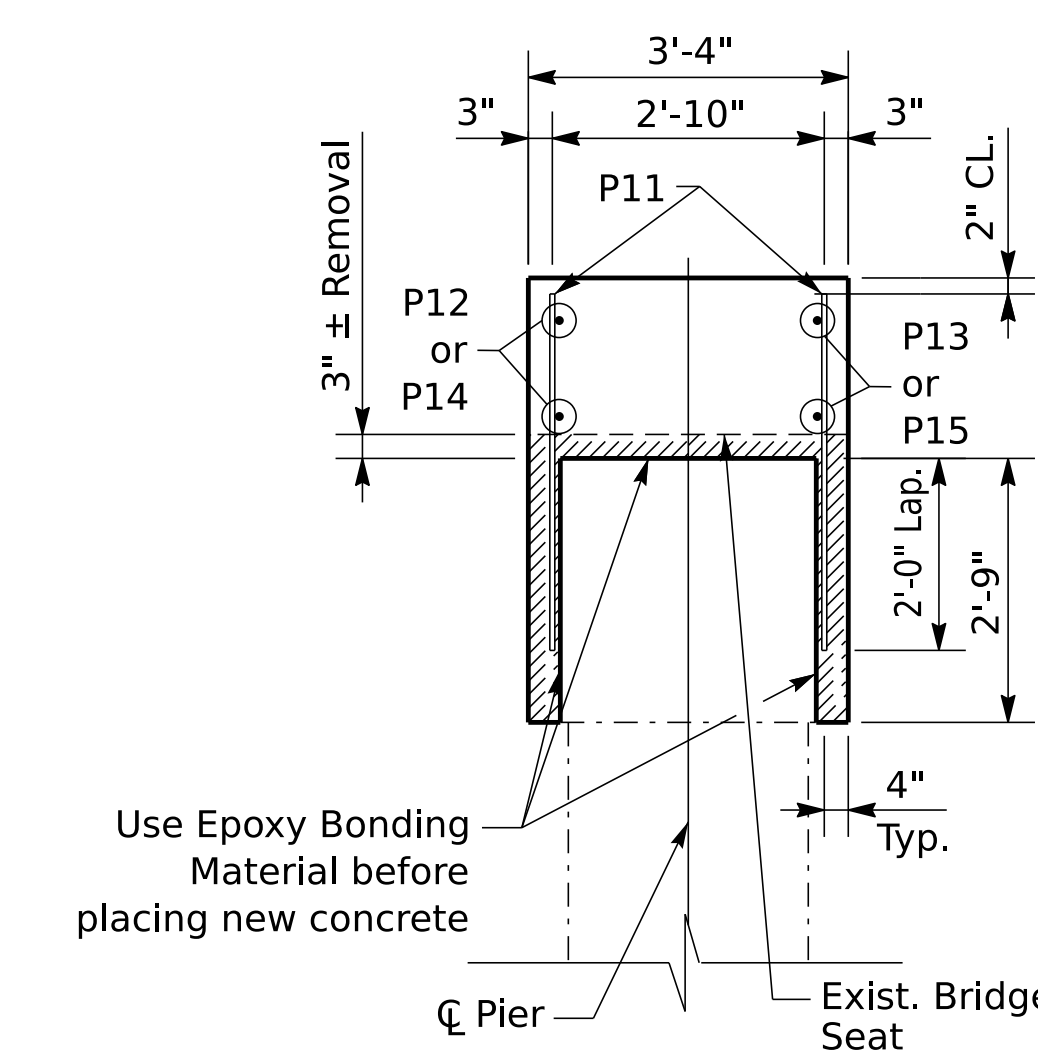
SECTION A-A

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.



SECTION B-B

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

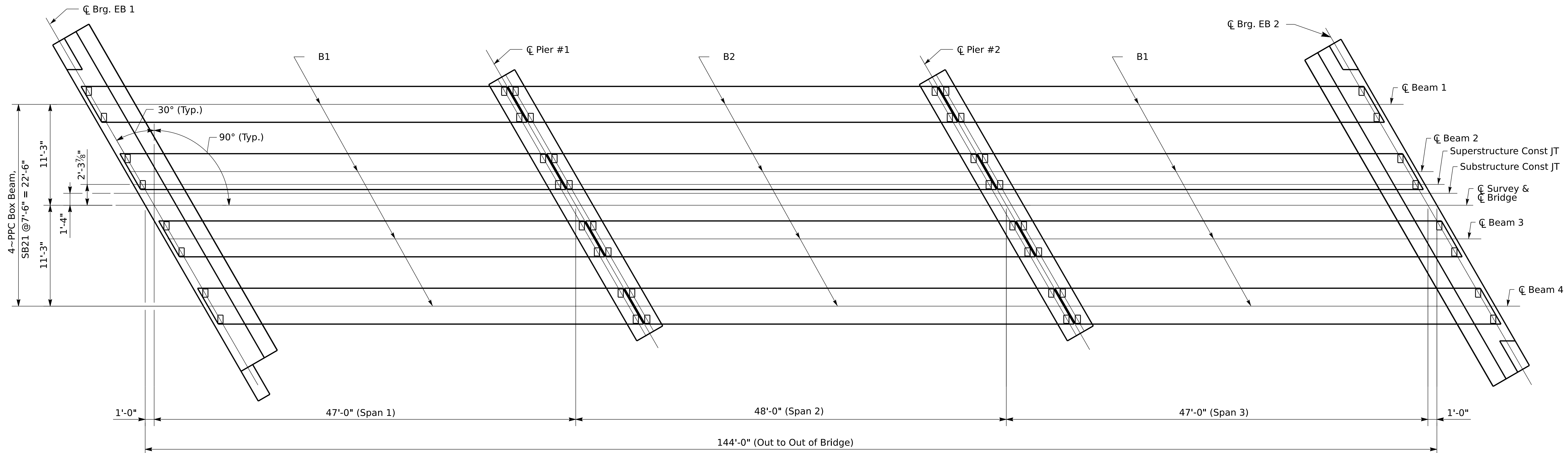


SECTION C-C

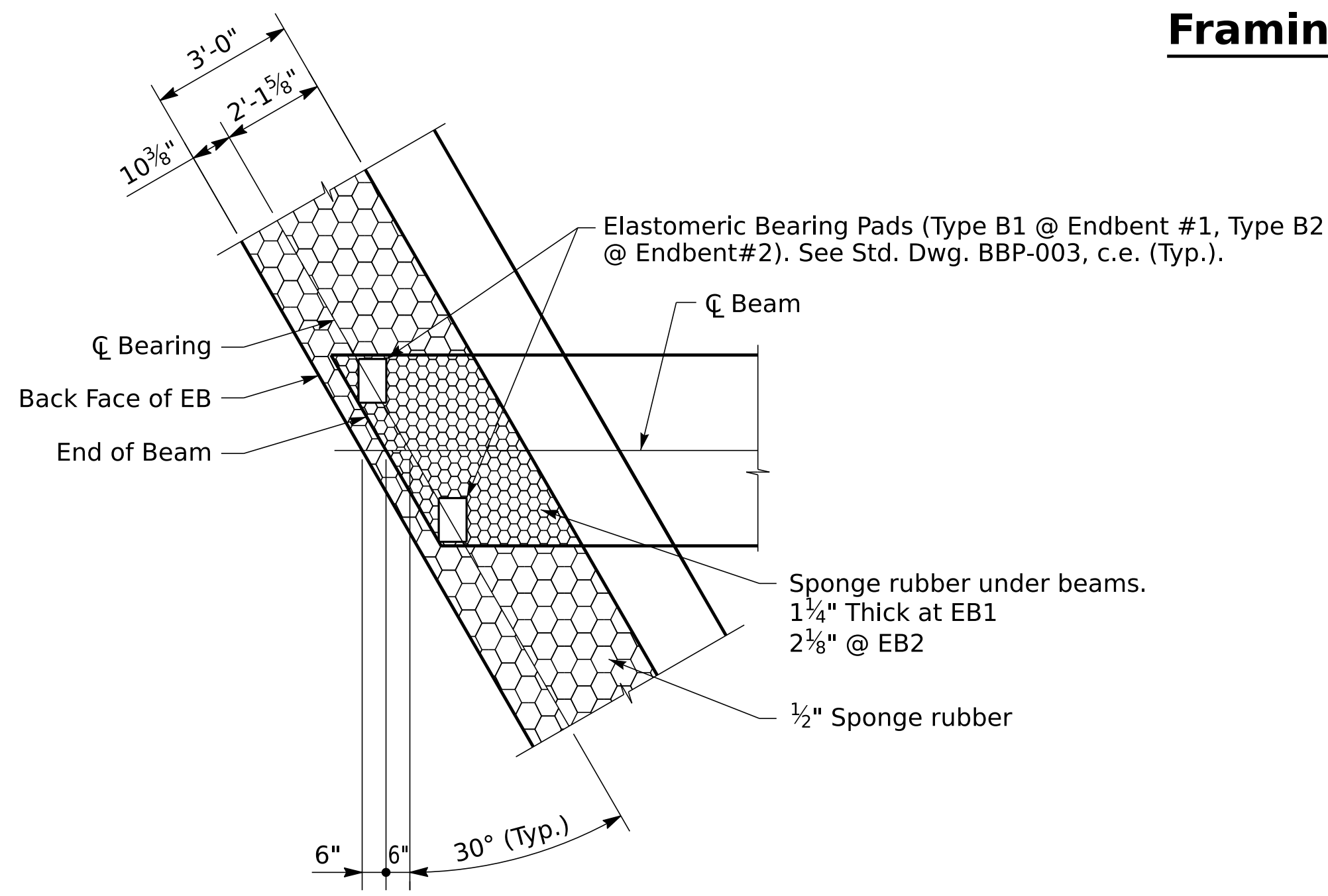
NOTE: The cost of epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

BILL OF REINFORCEMENT					
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION
A1e	Str.	81	5	2'-7"	End Bent 1
A2e	Str.	2	5	15'-8"	End Bent 1 Phase I
A3e	Str.	2	5	20'-5"	End Bent 1 Phase I
A4e	Str.	2	5	22'-7"	End Bent 1 Phase II
A5e	Str.	2	5	21'-2"	End Bent 1 Phase II
B6e	Str.	77	5	2'-5"	End Bent 2
B7e	Str.	2	5	15'-8"	End Bent 2 Phase I
B8e	Str.	2	5	18'-1"	End Bent 2 Phase I
B9e	Str.	2	5	18'-9"	End Bent 2 Phase II
B10e	Str.	2	5	23'-6"	End Bent 2 Phase II
P11e	Str.	132	5	3'-6"	Pier 1 & 2
P12e	Str.	4	5	15'-7"	Pier 1 & 2 Phase I
P13e	Str.	4	5	14'-0"	Pier 1 & 2 Phase I
P14e	Str.	4	5	17'-1"	Pier 1 & 2 Phase II
P15e	Str.	4	5	18'-8"	Pier 1 & 2 Phase II
P16e	Str.	6	*	2'-0"	End Bent 1 Dowels

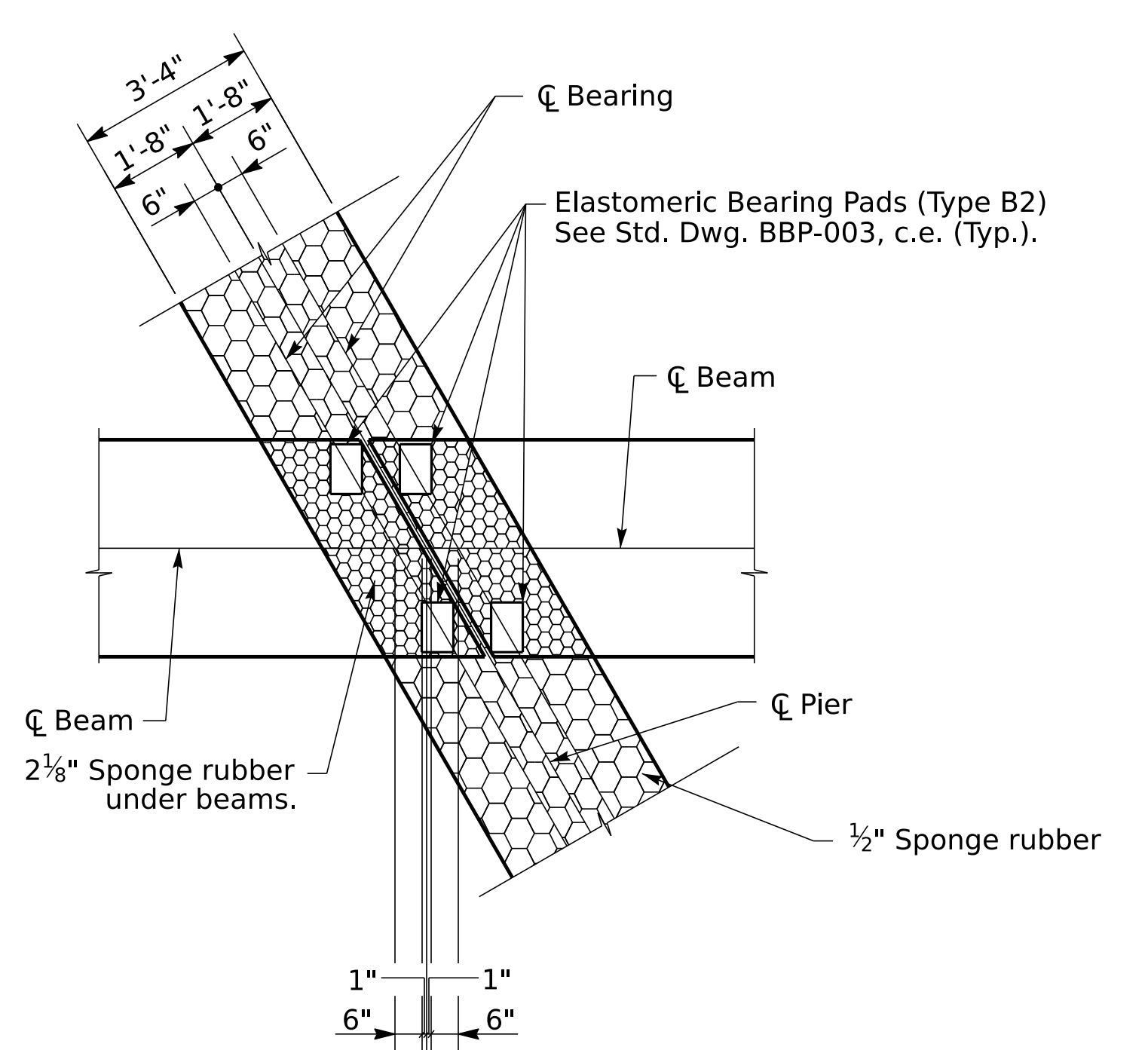
* 1.5"Ø Dowels may be commercial grade steel.



Framing Plan



BEARING DETAIL @ ENDBENT #1 & #2



BEARING DETAIL @ PIER #1 & #2

General Notes

CONCRETE: Ensure prestressed girder concrete is in accordance with these plans and the specifications.

MATERIALS DESIGN SPECIFICATIONS: For prestressed beams: FY = 60,000 psi F'S = 270,000 psi

PRESTRESSING REINFORCEMENT: Ensure that strands are 1/2" Oversized (nominal diameter, 0.167 sq. in.), uncoated seven-wire stress relieved, low-relaxation conforming to AASHTO M 203, Grade 270. Billing of the cost for redesign of beam and subsequent plan modifications will be made for any request of alternate strand type or arrangement. The designer of the original plan is responsible for the billing and work.

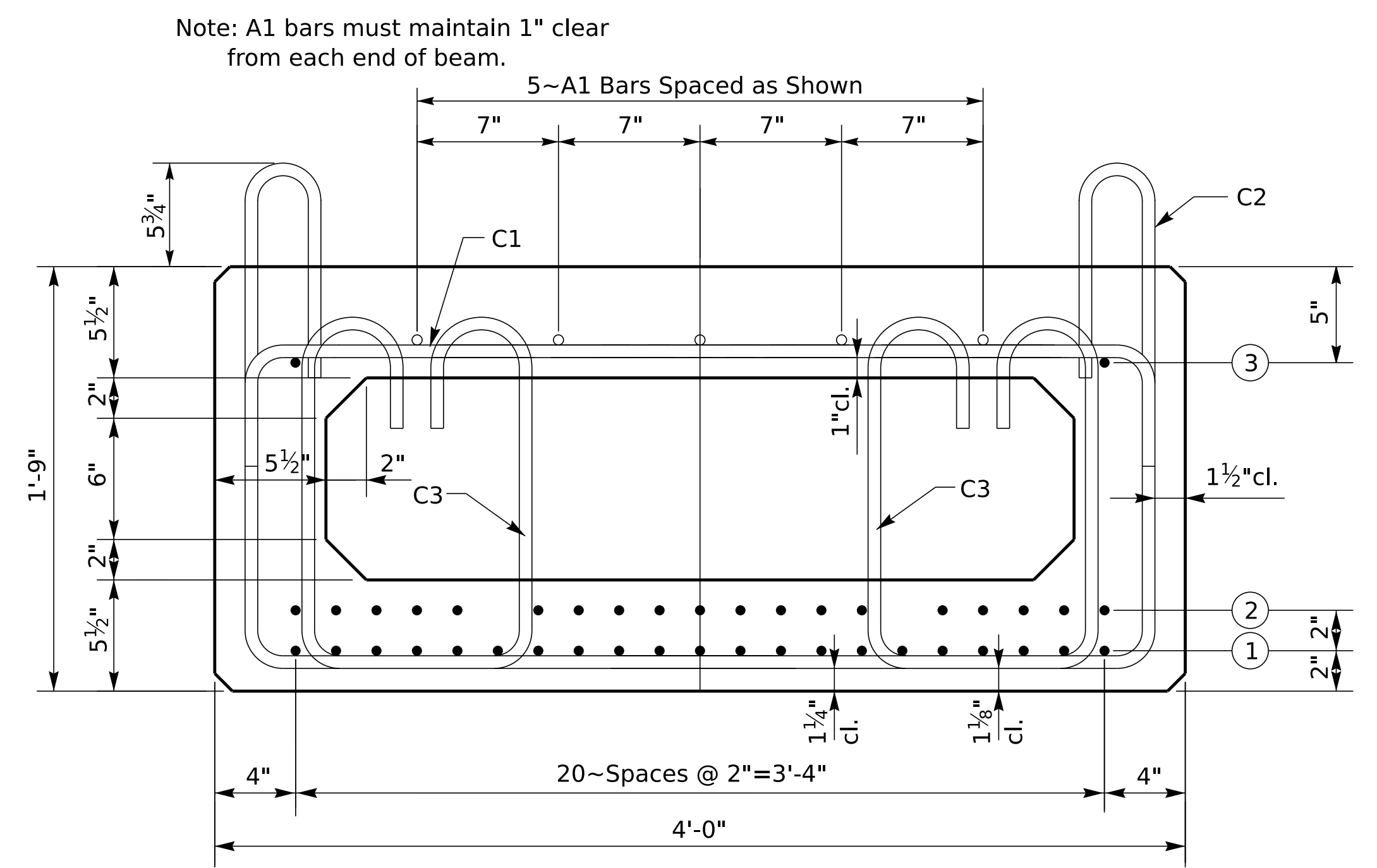
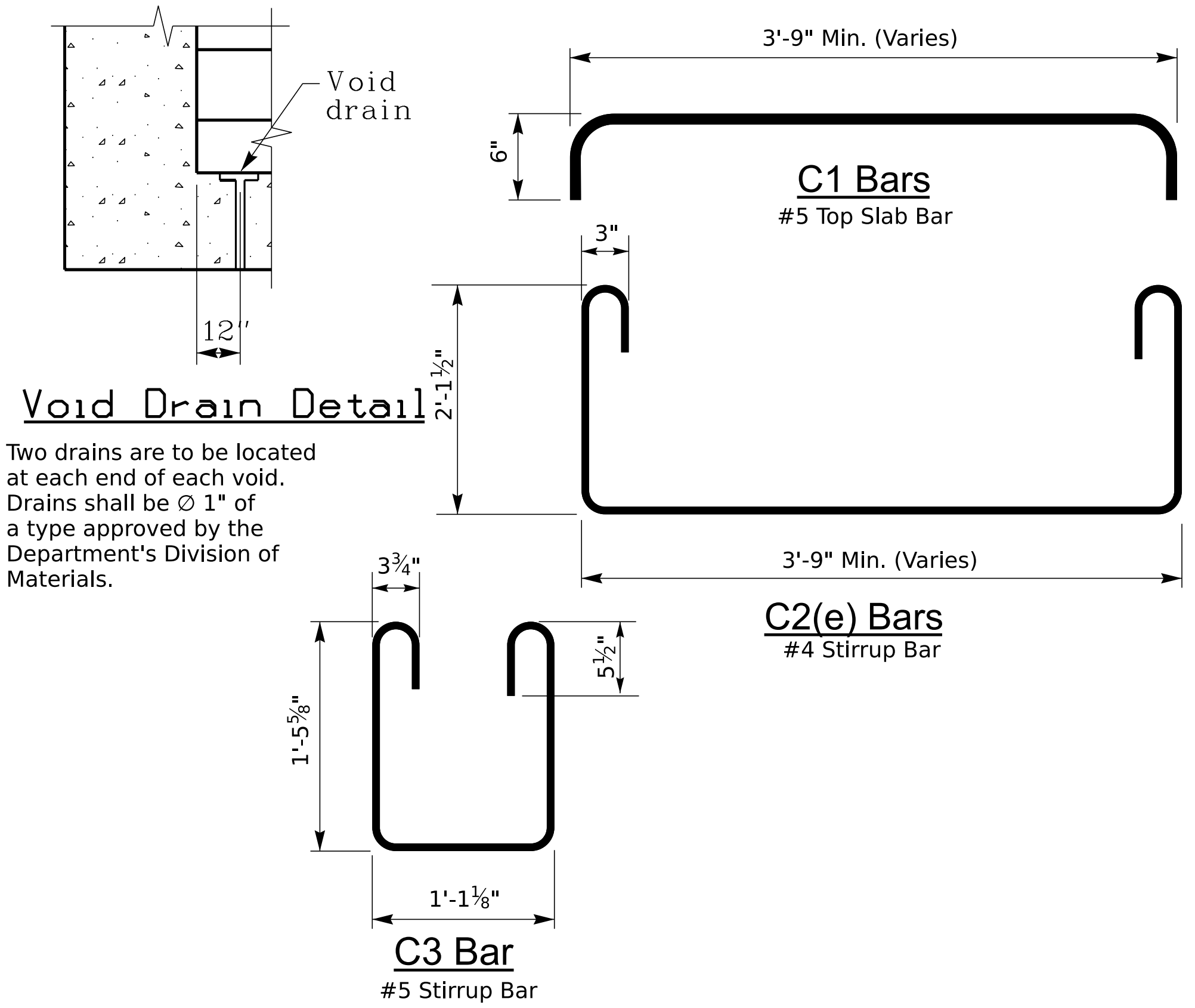
CONSTRUCTION METHOD: Pretension all beams. Ensure concrete has attained f'ci (shown in the table) in standard test cylinders that are made and cured identically with the beams without bond stresses being transferred to the concrete or releasing the end anchors. Attain f'c (shown in the table) at or prior to 28 days. Apply an initial force of 33,818 lbs. per low-relaxation strand to develop a stress of 202,500 psi. No beam will be accepted that is honeycombed to the extent that strength of the beam or resistance to deterioration has been affected. An allowance of 0.0005L is made for shortening of beams due to shrinkage and elastic change. Show a detensioning plan by sequential numbering of the strand pattern on the shop plans.

LIFTING DEVICES: Detail lifting devices on the shop plans. Loads are to be distributed equally to each device.

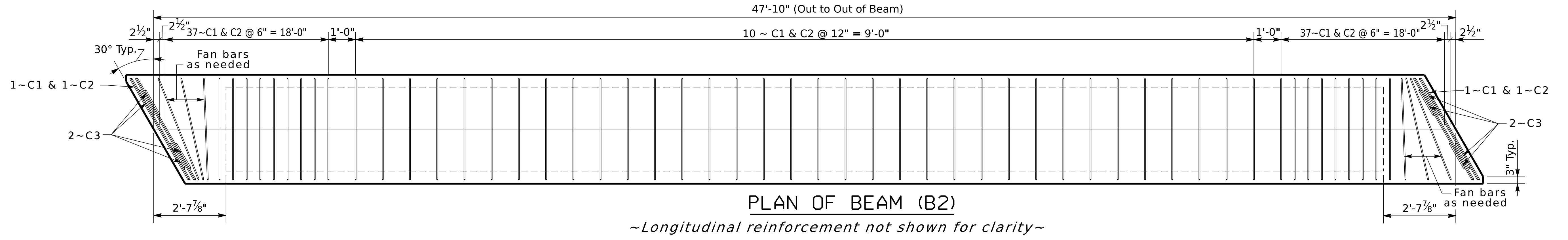
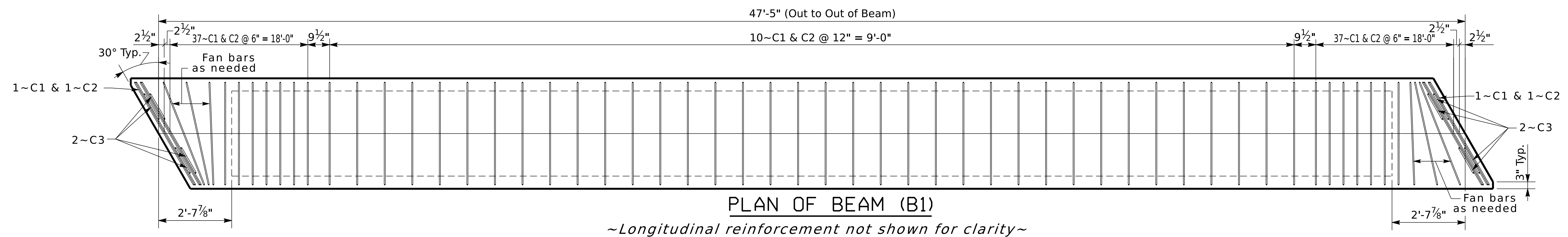
BEARING DEVICES: Include the price for lead plates and/or bearing pads in the bid for precast beams.

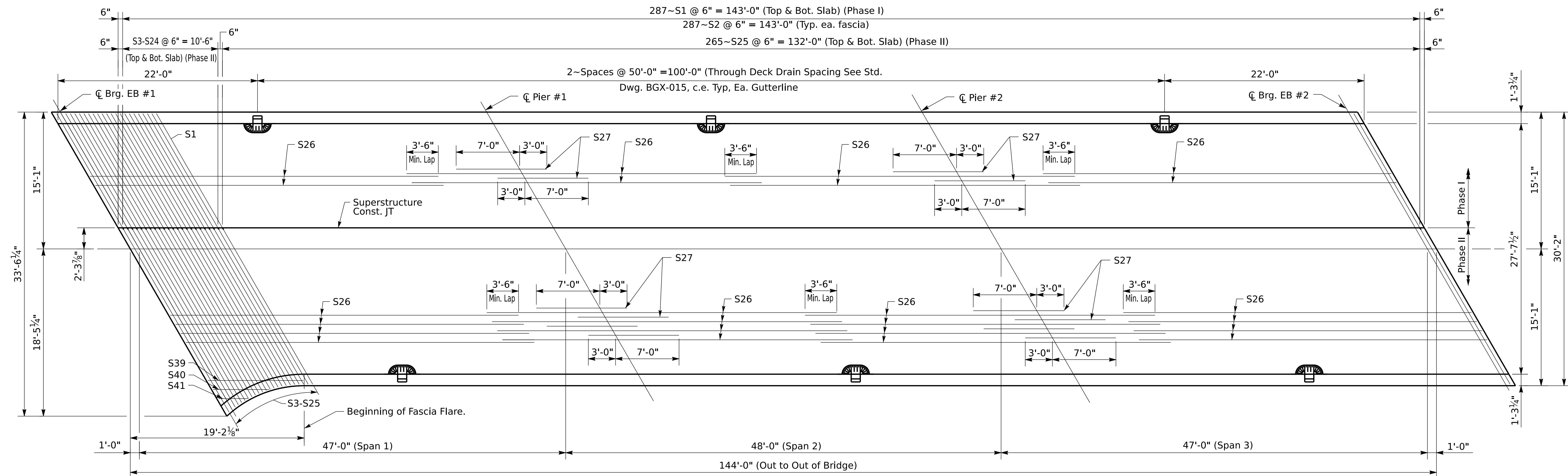
FABRICATION: The "Maximum Allowable Camber" shown on the beam sheet is the amount of camber, measured prior to casting the deck, above which the beam will begin to encroach into the slab. If the measured camber is greater than the "Maximum Allowable Camber" the contractor will be responsible for any necessary adjustments to assure a minimum slab thickness as shown in the plans. This work will be considered incidental to the completion of the structure and have the approval of the Engineer.

Mark	Strand Data with number indicated in rows						Box Beam Data						Straight Reinforcement			Maximum Allowable Camber			
	Midspan Fully Stressed			End Fully Stressed			Total # of Strands	Concrete Strength (psi)		Total # of Beams	Approx. Weight (lbs)		C1	C2	C3				
	(1)	(2)	(3)	(1)	(2)	(3)		f'ci	f'c		C1	C2					C3		
B1	21	6		2	21	6	2	29	6000	7000	8	33,849	86	86	4	A1	#5	47'-3"	2 1/8"
B2	21	6		2	21	6	2	29	6000	7000	4	34,129	86	86	4	A1	#5	47'-8"	2 1/8"



TYPICAL SECTION THROUGH BEAM (B1 & B2)

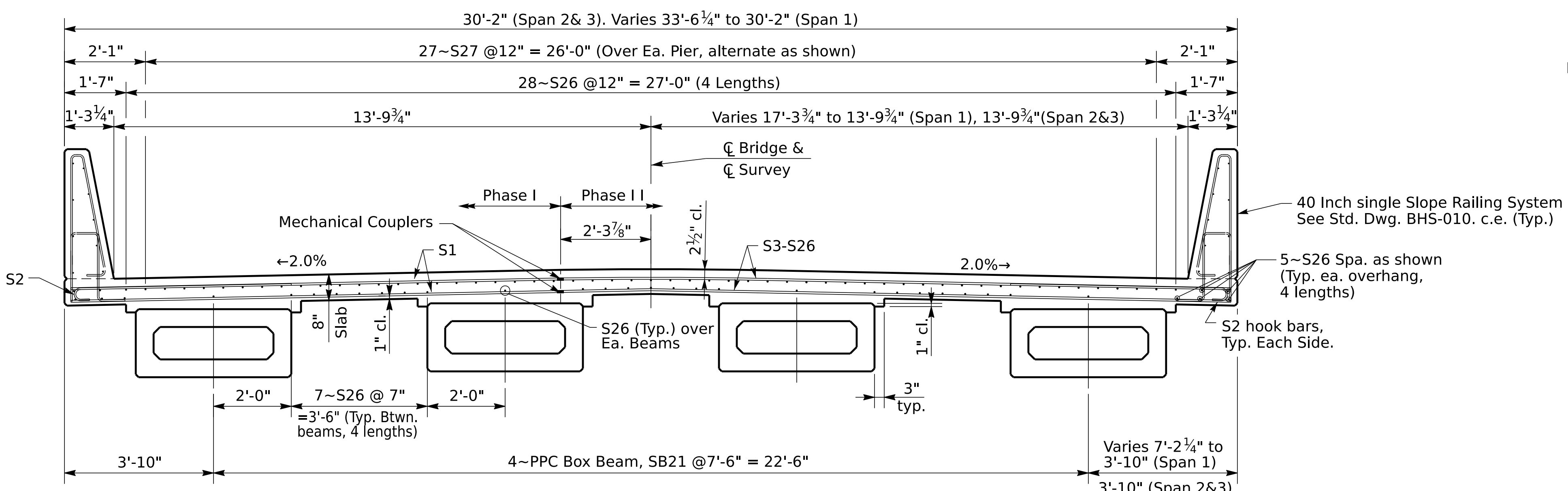




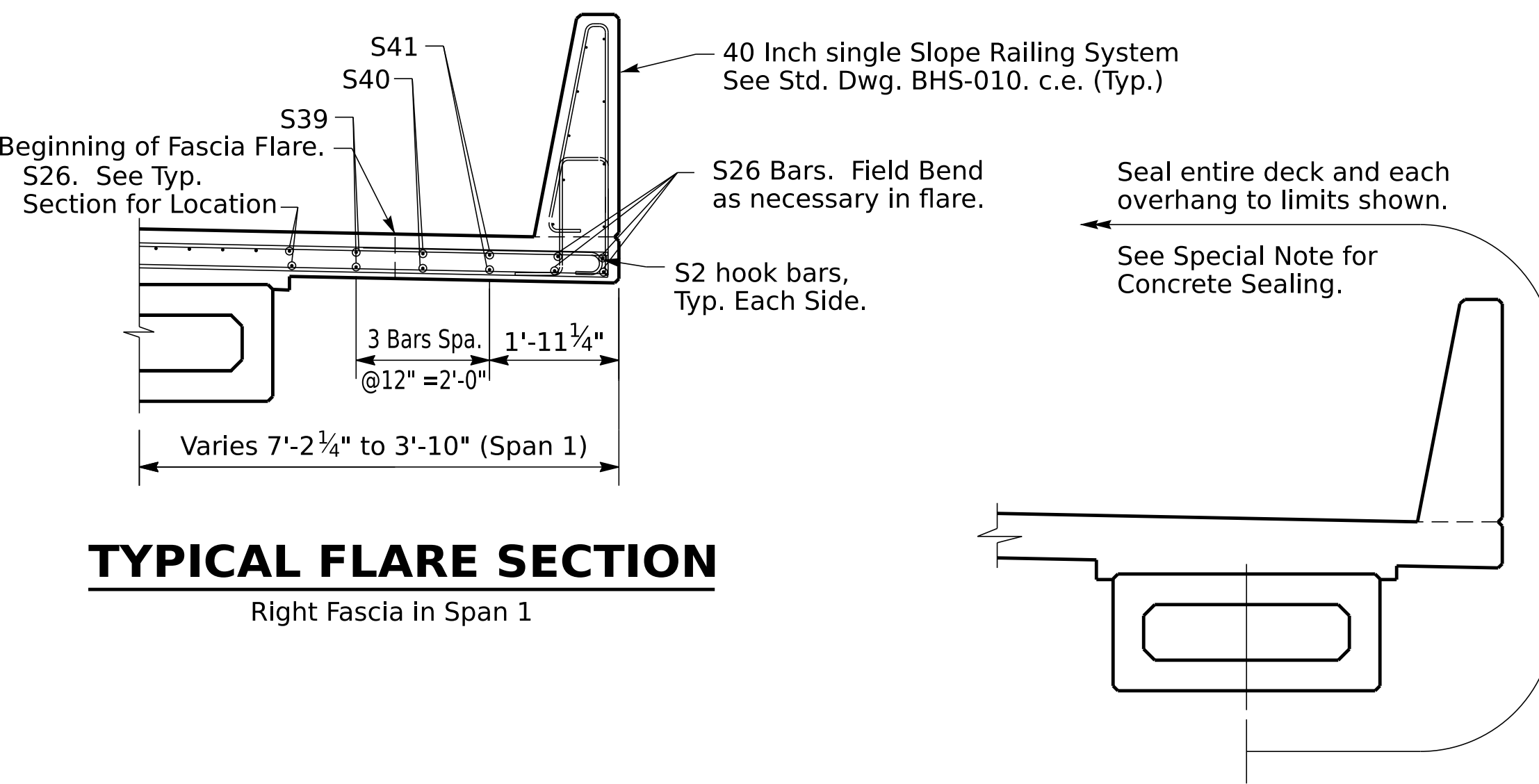
PLAN OF SLAB

NOTE: S26~4 Lengths, Min. Lap 3'-6"

NOTE: Install 1/8" thick galvanized steel plate over gap between beams at pier to prevent concrete from falling between ends of beams. Costs incidental to Class "AA".



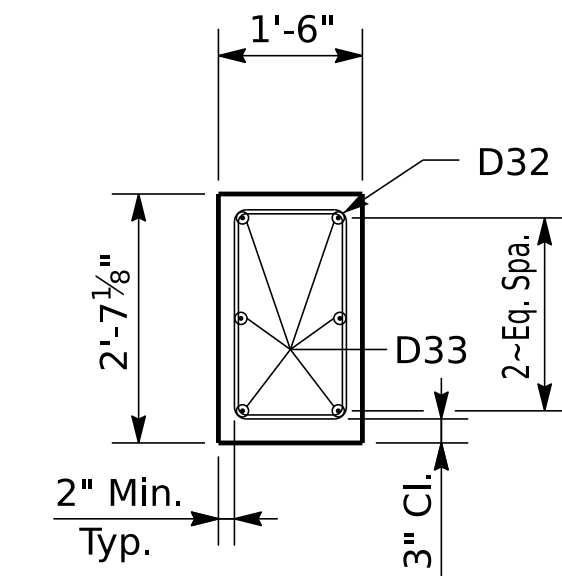
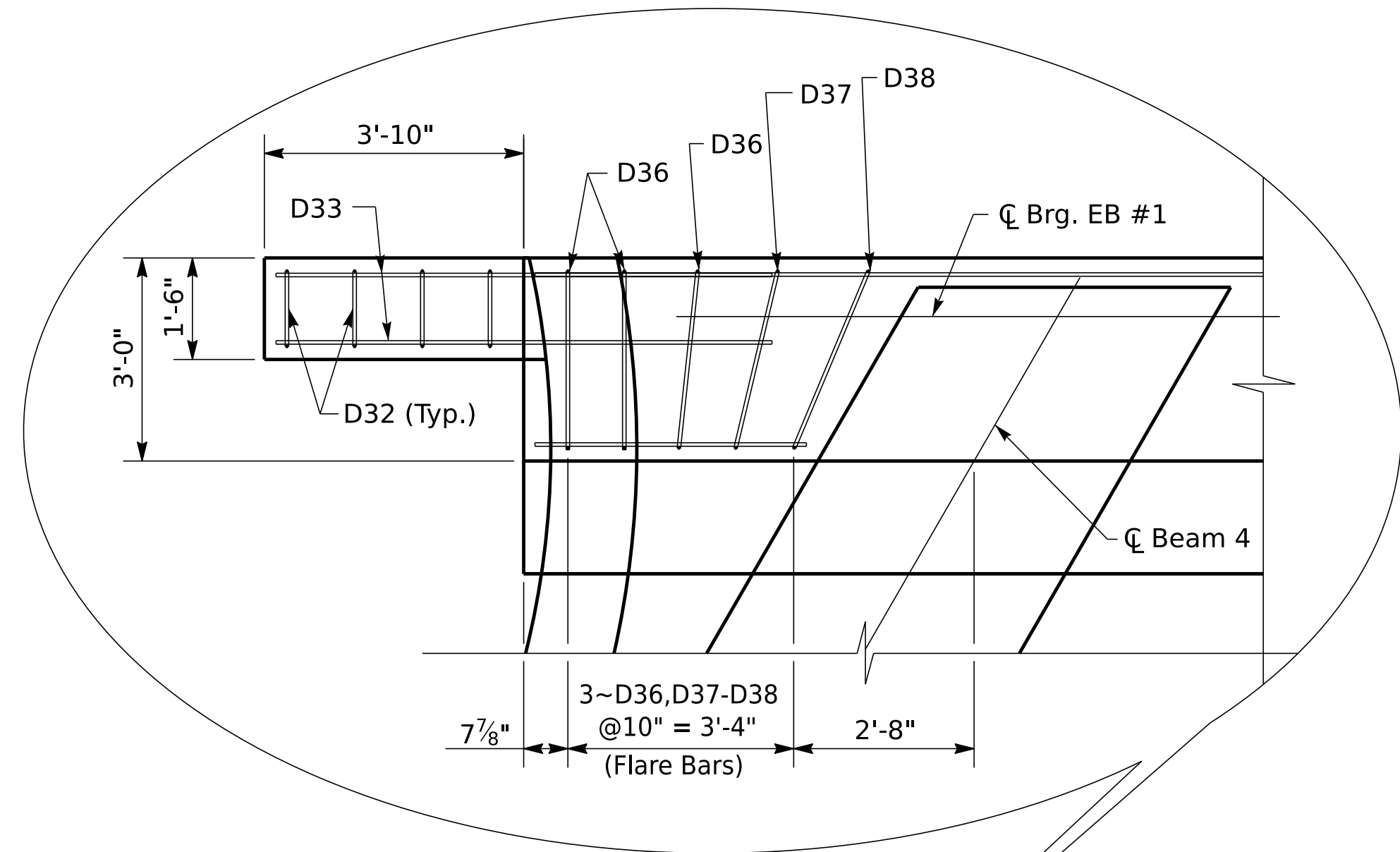
TYPICAL SECTION



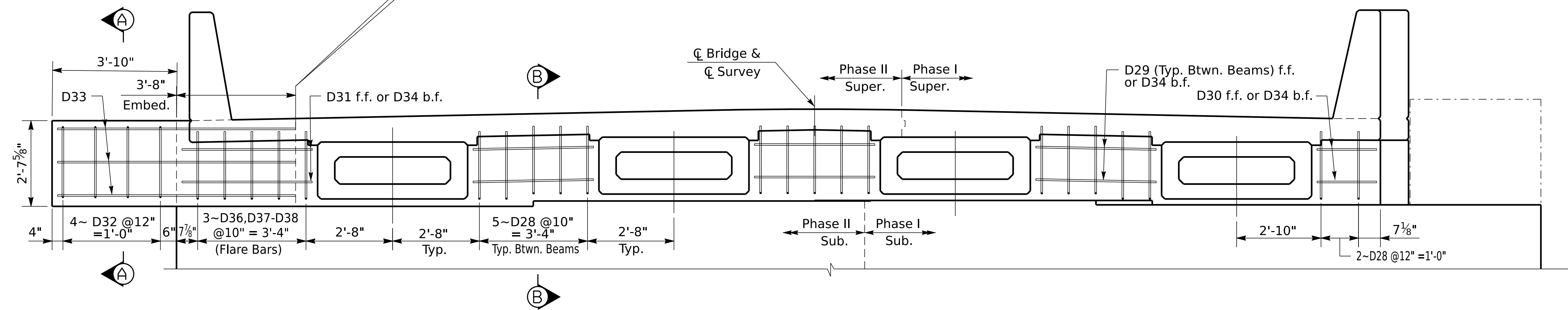
TYPICAL FLARE SECTION

CONCRETE SEALING

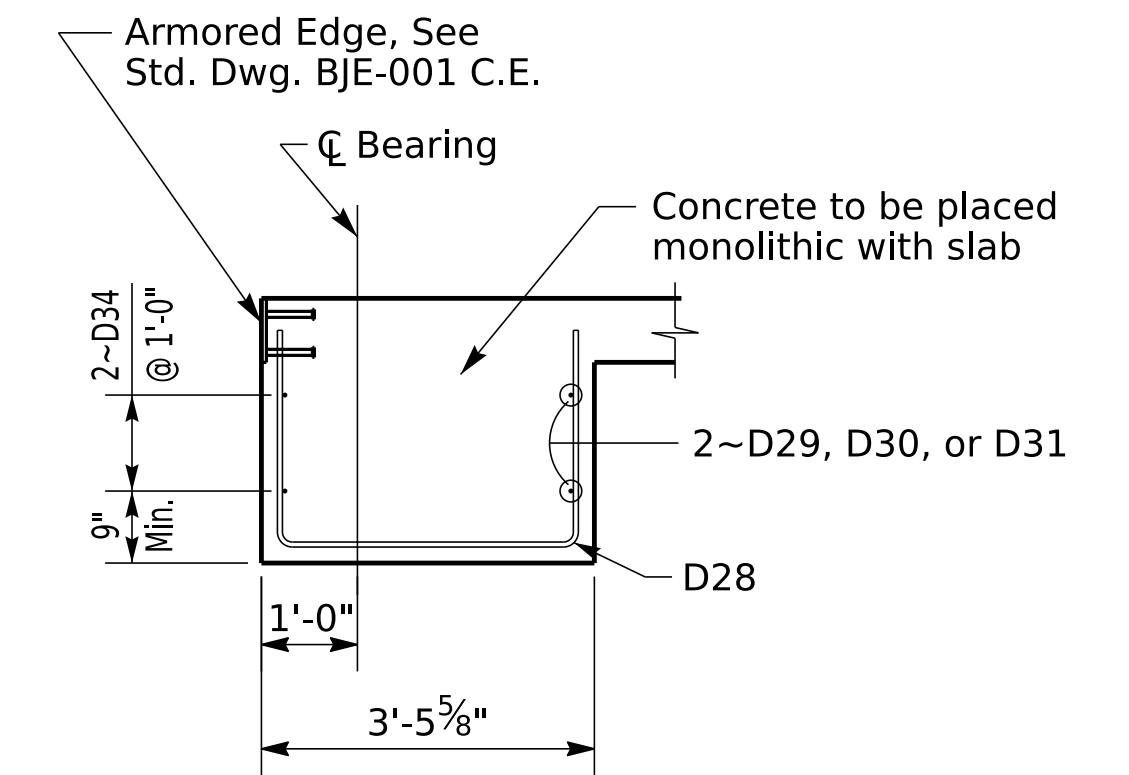
Seal entire deck and each overhang to limits shown. See Special Note for Concrete Sealing.



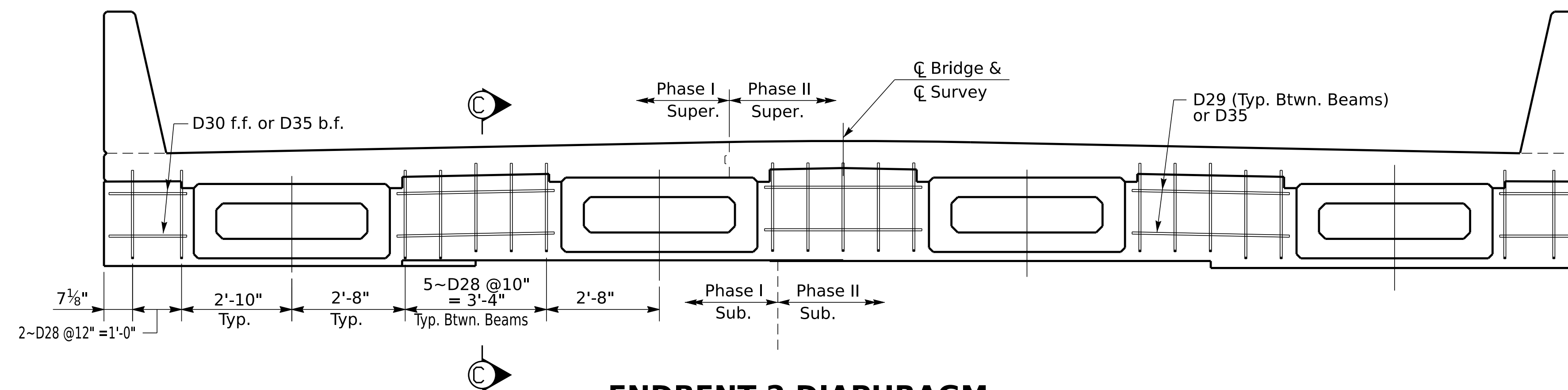
SECTION A-A



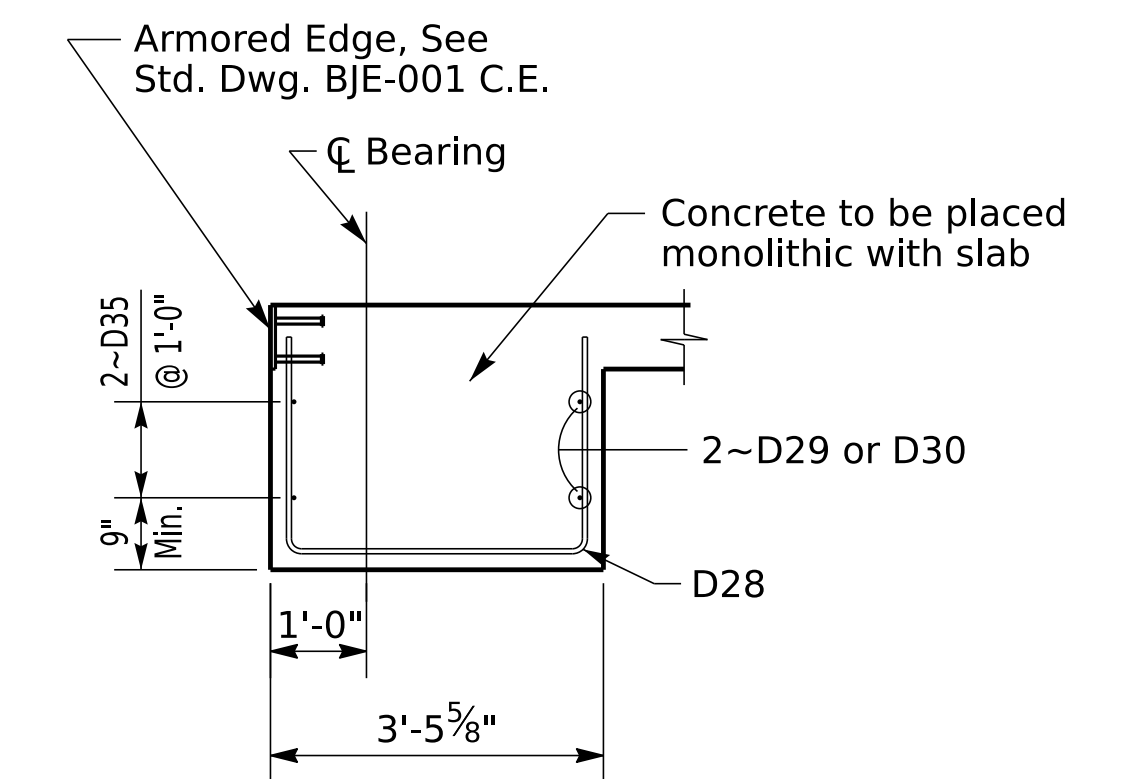
ENDBENT 1 DIAPHRAGM
~Measured Along Diaphragm~



SECTION B-B
~Measured Parallel to Beams~



ENDBENT 2 DIAPHRAGM
~Measured Along Diaphragm~



SECTION C-C
~Measured Parallel to Beams~

- Notes: 1.) Diaphragm stirrups are to project into the slab regardless of slab forming method.
2.) Place stirrup bars parallel to face of beams.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



USER: joseph.vanzee

REVISION

DATE

PREPARED BY

Division of
Structural Design

DATE: NOVEMBER 2024

DESIGNED BY: J. VAN ZEE

DETAILED BY: M. BAWITHAWNG

CHECKED BY

K. EE

J. VAN ZEE

SUPERSTRUCTURE

CROSSING
DRY FORK

ROUTE

KY 1

BRIDGE ID.

064B00027N

SHEET NO.
S12

COUNTY OF

LAWRENCE

DRAWING NUMBER
28961

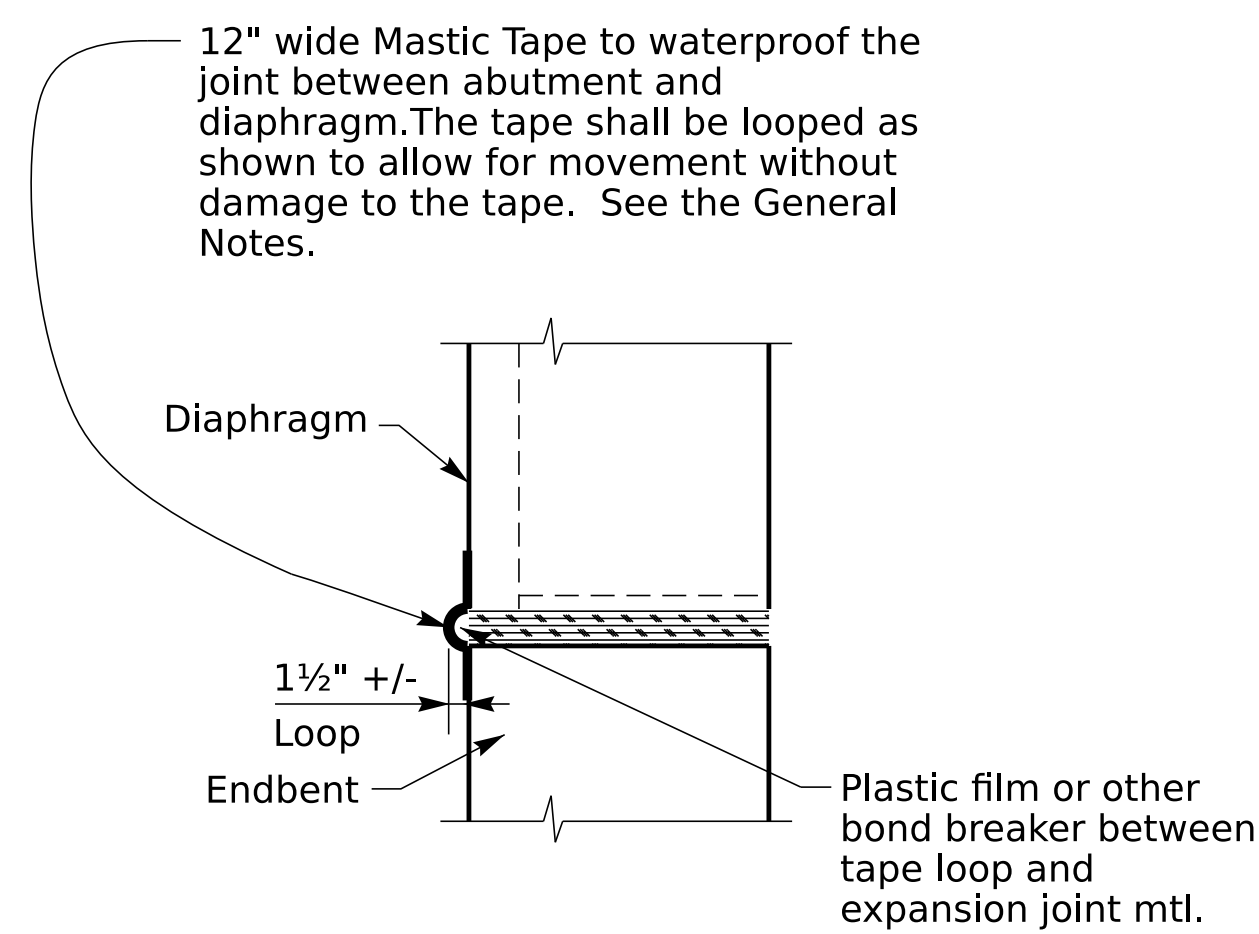
MicroStation v10.16.3.31

DATE PLOTTED: 17-FEB-2025

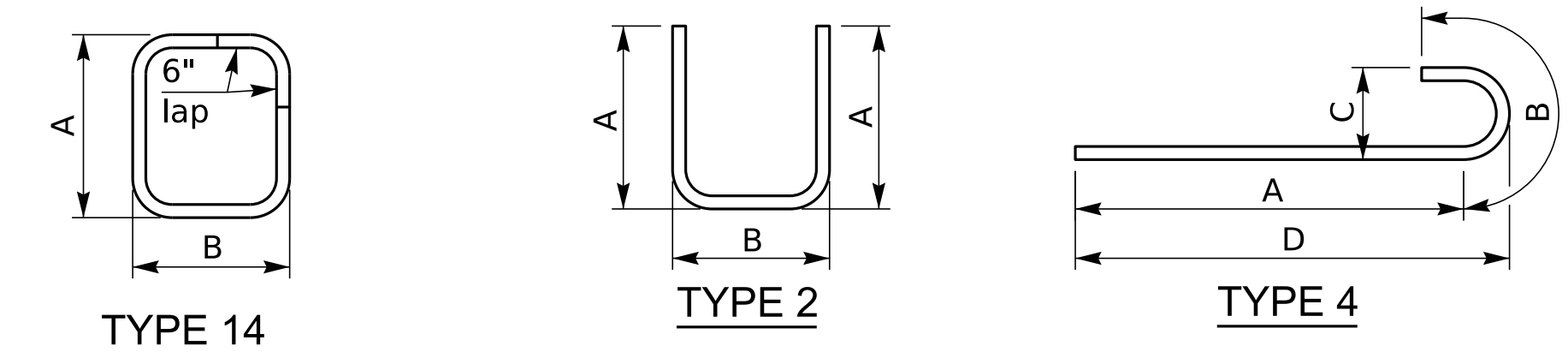
FILE NAME: J:\District12\RS&M\064B00027N\28961.dgn

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
S1e	Str.	574	5	14- 6	Top & Bot. Slab (Phase I)				
S2e	4	574	4	4-11	Top Slab Transverse Hooks	4- 3	0- 8	0- 4	4- 5
S3e	Str.	2	5	23- 5	Top & Bot. Slab (Phase II)				
S4e	Str.	2	5	23- 1	Top & Bot. Slab (Phase II)				
S5e	Str.	2	5	22-10	Top & Bot. Slab (Phase II)				
S6e	Str.	2	5	22- 6	Top & Bot. Slab (Phase II)				
S7e	Str.	2	5	22- 3	Top & Bot. Slab (Phase II)				
S8e	Str.	2	5	22- 0	Top & Bot. Slab (Phase II)				
S9e	Str.	2	5	21- 9	Top & Bot. Slab (Phase II)				
S10e	Str.	2	5	21- 6	Top & Bot. Slab (Phase II)				
S11e	Str.	2	5	21- 3	Top & Bot. Slab (Phase II)				
S12e	Str.	2	5	21- 1	Top & Bot. Slab (Phase II)				
S13e	Str.	2	5	20-10	Top & Bot. Slab (Phase II)				
S14e	Str.	2	5	20- 8	Top & Bot. Slab (Phase II)				
S15e	Str.	2	5	20- 6	Top & Bot. Slab (Phase II)				
S16e	Str.	2	5	20- 5	Top & Bot. Slab (Phase II)				
S17e	Str.	2	5	20- 3	Top & Bot. Slab (Phase II)				
S18e	Str.	2	5	20- 2	Top & Bot. Slab (Phase II)				
S19e	Str.	2	5	20- 1	Top & Bot. Slab (Phase II)				
S20e	Str.	2	5	20- 0	Top & Bot. Slab (Phase II)				
S21e	Str.	2	5	19-11	Top & Bot. Slab (Phase II)				
S22e	Str.	2	5	19-11	Top & Bot. Slab (Phase II)				
S23e	Str.	2	5	19-11	Top & Bot. Slab (Phase II)				
S24e	Str.	2	5	19-11	Top & Bot. Slab (Phase II)				
S25e	Str.	530	5	19-11	Top & Bot. Slab (Phase II)				
S26e	Str.	252	5	38- 7	Top & Bot. of Slab longitudinal				
S27e	Str.	54	6	10- 0	Top of Slab over Piers				
D28e	2s	36	5	7- 0	EndBents Diaphragm	2- 1	3- 1		
D29e	Str.	12	5	3- 8	Diaphragm				
D30e	Str.	6	5	1- 9	Endbent Diaphragm				
D31e	Str.	2	5	4- 1	EB 1 Diaphragm				
D32e	14s	4	5	7- 2	EB 1 Diaphragm	2- 2	1- 2		
D33e	Str.	6	8	7- 4	EB 1 Diaphragm				
D34e	Str.	2	5	38- 5	EB 1 Diaphragm				
D35e	Str.	2	5	34- 6	EB 2 Diaphragm				
D36e	2s	3	5	6- 7	EB 1 Diaphragm	2- 1	2- 8		
D37e	2s	1	5	6- 8	EB 1 Diaphragm	2- 1	2- 9		
D38e	2s	1	5	6- 9	EB 1 Diaphragm	2- 1	2- 10		
S39e	Str.	2	5	10- 6	Top & Bot. Slab (long. Flare Sec.)				
S40e	Str.	2	5	6- 2	Top & Bot. Slab (long. Flare Sec.)				
S41e	Str.	2	5	3- 3	Top & Bot. Slab (long. Flare Sec.)				



**JOINT WATERPROOFING
DETAIL**



GENERAL NOTES

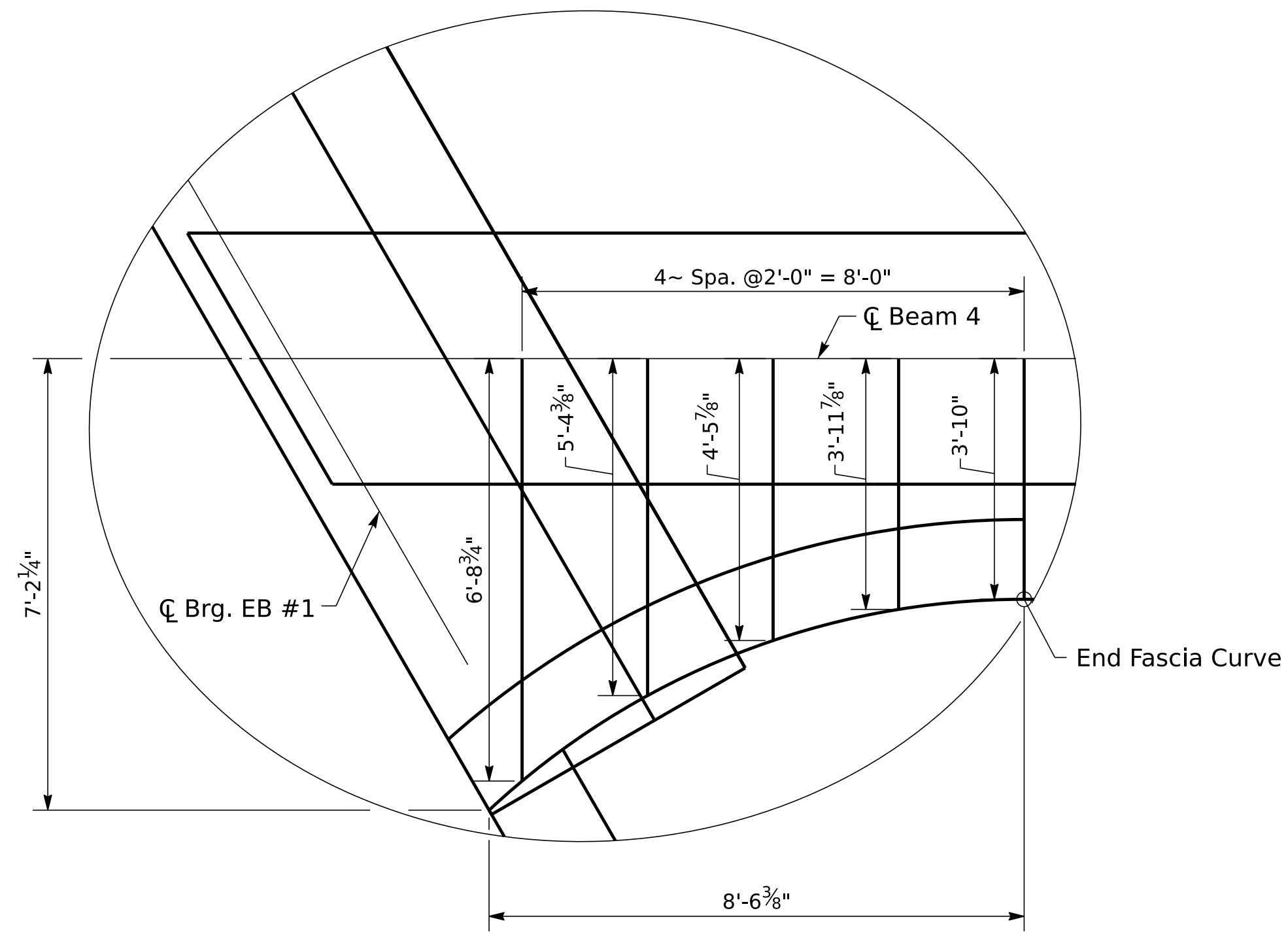
MASTIC TAPE: Mastic Tape used to seal joints is to meet the requirements of ASTM C-877 Type I, II, or III. The joint is to be covered with 12-inch wide mastic tape. Prior to application, the joint surface shall be clean and free of dirt, debris, or deleterious material. Primer, if required by the tape mfg., shall be applied for a minimum width of nine inches on each side of the joint.

Mastic Tape shall be either:

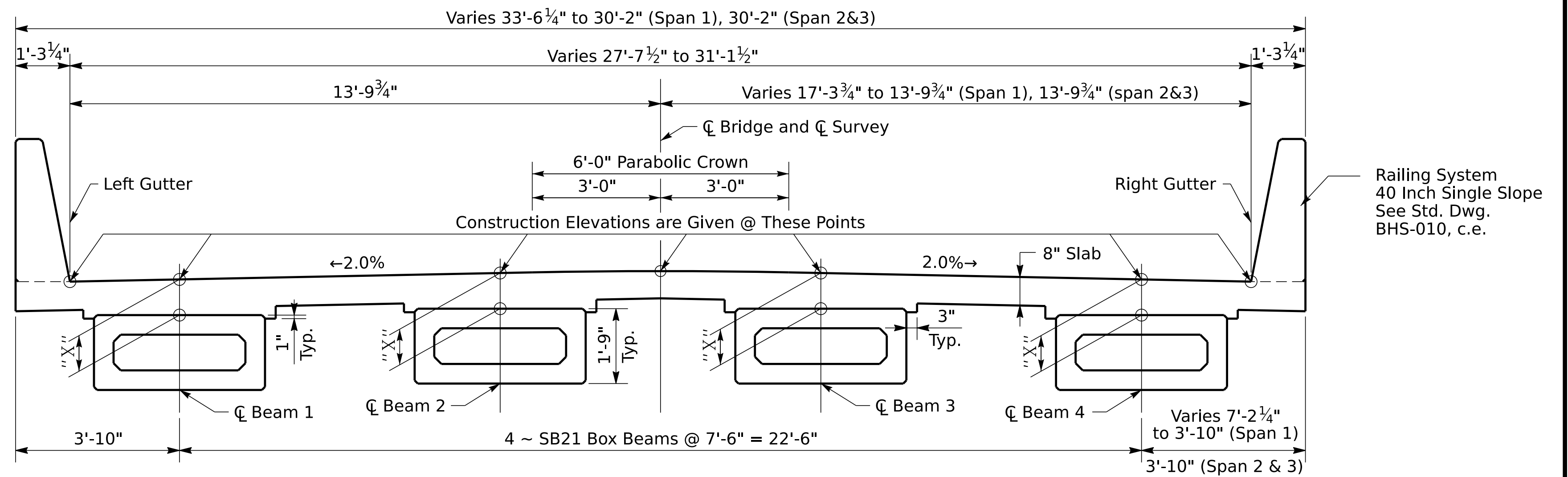
EZ-WRAP RUBBER by PRESS-SEAL GASKET CORPORATION,
SEAL WRAP by MAR MAC MANUFACTURING CO. INC. ,
CADILLOC by the UP RUBBER CO. INC.
or approved equal.

Mastic Tape shall cover the joint continuously unless otherwise shown in the plans. Mastic Tape shall be spliced by lapping a minimum of six inches and in accordance with the mfgs. recommendations with the overlap running downhill.

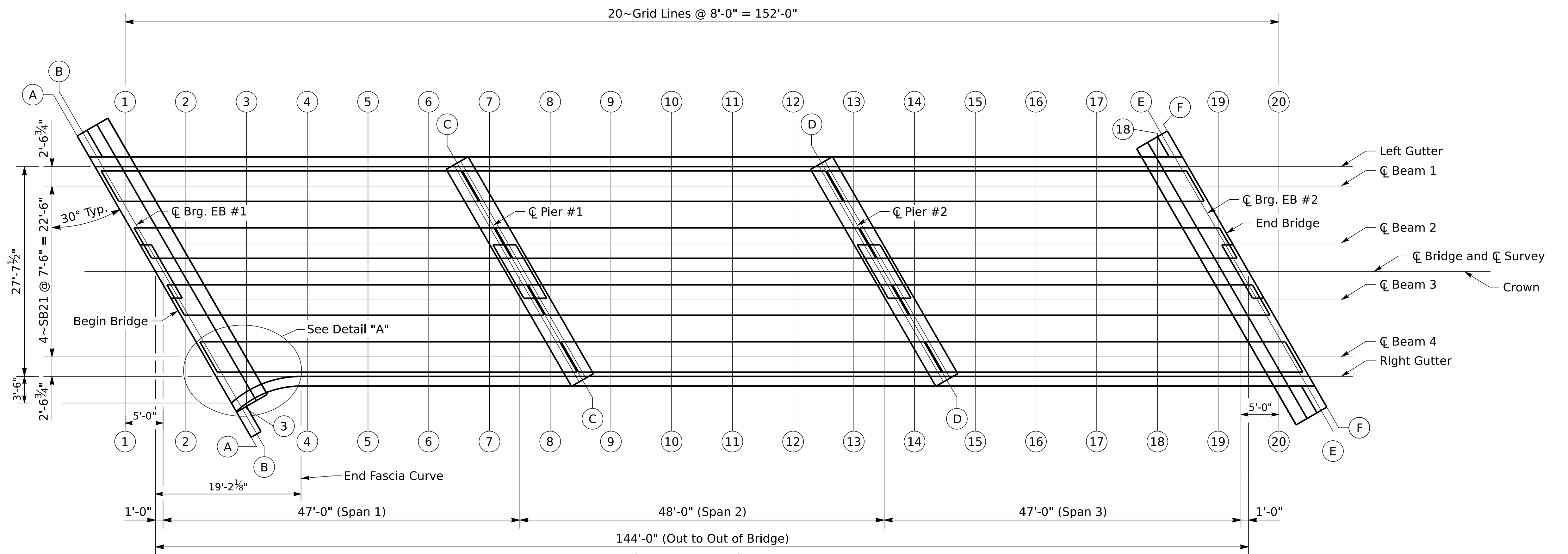
The cost of labor, materials, and incidental items for furnishing and installing Mastic Tape shall be considered incidental to the unit price bid for Concrete Class 'AA' and no separate measurement or payment shall be made.



DETAIL "A"



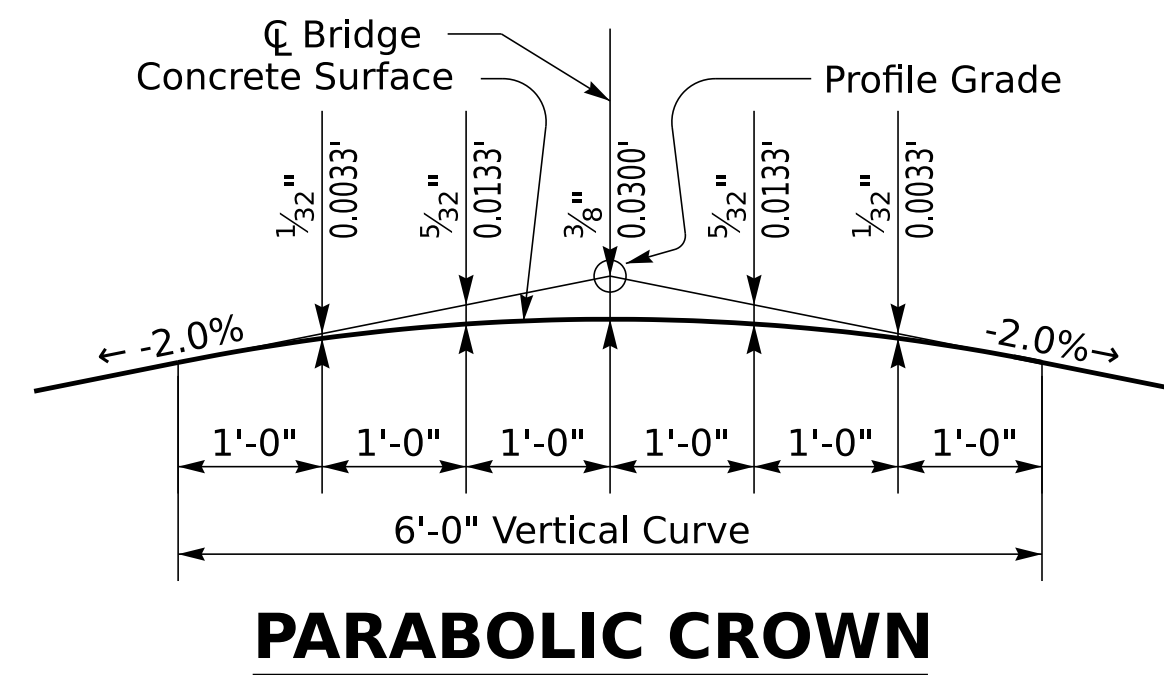
TYPICAL SECTION



GRID LAYOUT

CONSTRUCTION ELEVATIONS

LOCATION	LEFT GUTTER	BEAM 1			BEAM 2			! BRIDGE	BEAM 3			BEAM 4			RIGHT GUTTER
		CONSTR. ELEV.	TOP OF BEAM	DIM. "X"	CONSTR. ELEV.	TOP OF BEAM	DIM. "X"		CONSTR. ELEV.	TOP OF BEAM	DIM. "X"	CONSTR. ELEV.	TOP OF BEAM	DIM. "X"	
SKREW LN AA	498.691	498.748			498.914			498.967	498.929			498.795			498.686
SKREW LN BB	498.695	498.751			498.917			498.970	498.933			498.799			498.700
SKREW LN CC	498.867	498.923			499.089			499.142	499.105			498.971			498.925
SKREW LN DD	499.042	499.099			499.265			499.318	499.281			499.147			499.101
SKREW LN EE	499.214	499.271			499.437			499.490	499.453			499.319			499.273
SKREW LN FF	499.218	499.275			499.441			499.493	499.456			499.322			499.276
GRID LN 01	498.715	498.762			0.000			0.000	0.000			0.000			0.000
GRID LN 02	498.766	498.814			498.952			498.991	498.939			0.000			0.000
GRID LN 03	498.809	498.858			499.001			499.042	498.992			498.829			498.734
GRID LN 04	498.839	498.891			499.041			499.084	499.037			498.879			498.825
GRID LN 05	498.856	498.911			499.067			499.114	499.070			498.920			498.867
GRID LN 06	498.865	498.920			499.082			499.132	499.091			498.947			498.897
GRID LN 07	498.894	498.941			499.088			499.140	499.101			498.963			498.915
GRID LN 08	498.945	498.993			499.131			499.170	499.118			498.970			498.923
GRID LN 09	498.987	499.037			499.180			499.221	499.170			499.008			498.953
GRID LN 10	499.016	499.068			499.219			499.262	499.215			499.058			499.004
GRID LN 11	499.033	499.087			499.244			499.292	499.248			499.098			499.045
GRID LN 12	499.041	499.096			499.258			499.308	499.268			499.124			499.075
GRID LN 13	499.069	499.116			499.264			499.316	499.278			499.139			499.091
GRID LN 14	499.120	499.168			499.306			499.345	499.293			499.145			499.099
GRID LN 15	499.161	499.211			499.355			499.395	499.345			499.184			499.128
GRID LN 16	499.189	499.242			499.392			499.436	499.389			499.233			499.178
GRID LN 17	499.206	499.260			499.417			499.465	499.421			499.271			499.219
GRID LN 18	499.213	499.269			499.431			499.481	499.441			499.297			499.248
GRID LN 19	0.000	0.000			499.436			499.488	499.450			499.312			499.264
GRID LN 20	0.000	0.000			0.000			0.000	0.000			499.318			499.271



NOTES FOR ELEVATIONS TAKEN ON PRESTRESSED CONCRETE BEAMS

Take elevations on top of beam at points indicated by the grid layout. The beam elevations are to be read to three decimals, and entered in tables under "Top of Beam" elevations.

Compute dimension "X" as follows: "Construction Elevation" minus "Top of Beam" elevation equals dimension "X". Construction Elevations include camber due to weight of the concrete slab and barrier. Measuring of dimension "X" gives the final check on beam tolerances for camber, beam damage, and errors in erection that produce reverse cambers, sags, and unsightly fascia beams.

For setting templates, measure dimension "X" above top of beams for top of template. Do not set template by elevations.

Temporary supports or shoring will not be permitted under the girders when pouring the concrete floor slab or when taking "Top of Beam" elevations.

Construct barrier to roadway grade. Do not add camber to the barrier.

Note to Resident: The "Maximum Allowable Camber" shown on the beam sheet is the amount of camber, measured prior to casting the deck, above which the beam will begin to encroach into the slab. If the measured camber is greater than the "Maximum Allowable Camber" the contractor will be responsible for any necessary adjustments to assure a minimum slab thickness of eight (8) inches as shown in the plans. This work will be considered incidental to the completion of the structure and have the approval of the Engineer.

The minimum allowable X-Dimension on a beam results in the design deck thickness (8") at the edge of the beam flange. This is calculated as the deck thickness + (half the top flange width * the cross slope of the bridge). This is $8" + 24\frac{1}{2}" * 0.02 = 8.49" = 0.708'$. Any necessary modifications to some or all of the X-dimensions must meet the approval of the Engineer.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION

DATE

PREPARED BY

**Division of
Structural Design**

DATE: NOVEMBER 2024

DESIGNED BY: J. VAN ZEE

DETAILED BY: K. BISHOP

CHECKED BY

K. EE

J. VAN ZEE

CONSTRUCTION ELEVATION

CROSSING
DRY FORK

ROUTE

KY 1

BRIDGE ID.

064B00027N

SHEET NO.
S15

COUNTY OF

LAWRENCE

DRAWING NUMBER
28961