



COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET

www.transportation.ky.gov/

Andy Beshear
GOVERNOR

Jim Gray
SECRETARY

February 23, 2022

CALL NO. 104
CONTRACT ID NO. 221008
ADDENDUM # 2

Subject: Owen County, STP BRZ 0603 (279)
Letting February 24, 2022

- (1) Revised - Proposal Bid Items - Pages 98-99 of 99
- (2) Revised - Plan Sheets - S1, S2, S3, and S5

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

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

Sincerely,

Rachel Mills,

A handwritten signature in cursive script that reads "Rachel Mills".

Rachel Mills, P.E.
Director
Division of Construction Procurement

RM:mr
Enclosures

PROPOSAL BID ITEMS

221008

Page 1 of 2

Report Date 2/22/22

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	146.00	TON		\$	
0020	00003		CRUSHED STONE BASE	193.00	TON		\$	
0030	00078		CRUSHED AGGREGATE SIZE NO 2	169.00	TON		\$	
0040	00100		ASPHALT SEAL AGGREGATE	20.65	TON		\$	
0050	00103		ASPHALT SEAL COAT	.13	TON		\$	
0060	00221		CL2 ASPH BASE 0.75D PG64-22	79.00	TON		\$	
0070	00301		CL2 ASPH SURF 0.38D PG64-22	23.00	TON		\$	
0080	02602		FABRIC-GEOTEXTILE CLASS 1	125.00	SQYD		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0090	01891		ISLAND HEADER CURB TYPE 2	100.00	LF		\$	
0100	01984		DELINEATOR FOR BARRIER - WHITE	6.00	EACH		\$	
0110	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	4.00	EACH		\$	
0120	02014		BARRICADE-TYPE III	2.00	EACH		\$	
0130	02159		TEMP DITCH	311.00	LF		\$	
0140	02230		EMBANKMENT IN PLACE	397.00	CUYD		\$	
0150	02242		WATER	15.00	MGAL		\$	
0160	02351		GUARDRAIL-STEEL W BEAM-S FACE	200.00	LF		\$	
0170	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	4.00	EACH		\$	
0180	02371		GUARDRAIL END TREATMENT TYPE 7	4.00	EACH		\$	
0190	02429		RIGHT-OF-WAY MONUMENT TYPE 1	8.00	EACH		\$	
0200	02432		WITNESS POST	8.00	EACH		\$	
0210	02545		CLEARING AND GRUBBING 0.15 ACRES	1.00	LS		\$	
0220	02562		TEMPORARY SIGNS	50.00	SQFT		\$	
0230	02565		OBJECT MARKER TYPE 2	4.00	EACH		\$	
0240	02585		EDGE KEY	30.00	LF		\$	
0250	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0260	02651		DIVERSIONS (BY-PASS DETOURS)	1.00	LS		\$	
0270	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0280	02677		ASPHALT PAVE MILLING & TEXTURING	52.00	TON		\$	
0290	02701		TEMP SILT FENCE	156.00	LF		\$	
0300	02709		CLEAN TEMP SILT FENCE	156.00	LF		\$	
0310	02726		STAKING	1.00	LS		\$	
0320	02731		REMOVE STRUCTURE	1.00	LS		\$	
0330	05950		EROSION CONTROL BLANKET	270.00	SQYD		\$	
0340	05952		TEMP MULCH	726.00	SQYD		\$	
0350	05953		TEMP SEEDING AND PROTECTION	726.00	SQYD		\$	
0360	05985		SEEDING AND PROTECTION	249.00	SQYD		\$	
0370	06401		FLEXIBLE DELINEATOR POST-M/W	32.00	EACH		\$	
0380	23964EC		PROTECTIVE FENCE	974.00	LF		\$	

PROPOSAL BID ITEMS

221008

Page 2 of 2

Report Date 2/22/22

Section: 0003 - BRIDGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0390	02231		STRUCTURE GRANULAR BACKFILL	146.00	CUYD		\$	
0400	03299		ARMORED EDGE FOR CONCRETE	28.90	LF		\$	
0410	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0420	08019		CYCLOPEAN STONE RIP RAP	43.00	TON		\$	
0430	08033		TEST PILES (REVISED 2-22-2022)	40.00	LF		\$	
0435	08039		PRE-DRILLING FOR PILES (ADDED 2-22-2022)	93.00	LF		\$	
0440	08051		PILES-STEEL HP14X89 (REVISED 2-22-2022)	70.00	LF		\$	
0460	08100		CONCRETE-CLASS A	16.30	CUYD		\$	
0470	08104		CONCRETE-CLASS AA	102.10	CUYD		\$	
0480	08151		STEEL REINFORCEMENT-EPOXY COATED	21,118.00	LB		\$	
0490	08301		REMOVE SUPERSTRUCTURE	1.00	LS		\$	
0500	08635		PRECAST PC I BEAM TYPE 6	411.00	LF		\$	
0510	23378EC		CONCRETE SEALING	7,182.00	SQFT		\$	
0520	23813EC		DECK DRAIN	10.00	EACH		\$	
0530	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	278.00	LF		\$	

Section: 0004 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0540	02569		DEMOBILIZATION	1.00	LS		\$	

GENERAL NOTES

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

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

FUTURE WEARING SURFACE: This Structure is designed for a 60 PSF future wearing surface load.

DESIGN STRESSES: Concrete Class "A" ~ f'c = 3500 psi
Concrete Class "AA" ~ f'c = 4000 psi
Steel Reinforcement ~ Fy = 60,000 psi
Steel Piling ~Fy = 50,000 psi

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

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

BEVELED EDGES: Bevel all exposed edges $\frac{3}{4}$ ", unless otherwise noted.

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

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

FOUNDATION DATA: See Foundation Layout Sheet.

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

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

SLOPE PROTECTION: Use dry cyclopean stone rip rap in accordance with the plans and specifications. Geotextile fabric is to be incidental to the slope protection. Excavation for rip rap placement is included in the quantity shown for Foundation Preparation.

MASONRY COATING: Contrary to the Specifications, do not apply Masonry Coating. Apply Concrete Sealing in place of Masonry Coating as noted in CONCRETE SEALER note.

CONCRETE SEALER: All areas detailed in the specifications as requiring masonry coating shall be sealed in accordance with the special note for concrete sealing. The superstructure deck, barriers, and overhangs shall also be sealed as shown herein these plans. Concrete surfaces (except the deck) shall receive the ordinary surface finish as described in section 601.03.18(A) prior to being sealed.

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

bet.	Between	Tan	Tangent
b. f.	Back Face	Thru	Through
B0F	Bottom of Footing	T0F	Top of Footing
B0S	Bottom of Slab	T0S	Top of Slab
bot.	Bottom	Tot.	Total
Brg.	Bearing	Typ.	Typical
C to C	Center to Center	Ver't.	Vertical
c. e.	Current Edition	W.P.	Working Point
C. Y.	Cubic Yard	Yd.	Yard
Chd.	Chord		
CL	Center Line		
C l r.	Clear		
Conc.	Concrete		
Cu.	Cubic		
Dwg.	Drawing		
e. f.	Each Face		
El.	Elevation		
eq.	Equal		
Est.	Estimate		
Ext.	Exterior		
F to F	Face to Face		
f. f.	Front Face		
f. s.	Far Side		
fr.	Front		
ft.	Feet		
I. D.	Inside Diameter		
in.	Inch		
Int.	Interior		
L	Left		
LBS	Low Bridge Seat		
LBS.	Pounds		
M	Meter		
MPH	Miles per Hour		
n. s.	Near Side		
O. D.	Outside Diameter		
Opp.	Opposite		
PC	Point of Curve		
Perp.	Perpendicular		
PI	Point of Intersection		
PPC	Precast Prestressed Concrete		
PPCDU	Precast Prestressed Concrete Deck Unit		
PSI	Pounds per Square Inch		
PT	Point of Tangent		
R	Radius		
R	Right		
RCBC	Reinforced Concrete Box Culvert		
RCDG	Reinforced Concrete Deck Girder		
Req'd.	Required		
RR	Railroad		
Shld	Shoulder		
spa.	Spaces		
Sta.	Station		
Std.	Standard		
Str.	Straight		

Switched to pre-drilled piles (MED) Feb-2022

REVISION	DATE
March 2020	
DESIGNED BY: K. Ee	E. Kilgore
DETAILED BY: K. Ee	E. Kilgore

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
OWEN

ROUTE CROSSING
CR 1214 Cedar Creek

GENERAL NOTES

PREPARED BY
Division of Structural Design

ITEM NUMBER
6-1088.00

SHEET NO.
S2

DRAWING NO.
28097

GENERAL NOTES

Removed Pile Points note

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

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

FUTURE WEARING SURFACE: This Structure is designed for a 60 PSF future wearing surface load.

DESIGN STRESSES: Concrete Class "A" ~ f'c = 3500 psi
Concrete Class "AA" ~ f'c = 4000 psi
Steel Reinforcement ~ Fy = 60,000 psi
Steel Piling ~Fy = 50,000 psi

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

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

BEVELED EDGES: Bevel all exposed edges $\frac{3}{4}$ ", unless otherwise noted.

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

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

FOUNDATION DATA: See Foundation Layout Sheet.

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

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

SLOPE PROTECTION: Use dry cyclopean stone rip rap in accordance with the plans and specifications. Geotextile fabric is to be incidental to the slope protection. Excavation for rip rap placement is included in the quantity shown for Foundation Preparation.

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

bet.	Between	Tan	Tangent
b. f.	Back Face	Thru	Through
B0F	Bottom of Footing	T0F	Top of Footing
B0S	Bottom of Slab	T0S	Top of Slab
bot.	Bottom	Tot.	Total
Brg.	Bearing	Typ.	Typical
C to C	Center to Center	Ver't.	Vertical
c. e.	Current Edition	W.P.	Working Point
C. Y.	Cubic Yard	Yd.	Yard
Chd.	Chord		
CL	Center Line		
C. r.	Clear		
Conc.	Concrete		
Cu.	Cubic		
Dwg.	Drawing		
e. f.	Each Face		
El.	Elevation		
eq.	Equal		
Est.	Estimate		
Ext.	Exterior		
F to F	Face to Face		
f. f.	Front Face		
f. s.	Far Side		
fr.	Front		
ft.	Feet		
I. D.	Inside Diameter		
in.	Inch		
Int.	Interior		
L	Left		
LBS	Low Bridge Seat		
LBS.	Pounds		
M	Meter		
MPH	Miles per Hour		
n. s.	Near Side		
O. D.	Outside Diameter		
Opp.	Opposite		
PC	Point of Curve		
Perp.	Perpendicular		
PI	Point of Intersection		
PPC	Precast Prestressed Concrete		
PPCDU	Precast Prestressed Concrete Deck Unit		
PSI	Pounds per Square Inch		
PT	Point of Tangent		
R	Radius		
R	Right		
RCBC	Reinforced Concrete Box Culvert		
RCDG	Reinforced Concrete Deck Girder		
Req'd.	Required		
RR	Railroad		
Shld	Shoulder		
spa.	Spaces		
Sta.	Station		
Std.	Standard		
Str.	Straight		

Switched to pre-drilled piles (MED) Feb-2022

REVISION	DATE
March 2020	CHECKED BY
DESIGNED BY: K. Ee	E. Kilgore
DETAILED BY: K. Ee	E. Kilgore

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
OWEN

ROUTE CROSSING
CR 1214 Cedar Creek

GENERAL NOTES

PREPARED BY

Division of Structural Design

ITEM NUMBER

6-1088.00

SHEET NO.

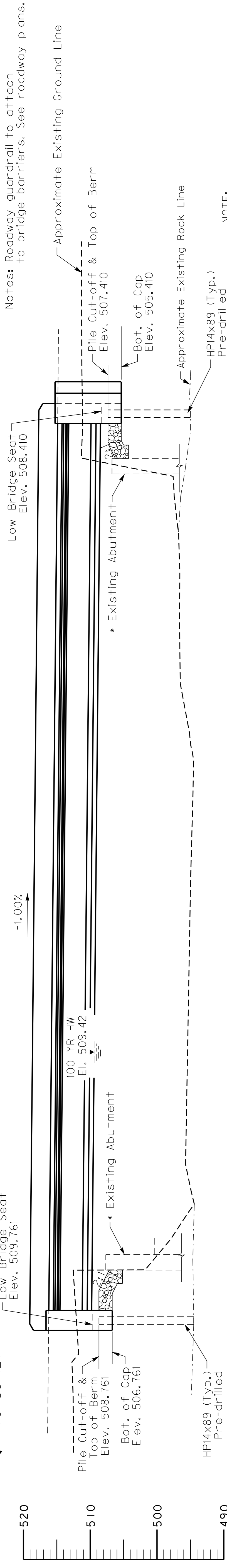
S2

DRAWING NO.

28097

◀ To US 127

To KY 607 ▶



ELEVATION

Integral End Bent #1
Fixed

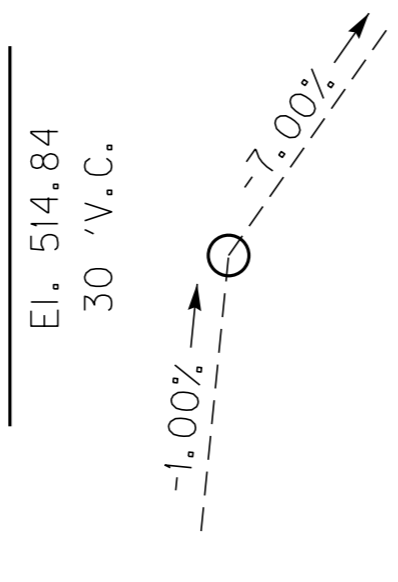
Integral End Bent #2
Fixed

136'-0" PPC I Beam Type 6, Simple Span
 KY-HL93 Live Load ~ 22'-5 1/2" Shoulder Width @ Bridge
 0° Skew ~ 14'-5 1/2" Bridge Roadway Width ~ 2:1 Fill Slopes

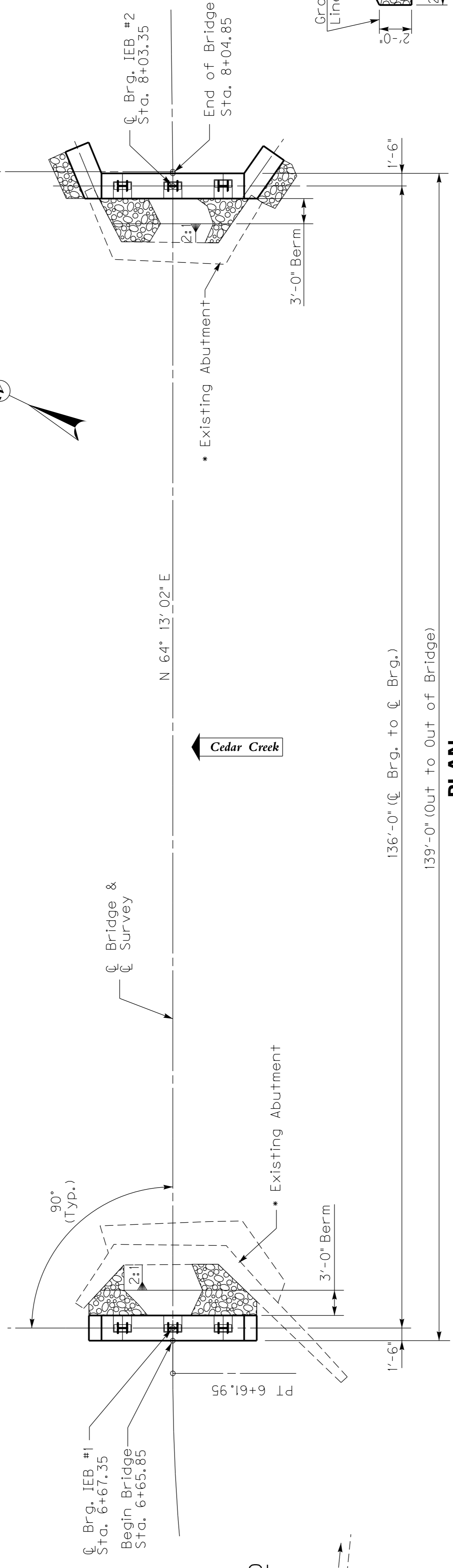
* The existing abutment is to remain. Remove top portions as needed to remain at least 6" above slope. Cost of this removal is incidental to remove existing superstructure.

NOTE:
 For end bent backfill and method of construction see Special Provision 69. All geotextile fabric, if required, is incidental to the structure granular backfill.

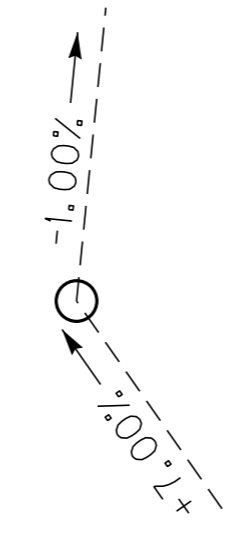
V.P.I. 8+18.30
 El. 514.84
 30' V.C.



Cedar Creek



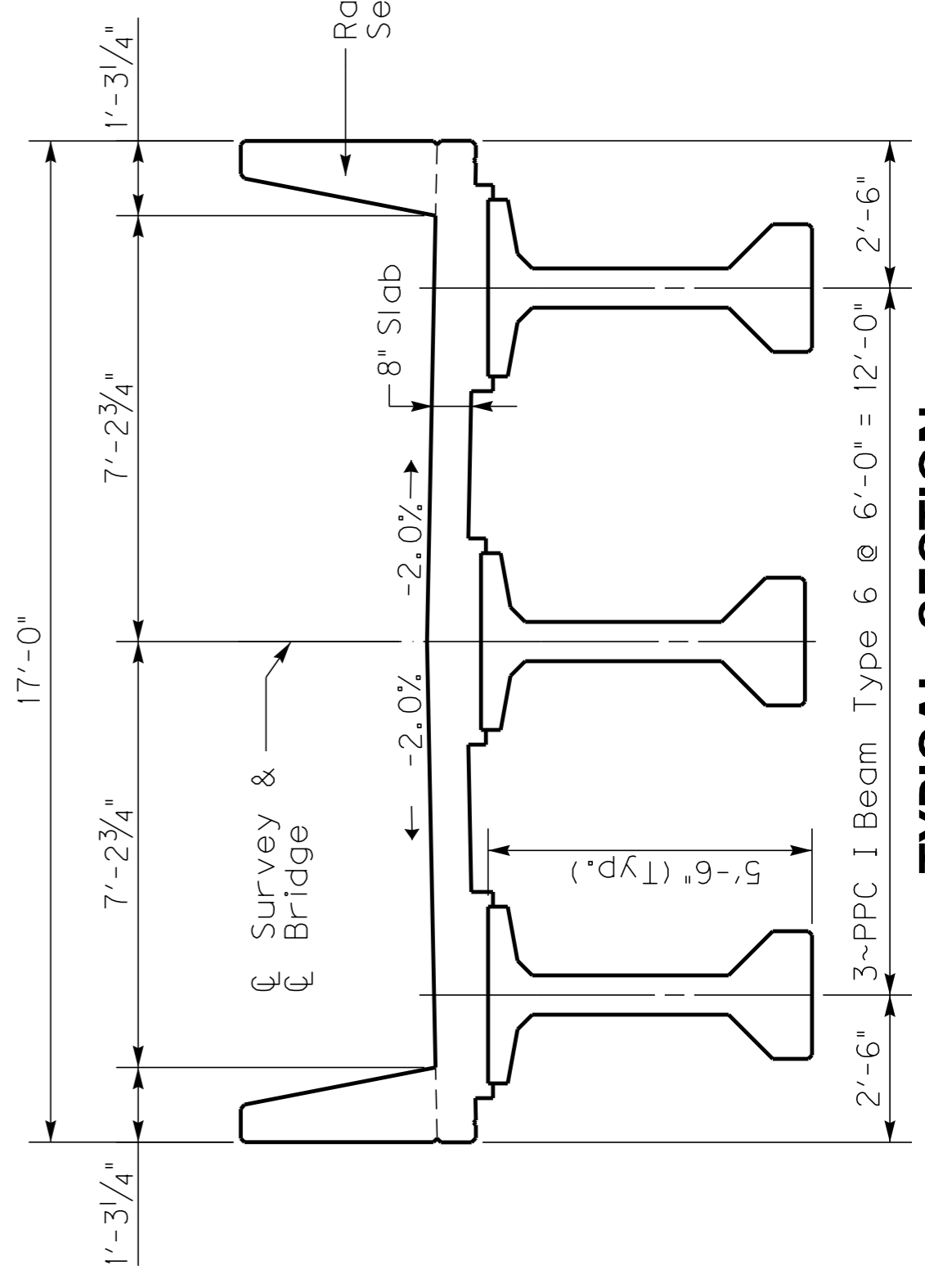
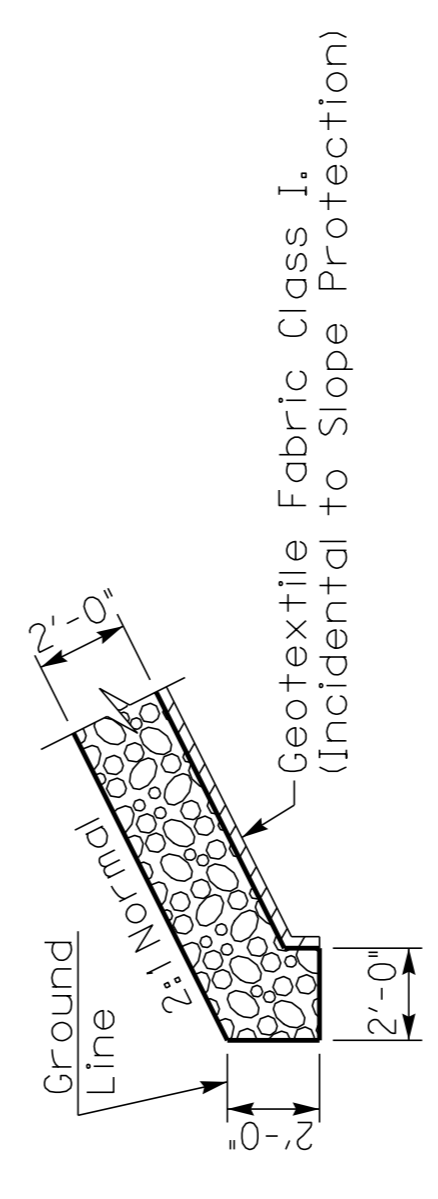
V.P.I. 6+53.30
 El. 516.48
 30' V.C.



PLAN

~Superstructure Not Shown~

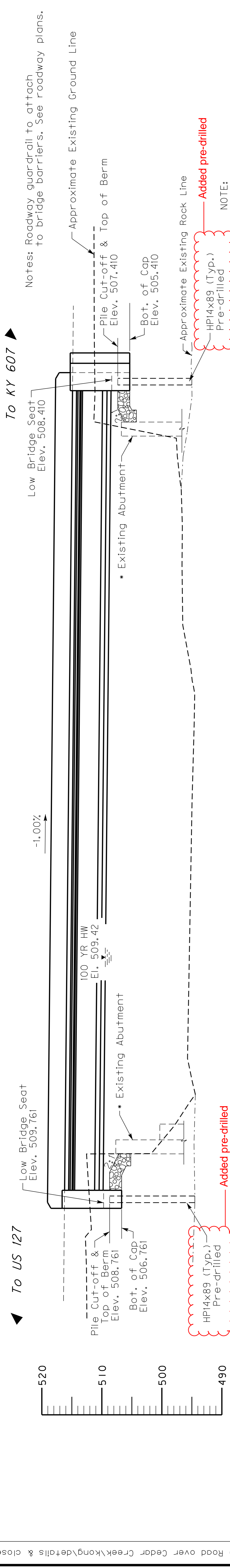
TOE OF SLOPE DETAIL



TYPICAL SECTION

Switched to pre-drilled piles (WED)		Feb-2022
REVISION	DATE	
DATE: August, 2019	CHECKED BY	
DESIGNED BY: K. Ee	E. Kilgore	
DETAILED BY: K. Ee	E. Kilgore	
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY OWEN		
ROUTE CR 1214	CROSSING Cedar Creek	
LAYOUT		
PREPARED BY		
Division of		
Structural Design		
SHEET NO. S3		DRAWING NO. 28097

ITEM NUMBER	6-1088.00
-------------	-----------



ELEVATION

136'-0" PPC I Beam Type 6, Simple Span

KY-HL93 Live Load ~ 22'-5 1/2" Shoulder Width @ Bridge

0° Skew ~ 14'-5 1/2" Bridge Roadway Width ~ 2:1 Fill Slopes

Integral End Bent #1 Fixed

Integral End Bent #2 Fixed

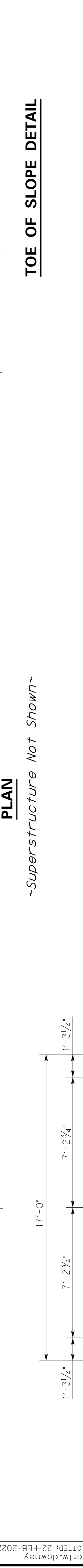
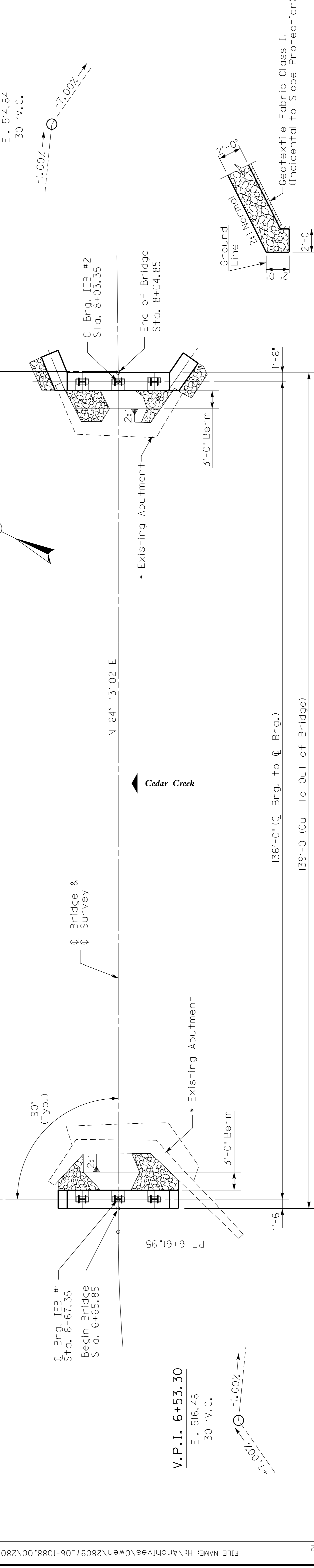
HP14x89 (Typ.) Pre-drilled

Added pre-drilled

NOTE: The existing abutment is to remain. Remove top portions as needed to remain at least 6" above slope. Cost of this removal is incidental to remove existing superstructure.

V.P.I. 6+53.30
El. 516.48
30' V.C.

-1.00%



Switched to pre-drilled piles (WED)

REVISION	DATE
August 2019	August 2019

DESIGNED BY: K. Ee
CHECKED BY: E. Kilgore

DATE: August 2019

DETAILED BY: K. Ee

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

CROSSING
Cedar Creek

ROUTE
CR 1214

OWEN

LAYOUT

PREPARED BY

ITEM NUMBER
6-1088.00

SHEET NO.
S3

DRAWING NO.
28097

Feb-2022

Sw

Feb-2022

Definitions of Terms

PILE CUT-OFF ELEVATION: Elevation of the top of the pile in the finished structure.
POINT OF PILE ELEVATION AS DRIVEN: Actual point of pile elevation in the finished structure.
PILE LENGTH IN PLACE: Actual pile length below the Pile Cut-Off Elevation in the finished structure.
DESIGN AXIAL LOAD: Factored strength load carried by each pile as estimated from structural design calculations.

Driving Criteria

PILE CRITERIA: Use 14x89 (50ksf) in accordance with BPS-011, c.e. Provide pile points capable of keying into sloping rock surfaces and penetrating boulders for all piles.
DRIVING CRITERIA: Drive point bearing piles to practical refusal.
HAMMER CRITERIA: Single acting diesel hammers with rated energies of 20 to 35 kip-ft are recommended to adequately drive the H-piles at End Bent 1 and 2 without encountering excessive blow counts or overstressing the piles. The use of hammers other than single acting diesel may require different rated energies. The contractor shall submit the proposed 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.

PRACTICAL REFUSAL (Case 1): For this project minimum blow requirements are reached after total penetration becomes 1/4" or less for 5 consecutive blows, practical refusal is obtained after the pile is struck on additional 5 blows with total penetration of 1/4" or less. Advance the production piling to the driving resistances specified above and to depths determined by test piles and subsurface data sheets. Immediately cease driving operations if the pile visibly yields or becomes damaged during driving. If hard driving is encountered because of dense strata or an obstruction, such as a boulder before the pile is advanced to the depth anticipated, the Engineer will determine if more blows than the average driving resistance specified for practical refusal is required to further advance the pile. Drive additional production and test piles if directed by the Engineer.

Temporary shoring, sheeting, cofferdams, and/or dewatering methods may be required to facilitate foundation construction and to maintain traffic. All costs incidental to Foundation Preparation.

EVALUATION OF NOMINAL RESISTANCE: According to Section 604.03.07 of the Standard Specifications, evaluation of nominal resistance is not required for piles bearing on rock when driven to practical refusal.

Pre-drilling into bedrock will be required for the H-Piles to reach the minimum pile tip elevation.

Field Data

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

Submit this record to:

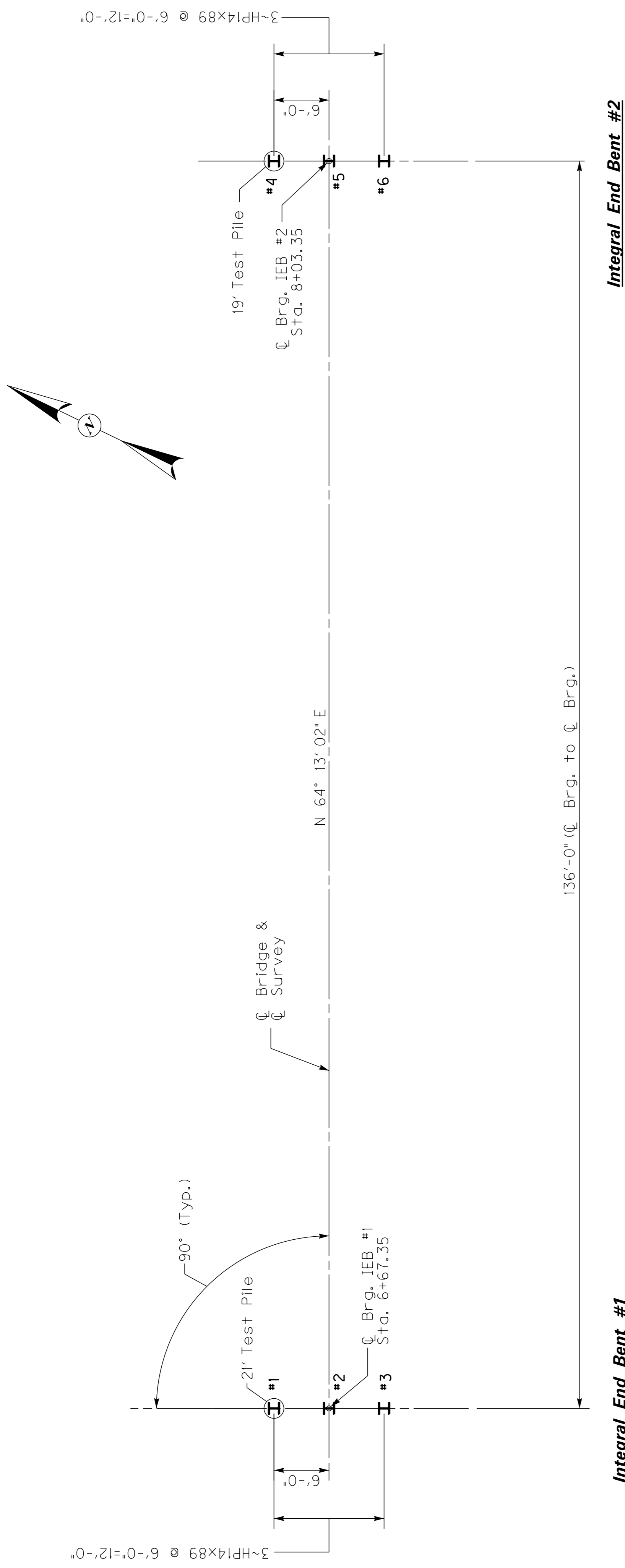
Kentucky Transportation Cabinet
 Director, Division of Structural Design
 3rd Floor East
 200 Merco Street
 Frankfort, KY 40622

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

Switched to pre-drilled piles (MED)		DATE	REVISION
		DESIGNED BY: K. Ee	CHECKED BY
		DETAILED BY: K. Ee	E. Kilgore
Commonwealth of Kentucky			
DEPARTMENT OF HIGHWAYS			
COUNTY			
OWEN			
ROUTE		CROSSING	
CR 1214		Cedar Creek	
FOUNDATION LAYOUT			

PREPARED BY	SHEET NO.
Division of	55
Structural Design	DRAWING NO.
	28097

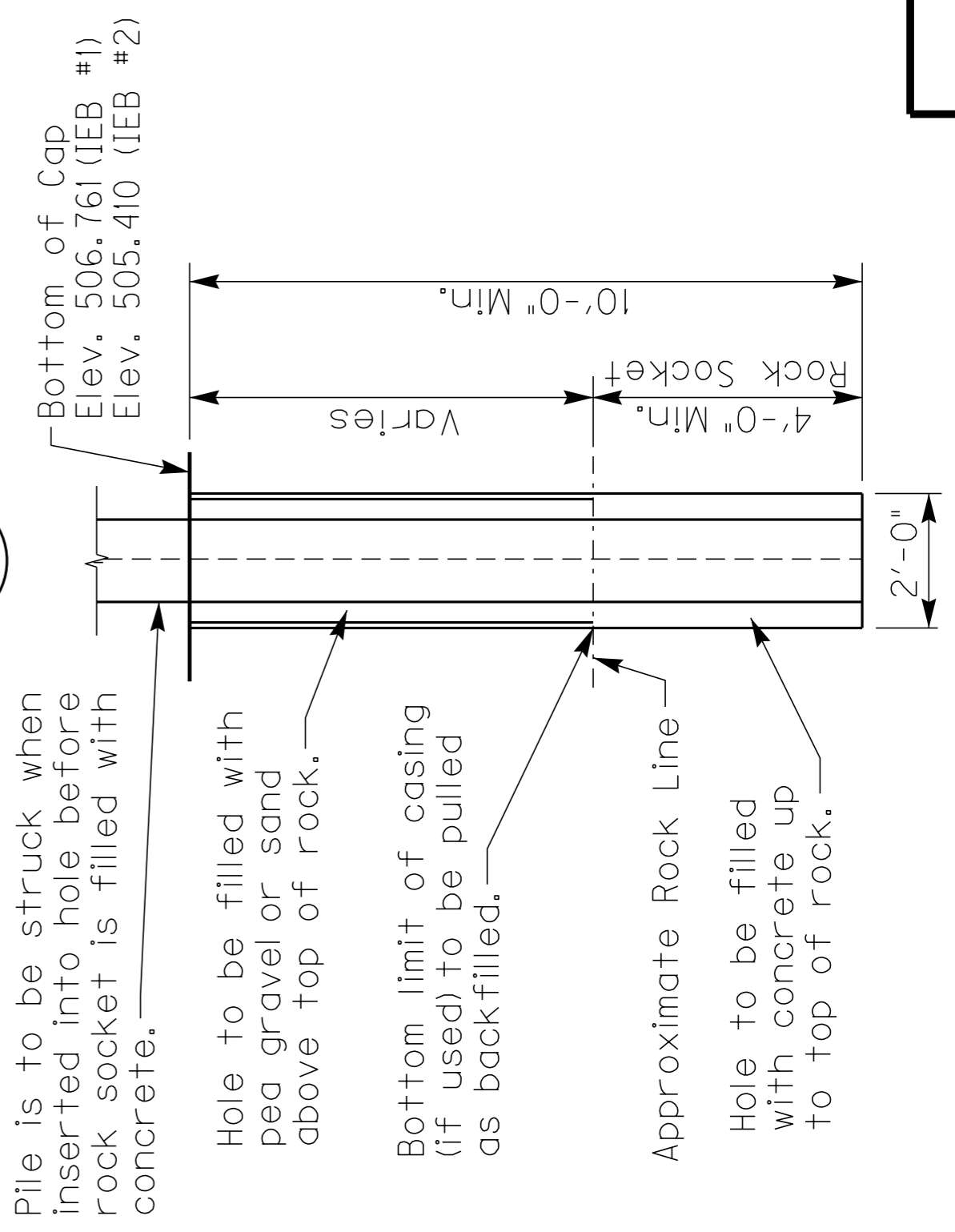
ITEM NUMBER
6-1088.00



Integral End Bent #2

FOUNDATION LAYOUT

PILE RECORD FOR POINT BEARING PILES						
INTEGRAL END BENT #1				INTEGRAL END BENT #2		
Pile No.	Pile Cut-off Elevation	Pile Length In Place	Point of Pile Elevation As Driven	Design Axial Load	Pile No.	Pile Cut-off Elevation
1	508.761			229	4	507.410
2	508.761			229	5	507.410
3	508.761			229	6	507.410



PRE-DRILLING DETAIL

Pre-Driving Piles

PRE-DRILLING END BENT PILES: Use 24-inch diameter holes with a minimum embedment of 4 feet into sound bedrock and a minimum of 10 feet total embedment below the cap. The pile must be struck with a pile hammer once in place to ensure that adequate capacity and refusal has been achieved. The rock socket shall then be filled with Class B concrete conforming to Section 601 of the Standard Specifications; however, provide a mix with a 6 to 10 inch slump at the time of placement. High range water reducing and retarding admixtures and Class F flyash may be used to obtain this slump. Casing or some other method of maintaining an open hole above the rock socket may be needed for installation of the piles and concrete. If casing is used, it must be removed, as the hole above the rock socket is backfilled with sand or pea gravel. Care must be taken that the piling is located correctly since the piling is an integral part of the structure and protrudes up into the cap. The cost of all materials, labor, and equipment required to pre-drill, concrete, and backfill the holes shall be included in the price per linear foot for Pre-Drilling Piles.

Definitions of Terms

PILE CUT-OFF ELEVATION: Elevation of the top of the pile in the finished structure.
POINT OF PILE ELEVATION AS DRIVEN: Actual point of pile elevation in the finished structure.
PILE LENGTH IN PLACE: Actual pile length below the Pile Cut-Off Elevation in the finished structure.
DESIGN AXIAL LOAD: Factored strength load carried by each pile as estimated from structural design calculations.
Driving Criteria
PILE CRITERIA: Use 14x89 (50ksi) in accordance with BPS-011, c.e. Provide pile points capable of keying into sloping rock surfaces and penetrating boulders for all piles.
DRIVING CRITERIA: Drive point bearing piles to practical refusal.

HAMMER CRITERIA: Single acting diesel hammers with rated energies of 20 to 35 kip-ft are recommended to adequately drive the H-piles at End Bent 1 and 2 without encountering excessive blow counts or overstressing the piles. The use of hammers other than single acting diesel may require different rated energies. The contractor shall submit the proposed 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.

PRACTICAL REFUSAL (Case 1): For this project minimum blow requirements are reached after total penetration becomes 1/4" or less for 5 consecutive blows, practical refusal is obtained after the pile is struck on additional 5 blows with total penetration of 1/4" or less. Advance the production piling to the driving resistances specified above and to depths determined by test piles and subsurface data sheets. Immediately cease driving operations if the pile visibly yields or becomes damaged during driving. If hard driving is encountered because of dense strata or an obstruction, such as a boulder before the pile is advanced to the depth anticipated, the Engineer will determine if more blows than the average driving resistance specified for practical refusal is required to further advance the pile. Drive additional production and test piles if directed by the Engineer.

Temporary shoring, sheeting, cofferdams, and/or dewatering methods may be required to facilitate foundation construction and to maintain traffic. All costs incidental to Foundation Preparation.

EVALUATION OF NOMINAL RESISTANCE: According to Section 604.03.07 of the Standard Specifications, evaluation of nominal resistance is not required for piles bearing on rock when driven to practical refusal.

Pre-drilling into bedrock will be required for the H-Piles to reach the minimum pile tip elevation.

Field Data

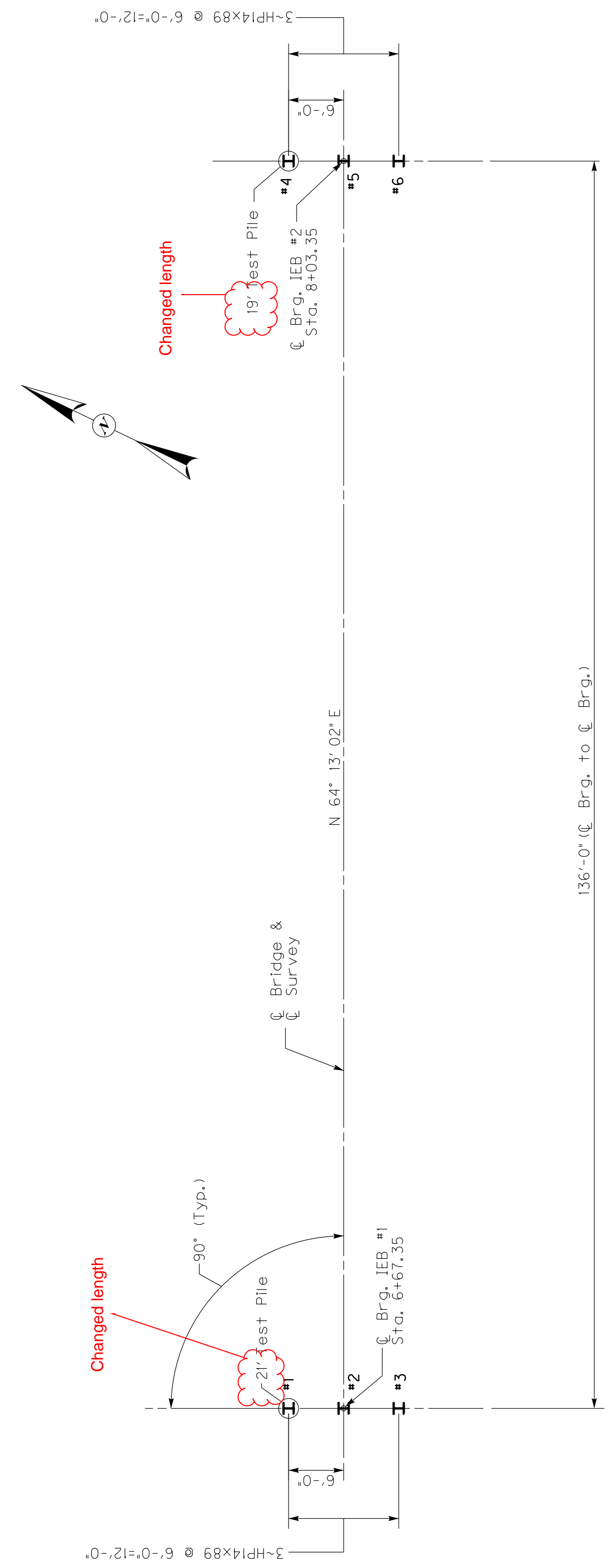
For each pile, the Project Engineer shall record the following on this sheet: Pile Length in Place and Point of Pile Elevation as Driven.

Submit this record to:
 Kentucky Transportation Cabinet
 Director, Division of Structural Design
 3rd Floor East
 200 Mero Street
 Frankfort, KY 40622

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

Switched to pre-drilled piles (MED)		Feb-2022
DATE:	REVISION	DATE
March 2020		
DESIGNED BY: K. Ee	CHECKED BY:	
DETAILED BY: K. Ee	E. Kilgore	
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
OWEN		
ROUTE	CROSSING	
CR 1214	Cedar Creek	
FOUNDATION LAYOUT		
PREPARED BY		
Division of Structural Design		
SHEET NO. 55		
DRAWING NO. 28097		

ITEM NUMBER	6-1088.00
--------------------	------------------



Integral End Bent #2

Integral End Bent #1

FOUNDATION LAYOUT

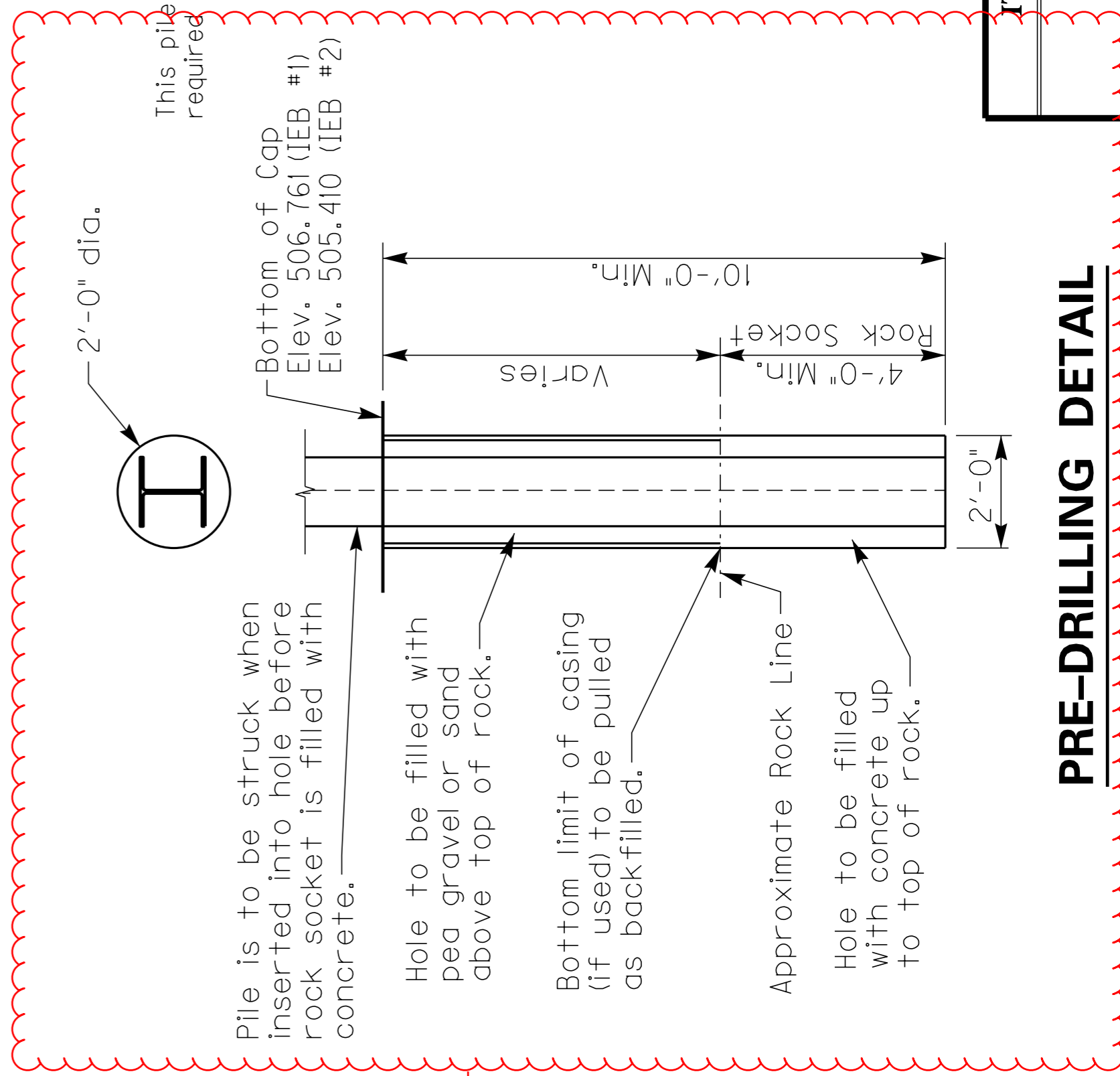
PILE RECORD FOR POINT BEARING PILES						
INTEGRAL END BENT #1				INTEGRAL END BENT #2		
Pile No.	Pile Cut-off Elevation	Pile Length In Place	Point of Pile Elevation As Driven	Design Axial Load	Pile No.	Pile Length In Place
	FEET	FEET	FEET	TONS	FEET	FEET
1	508.761			229	4	507.410
2	508.761			229	5	507.410
3	508.761			229	6	507.410
						FEET
						TONS
						FEET
						TONS

Added note

Pre-Driving Piles

PRE-DRILLING END BENT PILES: Use 24-inch diameter holes with a minimum embedment of 4 feet into sound bedrock and a minimum of 10 feet total embedment below the cap. The pile must be struck with a pile hammer once in place to ensure that adequate capacity and refusal has been achieved. The rock socket shall then be filled with Class B concrete conforming to Section 601 of the Standard Specifications; however, provide a mix with a 6 to 10 inch slump at the time of placement. High range water reducing and retarding admixtures and Class F flyash may be used to obtain this slump. Casing or some other method of maintaining an open hole above the rock socket may be needed for installation of the piles and concrete. If casing is used, it must be removed, as the hole above the rock socket is backfilled with sand or pea gravel. Care must be taken that the piling is located correctly since the piling is an integral part of the structure and protrudes up into the cap. The cost of all materials, labor, and equipment required to pre-drill, concrete, and backfill the holes shall be included in the price per linear foot for Pre-Drilling Piles.

Added detail



PRE-DRILLING DETAIL