

RECEIPT OF ADDENDUM

I received addendum No. 01, Dated November 30, 2016 for
Oregon County BRO-B075(1)
Project Job #3479

This addendum involves 9 pages including this sheet.

Vendor's Name

Vendor's Address

Signature / Date

**Return completed acknowledgment to
Great River Engineering ASAP**

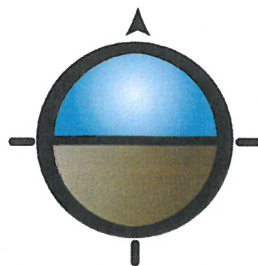
@

Fax. #. 417-886-7591

Attention: Lesa Starks

Email Back to:

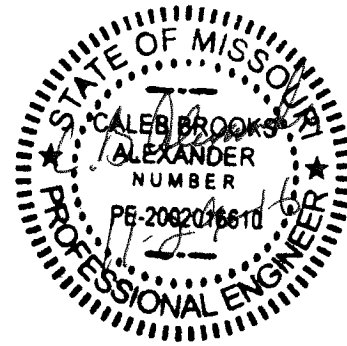
Secretary@greatriv.com



GRE
GREAT RIVER
ENGINEERING

ADDENDUM NO. 1

ISSUED BY: Great River Engineering
2826 S Ingram Mill Road
Springfield, Missouri 65804
(417) 886-7171



DATE: November 29, 2016

FOR: OREGON COUNTY BRIDGE REPLACEMENT
BRO-B075(1)
GRE NO. 3479

The attached revisions hereby supersede any and all data with which they may conflict as indicated on the Drawings, Specifications and related documents issued in the original set. Each trade is responsible for changes in its work caused by changes in the work of other trades. This addendum is a part of and shall be attached to the original set of plans and specifications for the work.

Construction Plans

Sheet C2, C4, C5, C6, C7, & C8

MASH End Terminals shall replace the Crashworthy End Terminal and a MGS Terminal Anchor End and Type A Guardrail shall be installed per the revised plans. Quantities have been revised due to these changes.

Bidders shall reference the current effective 2016 Missouri Standard Plans, 606.22U for Bid Item "Bridge Anchor Section" and "Asymmetrical Transition Section" 606.60, 606.80B, & 606.81 for Bid Items "MASH End Terminal" and "MGS Terminal Anchor End" 606.00AY for Bid Item "Type A Guardrail." Missouri Standard Plans Can be found at:

http://www.modot.org/business/standards_and_specs/currentsec600.htm

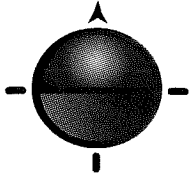
Sheets C9 – C17

Sheets C9 through C17 shall be removed and current effective 2016 Missouri Standard Plans shall be used.

Contract Documents

Itemized Bid Form

Bidders shall use the included revised Bid Form with the revised items and quantities.



GRE
GREAT RIVER
ENGINEERING

CONTRACTOR NAME: _____

ADDRESS LINE 1: _____

ADDRESS LINE 2: _____

PHONE NUMBER: _____

EMAIL: _____

DATE: _____

Oregon County Commission
1290043
BRO-B075(1)

ITEMIZED BID FORM

LINE	ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
ROADWAY ITEMS						
1	201	CLEARING AND GRUBBING	LUMP SUM	1	_____	_____
2	203	UNCLASSIFIED EXCAVATION (ROADWAY)	CU. YARD	517	_____	_____
3	203	EMBANKMENT IN PLACE WITH COMPACTION	CU. YARD	2,192	_____	_____
4	310	TYPE 1 AGGREGATE FOR BASE (5 IN. THICK)	SQ. YARD	1,468	_____	_____
5	606	BRIDGE ANCHOR SECTION	EACH	4	_____	_____
6	606	ASYMMETRICAL TRANSITION SECTION	EACH	4	_____	_____
7	606	MASH END TERMINAL	EACH	3	_____	_____
8	606	MGS TERMINAL ANCHOR END	EACH	1	_____	_____
9	606	TYPE A GUARDRAIL	LIN. FOOT	43.75	_____	_____
10	607	FENCE	LIN. FOOT	279	_____	_____
11	611	TYPE 2 ROCK BLANKET	CU. YARD	640	_____	_____
12	616	CONSTRUCTION SIGNS	SQ. FOOT	81	_____	_____
13	616	TYPE III MOVEABLE BARRICADE	EACH	6	_____	_____
14	618	MOBILIZATION	LUMP SUM	1	_____	_____
15	805	SEEDING	ACRE	0.97	_____	_____
16	806	SILT BARRIER	LIN. FOOT	227	_____	_____
17	806	DITCH CHECK	EACH	6	_____	_____
					ROADWAY ITEMS SUBTOTAL	_____
BRIDGE ITEMS						
18	206	UNCLASSIFIED EXCAVATION (STRUCTURE)	CU. YARD	56	_____	_____
19	216	REMOVAL OF BRIDGES	LUMP SUM	1	_____	_____
20	702	STRUCTURAL STEEL PILES (10 IN.)	LIN. FOOT	442	_____	_____
21	702	PILE POINT REINFORCEMENT	EACH	16	_____	_____
22	703	CLASS B CONCRETE (SUBSTRUCTURE)	CU. YARD	68	_____	_____
23	703	SLAB ON CONCRETE I-GIRDER	SQ. YARD	390	_____	_____
24	705	TYPE 2 (32 IN.), PRESTRESSED CONCRETE I-GIRDER	LIN. FOOT	397	_____	_____
25	706	REINFORCING STEEL (BRIDGES)	POUND	3302	_____	_____
26	713	CORRAL RAIL	LIN. FOOT	298	_____	_____
27	716	PLAIN NEOPRENE BEARING PAD	EACH	18	_____	_____
					BRIDGE ITEMS SUBTOTAL	_____
					TOTAL CONTRACT	_____

GENERAL NOTES

DESIGN DATA

DESIGN SPECIFICATIONS: 2014 A.A.S.H.T.O. LRFD BRIDGE DESIGN SPECIFICATIONS (7TH ED.)

SEISMIC DESIGN CATEGORY 'A'

THE CONTRACTOR SHALL FOLLOW THE JOB SPECIAL PROVISIONS FOR THIS PROJECT. FOR ITEMS NOT DIRECTLY COVERED IN THE JOB SPECIAL PROVISIONS THE CONTRACTOR SHALL FOLLOW THE SPECIFICATIONS AS STATED IN THE "MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION," 2016 EDITION, AND CURRENT SUPPLEMENTAL SPECIFICATION REVISIONS.

DESIGN LOADING: HL-93
FUTURE WEARING SURFACE --- 35 PSF
EARTH --- 120 PCF
EQUIVALENT FLUID PRESSURE --- 45 PCF

SUPERSTRUCTURE: SIMPLY SUPPORTED, NON-COMPOSITE FOR DEAD LOAD. COMPOSITE FOR LIVE LOAD.

DESIGN UNIT STRESSES:

CLASS B CONCRETE (SUBSTRUCTURE) $f_c = 3,000$ psi
CLASS B-2 CONCRETE (SUPERSTRUCTURE, EXCEPT PRESTRESSED GIRDERS) $f_c = 4,000$ psi
REINFORCING STEEL (GRADE 60) $f_y = 60,000$ psi
STEEL PILE (ASTM A709 GRADE 36) $f_y = 36,000$ psi

FOR PRECAST PRESTRESSED PANEL STRESSES, SEE PRECAST PRESTRESSED PANEL DETAILS SHEET.

FOR PRESTRESSED GIRDER STRESSES, SEE PRESTRESSED GIRDER DETAILS SHEET.

EMBANKMENT

ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE BEAM WITHIN THE LIMITS OF THE STRUCTURE AND FOR NOT LESS THAN 25 FEET IN BACK OF THE FILL FACE OF THE END BENTS BEFORE ANY PILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION.

TREES

ALL TREES WITHIN PROPOSED R/W ARE TO BE GRUBBED AFTER NOVEMBER 1, 2016 EXCEPT WHERE DIRECTED BY THE ENGINEER. EXCEPTIONALLY GOOD TREES SHALL BE SPARED BY ADJUSTING THE BACKSLOPE LINES DURING CONSTRUCTION. TREES OUTSIDE THE CONSTRUCTION LIMITS SHALL NOT BE GRUBBED UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

FENCES

FENCES SHALL BE MOVED OR ADJUSTED PRIOR TO CONSTRUCTION AS NECESSARY BY THE CONTRACTOR TO FIT THE NEW CONSTRUCTION. TEMPORARY FENCING SHALL BE PROVIDED WHERE EXISTING FENCING IS REMOVED FOR CONSTRUCTION. TEMPORARY FENCING SHALL CONSIST OF AT LEAST 3-STRAND BARB WIRE WITH METAL "T" POST. WOODEN CORNER POSTS ARE ALLOWED. CONTRACTOR SHALL MAINTAIN TEMPORARY FENCING IN GOOD WORKING CONDITION UNTIL PERMANENT FENCING IS COMPLETED. COST FOR FURNISHING, INSTALLING AND MAINTAINING THE TEMPORARY FENCE SHALL BE CONSIDERED INCIDENTAL TO FENCE CONSTRUCTION OR CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR OTHER ITEMS INCLUDED IN THE CONTRACT.

PILING

ALL PILING SHALL BE DRIVEN TO PENETRATE OR BEAR UPON THE ROCK FORMATION. DRIVING SHALL STOP WHEN IN THE OPINION OF THE ENGINEER, ADDITIONAL DRIVING MAY INJURE THE PILING. WHEN USING THE PILE DRIVING FORMULA IN SECTION 702.4.10 OF THE MODOT SPECIFICATIONS, THE CONTRACTOR SHALL NOT DRIVE THE PILE TO MORE THAN 150% OF DESIGN LOAD. AT ANY LOCATION WHERE PROBLEMS ARE EXPERIENCED, PILE DAMAGE IS SUSPECTED, OR APPARENT REFUSAL OCCURS SIGNIFICANTLY ABOVE THE DESIGN PILE TIP ELEVATION, THE ENGINEER SHALL BE NOTIFIED FOR FURTHER EVALUATION. MANIPULATION OF PILES TO FORCE THEM INTO PROPER POSITION, CONSIDERED BY THE ENGINEER TO BE EXCESSIVE, WILL NOT BE PERMITTED.

ANY PILE DAMAGED BY REASON OF INTERNAL DEFECTS OR BY IMPROPER DRIVING OR DRIVEN OUT OF ITS PROPER LOCATION OR DRIVEN BELOW THE BUTT ELEVATION FIXED BY PLANS OR BY THE ENGINEER SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE BY ONE OF THE FOLLOWING METHODS APPROVED BY ENGINEER FOR PILE IN QUESTION:

1. THE PILE SHALL BE WITHDRAWN AND REPLACED BY A NEW ONE, IF NECESSARY, A LONGER PILE.
2. A SECOND PILE SHALL BE DRIVEN ADJACENT TO THE DEFECTIVE OR LOW PILE.
3. THE PILE SHALL BE SPLICED OR BUILT UP AS OTHERWISE PROVIDED HERE IN OR A SUFFICIENT PORTION OF THE FOOTING EXTENDED TO PROPERLY EMBED THE PILE. ALL PILES PUSHED UP BY THE DRIVING OF ADJACENT PILES OR BY ANY OTHER CAUSE SHALL BE DRIVEN DOWN AGAIN.
4. ALL SUCH REMEDIAL MATERIALS AND WORK SHALL BE FURNISHED AT THE CONTRACTOR'S EXPENSE.

IF REQUIRED, PRE-BORE HOLES SHALL BE IN ACCORDANCE WITH SEC. 702 OF MODOT SPECIFICATIONS.

CONCRETE

BEVEL ALL EXPOSED EDGES OF ALL CONCRETE WITH A 3/4" TRIANGULAR MOLDING EXCEPT AS OTHERWISE NOTED ON THE PLANS. CONSTRUCTION JOINTS ARE OPTIONAL WITH THE CONTRACTOR, BUT IF USED, SHALL BE MADE ONLY AT THE LOCATIONS SHOWN ON THE PLANS, OR AT LOCATIONS APPROVED BY THE ENGINEER.

JOINT FILLER

ALL JOINT FILLER SHALL BE IN ACCORDANCE WITH SEC. 1057 OF MODOT SPECIFICATIONS FOR PREFORMED SPONGE RUBBER EXPANSION AND PARTITION JOINT FILLER, EXCEPT AS NOTED.

REINFORCING

ALL DIMENSIONS RELATIVE TO REINFORCING STEEL PLACEMENT ARE TO THE CENTER-LINE OF BARS UNLESS OTHERWISE NOTED. BAR BENDING AND DIMENSIONS SHALL BE AS SHOWN AND NOTED ON THE BENDING DIAGRAMS. ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2" UNLESS OTHERWISE SHOWN. ALL SPLICES IN CONCRETE, SHALL BE IN ACCORDANCE WITH SEC. 706 OF MODOT SPECIFICATIONS.

BROKEN CONCRETE

NO BROKEN CONCRETE IS ALLOWED IN THE ROCK BLANKET. BROKEN CONCRETE FROM THE PROJECT MAY BE USED IN FILL LOCATIONS AS DIRECTED BY THE ENGINEER AND PLACED PER MODOT SPECIFICATIONS AND JOB SPECIAL PROVISIONS. NO BROKEN CONCRETE SHALL BE BROUGHT TO THE PROJECT.

PERMANENT SIGNING & MARKING

ALL ROADSIDE SIGNS, GUIDEPOSTS, AND MARKERS SHALL REMAIN THE PROPERTY OF THE COUNTY AND THOSE REMOVED WITHIN THE PROJECT AREA SHALL BE STACKED ON SITE FOR PICKUP BY COUNTY FORCES.

TEMPORARY SIGNING

TEMPORARY SIGNING AND MARKING SHALL REMAIN IN PLACE AT ALL TIMES DURING CONSTRUCTION. TEMPORARY SIGNING SHALL BE KEPT CLEAN AND VISIBLE THROUGH OUT CONSTRUCTION. FAILURE TO DO SO WILL RESULT IN WORK STOPPAGE.

UTILITIES

PUBLIC AND PRIVATE UTILITY FACILITIES SHALL BE MOVED OR ADJUSTED PRIOR TO CONSTRUCTION AS NECESSARY BY THE OWNERS TO FIT THE CONSTRUCTION UNLESS NOTED ON THE PLANS OR IN THE PROPOSAL.

THE INFORMATION SHOWN ON THE PLANS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

CONTRACTOR SHALL CONTACT MISSOURI ONE CALL AT 1-800-344-7483 (DIG-RITE), 811 OR MO1CALL.COM AT LEAST THREE DAYS PRIOR TO BEGINNING CONSTRUCTION.

DITCHES

DITCHES MUST BE GRADED FOR POSITIVE DRAINAGE AND IN ACCORDANCE WITH PLANS AND SPECIFICATIONS. DITCH FLOW LINES WITHOUT POSITIVE DRAINAGE WILL NOT BE ACCEPTED AND THE CONTRACTOR WILL BE REQUIRED TO REGRADE THE DITCHES TO PROVIDE POSITIVE DRAINAGE.

NEOPRENE PADS

PLAIN NEOPRENE BEARING PADS SHALL BE 60 DUROMETER AND SHALL BE IN ACCORDANCE WITH SEC. 716 OF MODOT SPECIFICATIONS.

ROADWAY QUANTITIES		
ITEM	TOTAL	UNITS
CLEARING AND GRUBBING	1	LUMP SUM
UNCLASSIFIED EXCAVATION (ROADWAY)	517	CU. YARD
EMBANKMENT IN PLACE WITH COMPACTION	2,192	CU. YARD
TYPE 1 AGGREGATE FOR BASE (5 IN. THICK)	1,468	SQ. YARD
BRIDGE ANCHOR SECTION	4	EACH
ASYMMETRICAL TRANSITION SECTION	4	EACH
MASH END TERMINAL	3	EACH
MGS TERMINAL ANCHOR END	1	EACH
TYPE A GUARDRAIL	43.75	LIN. FOOT
FENCE	279	LIN. FOOT
TYPE 2 ROCK BLANKET	640	CU. YARD
CONSTRUCTION SIGNS	81	SQ. FOOT
TYPE III MOVEABLE BARRICADE	6	EACH
MOBILIZATION	1	LUMP SUM
SEEDING	0.97	ACRE
SILT BARRIER	227	LIN. FOOT
DITCH CHECK	6	EACH

BRIDGE QUANTITIES				
ITEM	SUBSTR.	SUPERSTR.	TOTAL	UNIT
UNCLASSIFIED EXCAVATION (STRUCTURE)	56		56	CU. YARD
REMOVAL OF BRIDGES			1	LUMP SUM
STRUCTURAL STEEL PILES (10 IN.)	442		442	LIN. FOOT
PILE POINT REINFORCEMENT	16		16	EACH
CLASS B CONCRETE (SUBSTRUCTURE)	68		68	CU. YARD
SLAB ON CONCRETE I-GIRDER		390	390	SQ. YARD
TYPE 2 (32 IN.), PRESTRESSED CONCRETE I-GIRDER		397	397	LIN. FOOT
REINFORCING STEEL (BRIDGES)		3302	3302	POUND
CORRAL RAIL		298	298	LIN. FOOT
PLAIN NEOPRENE BEARING PAD		18	18	EACH

ALL CONCRETE ABOVE THE CONSTRUCTION JOINT IN THE END BENTS IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER.

ALL CONCRETE ABOVE THE INTERMEDIATE BEAM CAP IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER.

ALL REINFORCEMENT IN THE END BENTS IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER.

ALL REINFORCEMENT IN THE INTERMEDIATE BENT CONCRETE DIAPHRAGMS EXCEPT REINFORCEMENT EMBEDDED IN THE BEAM CAP IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDERS.

HYDROLOGIC DATA	
DRAINAGE AREA	119.78 = SQ. MI.
DESIGN FLOOD FREQUENCY	10 = YEARS
DESIGN FLOOD DISCHARGE	14,293 = CFS
DESIGN FLOOD (D.F.) ELEVATION	454.12 = FEET
BASE FLOOD (100-YEAR)	
BASE FLOOD ELEVATION	458.30 = FEET
BASE FLOOD DISCHARGE	28,247 = CFS
ESTIMATED BACKWATER	2.54 = FEET
AVERAGE VELOCITY THRU OPENING	9.20 = FT/S
FREEBOARD	
FREEBOARD	= 0.0 FEET
ROADWAY OVERTOPPING	
OVERTOPPING FLOOD DISCHARGE	10,325 = CFS
OVERTOPPING FLOOD FREQUENCY	5 = YEARS
OVERTOPPING FLOOD ELEVATION	450.52 = FEET

PILE DATA			
BENT NO.		1 & 4	2 & 3
LOAD BEARING PILE	PILE TYPE AND SIZE	HP10x42	HP10x42
	NUMBER	EA	4
	APPROXIMATE LENGTH PER EACH	FT	31.75
	PILE DRIVING VERIFICATION METHOD	DF	DF
	MINIMUM NOMINAL AXIAL COMPRESSIVE RESISTANCE	KIP	319
HAMMER ENERGY REQUIRED	FT-LB	10,250	13,850

MANUFACTURED PILE POINT REINFORCEMENT SHALL BE USED ON ALL PILES IN THIS STRUCTURE AT BENTS NO. 1 AND 2.

MINIMUM ENERGY REQUIRED OF HAMMER IS BASED ON PLAN LENGTH AND MINIMUM NOMINAL AXIAL COMPRESSIVE RESISTANCE.

DF = FHWA-MODIFIED GATES DYNAMIC FORMULA

MINIMUM NOMINAL AXIAL COMPRESSIVE RESISTANCE = MAXIMUM FACTORED LOADS/0.4

ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER		
ITEM	TOTAL	UNITS
CLASS B-2 CONCRETE	122	CU. YARD
REINFORCING STEEL	27,865	POUND

THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER REPRESENTS THE QUANTITIES USED BY THE COUNTY IN PREPARING THE COST ESTIMATE FOR CONCRETE SLABS. THE AREA OF THE CONCRETE SLAB WILL BE MEASURED TO THE NEAREST SQUARE YARD WITH THE HORIZONTAL DIMENSIONS AS SHOWN ON THE PLAN OF SLAB. PAYMENT FOR PRESTRESSED PANELS, CONVENTIONAL FORMS, ALL CONCRETE AND COATED AND UNCOATED REINFORCING STEEL WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR THE SLAB. VARIATIONS MAY BE ENCOUNTERED IN THE ESTIMATED QUANTITIES BUT THE VARIATIONS CANNOT BE USED FOR AN ADJUSTMENT IN THE CONTRACT UNIT PRICE.

METHOD OF FORMING THE SLAB SHALL BE AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH SEC. 703. ALL HARDWARE FOR FORMING THE SLAB TO BE LEFT IN PLACE AS A PERMANENT PART OF THE STRUCTURE SHALL BE COATED IN ACCORDANCE WITH ASTM A123 OR ASTM B633 WITH A THICKNESS CLASS SC 4 AND A FINISH TYPE I, II OR III.

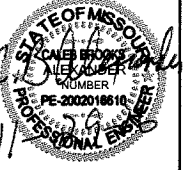
CLASS B-2 CONCRETE QUANTITY IS BASED ON MINIMUM TOP FLANGE THICKNESS AND MINIMUM JOINT MATERIAL THICKNESS.

THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER.



Date	11-29-18
Revision/Issue	REVISED GUARDRAIL

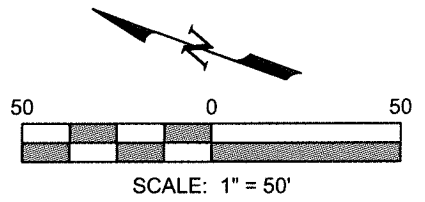
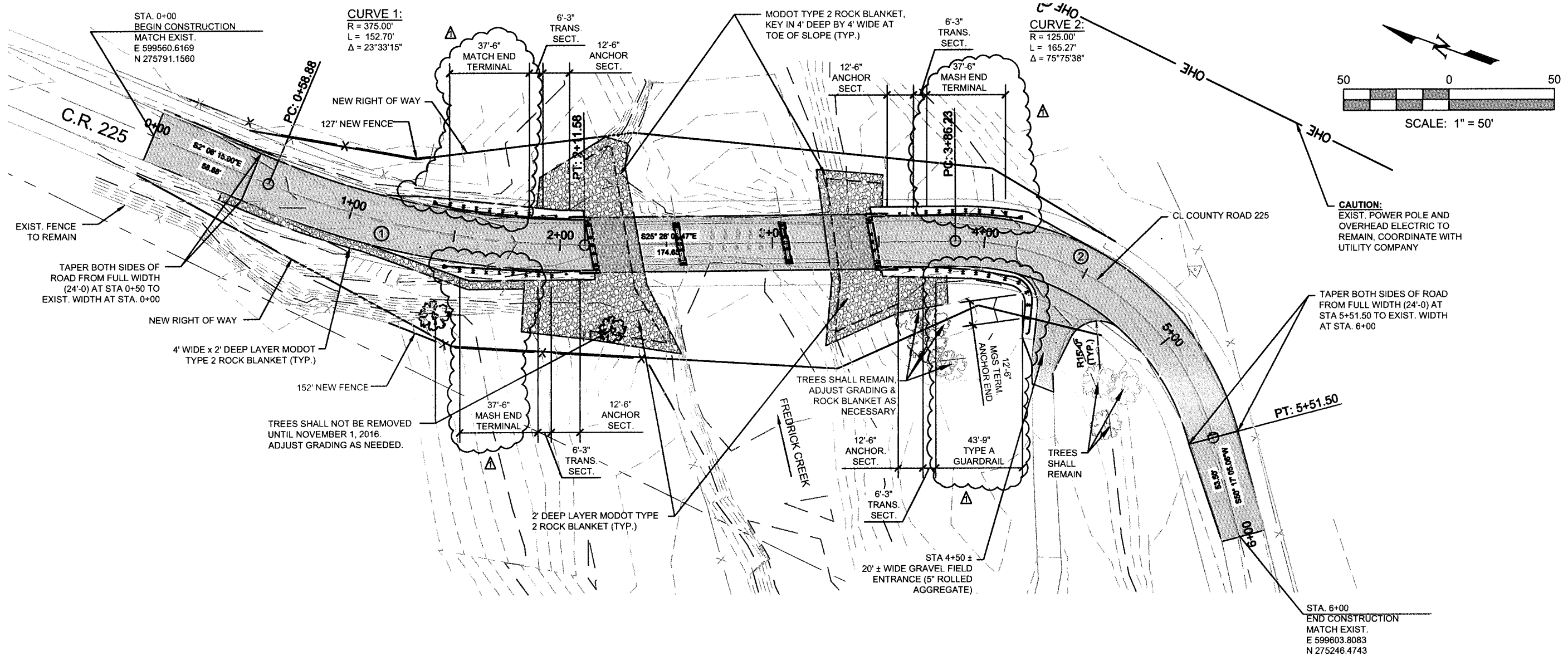
No.	1	2	3	4	5
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C.B. ALEXANDER - ENGINEER
MO# PE-2002016610

C.R. 225 BRIDGE OVER FREDERICK CREEK (BRO-B075(1))
OREGON COUNTY, MISSOURI
GENERAL NOTES, QUANTITIES & DATA

Checked By:	CB
Drawn By:	KFB
Job Number:	3479
File Name:	3479_CIVIL
Scale:	NO SCALE
Issue Date:	NOV. 30, 2018
Sheet Number:	C2



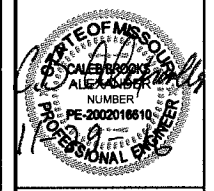
CAUTION:
EXIST. POWER POLE AND
OVERHEAD ELECTRIC TO
REMAIN, COORDINATE WITH
UTILITY COMPANY

TAPER BOTH SIDES OF ROAD
FROM FULL WIDTH (24'-0") AT
STA 5+51.50 TO EXIST. WIDTH
AT STA. 6+00

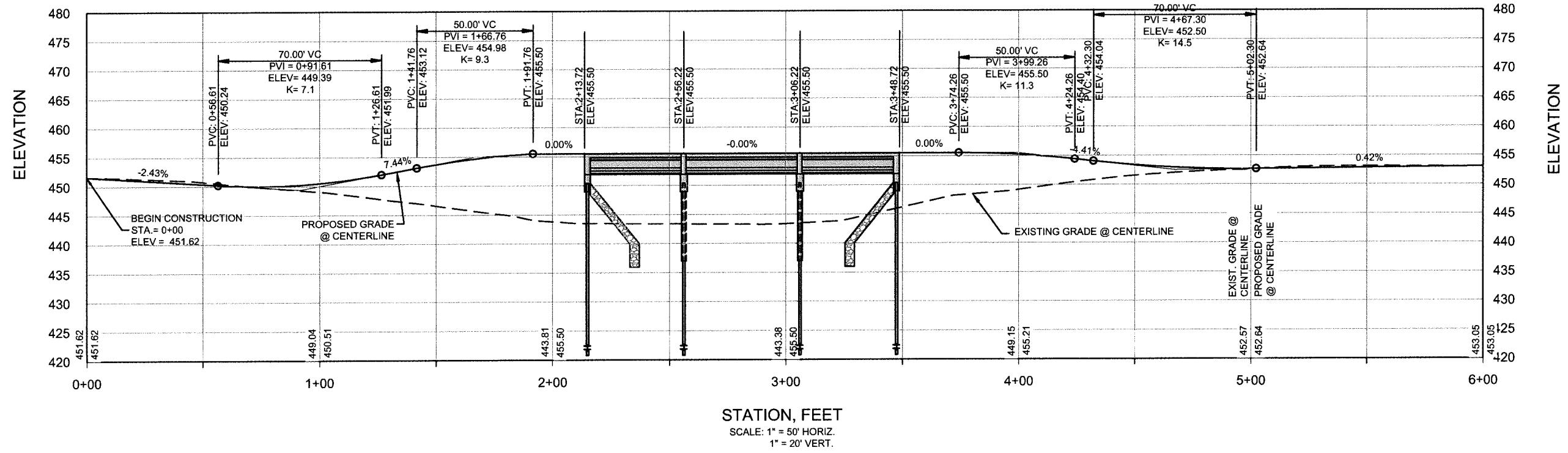
GRE
GREAT RIVER
ENGINEERING

Great River Engineering, Missouri State Certificate of Authority Number:
Engineering: 200015686, Land Surveying: 2010101476,
Landscape Architecture: 201013673

Date	11-28-18
Revision/Issue	REVISED GUARDRAIL
No.	1



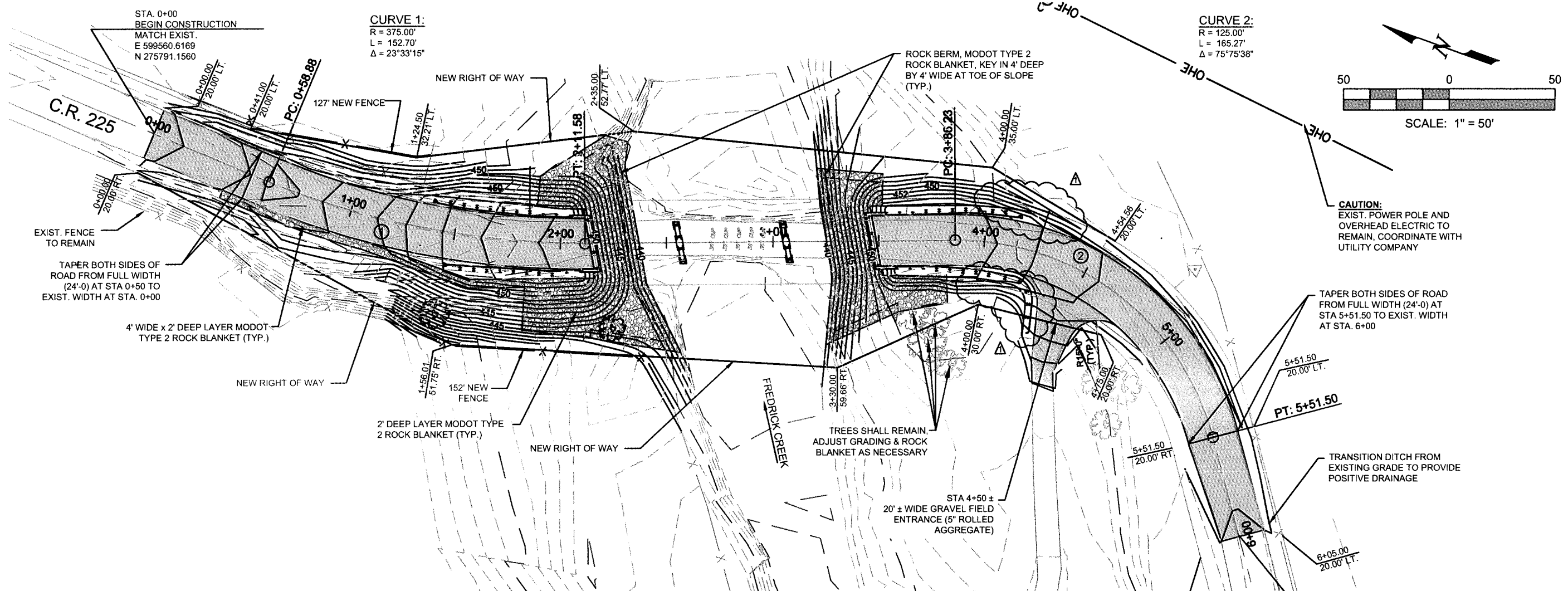
C.B. ALEXANDER - ENGINEER
MO# PE-2002016610



C.R. 225 BRIDGE OVER FREDERICK CREEK (BRO-B075(1))
OREGON COUNTY, MISSOURI
ROADWAY PLAN AND PROFILE

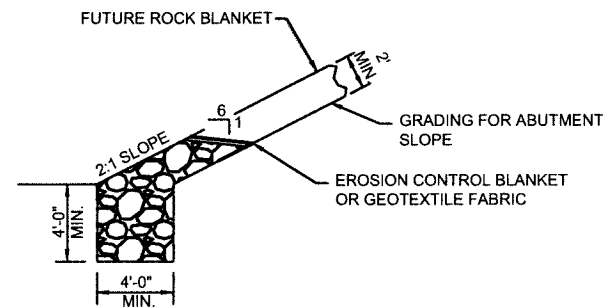
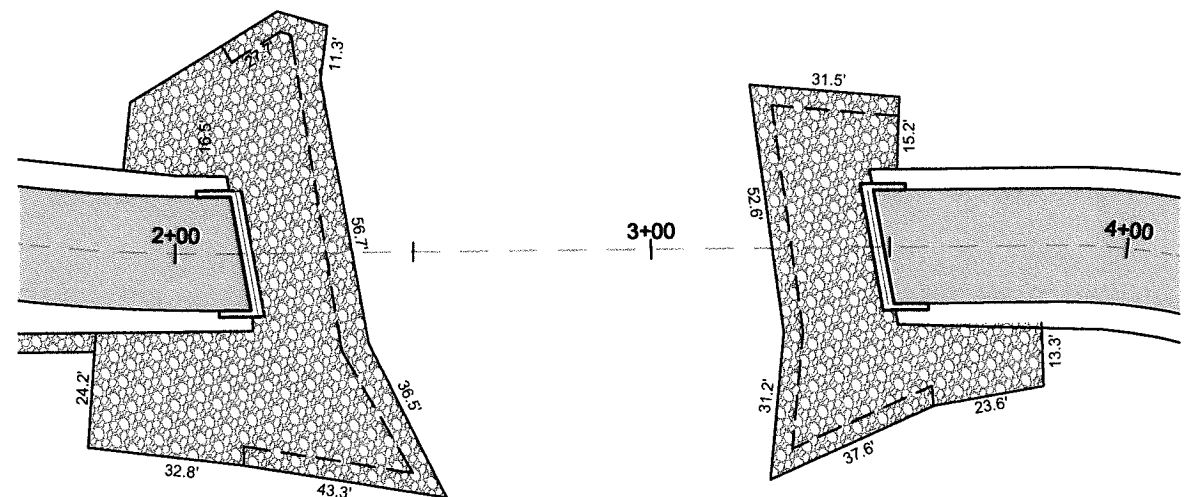
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CHECKED BY:	CBA
DRAWN BY:	KFB
JOB NUMBER:	3479
FILE NAME:	3479_CIVIL
SCALE:	NO SCALE
ISSUE DATE:	NOV. 30, 2016
SHEET NUMBER:	C4



GRADING PLAN

NOTE:
BRIDGE DECK NOT
SHOWN FOR CLARITY.

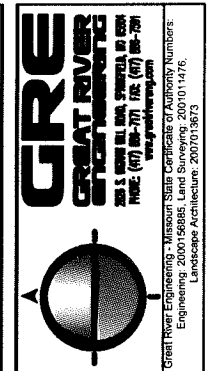


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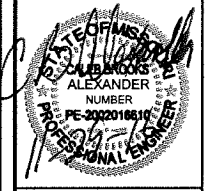
BERM SHALL BE BUILT TO HANDLE SIGNIFICANT RUN-OFF EVENTS.

ROCK BERM SHALL BE PLACED AT THE BEGINNING OF CONSTRUCTION AND WILL BE INCORPORATED INTO THE ROCK BLANKET. COST SHALL BE INCLUDED IN THE UNIT PRICE FOR TYPE 2 ROCK BLANKET.

PRIOR TO FINAL PLACEMENT OF TYPE 2 ROCK BLANKET, CONTRACTOR SHALL REMOVE GEOTEXTILE FABRIC AND ANY SILT BUILDUP ALONG TOP OF ROCK BERM. ALL WORK NECESSARY FOR REMOVAL SHALL BE INCIDENTAL TO BID ITEM TYPE 2 ROCK BLANKET.

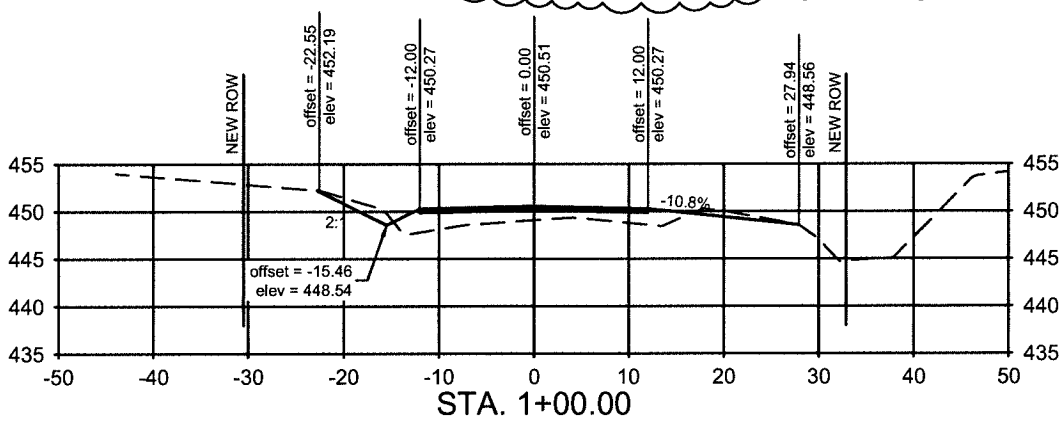
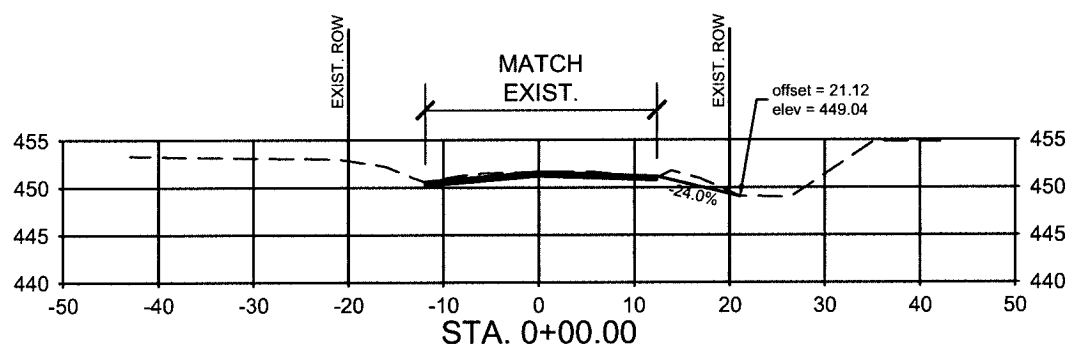
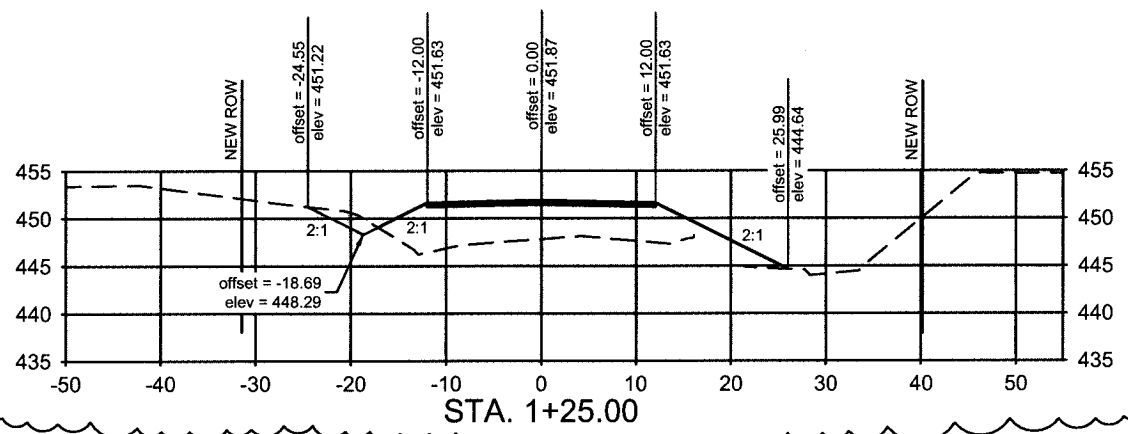
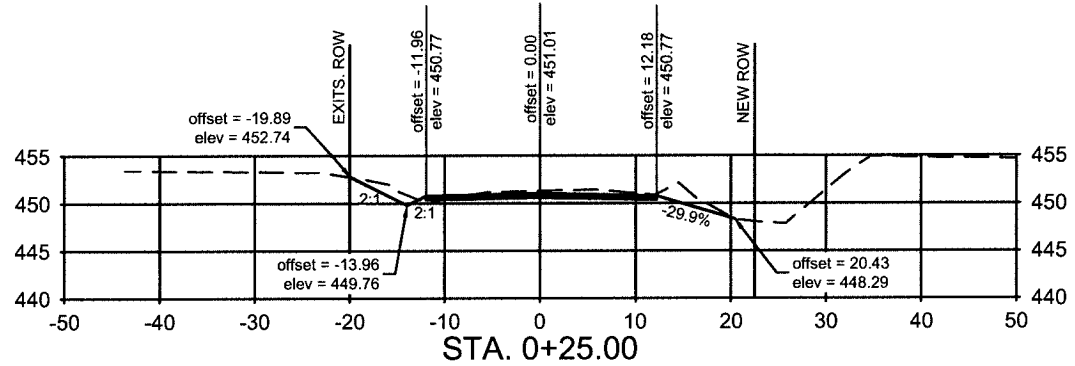
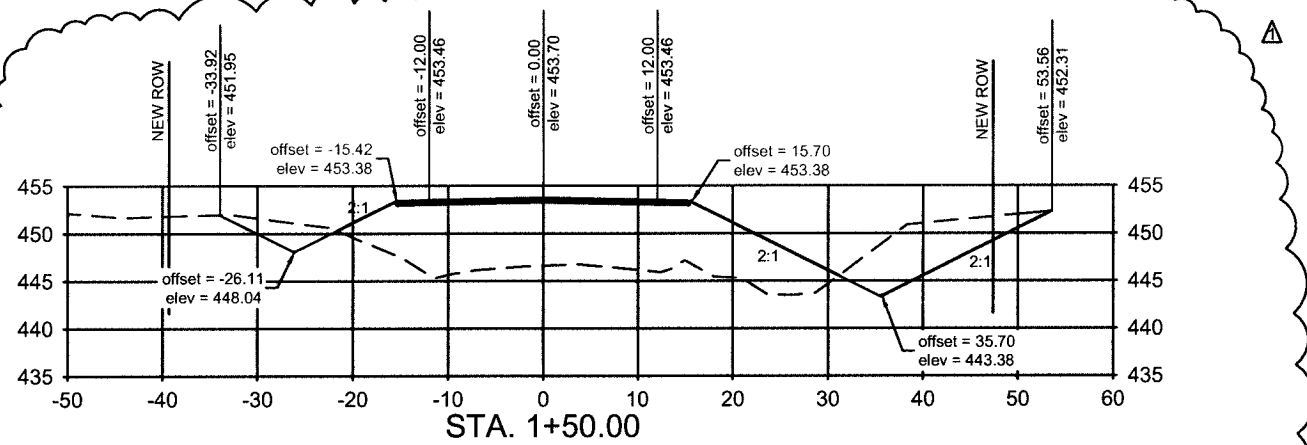
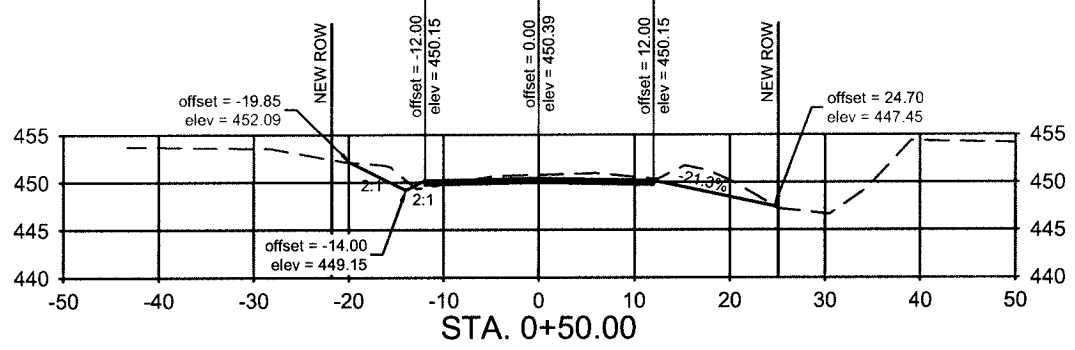
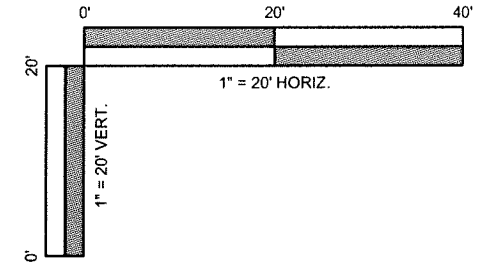
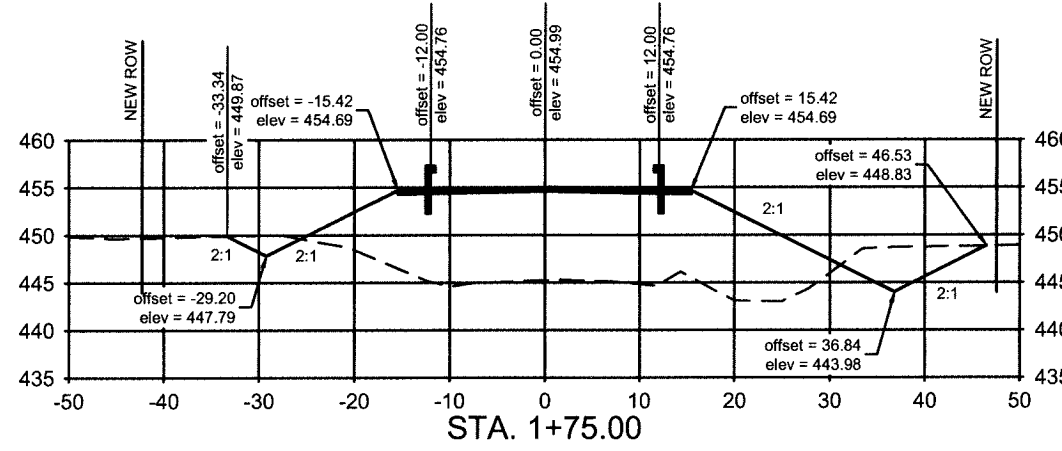
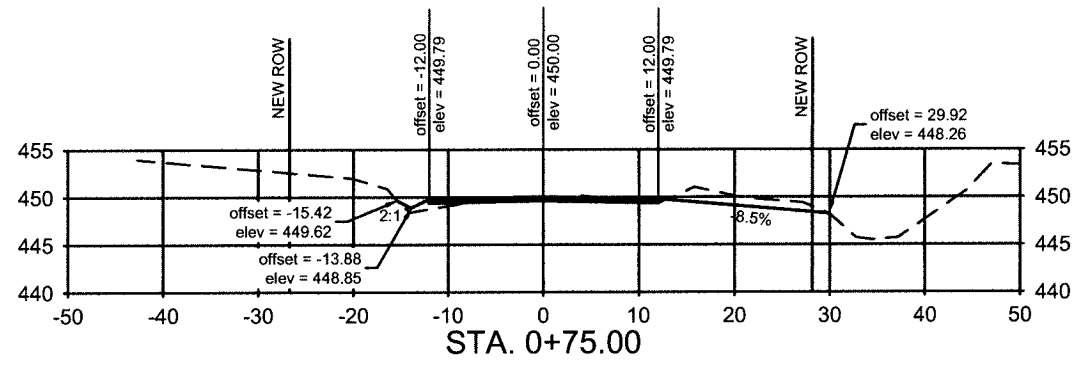


Date	11-29-18
Revision/Issue	REVISED GUARDRAIL
No.	1

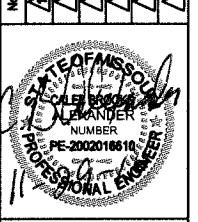


C.R. 225 BRIDGE OVER FREDRICK CREEK (BRO-B075(1))
OREGON COUNTY, MISSOURI
GRADING PLAN & ROCK BLANKET LAYOUT

Checked By:	CBA
Drawn By:	KFB
Job Number:	3479
File Name:	3479_CIVIL
Scale:	NO SCALE
Issue Date:	NOV. 30, 2016
Sheet Number:	C5

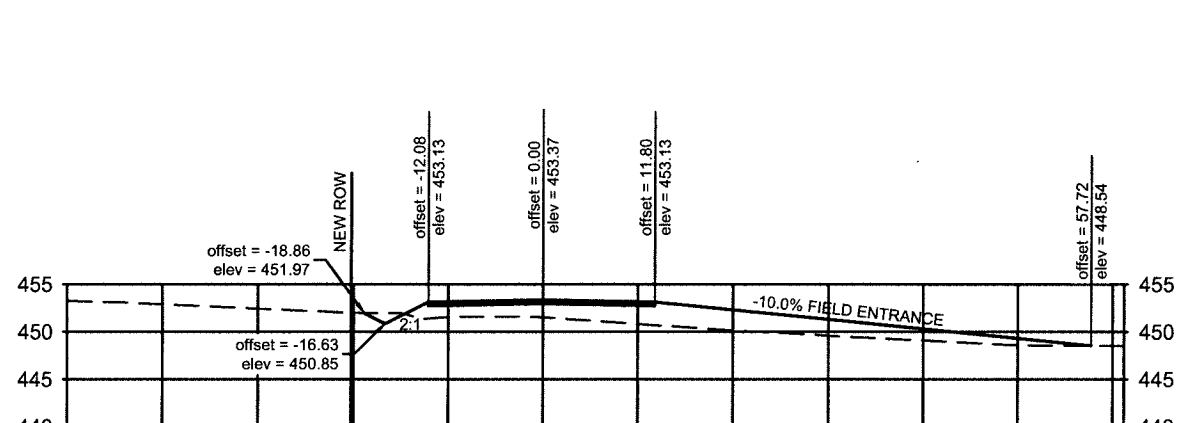
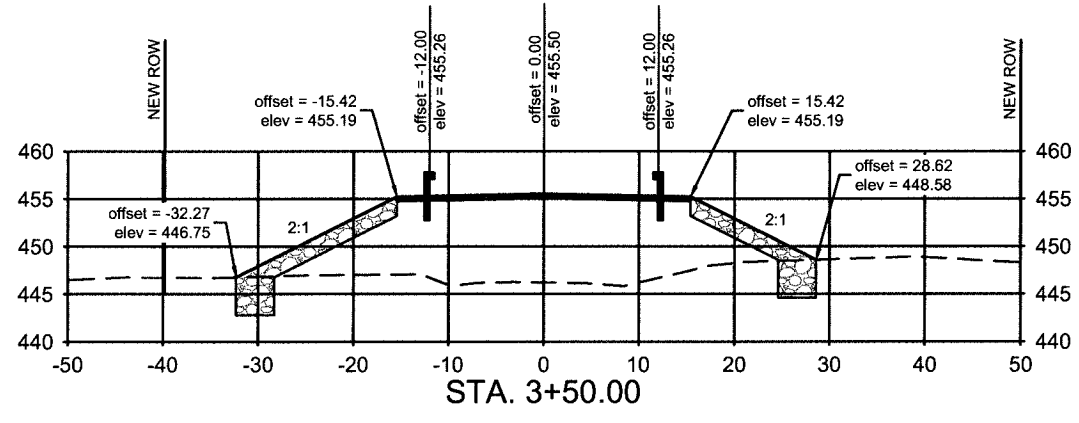
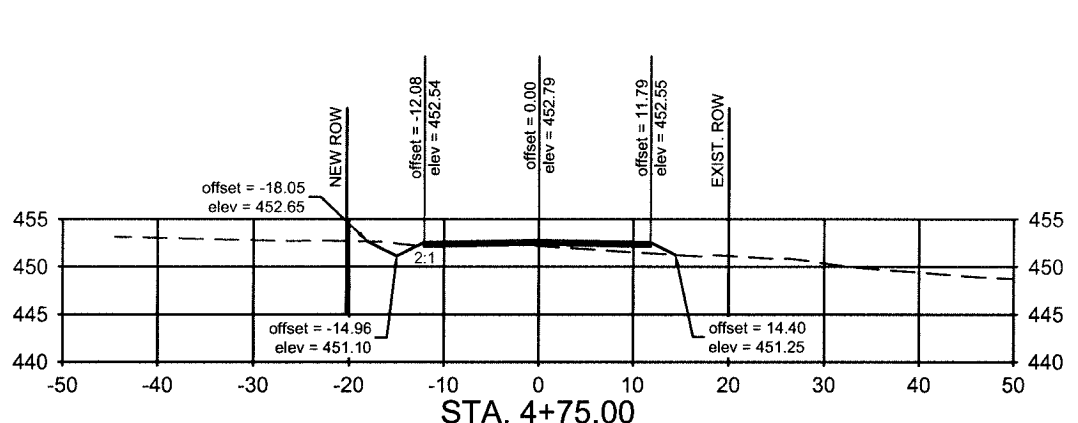
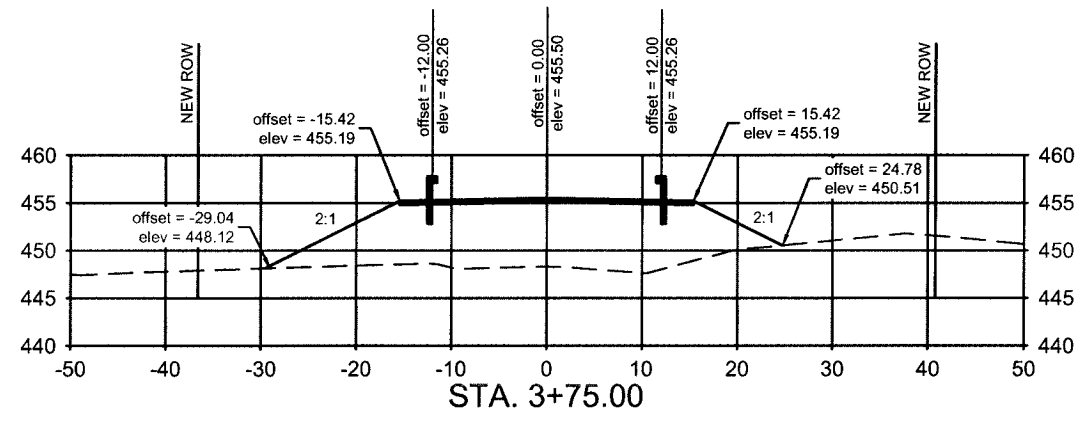
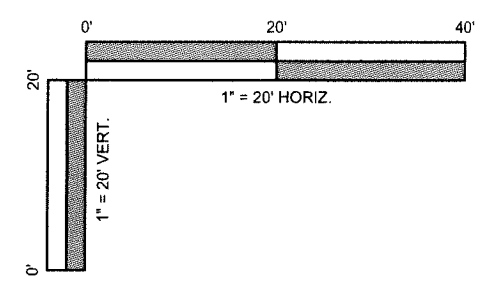
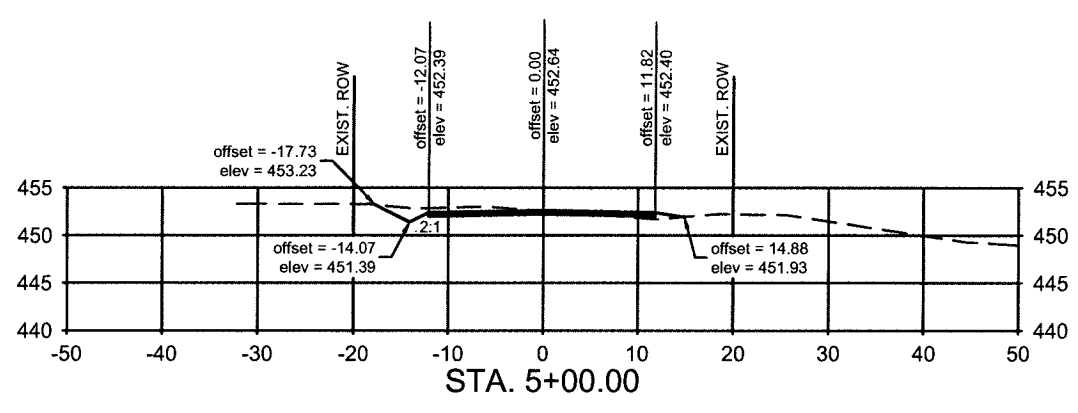
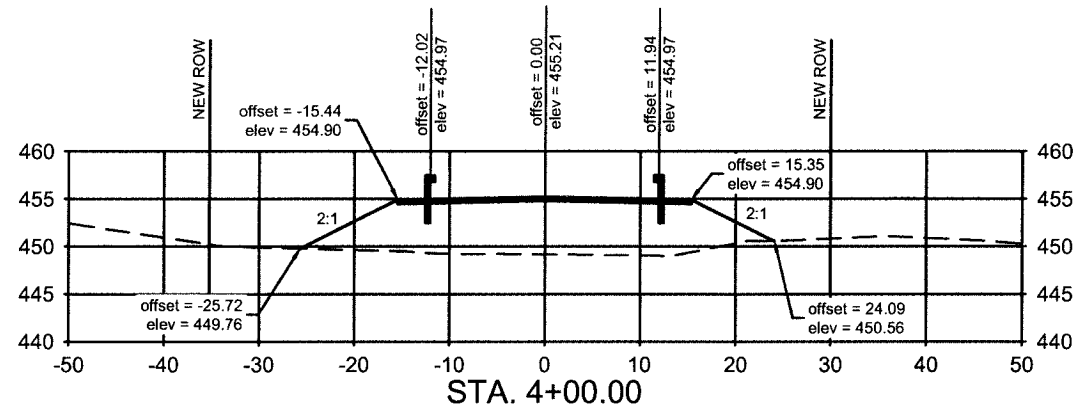


Date	11-28-18
Revision/Issue	REVISED GUARDRAIL

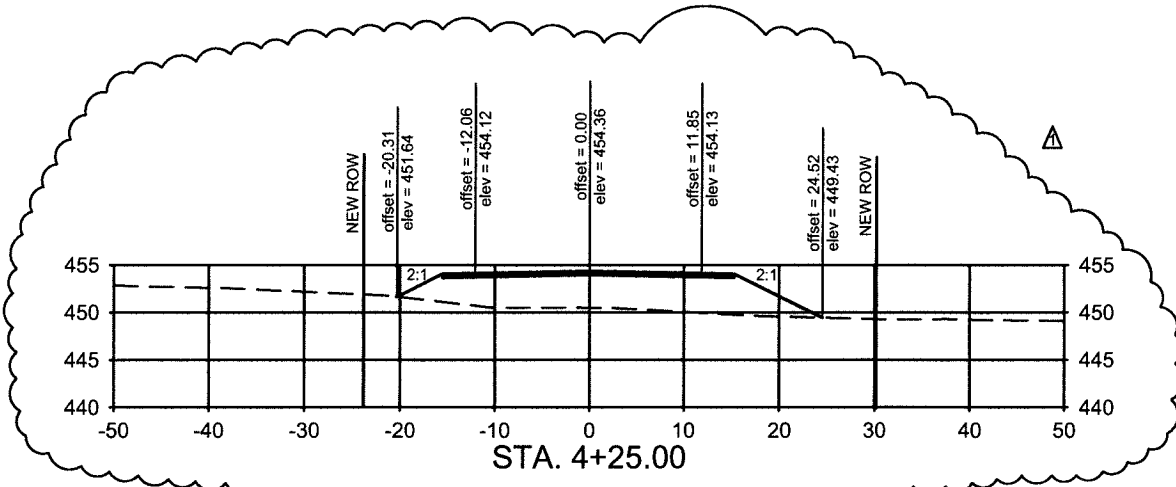
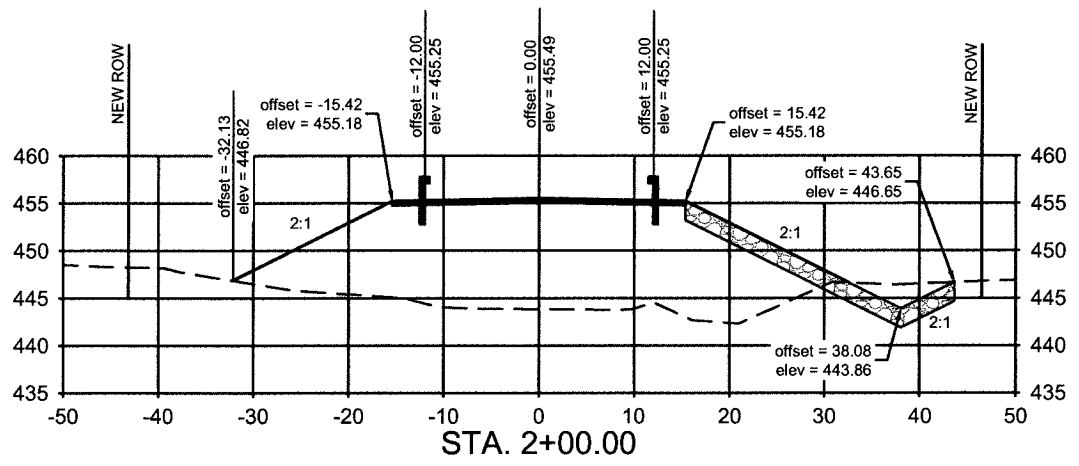


C.R. 225 BRIDGE OVER FREDERICK CREEK (BRO-B075(1))
OREGON COUNTY, MISSOURI
CROSS SECTIONS

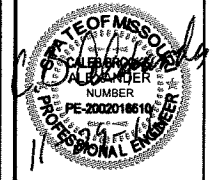
CHECKED BY:	CBA
DRAWN BY:	KFB
JOB NUMBER:	3479
FILE NAME:	3479_CIVIL
SCALE:	NO SCALE
ISSUE DATE:	NOV. 30, 2016
SHEET NUMBER:	C6



SECTIONS 2+13.72 THRU 3+48.72
NOT SHOWN DUE TO BRIDGE



Date	Revision/Issue	No.
11-29-18	REVISED GUARDRAIL	1



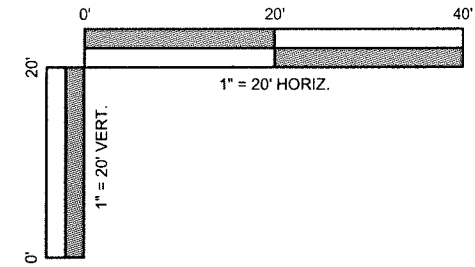
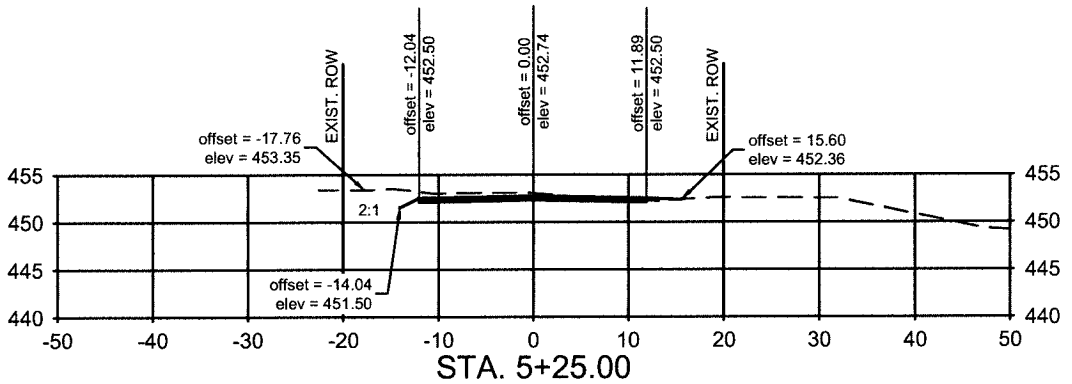
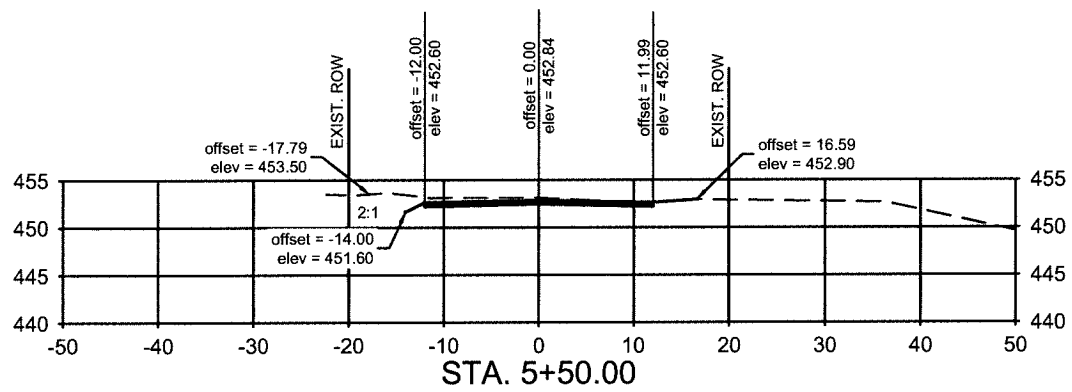
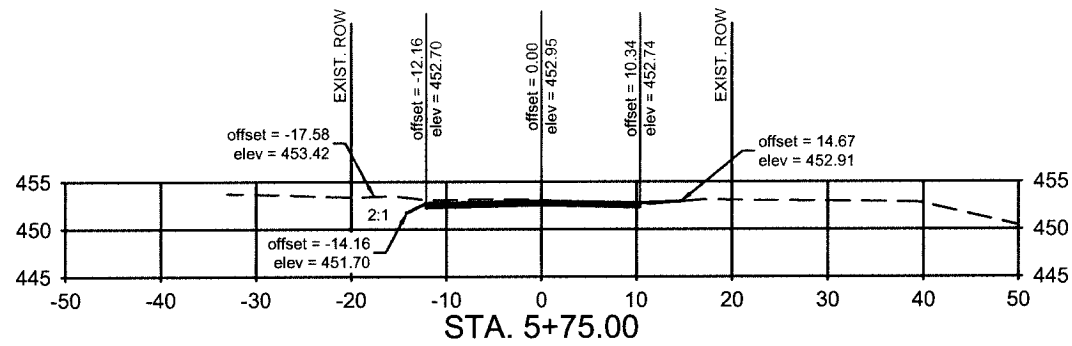
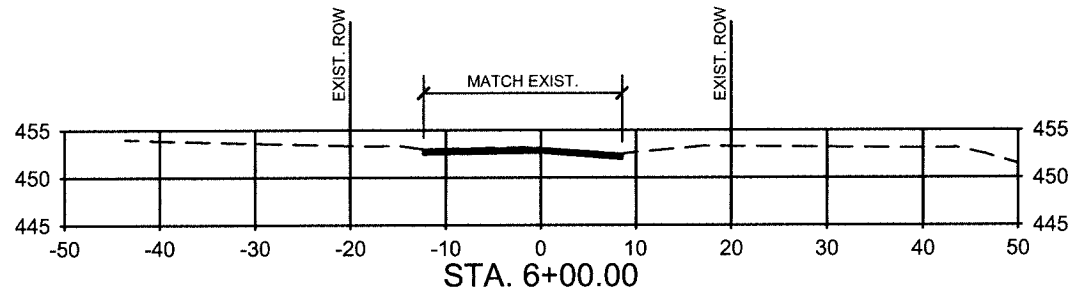
C.B. ALEXANDER - ENGINEER
MO# PE-2002016610

C.R. 225 BRIDGE OVER FREDERICK CREEK (BRO-B075(1))
OREGON COUNTY, MISSOURI

CROSS SECTIONS

CHECKED BY: CBA
DRAWN BY: KFB
JOB NUMBER: 3479
FILE NAME: 3479_CIVIL
SCALE: NO SCALE
ISSUE DATE: NOV. 30, 2016
SHEET NUMBER:

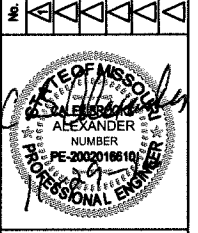
C7



EARTHWORK QUANTITIES
 CUT = 517 CY } NO ADJUSTMENT HAS BEEN
 FILL = 2,192 CY } MADE FOR SHRINKAGE OR SWELL



Date	Revision/Issue
11-28-18	REVISED GUARDRAIL



C.B. ALEXANDER - ENGINEER
 MO# PE-2002016610

C.R. 225 BRIDGE OVER FREDERICK CREEK (BRO-B075(1))
OREGON COUNTY, MISSOURI
CROSS SECTIONS

CHECKED BY: CBA
DRAWN BY: KFB
JOB NUMBER: 3479
FILE NAME: 3479_CIVIL
SCALE: NO SCALE
ISSUE DATE: NOV. 30, 2016
SHEET NUMBER: C8