



TRANSPORTATION CABINET

Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

September 13, 2010

CALL NO. 102
CONTRACT ID NO. 101038
ADDENDUM # 2

Subject: Mason County, NH 0681 (023)
Letting September 17, 2010

- (1) Replace - Plan Sheets - For Drawing # 25733 - S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S23, S24, & S25
- (2) Revised - Plan Sheets - For Drawing # 25734 - S3 & S7
- (3) Revised - Plan Sheets - For Drawing # 25736 - S1, S3, S8, S13, & S14
- (4) Revised - Plan Sheet - R2P
- (5) Added - Special Note for Subgrade Stabilization - Page 16(a) of 120
- (6) Added - Special Note for Roller Compacted Concrete Pages 16(b)-16(h) of 120
- (7) Added - Special Note for Roller Compacted Concrete Shoulders Page 16(i) of 120
- (8) Revised - Bid Items - Pages 112-120 of 120

Proposal revisions are available at <http://transportation.ky.gov/contract/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in blue ink that reads "Ryan Griffith".

Ryan Griffith
Director
Division of Construction Procurement

RG:ks

Enclosures



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9-124.01
Mason County
US 68

SPECIAL NOTE FOR SUBGRADE STABILIZATION

The Contractor may elect to substitute “Cement” and “Cement Stabilized Roadbed” for “Lime” and “Lime Stabilized Roadbed”, respectively, on this project. If the Contractor elects to make this change, payment for the substituted items will be at the contract unit bid prices for “Lime” and “Lime Stabilized Roadbed”. Payment will be considered full compensation for all materials and labor necessary to construct the stabilized roadbed.

**SPECIAL NOTE FOR ROLLER COMPACTED CONCRETE (RCC)
6-INCHES OR LESS DEPTH**

This Special Note will apply where indicated on the plans or in the proposal. Section references herein are to the Department’s 2008 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Roller Compacted Concrete (RCC) consists of aggregate, Portland cement, possibly mineral admixtures, and water. RCC is proportioned, mixed, placed, compacted, and cured in accordance with these specifications. Ensure that the RCC conforms to the lines, grades, thickness, and typical cross section shown in the plans or otherwise established by the Engineer. When used as base course, it will be covered with one or more lifts of asphalt as shown on the Plans. Otherwise, the RCC will provide the final riding surface.

2.0 MATERIALS AND EQUIPMENT.

2.1 Portland Cement. Use Type I or II Portland cement conforming to Section 801.

2.2 Mineral Admixtures. Conform to Section 844. The Department will allow up to 40 percent, by weight, of the total cementitious content to be mineral admixtures with individual limits on each type as follows:

Mineral Admixture	Maximum by Weight of Cementitious Content
Class F Fly Ash	20%
Class C Fly Ash	30%
Ground Granulated Blast Furnace Slag	30%
Microsilica	10%

2.3 Aggregate. Conform to Sections 804 and 805. Use well-graded aggregate without gradation gaps and conforming to the following:

Sieve Size	Percent Passing by Weight
1 inch	100
3/4 inch	90-100
1/2 inch	70-100
3/8 inch	60-85
No. 4	40-60
No. 16	20-40
No. 100	6-18
No. 200	2-8

2.4 Water. Conform to Section 803.

2.5 Curing Compound. Conform to Section 823.

2.6 Concrete Plant. Conform to Section 601. Ensure the mixing plant is within a 30-minute haul time from the point of RCC placement. Use only plants capable of producing an RCC pavement mixture in the proportions defined by the final approved mix design and within the specified tolerances. The capacity of the plant must be sufficient to produce a uniform mixture at a rate compatible with the placement equipment. If the plant is unable to produce material at a rate adequate to prevent unnecessary cold joints and frequent paver stoppages, the Engineer may halt production until such time that a plant of appropriate capacity is used.

2.7 Paver. Conform to 403.02.07 and ensure that the paver is of suitable weight and stability to spread and finish the RCC material, without segregation, to the required thickness, smoothness, surface texture, cross-section, and grade.

2.8 Compactors. Use self-propelled steel drum vibratory rollers having a minimum static weight of 10 tons for primary compaction. For final compaction, use either a steel drum roller, operated in a static mode, or a rubber-tired roller of equal or greater weight. Only use walk-behind vibratory rollers or plate tampers for compacting areas inaccessible to large rollers.

2.9 Haul Trucks. Use dump trucks equipped with retractable protective covers for protection from rain or excessive evaporation. Use a sufficient number of trucks to ensure an adequate and continuous supply of RCC material to the paver. If the number of trucks is inadequate to prevent frequent starts and stops of the paver, cease production until additional trucks are obtained.

2.10 Water Trucks. Keep at least one water truck, or other similar equipment, on-site and available for use throughout the paving and curing process. Equip such equipment with a spreader pipe containing fog spray nozzles capable of evenly applying a fine spray of water to the surface of the RCC without damaging the final surface.

3.0 CONSTRUCTION.

3.1 RCC Mix Design. At least 45 days prior to the beginning of placing of RCC in the roadway, submit a proposed mix design to the Engineer. If RCC has not been provided to the Department under the submitted mix design a trial batch will be required. Perform batch mixture preparation and testing in the presence of representatives of the District Materials Engineer and the Central Office Division of Materials. Deliver no concrete to the project until an approved mix design has been obtained.

3.2 Trial Batch. Use a mix design that demonstrates a compressive strength of 3500 psi within 28 days. If the pavement is to be opened earlier than 28 days, base the trial batch strengths on the proposed schedule of opening. If the concrete mixture is a design that the producer has not previously furnished to a Department project, have the producer provide trial batches of at least 4 cubic yards to demonstrate that the mixture will conform to the requirements for slump, density, and strength at the placement time frames the project will require. Have the producer make the trial batches using the ingredients, proportions, and equipment (including batching, mixing and delivery time with pavers and proposed rollers) to be used on this project. Have the producer make at least 2 consecutive trial batches conforming to all specified

requirements. Trial batches may be placed on the project, but at a quantity not to exceed 20 cubic yards. Central Office Materials will observe all phases of the trial batches. Provide cores and batch tickets along with a report containing mix proportions and actual gradations for each trial batch to the Engineer for Central Office Materials review and approval.

3.3 Preparation of Subgrade. Before the RCC processing begins, prepare the subgrade in accordance with Section 207. Prior to RCC placement, ensure that the surface of the subbase is clean and free of foreign material, ponded water, and frost. Ensure that the subbase is uniformly moist at the time of RCC placement. If sprinkling of water is required to remoisten certain areas, ensure that the method of sprinkling will not form mud or pools of freestanding water.

3.4 Weather Limitations and Protection. Conform to 501.03.05. Additionally, conduct no placement of RCC pavement during rain conditions. Placement may continue during very light rain or mists provided the surface of the RCC pavement is not eroded, diluted, or damaged in any way. Use dump truck covers during these periods. The Engineer may terminate paving at any time when, in the Engineer’s judgement, the rain is detrimental to the finished product.

3.5 Mixing. Mix according to 601.03.08. Use the same mixture for the entire project. If, during production, a material source is changed, then suspend production and submit a new mix design to the Engineer for approval. Do not exceed the manufacturer's rated capacity for dry concrete mixtures in the mixing chamber. Keep the sides of the mixer and mixer blades free of hardened RCC or other buildups. Routinely check mixer blades for wear and replace if wear is sufficient to cause inadequate mixing.

Ensure that the mixing plant receives the quantities of individual ingredients to within the following tolerances:

Material	Variation by Weight
Cementious Materials	± 1.0% (-0 to +4 for Continuous Mixers)
Water	± 1.0%
Aggregates	± 2.0%

3.6 Transportation. Transport the RCC pavement material from the plant to the areas to be paved in dump trucks equipped with retractable protective covers for protection from rain or excessive evaporation. Ensure that the trucks are dumped clean with no buildup or hanging of RCC material in the corners. Have the dump trucks deposit the RCC material directly into the hopper of the paver or into a secondary material distribution system that deposits the material into the paver hopper. Dump truck delivery must be timed and scheduled so that RCC material is spread and compacted within the specified time limits.

The Department will also allow delivery by performance tested mixer trucks.

3.7 Paving. Do not allow the quantity of RCC material in the paver to approach empty between loads. Maintain the material above the auger at all times during paving. Ensure that the paver proceeds in a steady, continuous operation with minimal starts and stops, except to begin a new lane. Maximum paver speed during laydown is 10 feet per minute. Higher paver speeds may be allowed at the discretion of the Engineer if the higher speeds may be obtained without

distress to the final product or cause additional starts and stops. Ensure that the surface of the RCC pavement is smooth, uniform, and continuous without excessive tears, ridges, or aggregate segregation once it leaves the paver.

Broadcasting or fanning the RCC material across areas being compacted is not permissible. Such additions of materials may only be done immediately behind the paver and before any compaction has taken place. Remove any segregated coarse aggregate from the surface before rolling.

If segregation occurs in the RCC during paving operations, stop placement until the cause is determined and corrected to the satisfaction of the Engineer. If the segregation is judged by the Engineer to be severe, remove and replace the segregated area at no additional cost to the Department.

Pave all areas inaccessible to either roller or paver with cast-in-place Class A concrete.

3.8 Compaction. Ensure that compaction begins with the placement process and is completed within 60 minutes of the start of the mixing at the plant. The time may be increased or decreased at the discretion of the Engineer depending on ambient conditions of temperature and humidity. Do not permit delays in rolling unless approved by the Engineer. Mark all areas where roller compaction operations do not begin within 15 minutes after spreading the RCC mix. Plan operations and supply sufficient equipment to ensure that these criteria are met.

Determine the sequence and number of passes by vibratory and non-vibratory rollers to obtain the specified density and surface finish. Only operate rollers in the vibratory mode while in motion. Rubber-tire rollers may be used for final compaction. Use additional rollers if specific density requirements are not obtained or if placing operations get ahead of the rolling operations.

3.9 Quality Control Testing. Continuously monitor the compaction operation and make cylinders as necessary.

3.9.1 Nuclear Density Gauges. Conduct Field density tests using a nuclear moisture-density gauge as soon as possible, but no later than 30 minutes after the completion of the rolling. Calibrate the gauge for moisture content at the beginning of the work and at any time conditions change during the work. The required minimum density is 98 percent of the maximum laboratory density obtained according to AASHTO T 180 (Method D). If field density readings below 95% of the maximum laboratory density are obtained, stop production until the cause is determined and corrective are made to the Engineer's satisfaction.

3.9.2 Concrete Cylinders. When opening to traffic prior to coring will be necessary, prepare at least two sets of test specimens in accordance with ASTM C 1435 under the direct observation of the Department for each day's production. A set of specimens consists of three cylinders.

3.10 Joints.

3.10.1 Fresh Vertical Joints. A joint is considered a fresh joint when RCC is placed within 60 minutes of placing the previous material or as specified by the Engineer based on ambient conditions. Fresh joints do not require special treatment.

3.10.2 Cold Vertical Joints. Any planned or unplanned construction joints that do not qualify as fresh joints are considered cold joints. Prior to placing fresh RCC mixture against a compacted cold vertical joint, thoroughly clean the cold joint of loose or foreign material. Wet the vertical joint face and maintain it in a moist condition immediately prior to placement the fresh material.

For uncompacted surfaces or slopes more than 15 degrees from the vertical, cut the joint vertically for the full depth. Within 2 hours of final compaction, the edge of a cold joint may be cut with approved mechanical equipment. For edges cut after 2 hours, saw cut to the full depth of the pavement. Demonstrate any modification or substitution of the saw cutting procedure to the Engineer for approval prior to use. In no case allow cutting of the edge to cause raveling or tearing of the surface. Moisten the cut edge immediately prior to placement of the fresh material.

3.10.3 Joints at Structures. Place 1/2-inch expansion joint material against all box inlets, manholes, concrete barriers, retaining walls, bridge abutments, concrete gutter, and similar structures that project through, into, or against the pavement.

3.10.4 Control Joints. Construct transverse contraction joints in the RCC pavement by sawing. The Department will allow soft-cut or green-cut saws used as soon as possible behind the rolling operation and set to manufacturer's recommendations. Conventional cut saws must be used as soon as the sawing operation will not result in raveling or other damage to the RCC pavement, but no later than 18 hours after RCC placement. Cut all joints to 1/4 the depth of the RCC pavement to a single saw blade width. Joints should be spaced at maximum intervals equal to 24 times the nominal pavement thickness unless otherwise indicated on the Plans or directed by the Engineer. Ensure the joints are offset from the JPC pavement joints, as closely to mid-panel as possible.

3.10.5 Longitudinal Construction Joints. Saw cut 1 1/2-inch deep joints and seal with hot-pour elastic joint seal according to the Standard Drawings.

3.11 Finishing. Ensure that the finished surface of the RCC pavement, when tested with a 10-foot straightedge or crown surface template, does not vary from the straightedge or template by more than 1/4 inch at any one point and shall be within 5/8 inch of the specified finished grade. When surface irregularities are outside these tolerances, diamond-grind the surface to meet the tolerance at no additional cost.

3.12 Curing. Immediately after final rolling and compaction testing, cure according to Subsection 501.03.15. Do not use curing compounds when the RCC material is to be promptly covered with asphalt.

3.11 Opening to Traffic. Protect the RCC from vehicular traffic during the curing period. Completed portions of the RCC pavement may be opened for use as shoulder when cylinders or cores attain 2,500-psi strength and for traffic lane use at 3,000-psi strength.

3.12 Thickness and Strength. Take 2 cores to represent each 1,000 linear foot section, or portion thereof, at the locations the Engineer directs. Additionally, core all areas marked for delayed rolling. Immediately provide the cores to the Engineer at the coring site. Repair the core holes using a non-shrink grout or rapid patch material from the Department's List of Approved Materials. The Engineer will determine the thickness according to KM 64-309 and Strength according to Part 5 of KM 64-314. The Engineer will evaluate areas found deficient in thickness or strength. When the Engineer deems the areas warrant removal, remove and replace the areas with conforming concrete.

4.0 MEASUREMENT.

4.1 Roller Compacted Concrete (RCC). The Department will measure the quantity in square yards according to the Plan dimensions as shown in the Record Plans. The Department will determine the final quantity based on the design quantity with increases or decreases by authorized adjustments. Authorized adjustments include changes in the Record Plan dimensions, additional areas not shown in the Record Plans, and errors and omissions in the design quantity in excess of one percent.

The Department will not measure nuclear density testing, coring, or patching of core holes for payment and will consider them incidental to this item of work.

The Department will not measure rumble strips for payment, unless they are constructed in a separate operation because the shoulder was used to maintain traffic, and will consider them incidental to this item of work.

4.2 Rumble Strips, Type 3. The Department will measure the quantity in linear feet. The Department will not measure Type 3 rumble strips for payment unless they are constructed in a separate operation because the shoulder was used to maintain traffic.

4.3 Thickness. The Department will measure the pavement thickness tolerance according to KM 64-309. The Department will not measure the pavement thickness tolerance as a separate pay unit, but will use the pavement thickness tolerance to calculate an adjusted Contract unit price. The Department will adjust the Contract unit price for by the Schedule for Adjusted Payment for Thickness Deficiency. The Department will not measure coring for payment and will consider it incidental to the concrete pay items.

4.4 Strength. The Department will measure core strength tolerance according to Part 5 of KM 64-314. The Department will not measure the core strength as a separate pay unit, but will use the strength tolerance to calculate an adjusted Contract unit price. The Department will not measure coring for payment and will consider it incidental to the concrete pay items.

5.0 PAYMENT. The Department will make payment based on the *Special Note for Roller Compacted Concrete Shoulders* elsewhere in the proposal. The schedules below will apply to payment for the effected item(s).

**Schedule for Adjusted Payment for
Thickness Deficiency**

Thickness Deficiency (inches)	Deduction (Percent of Contract Unit Bid Price)
0.00 to 0.20	0
0.21 to 0.30	20
0.31 to 0.40	28
0.41 to 0.50	32
0.51 to 0.75	43
0.76 to 1.00	50
Greater than 1.00	(1)

(1) *Remove and replace these areas with concrete of the specified thickness at no expense to the Department when the Engineer directs.*

**Schedule for Adjusted Payment for
Compressive Strength Deficiency**

Strength (psi)	Deduction (Percent of Contract Unit Bid Price)
• 3325	0
3150 to 3324	15
2975 to 3149	25
2800 to 2974	35
< 2800	(1)

(1) *Remove and replace these areas with concrete no expense to the Department when the Engineer directs.*

August 6, 2010

9-124.01
Mason County
US 68

SPECIAL NOTE FOR ROLLER COMPACTED CONCRETE SHOULDERS

The Contractor may elect to substitute Roller Compacted Concrete (RCC) shoulders for the “JPC Pavement-6 inch Shoulder” on this project. The RCC should be placed at a depth of 6 inches and should follow the procedures outlined in the *Special Note for Roller Compacted Concrete (RCC) 6-inches or Less Depth*. Contrary to that special note, payment for the RCC shoulders will be made based on the contract unit bid price for “JPC Pavement-6 inch Shoulder”. Additionally, Type 3 Rumble strips that will be necessary with the construction of RCC shoulders will be incidental to the unit bid price for “JPC Pavement-6 inch Shoulder”. Payment for “JPC Pavement-6 inch Shoulder will be considered full compensation for all materials and labor necessary to construct the 6 inch RCC shoulder and the rumble strips.

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COUNTY: MASON
PROPOSAL: NH 0681(023)

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
ALT GROUPIAA10001 PAVE ALT 1-CONC WITH CONC SHOULDER						
0010	00003	CRUSHED STONE BASE	114,696.000	TON		
0020	00013	LIME STABILIZED ROADBED	213,536.000	SQYD		
0030	00014	LIME	3,845.000	TON		
0040	00100	ASPHALT SEAL AGGREGATE	1,002.000	TON		
0050	00212	CL2 ASPH BASE 1.00D PG64-22	4,375.000	TON		
0060	00221	CL2 ASPH BASE 0.75D PG64-22	14,075.000	TON		
0070	00272	CL2 ASPH BIND 0.50D PG64-22	752.000	TON		
0080	00291	EMULSIFIED ASPHALT RS-2	120.300	TON		
0090	00296	ASPHALT PRIME COAT	48.600	TON		
0100	00301	CL2 ASPH SURF 0.38D PG64-22	5,496.000	TON		
0110	00358	ASPHALT CURING SEAL	213.700	TON		
0120	02073	JPC PAVEMENT-9 IN	115,807.000	SQYD		
0130	02078	JPC PAVEMENT-6 IN SHLD	40,598.000	SQYD		
0140	02200	ROADWAY EXCAVATION	1,242,000.000	CUYD		
0150	02702	SAND FOR BLOTTER	533.000	TON		
0160	10203ND	PAVEMENT ADJUSTMENT CONCRETE	(1.00)	LS	199,121.00	199,121.00
ALT GROUPIAA20002 PAVE ALT 2-ASPHALT						
0170	00003	CRUSHED STONE BASE	125,496.000	TON		
0180	00013	LIME STABILIZED ROADBED	212,663.000	SQYD		
0190	00014	LIME	3,828.000	TON		
0200	00100	ASPHALT SEAL AGGREGATE	1,002.000	TON		

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0210	00212	CL2 ASPH BASE 1.00D PG64-22	71,392.000	TON		
0220	00221	CL2 ASPH BASE 0.75D PG64-22	14,075.000	TON		
0230	00272	CL2 ASPH BIND 0.50D PG64-22	752.000	TON		
0240	00291	EMULSIFIED ASPHALT RS-2	120.300	TON		
0250	00296	ASPHALT PRIME COAT	209.800	TON		
0260	00301	CL2 ASPH SURF 0.38D PG64-22	16,250.000	TON		
0270	00358	ASPHALT CURING SEAL	213.000	TON		
0280	02200	ROADWAY EXCAVATION	1,245,526.000	CUYD		
0290	02702	SAND FOR BLOTTER	531.000	TON		
0300	10203ND	PAVEMENT ADJUSTMENT ASPHALT	(1.00)	LS	409,780.00	409,780.00
ALT GROUPIAA30003 PAVE ALT 3-CONC WITH ASPH SHOULDER						
0310	00003	CRUSHED STONE BASE	118,566.000	TON		
0320	00013	LIME STABILIZED ROADBED	213,536.000	SQYD		
0330	00014	LIME	3,845.000	TON		
0340	00100	ASPHALT SEAL AGGREGATE	1,002.000	TON		
0350	00212	CL2 ASPH BASE 1.00D PG64-22	11,130.000	TON		
0360	00221	CL2 ASPH BASE 0.75D PG64-22	14,075.000	TON		
0370	00272	CL2 ASPH BIND 0.50D PG64-22	752.000	TON		
0380	00291	EMULSIFIED ASPHALT RS-2	120.300	TON		
0390	00296	ASPHALT PRIME COAT	89.600	TON		
0400	00301	CL2 ASPH SURF 0.38D PG64-22	8,287.000	TON		
0410	00358	ASPHALT CURING SEAL	213.700	TON		

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0420	02073	JPC PAVEMENT-9 IN	115,807.000 SQYD		
0430	02200	ROADWAY EXCAVATION	1,242,000.000 CUYD		
0440	02702	SAND FOR BLOTTER	533.000 TON		
0450	10203ND	PAVEMENT ADJUSTMENT CONCRETE	(1.00) LS	199,121.00	199,121.00
SECTION 0004 ROADWAY					
0460	00078	CRUSHED AGGREGATE SIZE NO 2	50.000 TON		
0470	00440	ENTRANCE PIPE-15 IN	288.000 LF		
0480	00441	ENTRANCE PIPE-18 IN	113.000 LF		
0490	00461	CULVERT PIPE-15 IN	88.000 LF		
0500	00462	CULVERT PIPE-18 IN	475.000 LF		
0510	00464	CULVERT PIPE-24 IN	970.000 LF		
0520	00466	CULVERT PIPE-30 IN	840.000 LF		
0530	00468	CULVERT PIPE-36 IN	352.000 LF		
0540	00469	CULVERT PIPE-42 IN	486.000 LF		
0550	00471	CULVERT PIPE-54 IN	231.000 LF		
0560	00474	CULVERT PIPE-72 IN	412.000 LF		
0570	00476	CULVERT PIPE-84 IN	213.000 LF		
0580	00494	CULVERT PIPE-30 IN EQUIV	183.000 LF		
0590	00498	CULVERT PIPE-42 IN EQUIV	50.000 LF		
0600	00522	STORM SEWER PIPE-18 IN	477.000 LF		
0610	00524	STORM SEWER PIPE-24 IN	131.000 LF		

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0620	00526	STORM SEWER PIPE-30 IN	92.000	LF		
0630	00532	STORM SEWER PIPE-60 IN	355.000	LF		
0640	01000	PERFORATED PIPE-4 IN	3,683.000	LF		
0650	01010	NON-PERFORATED PIPE-4 IN	500.000	LF		
0660	01020	PERF PIPE HEADWALL TY 1-4 IN	2.000	EACH		
0670	01024	PERF PIPE HEADWALL TY 2-4 IN	2.000	EACH		
0680	01028	PERF PIPE HEADWALL TY 3-4 IN	46.000	EACH		
0690	01310	REMOVE PIPE	93.000	LF		
0700	01434	SLOPED BOX OUTLET TYPE 1-24 IN	1.000	EACH		
0710	01450	S & F BOX INLET-OUTLET-18 IN	8.000	EACH		
0720	01451	S & F BOX INLET-OUTLET-24 IN	7.000	EACH		
0730	01452	S & F BOX INLET-OUTLET-30 IN	4.000	EACH		
0740	01453	S & F BOX INLET-OUTLET-36 IN	2.000	EACH		
0750	01490	DROP BOX INLET TYPE 1	4.000	EACH		
0760	01505	DROP BOX INLET TYPE 5B	9.000	EACH		
0770	01538	DROP BOX INLET TYPE 7	1.000	EACH		
0780	01650	JUNCTION BOX	1.000	EACH		
0790	01720	RECONSTRUCT INLET	2.000	EACH		
0800	01890	ISLAND HEADER CURB TYPE 1	200.000	LF		
0810	01982	DELINEATOR FOR GUARDRAIL-WHITE	10.000	EACH		
0820	01984	DELINEATOR FOR BARRIER-WHITE	3.000	EACH		

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0830	02014	BARRICADE-TYPE III	16.000	EACH		
0840	02091	REMOVE PAVEMENT	1,016.000	SQYD		
0850	02159	TEMP DITCH	33,528.000	LF		
0860	02242	WATER	450.000	MGAL		
0870	02262	FENCE-WOVEN WIRE TYPE 1	55,662.000	LF		
0880	02282	PEDESTRIAN WOVEN WIRE GATE	1.000	EACH		
0890	02289	DOUBLE VEHICULAR WOVEN WIRE GATE	2.000	EACH		
0900	02347	WATER GATE TYPE 1	5.000	EACH		
0910	02351	GUARDRAIL-STEEL W BEAM-S FACE	6,982.000	LF		
0920	02352	GUARDRAIL-STEEL W BEAM-D FACE	1,492.000	LF		
0930	02360	GUARDRAIL TERMINAL SECTION NO 1	5.000	EACH		
0940	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	12.000	EACH		
0950	02366	GUARDRAIL TERMINAL SECTION NO 3	4.000	EACH		
0960	02369	GUARDRAIL END TREATMENT TYPE 2A	9.000	EACH		
0970	02381	REMOVE GUARDRAIL	868.000	LF		
0980	02391	GUARDRAIL END TREATMENT TYPE 4A	18.000	EACH		
0990	02429	RIGHT-OF-WAY MONUMENT TYPE 1	307.000	EACH		
1000	02432	WITNESS POST	307.000	EACH		
1010	02482	CHANNEL LINING CLASS IA	136.000	TON		
1020	02483	CHANNEL LINING CLASS II	15,332.000	TON		
1030	02484	CHANNEL LINING CLASS III	3,666.000	TON		

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1040	02545	CLEARING AND GRUBBING 194 ACRES	(1.00)	LS		
1050	02562	SIGNS	1,180.000	SQFT		
1060	02585	EDGE KEY	173.000	LF		
1070	02596	FABRIC-GEOTEXTILE TYPE I	21,919.000	SQYD		
1080	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	25,383.000	SQYD	2.00	50,766.00
1090	02650	MAINTAIN & CONTROL TRAFFIC	(1.00)	LS		
1100	02651	DIVERSIONS (BY-PASS DETOURS)	(1.00)	LS		
1110	02701	TEMP SILT FENCE	33,528.000	LF		
1120	02703	SILT TRAP TYPE A	286.000	EACH		
1130	02704	SILT TRAP TYPE B	286.000	EACH		
1140	02705	SILT TRAP TYPE C	286.000	EACH		
1150	02706	CLEAN SILT TRAP TYPE A	1,716.000	EACH		
1160	02707	CLEAN SILT TRAP TYPE B	1,716.000	EACH		
1170	02708	CLEAN SILT TRAP TYPE C	1,716.000	EACH		
1180	02709	CLEAN TEMP SILT FENCE	33,528.000	LF		
1190	02726	STAKING	(1.00)	LS		
1200	02929	CRASH CUSHION TYPE IX	2.000	EACH		
1210	04934	TEMP SIGNAL MULTI PHASE (REVISED: 9-13-10)	1.000	EACH		
1220	05026	EASTERN WHITE PINE	28.000	EACH		
1230	05950	EROSION CONTROL BLANKET	153,438.000	SQYD		
1240	05952	TEMP MULCH	1,385,498.000	SQYD		

CONTRACT ID: 101038
COUNTY: MASON
PROPOSAL: NH 0681(023)

PAGE: 7
LETTING: 09/17/10
CALL NO: 102

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1250	05953	TEMP SEEDING AND PROTECTION	1,103,617.000	SQYD		
1260	05966	TOPDRESSING FERTILIZER	71.700	TON		
1270	05985	SEEDING AND PROTECTION	1,103,617.000	SQYD		
1280	06514	PAVE STRIPING-PERM PAINT-4 IN	167,700.000	LF		
1290	06516	PAVE STRIPING-PERM PAINT-8 IN	2,390.000	LF		
1300	06550	PAVE STRIPING-TEMP REM TAPE-W	12,400.000	LF		
1310	06551	PAVE STRIPING-TEMP REM TAPE-Y	12,400.000	LF		
1320	06567	PAVE MARKING-THERMO STOP BAR-12IN	330.000	LF		
1330	06574	PAVE MARKING-THERMO CURV ARROW	54.000	EACH		
1340	06589	PAVEMENT MARKER TYPE V-MW	208.000	EACH		
1350	06591	PAVEMENT MARKER TYPE V-BY	120.000	EACH		
1360	06592	PAVEMENT MARKER TYPE V-B W/R	307.000	EACH		
1370	06593	PAVEMENT MARKER TYPE V-B Y/R	213.000	EACH		
1380	08100	CONCRETE-CLASS A	173.450	CUYD		
1390	08150	STEEL REINFORCEMENT	12,289.000	LB		
1400	21588NN	METAL END SECTION TY 3-30 IN (EQUIV)	5.000	EACH		
1410	21880NN	METAL END SECTION TY 3-42 IN EQUIV	2.000	EACH		
1420	23131ER701	PIPELINE VIDEO INSPECTION	2,690.000	LF		
SECTION 0005 BRIDGE						
1430	02231	STRUCTURE GRANULAR BACKFILL (REVISED: 9-13-10)	1,234.000	CUYD		
1440	02998	MASONRY COATING (REVISED: 9-13-10)	5,067.000	SQYD		

CONTRACT ID: 101038
COUNTY: MASON
PROPOSAL: NH 0681(023)

PAGE: 8
LETTING: 09/17/10
CALL NO: 102

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
1450	03299	ARMORED EDGE FOR CONCRETE	397.100 LF		
1460	08001	STRUCTURE EXCAVATION-COMMON	933.000 CUYD		
1470	08002	STRUCTURE EXCAV-SOLID ROCK	1,172.000 CUYD		
1480	08003	FOUNDATION PREPARATION 25736	(1.00) LS		
1490	08003	FOUNDATION PREPARATION 25737	(1.00) LS		
1500	08020	CRUSHED AGGREGATE SLOPE PROT (REVISED: 9-13-10)	1,143.000 TON		
1510	08020	CRUSHED AGGREGATE SLOPE PROT (ADDED: 9-13-10) 25736	22,431.000 TON		
1520	08033	TEST PILES	198.000 LF		
1530	08046	PILES-STEEL HP12X53 (REVISED: 9-13-10)	1,715.000 LF		
1540	08094	PILE POINTS-12 IN (REVISED: 9-13-10)	65.000 EACH		
1550	08100	CONCRETE-CLASS A (REVISED: 9-13-10)	2,463.600 CUYD		
1560	08104	CONCRETE-CLASS AA (REVISED: 9-13-10)	1,804.600 CUYD		
1570	08150	STEEL REINFORCEMENT	366,402.000 LB		
1580	08151	STEEL REINFORCEMENT-EPOXY COATED (REVISED: 9-13-10)	526,854.000 LB		
1590	08634	PRECAST PC I BEAM TYPE 4	1,452.500 LF		
1600	08635	PRECAST PC I BEAM TYPE 6	1,193.100 LF		
1610	08637	PRECAST PC I BEAM TYPE 7	2,098.300 LF		
1620	21532ED	RAIL SYSTEM TYPE III	592.500 LF		
1630	21532ED	RAIL SYSTEM TYPE III (ADDED: 9-13-10) 25734	426.000 LF		
SECTION 0006 LIGHTING					
1640	04714	POLE 120 FT MTG HT HIGH MAST	14.000 EACH		

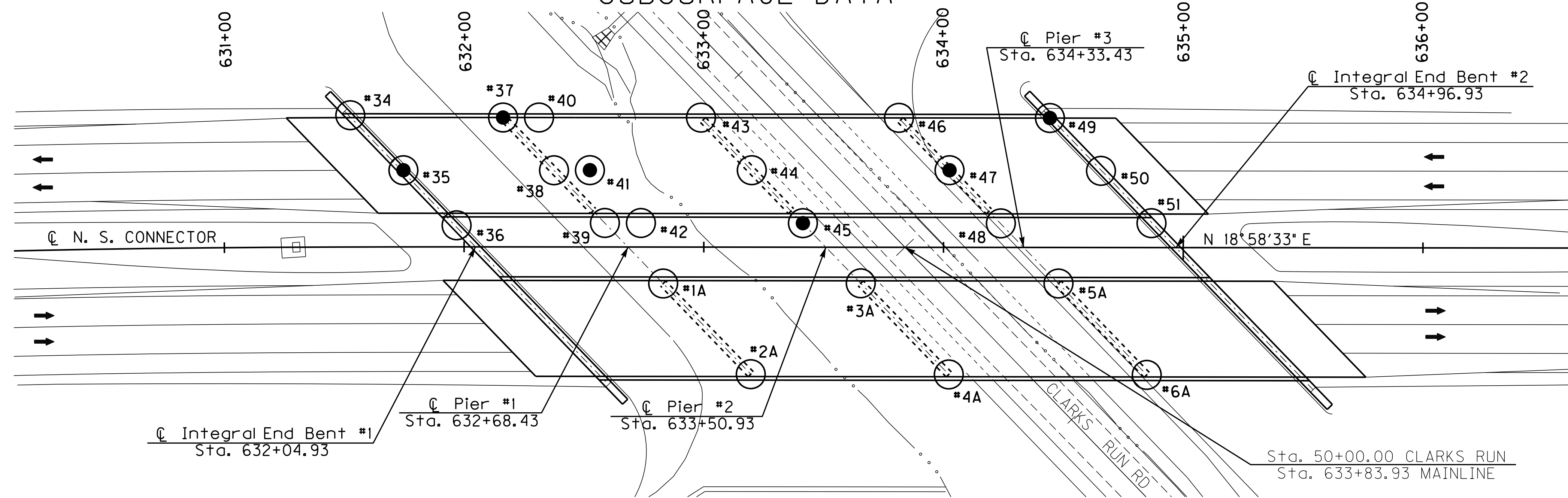
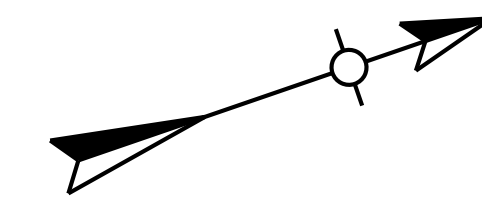
CONTRACT ID: 101038
COUNTY: MASON
PROPOSAL: NH 0681(023)

PAGE: 9
LETTING: 09/17/10
CALL NO: 102

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1650	04760	POLE W/SECONDARY CONTROL EQUIP	1.000	EACH		
1660	04761	LIGHTING CONTROL EQUIPMENT	1.000	EACH		
1670	04773	HPS LUMINAIRE HIGH MAST	73.000	EACH		
1680	04798	CONDUIT-3 1/2 IN	1,671.000	LF		
1690	04800	MARKER	25.000	EACH		
1700	04820	TRENCHING AND BACKFILLING	21,900.000	LF		
1710	04860	CABLE-NO. 8/3C DUCTED	2,160.000	LF		
1720	04861	CABLE-NO. 6/3C DUCTED	5,900.000	LF		
1730	04862	CABLE-NO. 4/3C DUCTED	3,500.000	LF		
1740	04863	CABLE-NO. 2/3C DUCTED	8,669.000	LF		
1750	20391NS835	JUNCTION BOX TYPE A	8.000	EACH		
1760	20392NS835	JUNCTION BOX TYPE C	4.000	EACH		
1770	23161EN	POLE BASE-HIGH MAST	130.250	CUYD		
SECTION 0007 TRAINEES						
1780	02742	TRAINEE PAYMENT REIMBURSEMENT 1 CLASS A OR B OPERATOR	1,600.000	HOUR		
1790	02742	TRAINEE PAYMENT REIMBURSEMENT 1 OFF RD / ARTICULATING TRUCK DRIVER	1,600.000	HOUR		
SECTION 0008 MOB AND DEMOB						
1800	02568	MOBILIZATION (NO MORE THAN 5%)		LUMP		
1810	02569	DEMOBILIZATION (AT LEAST 1.5%)		LUMP		
TOTAL BID						

FILE NAME: H:\Archives\Mason\25733\25733.dgn
 USERNAME: Gary.Newton
 DATE: 10-SEP-2010
 SHEET LOCATION:

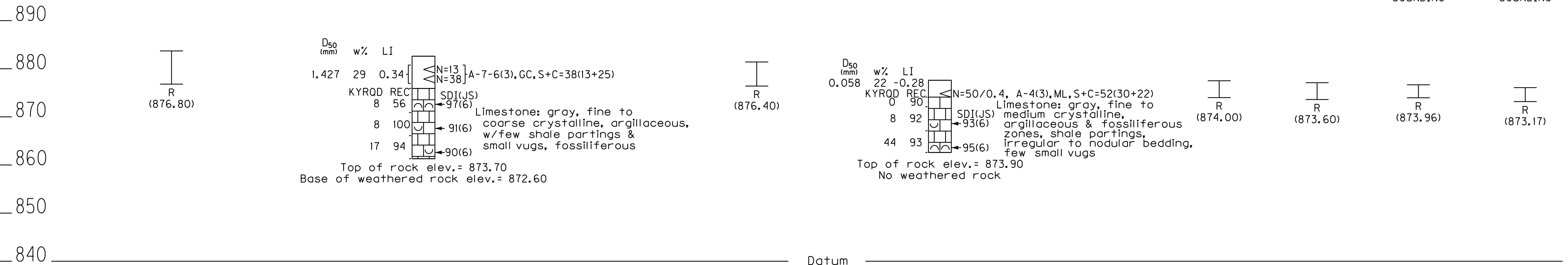
SUBSURFACE DATA



Profile Scale:
 Vertical 1" = 10'
 Horizontal not to scale

END BENT ONE
 APPROXIMATE ROADWAY GRADE ELEV. = 910.24
 PIER ONE - 4 SPAN ALTERNATE

Hole No.	Station	Offset	Elev.	(Sea level datum)
34	631+53.00	55.00 ft. Lt.	883.70	
35	631+75.00	32.00 ft. Lt.	882.60	
36	631+97.00	9.00 ft. Lt.	881.40	
37	632+16.00	54.00 ft. Lt.	877.60	
38	632+37.00	32.00 ft. Lt.	877.50	
39	632+59.00	10.00 ft. Lt.	877.10	
1A	632+83.07	15.22 ft. Rt.	876.66	ROD SOUNDING
2A	633+19.64	53.03 ft. Rt.	876.07	ROD SOUNDING

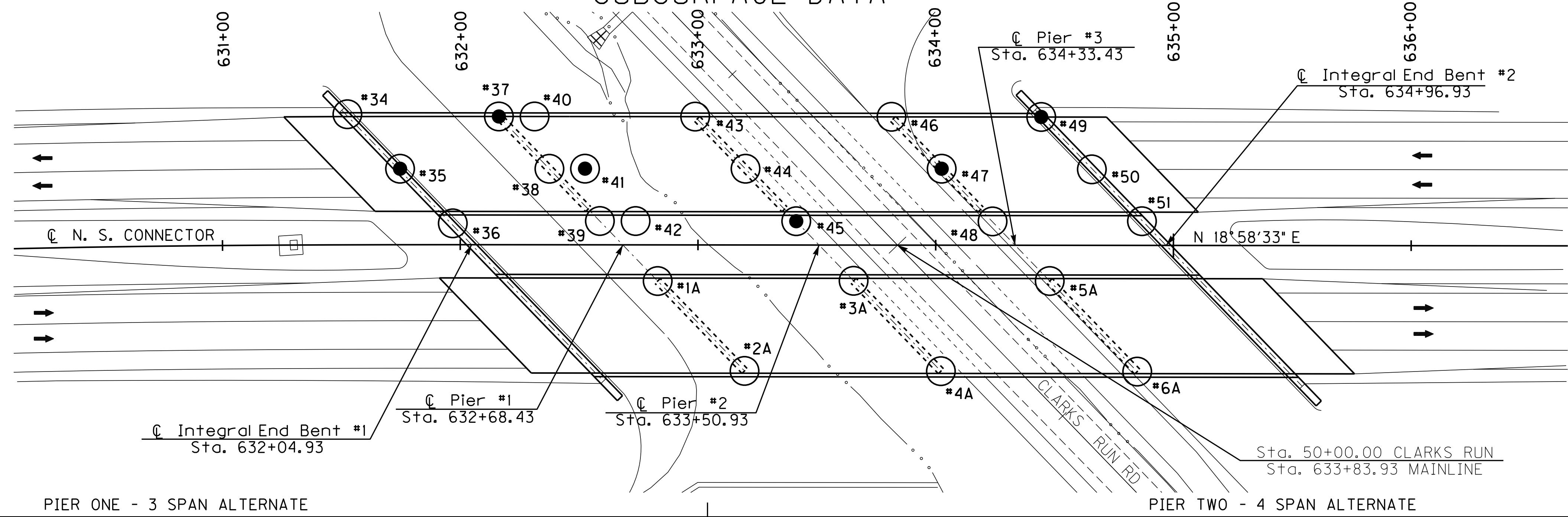
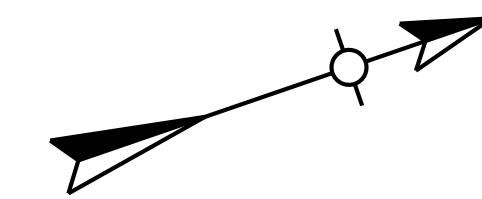


The Allowable Bearing Capacity For Spread Footings on Sound Bedrock is 24 ksf

REVISION		DATE
DATE:	December 2004	CHECKED BY
DESIGNED BY:		
DETAILED BY:	E. Bailey	R. Smith
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
SUBSURFACE DATA		
PREPARED BY		SHEET NO.
Division of Structural Design		S4
Geotechnical Branch		DRAWING NO.
		25733

S-094-04
 ITEM NUMBER
9-124.01

SUBSURFACE DATA

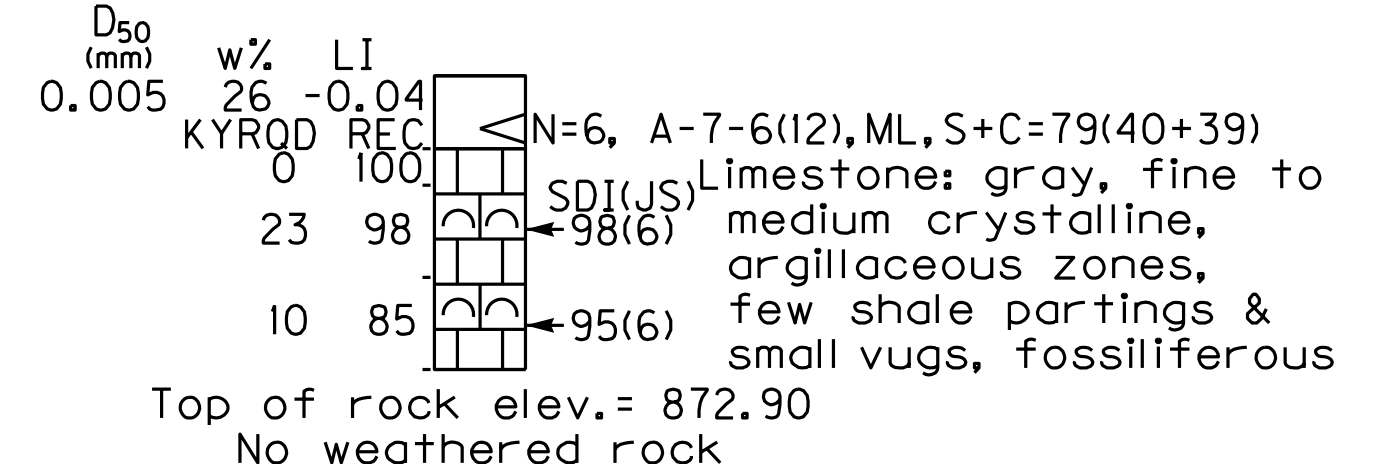
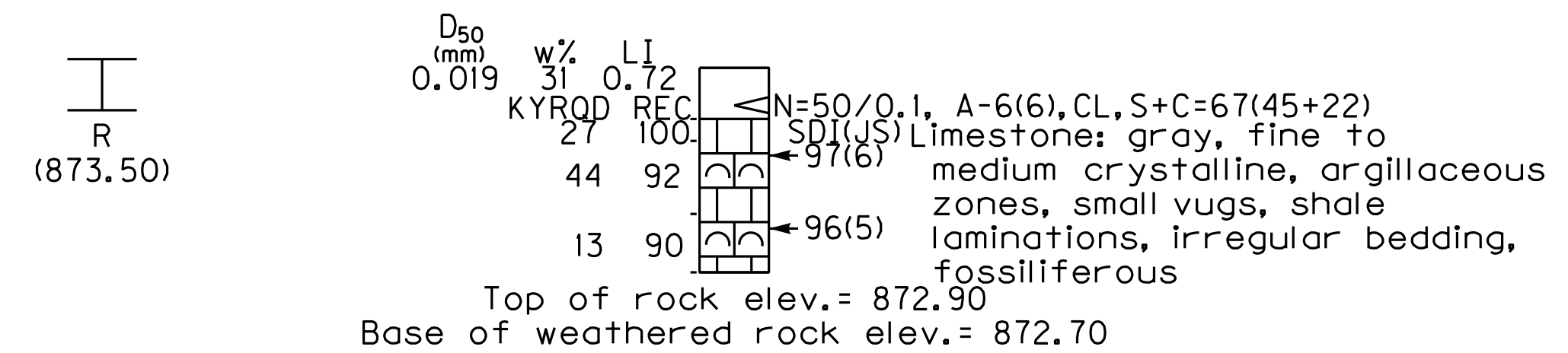
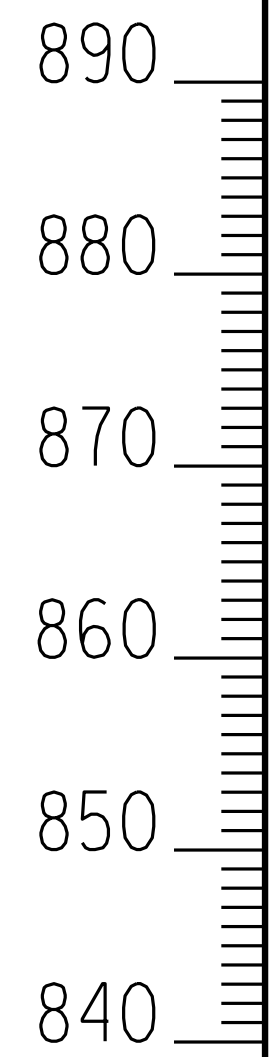
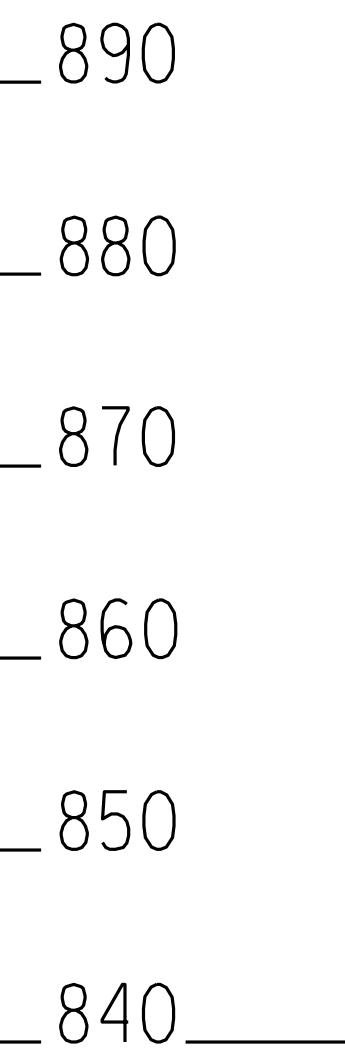


Profile Scale:
Vertical 1" = 10'
Horizontal not to scale

PIER ONE - 3 SPAN ALTERNATE

PIER TWO - 4 SPAN ALTERNATE

Hole No.	Station	Offset	Elev.	(Sea level datum)
40	632+31.00	54.00 ft. Lt.	877.00	
41	632+52.00	32.00 ft. Lt.	876.40	
42	632+74.00	10.00 ft. Lt.	876.10	
43	632+99.00	54.00 ft. Lt.	877.10	
44	633+20.00	32.00 ft. Lt.	877.10	
45	633+41.00	10.00 ft. Lt.	876.80	
3A	633+65.48	15.04 ft. Rt.	876.68	ROD SOUNDING
4A	634+02.24	53.05 ft. Rt.	876.23	ROD SOUNDING



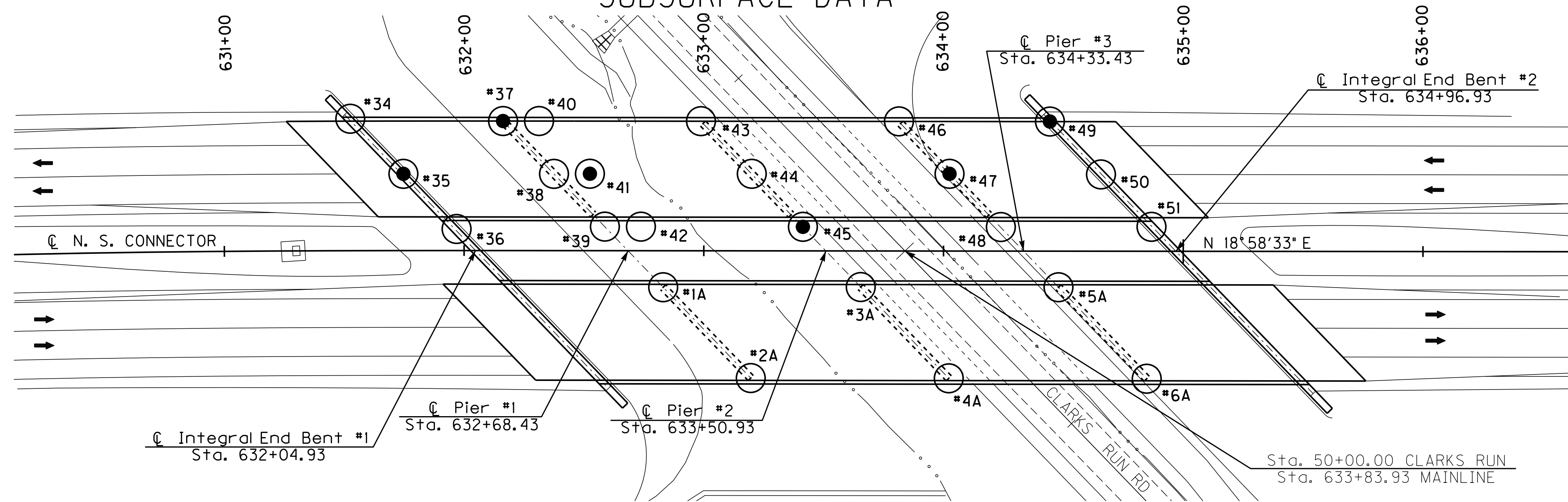
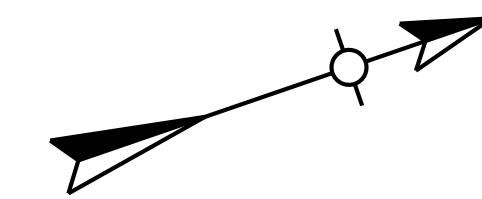
The Allowable Bearing Capacity For Spread Footings on Sound Bedrock is 24 ksf

FILE NAME: H:\Archives\Mason\25733\25733.dgn
USERNAME: Gary Newton
DATE: 10-SEP-2010
SHEET LOCATION:

REVISION		DATE
DATE:	December 2004	CHECKED BY
DESIGNED BY:		
DETAILED BY:	E. Bailey	R. Smith
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
SUBSURFACE DATA		
PREPARED BY	SHEET NO.	
Division of Structural Design	S5	
Geotechnical Branch	DRAWING NO.	
	25733	

S-094-04
ITEM NUMBER
9-124.01

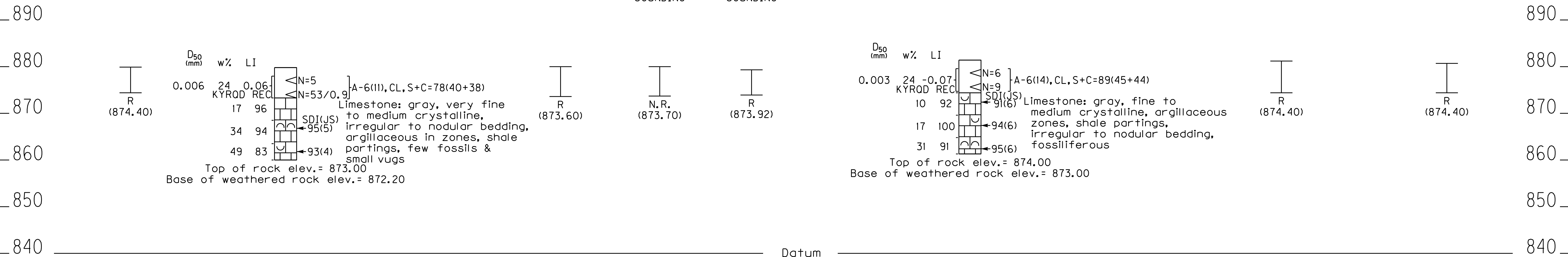
SUBSURFACE DATA



Profile Scale:
Vertical 1" = 10'
Horizontal not to scale

PIER TWO - 3 SPAN ALTERNATE / PIER THREE - 4 SPAN ALTERNATE
END BENT TWO
APPROXIMATE ROADWAY GRADE ELEV. = 907.86

Hole No.	Station	Offset	Elev.	Notes
46	633+81.00	54.00 ft. Lt.	879.90	
47	634+02.00	32.00 ft. Lt.	879.80	
48	634+24.00	10.00 ft. Lt.	880.00	
5A	634+47.98	15.04 ft. Rt.	880.00	ROD SOUNDING
6A	634+84.83	53.14 ft. Rt.	879.32	ROD SOUNDING
49	634+45.00	54.00 ft. Lt.	881.40	
50	634+66.00	32.00 ft. Lt.	881.20	
51	634+87.00	10.00 ft. Lt.	880.70	



The Allowable Bearing Capacity For Spread Footings on Sound Bedrock is 24 ksf

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USERNAME: Gary Newton
DATE: 10-SEP-2010
SHEET LOCATION:

REVISION		DATE
DATE:	December 2004	CHECKED BY
DESIGNED BY:		
DETAILED BY:	E. Bailey	R. Smith
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
SUBSURFACE DATA		
PREPARED BY		SHEET NO.
Division of Structural Design		S6
Geotechnical Branch		DRAWING NO.
		25733

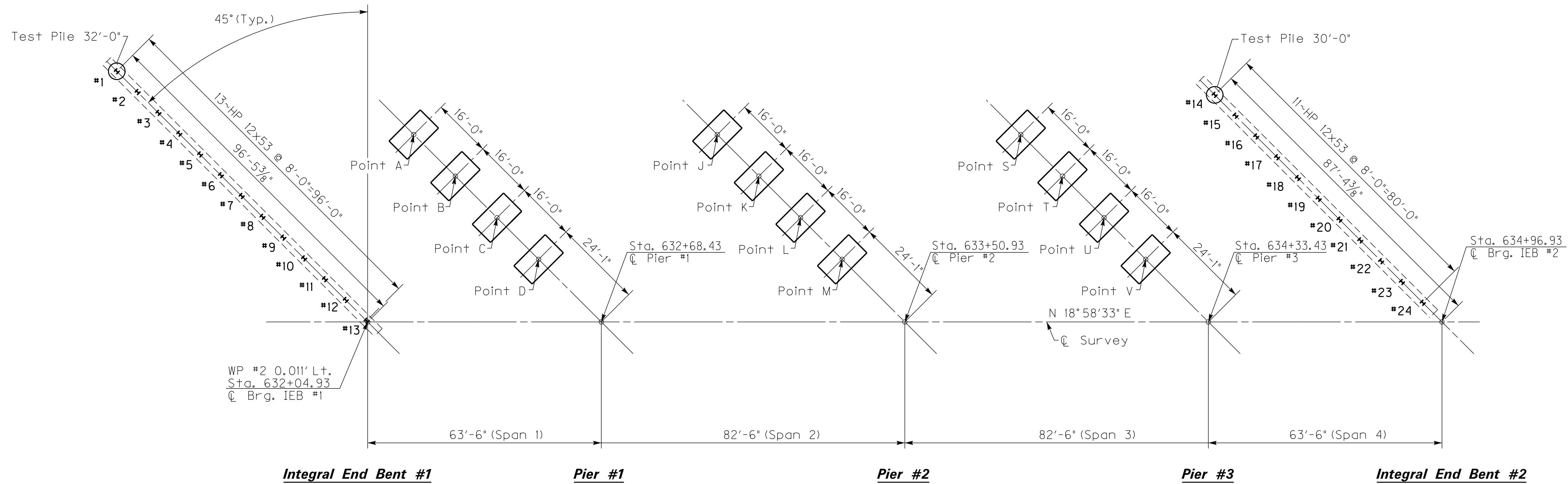
S-094-04
ITEM NUMBER
9-124.01

FILE NAME: H:\Archives\Mason\25733\25733.dgn

USERNAME: Gary.Newton

DATE: 10-SEP-2010

SHEET LOCATION:



FOUNDATION LAYOUT

REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
<small>COUNTY</small> MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
FOUNDATION LAYOUT		
PREPARED BY		SHEET NO.
Division of Structural Design		S7
W. H. McKinney Section		DRAWING NO.
		25733

ITEM NUMBER
9-124.01

Pile Record for Point Bearing Piles						
Pile No.	Pile Cut-off Elevation FEET	Pile Length In Place FEET	Point of Pile Elevation As Driven FEET	Design Axial Load TONS	Required Field Bearing TONS	Calculated Field Bearing TONS
INTEGRAL END BENT #1						
1	902.976			36	150	
2	902.976			36	150	
3	902.976			36	150	
4	902.976			36	150	
5	902.976			36	150	
6	902.976			36	150	
7	902.976			36	150	
8	902.976			36	150	
9	902.976			36	150	
10	902.976			36	150	
11	902.976			36	150	
12	902.976			36	150	
13	902.976			36	150	

Pile Record for Point Bearing Piles						
Pile No.	Pile Cut-off Elevation FEET	Pile Length In Place FEET	Point of Pile Elevation As Driven FEET	Design Axial Load TONS	Required Field Bearing TONS	Calculated Field Bearing TONS
INTEGRAL END BENT #2						
14	901.082			36	150	
15	901.082			36	150	
16	901.082			36	150	
17	901.082			36	150	
18	901.082			36	150	
19	901.082			36	150	
20	901.082			36	150	
21	901.082			36	150	
22	901.082			36	150	
23	901.082			36	150	
24	901.082			36	150	

Definitions of Terms

PILE CUT-OFF ELEVATION: Elevation of the top of pile in the finished structure.
PILE LENGTH IN PLACE: Actual pile length below the Pile Cut-Off Elevation in the finished structure.

POINT OF PILE ELEVATION AS DRIVEN: Actual point of pile elevation in the finished structure.

DESIGN AXIAL LOAD: Service load carried by each pile as estimated from structural design calculations.

REQUIRED FIELD BEARING: Pile bearing value required to achieve 'refusal' for the size of pile used. According to the Division of Construction Guidance Manual, this value is taken as 150 tons for 12-inch steel H-Piles and 180 tons for 14 inch steel H-Piles.

CALCULATED FIELD BEARING: Pile bearing value in place calculated using the appropriate pile driving formula in Section 604.03.07(B) of the Standard Specifications.

Driving Criteria

DRIVING CRITERIA: Drive point bearing piles to refusal and verify that the Calculated Field Bearing equals or exceeds the Required Field Bearing.

A pile driver with a minimum energy of 23 kip-ft will be necessary to drive piles to refusal without encountering excessive blow counts or damaging the pile. The contractor shall submit his pile driving system to the Department for approval prior to the installation of the first pile. Approval of the pile driving system by the Engineer will be subject to satisfactory field performance of the pile driving procedures.

Field Data

For each pile, the Project Engineer shall record the following on this sheet: Pile Length in Place, Point of Pile Elevation as Driven, and the Calculated Field Bearing. Submit this record to:

Kentucky Transportation Cabinet
 Director, Division of Structural Design
 Station E3-16-01
 200 Mero Street
 Frankfort, KY 40622

This pile record does not replace other pile records the Project Engineer is required to keep and submit.

Use HP 12x53 in accordance with BPS-003, c.e.

Use reinforced pile points capable of keying into sloping rock surfaces and seating the piles into rock.

Spread Footing Record Pier #1

Point	Plan Footing Elevation	As-Built Footing Elevation
A	873.240	
B	873.240	
C	873.240	
D	873.240	

Footing is designed for a maximum pressure of 8 KSF. The allowable bearing capacity is 24 KSF.

Spread Footing Record Pier #2

Point	Plan Footing Elevation	As-Built Footing Elevation
J	872.502	
K	872.502	
L	872.502	
M	872.502	

Footing is designed for a maximum pressure of 8 KSF. The allowable bearing capacity is 24 KSF.

Spread Footing Record Pier #3

Point	Plan Footing Elevation	As-Built Footing Elevation
S	871.870	
T	871.870	
U	871.870	
V	871.870	

Footing is designed for a maximum pressure of 8 KSF. The allowable bearing capacity is 24 KSF.

The Project Resident Engineer is to record the "As-Built Footing Elevation" taken at the bottom of footing and submit one copy of this sheet to:

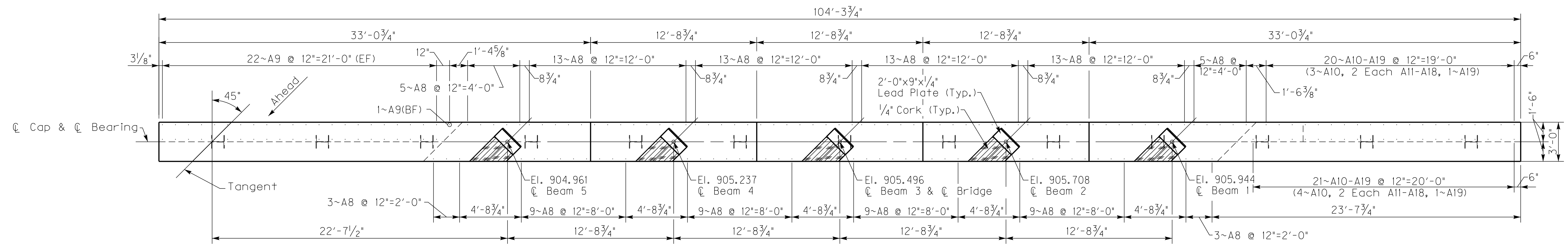
Kentucky Transportation Cabinet
 Division of Structural Design
 Station: E3-16-01
 200 Mero Street
 Frankfort, KY 40622

If the spread footing foundation is stepped due to unsuitable material found at the given elevation, record the location and elevation of the step as well.

REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY MASON		
ROUTE US 68	CROSSING Clarks Run Road	
FOUNDATION LAYOUT		
PREPARED BY	Division of Structural Design	SHEET NO. 58
	W. H. McKinney Section	DRAWING NO. 25733

ITEM NUMBER
9-124.01

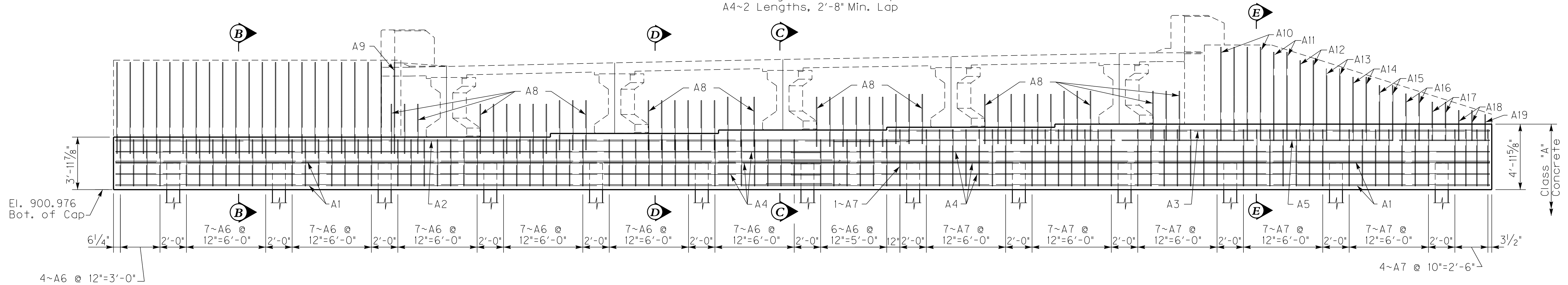
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 USERNAME: Gary Newton
 DATE: 10-SEP-2010
 SHEET LOCATION:



PLAN - Showing Cap & Dowel Reinforcement

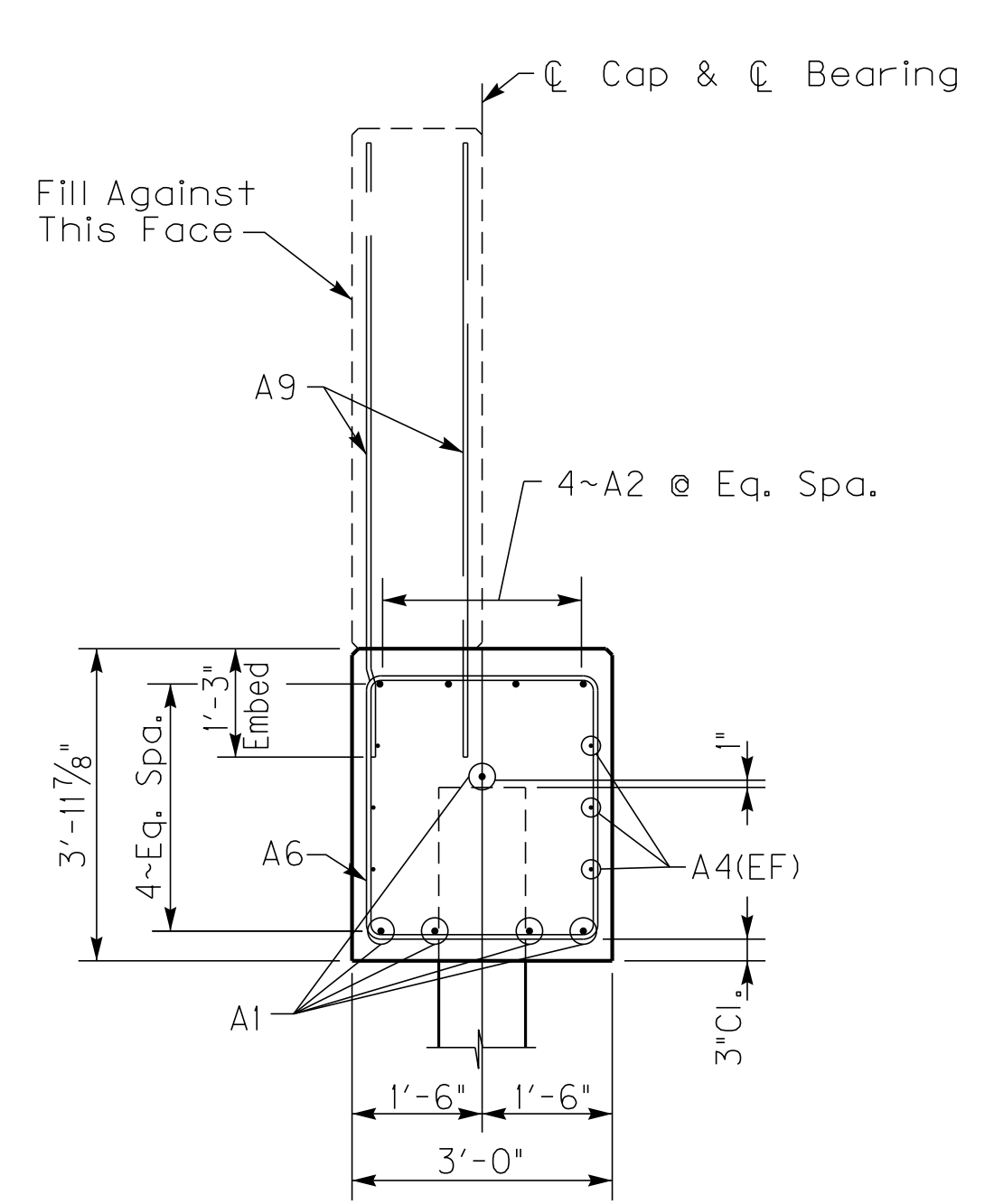
Note: Elevations are given at the top of concrete.

Note: A1~2~Lengths, 5'-8" Min. Lap
 A4~2 Lengths, 2'-8" Min. Lap

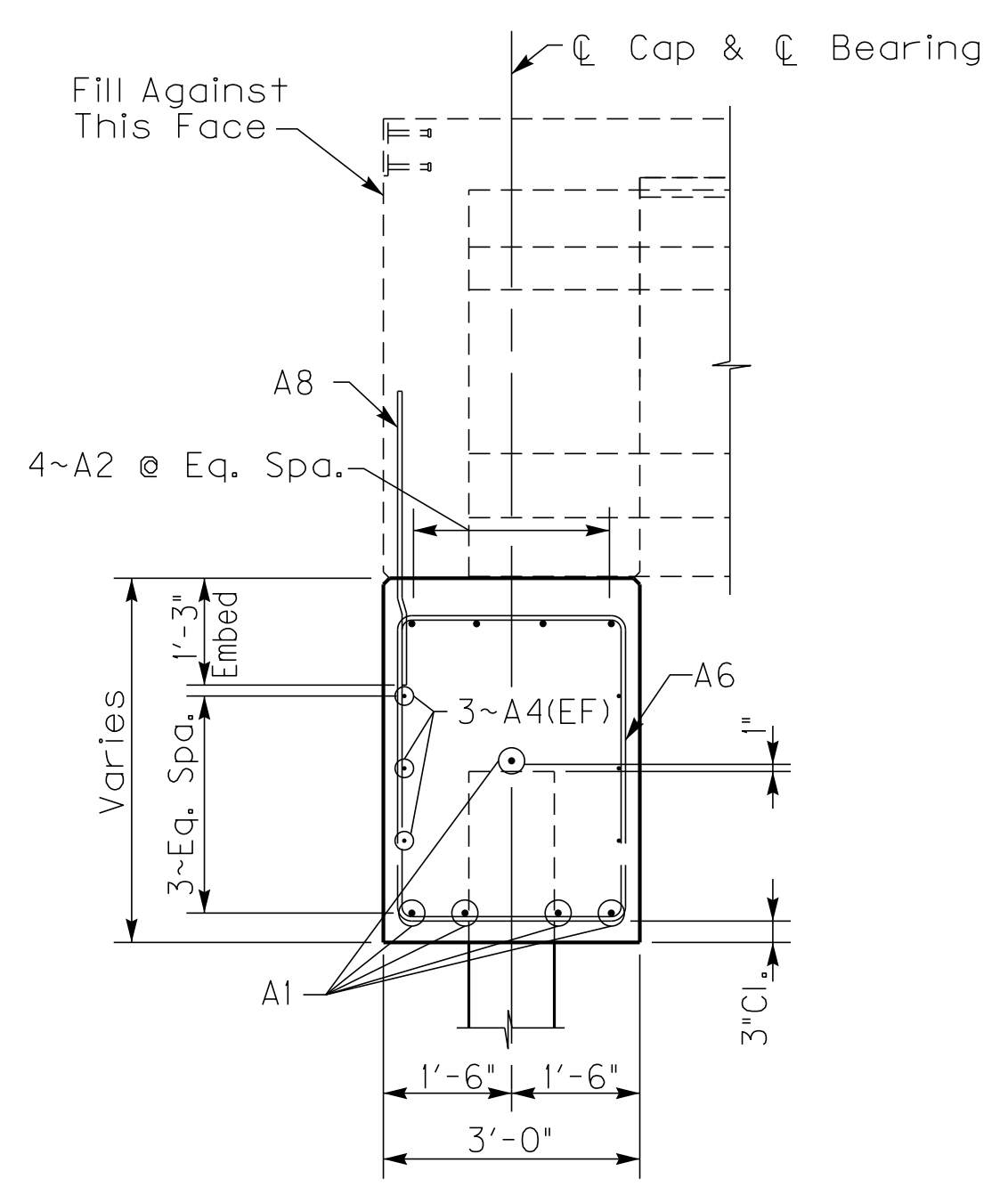


ELEVATION - Showing Cap & Dowel Reinforcement

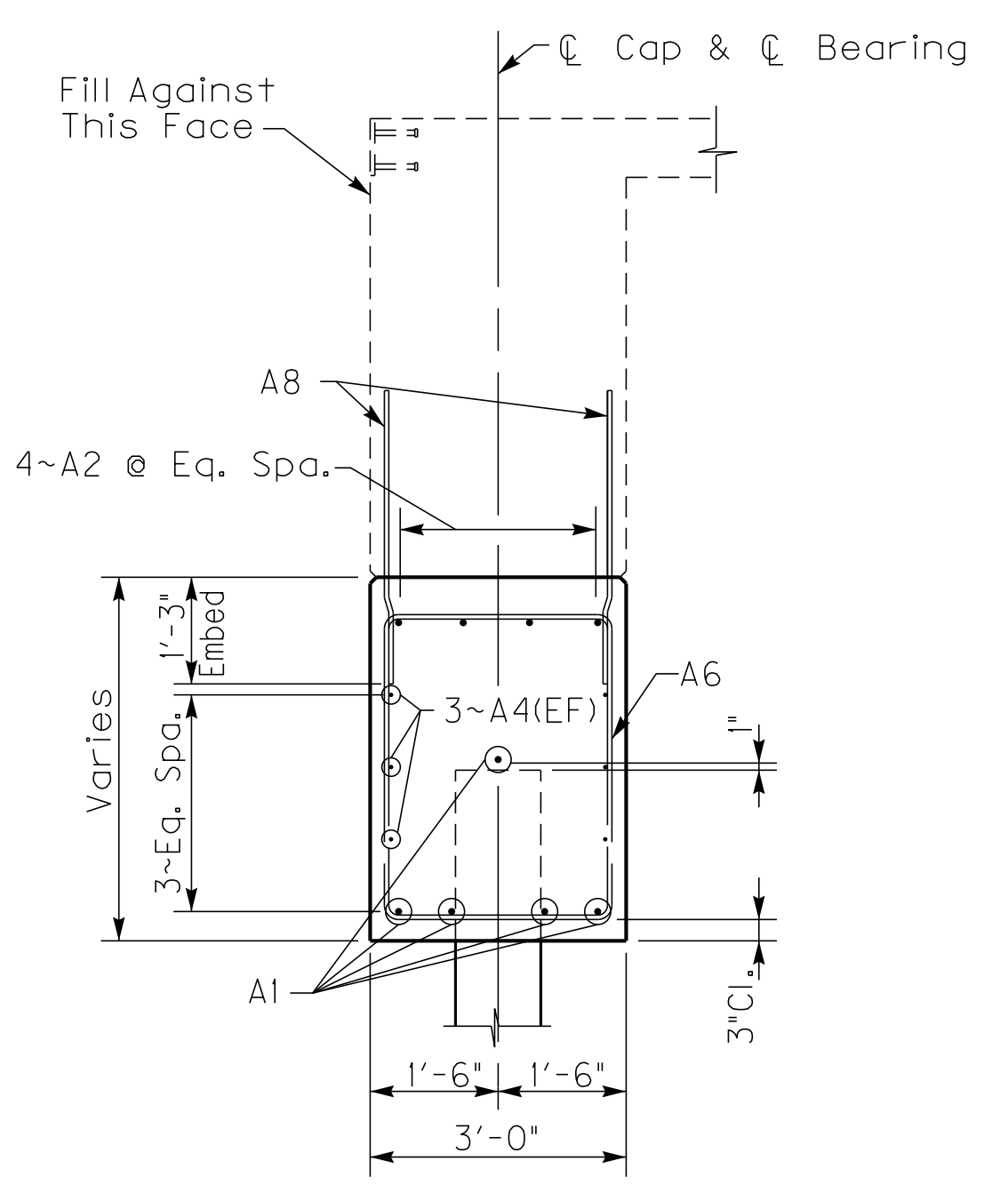
Note: For pile location see Foundation Layout.



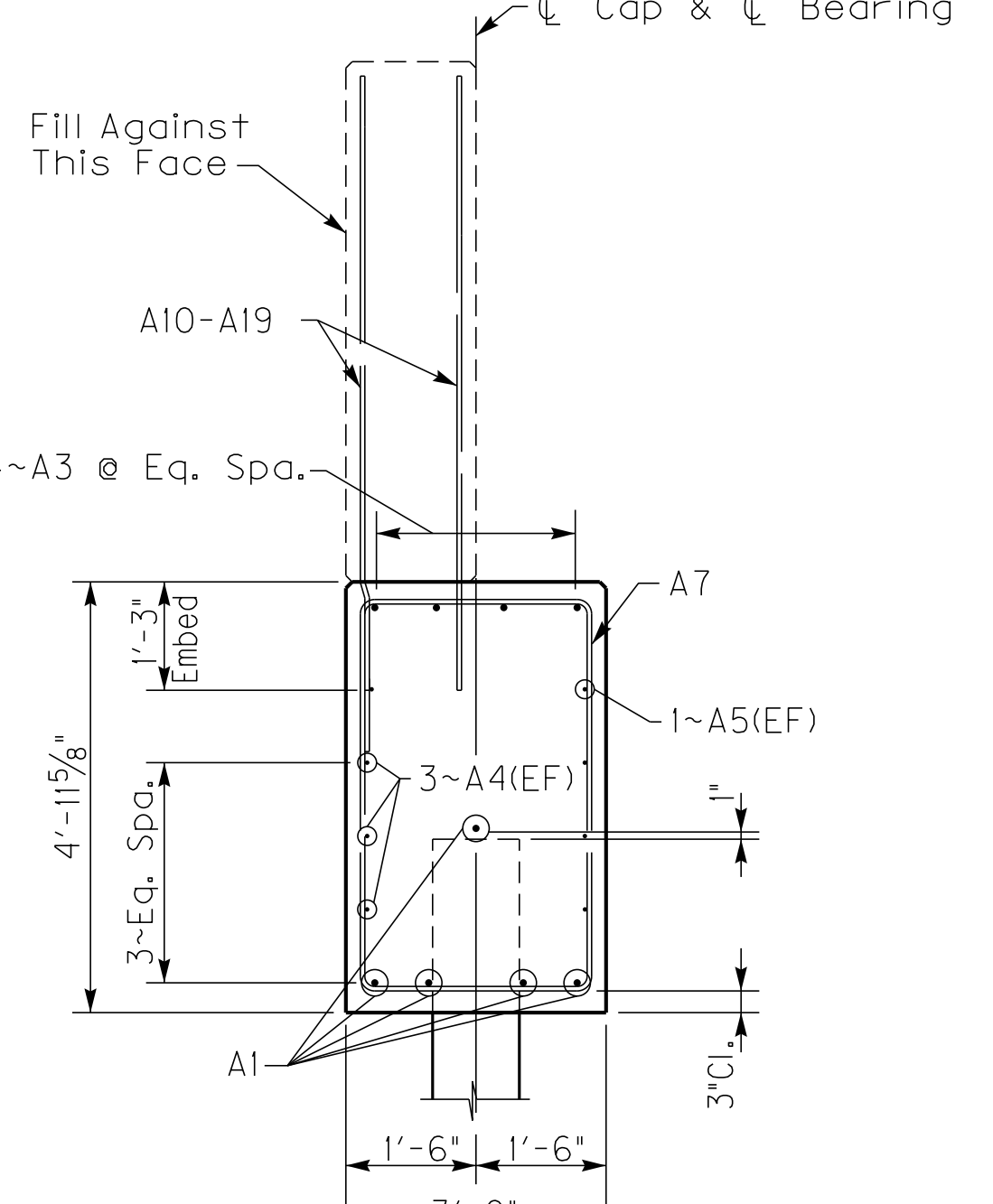
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

ITEM NUMBER	9-124.01
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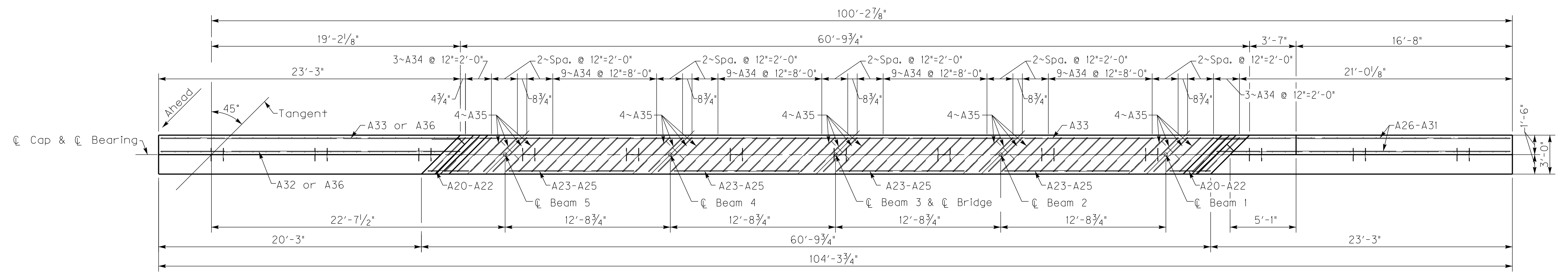
REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
INTEGRAL END BENT #1		
PREPARED BY		SHEET NO.
Division of Structural Design		S09
W. H. McKinney Section		DRAWING NO.
		25733

FILE NAME: H:\Archives\Mason\25733\25733.dgn

USERNAME: Gary Newton

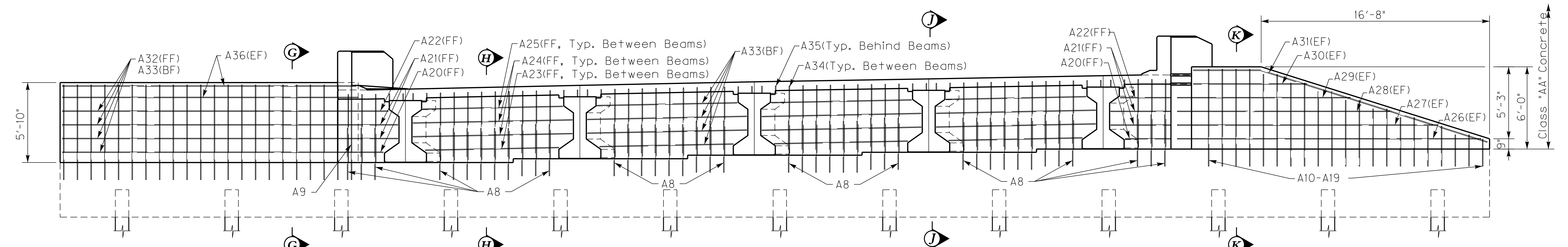
DATE: 10-SEP-2010

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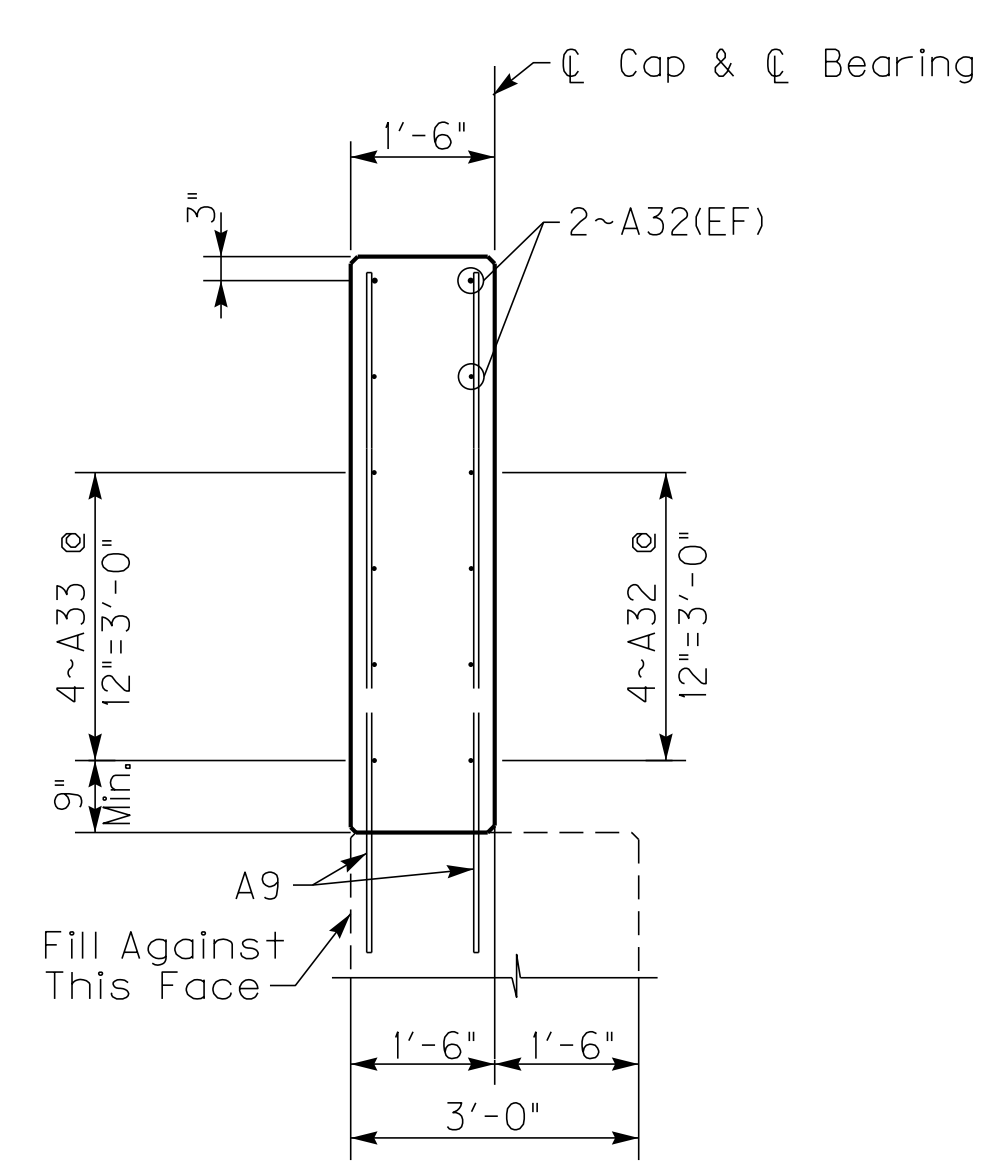


PLAN - Showing Diaphragm & Wing Reinforcement

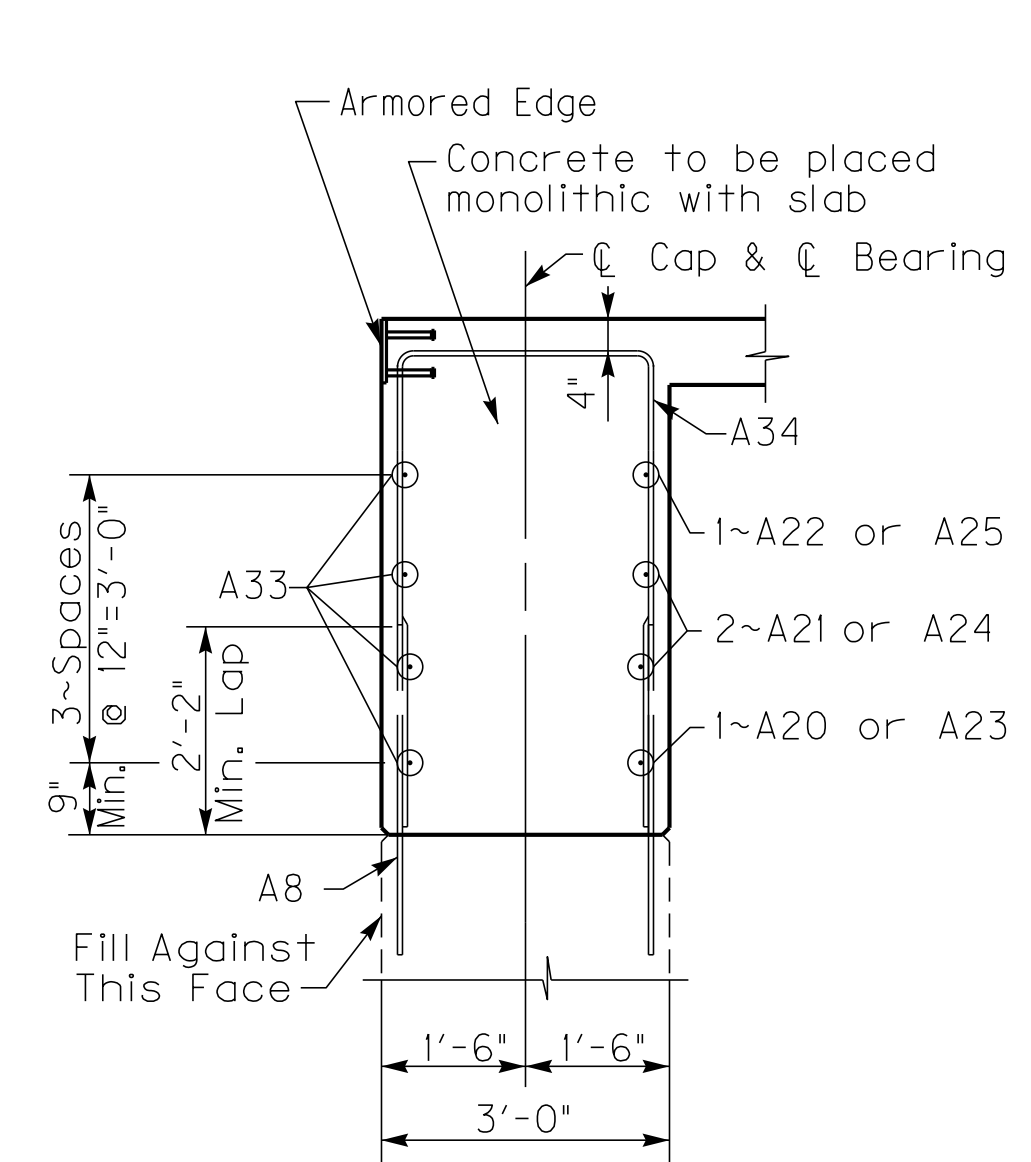
Note: A33~2 Lengths, 2'-8\" Min. Lap



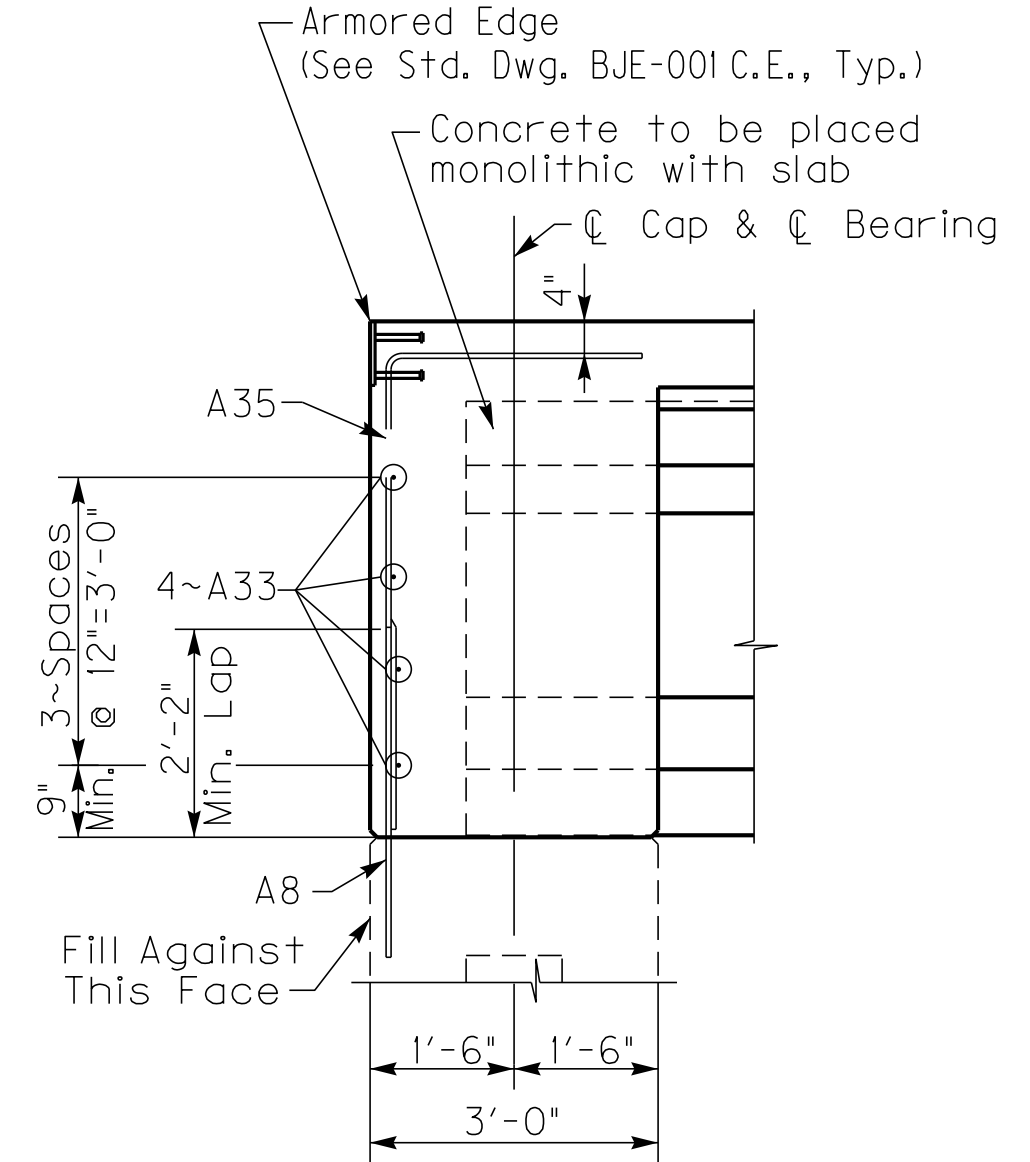
ELEVATION - Showing Diaphragm & Wing Reinforcement



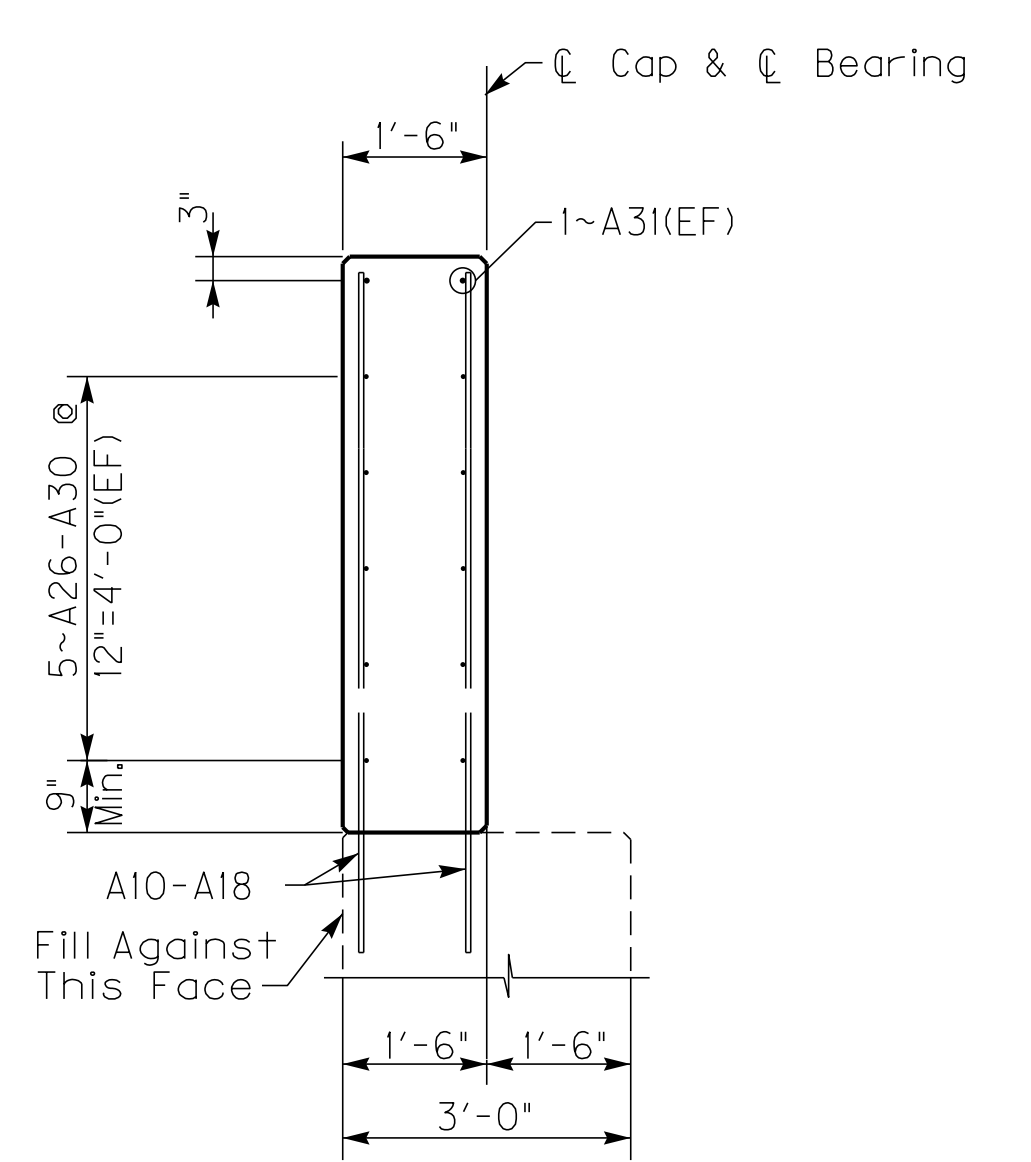
SECTION G-G



SECTION H-H



SECTION J-J



SECTION K-K

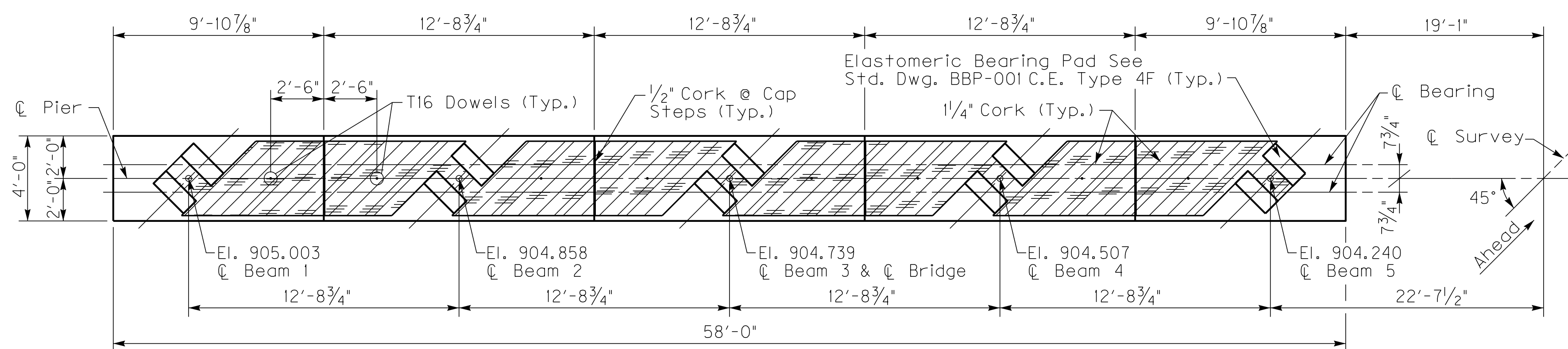
REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
INTEGRAL END BENT #1		
ITEM NUMBER	PREPARED BY	SHEET NO.
9-124.01	Division of Structural Design	S10
	W. H. McKinney Section	DRAWING NO.
		25733

FILE NAME: H:\Archives\Mason\25733\25733.dgn

USERNAME: Gary Newton

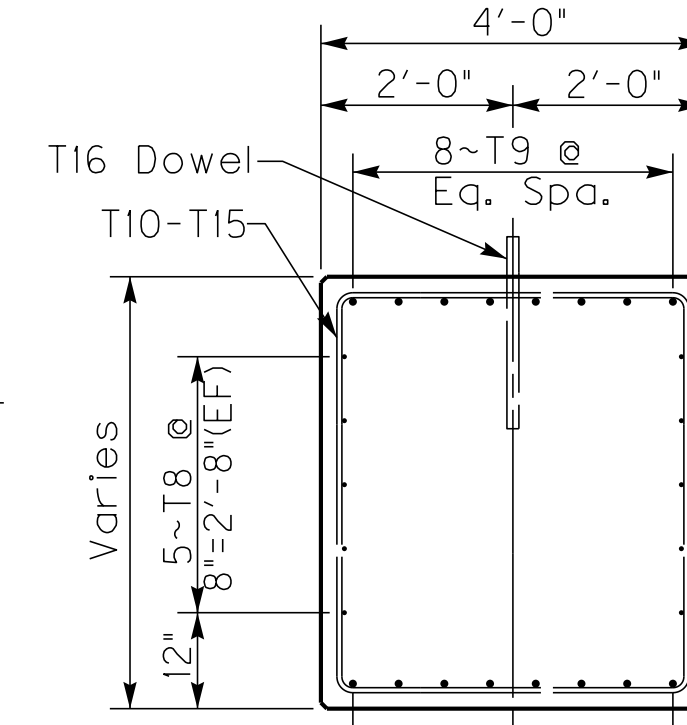
DATE: 10-SEP-2010

SHEET LOCATION: X7



PLAN OF CAP

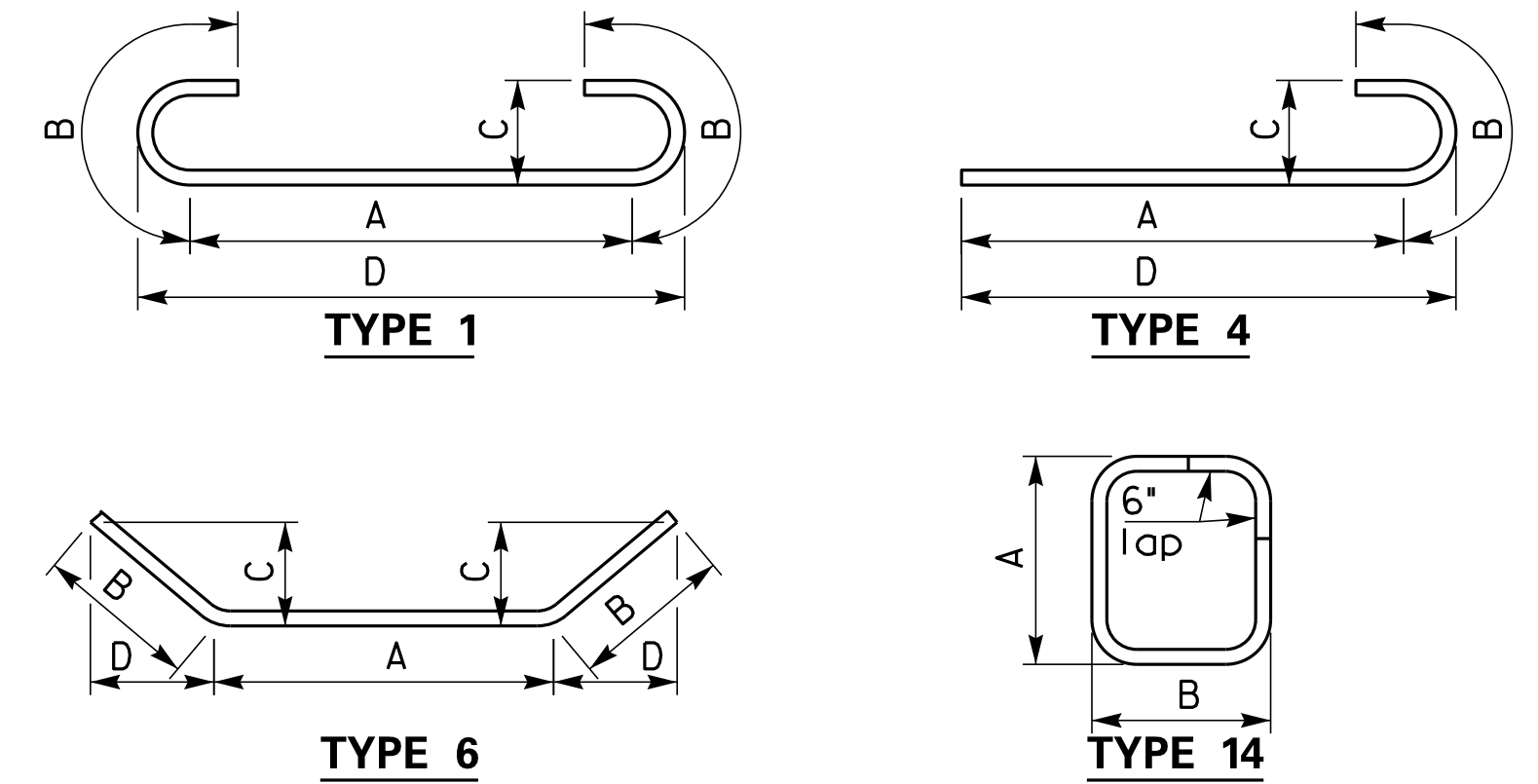
Note: For additional Bearing & Dowel Details, see Std. Dwg. BBP-002 C.E.



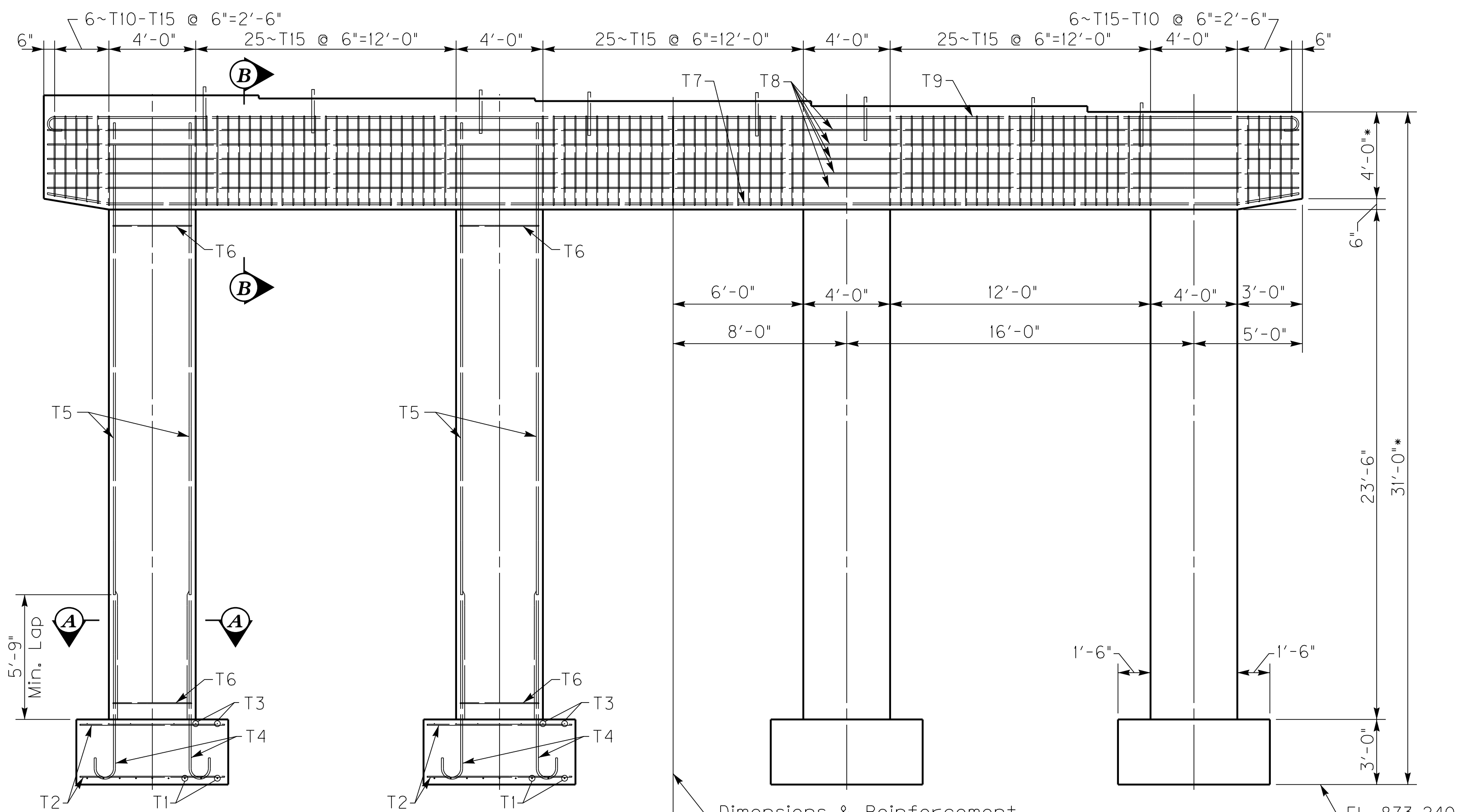
SECTION B-B

BILL OF REINFORCEMENT									
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
T1	J	36	8	13- 6	Bottom of Footing	11- 0	1- 3	0- 8	11- 8
T2	Str.	96	5	6- 8	Bottom & Top of Footing				
T3	Str.	28	5	11- 8	Top of Footing				
T4	4	96	9	10-11	Footing Dowel	9- 0 ¹ / ₈	1-11	0-11 ³ / ₄	9- 6
T5	Str.	96	9	27- 6	Column				
T6	14s	92	5	15- 2	Column	3- 8	3- 8		
T7	6	8	8	57- 9	Cap	51-11 ⁵ / ₈	2-10 ³ / ₄	0- 5 ³ / ₄	2-10 ¹ / ₄
T8	Str.	10	5	57- 8	Cap				
T9	1	8	8	59- 6	Cap	57- 0	1- 3	0- 8	57- 8
T10	14s	2	5	15- 4	Cap Stirrup	3- 9	3- 8		
T11	14s	2	5	15- 6	Cap Stirrup	3-10	3- 8		
T12	14s	2	5	15- 8	Cap Stirrup	3-11	3- 8		
T13	14s	2	5	15-10	Cap Stirrup	4- 0	3- 8		
T14	14s	2	5	16- 0	Cap Stirrup	4- 1	3- 8		
T15	14s	77	5	16- 2	Cap Stirrup	4- 2	3- 8		
T16e	Str.	8	*	2- 0	Cap Dowel				

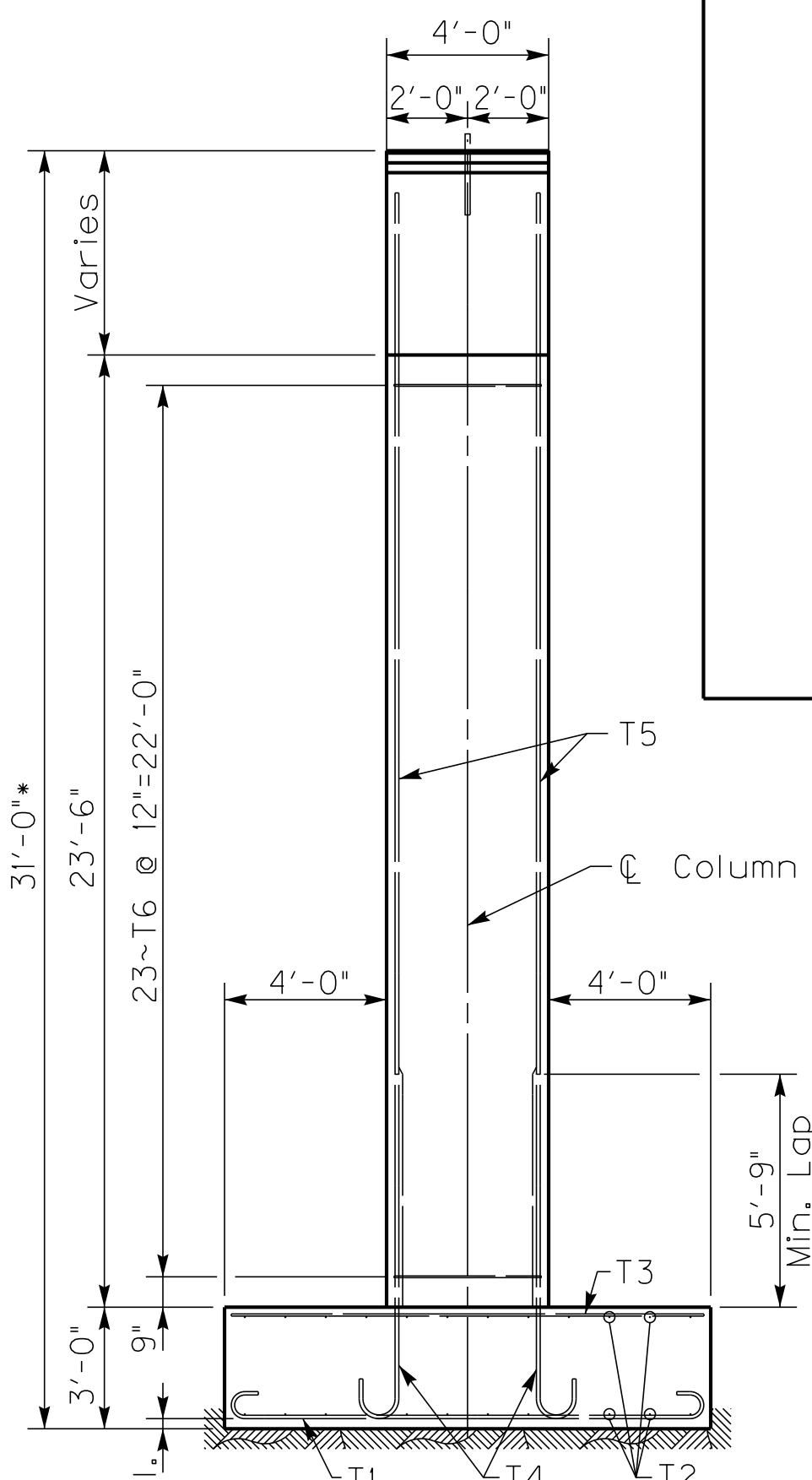
* 1/2" Smooth Round Pin May be Commercial Grade



* Measured @ Low Bridge Seat

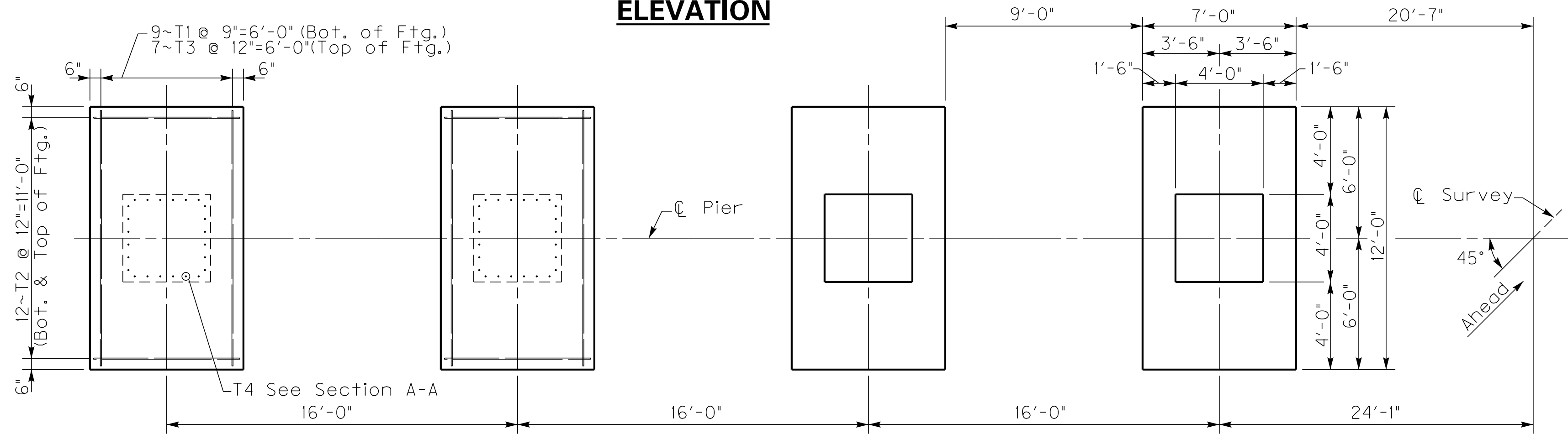


ELEVATION

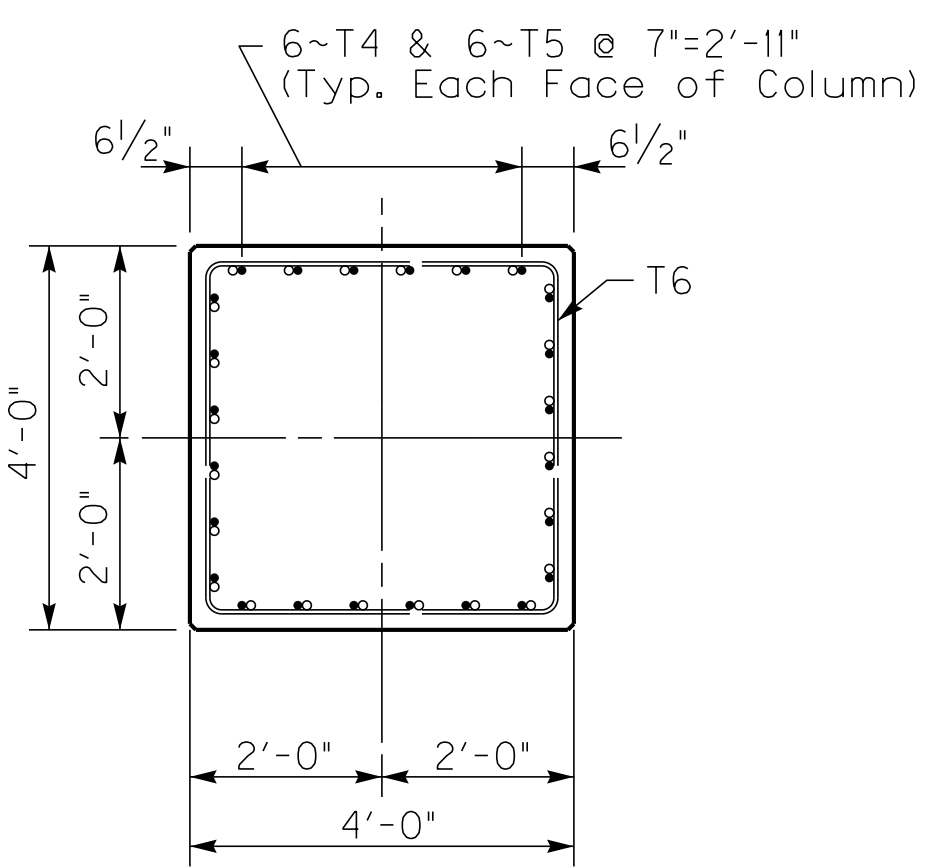


END ELEVATION

Pour against solid rock. Any additional concrete required will be incidental to Class 'A' Concrete.



PLAN OF FOOTING



SECTION A-A

ITEM NUMBER	9-124.01
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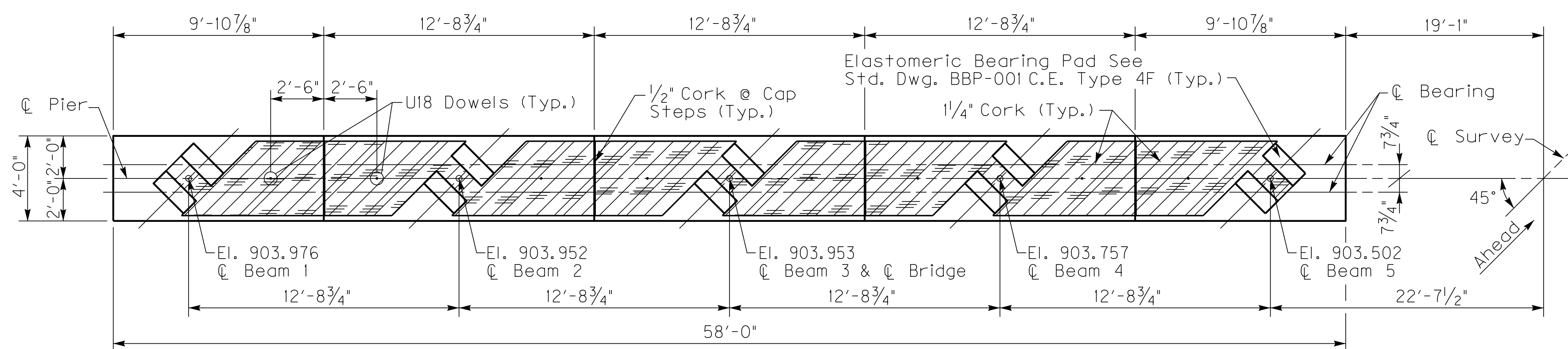
REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
PIER #1		
PREPARED BY		SHEET NO.
Division of Structural Design		S12
W. H. McKinney Section		DRAWING NO.
		25733

FILE NAME: H:\Archives\Mason\25733\25733.dgn

USERNAME: Gary Newton

DATE: 10-SEP-2010

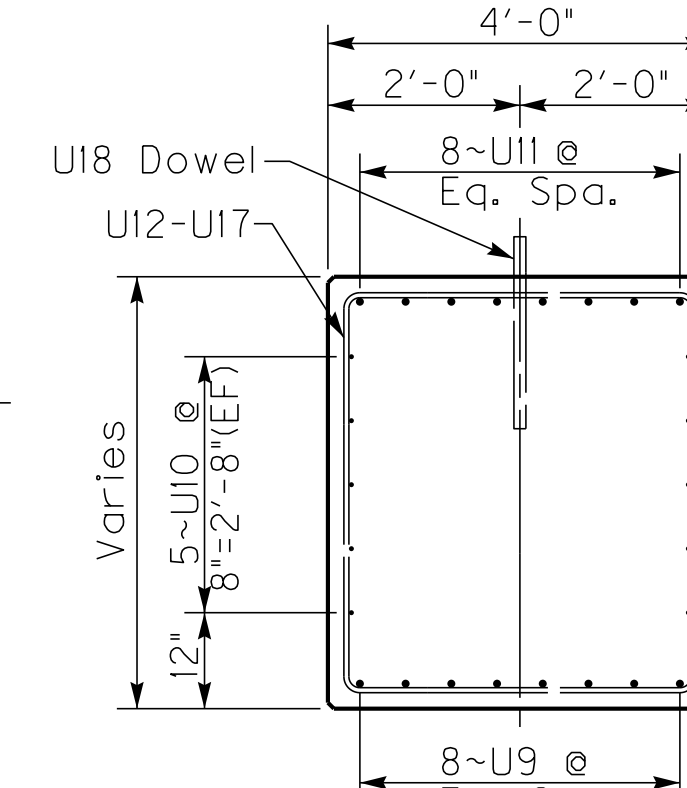
SHEET LOCATION: X6



Note: Elevations are given at the top of concrete.

PLAN OF CAP

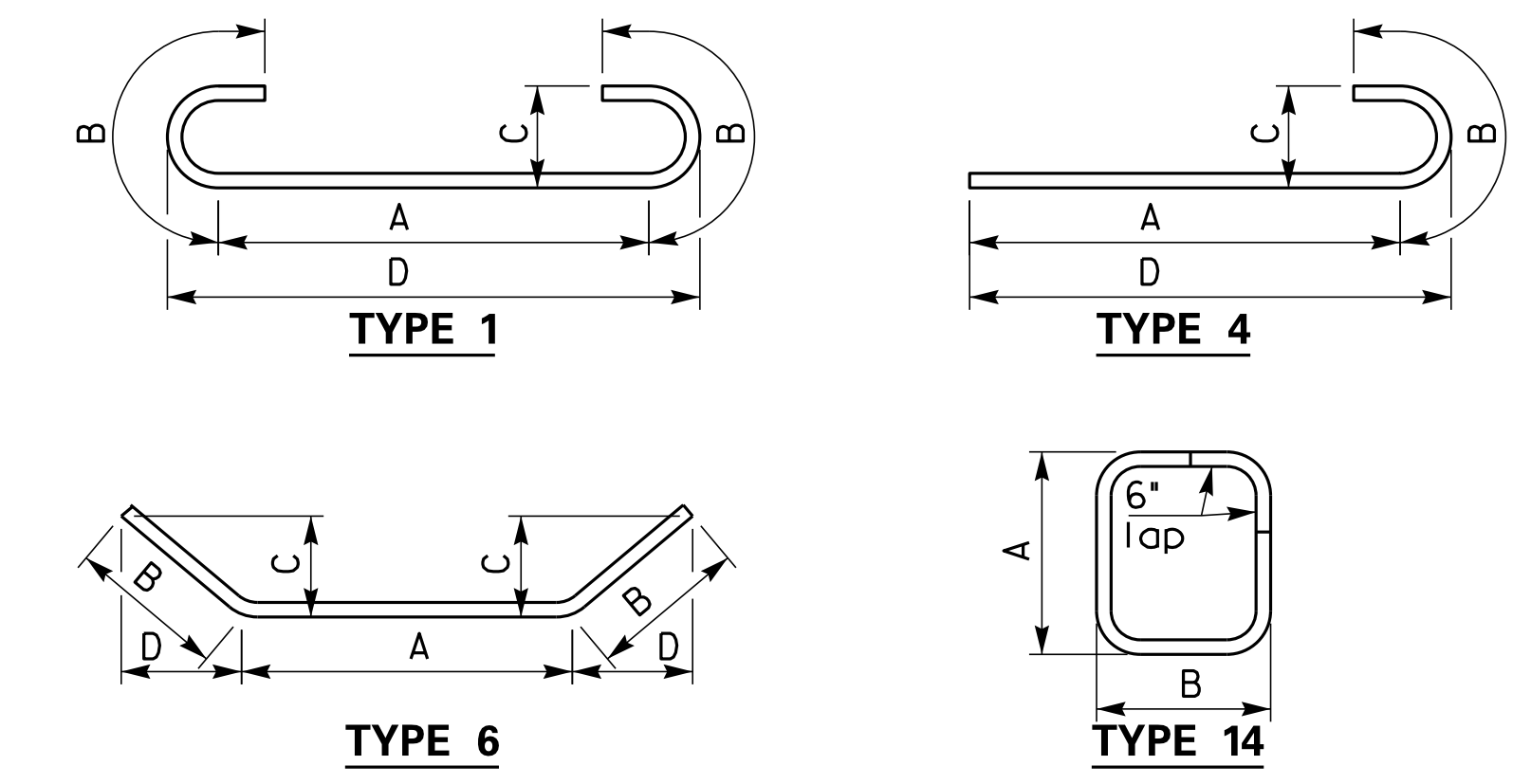
Note: For additional Bearing & Dowel Details, see Std. Dwg. BBP-002 C.E.



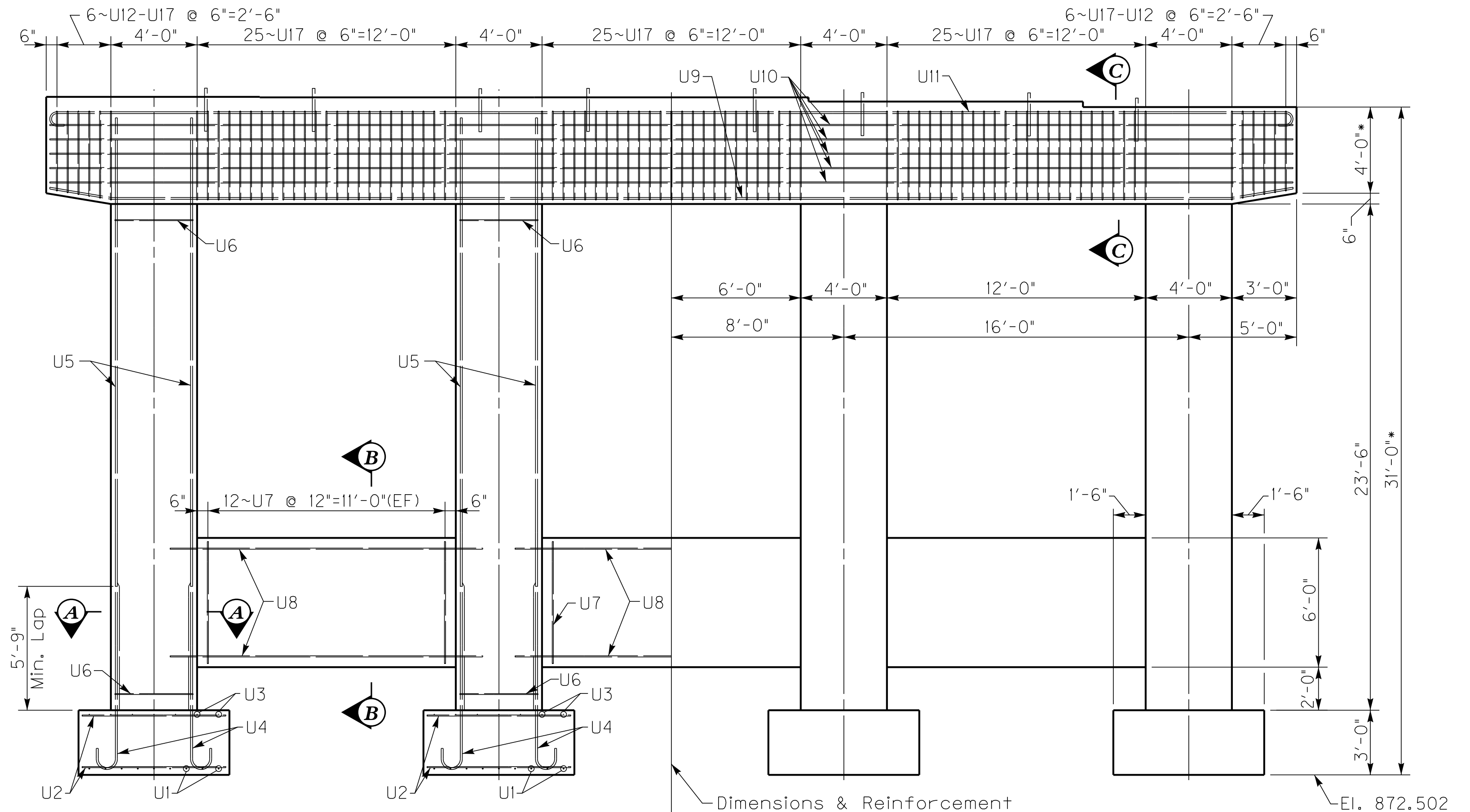
SECTION C-C

BILL OF REINFORCEMENT									
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
U1	I	36	8	13- 6	Bottom of Footing	11- 0	1- 3	0- 8	11- 8
U2	Str.	96	5	6- 8	Bottom & Top of Footing				
U3	Str.	28	5	11- 8	Top of Footing				
U4	4	96	9	10-11	Footing Dowel	9- 0 ¹ / ₈	1-11	0-11 ³ / ₄	9- 6
U5	Str.	96	9	27- 6	Column				
U6	14s	92	5	15- 2	Column	3- 8	3- 8		
U7	Str.	72	5	5- 8	Crashwall				
U8	Str.	36	5	14- 6	Crashwall				
U9	6	8	8	57- 9	Cap	51-11 ⁵ / ₈	2-10 ³ / ₄	0- 5 ³ / ₄	2-10 ¹ / ₄
U10	Str.	10	5	57- 8	Cap				
U11	I	8	8	59- 6	Cap	57- 0	1- 3	0- 8	57- 8
U12	14s	2	5	15- 4	Cap Stirrup	3- 9	3- 8		
U13	14s	2	5	15- 6	Cap Stirrup	3-10	3- 8		
U14	14s	2	5	15- 8	Cap Stirrup	3-11	3- 8		
U15	14s	2	5	15-10	Cap Stirrup	4- 0	3- 8		
U16	14s	2	5	16- 0	Cap Stirrup	4- 1	3- 8		
U17	14s	77	5	16- 2	Cap Stirrup	4- 2	3- 8		
U18e	Str.	8	*	2- 0	Cap Dowel				

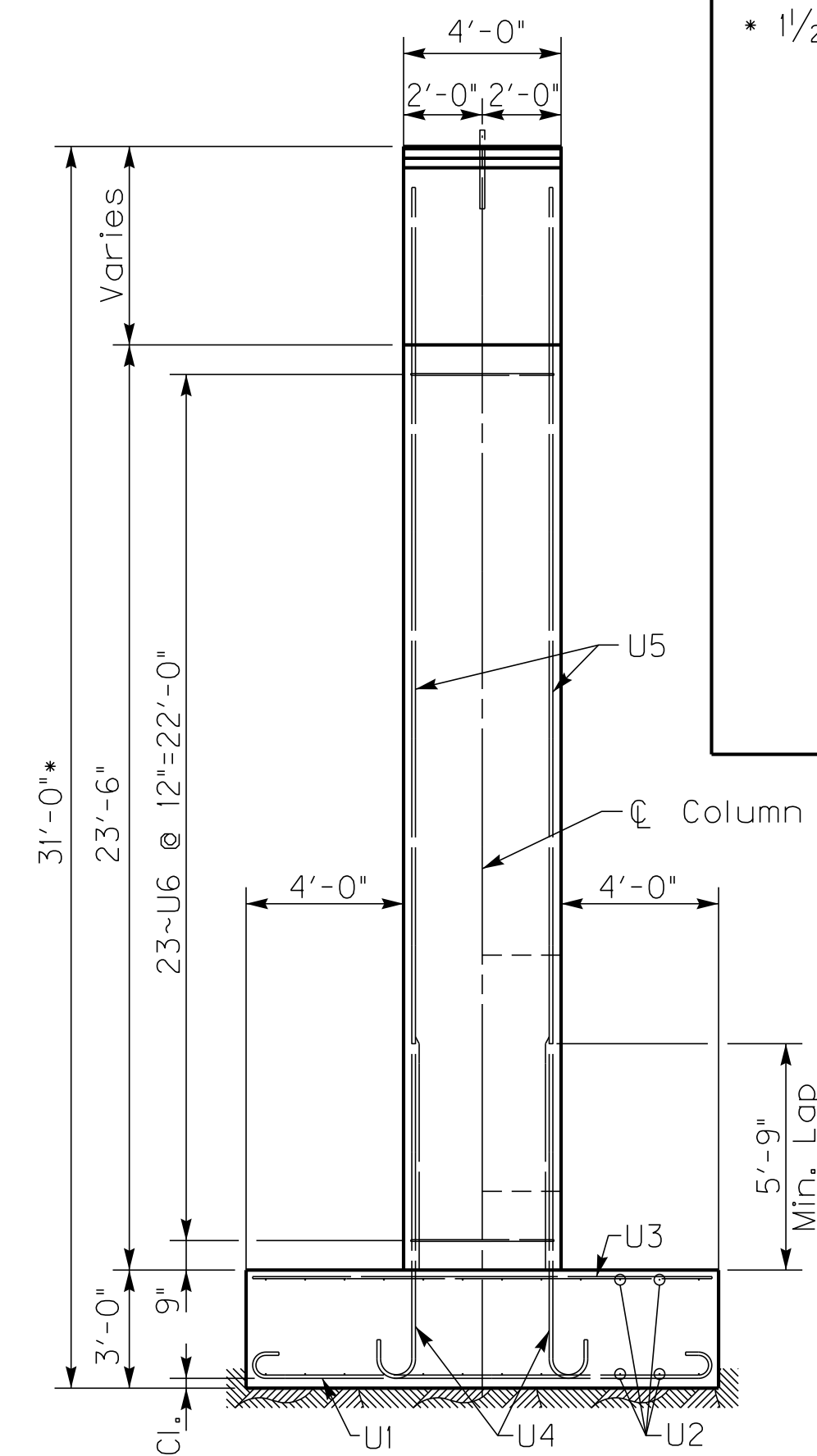
* 1/2" Smooth Round Pin May be Commercial Grade



* Measured @ Low Bridge Seat

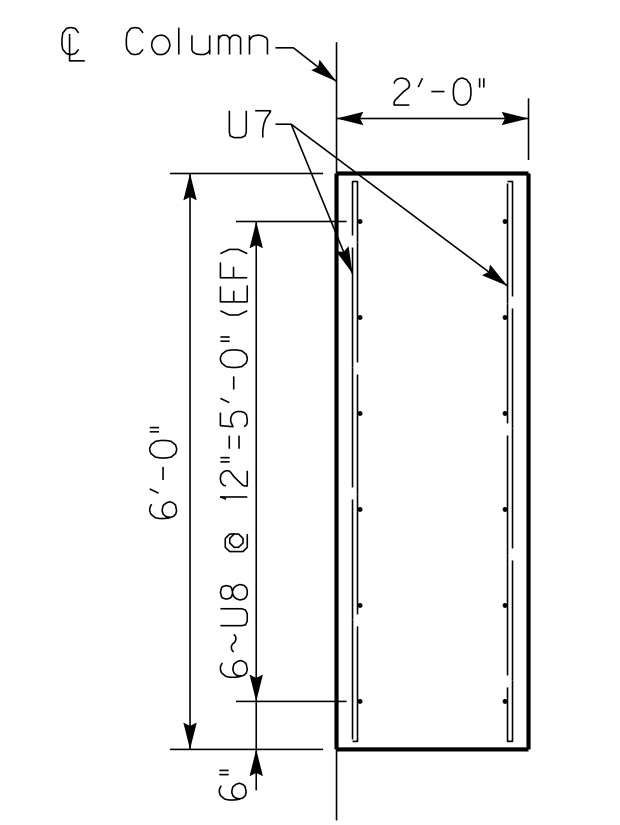


ELEVATION



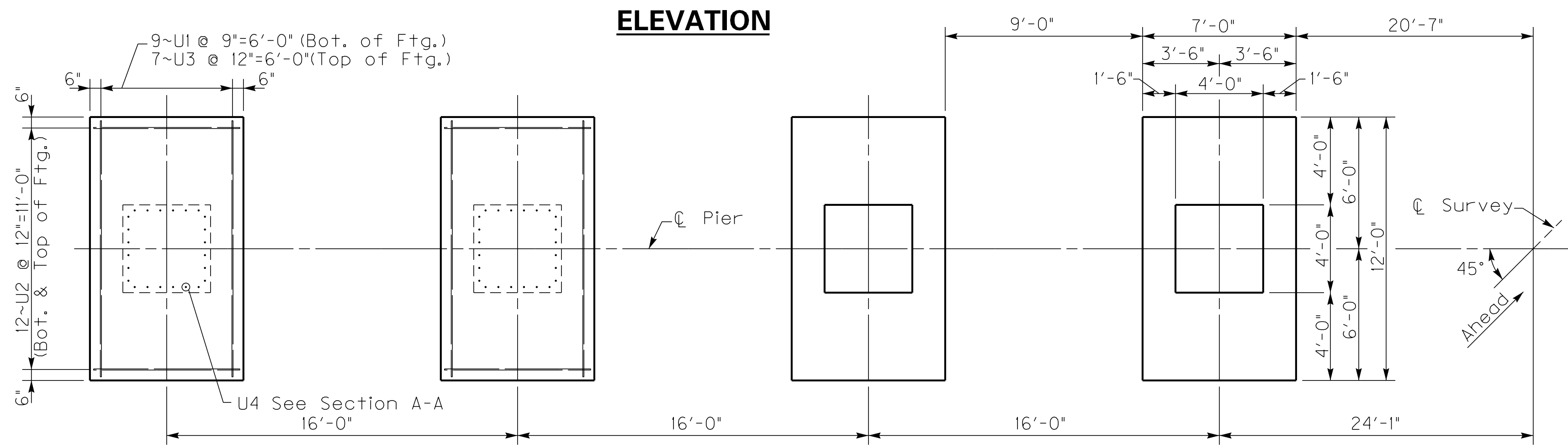
END ELEVATION

Pour against solid rock. Any additional concrete required will be incidental to Class 'A' Concrete.

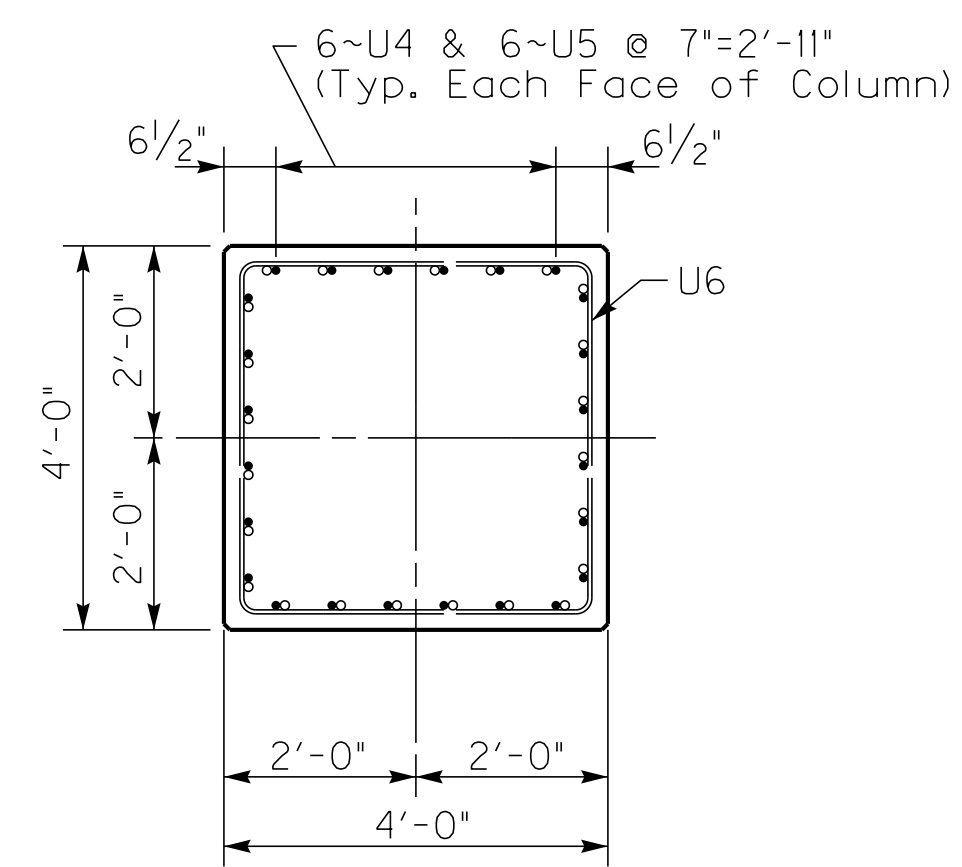


SECTION B-B

(Crashwall)

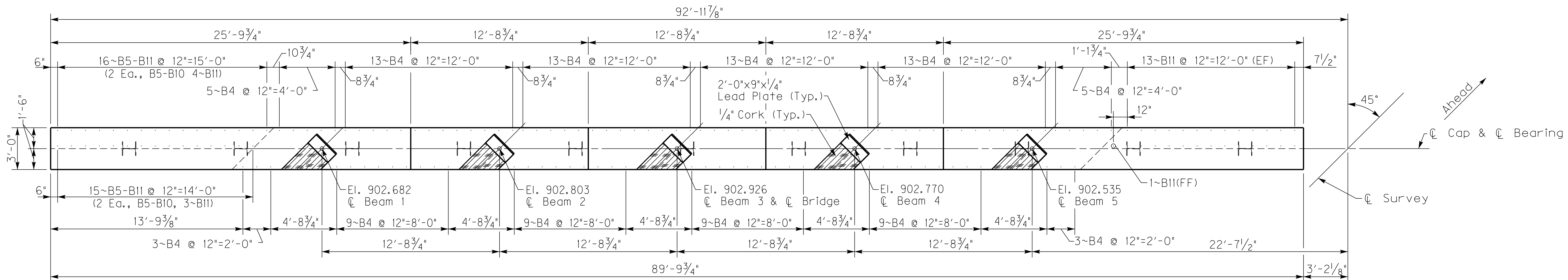


PLAN OF FOOTING



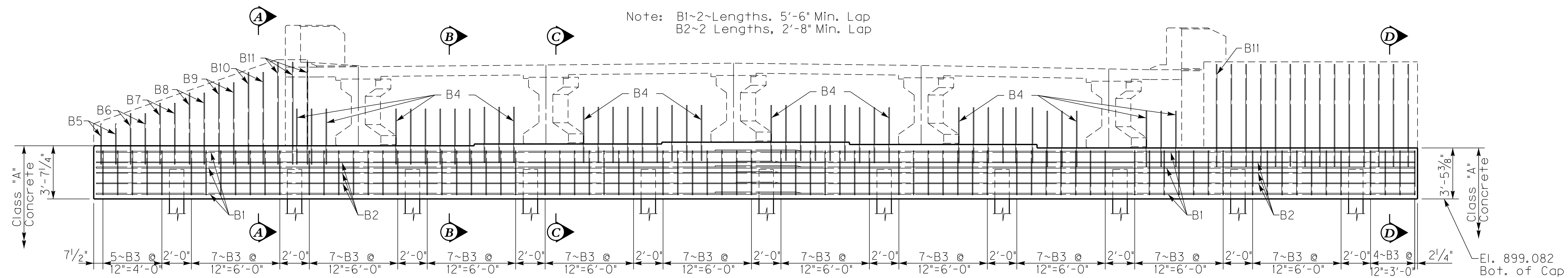
SECTION A-A

REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY MASON		
ROUTE US 68	CROSSING Clarks Run Road	
PIER #2		
ITEM NUMBER 9-124.01	PREPARED BY Division of Structural Design W. H. McKinney Section	SHEET NO. S13 DRAWING NO. 25733



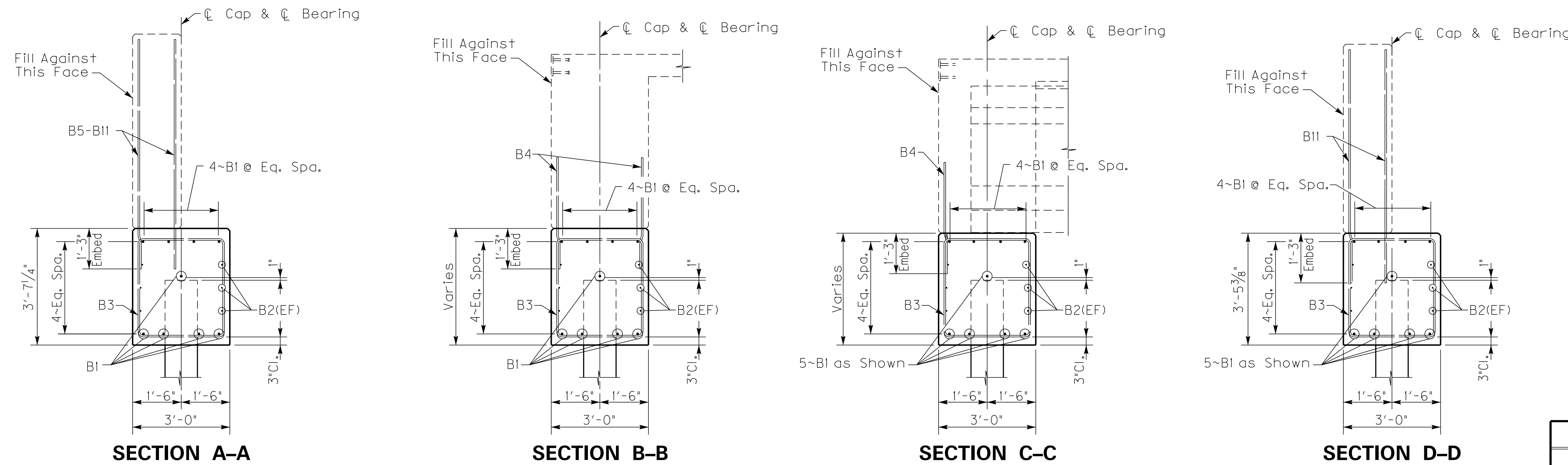
PLAN - Showing Cap & Dowel Reinforcement

Note: Elevations are given at the top of concrete.



ELEVATION - Showing Cap & Dowel Reinforcement

Note: For pile location see Foundation Layout.

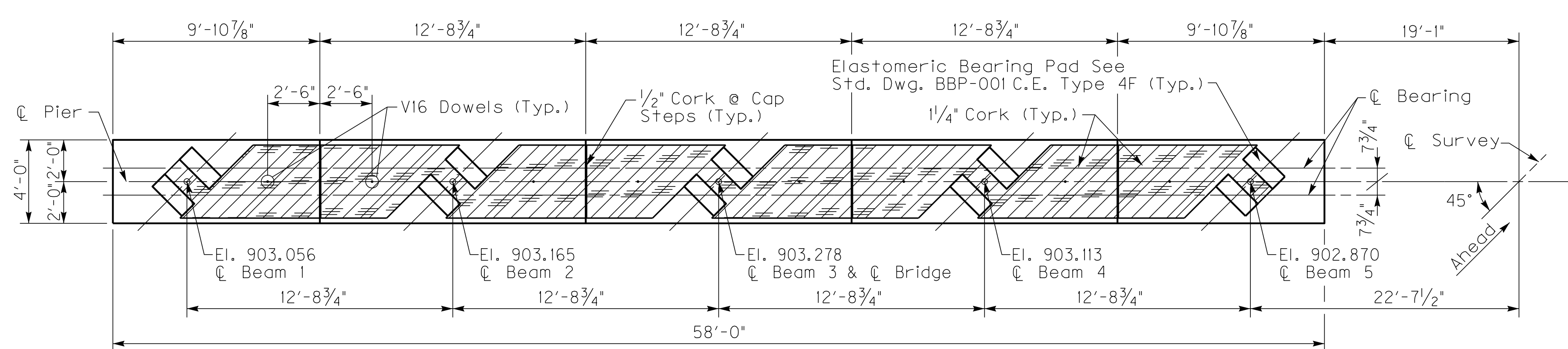


ITEM NUMBER	9-124.01
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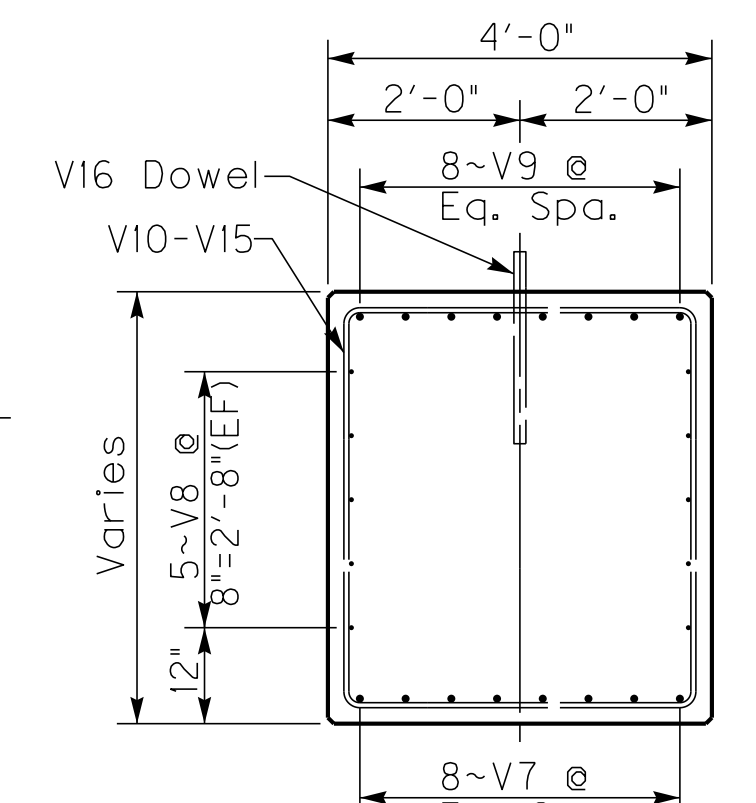
REVISION		DATE
DATE: September 2010	CHECKED BY B. Borres	
DESIGNED BY: C. Douglas	DETAILED BY: E. Downey	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS COUNTY MASON		
ROUTE US 68	CROSSING Clarks Run Road	
INTEGRAL END BENT #2		
PREPARED BY Division of Structural Design		SHEET NO. S15
W. H. McKinney Section		DRAWING NO. 25733

FILE NAME: USERNAME: DATE: SHEET LOCATION: 7SS

FILE NAME: H:\Archives\Mason\25733\25733.dgn
 USERNAME: Gary Newton
 DATE: 10-SEP-2010
 SHEET LOCATION: 8SS

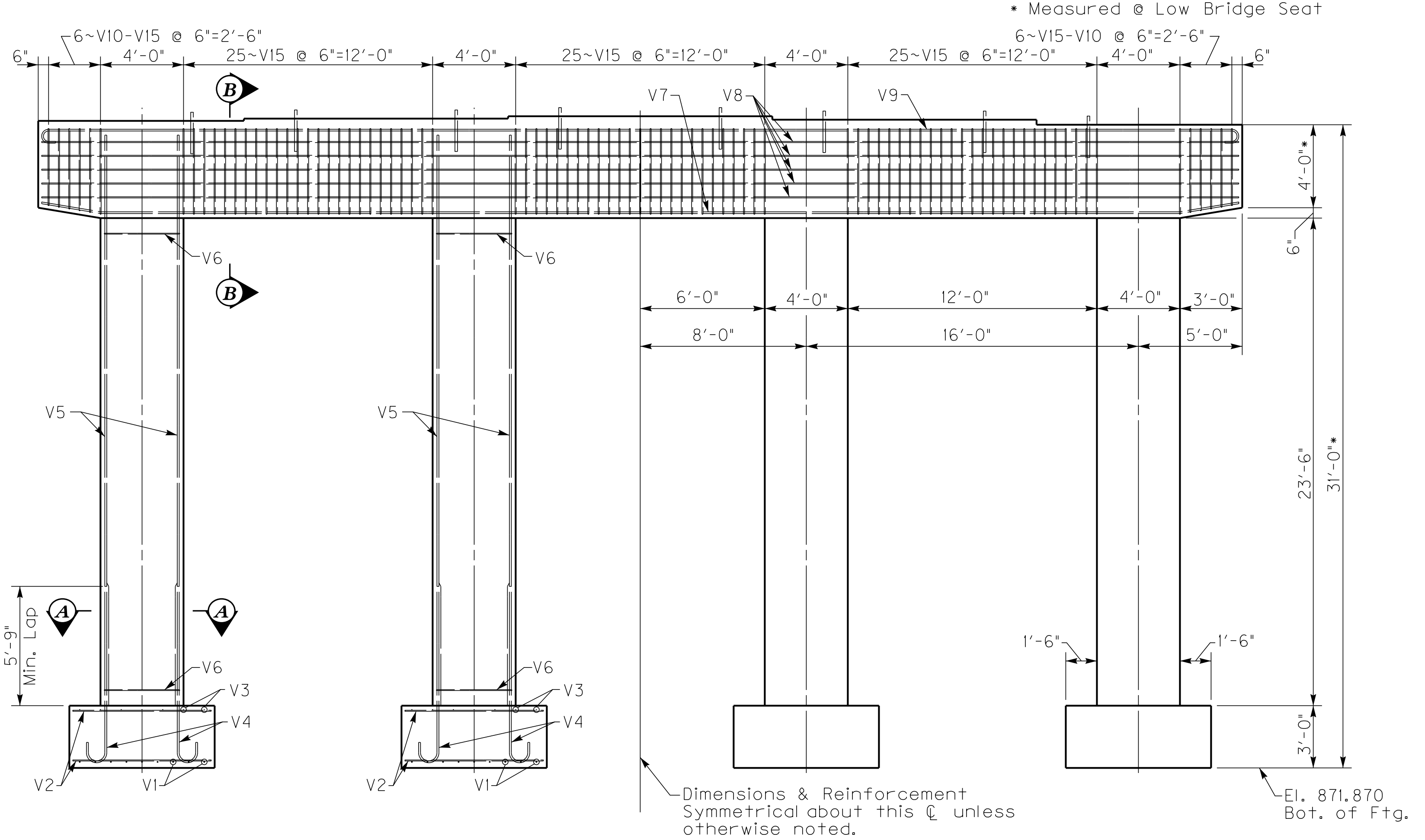
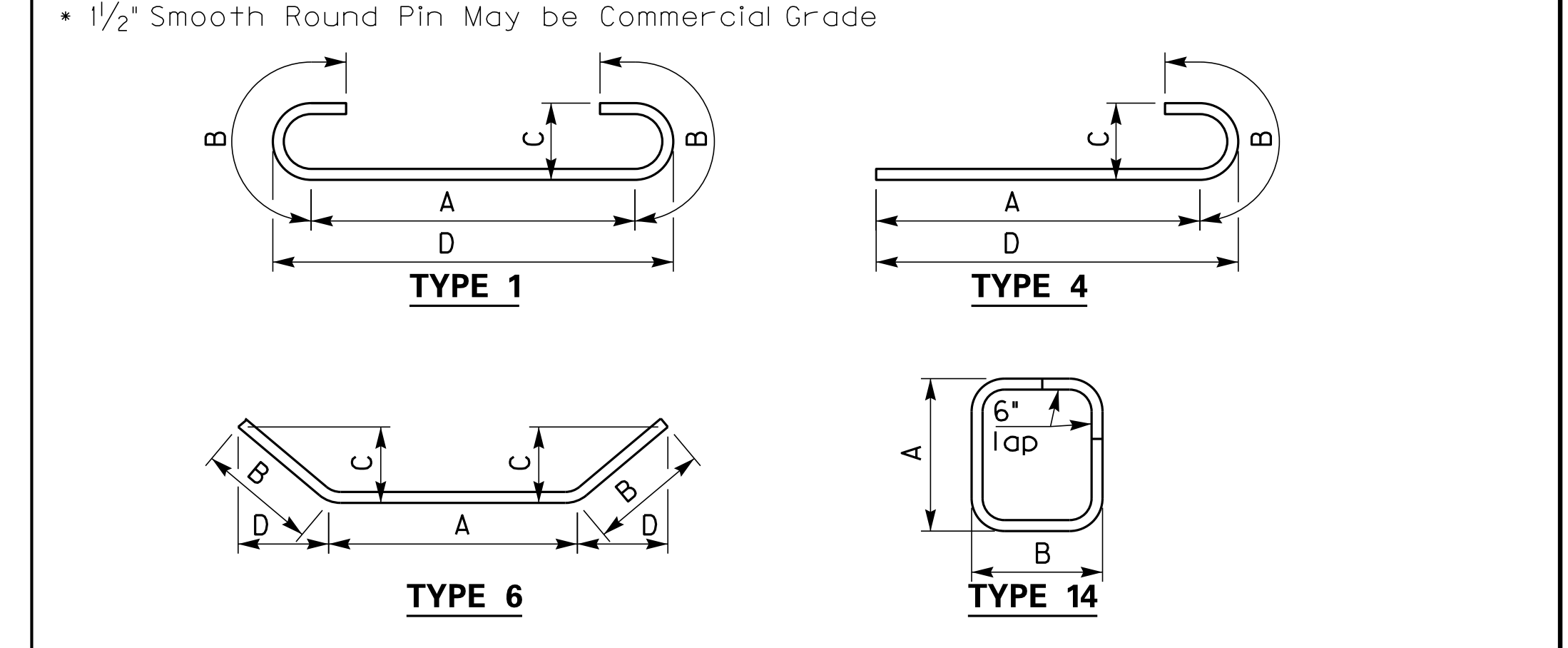


PLAN OF CAP

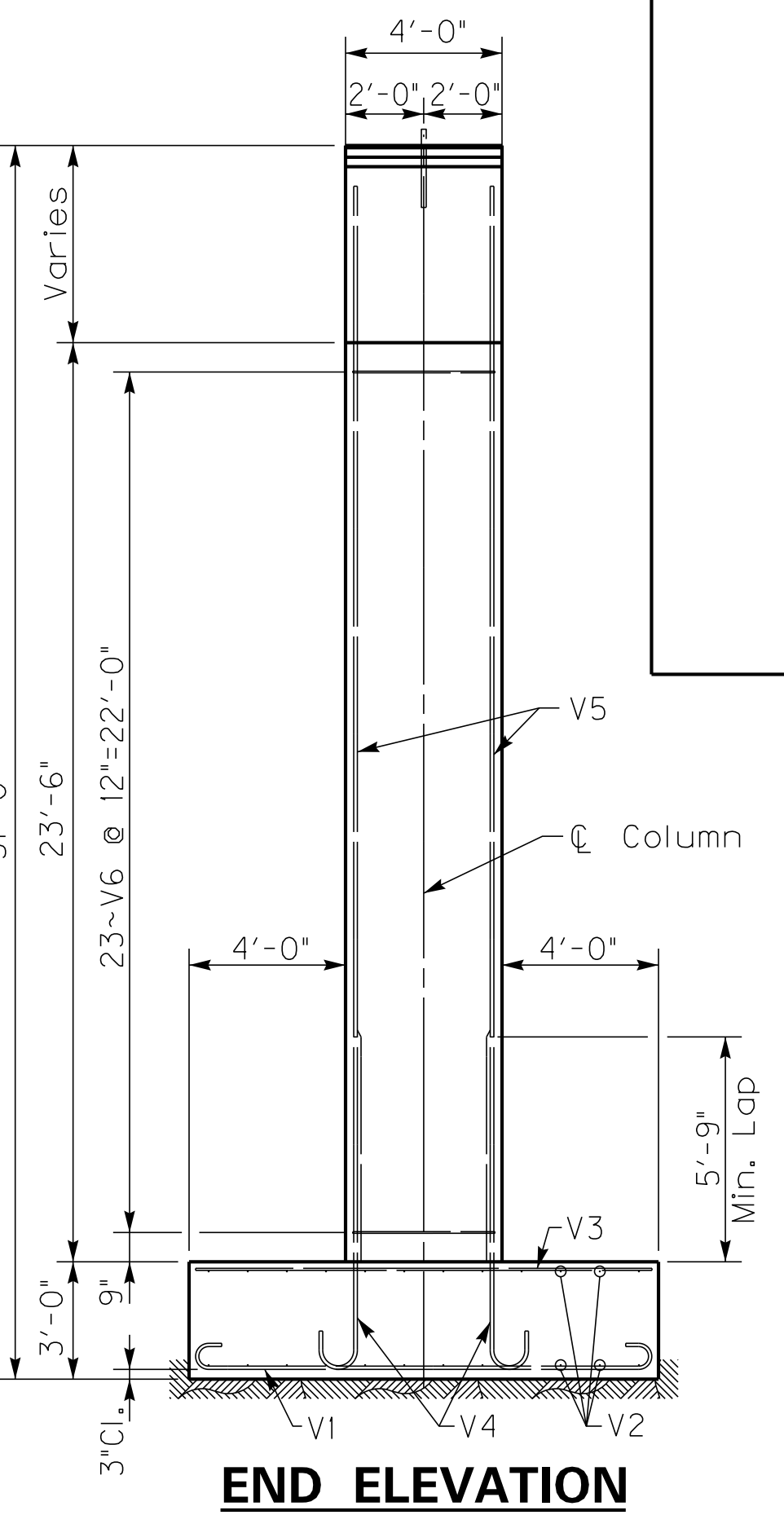


SECTION B-B

BILL OF REINFORCEMENT									
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
V1	I	36	8	13-6	Bottom of Footing	11-0	1-3	0-8	11-8
V2	Str.	96	5	6-8	Bottom & Top of Footing				
V3	Str.	28	5	11-8	Top of Footing				
V4	4	96	9	10-11	Footing Dowel	9-0 ¹ / ₈	1-11	0-11 ³ / ₄	9-6
V5	Str.	96	9	27-6	Column				
V6	14s	92	5	15-2	Column	3-8	3-8		
V7	6	8	8	57-9	Cap	51-11 ⁵ / ₈	2-10 ³ / ₄	0-5 ³ / ₄	2-10 ¹ / ₄
V8	Str.	10	5	57-8	Cap				
V9	I	8	8	59-6	Cap	57-0	1-3	0-8	57-8
V10	14s	2	5	15-4	Cap Stirrup	3-9	3-8		
V11	14s	2	5	15-6	Cap Stirrup	3-10	3-8		
V12	14s	2	5	15-8	Cap Stirrup	3-11	3-8		
V13	14s	2	5	15-10	Cap Stirrup	4-0	3-8		
V14	14s	2	5	16-0	Cap Stirrup	4-1	3-8		
V15	14s	77	5	16-2	Cap Stirrup	4-2	3-8		
V16e	Str.	8	*	2-0	Cap Dowel				

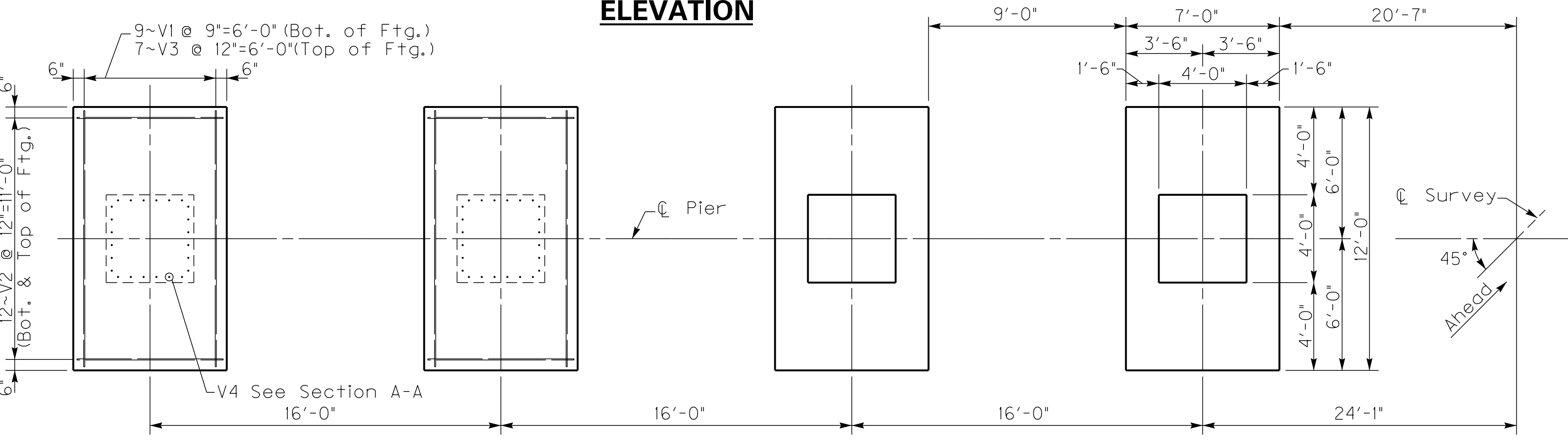


ELEVATION

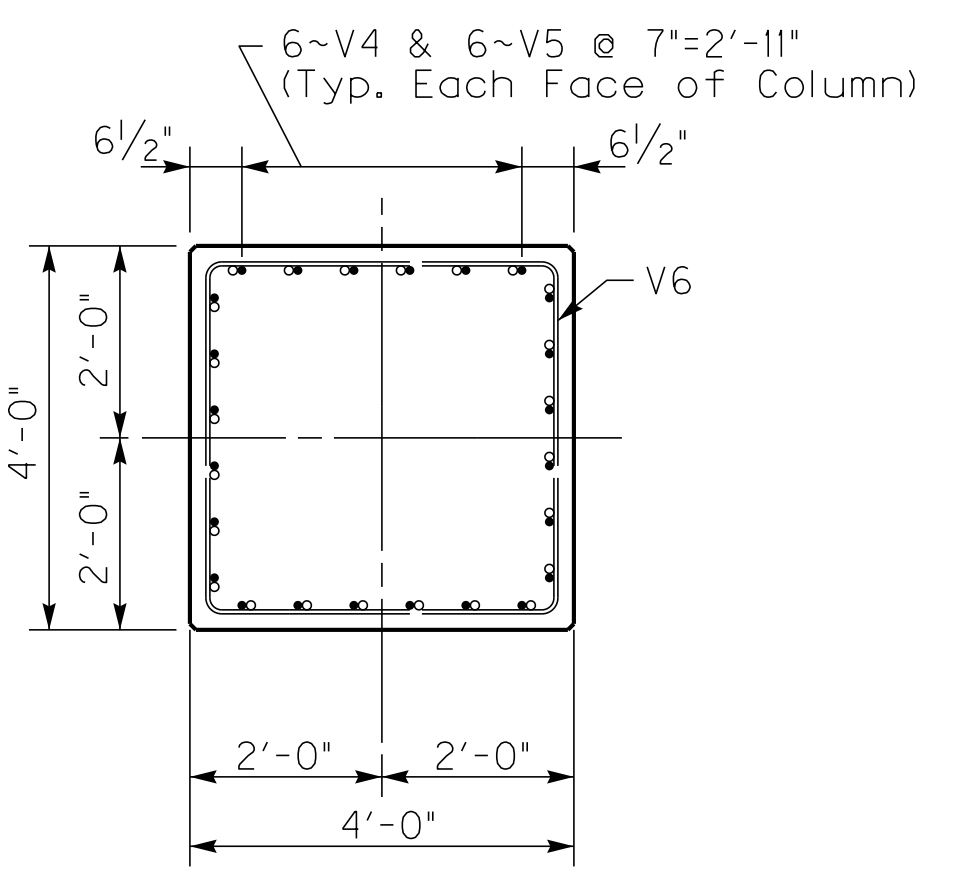


END ELEVATION

Pour against solid rock. Any additional concrete required will be incidental to Class 'A' Concrete.



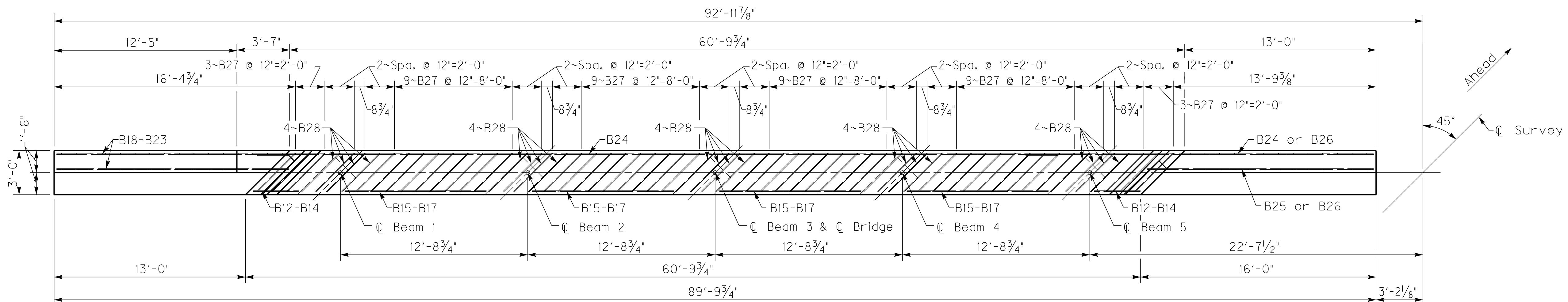
PLAN OF FOOTING



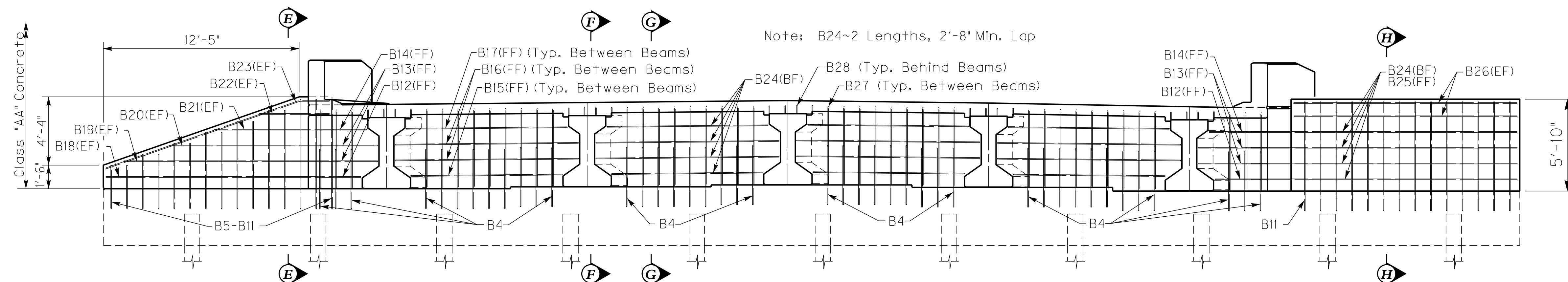
SECTION A-A

ITEM NUMBER	9-124.01
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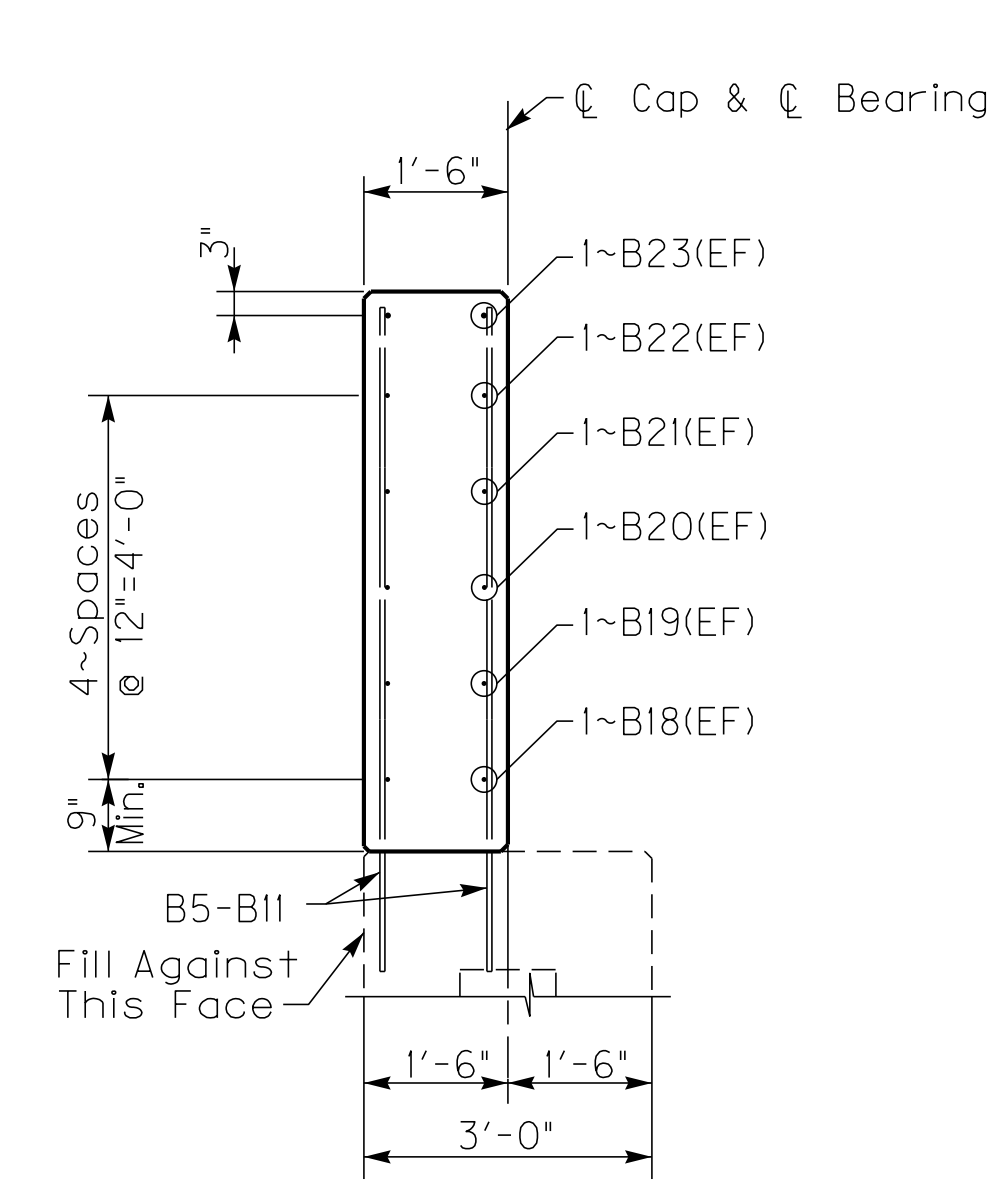
REVISION		DATE
DATE: April 2006	CHECKED BY	
DESIGNED BY: C. Douglas	B. Borres	
DETAILED BY: W. T. Mathews	B. Borres	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY MASON		
ROUTE US 68	CROSSING Clarks Run Road	
PIER #3		
PREPARED BY Division of Structural Design		SHEET NO. S14
W. H. McKinney Section		DRAWING NO. 25733



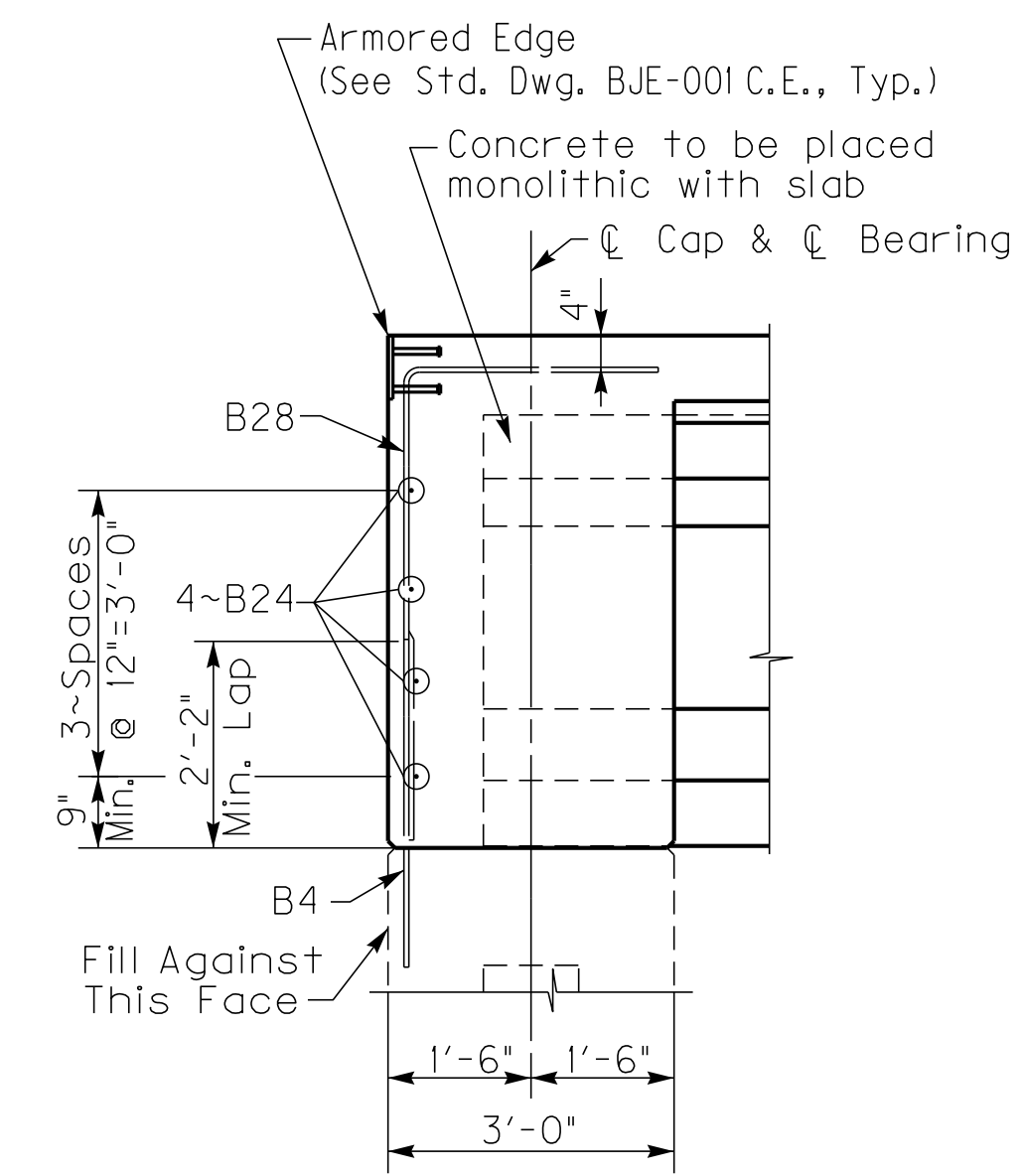
PLAN - Showing Diaphragm & Wing Reinforcement



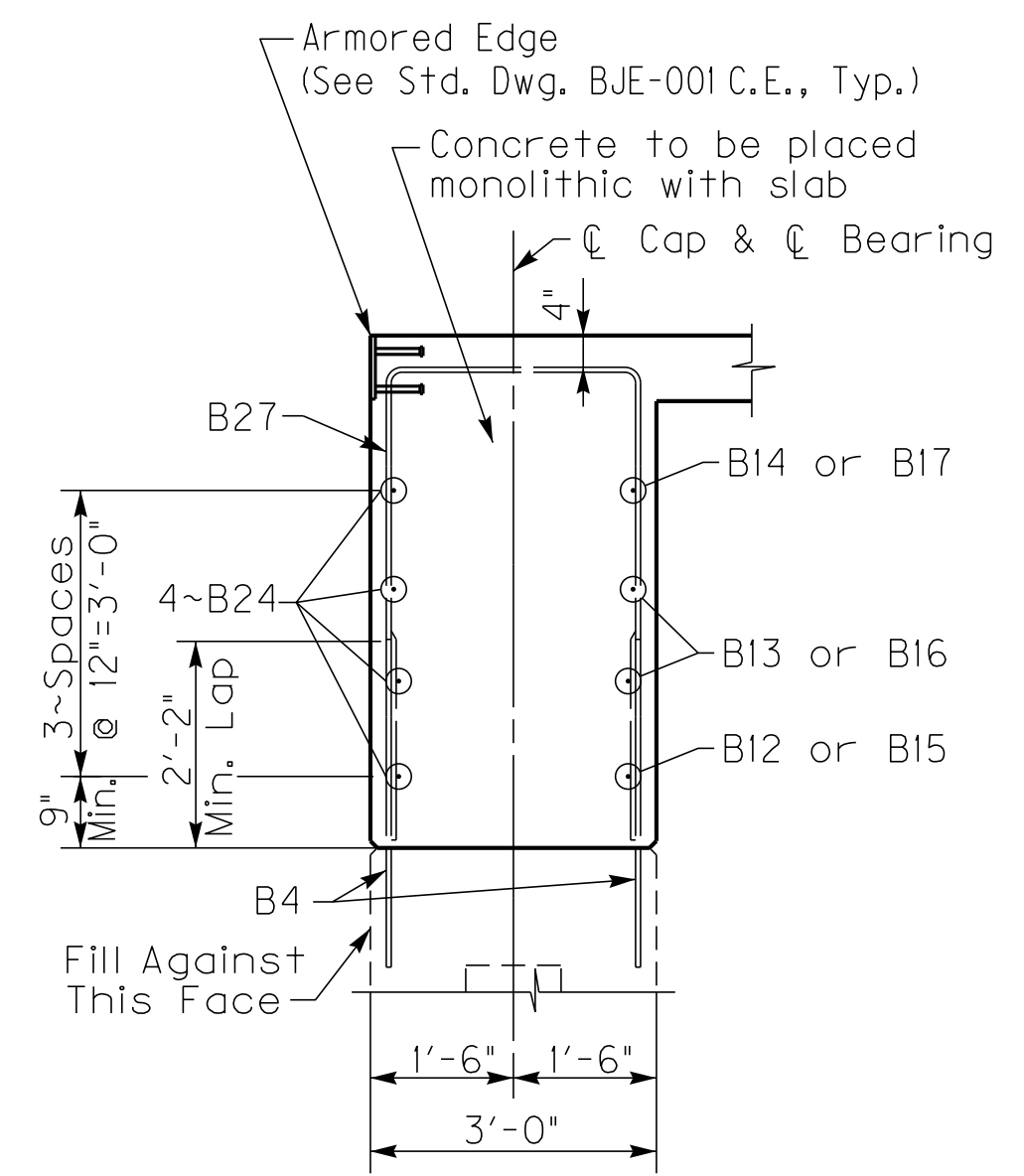
ELEVATION - Showing Diaphragm & Wing Reinforcement



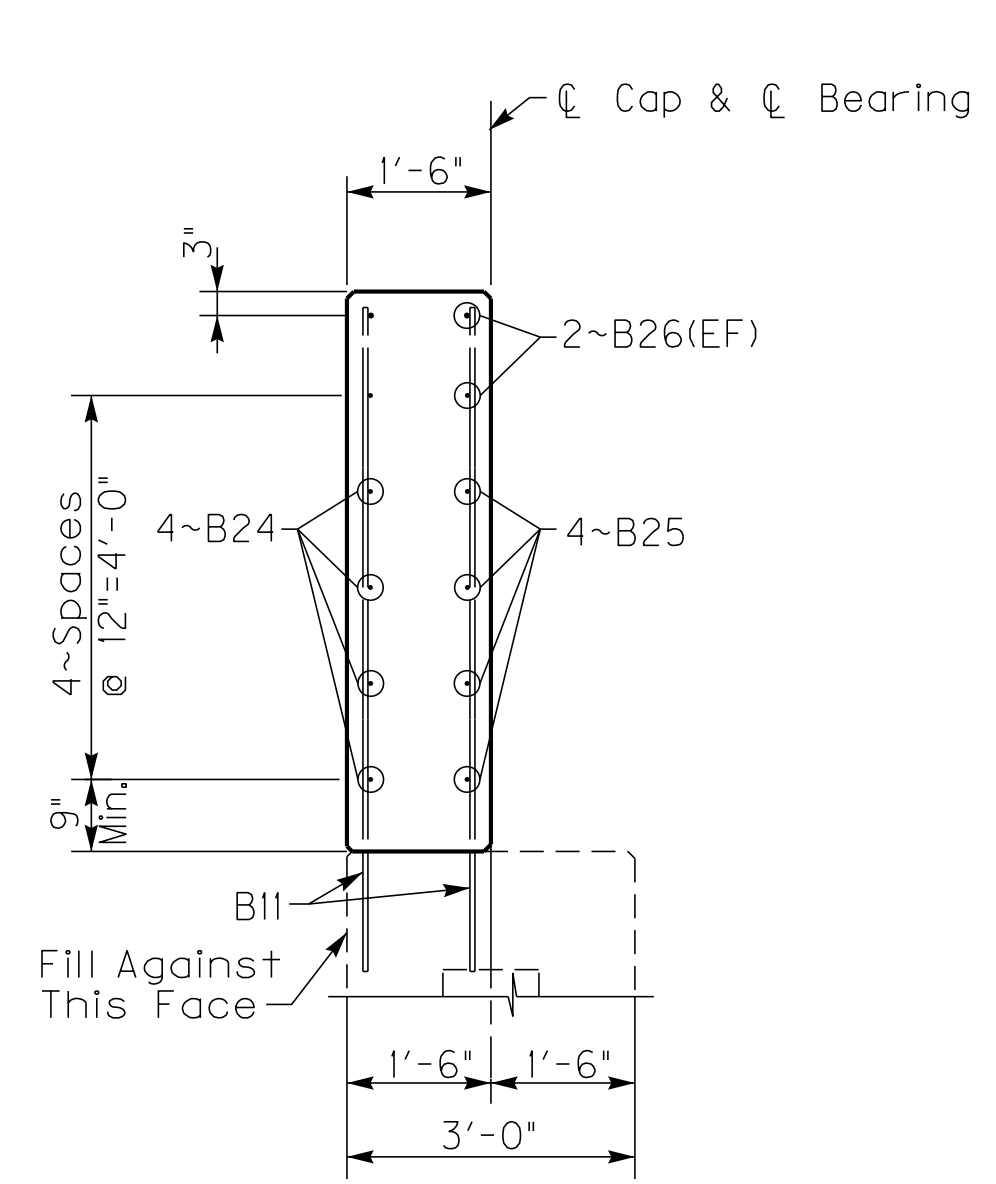
SECTION E-E



SECTION F-F



SECTION G-G



SECTION H-H

FILE NAME: USERNAME: DATE: SHEET LOCATION: 6SS

ITEM NUMBER	9-124.01
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REVISION		DATE
DATE: September 2010	CHECKED BY B. Borres	
DESIGNED BY: C. Douglas	DETAILED BY: E. Downey	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS <small>COUNTY</small> MASON		
ROUTE US 68	CROSSING Clarks Run Road	
INTEGRAL END BENT #2		
PREPARED BY Division of Structural Design W. H. McKinney Section		<small>SHEET NO.</small> S16 <small>DRAWING NO.</small> 25733

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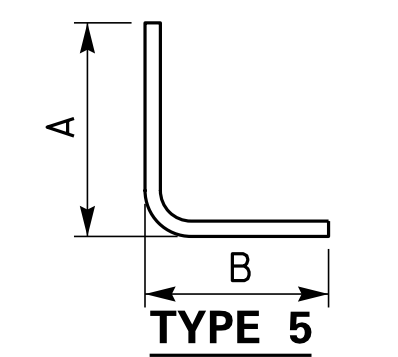
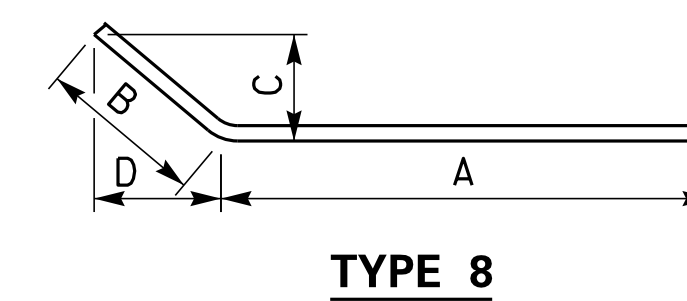
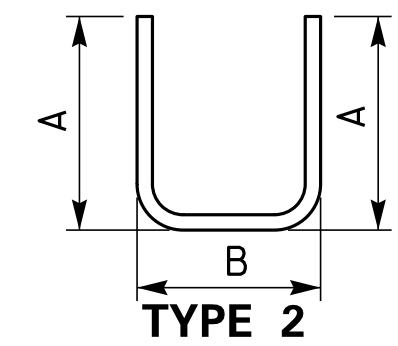
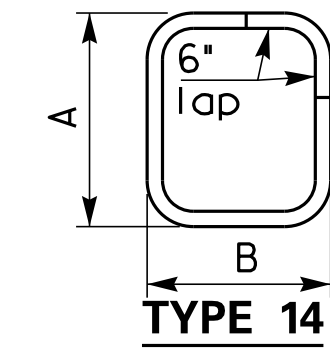
USERNAME:

DATE:

SHEET LOCATION: 5SS

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
B1e	Str.	18	8	47- 6	Cap				
B2e	Str.	12	5	46- 1	Cap				
B3e	14s	79	5	11-10	Cap Stirrup	3- 0 ³ / ₈	2- 8		
B4e	Str.	104	5	3- 9	Cap Dowel				
B5e	Str.	4	5	2- 9	Cap Dowel				
B6e	Str.	4	5	3- 6	Cap Dowel				
B7e	Str.	4	5	4- 2	Cap Dowel				
B8e	Str.	4	5	4-11	Cap Dowel				
B9e	Str.	4	5	5- 7	Cap Dowel				
B10e	Str.	4	5	6- 3	Cap Dowel				
B11e	Str.	34	5	6-11	Cap Dowel				
B12e	Str.	2	5	3- 0	Diaphragm				
B13e	Str.	4	5	4- 1	Diaphragm				
B14e	Str.	2	5	3- 5	Diaphragm				
B15e	Str.	4	5	9- 6	Diaphragm				
B16e	Str.	8	5	11- 7	Diaphragm				
B17e	Str.	4	5	10- 2	Diaphragm				
B18e	Str.	2	5	15- 9	Left Wing				
B19e	Str.	2	5	14- 8	Left Wing				
B20e	Str.	2	5	11- 9	Left Wing				
B21e	Str.	2	5	8-11	Left Wing				
B22e	Str.	2	5	4- 6	Left Wing				
B23e	8	2	6	16- 5	Left Wing	13- 0	3- 5	1- 1 ¹ / ₂	3- 2 ³ / ₄
B24e	Str.	8	5	39- 4	Right Wing & Diaphragm				
B25e	Str.	4	5	15- 5	Right Wing				
B26e	Str.	4	6	12-10	Right Wing				
B27e	2s	42	5	13- 7	Diaphragm Stirrup	5- 0	3- 9 ¹ / ₄		
B28e	5s	20	5	8- 8	Diaphragm Stirrup	5- 0	3- 9 ¹ / ₄		



REVISION		DATE
DATE: September 2010	CHECKED BY	
DESIGNED BY: C. Douglas	B. Borres	
DETAILED BY: E. Downey	W. Hagerman	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY MASON		
ROUTE US 68	CROSSING Clarks Run Road	
INTEGRAL END BENT #2		
PREPARED BY Division of Structural Design		SHEET NO. S17
W. H. McKinney Section		DRAWING NO. 25733

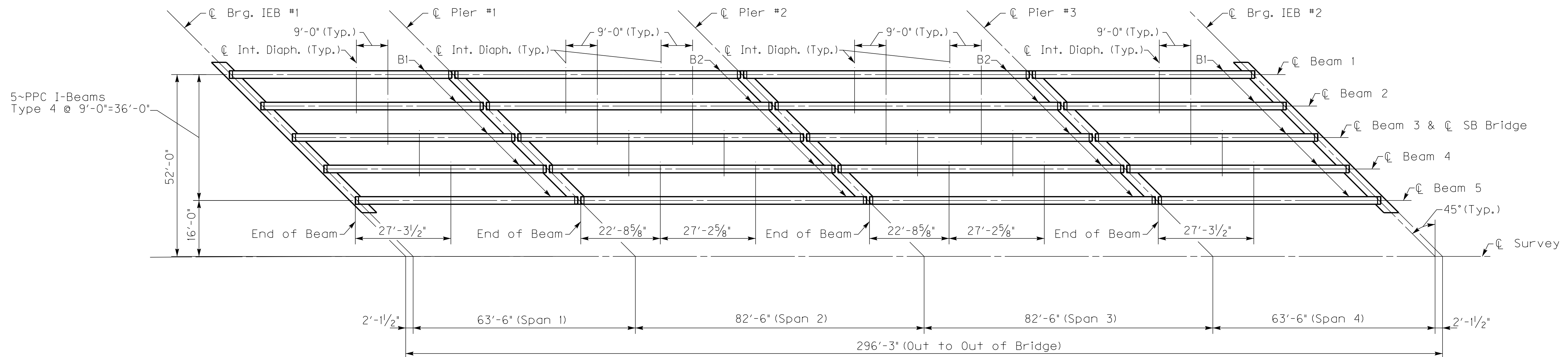
ITEM NUMBER
9-124.01

FILE NAME: H:\Archives\Mason\25733\25733.dgn

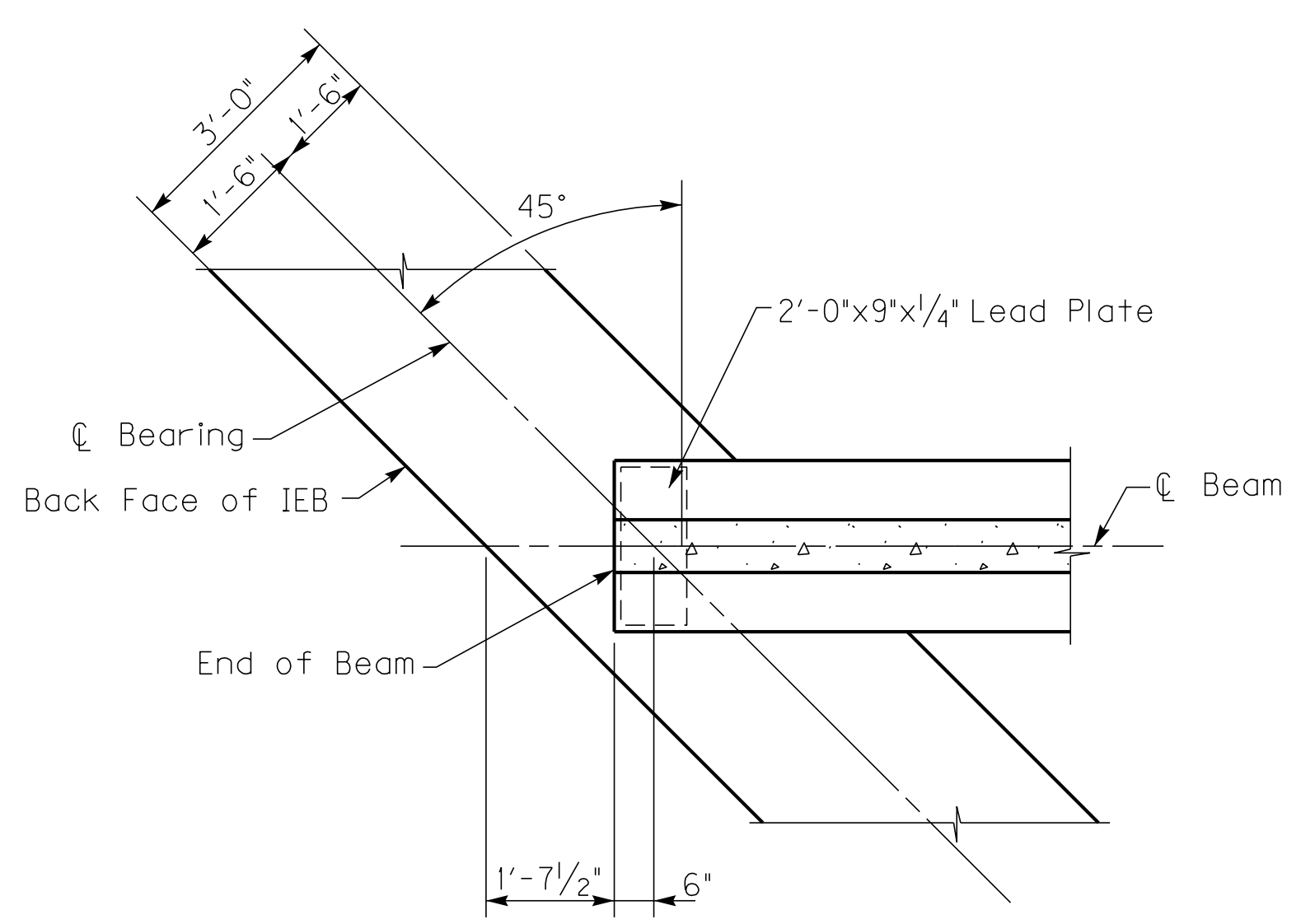
USERNAME: Gary Newton

DATE: 10-SEP-2010

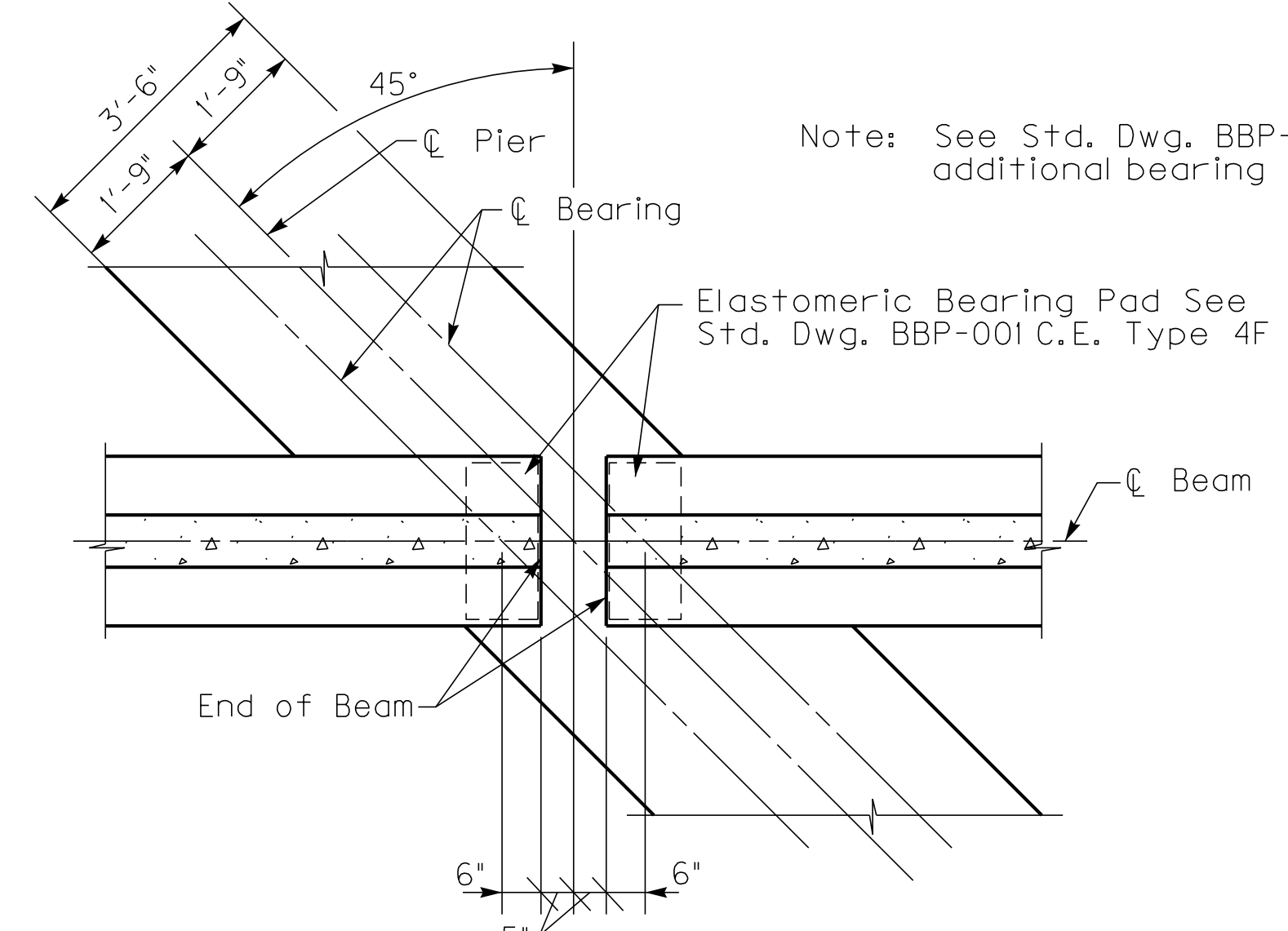
SHEET LOCATION: 4SS



FRAMING PLAN



**END OF BEAM DETAIL
INTEGRAL END BENTS**

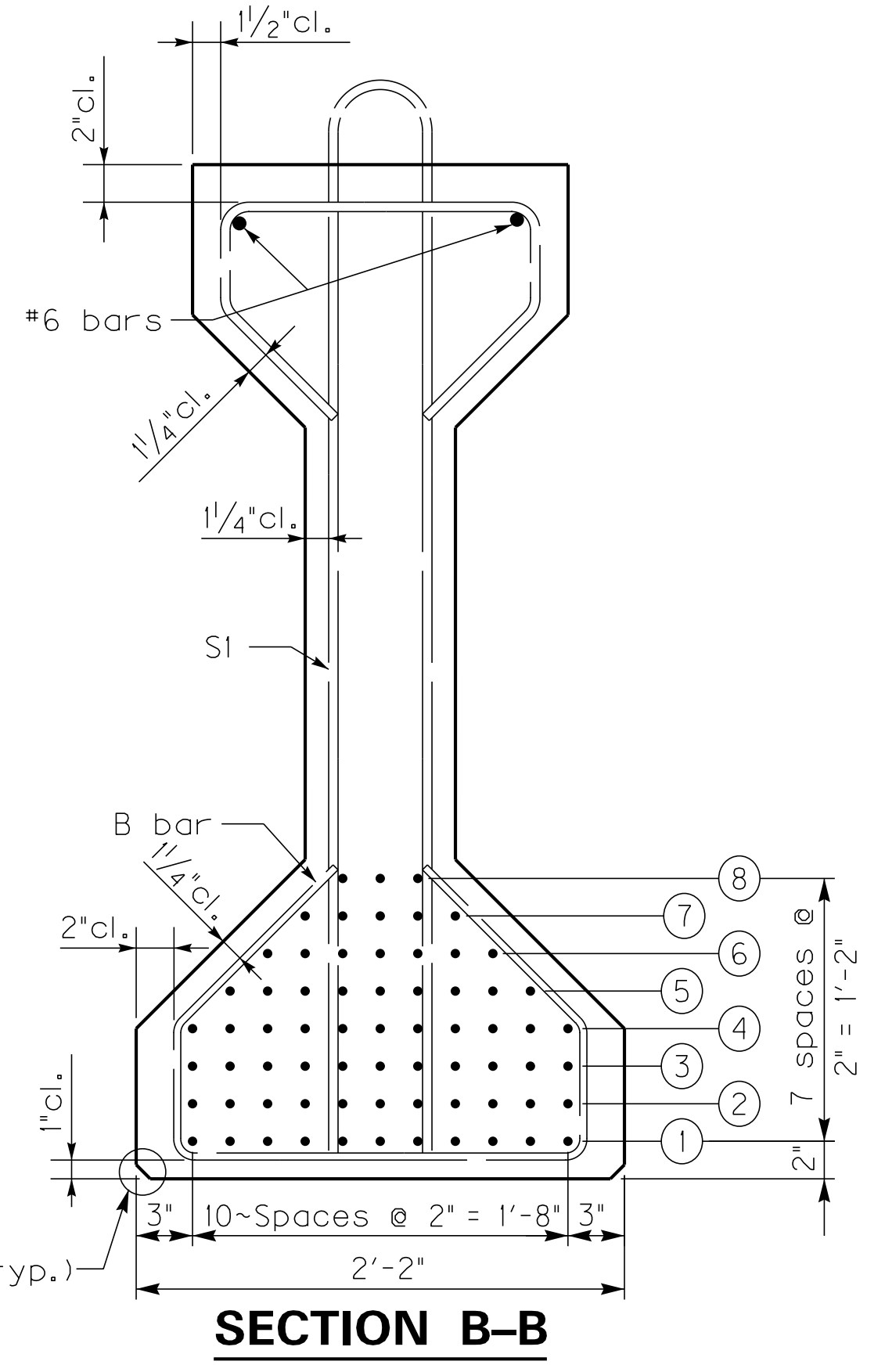
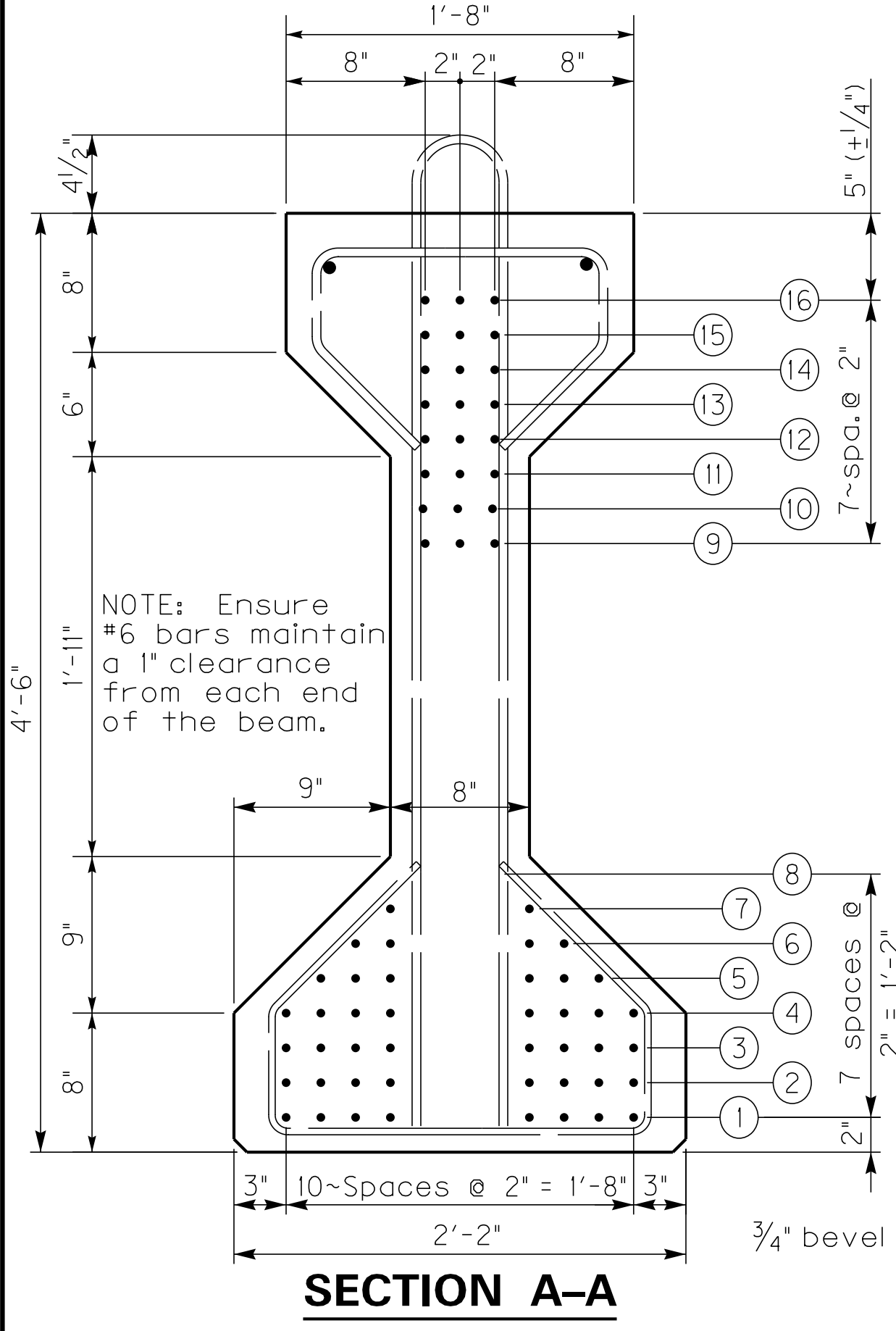
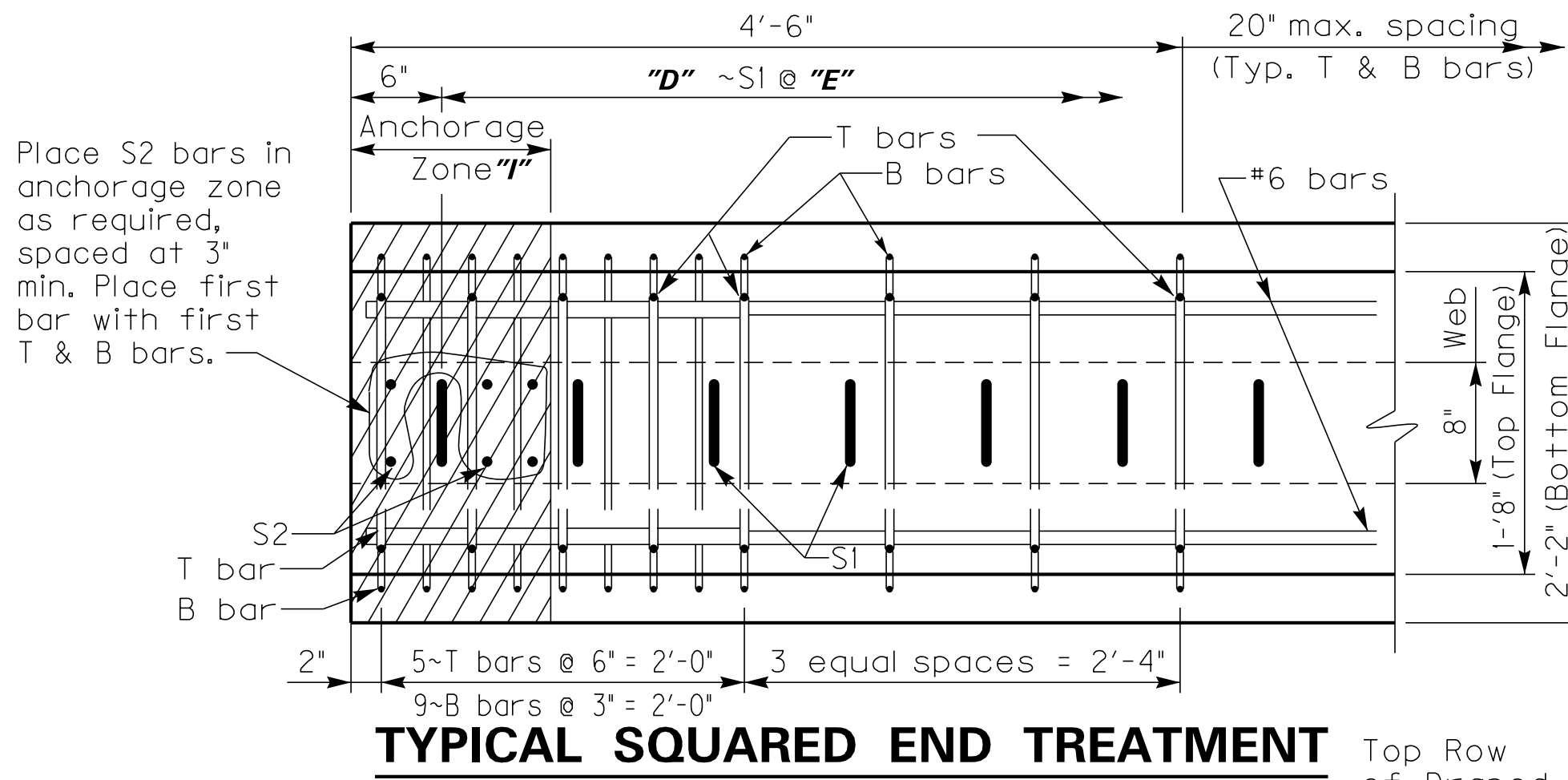
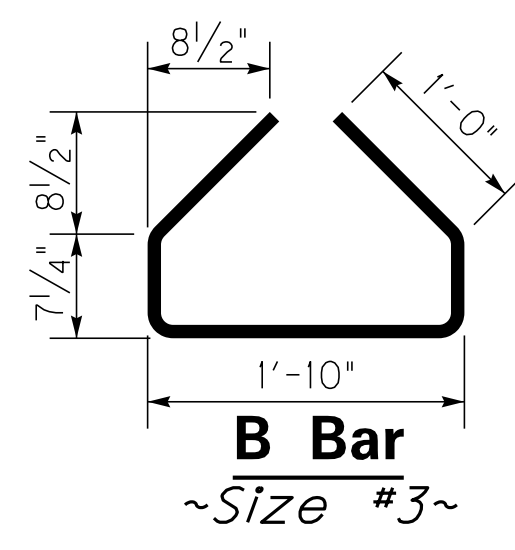
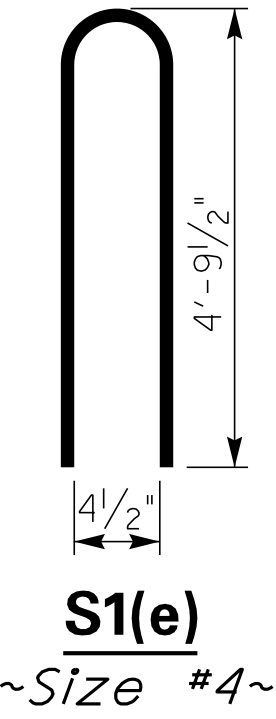
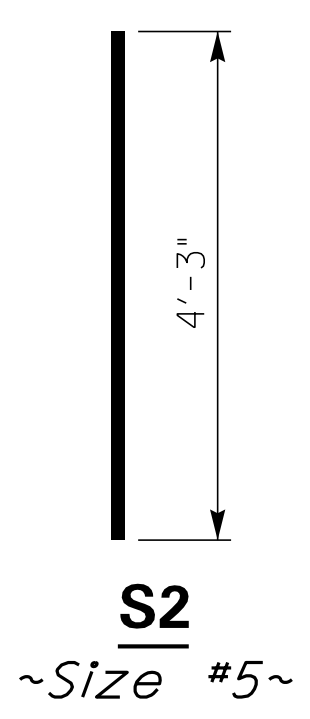
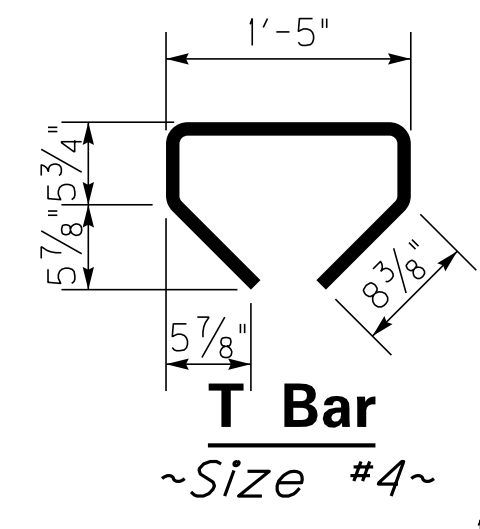
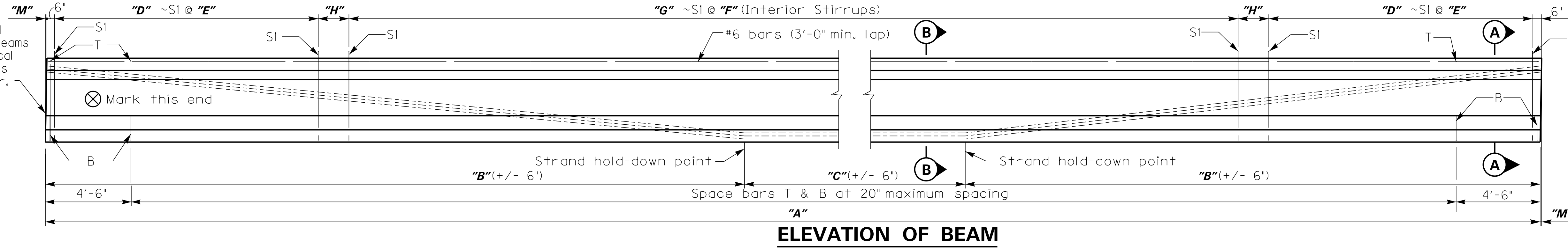
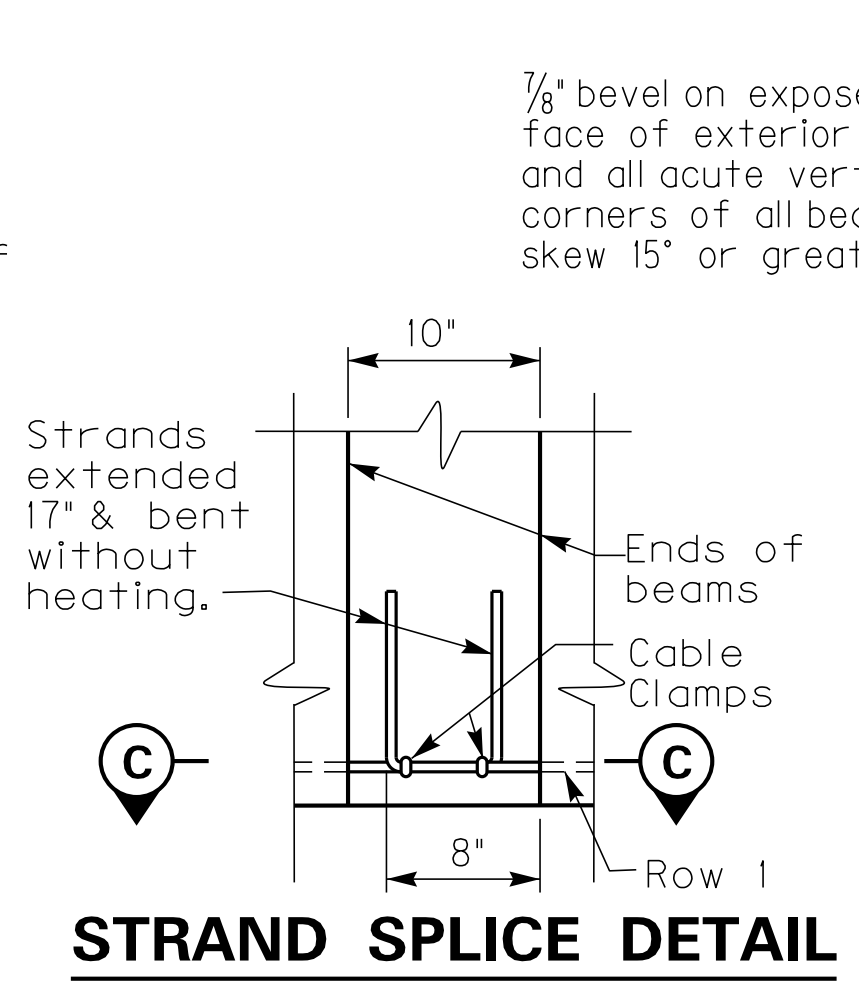
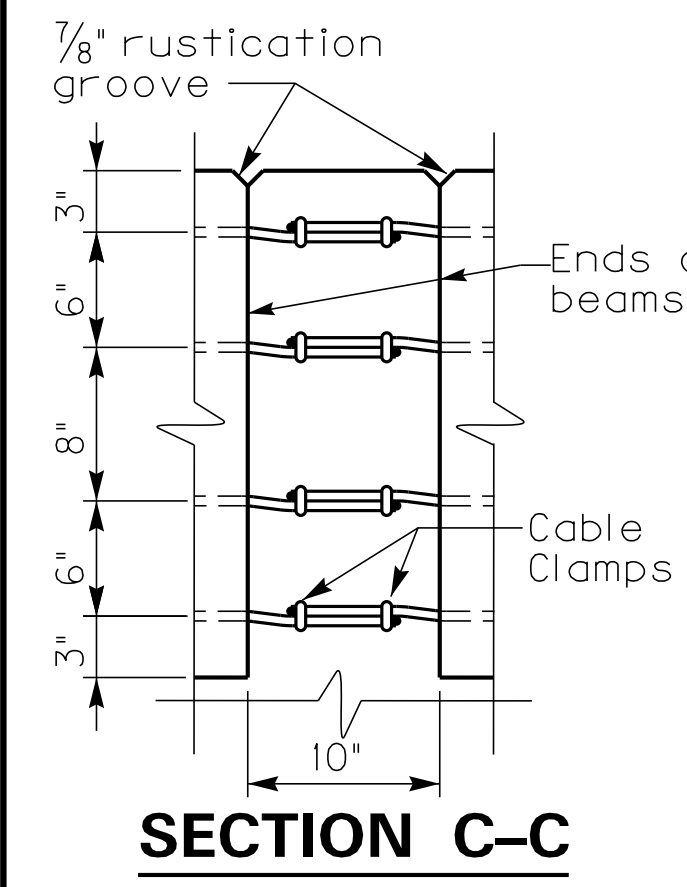


**END OF BEAM DETAIL
PIERS**

Note: See Std. Dwg. BBP-002 C.E. for additional bearing & dowel bar details.

REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY MASON		
ROUTE US 68	CROSSING Clarks Run Road	
FRAMING PLAN		
ITEM NUMBER	PREPARED BY	SHEET NO.
9-124.01	Division of Structural Design W. H. McKinney Section	S18
		DRAWING NO. 25733

FILE NAME: H:\Archives\Mason\25733\25733.dgn
 USERNAME: Gary Newton
 DATE: 10-SEP-2010
 SHEET LOCATION: 3SS



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

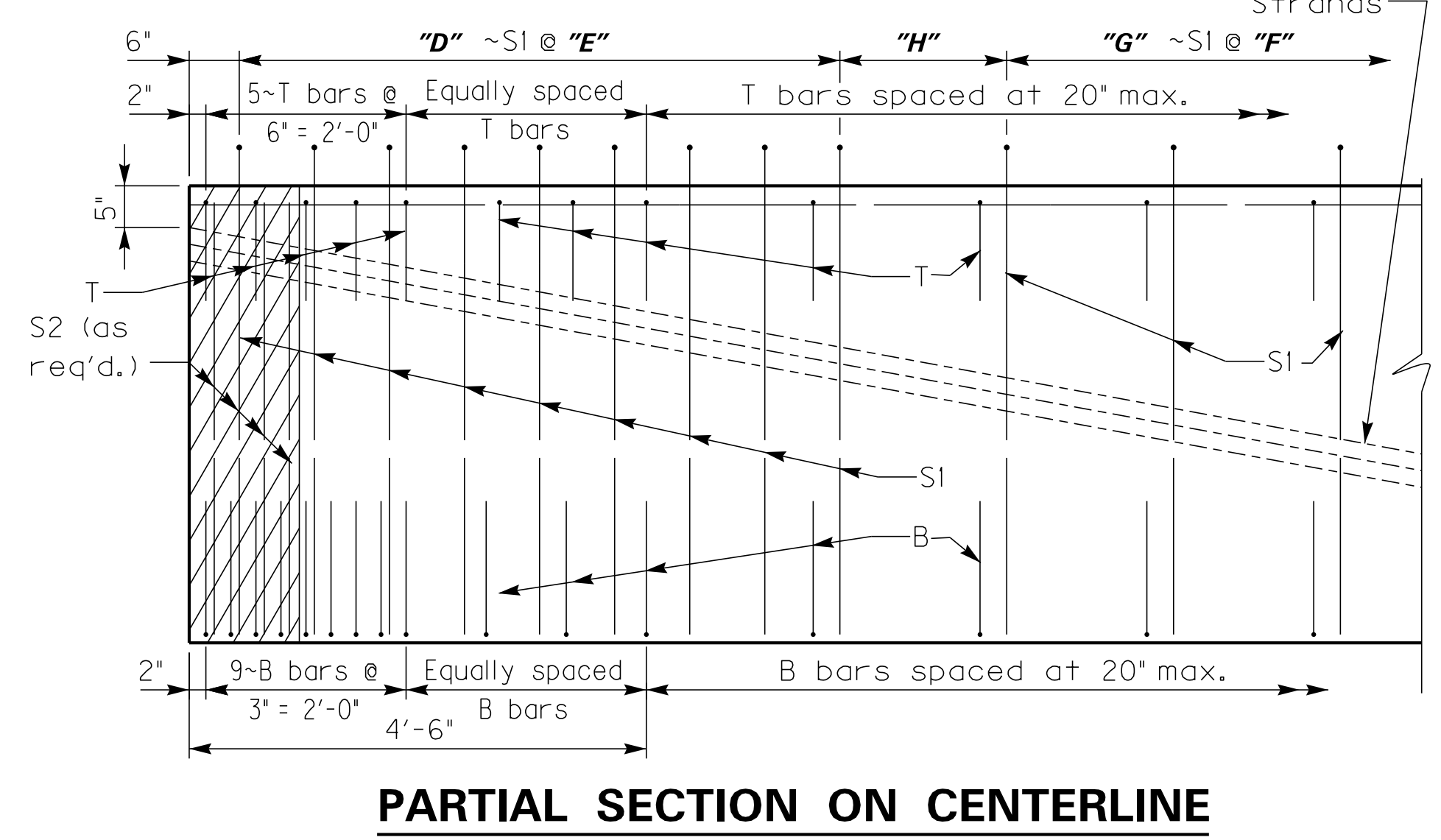
PRESTRESSING REINFORCEMENT: Ensure that strands are 1/2" (nominal diameter, 0.153 sq. in.), uncoated seven-wire stress relieved, low-relaxation conforming to AASHTO M 203, Grade 270. Billing of the cost for redesign of beam and subsequent plan modifications will be made for any request of alternate strand type or arrangement. The designer of the original plans 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 31,003 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.

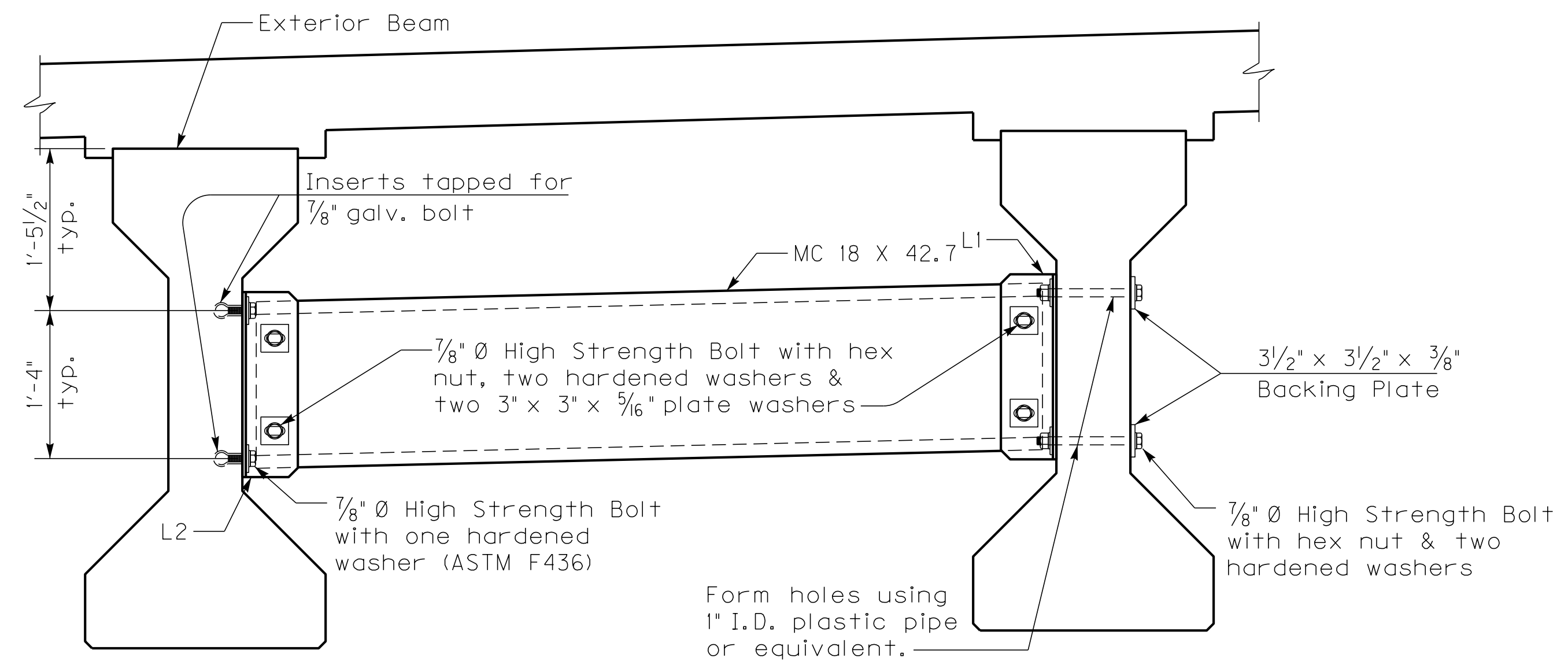
BEARING DEVICES: Include the price for lead plates and/or bearing pads in the bid for precast beams.

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 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.

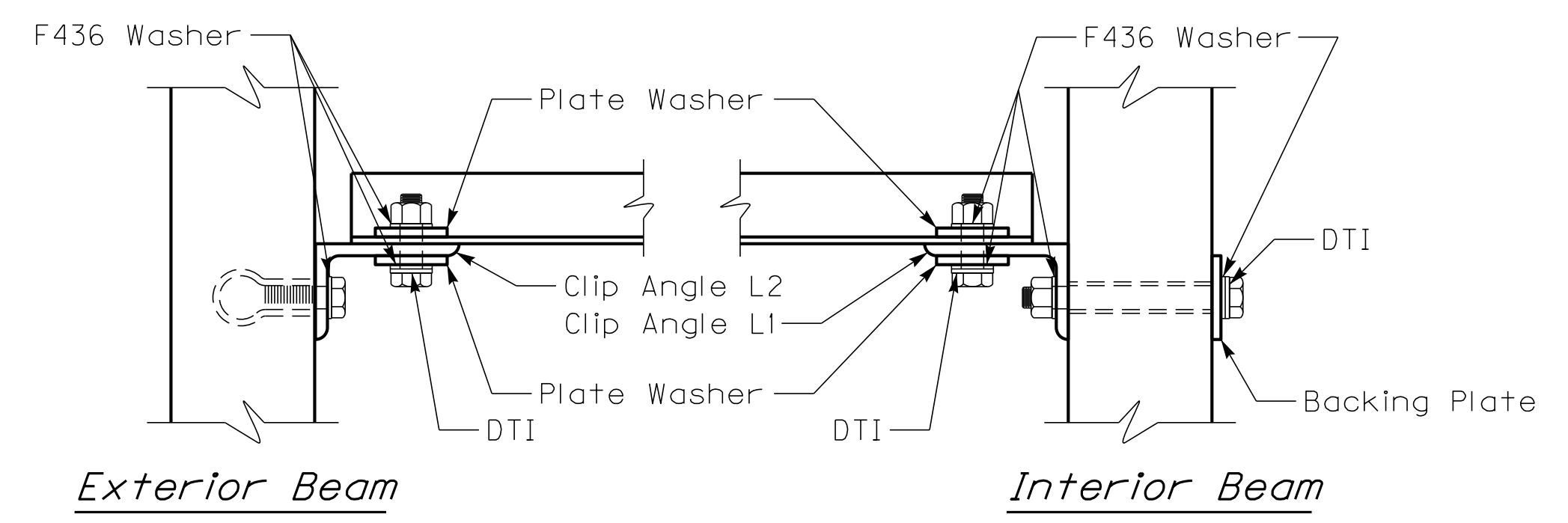


Strand Data with number indicated in rows																Concrete Stress (psi)		No. of S Bars		Hold-Down Capacity (lbs.)	Beam Data (measured along centerline)											Maximum Allowable Camber											
Mark	Midspan (SECTION B-B)								End (SECTION A-A)								Total No.	f'ci	f'c		S1	S2	Total No.	Dimensions																			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				(9)				(10)	(11)	(12)	(13)	(14)	(15)	(16)	A	B	C	D	E	F	G	H	I	M			
B1	11	6							11	4															17	4000	5000	75	4	7844	10	63'-7"	26'-9 1/2"	10'-0"	29	6"	24"	17	1'-3 1/2"	11 3/4"	0	52258	2"
B2	11	11	3						11	11														25	4000	5000	94	8	9255	10	81'-8"	35'-10"	10'-0"	36	6"	24"	22	1'-10"	11 1/2"	0	67120	2 1/2"	

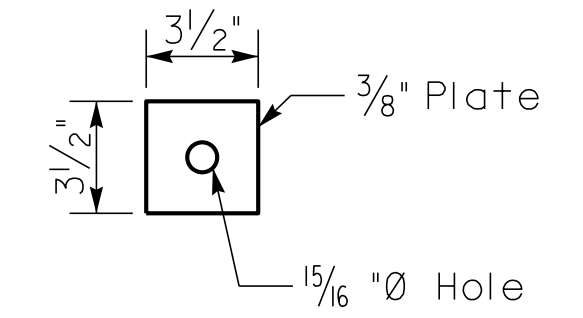
REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W.T. Mathews	B. Borres
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS COUNTY MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
PPC I-BEAM, TYPE 4, DETAILS PREPARED BY Division of Structural Design W.H. McKinney Section		
ITEM NUMBER	SHEET NO.	
9-124.01	S19	
	DRAWING NO.	
	25733	



INTERMEDIATE DIAPHRAGM



CONNECTION DETAILS



BACKING PLATE

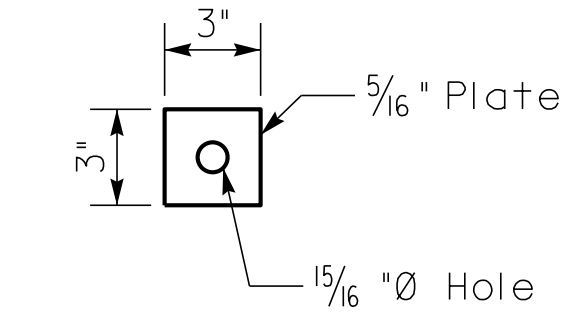
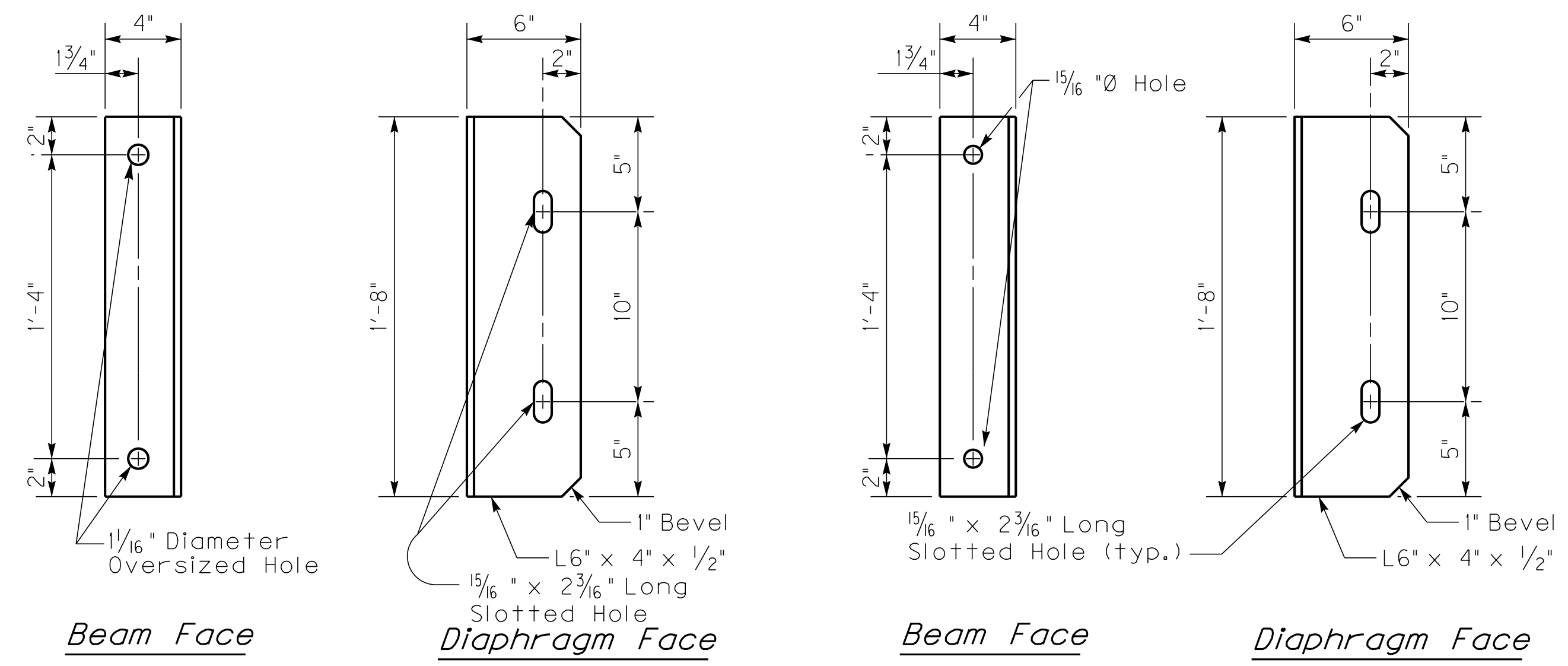
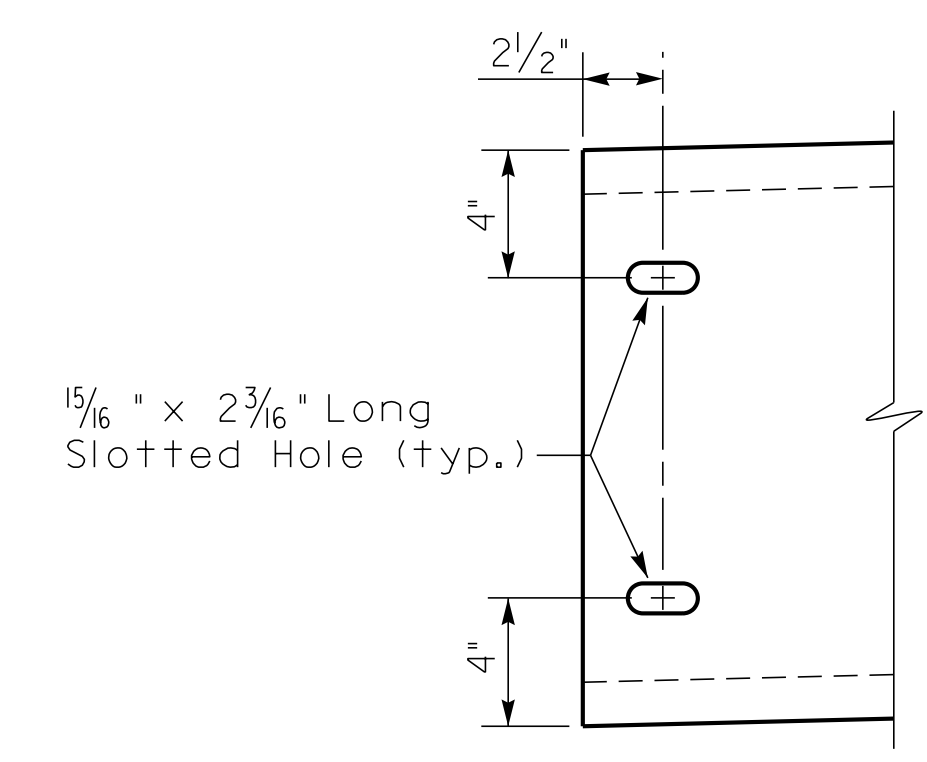


PLATE WASHER



CLIP ANGLE - L1

CLIP ANGLE - L2



CHANNEL END

Diaphragm Notes

CONNECTIONS: Ensure all bolted connections are ASTM A325, 7/8 inch diameter high strength bolts, nuts, and washers, mechanically zinc coated in accordance with AASHTO M298, for Class 50. Install all high strength bolted field connections using 'direct tension indicators' (DTI's) in accordance with the Standard Specifications and ASTM F959. Ensure all DTI's are mechanically zinc coated. Show installation details of the DTI's on the shop plans. Place DTI's under the bolt head.

STRUCTURAL STEEL: Ensure plates, angles, and channels conform to AASHTO M 183 and galvanized after fabrication.

SHOP DRAWINGS: Show the location of all inserts and holes on the precast beam shop drawings. Submit shop drawings for the steel diaphragms to the Division of Structural Design for approval.

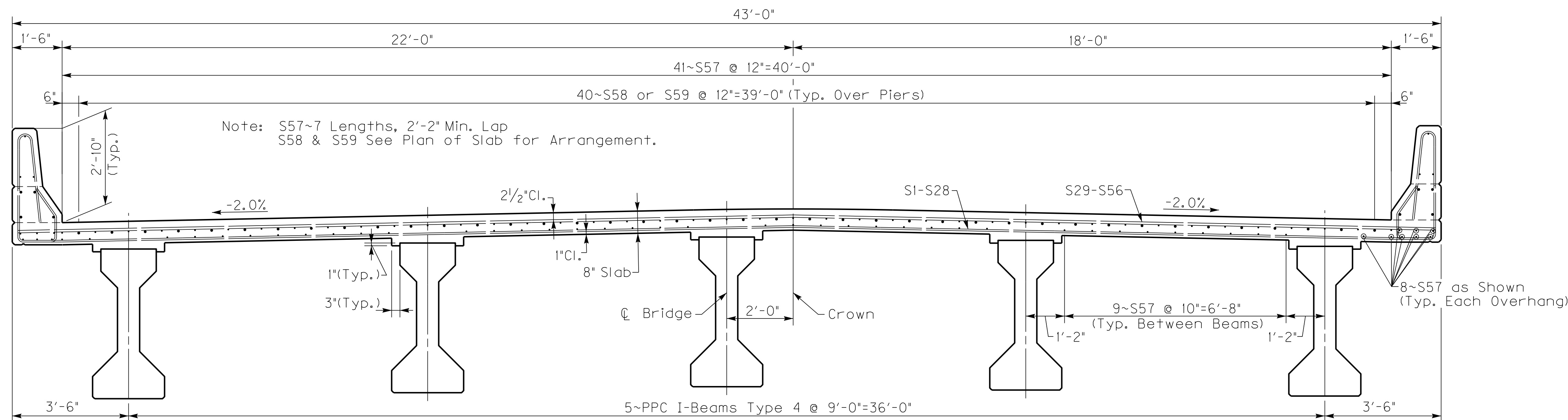
DIAPHRAGMS: Erect the diaphragms the same day that the precast beams are placed on the substructure. Include the cost of all materials and labor required to fabricate and erect the diaphragms in the bid for Precast Beams.

ITEM NUMBER

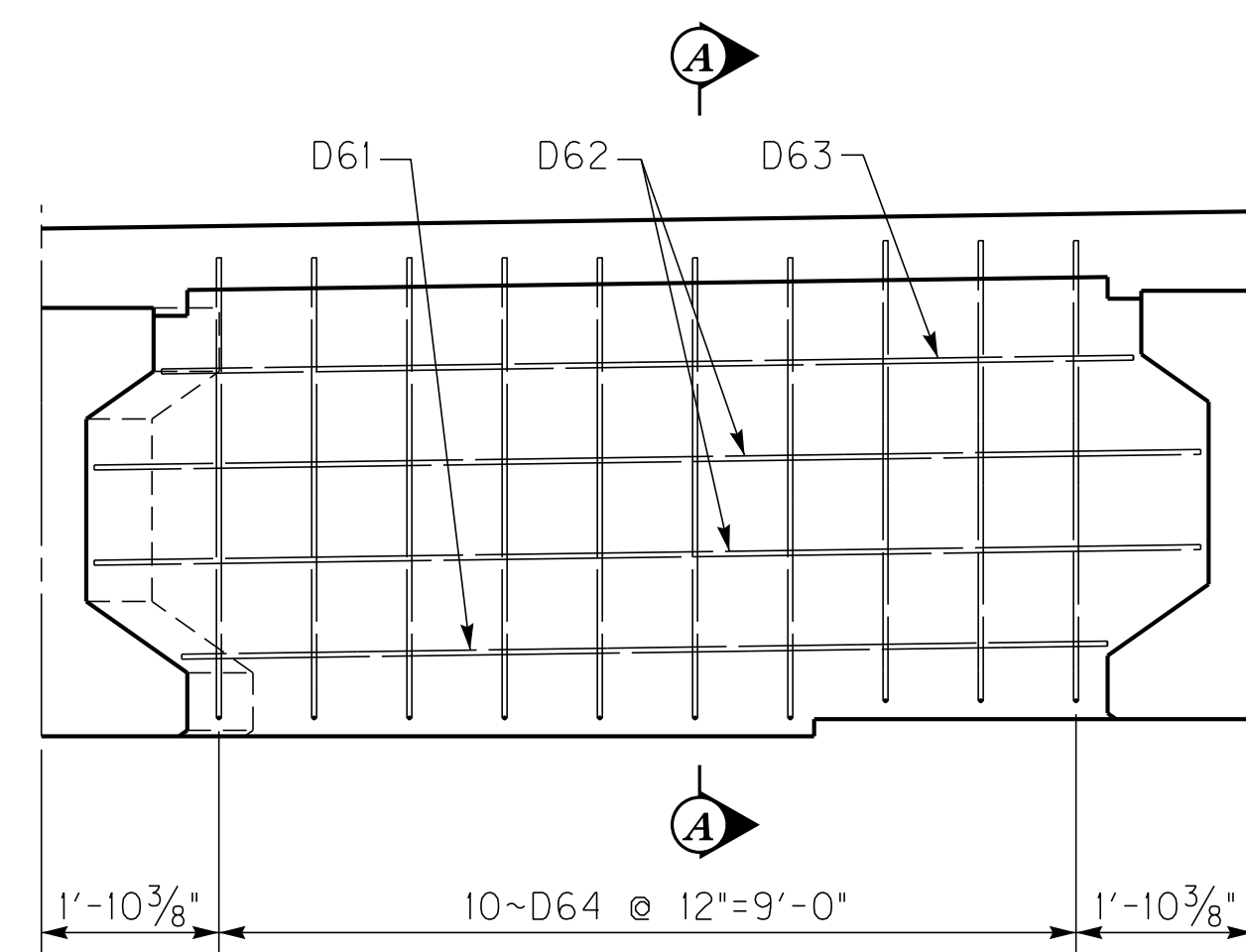
9-124.01

REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS COUNTY MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
INTERMEDIATE DIAPHRAGM DETAILS		
PREPARED BY		SHEET NO.
Division of Structural Design		S20
W. H. McKinney Section		DRAWING NO.
		25733

FILE NAME: H:\Archives\Mason\25733\25733.dgn
 USERNAME: Gary Newton
 DATE: 10-SEP-2010
 SHEET LOCATION: CE

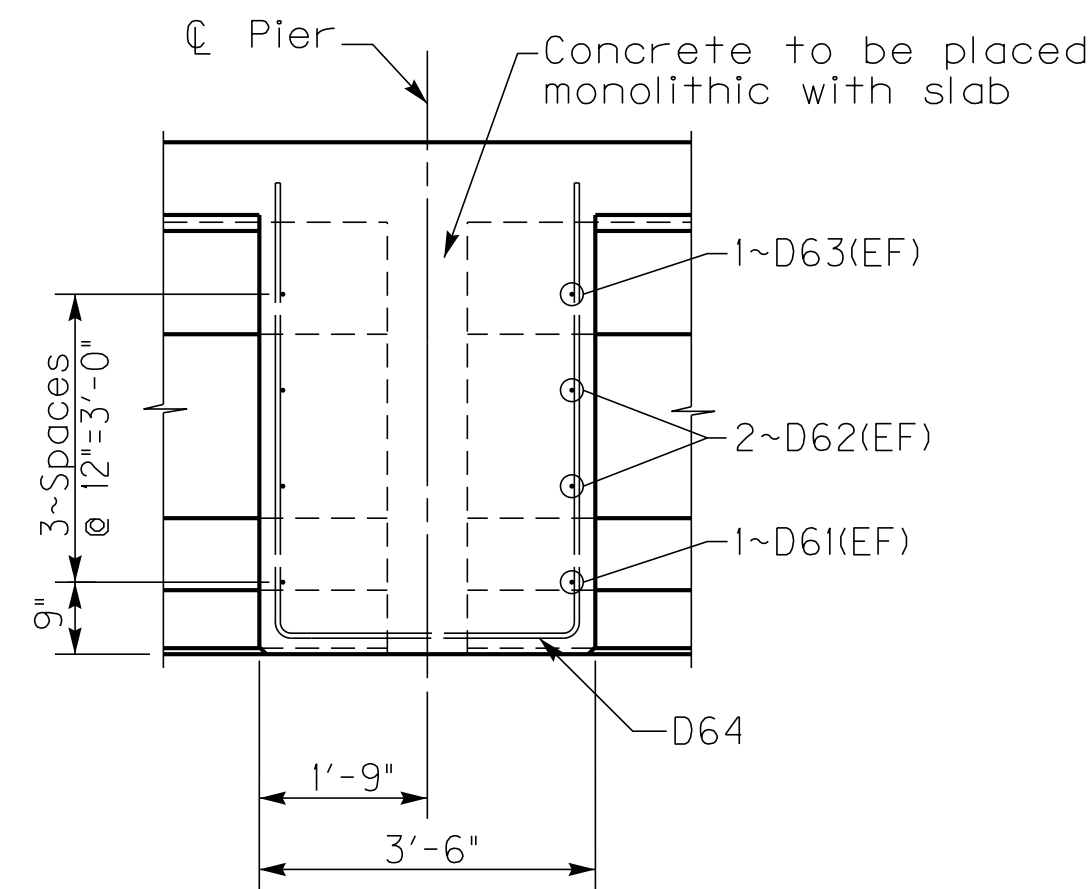


TYPICAL SECTION

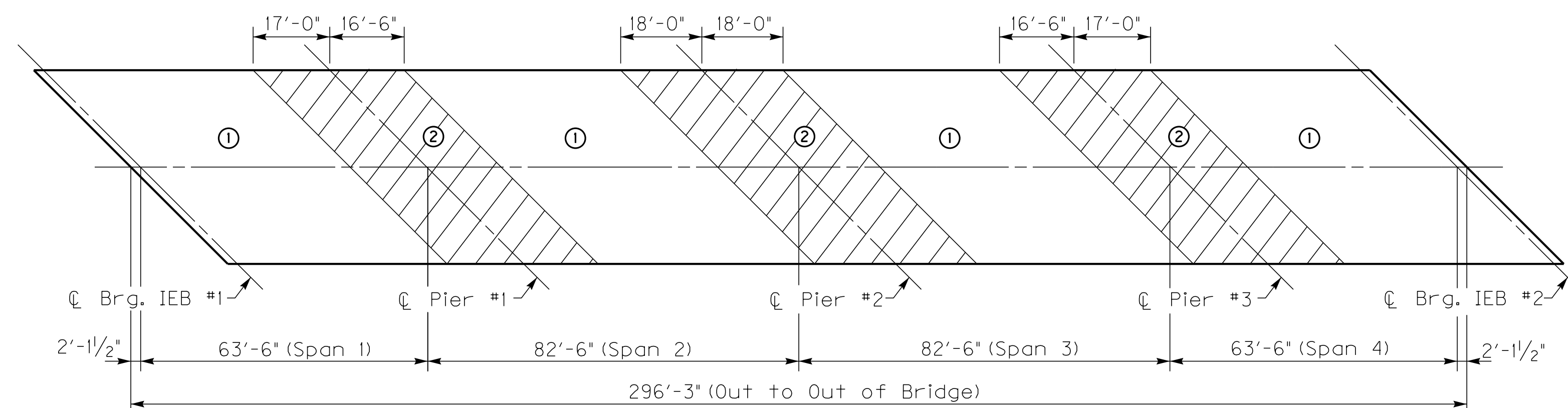


PIER DIAPHRAGM

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



SECTION A-A

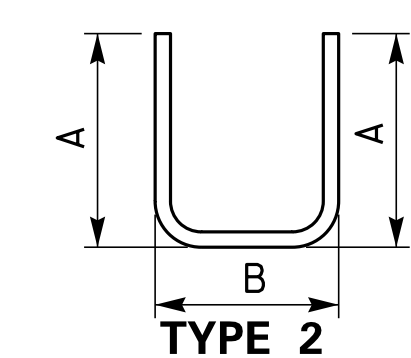


SLAB POURING SEQUENCE

- ① First Pour
 ② Second Pour

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B
S1e	Str.	6	5	2- 5	Bottom of Slab		
S2e	Str.	6	5	3-11	Bottom of Slab		
S3e	Str.	6	5	5- 5	Bottom of Slab		
S4e	Str.	6	5	6-11	Bottom of Slab		
S5e	Str.	6	5	8- 5	Bottom of Slab		
S6e	Str.	6	5	9-11	Bottom of Slab		
S7e	Str.	6	5	11- 5	Bottom of Slab		
S8e	Str.	6	5	12-11	Bottom of Slab		
S9e	Str.	6	5	14- 5	Bottom of Slab		
S10e	Str.	6	5	15-11	Bottom of Slab		
S11e	Str.	6	5	17- 5	Bottom of Slab		
S12e	Str.	6	5	18-11	Bottom of Slab		
S13e	Str.	6	5	20- 5	Bottom of Slab		
S14e	Str.	6	5	21-11	Bottom of Slab		
S15e	Str.	6	5	23- 5	Bottom of Slab		
S16e	Str.	6	5	24-11	Bottom of Slab		
S17e	Str.	6	5	26- 5	Bottom of Slab		
S18e	Str.	6	5	27-11	Bottom of Slab		
S19e	Str.	6	5	29- 5	Bottom of Slab		
S20e	Str.	6	5	30-11	Bottom of Slab		
S21e	Str.	6	5	32- 5	Bottom of Slab		
S22e	Str.	6	5	33-11	Bottom of Slab		
S23e	Str.	6	5	35- 5	Bottom of Slab		
S24e	Str.	6	5	36-11	Bottom of Slab		
S25e	Str.	6	5	38- 5	Bottom of Slab		
S26e	Str.	6	5	39-11	Bottom of Slab		
S27e	Str.	6	5	41- 5	Bottom of Slab		
S28e	Str.	506	5	42- 8	Bottom of Slab		
S29e	Str.	6	7	2- 5	Top of Slab		
S30e	Str.	6	7	3-11	Top of Slab		
S31e	Str.	6	7	5- 5	Top of Slab		
S32e	Str.	6	7	6-11	Top of Slab		
S33e	Str.	6	7	8- 5	Top of Slab		
S34e	Str.	6	7	9-11	Top of Slab		
S35e	Str.	6	7	11- 5	Top of Slab		
S36e	Str.	6	7	12-11	Top of Slab		
S37e	Str.	6	7	14- 5	Top of Slab		
S38e	Str.	6	7	15-11	Top of Slab		
S39e	Str.	6	7	17- 5	Top of Slab		
S40e	Str.	6	7	18-11	Top of Slab		
S41e	Str.	6	7	20- 5	Top of Slab		
S42e	Str.	6	7	21-11	Top of Slab		
S43e	Str.	6	7	23- 5	Top of Slab		
S44e	Str.	6	7	24-11	Top of Slab		
S45e	Str.	6	7	26- 5	Top of Slab		
S46e	Str.	6	7	27-11	Top of Slab		
S47e	Str.	6	7	29- 5	Top of Slab		
S48e	Str.	6	7	30-11	Top of Slab		
S49e	Str.	6	7	32- 5	Top of Slab		
S50e	Str.	6	7	33-11	Top of Slab		
S51e	Str.	6	7	35- 5	Top of Slab		
S52e	Str.	6	7	36-11	Top of Slab		
S53e	Str.	6	7	38- 5	Top of Slab		
S54e	Str.	6	7	39-11	Top of Slab		
S55e	Str.	6	7	41- 5	Top of Slab		
S56e	Str.	506	7	42- 8	Top of Slab		
S57e	Str.	651	5	44- 2	Bottom & Top of Slab		
S58e	Str.	80	8	44- 8	Top of Slab		
S59e	Str.	40	8	46-10	Top of Slab		
S60e	Str.	26	6	10- 0	Corner Reinforcement		
D61e	Str.	24	5	9- 5	Pier Diaphragm		
D62e	Str.	48	5	11- 6	Pier Diaphragm		
D63e	Str.	24	5	10- 1	Pier Diaphragm		
D64e	2s	120	5	13-11	Pier Diaphragm	4-10	4- 5 3/4



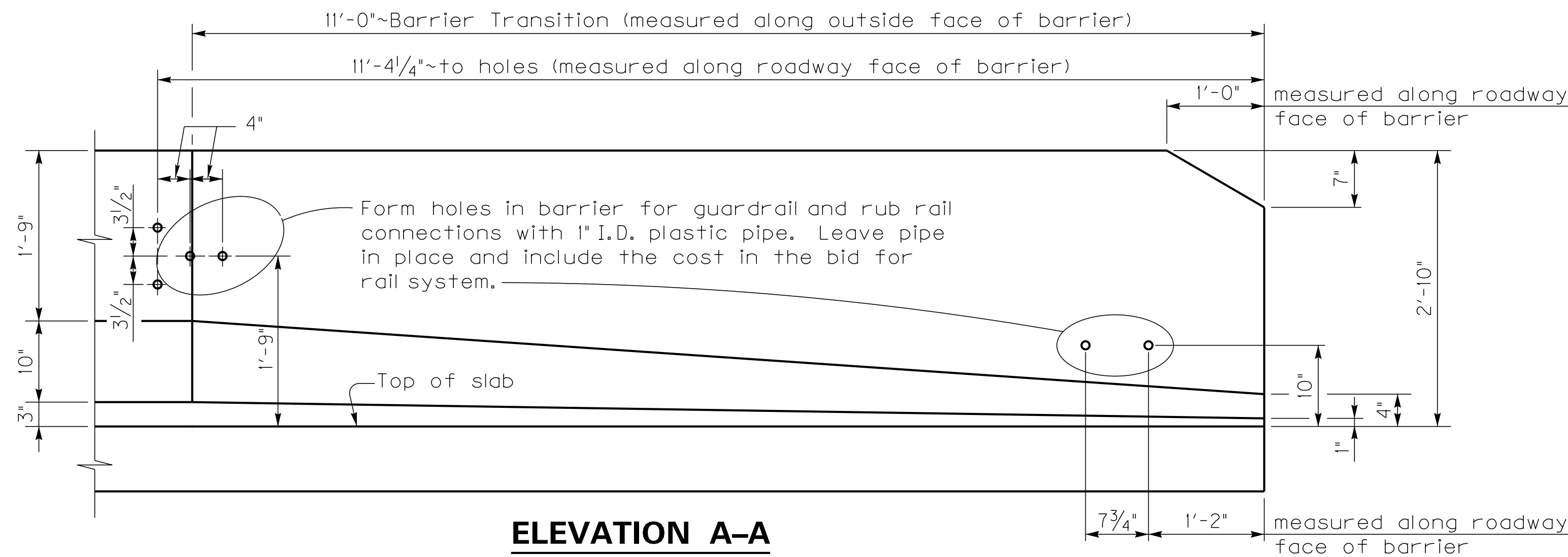
REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS <small>COUNTY</small> MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
SUPERSTRUCTURE		
ITEM NUMBER	PREPARED BY	SHEET NO.
9-124.01	Division of Structural Design	S22
	W. H. McKinney Section	DRAWING NO.
		25733

FILE NAME: H:\Archives\Mason\25733\25733.dgn

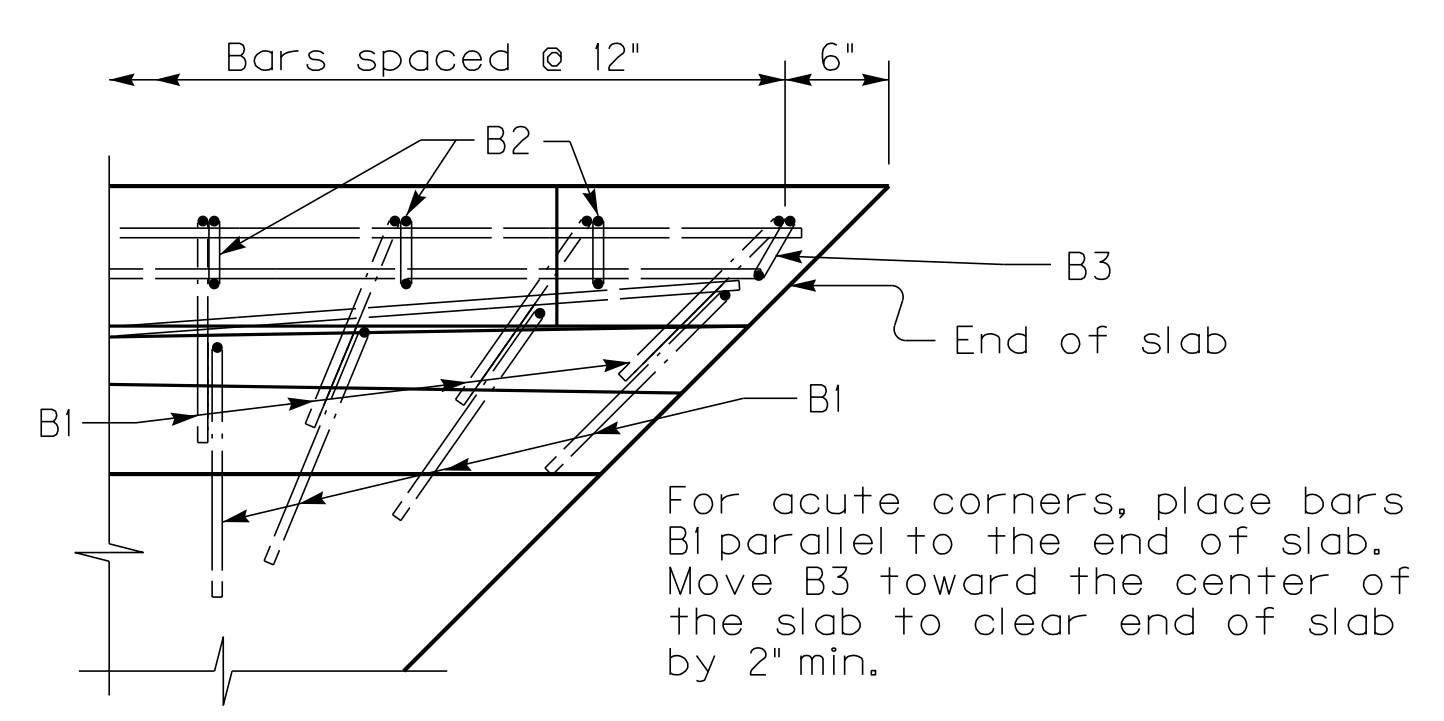
USERNAME: Garry Newton

DATE: 10-SEP-2010

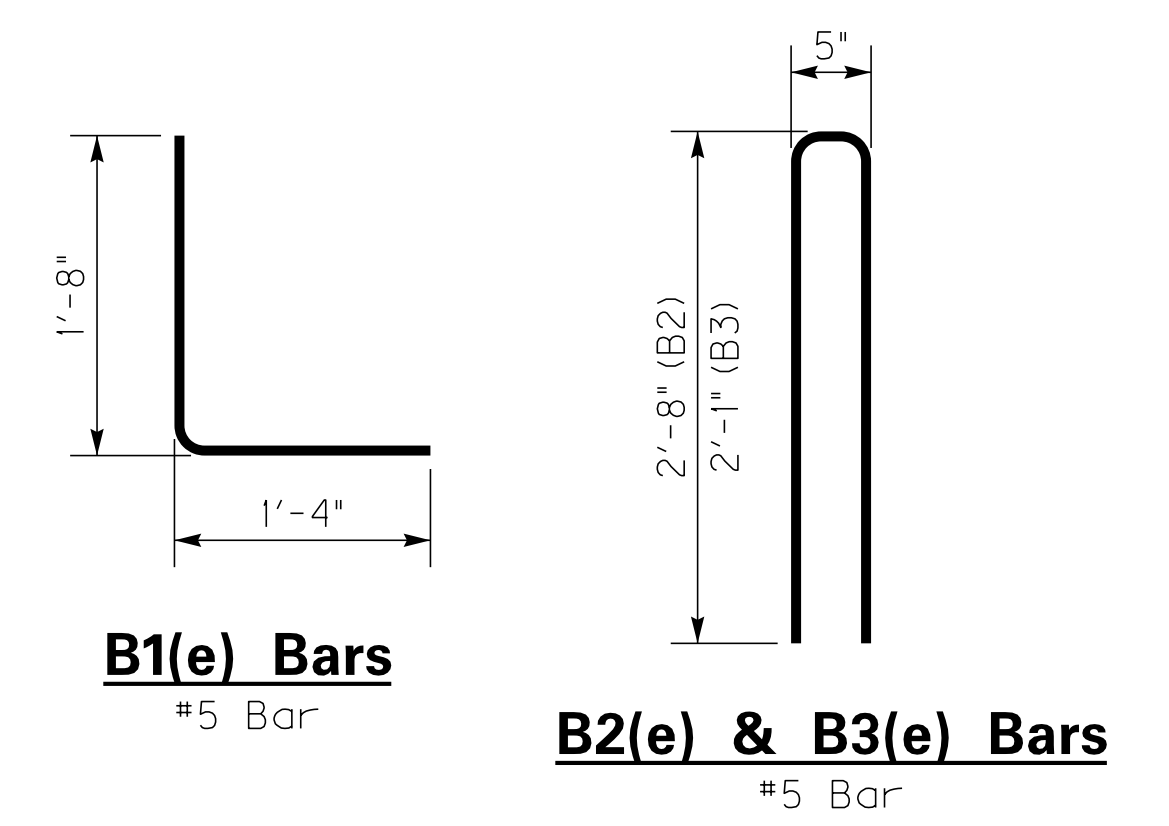
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ELEVATION A-A

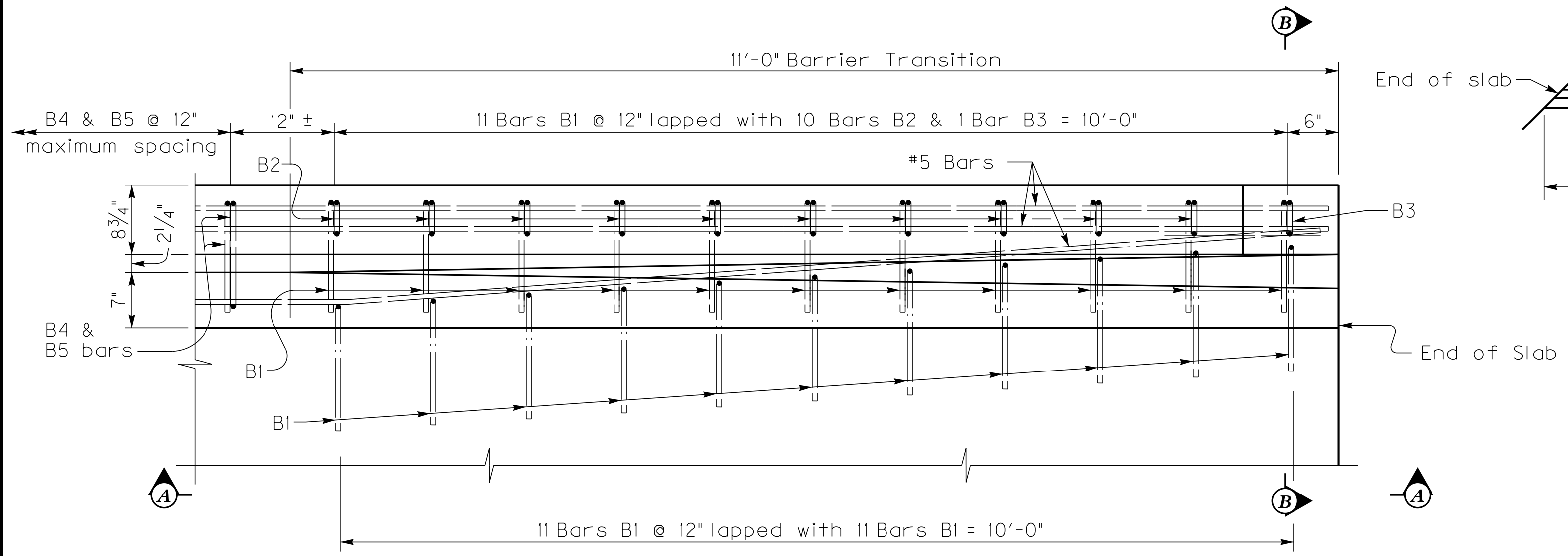


PLAN OF SKEWED END

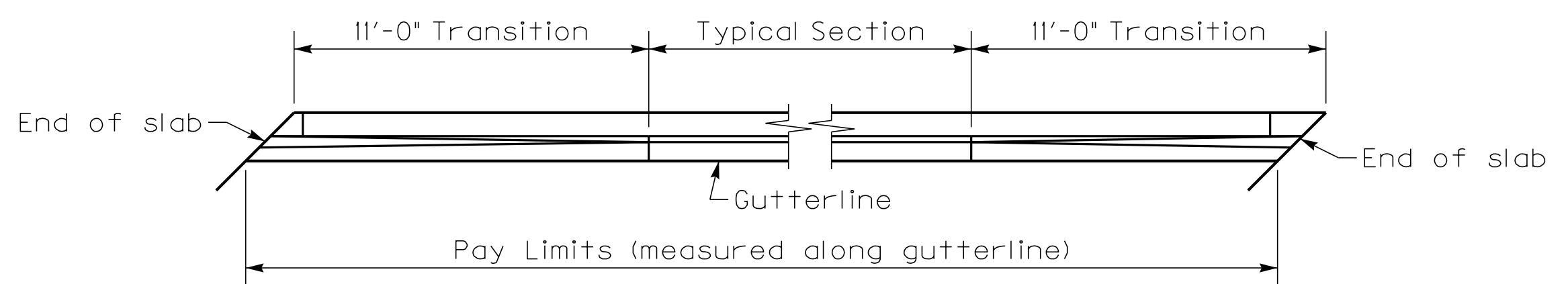


B1(e) Bars
#5 Bar

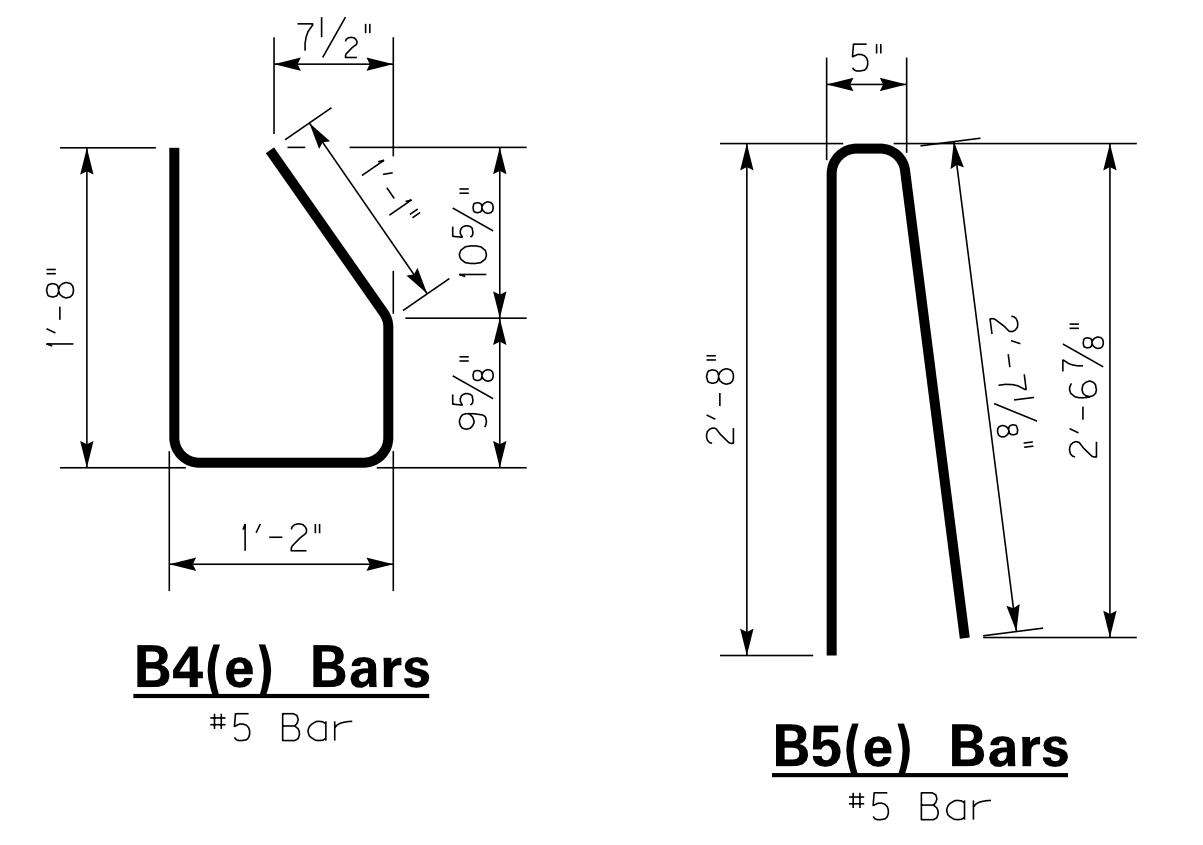
B2(e) & B3(e) Bars
#5 Bar



PLAN OF BARRIER TRANSITION

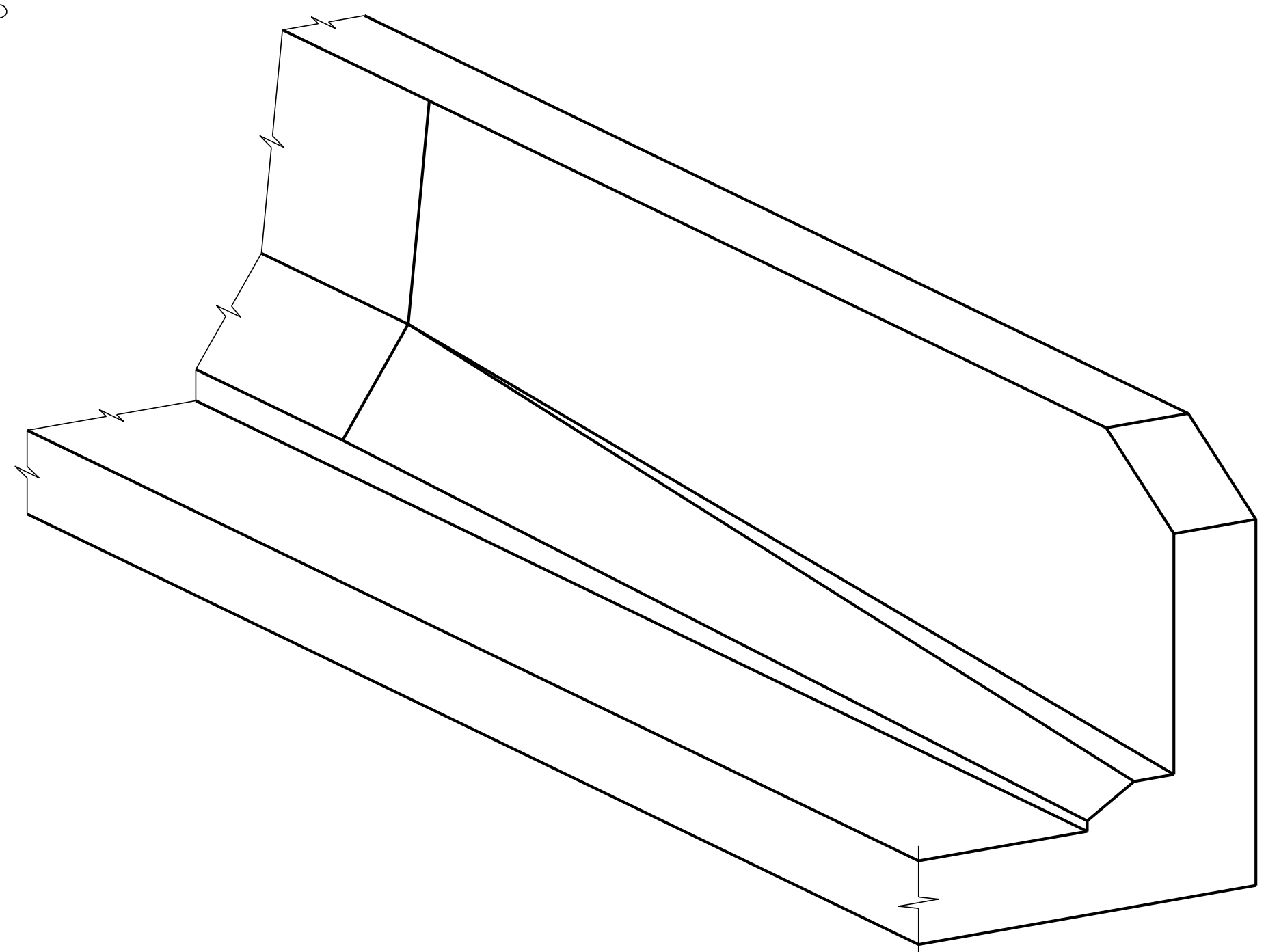


PLAN OF BARRIER

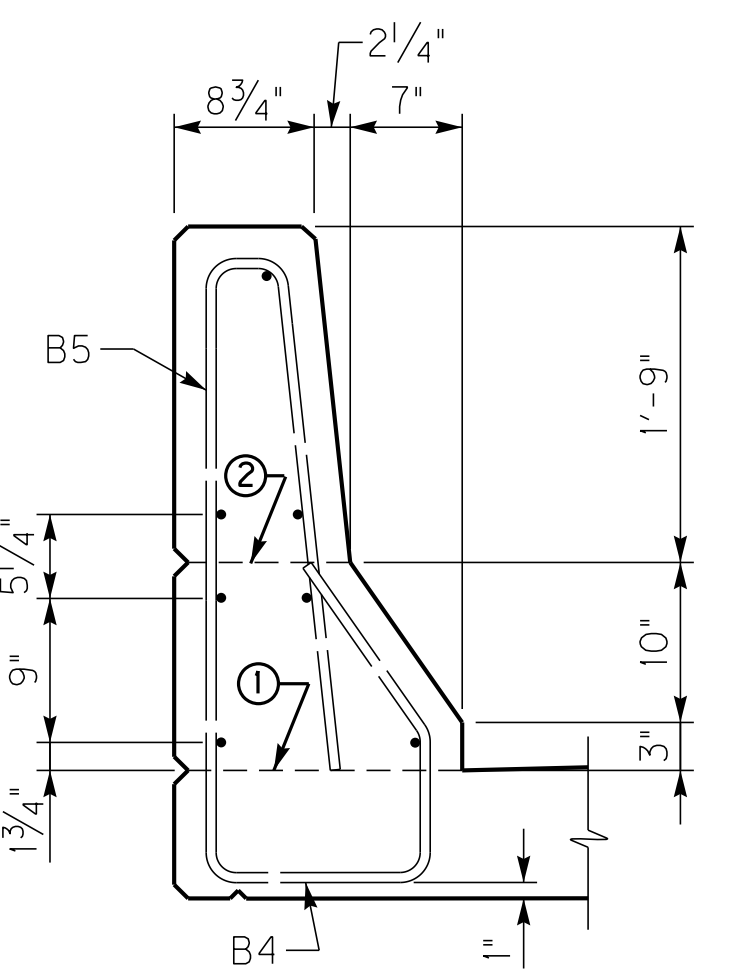


B4(e) Bars
#5 Bar

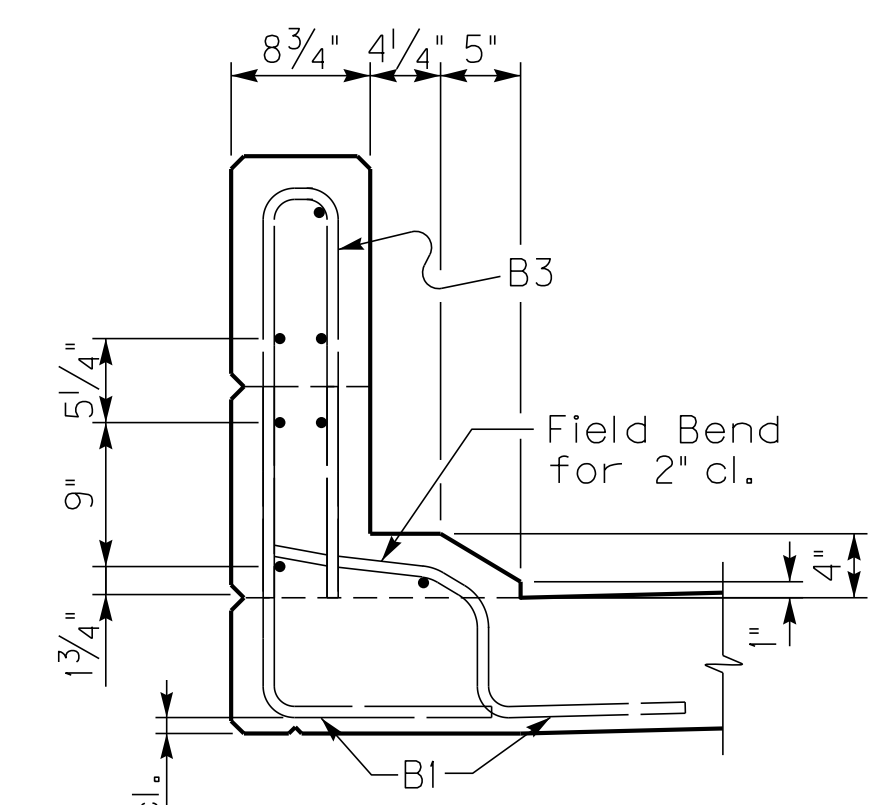
B5(e) Bars
#5 Bar



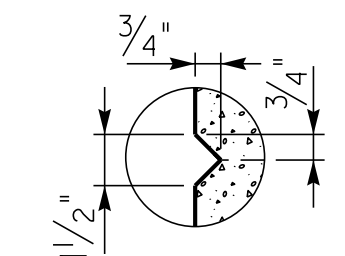
OBLIQUE VIEW



TYPICAL BARRIER SECTION



SECTION B-B



"V-Groove" Rustication

- ① Mandatory roughened construction joint. Concrete above this joint is to be placed after slab has been properly cured and included in the bid for Rail System, Type III.
- ② Permissible construction joint. "V-Groove" rustication joint is required if construction joint is used.

General Notes

MEASUREMENT: The linear foot bid for the barrier is measured along the roadway gutterline. Include all reinforcement shown and all concrete above the top of slab in the bid item.

REINFORCEMENT: All reinforcement shown on this sheet is to be epoxy coated. Use stirrup bend diameters for all bent bars. Straight reinforcement is to be Size #5 and lapped 2'-2" when necessary.

REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres

Commonwealth of Kentucky	
DEPARTMENT OF HIGHWAYS	
COUNTY MASON	
ROUTE US 68	CROSSING Clarks Run Road
RAIL SYSTEM TYPE III DETAILS	
PREPARED BY Division of Structural Design	SHEET NO. S23
W. H. McKinney Section	DRAWING NO. 25733

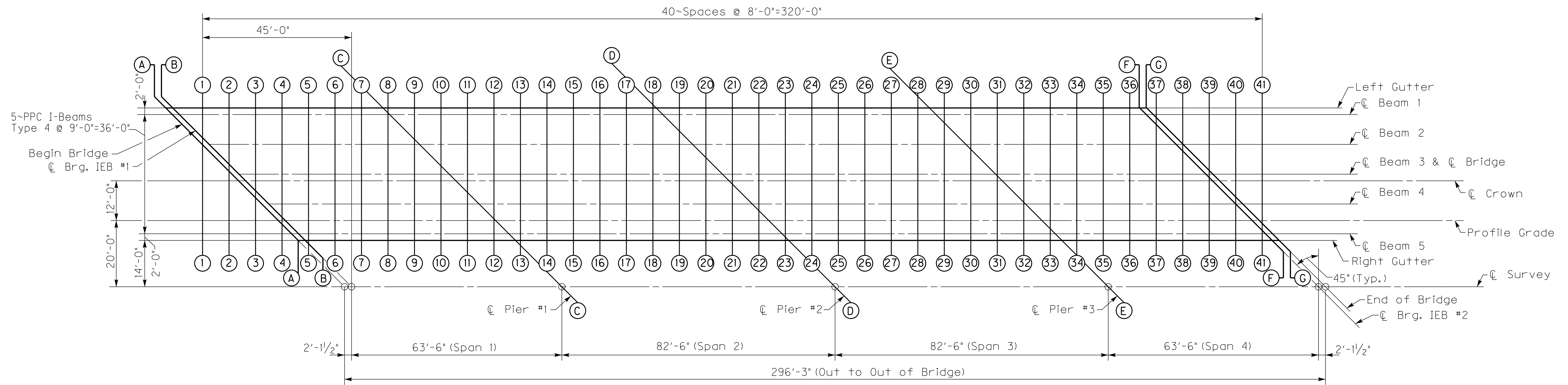
ITEM NUMBER
9-124.01

FILE NAME: H:\Archives\Mason\25733\25733.dgn

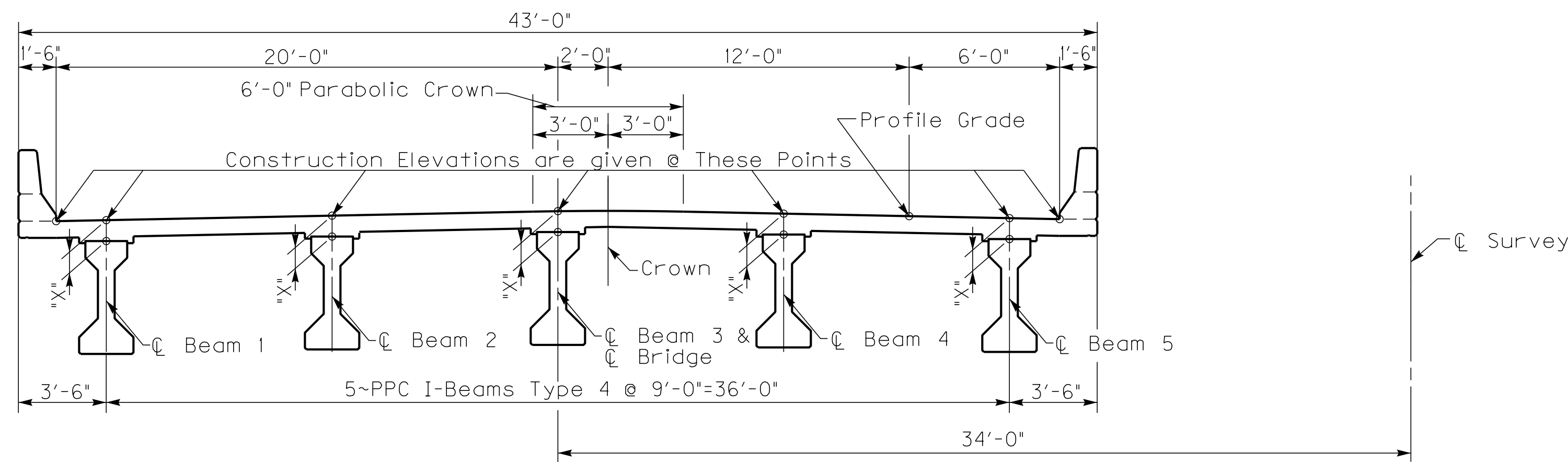
USERNAME: Gary Newton

DATE: 10-SEP-2010

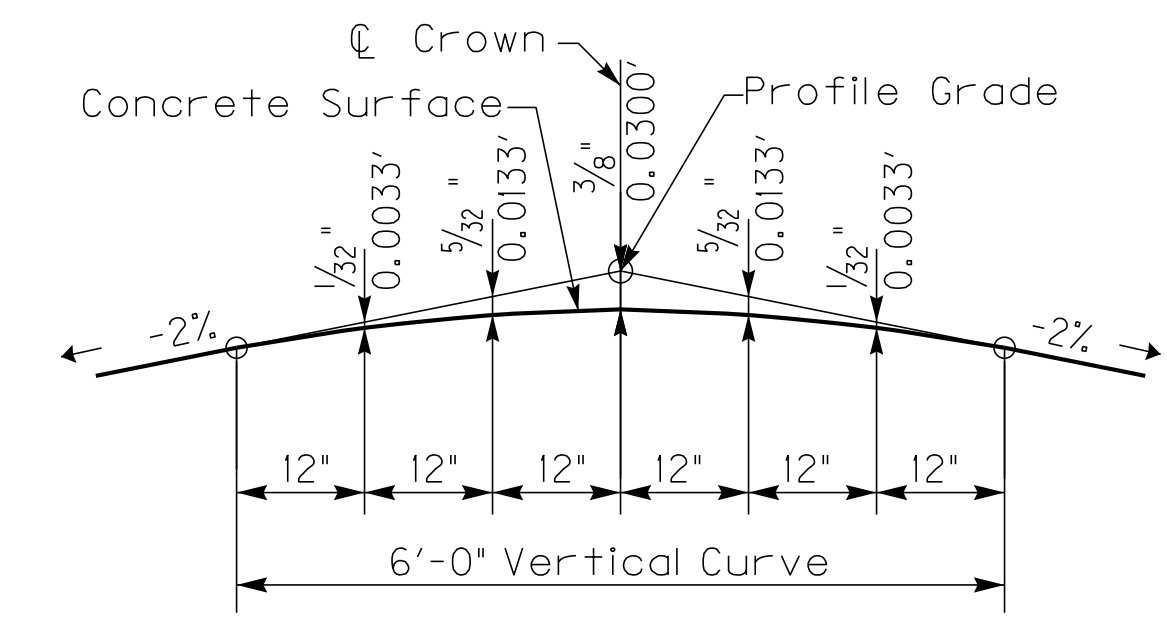
SHEET LOCATION: P4



GRID LAYOUT



TYPICAL SECTION



PARABOLIC CROWN

REVISION		DATE
DATE:	April 2006	CHECKED BY
DESIGNED BY:	C. Douglas	B. Borres
DETAILED BY:	W. T. Mathews	B. Borres
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
MASON		
ROUTE	CROSSING	
US 68	Clarks Run Road	
CONSTRUCTION ELEVATIONS		
ITEM NUMBER	PREPARED BY	SHEET NO.
9-124.01	Division of Structural Design	S24
	W. H. McKinney Section	DRAWING NO.
		25733

ITEM NUMBER
9-124.01

FILE NAME: H:\Archives\Mason\25734\25734.dgn

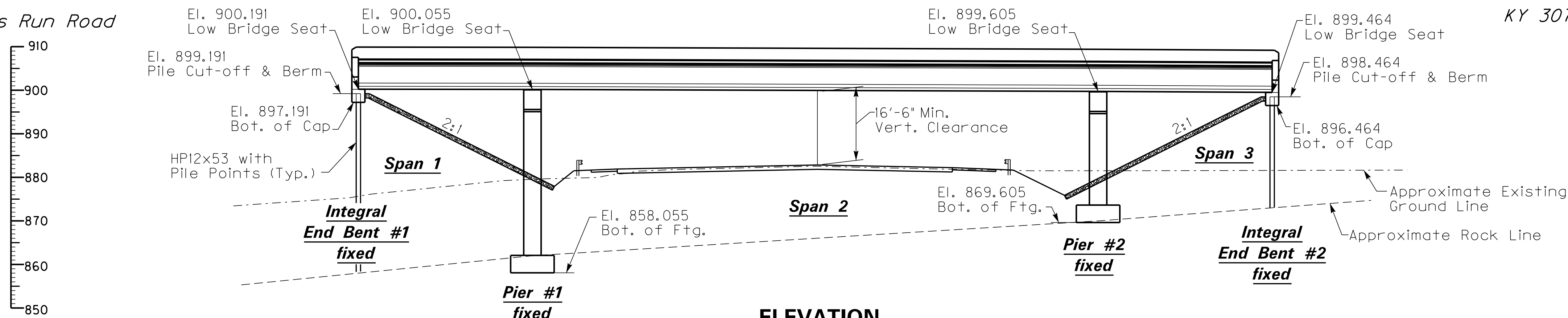
USERNAME: gary.newton

DATE: 08-SEP-2010

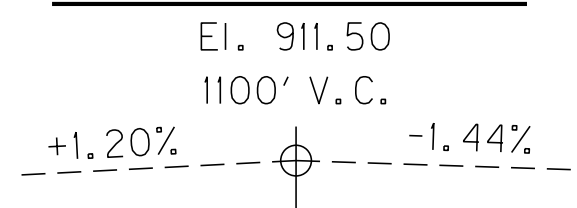
SHEET LOCATION: LAY

Clarks Run Road

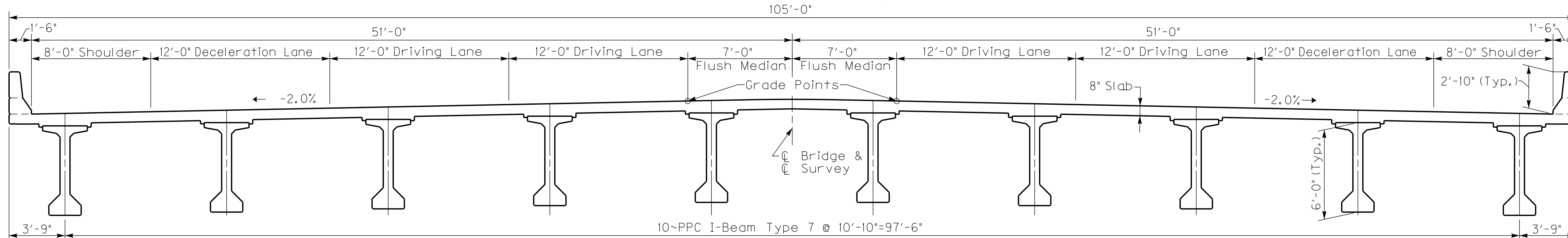
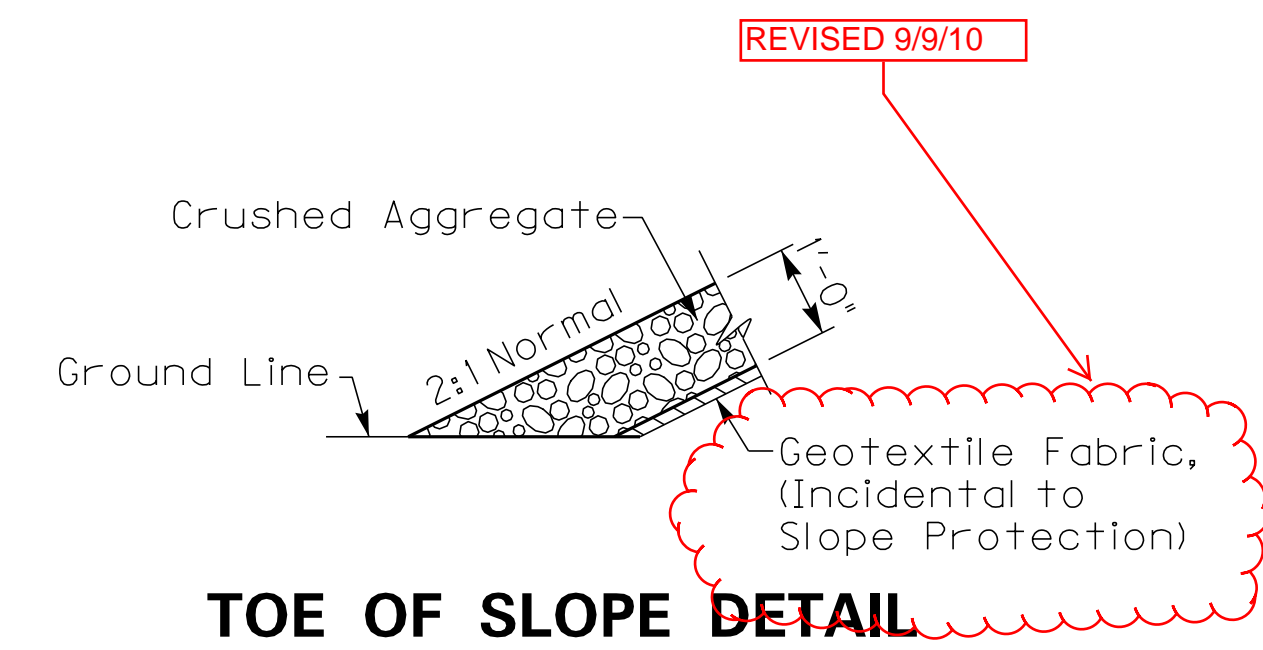
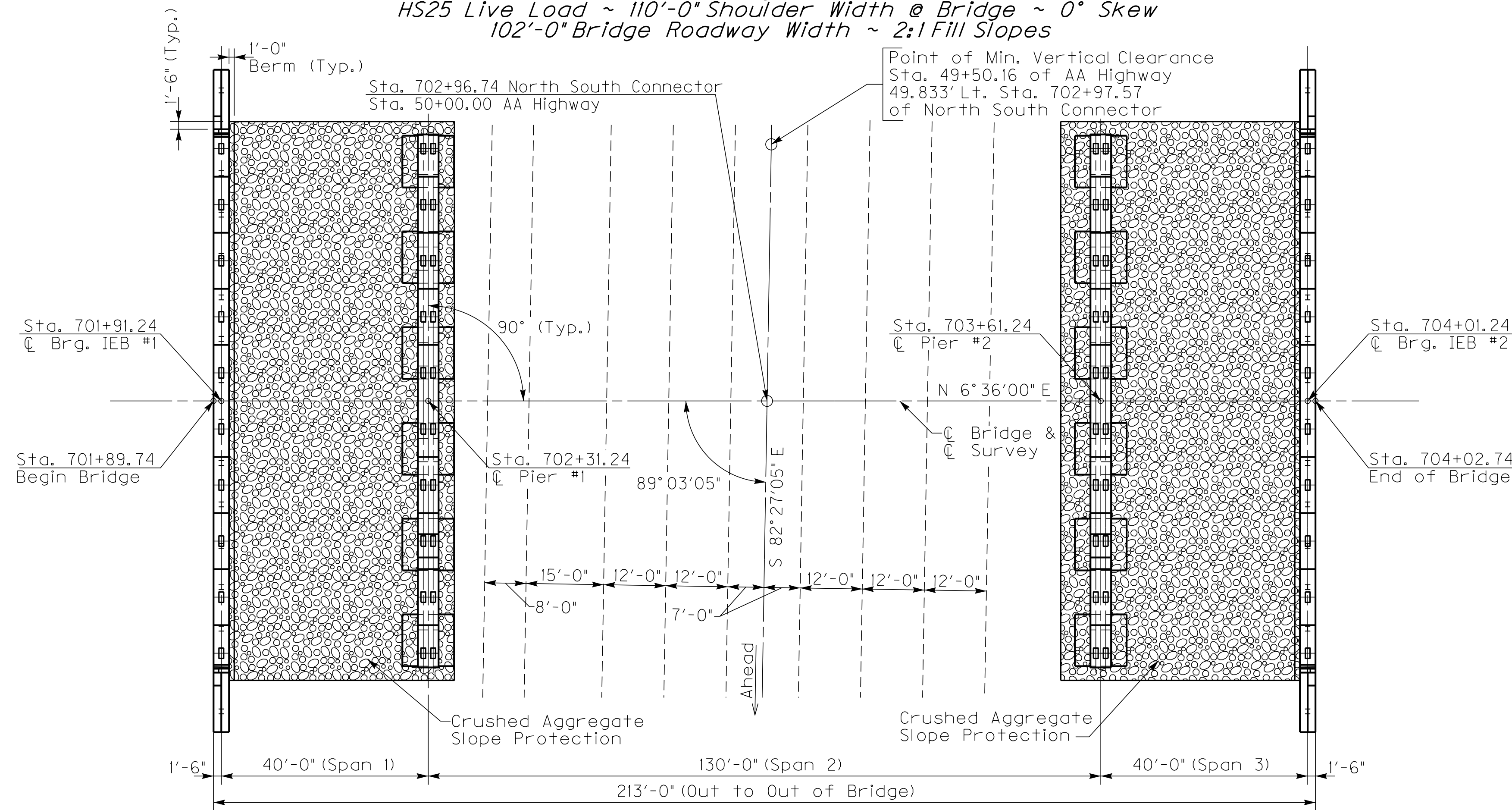
KY 3071



V.P.I 702+00.00



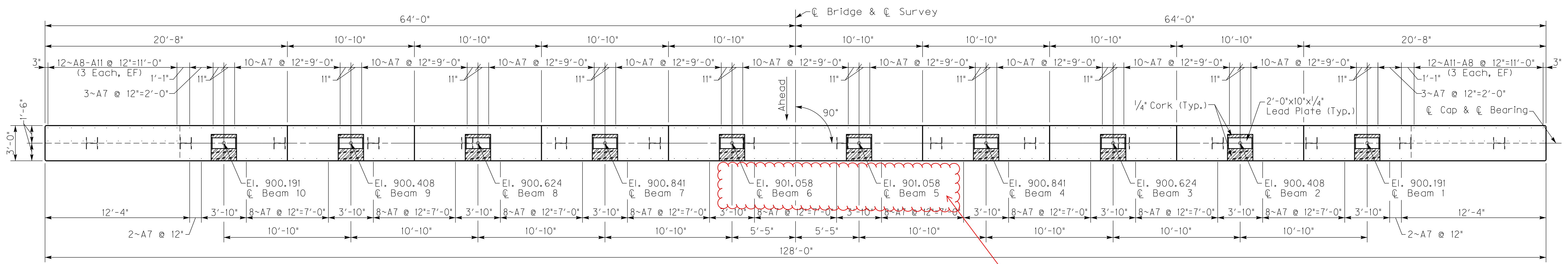
- Notes: 1.) Roadway guardrail is to attach to bridge barriers. (See Roadway Plans)
 2.) For end bent backfill and method of construction see Special Provision 69.



ITEM NUMBER
9-124.01

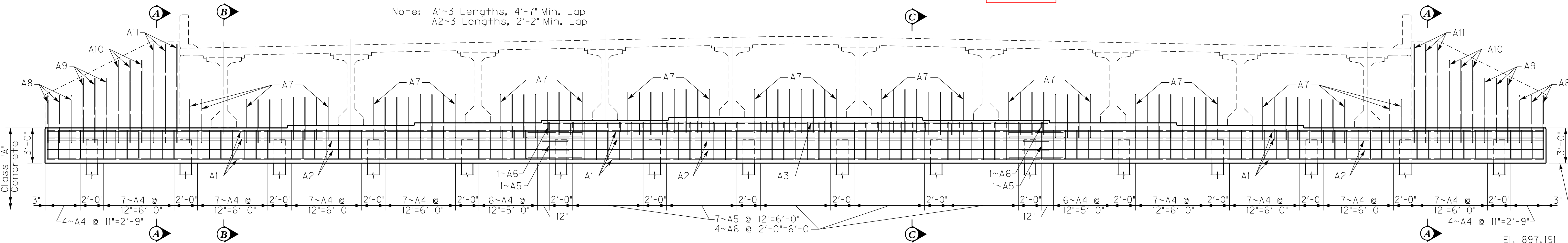
REVISION	DATE
DATE: September 2007	CHECKED BY: K. EE
DESIGNED BY: W. H. McKinney	W. H. McKinney
DETAILED BY: W. T. Mathews	W. H. McKinney
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
COUNTY MASON	
ROUTE North South Connector	CROSSING AA Highway
LAYOUT	
PREPARED BY Division of Structural Design W. H. McKinney Section	SHEET NO. S3 DRAWING NO. 25734

FILE NAME: H:\Archives\Wason\25734\25734.dgn
 USERNAME: gary.newton
 DATE: 08-SEP-2010
 SHEET LOCATION: A1A



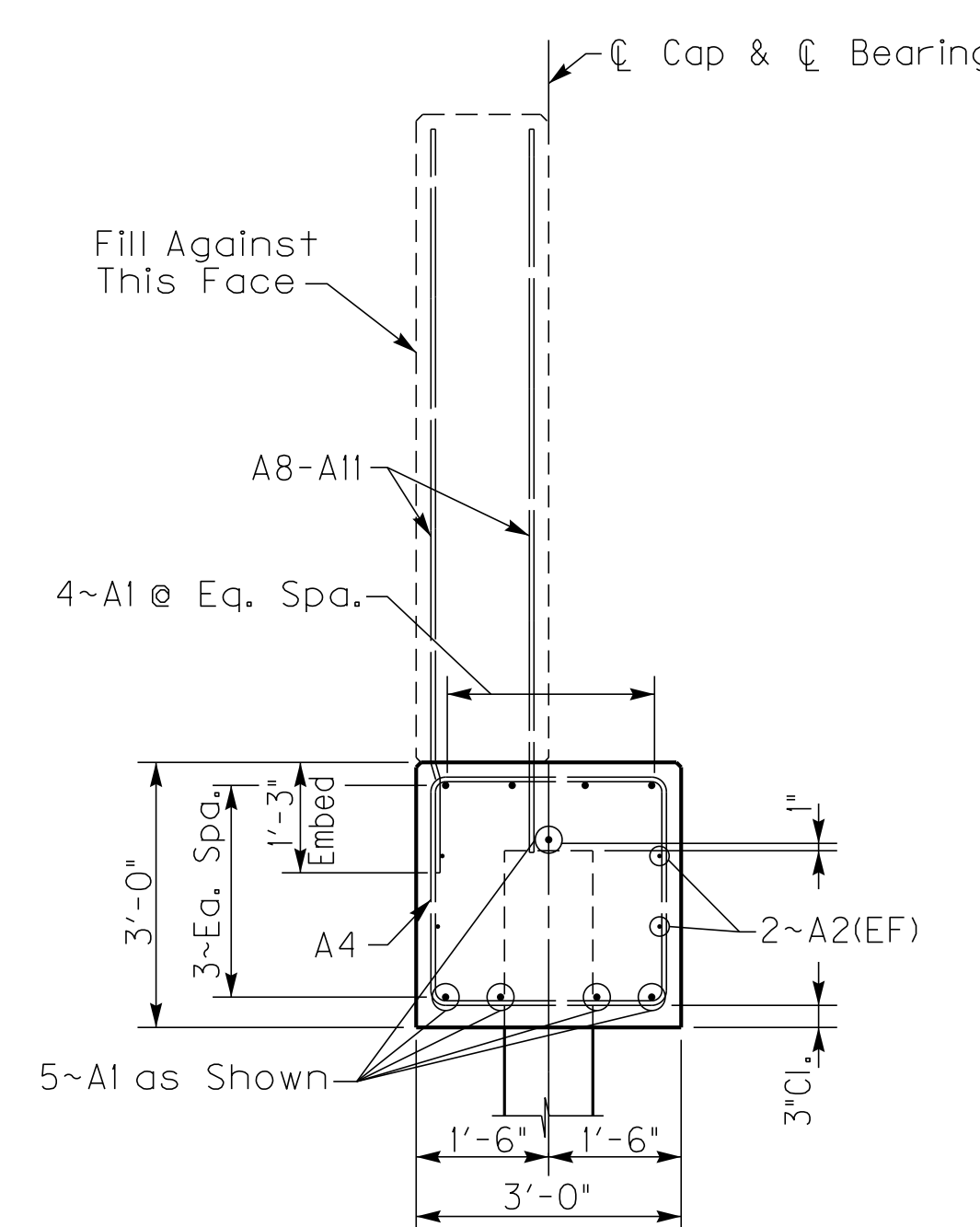
PLAN - Showing Cap & Dowel Reinforcement

Note: Beam elevations are given at the top of concrete.

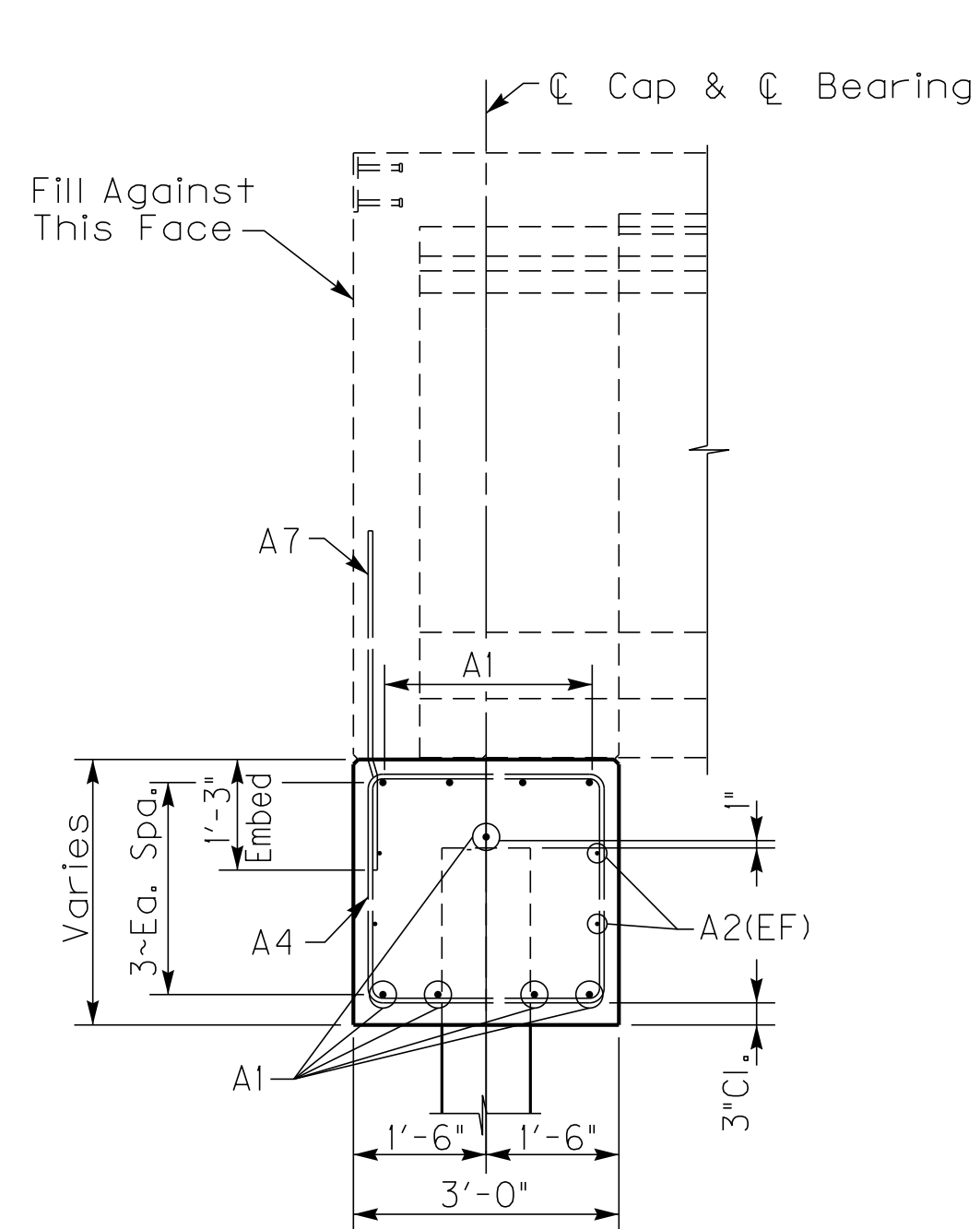


ELEVATION - Showing Cap & Dowel Reinforcement

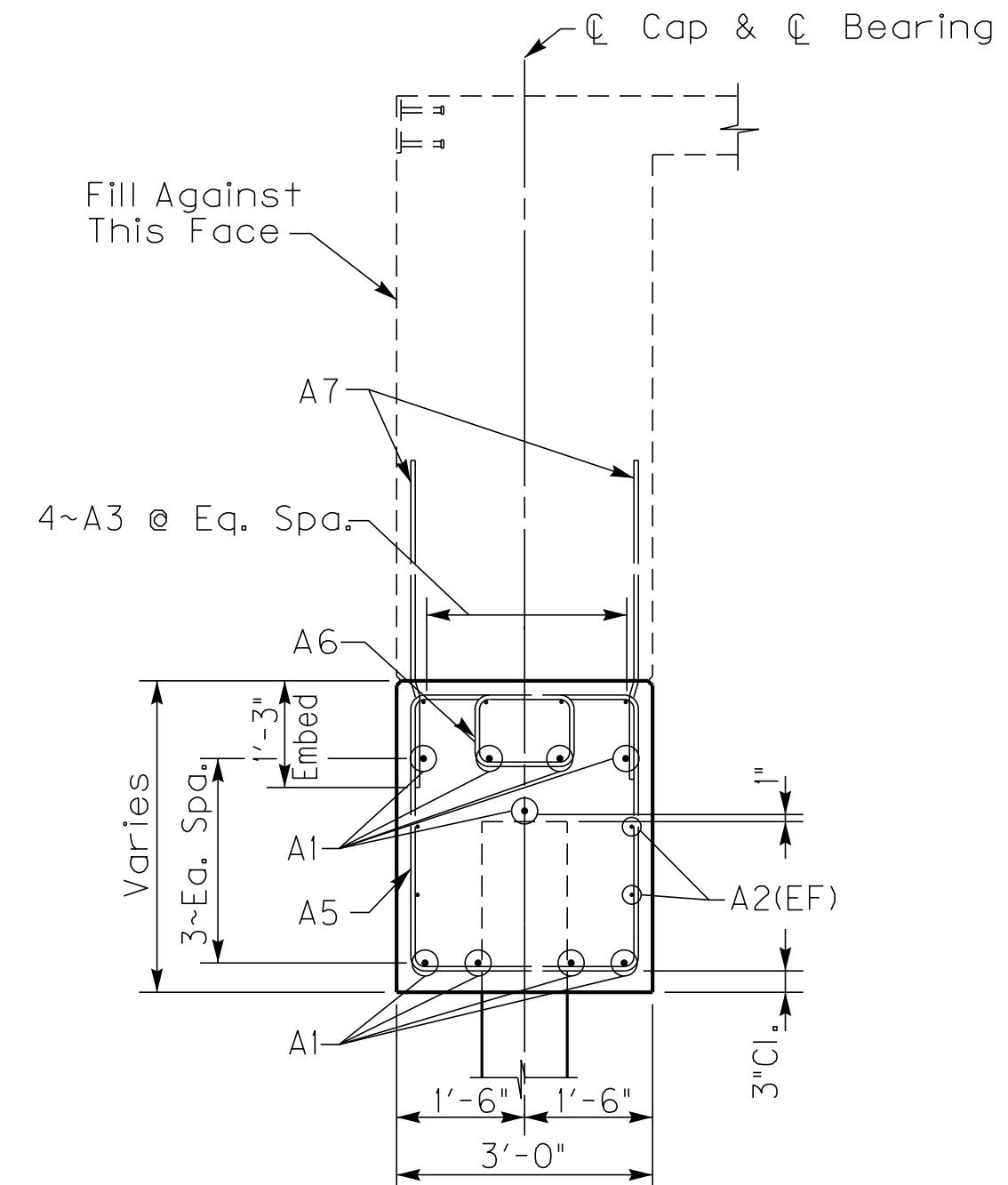
Note: For pile location see Foundation Layout.



SECTION A-A



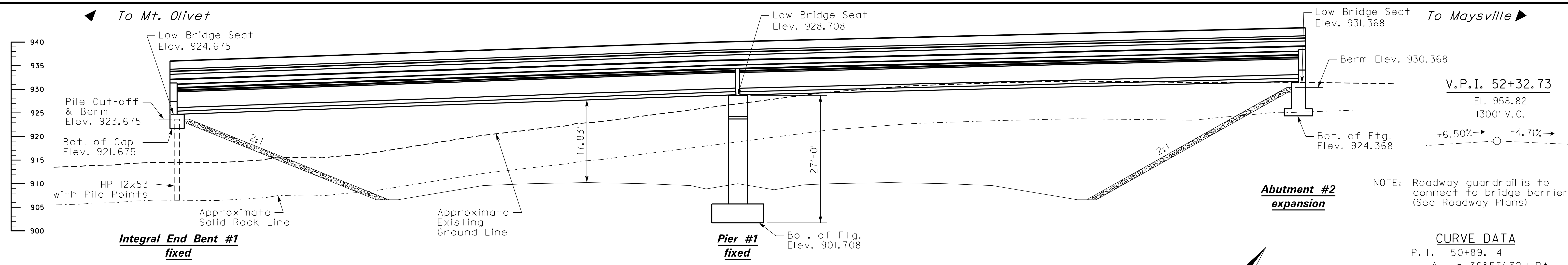
SECTION B-B



SECTION C-C

REVISION		DATE
DATE:	September 2007	CHECKED BY
DESIGNED BY:	W. H. McKinney	K. EE
DETAILED BY:	W. T. Mathews	W. H. McKinney
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS <small>COUNTY</small> MASON		
ROUTE	CROSSING	
North South Connector	AA Highway	
INTEGRAL END BENT #1		
ITEM NUMBER	PREPARED BY	SHEET NO.
9-124.01	Division of Structural Design	S7
	W. H. McKinney Section	DRAWING NO.
		25734

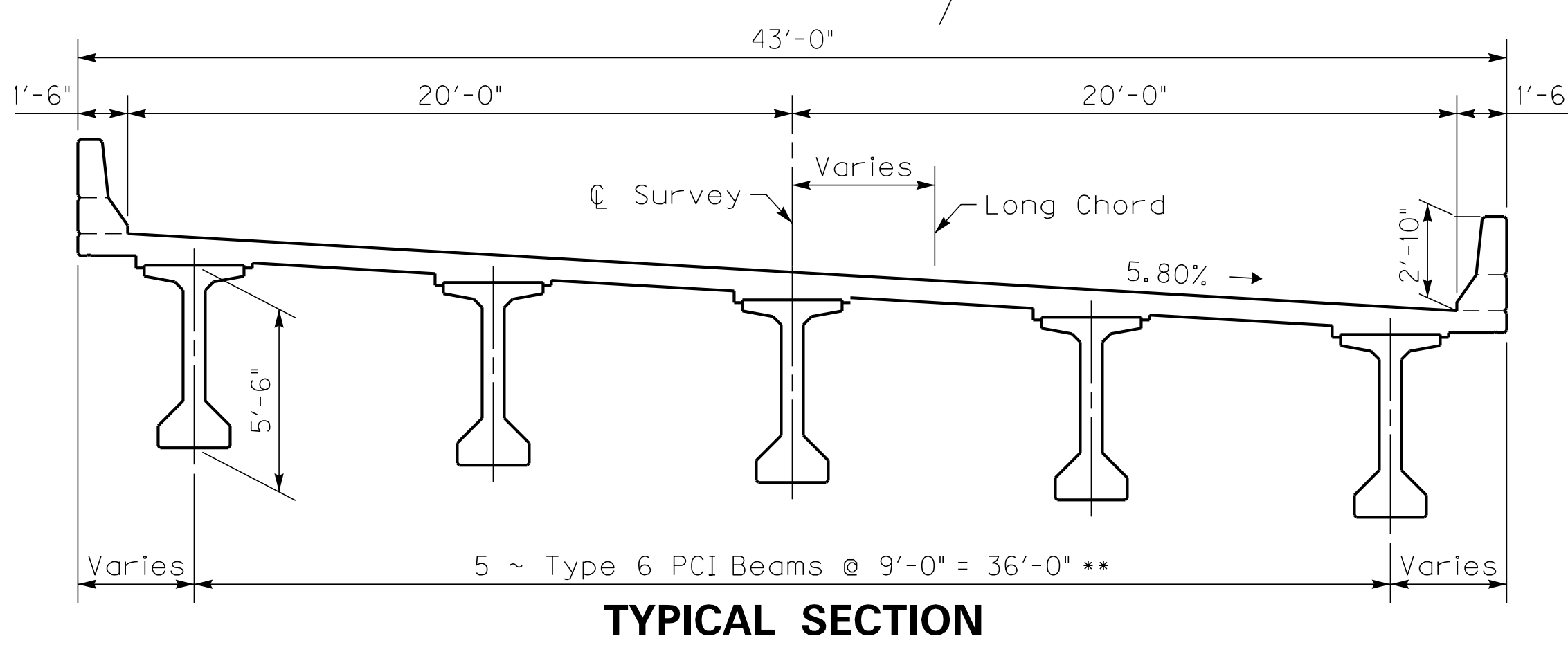
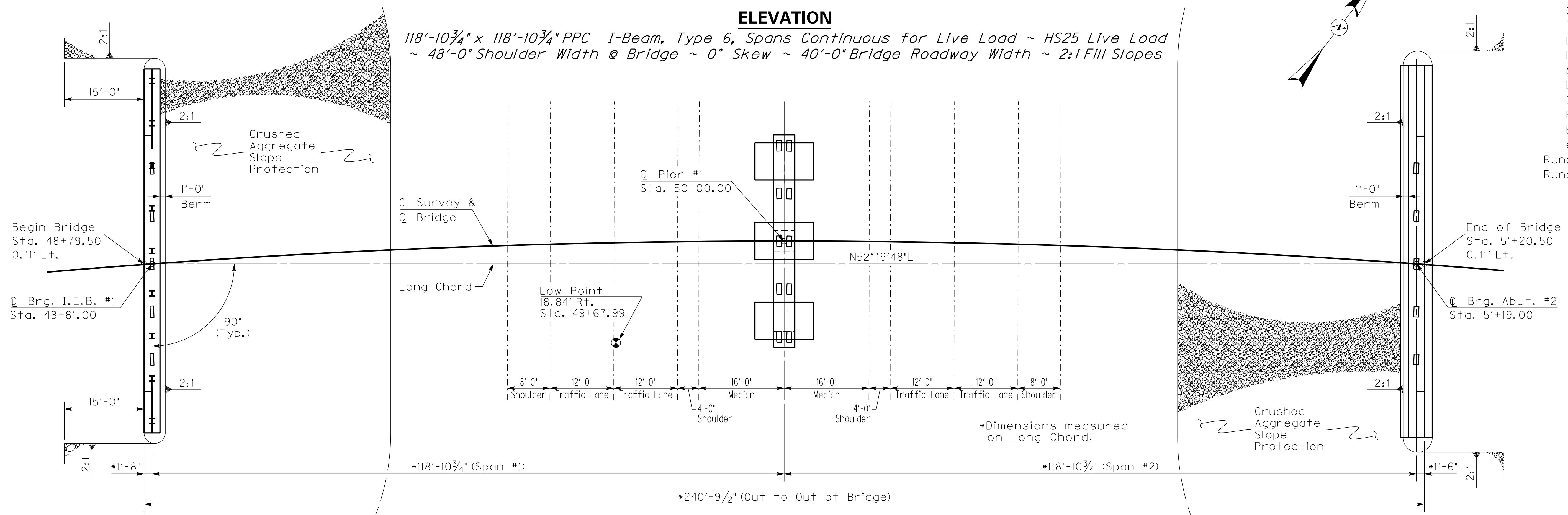
FILE NAME: H:\Archives\Mason\25736\25736.dgn
 USERNAME: gary.newton
 DATE: 08-SEP-2010
 SHEET LOCATION: LAY



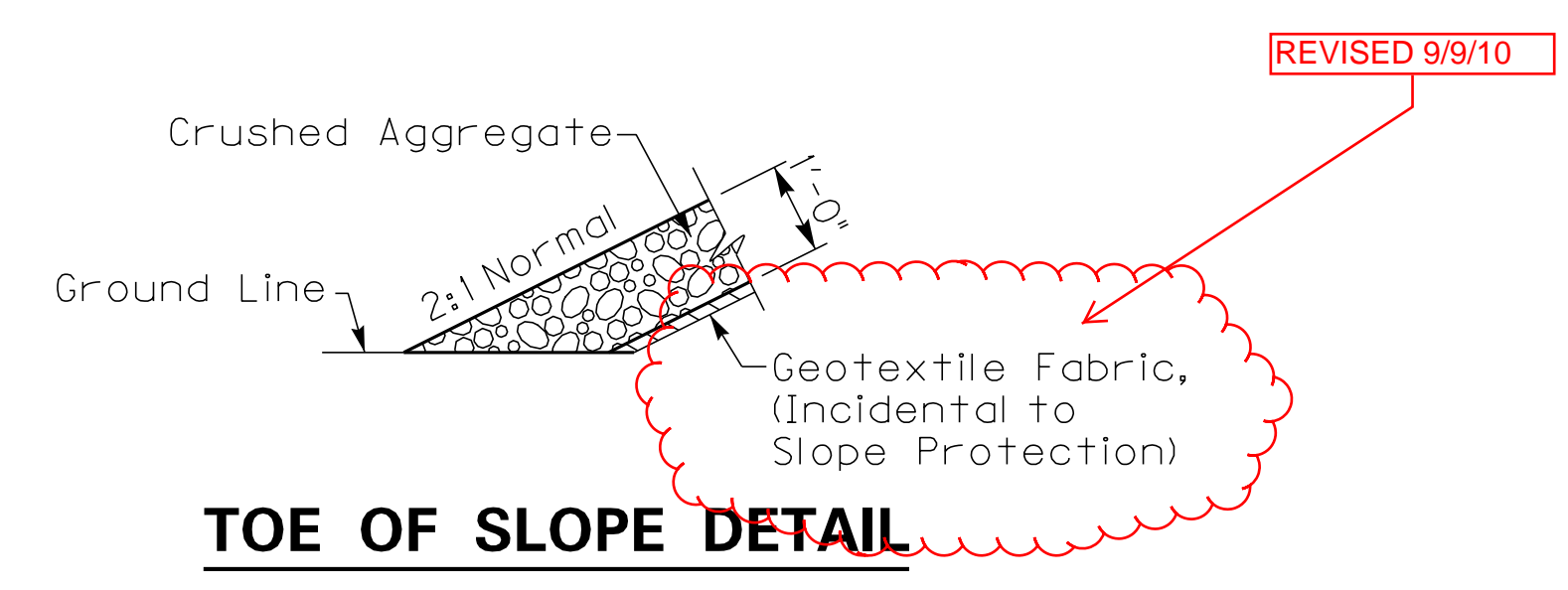
NOTE: Roadway guardrail is to connect to bridge barrier. (See Roadway Plans)

CURVE DATA

P. I.	50+89.14
Δ	39°55'32" Rt.
C	3°28'21"
Ts	674.54
Ls	150.00
Lc	999.77
θs	2°36'16"
L.T.	100.01
S.T.	50.01
R	1650.00
Es	106.08
e	5.80%
Runoff	150.00
Runout	51.72



**All dimensions shown except Beam Line dimensions are measured radially



ITEM NUMBER
9-124.01

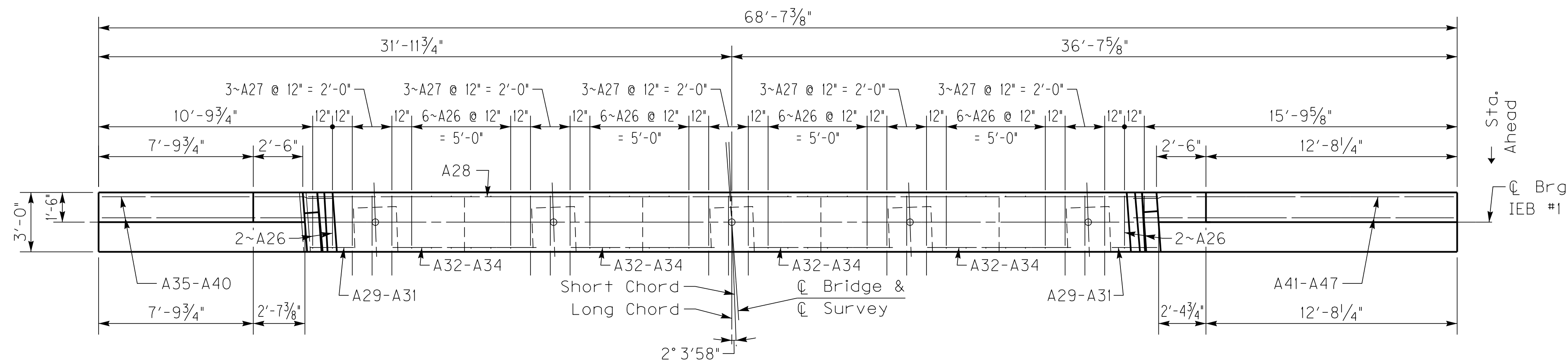
REVISION		DATE
DATE:	November 2004	CHECKED BY
DESIGNED BY:	W. H. McKinney	C. Douglas
DETAILED BY:	W. E. Downey	W. H. McKinney
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY MASON		
ROUTE	CROSSING	
US 62	North South Connector	
LAYOUT		
PREPARED BY		SHEET NO.
Division of Bridge Design		S3
W. H. McKinney Section		DRAWING NO.
		25736

FILE NAME: H:\Archives\Mason\25736\25736.dgn

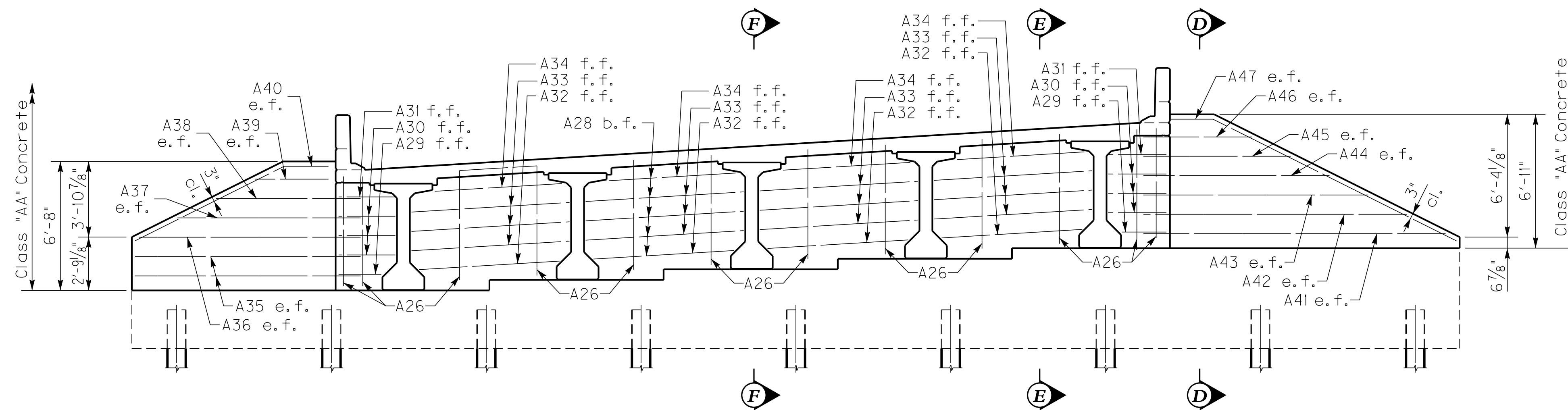
USERNAME: gary.newton

DATE: 08-SEP-2010

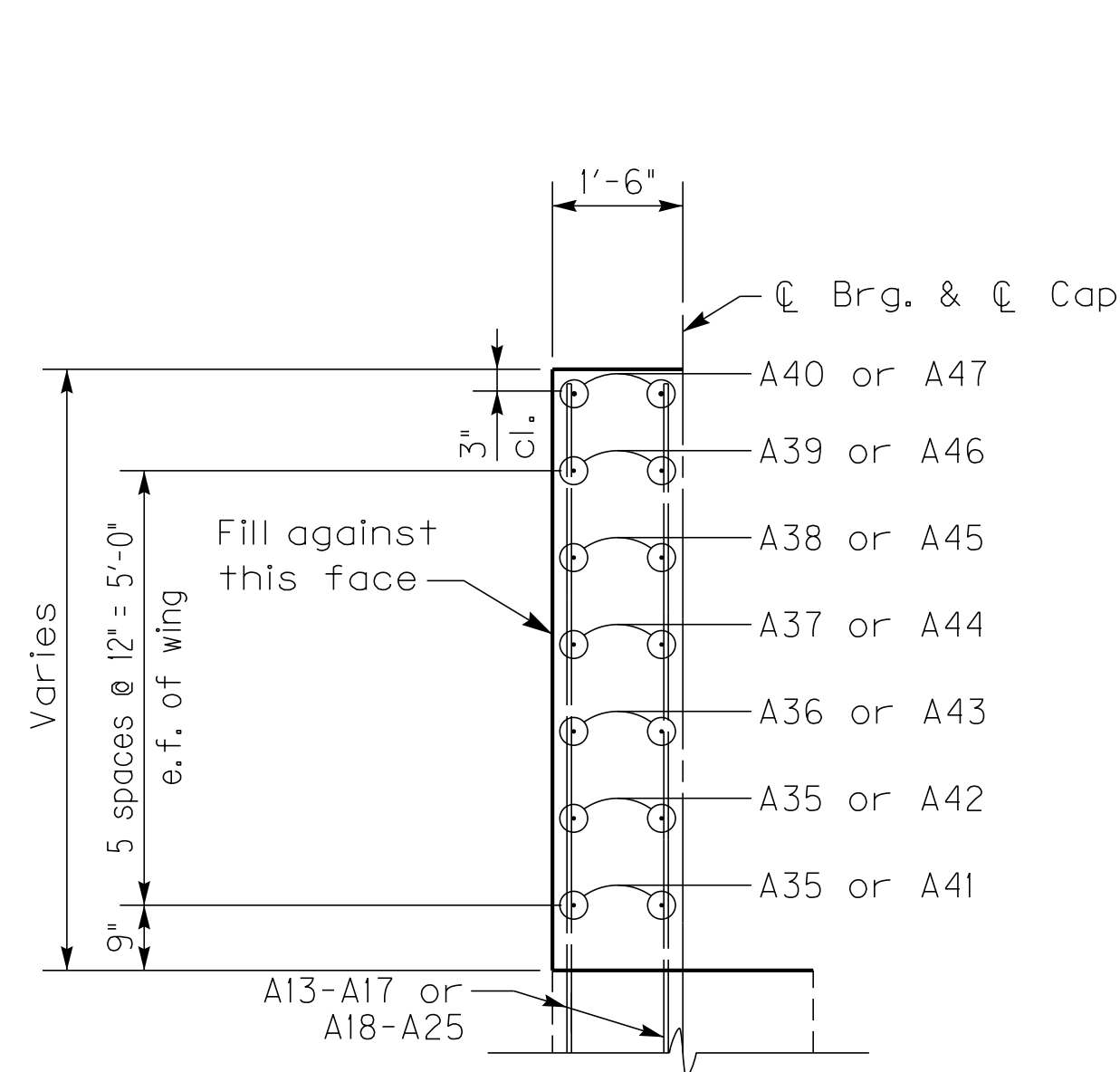
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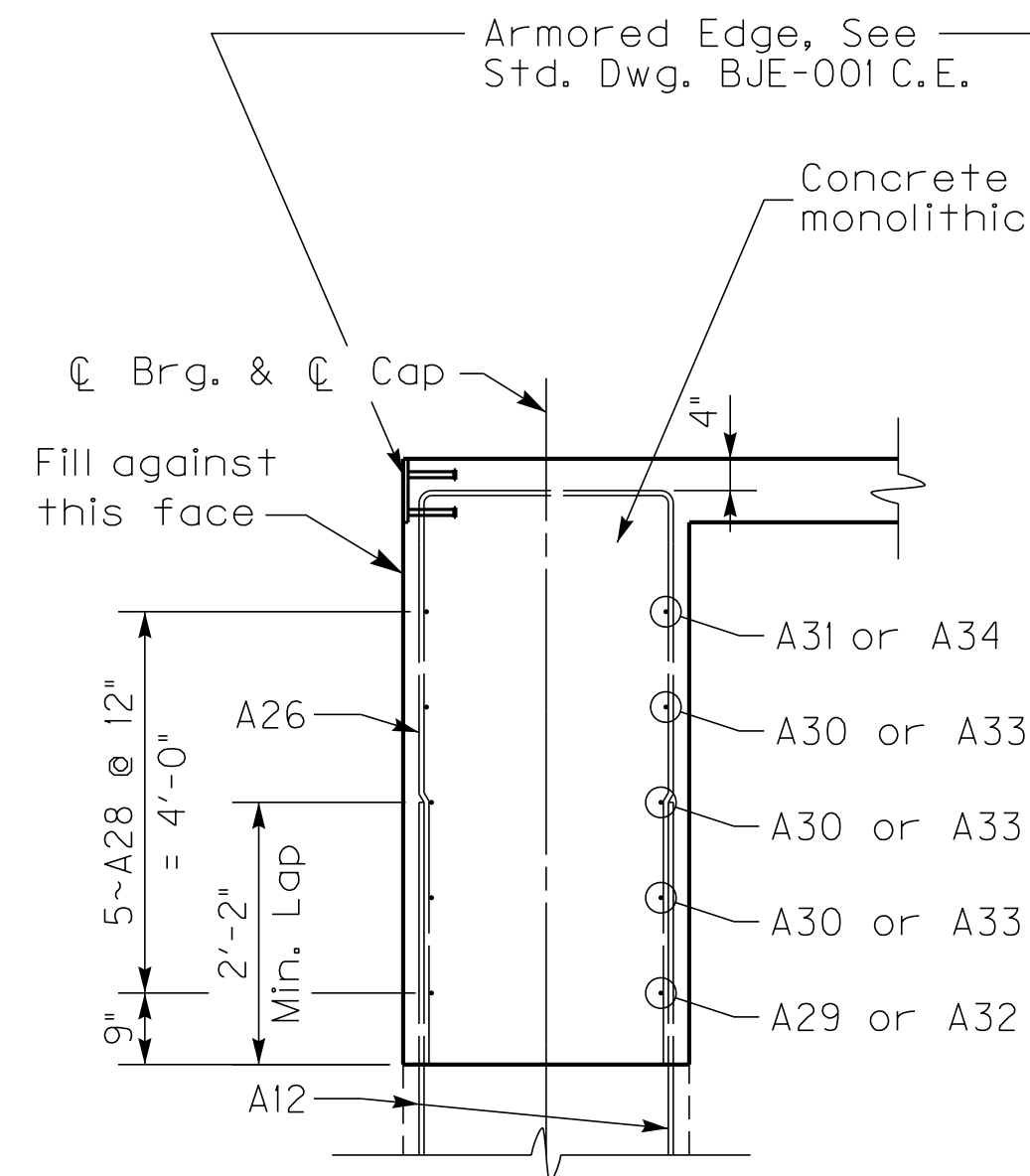
PLAN - Showing Diaphragm and Wing Reinforcement



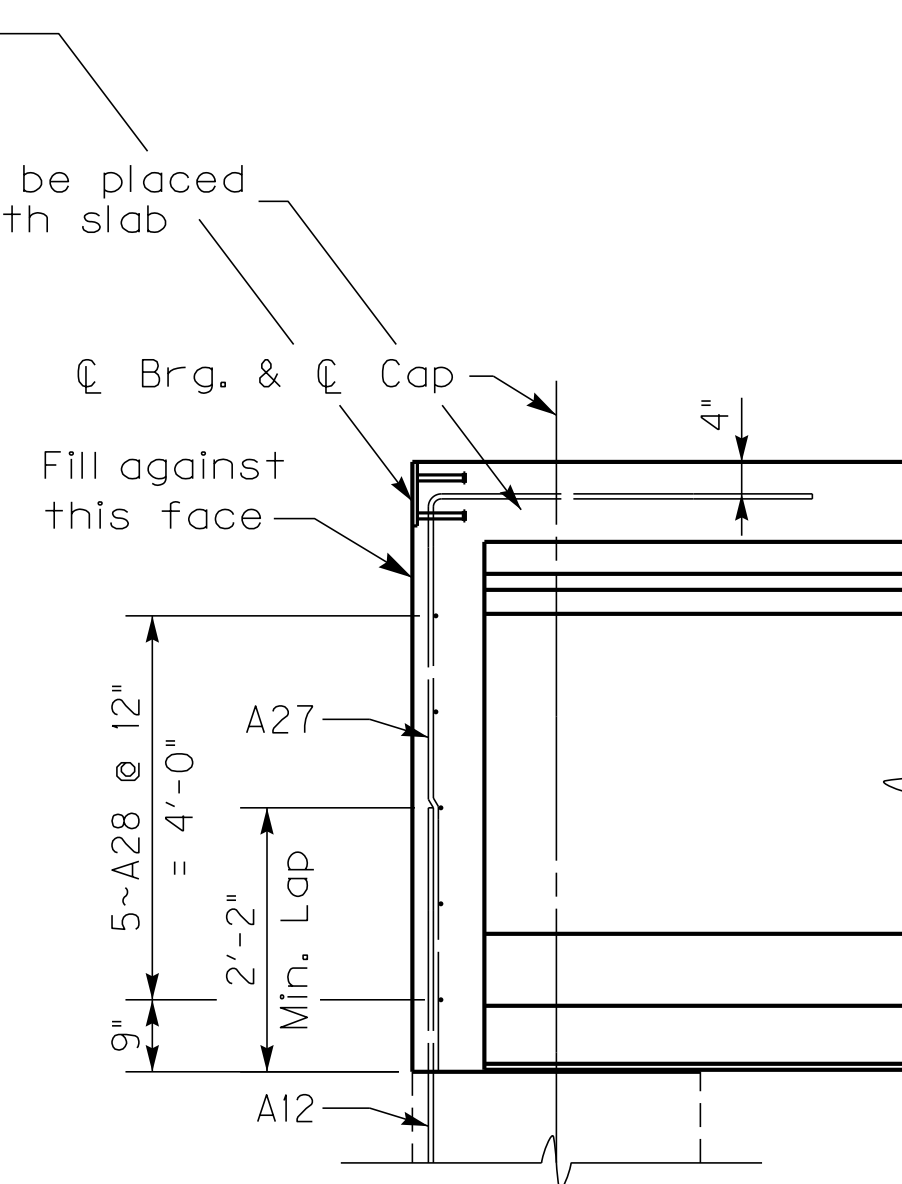
ELEVATION - Showing Diaphragm and Wing Reinforcement



SECTION D-D



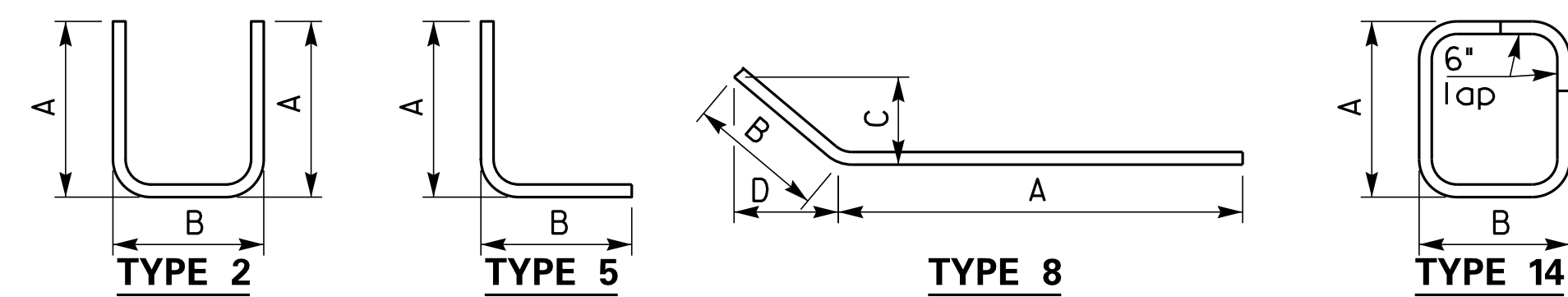
SECTION E-E



SECTION F-F

INSERTS REMOVED
REVISED 9/9/10

BILL OF REINFORCEMENT									
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A	B	C	D
A1e	14s	16	5	11-0	Cap	2-7	2-8		
A2e	14s	8	5	12-1	Cap	3-1 1/2	2-8		
A3e	14s	8	5	13-2	Cap	3-8 1/8	2-8		
A4e	14s	8	5	14-3	Cap	4-2 5/8	2-8		
A5e	14s	20	5	15-4	Cap	4-9 1/4	2-8		
A6e	Str.	18	8	36-6	Cap				
A7e	Str.	8	5	35-3	Cap				
A8e	Str.	4	5	49-10	Cap				
A9e	Str.	4	5	40-10	Cap				
A10e	Str.	4	5	31-10	Cap				
A11e	Str.	4	5	22-10	Cap				
A12e	Str.	71	5	4-0	Cap/Diaphragm				
A13e	Str.	4	5	4-0	Cap/Wing "A"				
A14e	Str.	4	5	4-11	Cap/Wing "A"				
A15e	Str.	4	5	5-11	Cap/Wing "A"				
A16e	Str.	4	5	6-11	Cap/Wing "A"				
A17e	Str.	6	5	7-9	Cap/Wing "A"				
A18e	Str.	6	5	8-0	Cap/Wing "B"				
A19e	Str.	4	5	7-3	Cap/Wing "B"				
A20e	Str.	4	5	6-3	Cap/Wing "B"				
A21e	Str.	4	5	5-3	Cap/Wing "B"				
A22e	Str.	4	5	4-3	Cap/Wing "B"				
A23e	Str.	4	5	3-3	Cap/Wing "B"				
A24e	Str.	4	5	2-3	Cap/Wing "B"				
A25e	Str.	2	5	1-9	Cap/Wing "B"				
A26e	2s	28	5	13-9	Diaphragm	5-8	2-8		
A27e	5s	15	5	9-8	Diaphragm	5-8	4-1		
A28e	Str.	5	5	43-0	Diaphragm				
A29e	Str.	2	5	2-3	Diaphragm				
A30e	Str.	6	5	2-11	Diaphragm				
A31e	Str.	2	5	2-10	Diaphragm				
A32e	Str.	4	5	7-3	Diaphragm				
A33e	Str.	12	5	8-2	Diaphragm				
A34e	Str.	4	5	6-7	Diaphragm				
A35e	Str.	4	5	11-7	Wing "A"				
A36e	Str.	2	5	11-5	Wing "A"				
A37e	Str.	2	5	9-5	Wing "A"				
A38e	Str.	2	5	7-5	Wing "A"				
A39e	Str.	2	5	3-9	Wing "A"				
A40e	8s	2	6	10-10	Top of Wing "A"	8-6 3/4	2-3 1/2	1-0 1/4	2-0 5/8
A41e	Str.	2	5	15-7	Wing "B"				
A42e	Str.	2	5	13-7	Wing "B"				
A43e	Str.	2	5	11-7	Wing "B"				
A44e	Str.	2	5	9-7	Wing "B"				
A45e	Str.	2	5	7-7	Wing "B"				
A46e	Str.	2	5	5-7	Wing "B"				
A47e	8s	2	6	16-2	Top of Wing "B"	14-0	2-2 1/8	0-11 5/8	1-11 3/8



REVISION		DATE
DATE:	November 2004	CHECKED BY
DESIGNED BY:	W. H. McKinney	C. Douglas
DETAILED BY:	W. E. Downey	W. H. McKinney
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS <small>COUNTY</small> MASON		
ROUTE	CROSSING	
US 62	North South Connector	
INTEGRAL END BENT #1 <small>PREPARED BY</small> Division of Bridge Design W. H. McKinney Section		
ITEM NUMBER		SHEET NO.
9-124.01		8
		DRAWING NO.
		25736

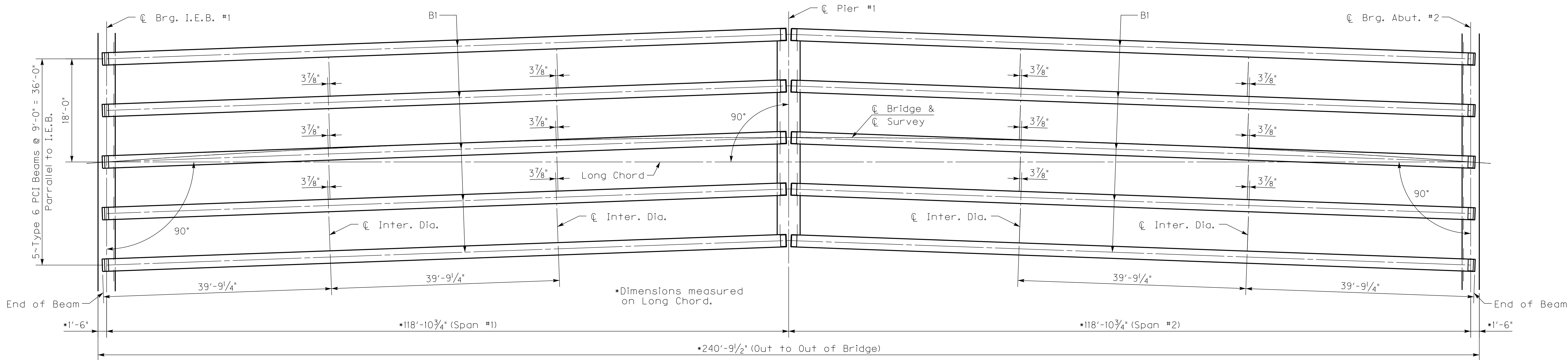
ITEM NUMBER
9-124.01

FILE NAME: H:\Archives\Mason\25736\25736.dgn

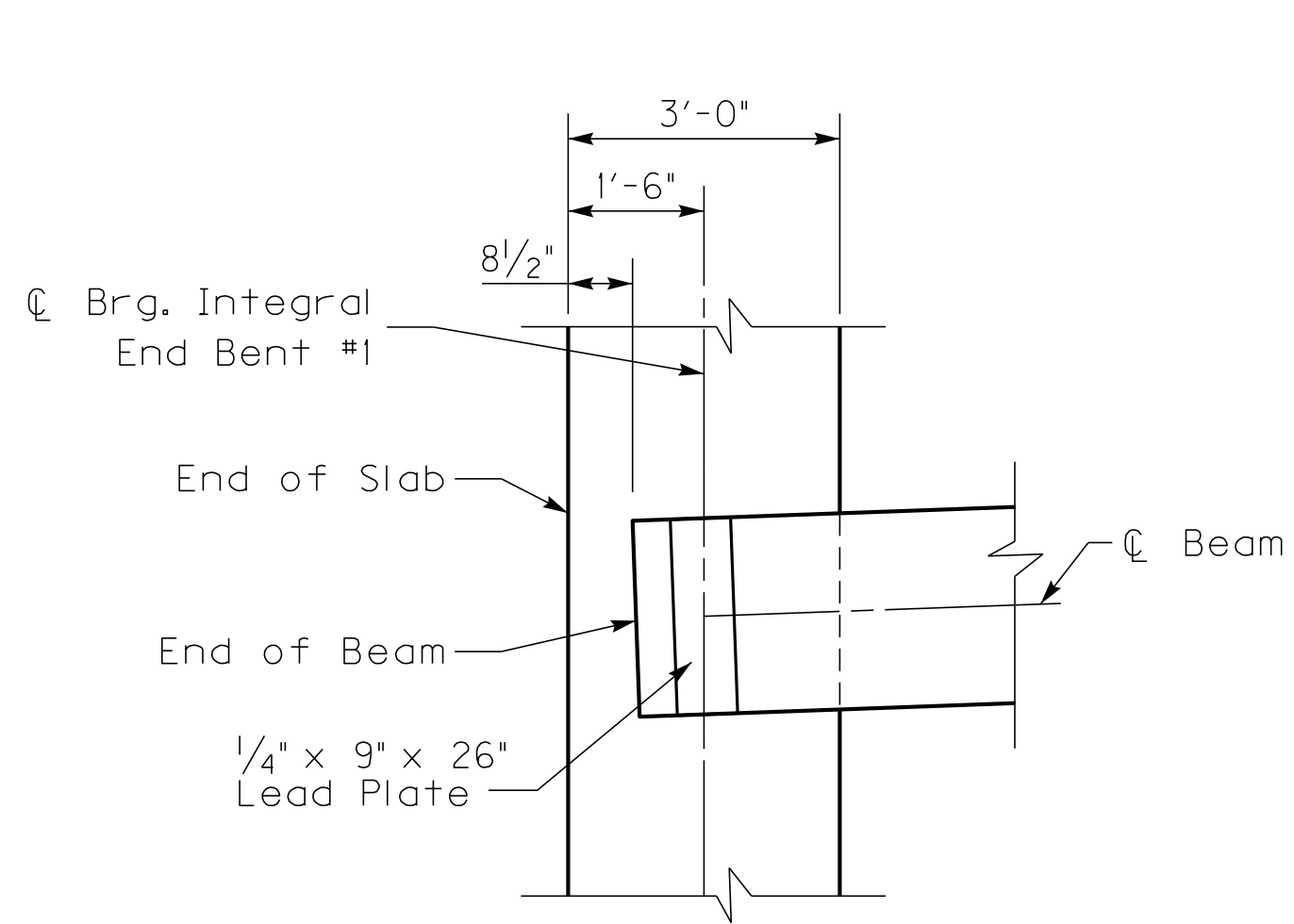
USERNAME: gary.newton

DATE: 08-SEP-2010

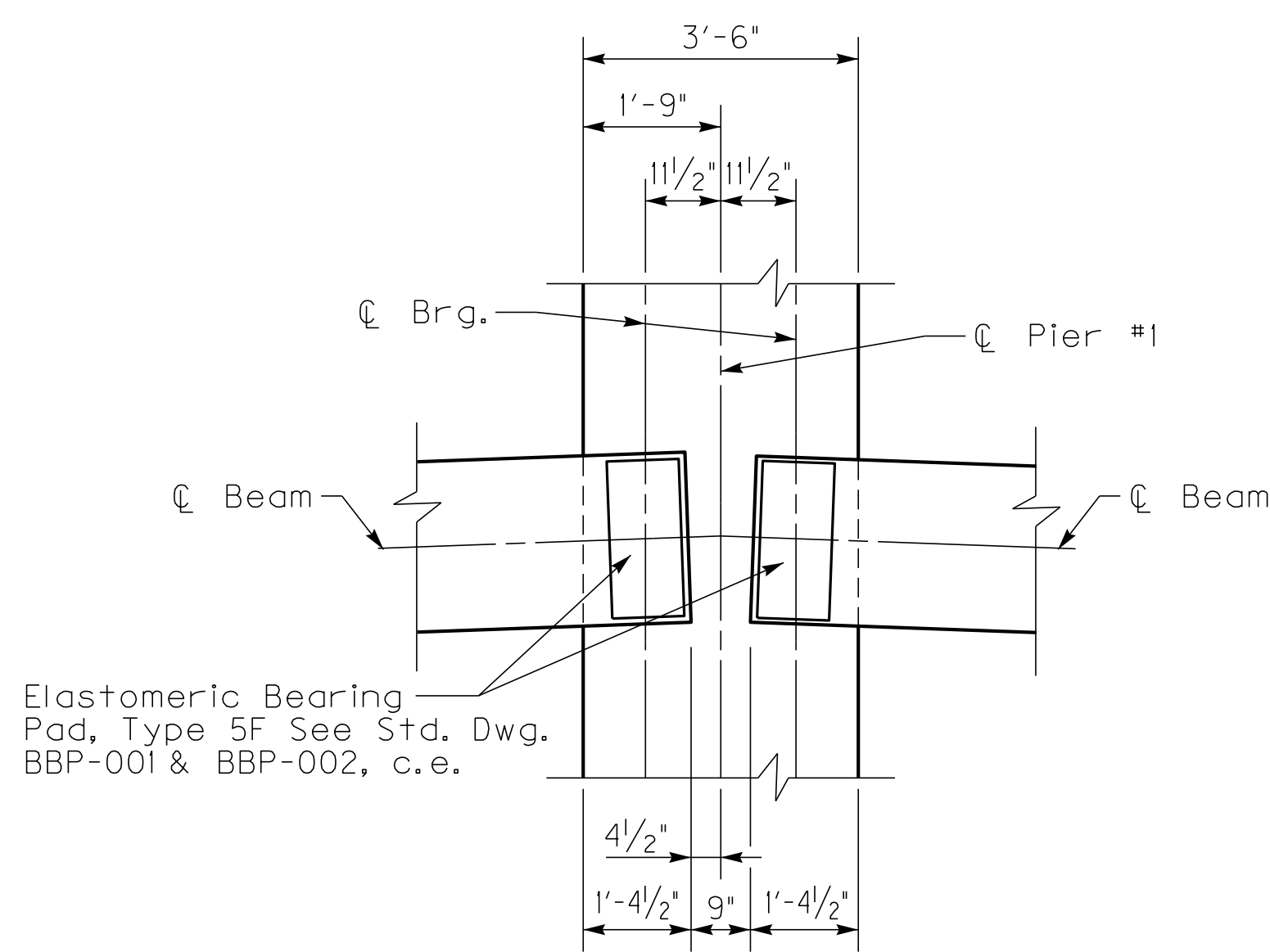
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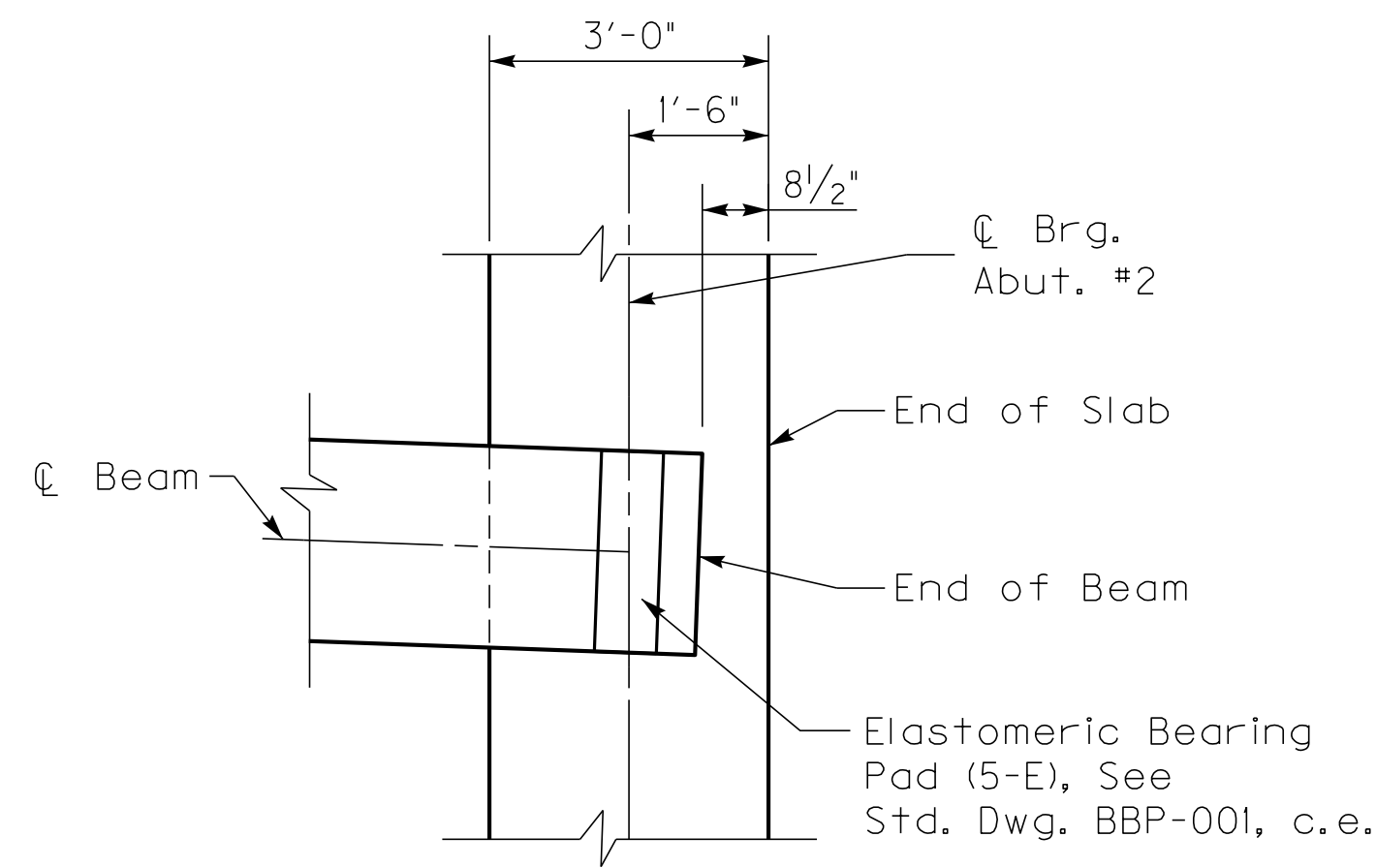
FRAMING PLAN



**END OF BEAM DETAIL
INTEGRAL END BENT #1**



**END OF BEAM DETAIL
FOR PIER**



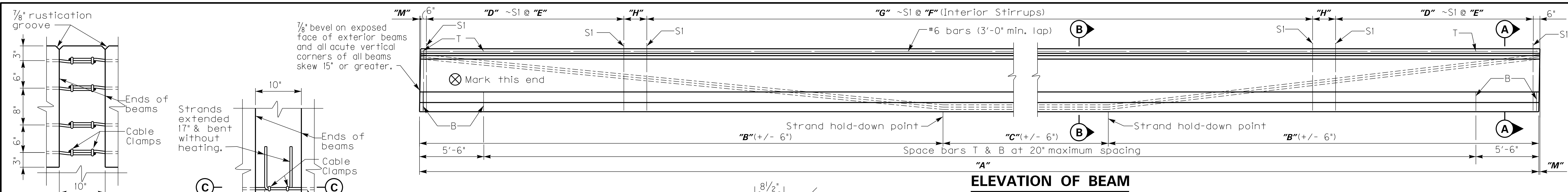
**END OF BEAM DETAIL
FOR ABUTMENT #2**

INSERTS
REMOVED
REVISED 9/9/10

REVISION		DATE
DATE:	November 2004	CHECKED BY
DESIGNED BY:	W. H. McKinney	C. Douglas
DETAILED BY:	W. E. Downey	W. H. McKinney
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
MASON		
ROUTE	CROSSING	
US 62	North South Connector	
FRAMING PLAN		
PREPARED BY		SHEET NO.
Division of Bridge Design		S13
W. H. McKinney Section		DRAWING NO.
		25736

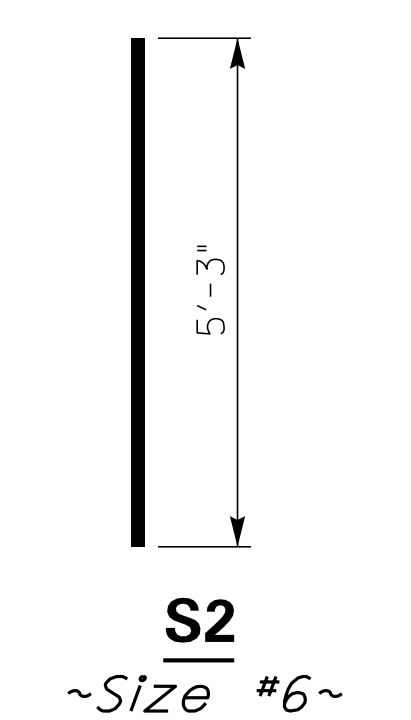
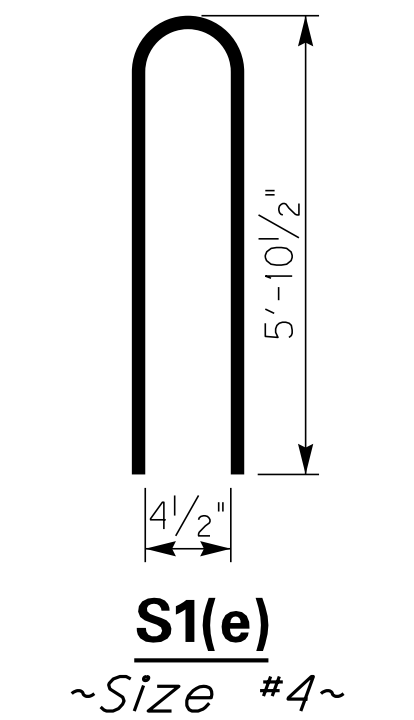
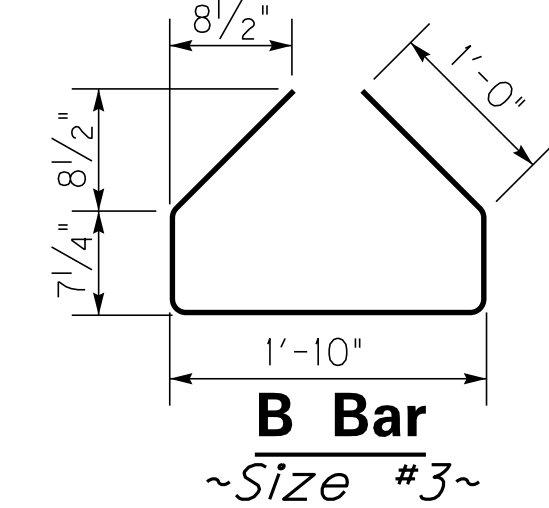
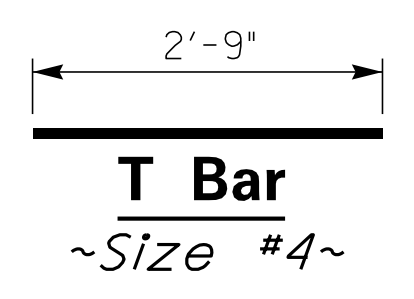
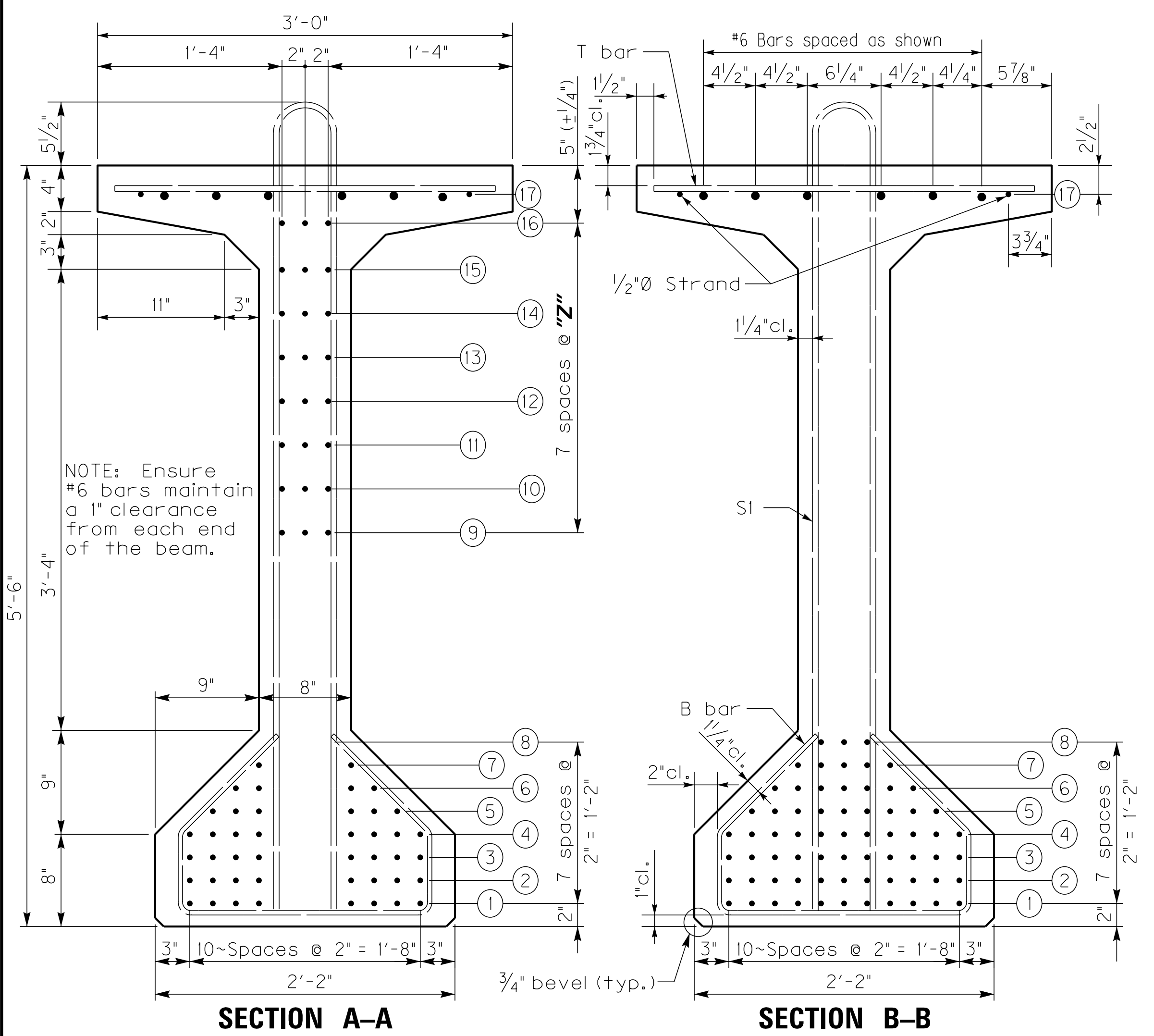
ITEM NUMBER
9-124.01

FILE NAME: H:\Archives\Mason\25736\25736.dgn
 USERNAME: gary.newton
 DATE: 08-SEP-2010
 SHEET LOCATION: PCI

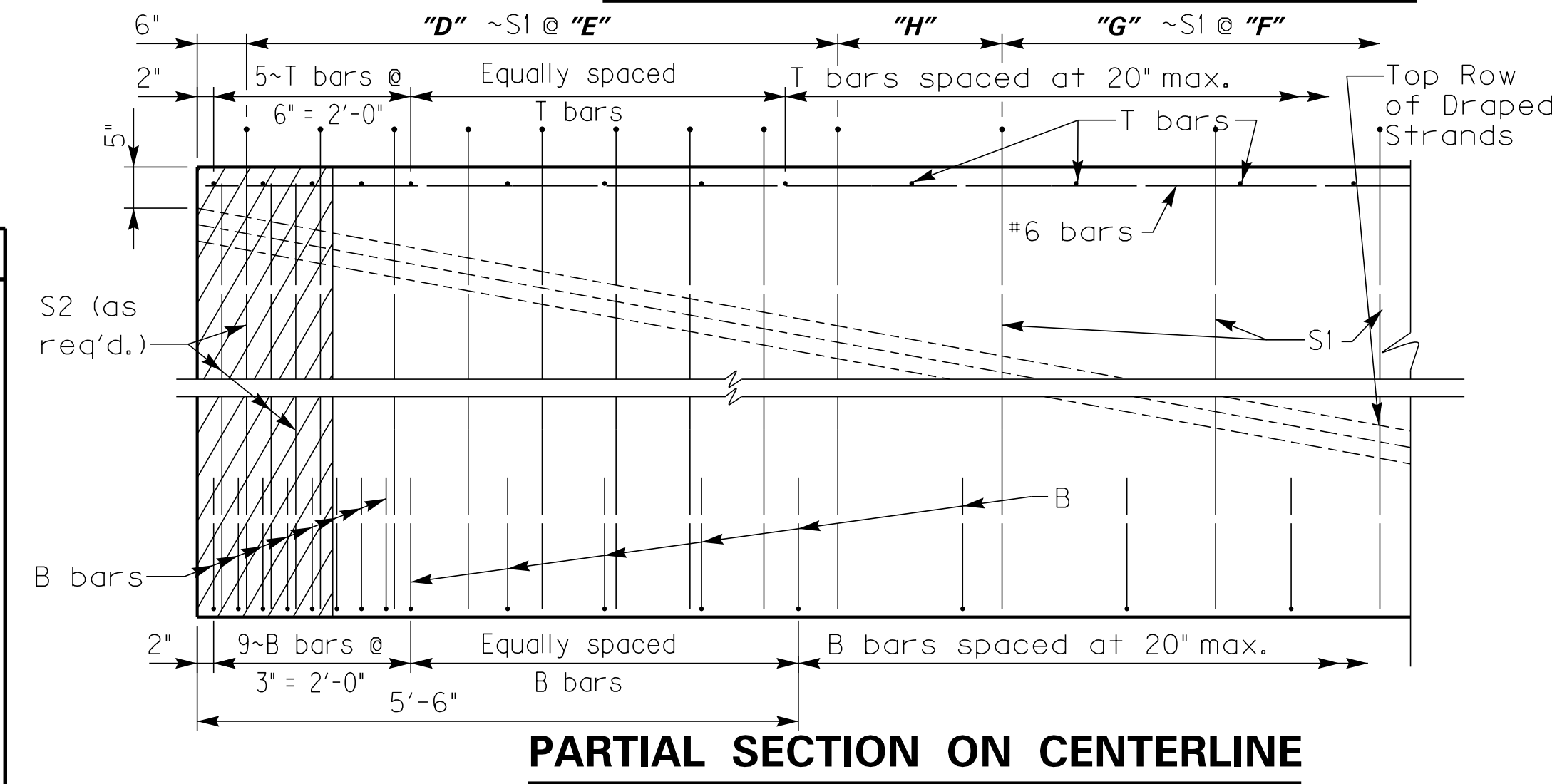
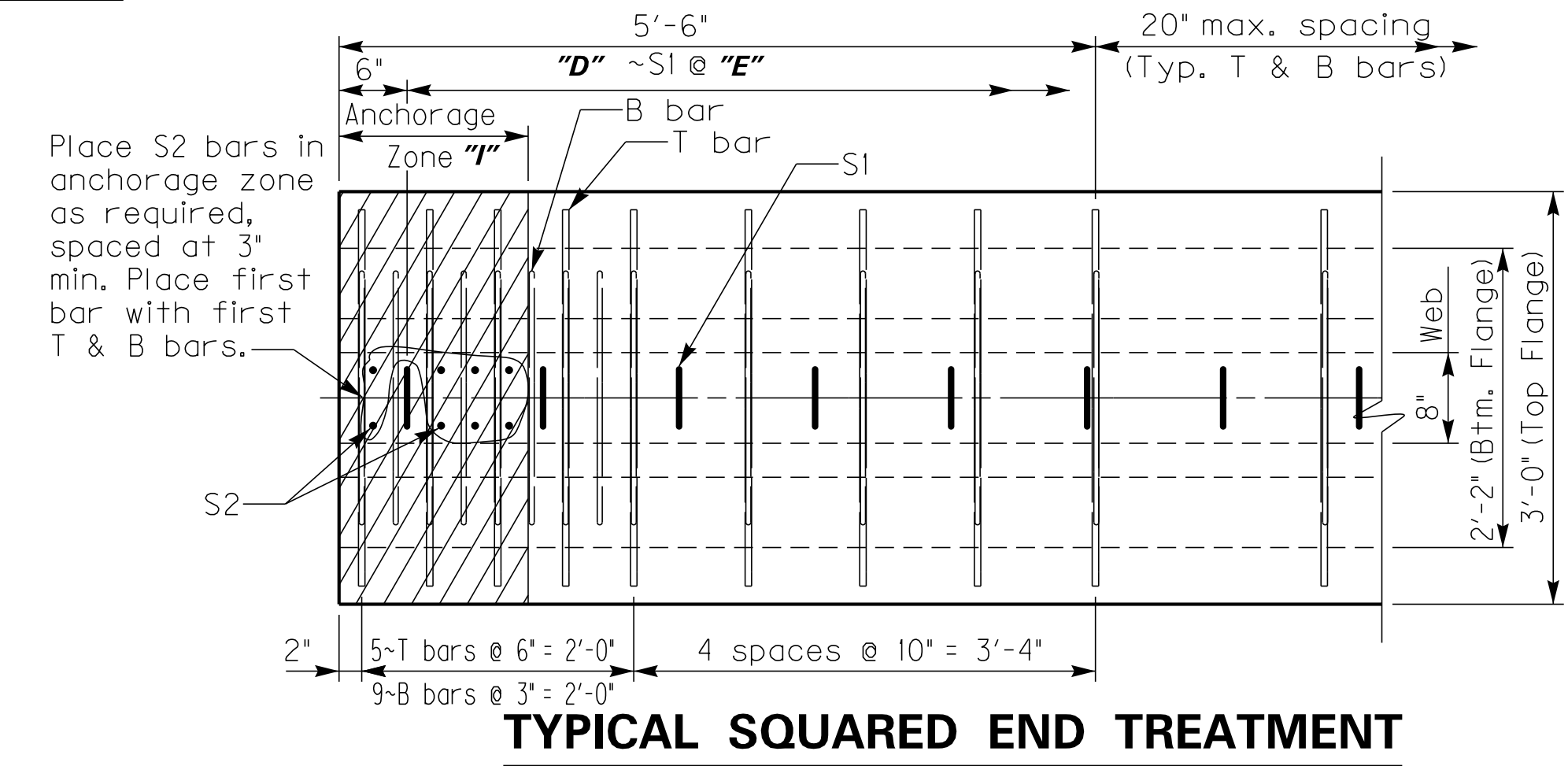


SECTION C-C

STRAND SPLICE DETAIL



INSERTS REMOVED
 REVISED 9/9/10



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" (nominal diameter, 0.153 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 plans 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 31,003 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.

Mark	Strand Data with number indicated in rows																	Total No.	Concrete Stress (psi)		No. of S Bars	Hold-Down Capacity lbs.	Beam Data (measured along centerline)													Approximate Weight (lbs.)	Maximum Allowable Camber									
	Midspan (SECTION B-B)								End (SECTION A-A)										f'ci	f'c			S1	S2	Dimensions																					
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17					A	B	C	D	E	F	G	H	I	Z	M						
B1	11	11	11	11	5				11	11	9	8	2														51	5000	7600	110	16	19229	10	119'-3 3/4"	54'-7 7/8"	10'-0"	48	12"	20"	14	15 1/8"	12 5/8"	2"	0"	112795	5"

REVISION		DATE
DATE:	November 2004	CHECKED BY
DESIGNED BY:	W. H. McKinney	C. Douglas
DETAILED BY:	W. E. Downey	W. H. McKinney
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
MASON		
ROUTE	CROSSING	
US 62	North South Connector	
PPC I-BEAM, 66", DETAILS		
PREPARED BY		SHEET NO.
Division of Bridge Design		S14
W. H. McKinney Section		DRAWING NO.
		25736

ITEM NUMBER
9-124.01

GENERAL SUMMARY

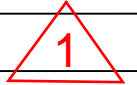
COUNTY OF	ITEM NO.	SHEET NO.
MASON	9-124.01	R2P

▲ REVISED 9-13-2010

NOTES:

- ① For controlling Dust Caused by Maintaining Traffic Only.
- ② Approximately 340 Ac.
- ③ For Maintenance of Traffic
- ④ For Channel Lining
- ⑤ For Wrapping Pipe Trench Backfill
- ⑥ Includes Totals from Ditch Charts on Plan Sheets (28,438 SY) and Erosion Control Summary (125,000 SY).
- ⑦ See Sheets R2T and R2W for Alternate Pavement Earthwork Quantities.

ITEM	DESCRIPTION	UNIT	PROJECT TOTALS														
78	CRUSHED AGGREGATE SIZE NO 2	TON	50														
1310	REMOVE PIPE	LIN FT	93														
1890	ISLAND HEADER CURB TYPE 1	LF	200														
1982	DELINEATOR FOR GUARDRAIL-WHITE	EACH	10														
1984	DELINEATOR FOR BARRIER-WHITE	EACH	3														
2014	BARRICADE - TYPE III	EACH	16														
2091	REMOVE PAVEMENT	SQ YD	1016														
2159	TEMP DITCH	LIN FT	33,528														
⑦ 2200	ROADWAY EXCAVATION	CU YD	-														
① 2242	WATER	M GAL	450														
2262	FENCE - WOVEN WIRE TYPE 1	LIN FT	55,662														
2282	PEDESTRIAN WOVEN WIRE GATE	EACH	1														
2289	DOUBLE VEHICULAR WOVEN WIRE GATE	EACH	2														
2347	WATER GATE TYPE 1	EACH	5														
2351	GUARDRAIL-STEEL W BEAM S-FACE	LIN FT	6,982														
2352	GUARDRAIL-STEEL W BEAM D-FACE	LIN FT	1,492														
2360	GUARDRAIL TERMINAL SECTION NO. 1	EACH	5														
2363	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A	EACH	12														
2366	GUARDRAIL TERMINAL SECTION NO. 3	EACH	4														
2369	GUARDRAIL END TREATMENT TYPE 2A	EACH	9														
2381	REMOVE GUARDRAIL	LIN FT	868														
2391	GUARDRAIL END TREATMENT TYPE 4A	EACH	18														
2429	RIGHT-OF-WAY MONUMENT TYPE 1	EACH	307														
2432	WITNESS POST	EACH	307														
2482	CHANNEL LINING CLASS IA	TON	136														
2483	CHANNEL LINING CLASS II	TON	15,332														
2484	CHANNEL LINING CLASS III	TON	3,666														
② 2545	CLEARING & GRUBBING	LS	1														
③ 2562	SIGNS	SQ FT	1,180														
2568	MOBILIZATION	LS	1														
2569	DEMOBILIZATION	LS	1														
2585	EDGE KEY	LF	173														
④ 2596	FABRIC-GEOTEXTILE TYPE I	SQ YD	21,919														
⑤ 2600	FABRIC-GEOTEXTILE TYPE IV FOR PIPE	SQ YD	25,383														
2650	MAINTAIN AND CONTROL TRAFFIC	LS	1														
2651	DIVERSIONS (BY-PASS DETOURS)	LS	1														
2701	TEMP SILT FENCE	LIN FT	33,528														
2703	SILT TRAP TYPE A	EACH	286														
2704	SILT TRAP TYPE B	EACH	286														
2705	SILT TRAP TYPE C	EACH	286														
2706	CLEAN SILT TRAP TYPE A	EACH	1,716														
2707	CLEAN SILT TRAP TYPE B	EACH	1,716														
2708	CLEAN SILT TRAP TYPE C	EACH	1,716														
2709	CLEAN TEMP SILT FENCE	LIN FT	33,528														
2726	STAKING	LS	1														
2929	CRASH CUSHION TYPE IX	EACH	2														
4934	TEMP SIGNAL MULTI PHASE	LS	1														
5026	EASTERN WHITE PINE	EACH	28														
⑥ 5950	EROSION CONTROL BLANKET	SQ YD	153,438														
5952	TEMP MULCH	SQ YD	1,385,498														
5953	TEMP SEEDING AND PROTECTION	SQ YD	1,103,617														
5966	TOP DRESSING FERTILIZER	TON	71.70														
5985	SEEDING AND PROTECTION	SQ YD	1,103,617														



USER: \$\$\$USER\$\$\$
 DATE: \$\$\$DATE\$\$\$
 FILE NAME: \$\$\$designsfiles\$specifications\$\$\$
 E-SHEET NAME: R0020FSU
 PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
 APPROVED BY _____ DATE _____

GENERAL SUMMARY