

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
COUNTY BRIDGE
STATE AID PROJECT NO. CIRB-211D(024)RB
GRADE, DRAIN, SURFACE AND BRIDGE PLANS FOR
CHEROKEE COUNTY

STATE JOB NO. 29394(04)
BRIDGE "A" LOCATION 11N4400E0680005
LATITUDE N36°01'28", LONGITUDE W95°10'19"
EXISTING NBI NO. 08255 NEW NBI NO. 31521
BRIDGE "B" LOCATION 11N4400E0680002
LATITUDE N36°01'41", LONGITUDE W95°10'19"
NEW NBI NO. 31522

DESCRIPTION	REVISIONS	DATE

THE FOLLOWING 2009 ODOT STANDARD
DRAWINGS ARE REQUIRED

BRIDGE	ROADWAY	TRAFFIC	TRAFFIC MAINT.
CB26-1-SKO-ABUT-PC4-01E	SSS-1-1	PM3-1-02	GET-2-00
CB26-1-SKO-XSECT-PC234-01E	TSC2-3-2	DU1-1-00	GRH1-1-00
CB26-1-SKO-LSECT-PCB-01E	TS2-2-0	DU2-1-00	GRH2-1-00
CB26-1-SKO-DKSLB-BL1ST-PCB-01E	TRFD-1-2	RS1-1-00	GRH3-1-00
CB26-1-SKO-PCB-IV-105-01E	CET4S-3-2	WSD1-1-00	
CB26-1-SKO-DIA-ABUT-PC4-01E	SP1-4-1	SBS1-1-00	
CB26-1-SKO-DIA-INTPR-PCB-01E	FHTMPP-1-0	SBS2-1-00	
CB26-1-SKO-BRG-PC4-01E	SBI-4-2	GMS1-1-00	
CB26-1-SKO-SPR-QUAN-PCB-1-01E	PUD-3-2	SSP1-1-02	
CB26-1-SKO-SPR-QUAN-PCB-2-01E	MI-3-0	SSA1-1-00	
CB26-1-SKO-AS-01E	RD1-3-1	TCS1-1-01	
CB26..32-1-SKO-WING-PC4-01E	DC-3-2	TCS2-1-00	
CB26..32-1-SKO-ABUT-MISC-01E	RWF2-2-1	TCS4-1-01	
CB26..32-C..1-SKO..30-PCB-DTL-1-01	SUEL1-3-2	TCS5-1-00	
CB26..32-C..1-SKO..30-PCB-DTL-2-01	SUEL4-3-2	TCS7-1-02	
TR3-2-01E		TCS9-1-01	
HP1-2-00E		TCS14-1-00	
		TCS15-1-00	
		DBF2-1-00	

SURVEY CONTROL DATA

HORIZONTAL DATUM:
OKLAHOMA NORTH ZONE (3501) NAD 83.
BEARINGS ARE BASED ON STATE PLANE
GRID, AND ARE NOT ASTRONOMIC.
VERTICAL DATUM:
NAVD 1988

DESIGN DATA

AADT 2014 = 120
AADT 2034 = 179
V = 40 MPH
20yr.Flex ESALS = 0.2 M

INDEX OF SHEETS

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X01-X28	CROSS SECTIONS

SCALES

PLAN 1" = 20'
PROFILE HOR. 1" = 20'
VER. 1" = 5'
LAYOUT MAP 1" = 5,280'

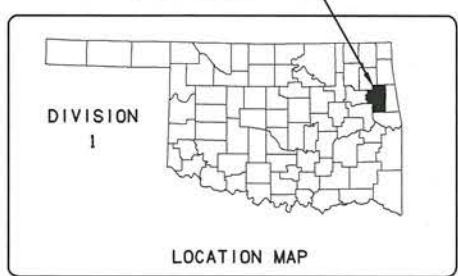
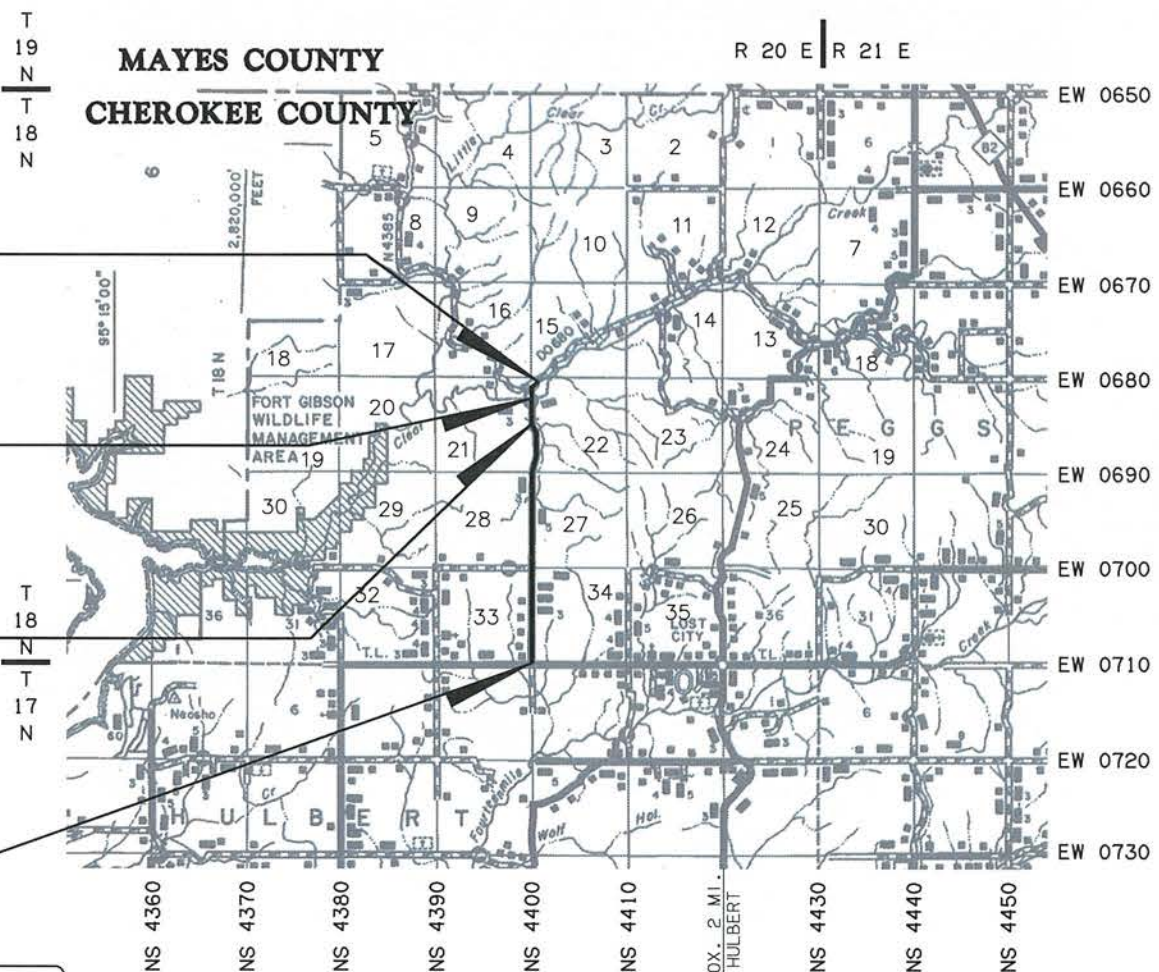
- CONVENTIONAL SYMBOLS**
- PROPOSED ROAD
 - RAILROADS
 - RANGE & TOWNSHIP
 - SECTION LINES
 - QUARTER SECTION LINES
 - FENCES
 - GROUND LINE
 - EXISTING ROADS
 - BASE LINE
 - GRADE LINES
 - TELEPHONE & TELEGRAPH
 - POWER LINES
 - BUILDINGS
 - OILWELL
 - DRAINAGE STRUCTURES - IN PLACE
 - DRAINAGE STRUCTURES - NEW
 - RIGHT-OF-WAY LINES - EXISTING
 - RIGHT-OF-WAY LINES - NEW
 - CONTROLLED ACCESS
 - MAILBOX
 - EXISTING CENTERLINE
 - EXISTING SANITARY SEWERS
 - EXISTING GAS LINES
 - EXISTING WATER LINES
 - EXISTING TELEPHONE CABLES UNDERGROUND

STA. 260+50.00
END PROJECT
STATE JOB NO. 29394(04)

BRIDGE "B"
BEGIN STA. 245+81.75
END STA. 248+98.25
LENGTH = 316'-6"

BRIDGE "A"
BEGIN STA. 233+22.50
END STA. 234+09.03
LENGTH = 86'-6³/₈"

STA. 100+09.75
BEGIN PROJECT
STATE JOB NO. 29394(04)



ROADWAY LENGTH _____ 15637.22 FT. 2.961 MI.
BRIDGE LENGTH _____ 403.03 FT. 0.076 MI.
PROJECT LENGTH _____ 3.037 MI.

EQUATIONS : NONE
EXCEPTIONS : NONE

APPROVED
THIS 21st DAY OF Dec. 2015
BOARD OF COUNTY COMMISSIONERS
CHEROKEE COUNTY, OKLAHOMA

Douglas G. Hubbard
CHAIRMAN

Tim B...
MEMBER

...
MEMBER

ATTEST: *Chrysa Stammel*
COUNTY CLERK



GUY ENGINEERING SERVICES, INC.
Certificate of Authorization No. 1427
Renewal Date: June 30, 2016

Michael B. Simmons
MICHAEL B. SIMMONS, P.E. S.E. NO. 24576
(THIS SEAL COVERS SHEETS 32-33)

GUY ENGINEERING SERVICES, INC.
Certificate of Authorization No. 1427
Renewal Date: June 30, 2016

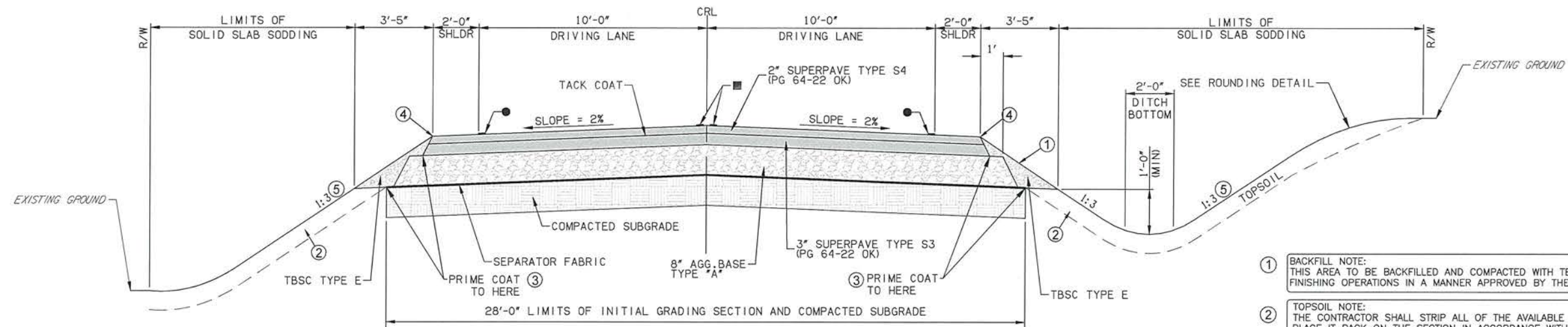
Rebecca A. Alvarez
REBECCA A. ALVAREZ, P.E. NO. 24916

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED _____	DATE APPROVED _____
BY _____ CHIEF ENGINEER	BY _____ DIVISION ADMINISTRATOR
PROJECT NO. CIRB-211D(024)RB SHEET NO. 1	

COMMISSIONER BOBBY BOTTS
DISTRICT 2, CHEROKEE COUNTY
P.E. NO. 29394(01)
SHANNON SHEFFERT / GARRY HARRISON
LOCAL GOVERNMENT DIVISION

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - ENGLISH
GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY
ADMINISTRATION, JANUARY 4, 2010.

DESCRIPTION	REVISIONS	DATE



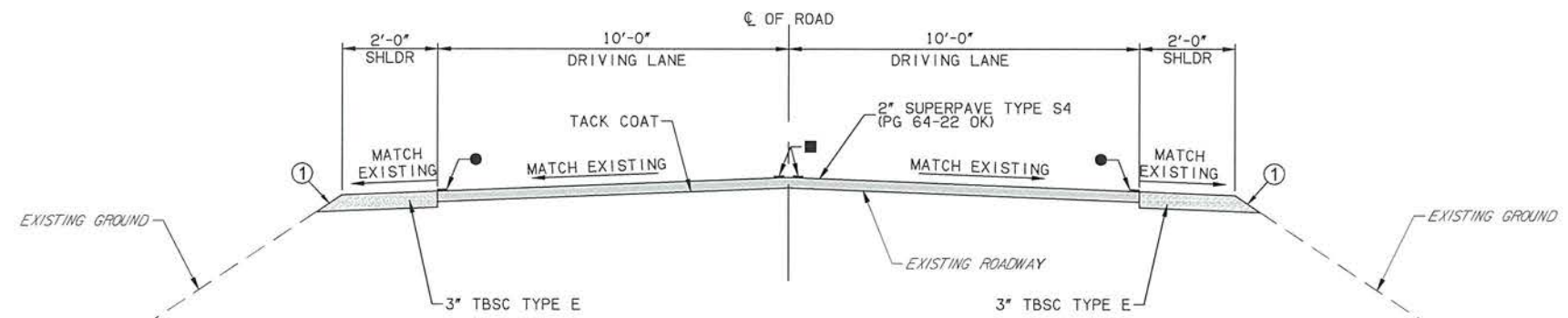
RECONSTRUCTION TYPICAL SECTION

Not To Scale
STA. 225+80 TO STA. 260+50

- ① BACKFILL NOTE:
THIS AREA TO BE BACKFILLED AND COMPACTED WITH TBSC, TYPE E AS PART OF THE FINISHING OPERATIONS IN A MANNER APPROVED BY THE ENGINEER.
- ② TOPSOIL NOTE:
THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARDS SPECIFICATION. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATION SHALL BE INCLUDED IN THE PAY ITEM FOR SALVAGED TOPSOIL, LUMP SUM.

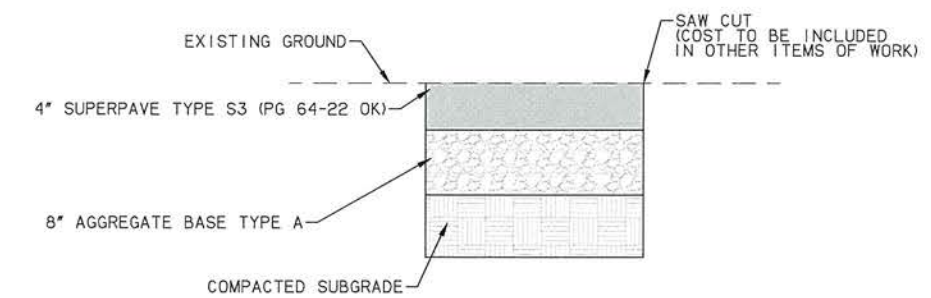
THE GRADING LINE AS SHOWN ON THE TYPICAL IS TO THE TOP OF THE TOPSOIL. EARTHWORK QUANTITIES WERE NOT ADJUSTED FOR SALVAGED TOPSOIL AND THE TOPSOIL QUANTITY IS INCLUDED IN THE EARTHWORK SUMMARY.
- ③ PRIME COAT TO BE APPLIED TO THE SUBGRADE FOR FULL WIDTH OF STABILIZED SUBGRADE. 0.35 GAL/SY BELOW AGGREGATE BASE AND 0.25 GAL/SY ABOVE AGGREGATE BASE.
- ④ CONSTRUCT ASPHALT SAFETY EDGE AS SHOWN IN SPECIAL PROVISION 411-14.
- ⑤ SEE CROSS SECTIONS FOR VARIATIONS.

- 4" YELLOW TRAFFIC STRIPE
- 4" WHITE TRAFFIC STRIPE



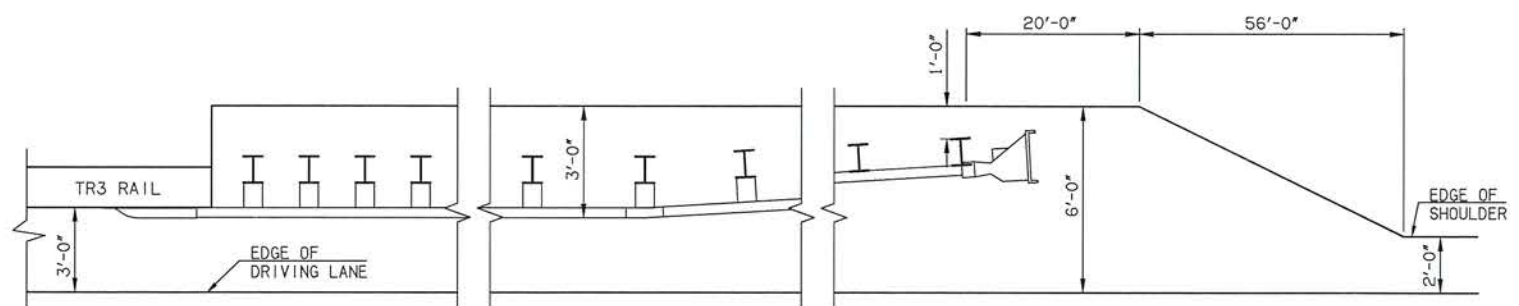
OVERLAY TYPICAL SECTION

Not To Scale
STA. 100+09.75 TO STA. 225+80



PATCHING DETAIL

Not To Scale
PATCHING TO BE USED AT THE DISCRETION OF THE ENGINEER.



GUARDRAIL INSTALLATION DETAIL AT BRIDGES

Not To Scale

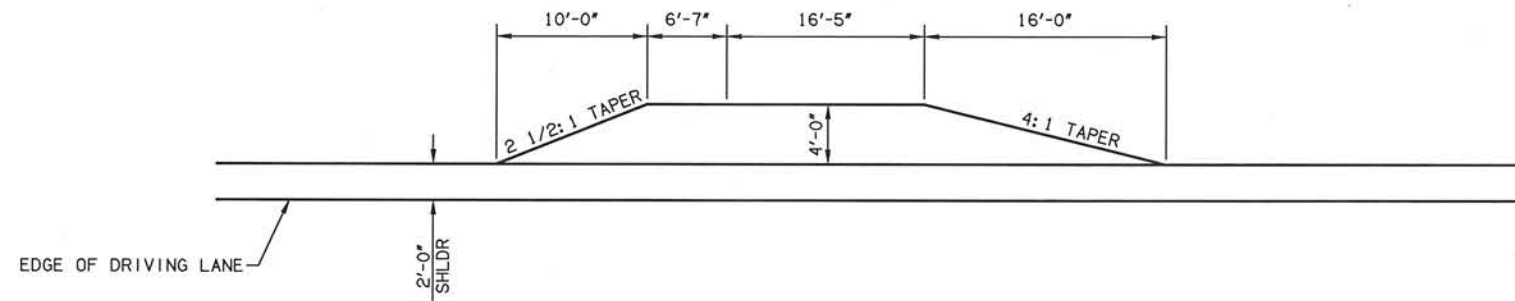
NOTE:
FOR ADDITIONAL DETAILS INCLUDING HARDWARE ELEMENTS, GUARDRAIL HEIGHT, AND POST AND BLOCK DIMENSIONS REFER TO GRH1-1-00, GRH2-1-00, GRH3-00 AND GET-2-00.

FOR STATION LIMITS SEE SHEET 7

DESIGN	RAA	12/15	OKLAHOMA DEPARTMENT OF TRANSPORTATION GUY ENGINEERING SERVICES, INC. TYPICAL SECTIONS (1) STATE JOB NO. 29394(04) SHEET NO. 2
DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

Tuesday, June 07, 2016 1:47:33 PM
 V:\13-828E Barrington Hollow Br 22 & LWC-Cherokee 2-CED2\CIV3D\PLANS\828-TYPICAL_SECTIONS.dwg

DESCRIPTION	REVISIONS	DATE

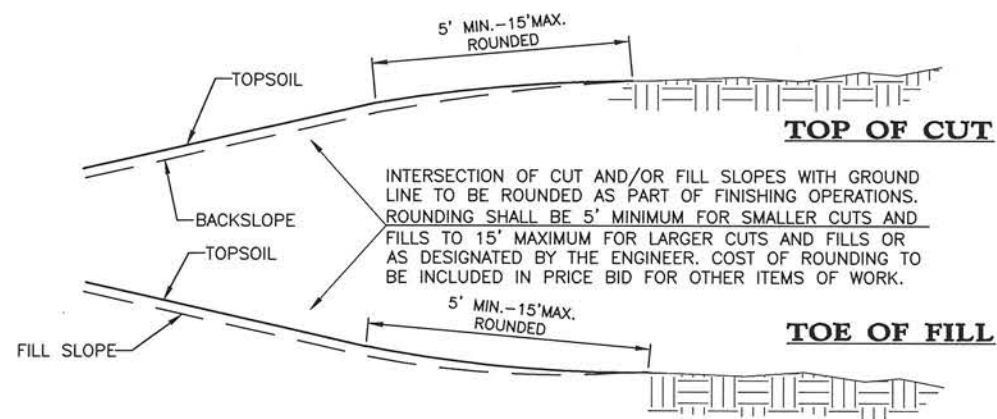


MAILBOX RETURN INSTALLATION

SEE SHEET 8 FOR SUMMARY

Not To Scale

NOTE:
PAVEMENT WIDENING SHALL BE 3" T.B.S.C. TYPE E.



ROUNDING DETAIL

Not To Scale

DESIGN	RAA	12/15	OKLAHOMA DEPARTMENT OF TRANSPORTATION GUY ENGINEERING SERVICES, INC. TYPICAL SECTIONS (2) STATE JOB NO. 29394(04) SHEET NO. 3 CHEROKEE COUNTY BARRINGTON HOLLOW BR 22 & LWC
DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

ROADWAY GENERAL CONSTRUCTION NOTES:

EXISTING ROADWAY MAY BE CLOSED TO THROUGH TRAFFIC WHEN APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVES AND FIELD ENTRANCES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE DONE ACCORDING TO STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND AS SHOWN ON TCS STANDARD DRAWINGS.

THE EXISTING ROAD MAY BE CLOSED TO THROUGH TRAFFIC AT THE APPROVAL OF THE ENGINEER ONLY. THE LENGTH OF CLOSURE MAY NOT EXCEED 5 DAYS AT ANY ONE TIME OR AS DIRECTED BY THE ENGINEER.

ALL TREES, BRUSH, AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER ARE TO BE CLEANED OUT TO THE RIGHT-OF-WAY LINES AT THE BRIDGE IN A MANNER APPROVED BY THE ENGINEER. ALL COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK.

ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COSTS ARE TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL GIVE NOTICE TO THE COUNTY AND THE OKLAHOMA DEPARTMENT OF TRANSPORTATION (DIVISION 1) IN WRITING, FOURTEEN (14) CALENDAR DAYS BEFORE WORK BEGINS ON THE PROJECT.

CONTRACTOR SHALL NOT DISTURB ANY RIGHT-OF-WAY STAKES. IF ANY OF THE RIGHT-OF-WAY STAKES ARE REMOVED OR DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THEM, AT HIS OWN EXPENSE, TO THE SATISFACTION OF THE ENGINEER AND COUNTY, IN ORDER TO CONSTRUCT THE PERMANENT FENCE AT THE PROPER LOCATION.

IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, 48 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKIE" 1-800-522-6543 OR 811.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC. . . . PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES:

THE OKIE NOTIFICATION CENTER 811 OR 1-800-522-6543 OR WWW.CALLOKIE.COM OR THE LOCAL COUNTY CLERK'S OFFICE.

AT&T
CHEROKEE CO. RWD #11
LAKE REGION ELECTRIC & WATER COOP.

GLENN LEACH
918-351-5023
918-772-2915
918-772-6939

DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

T.B.S.C. SURFACES SHALL BE SPRINKLED WITH WATER AND ROLLED WITH A PNEUMATIC ROLLER IN A MANNER APPROVED BY THE ENGINEER.

EROSION CONTROL NOTES:

VEGETATIVE MULCHING: THE VEGETATIVE MULCH SHALL BE ANCHORED IN ACCORDANCE WITH THE "MULCHING-TILLER METHOD", AS SPECIFIED IN SECTION 233.04B(I) OF THE STANDARD SPECIFICATIONS.

AT THE BEGINNING OF THE TURFING OPERATIONS, ANY AREAS INCLUDED IN PLANNED QUANTITIES THAT HAVE GROWN A SATISFACTORY VOLUNTEER TURF OR PERENNIAL GRASS, AS DETERMINED BY THE ENGINEER, SHALL BE FERTILIZED AND WATERED AS CALLED FOR ON THE PLANS, BUT SHALL NOT BE SEEDED, SODDED, OR SPRIGGED.

AREAS ON WHICH SALVAGED TOPSOIL IS TO BE REPLACED SHALL HAVE 18-46-0 FERTILIZER OR APPROVED EQUAL APPLIED, AT THE RATE OF 150 LBS. PER ACRE, JUST PRIOR TO THE REPLACEMENT OF SALVAGED TOPSOIL. THE COST OF 18-46-0 FERTILIZER SHALL BE INCLUDED IN PRICE BID FOR "TYPE A-SALVAGED TOPSOIL".

ENVIRONMENTAL MITIGATION NOTES:

AMERICAN BURYING BEETLE: NO ARTIFICIAL LIGHTING SHALL BE USED DURING CONSTRUCTION. CARCASSES AND ALL FOOD TRASH SHALL BE REMOVED FROM THE PERMANENT AND TEMPORARY RIGHT-OF-WAY THROUGHOUT PROJECT ACTIVITIES.

NORTHERN LONG-EARED BAT: THE NORTHERN LONG-EARED BAT, AN INSECTIVOROUS MIGRATORY BAT SPECIES PROTECTED BY THE ENDANGERED SPECIES ACT, OCCURS WITHIN THIS COUNTY. BIOLOGICAL STUDIES HAVE IDENTIFIED SUITABLE SUMMER ROOSTING OR FORAGING HABITAT WITHIN THE PROJECT'S ACTION AREA. IN ORDER TO AVOID ADVERSE IMPACTS TO NORTHERN LONG-EARED BATS THE FOLLOWING MEASURES SHALL BE TAKEN:

- ALL REMOVAL OF LIVE OR DEAD TREES, GREATER THAN 3 INCHES DIAMETER AT BREAST HEIGHT (DBH), NECESSARY FOR CONSTRUCTION OR UTILITIES SHALL BE CONDUCTED BETWEEN NOVEMBER 16 AND MARCH 31.
- IF REMOVAL OF TREES CANNOT BE DONE BETWEEN NOVEMBER 16 AND MARCH 31, THE LOCAL GOVERNMENT DIVISION OR THE RESIDENT ENGINEER NEEDS TO CONTACT THE ODOT BIOLOGIST AT (405) 521-2515 TO SCHEDULE A SPECIES SURVEY PRIOR TO START OF WORK. THE SURVEY CAN ONLY TAKE PLACE BETWEEN MAY 15 AND AUGUST 15. THE SURVEY AND ASSOCIATED USFWS CONSULTATION COULD TAKE 60 DAYS OR MORE TO COMPLETE. IF BATS ARE FOUND TO BE USING THE TREES FOR ROOSTING, THE TREES CANNOT BE REMOVED UNTIL NOVEMBER 16.
- CLIFF SWALLOWS AND BARN SWALLOWS: CLIFF SWALLOWS AND BARN SWALLOWS ARE SMALL COLONIAL NESTING BIRDS PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. THESE SPECIES COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR THE SWALLOWS RUNS FROM APRIL 1 TO AUGUST 31. ANY ACTIVITIES WHICH WOULD DESTROY ACTIVE NESTS OR HARM EGGS OR BIRDS WOULD VIOLATE THE MIGRATORY BIRD TREATY ACT. SWALLOW USE OF BRIDGE/CULVERT NBI NO. 08255 WAS NOT OBSERVED DURING THE INITIAL SURVEYS CONDUCTED AS PART OF THE BIOLOGICAL STUDIES IN 2014. SWALLOWS MAY OCCUPY THE BRIDGE IN THE FUTURE NESTING SEASONS. THE RESIDENT ENGINEER WILL EVALUATE THE CONTRACTOR'S PROPOSED WORK METHODS AND CONCLUDE WHETHER THE PROPOSED WORK WOULD POSE DISRUPTION TO ANY NESTING BIRDS BEFORE WORK NEAR THE STRUCTURE IS AUTHORIZED. IF THE PROPOSED WORK WILL HARM ANY NESTING BIRDS, THE BRIDGE MAY BE NETTED PRIOR TO APRIL 1 OR THE WORK DELAYED UNTIL THE NESTING SEASON IS COMPLETE. METHODS OTHER THAN NETTING MUST BE PRE-APPROVED BY THE ODOT BIOLOGIST.

ROADWAY PAY QUANTITY NOTES:

- (R-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS.
- (R-4) INCLUDES 200 C.Y. FOR DRIVEWAYS, RETURNS, DIKES, AND MISCELLANEOUS GRADING.
- (R-7) FOR SOLID SLAB SODDING PRICE BID TO INCLUDE COST OF (10-20-10) FERTILIZER, ESTIMATED AT 200 LBS. PER 1,000 S.Y.
- (R-8) FOR SOLID SLAB SODDING PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GAL. PER S.Y.
- (R-11) THE QUANTITIES ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 6.06 ACRES.
- (R-28) PRIME COAT SHALL BE APPLIED AT AN ESTIMATED RATE OF 0.35 GAL. PER SQ. YD. WHEN APPLIED TO SUBGRADE AND 0.25 GAL. PER SQ. YD. WHEN APPLIED TO AGGREGATE BASE. THE ACTUAL CUT BACK PRIME COAT REQUIRED FOR PLACEMENT OPERATIONS WILL BE DETERMINED BY THE CONTRACTOR, AND SHALL CONSIDER THE RESIDUE FROM DISTILLATION PERCENTAGE SHOWN IN SECTION 708.03 OF THE STANDARD SPECIFICATIONS.
- (R-32) ESTIMATED AT 112 LBS. PER SQ. YD. PER 1" THICK.
- (R-41) QUANTITY INCLUDES AN ESTIMATED 10 C.Y. TO BE USED AS DIRECTED BY THE ENGINEER.
- (R-49) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
- (R-52) INCLUDES 2% FOR GROUND MEASUREMENT.
- (R-53) ALL GATES AND GATE POSTS FOR STRANDED WIRE FENCE (SWF) SHALL BE CONSTRUCTED AT THE SAME WIDTH AS THE EXISTING, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

1. THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATIONS. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATION SHALL BE INCLUDED IN THE PAY ITEM FOR TOPSOIL, LUMP SUM. PRICE BID TO INCLUDE COST OF 18-46-0 FERTILIZER OR APPROVED EQUAL, ESTIMATED AT 150 LBS PER ACRE ON WHICH TOPSOIL IS REPLACED.

THE GRADING LINE AS SHOWN ON THE TYPICAL AND CROSS SECTIONS IS TO THE TOP OF THE TOPSOIL. EARTHWORK QUANTITIES WERE NOT ADJUSTED FOR SALVAGE AND THE TOPSOIL QUANTITIES ARE INCLUDED IN THE EARTHWORK BALANCE.

- ESTIMATED QUANTITY FOR TEMPORARY EROSION AND SEDIMENT CONTROL TO BE USED IN A MANNER APPROVED BY THE ENGINEER. PRICE BID TO INCLUDE COST OF SILT REMOVAL, RESTORATION OF ERODED SLOPES, NECESSARY MAINTENANCE, MAINTAINING IN AN UPRIGHT POSITION, AND REMOVAL. REMOVE SEDIMENT WHEN 50% FULL.
- INCLUDES 205 TONS FOR RURAL DRIVES AND 46 TONS FOR MAILBOX TURNOUTS.
- ESTIMATED AT 0.075 GAL. PER SQ. YD. PRIOR TO DILUTION.
- THIS ITEM SHALL INCLUDE ALL TRAFFIC CONTROL DEVICES NECESSARY TO REGULATE ALL TRAFFIC DURING CONSTRUCTION. THIS ITEM SHALL BE PAID FOR AS A LUMP SUM DUE TO THE MINOR EXTENT OF CONSTRUCTION FOR THIS PROJECT. TRAFFIC CONTROL SHALL BE IN ACCORDANCE TO STATE STANDARDS AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", CURRENT EDITION. ALL CONSTRUCTION SIGNS OVER 10 S.F. SHALL BE DOUBLE POSTED. ALL SIGNS AND BARRICADES, WHICH ARE SHOWN WITH TYPE 'A' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.
- CONSTRUCTION STAKING SHALL INCLUDE ESTABLISH AND RE-ESTABLISH STAKING OF CENTERLINE, BENCHMARKS, AND RIGHT-OF-WAY. INCLUDES SLOPE STAKING, STRUCTURE AND BRIDGE STAKING, ROADWAY STAKING (DRIVEWAYS INCLUDED), BLUETOPPING, AND CHECKING ALIGNMENTS AND ELEVATIONS AS REQUIRED.
- TO BE USED AT THE DISCRETION OF THE ENGINEER.
- IF THE CONTRACTOR DISPUTES THE QUANTITIES, THE CONTRACTOR MUST CALCULATE EARTHWORK QUANTITIES AND SUBMIT TO THE ENGINEER FOR APPROVAL.
- INCLUDES 300 TONS FOR SHOOFLY.
- ESTIMATED AT 140 LBS. PER CU. FT.
- THE CONTRACTOR MUST PROVIDE TESTING RESULTS FROM A CERTIFIED LAB THAT THE BORROW SITE IS FREE FROM DISPERSIVE CLAYS AS REQUIRED IN SECTION 202.02(A) IN THE SPEC BOOK BEFORE ANY MATERIAL CAN BE PLACED ON THE PROJECT.
- THIS PAY ITEM WILL INCLUDE THE SKT-SP-MSG OR APPROVED SUBSTITUTE. THE ET-PLUS WILL NOT BE ALLOWED.
- INCLUDES 10% FOR PATCHING.

RESPONSIBILITY OF COUNTY:

ACQUIRING RIGHT-OF-WAY.
REMOVAL AND RELOCATION OF UTILITIES.
DETOUR SIGNING OUTSIDE THE LIMITS OF CONSTRUCTION.

DESCRIPTION	REVISIONS	DATE

29394(04) PAY QUANTITIES				
0100 ROADWAY ITEMS				
ITEM	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
201(A)	0102 CLEARING AND GRUBBING		L. SUM	1
202(A)	0183 UNCLASSIFIED EXCAVATION	R-1,8	C.Y.	13,284
202(D)	0184 UNCLASSIFIED BORROW	R-1,R-4,8, 11	C.Y.	681
205(A)	4229 TYPE A - SALVAGED TOPSOIL	1	L. SUM	1
209	0120 MACHINE GRADING	7	L.F.	100
210	0121 OBLITERATING ABANDONED ROAD		L.F.	932
221(C)	2801 TEMPORARY SILT FENCE	2	L.F.	7,390
221(F)	0100 TEMPORARY SILT DIKE	2	L.F.	196
221(G)	0150 TEMPORARY ROCK FILTER DAM TYPE 1	2	C.Y.	20
221(G)	0152 TEMPORARY ROCK FILTER DAM TYPE 3	2	C.Y.	106
230(A)	2806 SOLID SLAB SODDING	R-7,R-8	S.Y.	31,983
233(A)	2817 VEGETATIVE MULCHING	R-11	AC.	6.06
303(A)	2100 AGGREGATE BASE TYPE A	13	C.Y.	2,845
325	5271 SEPARATOR FABRIC		S.Y.	11,517
402(E)	0225 TRAFFIC BOUND SURFACE COURSE TYPE E	3,9,10	TON	2,894
407(B)	0250 TACK COAT	4	GAL.	2,785
408	5774 PRIME COAT	R-28	GAL.	6,023
411(B)	5945 SUPERPAVE, TYPE S3 (PG 64-22 OK)	R-32,13	TON	1,559
411(C)	5960 SUPERPAVE, TYPE S4 (PG 64-22 OK)	R-32	TON	4,779
509(D)	0325 CLASS C CONCRETE	R-41	C.Y.	10
601(B)	0536 TYPE I-A PLAIN RIPRAP		TON	895
601(C)	0538 TYPE I-A FILTER BLANKET		TON	255
613(B)	0689 18" CORR. GALV. STEEL PIPE		L.F.	142
613(B)	4529 35" X 24" CORR. GALV. STEEL PIPE ARCH		L.F.	54
613(M)	7186 TYPE A4 CULVERT END TREATMENT		EA.	6
613(M)	7187 TYPE B4 CULVERT END TREATMENT		EA.	2
619(A)	0920 REMOVAL OF STRUCTURES & OBSTRUCTIONS		L.SUM	1
619(B)	4728 REMOVAL OF ASPHALT PAVEMENT	R-49	S.Y.	2,279
619(B)	8610 REMOVE AND RESET CATTLE GUARD	7	EA.	3
624(C)	4459 FENCE-STYLE SWF (5 BARBED WIRE)	R-52,R-53	L.F.	4,546
629(A)	4958 MAILBOX INSTALLATION-SINGLE		EA.	16
629(B)	4959 MAILBOX INSTALLATION-MULTIPLE		EA.	7
629(C)	4960 MAILBOX		EA.	32
629(D)	4961 REMOVAL OF MAILBOX INSTALLATION		EA.	32

29394(04) PAY QUANTITIES				
0300 TRAFFIC ITEMS				
ITEM	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
623(G)	8571 GUARDRAIL END TREATMENT (GET)	12	EA.	4
853	9030 DELINEATORS(TYPE 1, CODE 3)		EA.	16
853	9039 DELINEATORS(TYPE 2, CODE 3)		EA.	4
854(A)	8800 TRAFFIC STRIPE (PAINT) (4" WIDE)		L.F.	64,161
880(J)	8905 CONSTRUCTION TRAFFIC CONTROL	5	L. SUM	1

29394(04) PAY QUANTITIES				
0600 STAKING				
ITEM	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
642(B)	0096 CONSTRUCTION STAKING LEVEL II	6	L. SUM	1

29394(04) PAY QUANTITIES				
0640 CONSTRUCTION				
ITEM	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
220	2800 SWPPP DOCUMENTATION AND MANAGEMENT		L. SUM	1
641	1399 MOBILIZATION		L. SUM	1

DESIGN	RAA	12/15	OKLAHOMA DEPARTMENT OF TRANSPORTATION GUY ENGINEERING SERVICES, INC.
DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

SUMMARY OF PAY QUANTITIES & NOTES (ROADWAY)

STATE JOB NO. 29394(04) SHEET NO. 4
CHEROKEE COUNTY BARRINGTON HOLLOW BR 22 & LWC

Tuesday, June 07, 2016 1:46:31 PM
W:\13-828E Barrington Hollow Br 22 & LWC-Cherokee 2-CED2\CIV3D\PLANS\B2B-PAY QUANTITY NOTES (ROADWAY).dwg

SPECIFICATION FOR PRECAST CONCRETE BRIDGE

DESCRIPTION

PROVIDE A PRECAST ARCH CULVERT FOR PLACEMENT OVER CLEAR CREEK IN CHEROKEE COUNTY, OKLAHOMA. THE CONCRETE RIGID FRAME SHALL BE SKEW 30°, 2-38' LONG WITH A MINIMUM HYDRAULIC OPENING OF 1866.08 SQUARE FEET. THE PRECAST SPANS SHALL MEET HL-93 LOADING. THE PRECAST MANUFACTURER SHALL COORDINATE ALL DESIGN ASPECTS WITH THE ENGINEER.

QUALITY ASSURANCE

THE PRECAST MANUFACTURER SHALL HAVE A MINIMUM OF 5 YEARS EXPERIENCE IN MANUFACTURING PRECAST CONCRETE PRODUCTS FOR ROADWAY INFRASTRUCTURE.

MANUFACTURING

1. THE MANUFACTURING SHALL BE IN A CONTROLLED ENVIRONMENT TO ENSURE PROPER CONCRETE MIXTURE AND CONTROLLED CURING. THE CONCRETE MIX DESIGN AND TESTING SHALL BE MADE AVAILABLE UPON REQUEST BY THE ENGINEER.
2. THE CONCRETE FINISH SHALL BE SMOOTH AND FREE OF VOIDS OR DEFECTS.

JOBSITE CONDITIONS

THE PRECAST MANUFACTURER SHALL HAVE AN ONSITE REPRESENTATIVE DURING THE PLACEMENT OF THE PRECAST STRUCTURE. THE PRECAST REPRESENTATIVE SHALL HAVE AT LEAST 2 YEARS OF EXPERIENCE IN ASSEMBLY OF PRECAST PRODUCTS.

PRODUCT DELIVERY, HANDLING & STORAGE

THE PRECAST MANUFACTURER SHALL DELIVER THE PARTS TO THE JOB SITE IN ORDER OF ASSEMBLY INSTRUCTIONS. MINIMAL STORAGE AREA IS AVAILABLE ALONG ROADWAY RIGHT OF WAY.

CONSTRUCTION

1. ERECTION VARIANCES SHALL BE 1 INCH OR LESS ON HORIZONTAL AND VERTICAL PLACEMENT.
2. TEMPORARY SUPPORTS, BEARING PLATES, GROUT, AND OTHER INSTALLATION MATERIALS SHALL BE CLEARLY INDICATED ON THE SHOP DRAWINGS. THE CONTRACTOR SHALL PROVIDE THESE MATERIALS, ALL COSTS TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS.

REPAIR AND CLEANING

1. ANY DEFECTS AND DAMAGES CAUSED DURING SHIPPING AND ASSEMBLY SHALL BE PROPERLY REPAIRED AS TO NOT REDUCE THE STRUCTURAL CAPABILITIES OF THE PRECAST STRUCTURE.
2. ANY DIRT OR DEBRIS ADHERING TO THE PRECAST DURING SHIPPING AND ERECTING SHALL BE REMOVED OR CLEANED AS DIRECTED BY THE PRECAST MANUFACTURER'S REPRESENTATIVE ON SITE.

WARRANTY

THE PRECAST MANUFACTURER SHALL WARRANT AND GUARANTEE THE PRECAST PRODUCTS AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A MINIMUM OF 1 YEAR AFTER ASSEMBLY AND ACCEPTANCE BY THE COUNTY.

CHAMFER REQUIREMENTS:

ALL EXPOSED CONCRETE EDGES SHALL HAVE 3/4" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.

CONCRETE PLACEMENT:

ALL CONCRETE SHALL BE POURED IN THE DRY.

REINFORCING STEEL:

- a. PROHIBITION OF WELDING: NO WELDING OR TACK WELDING OF REINFORCING BARS WILL BE PERMITTED.
- b. ALL BAR BEND DIMENSIONS ARE OUT TO OUT.

COUNTY BRIDGE PAY QUANTITY NOTES

(R-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS.

- (1) ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVAL OF THE 3-10' CONCRETE SLAB SPANS IN ACCORDANCE WITH SECTION 619.04.B(2) OF THE SPECIFICATIONS. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING BRIDGE IN A MANNER APPROVED BY THE ENGINEER.
- (2) WINGWALLS CAN BE CAST-IN-PLACE, PRECAST, OR RECON MODULAR BLOCK RETAINING WALLS, OR APPROVED EQUAL. DESIGN OF WINGWALL SHALL BE PROVIDED BY THE MANUFACTURER AND SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL PRIOR TO START OF CONSTRUCTION. WINGWALL DESIGN SHALL BE IN ACCORDANCE WITH CURRENT ODOT SPECIFICATIONS.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE PRECAST STRUCTURE, HEADWALLS, WINGWALLS, AND FOOTINGS TO THE ENGINEER FOR APPROVAL IN ACCORDANCE WITH ODOT SPECIFICATIONS PRIOR TO THE BEGINNING OF CONSTRUCTION. ALL BRIDGE DESIGNS MUST MEET LRFD REQUIREMENTS. ENGINEERING CALCULATIONS SHALL ALSO BE SUBMITTED IF REQUESTED BY THE ENGINEER. FINAL PRECAST STRUCTURE DESIGN AND SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED AND IN GOOD STANDING WITH THE STATE OF OKLAHOMA. ALL COSTS ASSOCIATED WITH PRODUCING SHOP DRAWINGS AND CALCULATIONS TO BE INCLUDED IN THE PRICE BID FOR 508 PRECAST ARCH CULVERT.

ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTAL COSTS FOR DELIVERY AND HANDLING OF PRECAST COMPONENTS AS WELL AS ANY WELD PLATES AND CONNECTIONS SHALL BE INCLUDED IN THE COST OF PRECAST ARCH CULVERT.

PRECAST BRIDGE STRUCTURE MUST ALLOW FOR 482 S.F. OF HYDRAULIC OPENING. THE ROADWAY OVERTOPPING ELEVATION OF 660.08 MUST BE MAINTAINED. THE MINIMUM ROADWAY OVERTOPPING FREQUENCY SHALL BE THE 193-YEAR STORM. ANY ADJUSTMENTS TO THE VERTICAL PROFILE TO ACCOUNT FOR THE PRECAST STRUCTURE SHALL BE APPROVED BY THE ENGINEER. ALL VERTICAL CURVES SHALL BE DESIGNED FOR 40 MPH MINIMUM.

THE FINAL WEARING SURFACE SHALL BE A CONCRETE OR ASPHALT OVERLAY TO CONCEAL ALL JOINTS AND CONNECTIONS PER MANUFACTURES SPECIFICATIONS. RECESSED GROUDED CONNECTIONS ARE PREFERRED.

SHOP DRAWINGS SHALL INCLUDE THE FOUNDATION DESIGN REQUIRED FOR THE PRECAST ARCH CULVERT. THE PRICE BID FOR "PRECAST ARCH CULVERT" SHALL INCLUDE THE COSTS OF CONCRETE, REINFORCING STEEL, EXCAVATION, LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS REQUIRED BY THE SUBMITTED SHOP DRAWINGS FOR THE FOUNDATION.

SHOP DRAWINGS SHALL INCLUDE DESIGN OF HEADWALLS, WINGWALLS, FOOTINGS, AND BACKFILL REQUIREMENTS. PRICE BID FOR PRECAST ARCH CULVERT HEADWALLS, WINGWALLS, AND FOOTINGS SHALL INCLUDE THE COSTS OF CONCRETE, REINFORCING STEEL, EXCAVATION, BACKFILL, LABOR, EQUIPMENT AND INCIDENTALS AS REQUIRED BY THE SUBMITTED SHOP DRAWINGS. PRECAST WING WALLS MAY BE RECOMMENDED BY THE PRECAST SUPPLIER. THE PRICE BID FOR "PRECAST ARCH CONCRETE" SHALL INCLUDE ALL COSTS ASSOCIATED WITH PRODUCING ALTERNATE WINGWALL DESIGNS, CONCRETE, REINFORCING STEEL, EXCAVATION, LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS REQUIRED BY THE SUBMITTED SHOP DRAWINGS.

FOUNDATION EXCAVATION AND SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT FOR THIS PROJECT PREPARED BY TERRACON DATED 07/14/2015.

- (3) QUANTITY IS APPROXIMATE. FINAL QUANTITY TO BE DETERMINED BY THE MANUFACTURER OF PRECAST BRIDGE STRUCTURE.

DESCRIPTION	REVISIONS	DATE
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29394(04)

PAY QUANTITIES

0200 BRIDGE ITEMS - BRIDGE A: 86'-6 3/4" PRECAST BRIDGE x 38'-0" CLR. RDY., SK30 L.F.

ITEM	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
202(A)	1301 UNCLASSIFIED EXCAVATION	R-1	C.Y.	1,591
303(A)	2100 AGGREGATE BASE TYPE A	3	C.Y.	49
501(A)	1306 STRUCTURAL EXCAVATION UNCLASSIFIED	R-1	C.Y.	832
508	6359 PRECAST ARCH CULVERT	2	L.F.	76
601(B)	1353 TYPE 1-A PLAIN RIPRAP		TON	672
601(C)	1355 TYPE 1-A FILTER BLANKET		TON	30
619(D)	1397 REMOVAL OF EXISTING BRIDGE STRUCTURE	1	L. SUM	1

COUNTY BRIDGE GENERAL CONSTRUCTION NOTES

THE CONTRACTOR WILL BE RESPONSIBLE FOR CLEANING THE CHANNEL TO THE LIMITS OF THE RIGHT-OF-WAY. ALL COSTS OF MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE THE WORK AS SHOWN SHALL BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.

SPECIFICATIONS:

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL REINFORCING STEEL SHALL BE GRADE 60.

ALL CLASS "A" AND CLASS "AA" CONCRETE SHALL BE AIR-ENTRAINED.

BARRINGTON HOLLOW BR 22 & LWC		CHEROKEE COUNTY		Design	RAA	12/15
BRIDGE "A"				Detail	ALM	12/15
SUMMARY OF PAY QUANTITIES & NOTES (BRIDGE A)				Check	RAP	12/15
		86'-6 3/4" PRECAST BRIDGE x 38'-0" CLR RDWY, SKEW 30° L.F.		Squad:		
				Eng.	GUY	
STATE OF OKLAHOMA	GUY ENGINEERING SERVICES, INC.					
JOB PECE NO. 29394(04)				SHEET NO.		5

GENERAL BRIDGE NOTES

SPECIFICATIONS:

COMPLY WITH THE REQUIREMENTS OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

PILE DRIVING EQUIPMENT:

USE A PILE DRIVING HAMMER OF THE SIZE AND TYPE CAPABLE OF CONSISTENTLY DELIVERING THE EFFECTIVE DYNAMIC ENERGY SUFFICIENT TO DRIVE THE PILES TO THE REQUIRED TIP ELEVATION AND TO ACHIEVE THE AXIAL LOAD RESISTANCE WITHOUT EXCEEDING THE LIMITATIONS SET ON THE ALLOWABLE DRIVING STRESSES IN ACCORDANCE WITH SECTION 514.03(a)2.

VENT HOLES:

THE CONTRACTOR SHALL PROVIDE 2 INCH DIAMETER VENT HOLES IN THE DECK, ONE HOLE BETWEEN EACH BEAM LINE NEAR THE HIGH END OF EACH SPAN.

ABUTMENT PILING CAPACITY:

THE FACTORED REACTION FOR EACH HP 10X42 PILE AT EACH ABUTMENT IS 75.2 TONS PER PILE. DRIVE ALL PILING UNTIL THE AXIAL LOAD RESISTANCE IS GREATER THAN THE FACTORED REACTION OF EACH PILE. THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN PILES:

$$\text{AXIAL LOAD RESISTANCE} = \phi [(0.875 \sqrt{E} \text{ LOG}_{10}(10N) - 50)]$$

WHERE:

- φ = RESISTANCE FACTOR OF 0.4
- E = ENERGY PRODUCED BY THE HAMMER PER BLOW IN FOOT-POUNDS. FOR GRAVITY AND SINGLE ACTING DIESEL HAMMERS, THE VALUE IS BASED ON THE ACTUAL RAM STROKE OBSERVED IN THE FIELD AND MEASURED IN FEET MULTIPLIED BY THE RAM WEIGHT IN POUNDS.
- N = AVERAGE NUMBER OF HAMMER BLOWS PER INCH OF PILE PENETRATION FOR THE LAST 10 TO 20 BLOWS DELIVERED TO THE PILE HEAD.

THE ABOVE FORMULA IS ONLY APPLICABLE WHEN:

- THE PILE DRIVING HAMMER HAS A FREE FALL (GRAVITY & SINGLE ACTING HAMMERS ONLY).
- THE HEAD OF THE PILE IS NOT BROOMED, CRUSHED OR OTHERWISE DAMAGED.
- THE PENETRATION IS QUICK AND UNIFORM.
- THERE IS NO APPRECIABLE REBOUND OF THE HAMMER, AND
- A FOLLOWER IS NOT USED.

THE NUMBER OF BLOWS PER INCH OF PILE PENETRATION MAY BE MEASURED EITHER DURING INITIAL DRIVING OR BY RE-DRIVING WITH A WARM HAMMER OPERATED AT FULL ENERGY AFTER A PILE SET PERIOD, AS DETERMINED BY THE ENGINEER.

IF WATER JETS ARE USED IN CONNECTION WITH THE DRIVING, DETERMINE THE AXIAL LOAD RESISTANCE BY THE FORMULA SHOWN ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

CONCRETE INTERMEDIATE DIAPHRAGMS:

ONCE THE CONCRETE HAS BEEN PLACED FOR THE CONCRETE INTERMEDIATE DIAPHRAGMS, WAIT A MINIMUM OF 24 HOURS BEFORE REMOVING THE SIDE FORMS. DO NOT REMOVE THE BOTTOM FORM FOR A MINIMUM OF 3 DAYS, OR AT THE DISCRETION OF THE ENGINEER. THIS TIME CAN BE SHORTENED IF THE CONCRETE HAS ATTAINED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH. DO NOT PLACE THE CONCRETE FOR THE DECK SLAB OR APPLY OTHER MASSIVE LOADS TO THE BEAMS OR DIAPHRAGMS UNTIL THE CONCRETE IN THE DIAPHRAGMS HAS BEEN IN PLACE FOR A MINIMUM OF 10 DAYS, OR AT THE DISCRETION OF THE ENGINEER. THIS TIME MAY BE SHORTENED IF THE CONCRETE HAS ATTAINED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH.

APPROACH SLAB:

CLASS AA CONCRETE SHALL BE USED IN THE APPROACH SLABS. THE QUANTITY GIVEN IS BASED ON THE ACTUAL SQUARE YARDS OF THE APPROACH SLABS. ALL COSTS OF CONCRETE, REINFORCING STEEL, RAPID CURE JOINT SEALANT, EXCAVATION, LABOR, EQUIPMENT, AND OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF "APPROACH SLAB".

RIPRAP:

A 18" THICK LAYER OF TYPE 1-A PLAIN RIPRAP WITH 6" THICK LAYER OF TYPE 1-A FILTER BLANKET SHALL BE PLACED AT THE ABUTMENTS AS SHOWN IN THE PLANS. THE FILTER BLANKET SHALL BE PLACED IN ONE LAYER.

PERFORATED PIPE UNDERDRAIN:

ITEM "6" PERFORATED PIPE UNDERDRAIN - ROUND" INCLUDES 26 FEET OF PERFORATED PIPE AND 4 CUBIC YARDS OF PIPE UNDERDRAIN COVER MATERIAL FOR EACH ABUTMENT. THE INSTALLATION OF THE PERFORATED PIPE AND PIPE UNDERDRAIN MATERIAL SHALL BE AS SHOWN IN THE PLANS AND ON STANDARD PUD-3 (LATEST REVISION).

ALL COSTS OF THE PERFORATED PIPE UNDERDRAIN INSTALLATION INCLUDING BACKFILLING, MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF "6" PERFORATED PIPE UNDERDRAIN - ROUND".

NON-PERFORATED PIPE UNDERDRAIN:

ITEM "6" NON-PERFORATED PIPE UNDERDRAIN - ROUND" INCLUDES 30 FEET OF NON-PERFORATED PIPE AND 10 CUBIC YARDS OF TRENCH EXCAVATION AND 10 CUBIC YARDS OF STANDARD BEDDING MATERIAL FOR EACH ABUTMENT. THE INSTALLATION OF THE PERFORATED PIPE AND PIPE UNDERDRAIN COVER MATERIAL SHALL BE AS SHOWN ON THE PLANS AND ON STANDARD PUD-3 (LATEST REVISION).

ALL COSTS OF THE NON-PERFORATED PIPE UNDERDRAIN INSTALLATION INCLUDING BACKFILLING, MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF "6" NON-PERFORATED PIPE UNDERDRAIN - ROUND".

BRIDGE PAY QUANTITY NOTES

(R-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS.

- 1) ALL PILES SHALL BE EQUIPPED WITH CAST STEEL-DRIVING TIPS. ALL COSTS FOR FURNISHING AND INSTALLING CAST STEEL-DRIVING TIPS TO BE INCLUDED IN OTHER ITEMS OF WORK.
- 2) 501(G) CLSM BACKFILL SHALL REPLACE GRANULAR BACKFILL ON STANDARD CB26-I-SK0-ABUT-RB-55100 (LATEST REVISION) AND CB26..32-I-SK0-ABUT-MISC (LATEST REVISION).
- 3) INCLUDES 4830 LBS REINFORCING STEEL FOR SR-BARS (SEE STD TR3-2 (LATEST REVISION)).
- 4) ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVAL AND DISPOSAL OF A 2-(5'x3') CONCRETE ARCH BOX AND CONCRETE LOW WATER CROSSING OVER THE TOP OF BOX AT APPROXIMATE CENTERLINE STATION 247+34.1, 110.48' LT. THE REMOVAL SHALL BE IN ACCORDANCE WITH SECTION 619.04(b)2 OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND IN A MANNER APPROVED BY THE ENGINEER.

DESCRIPTION	REVISIONS	DATE
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29394(04)					
PAY QUANTITIES					
0201 BRIDGE ITEMS - BRIDGE B: 3-105FT P.C. BEAM SPAN x 26'-0" CLR. RDY., SK00, TR-3 RAILS					
ITEM		DESCRIPTION	PAY NOTES	UNIT	QUANTITY
501(B)	1307	SUBSTRUCTURE EXCAVATION COMMON	R-1	C.Y.	100
501(G)	6309	CLSM BACKFILL	R-1,2	C.Y.	70
503(A)	1313	PRESTRESSED CONCRETE BEAMS (TYPE IV)	R-1	L.F.	942
504(A)	1304	APPROACH SLAB	R-1	S.Y.	115
504(B)	1305	SAW-CUT GROOVING	R-1	S.Y.	89
504(D)	6239	CONCRETE RAIL (TR3)	R-1	L.F.	695
506(A)	1322	STRUCTURAL STEEL	R-1	LB.	960
507(A)	6172	WEATHERING STEEL FIXED BEARING ASSEMBLY	R-1	EA.	9
507(B)	6176	WEATHERING STEEL EXPANSION BEARING ASSEMBLY	R-1	EA.	9
509(A)	1326	CLASS AA CONCRETE	R-1	C.Y.	266
509(B)	1328	CLASS A CONCRETE	R-1	C.Y.	82.20
511(A)	1332	REINFORCING STEEL	R-1,3	LB.	80,770
514(A)	6010	PILES, FURNISHED (HP 10x42)	1	L.F.	266
514(B)	6292	PILES, DRIVEN (HP 10x42)	1	L.F.	266
514(L)	6220	PILE SPLICE, H-PILE (NON-BIDDABLE)		EA.	1
516(A)	6093	DRILLED SHAFTS 42" DIAMETER		L.F.	128
516(C)	6200	CROSSHOLE SONIC LOGGING		EA.	1
601(B)	1353	TYPE 1-A PLAIN RIPRAP		TON	2,217
601(C)	1355	TYPE 1-A FILTER BLANKET		TON	314
613(H)	6204	6" PERFORATED PIPE UNDERDRAIN ROUND	R-1	L.F.	52
613(I)	6207	6" NON-PERF. PIPE UNDERDRAIN RND.		L.F.	60
619(D)	1397	REMOVAL OF EXISTING BRIDGE STRUCTURE	4	L. SUM	1
623(A)	1418	BEAM GUARDRAIL W-BEAM SINGLE		L.F.	375
623(F)	5686	GUARDRAIL ANCHOR UNIT (TYPE D-BF)		EA.	4

Wednesday, December 02, 2015 2:52:06 PM V:\13-828E Berrington Hollow Br 22 & LWC-Cherokee 2-CED2\CV3D\PLANS\828-PAY QUANTITY NOTES (BRIDGE B).dwg

BARRINGTON HOLLOW BR 22 & LWC		CHEROKEE COUNTY		Design	RAA	12/15
BRIDGE "B"				Detail	ALM	12/15
SUMMARY OF PAY QUANTITIES & NOTES (BRIDGE B) 3-105' TYPE IV PC BEAM BRIDGE, 26'-0" CLR RDWY, W/TR-3 CONCRETE RAILS AND APPROACH SLABS				Check	RAP	12/15
				Squad	Eng. GUY	
STATE OF OKLAHOMA		GUY ENGINEERING SERVICES, INC.				
		JOB PECE NO. 29394(04)				SHEET NO. 6

DESCRIPTION	REVISIONS	DATE

SUMMARY OF DRIVES						
STATION	TYPE	RETURN RADIUS	DRIVE WIDTH	LENGTH	TRAFFIC BOUND SURFACE COURSE TYPE E 402(E)	
					FT.	TONS
106+03.00	LT. PVT. DRIVE	15	12	3	2	
106+63.00	LT. PVT. DRIVE	15	12	3	2	
108+14.00	LT. PVT. DRIVE	15	12	3	2	
109+39.00	LT. PVT. DRIVE	15	12	3	2	
112+34.00	LT. PVT. DRIVE	15	12	3	2	
113+06.00	LT. PVT. DRIVE	15	12	3	2	
113+62.00	RT. FIELD ENT.	15	12	3	2	
115+78.00	LT. FIELD ENT.	15	12	3	2	
121+91.00	LT. PVT. DRIVE	15	12	3	2	
124+73.00	RT. FIELD ENT.	15	12	3	2	
126+96.00	LT. PVT. DRIVE	15	12	3	2	
133+07.00	RT. PVT. DRIVE	15	12	3	2	
134+76.00	RT. PVT. DRIVE	15	12	3	2	
138+21.00	LT. PVT. DRIVE	15	12	3	2	
138+88.00	RT. PVT. DRIVE	15	12	3	2	
139+57.00	RT. PVT. DRIVE	15	12	3	2	
144+68.00	RT. PVT. DRIVE	15	12	3	2	
151+91.00	RT. PVT. DRIVE	15	12	3	2	
152+69.00	LT. 700 RD W.	25	26	3	4	
152+79.00	RT. FIELD ENT.	15	12	3	2	
154+34.00	LT. PVT. DRIVE	15	12	3	2	
155+72.00	LT. PVT. DRIVE	15	12	3	2	
157+10.00	LT. PVT. DRIVE	15	12	3	2	
158+66.00	LT. PVT. DRIVE	15	12	3	2	
166+54.00	LT. FIELD ENT.	15	12	3	2	
171+47.00	RT. FIELD ENT.	15	12	3	2	
172+57.00	RT. PVT. DRIVE	15	12	3	2	
178+56.00	RT. PVT. DRIVE	15	12	3	2	
178+93.00	RT. PVT. DRIVE	15	12	3	2	
182+76.00	LT. PVT. DRIVE	15	12	3	2	
183+44.00	LT. PVT. DRIVE	15	12	3	2	
187+29.00	LT. FIELD ENT.	15	12	3	2	
191+98.00	LT. PVT. DRIVE	15	12	3	2	
198+94.00	RT. PVT. DRIVE	15	12	3	2	
199+49.00	RT. PVT. DRIVE	15	12	3	2	
205+46.00	LT. PVT. DRIVE	15	12	3	2	
206+87.00	LT. PVT. DRIVE	15	12	3	2	
218+73.00	RT. PVT. DRIVE	15	12	3	2	
218+96.00	LT. PVT. DRIVE	15	12	3	2	
226+92.00	LT. ROAD	25	20	52	24	
232+59.00	LT. PVT. DRIVE	15	12	82	21	
239+52.00	RT. PVT. DRIVE	15	12	43	11	
239+88.00	LT. PVT. DRIVE	15	12	38	20	
251+52.00	RT. PVT. DRIVE	15	12	56	14	
251+52.00	LT. PVT. DRIVE	15	12	155	35	
TOTALS =					205	

SUMMARY OF EROSION CONTROL							
STATIONS	TEMPORARY SILT FENCE	TEMPORARY SILT DIKE	TEMPORARY ROCK FILTER DAM TYPE 1	TEMPORARY ROCK FILTER DAM TYPE 3	SOLID SLAB SODDING	VEGETATIVE MULCHING	
							221(C)
FROM	TO	L.F.	L.F.	C.Y.	C.Y.	S.Y.	AC.
100+09.75	260+50.00	7,390	196	20	106	31,983	6.06
TOTALS =		7,390	196	20	106	31,983	6.06

SCHEDULE OF RIPRAP				
LOCATION	STATION	SIDE	TYPE 1-A PLAIN RIPRAP	TYPE 1-A FILTER BLANKET
			601(B)	601(C)
225+80.00	TO 226+70.00	LT.	38	11
225+80.00	TO 226+37.00	RT.	24	7
226+96.00	TO 227+50.00	RT.	23	6
234+10.00	TO 234+30.00	RT.	34	10
235+50.00	TO 236+30.00	RT.	34	10
236+00.00	TO 237+00.00	LT.	42	12
237+00.00	TO 238+00.00	RT.	42	12
241+00.00	TO 245+50.00	RT.	189	54
241+00.00	TO 244+75.00	LT.	158	45
249+50.00	TO 250+25.00	RT.	32	9
249+50.00	TO 250+25.00	LT.	32	9
251+75.00	TO 255+50.00	RT.	158	45
251+75.00	TO 253+50.00	LT.	74	21
258+50.00	TO 258+85.00	RT.	15	4
TOTAL =			895	255

SURFACING SUMMARY							
STATION EXTENTS	AGGREGATE BASE TYPE A 303(A)	SEPARATOR FABRIC 325	TRAFFIC BOUND SURFACE COURSE TYPE E 402(E)	TACK COAT 407	PRIME COAT 408	SUPERPAVE, TYPE S3 (PG 64-22 OK) 411(B)	SUPERPAVE, TYPE S4 (PG 64-22 OK) 411(C)
	C.Y.	S.Y.	TONS	GAL.	GAL.	TONS	TONS
BARRINGTON HOLLOW							
100+09.75 TO 226+80.00	622	0	1,955	2,095	0	0	3,757
226+80.00 TO 246+61.75	1,394	7,330	247	432	3,777	976	640
249+18.25 TO 260+50.00	830	4,186	141	268	2,246	584	382
TOTALS =	2,845	11,517	2,343	2,785	6,023	1,559	4,779

- INCLUDES GUARDRAIL WIDENING QUANTITIES

SCHEDULE OF GUARDRAIL			
STATION EXTENTS	BEAM GUARDRAIL W-BEAM SINGLE 623(A)	GUARDRAIL END TREATMENT (GET) 623(G)	GUARDRAIL BRIDGE CONNECTION (TYPE D-BF) 623(I)
	L.F.	EA.	EA.
243+92.42 TO 245+67.42	100	1	1
243+92.42 TO 245+67.42	100	1	1
249+12.58 TO 250+75.08	87.5	1	1
249+12.58 TO 250+75.08	87.5	1	1
TOTALS =	375	4	4

EARTHWORK SUMMARY					
STATION EXTENTS	UNCLASSIFIED EXCAVATION 202(A)	EMBANKMENT +15%	EXCESS EXCAVATION	UNCLASSIFIED BORROW 202(D)	WASTE
	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.
BARRINGTON HOLLOW					
226+80.00 TO 260+50.00	13,284	13,965	-	681	-681
TOTALS =	13,284	13,965	0	681	-681

- QUANTITIES ARE ESTIMATES.

Tuesday, June 07, 2016 1:48:49 PM
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SUMMARY OF MAILBOX INSTALLATIONS						
STATION	SIDE	TYPE OF INSTALLATION		MAILBOX	REMOVAL OF MAILBOX INSTALLATION	TRAFFIC BOUND SURFACE COURSE TYPE E
		629(A)	629(B)	629(C)	629(D)	
		SINGLE	MULTIPLE	EA.	EA.	
106+64.00	RT	1		1	1	2
109+40.00	RT	1		1	1	2
113+10.00	RT	1		1	1	2
116+00.00	RT	1		1	1	2
126+97.00	RT	1		1	1	2
133+20.00	RT	1		1	1	2
134+88.00	RT		1	2	2	2
139+70.00	RT		1	2	2	2
144+80.00	RT	1		1	1	2
152+04.00	RT	1		1	1	2
154+35.00	RT	1		1	1	2
155+72.00	RT	1		1	1	2
157+10.00	RT	1		1	1	2
158+77.00	RT	1		1	1	2
172+68.00	RT	1		1	1	2
178+74.00	RT		1	2	2	2
183+30.00	RT	1		1	1	2
199+27.00	RT		1	3	3	2
207+08.00	RT		1	2	2	2
218+91.00	RT		1	3	3	2
226+64.00	LT		1	2	2	2
232+35.00	LT	1		1	1	2
239+34.00	RT	1		1	1	2
TOTAL =		16	7	32	32	46

SEE SHEET 3 FOR DETAILS

SIDEDRAIN SUMMARY											
STR. NO.	STATION	OFFSET FT.	SIDE	DESCRIPTION	DESIGN	FLOWLINE IN	FLOWLINE OUT	C.G.M.P. ROUND		C.E.T. TYPE A4	C.E.T. TYPE B4
								18"	24"x35"		
								613(B) L.F.	613(M) L.F.		
1	226+92.00	20.65	LT.	CONSTR. 18" x 60' C.G.S.P. - ROUND W/CET	CET4S-3	663.91	662.92	60		2	
2	232+59.00	28.24	LT.	CONSTR. 35" x 24" x 56' C.G.S.P. - ARCH W/CET	CET4S-3	654.91	654.78		54		2
3	251+52.00	20.22	RT.	CONSTR. 18" x 42' C.G.S.P. - ROUND W/CET	CET4S-3	652.31	651.39	42		2	
4	251+52.00	20.5	LT.	CONSTR. 18" x 40' C.G.S.P. - ROUND W/CET	CET4S-3	653.49	652.26	40		2	
TOTAL =								142	54	6	2

FENCE SUMMARY	
STATION EXTENTS	FENCE-STYLE SWF (5 BARBED WIRE) 624(C)
	L.F.
234+20.58 TO 244+42.86 LT.	1,073
TOTALS =	1,073

SUMMARY OF PAVEMENT MARKINGS				
STATION EXTENTS	DELINEATORS (TYPE 1, CODE 3) 853	DELINEATORS (TYPE 2, CODE 3) 853	TRAFFIC STRIPE (PAINT) (4" WIDE) WHITE 854(A)	TRAFFIC STRIPE (PAINT) (4" WIDE) YELLOW 854(A)
	EA.	EA.	L.F.	L.F.
137+07.00	4			
148+15.00	4			
165+05.00		2		
180+02.00		2		
206+58.00	4			
224+95.00	4			
100+09.75 TO 260+50.00			32,081	32,081
TOTALS =	16	4	32,081	32,081

Wednesday, December 02, 2015 2:34:02 PM V:\13-828E Berrington Hollow Br 22 & LWC-Cherokee 2-CED2\CIV3D\PLANS\828-SUMMARY.dwg

STORM WATER MANAGEMENT PLAN

DESCRIPTION	REVISIONS	DATE

SITE DESCRIPTION

EROSION AND SEDIMENT CONTROLS

PROJECT LIMITS: PROJECT LENGTH IS APPROX. 3.0 MILES ALONG NS 400 (BARRINGTON HOLLOW RD) FROM APPROX. EW 710 RD TO NS 387 RD AND EW 680 RD INTERSECTION.

PROJECT DESCRIPTION: REMOVE AND REPLACE A LOW WATER CROSSING WITH A BRIDGE OVER CLEAR CREEK, REMOVE AND REPLACE BRIDGE 22 OVER TRIB. TO CLEAR CREEK AND OVERLAY APPROXIMATELY 3.0 MILES OF BARRINGTON HOLLOW RD (NS 400).

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES: PRIOR TO INITIATING SOIL DISTURBING ACTIVITIES, THE CONTRACTOR WILL INSTALL ALL PERIMETER TEMPORARY SEDIMENT CONTROLS SPECIFIED, STRIP, STOCK PILE, AND STABILIZE TOPSOIL. CLEAR AND GRUB ONLY IN NECESSARY AREAS, PRESERVING AS MUCH NATIVE VEGETATION AS POSSIBLE. INSTALL, MAINTAIN, AND/OR MOVE TEMPORARY SEDIMENT ITEMS, AS PRACTICAL, WITH CONSTRUCTION OPERATIONS. AS DIRECTED BY THE ENGINEER, PLACE VEGETATIVE MULCHING. REPLACE SALVAGED TOPSOIL AND IMMEDIATELY INSTALL PERMANENT GRASSING ITEMS. AS SITE CONDITIONS WARRANT, THE CONTRACTOR MAY CHOOSE TO MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIED PRACTICES TO IMPROVE THEIR EFFECTIVENESS, AS APPROVED BY THE ENGINEER. THE CONTRACTOR WILL MAINTAIN A LOG OF THE DATES OF MAJOR SOIL DISTURBANCE ACTIVITIES AND ALSO THE DATES OF INSTALLATION OF EROSION CONTROL MEASURES.

SOIL TYPE: LEAN CLAY, CLAYEY CHERTY GRAVEL, CHERTY LIMESTONE, SANDY LEAN CLAY

AREA TO BE DISTURBED: 6.06 ACRES (263,641 SF)

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: (FOR CONTRACTOR USE)

LATITUDE & LONGITUDE OF CENTER OF PROJECT: LAT. N36°01'28" LONG. W95°10'19", LAT. N36°01'41" LONG. W95°10'19"

NAME OF RECEIVING WATERS: CLEAR CREEK, UNNAMED TRIBUTARIES OF CLEAR CREEK AND UNNAMED TRIBUTARIES OF FOURTEENMILE CREEK

SENSITIVE WATERS OR WATERSHEDS: YES NO
303(d) IMPAIRED WATERS: YES NO

NOTE: THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

SOIL STABILIZATION PRACTICES:

- TEMPORARY SEEDING
- PERMANENT SODDING, SPRIGGING OR SEEDING
- VEGETATIVE MULCHING
- SOIL RETENTION BLANKET
- PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:

- STABILIZED CONSTRUCTION EXIT
- TEMPORARY SILT FENCE
- TEMPORARY SILT DIKES
- TEMPORARY FIBER LOG
- DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- ROCK FILTER DAMS
- TEMPORARY SLOPE DRAIN
- PAVED DITCH W/ DITCH LINER PROTECTION
- TEMPORARY DIVERSION CHANNELS
- TEMPORARY SEDIMENT BASINS
- TEMPORARY SEDIMENT TRAPS
- TEMPORARY SEDIMENT FILTERS
- TEMPORARY SEDIMENT REMOVAL
- RIP RAP
- INLET SEDIMENT FILTER
- TEMPORARY BRUSH SEDIMENT BARRIERS
- SANDBAG BERMS
- TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- HAUL ROADS DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS TO BE COVERED WITH TARPULIN
- EXCESS DIRT ON ROAD REMOVED DAILY

NOTES:

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS RECORDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:

A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN IS INITIATED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORM AND PERMIT CERTIFICATE THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT.

ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP, I.E., BORROW PITS, WORK ROADS, DISPOSAL SITES, ASPHALT/CONCRETE PLANTS, ETC.

THE BASIC GOAL OF STORM WATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

- 103.05 BONDING REQUIREMENTS
- 104.10 FINAL CLEANING UP
- 104.12 CONTRACTOR'S RESPONSIBILITY FOR WORK
- 104.13 ENVIRONMENTAL PROTECTION
- 106.08 STORAGE AND HANDLING OF MATERIAL
- 107.01 LAWS, RULES AND REGULATIONS TO BE OBSERVED
- 107.20 STORM WATER MANAGEMENT
- 220 MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
- 221 TEMPORARY SEDIMENT CONTROL

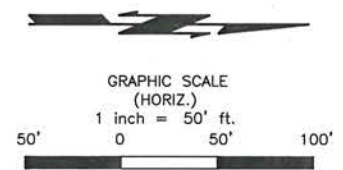
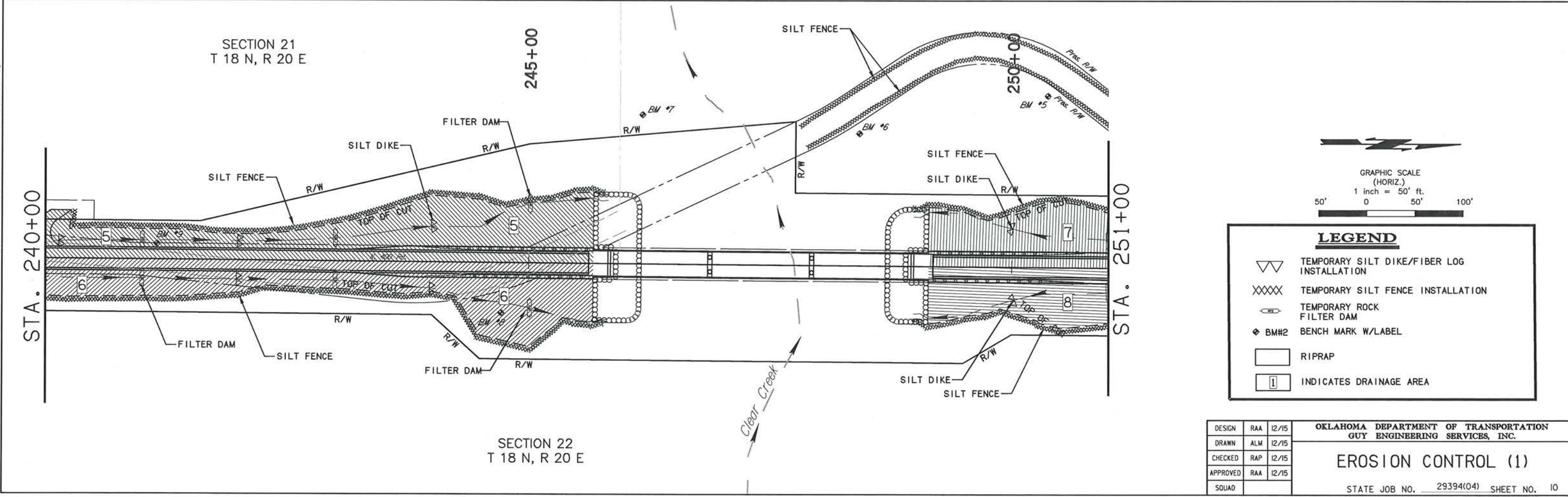
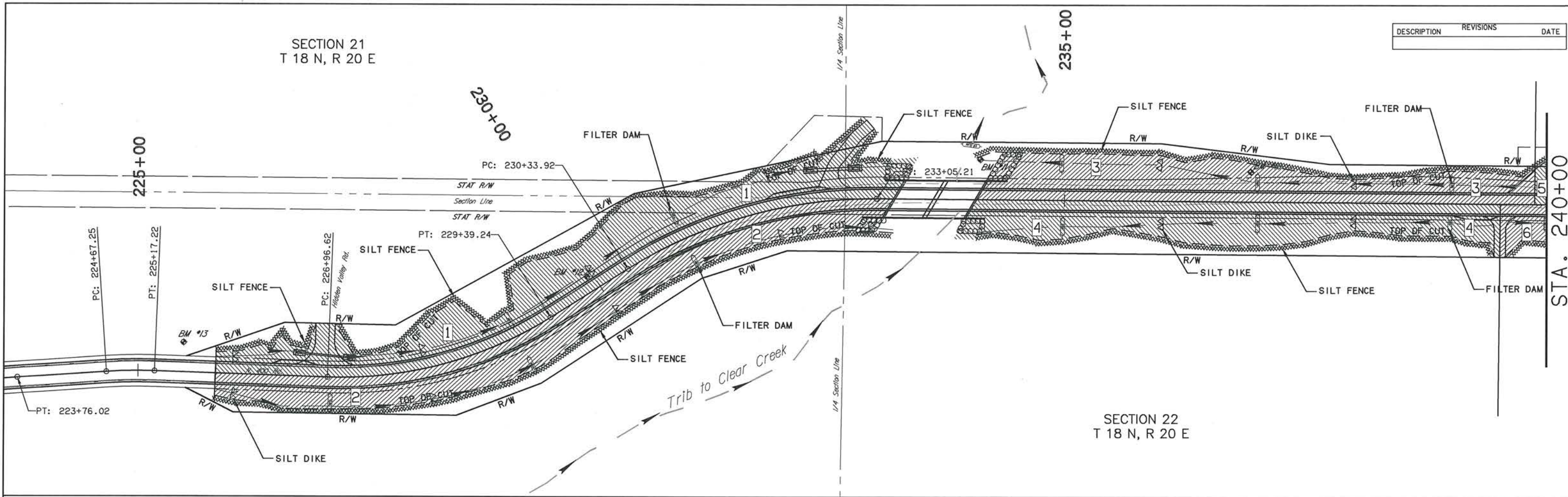
IN ADDITION:

"ODEQ GENERAL PERMIT (OKR10) FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2012.

DESIGN	RAA	12/15	OKLAHOMA DEPARTMENT OF TRANSPORTATION GUY ENGINEERING SERVICES, INC. STORM WATER MANAGEMENT PLAN STATE JOB NO. 29394(04) SHEET NO. 9 CHEROKEE COUNTY BARRINGTON HOLLOW BR 22 & LWC
DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

Tuesday, December 15, 2015, 4:51:01 PM
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DESCRIPTION	REVISIONS	DATE

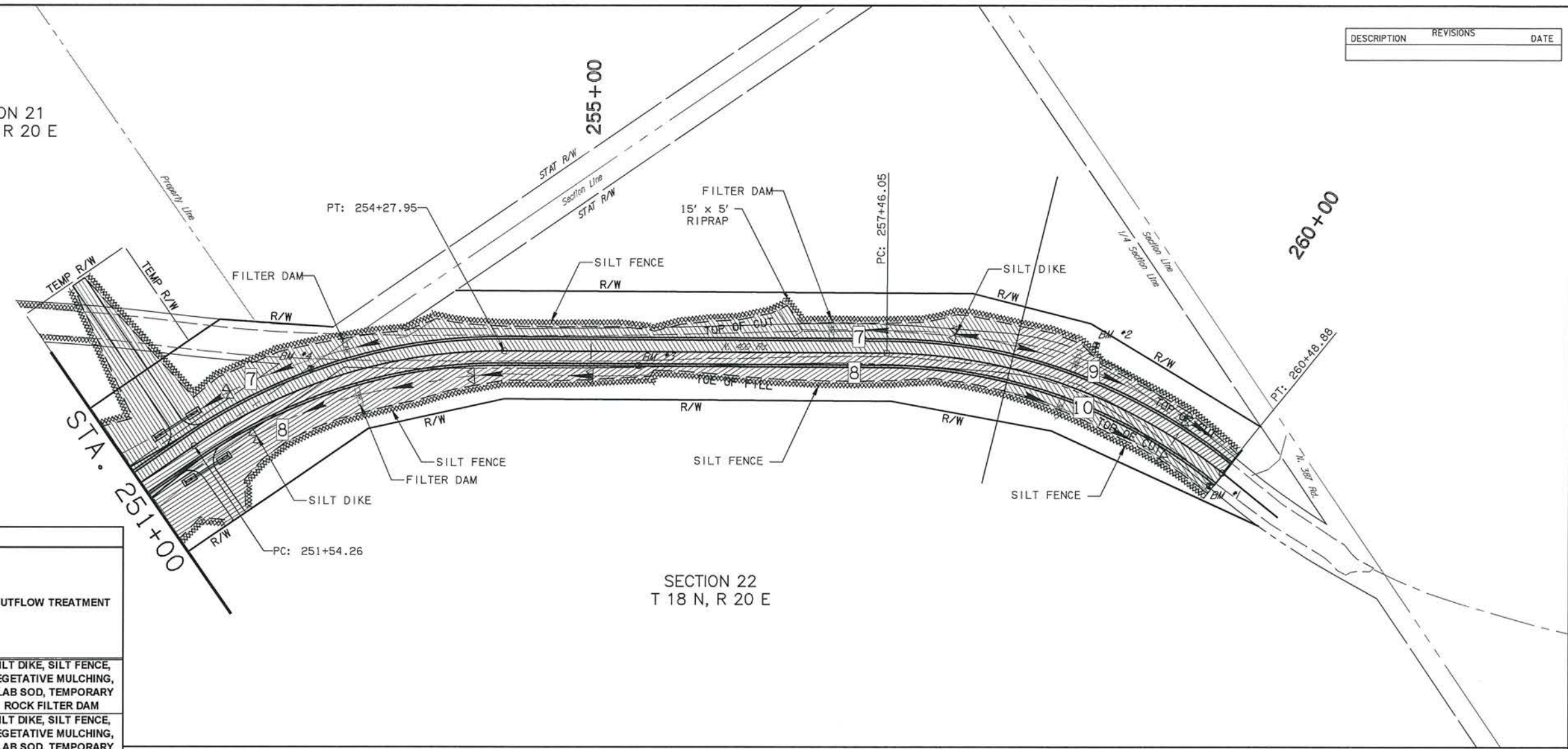


LEGEND	
	TEMPORARY SILT DIKE/FIBER LOG INSTALLATION
	TEMPORARY SILT FENCE INSTALLATION
	TEMPORARY ROCK FILTER DAM
	BM#2 BENCH MARK W/LABEL
	RIPRAP
	INDICATES DRAINAGE AREA

DESIGN	RAA	12/15	OKLAHOMA DEPARTMENT OF TRANSPORTATION GUY ENGINEERING SERVICES, INC.
DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			
EROSION CONTROL (1)			
STATE JOB NO. 29394(04) SHEET NO. 10			
CHEROKEE COUNTY BARRINGTON HOLLOW BR 22 & LWC			

DESCRIPTION	REVISIONS	DATE

SECTION 21
T 18 N, R 20 E



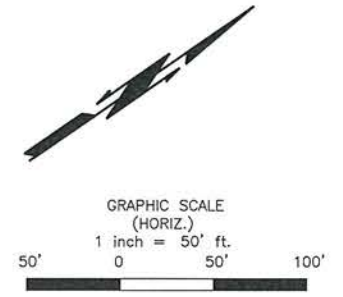
SECTION 22
T 18 N, R 20 E

SUMMARY OF DISTURBED AREA

DRAINAGE AREA NUMBER	DRAINAGE AREA LOCATION			AREA AC	OUTFLOW STATION	OUTFLOW TREATMENT
	FROM	TO				
1	225+80.00	233+22.59	LT.	0.84	233+22.59	SILT DIKE, SILT FENCE, VEGETATIVE MULCHING, SLAB SOD, TEMPORARY ROCK FILTER DAM
2	225+80.00	233+22.59	RT.	0.65	233+22.59	SILT DIKE, SILT FENCE, VEGETATIVE MULCHING, SLAB SOD, TEMPORARY ROCK FILTER DAM
3	234+09.06	239+87.71	LT.	0.56	234+09.06	SILT DIKE, SILT FENCE, VEGETATIVE MULCHING, SLAB SOD, TEMPORARY ROCK FILTER DAM
4	234+09.06	239+52.03	RT.	0.54	234+09.06	SILT DIKE, SILT FENCE, VEGETATIVE MULCHING, SLAB SOD, TEMPORARY ROCK FILTER DAM
5	239+87.71	245+66.44	LT.	0.67	245+66.44	SILT DIKE, SILT FENCE, VEGETATIVE MULCHING, SLAB SOD, TEMPORARY ROCK FILTER DAM
6	239+52.03	245+66.44	RT.	0.68	245+66.44	SILT DIKE, SILT FENCE, VEGETATIVE MULCHING, SLAB SOD, TEMPORARY ROCK FILTER DAM
7	249+13.61	258+50.00	LT.	1.00	249+13.61	SILT DIKE, SILT FENCE, VEGETATIVE MULCHING, SLAB SOD, TEMPORARY ROCK FILTER DAM
8	249+13.61	258+50.00	RT.	0.84	249+13.61	SILT DIKE, SILT FENCE, VEGETATIVE MULCHING, SLAB SOD, TEMPORARY ROCK FILTER DAM
9	258+50.00	260+50.00	LT.	0.16	260+50.00	SILT DIKE, SILT FENCE, VEGETATIVE MULCHING, SLAB SOD, TEMPORARY ROCK FILTER DAM
10	258+50.00	260+50.00	RT.	0.12	260+50.00	SILT DIKE, SILT FENCE, VEGETATIVE MULCHING, SLAB SOD, TEMPORARY ROCK FILTER DAM
TOTALS =				6.06		

LEGEND

- TEMPORARY SILT DIKE/FIBER LOG INSTALLATION
- TEMPORARY SILT FENCE INSTALLATION
- TEMPORARY ROCK FILTER DAM
- BENCH MARK W/LABEL
- RIPRAP
- INDICATES DRAINAGE AREA



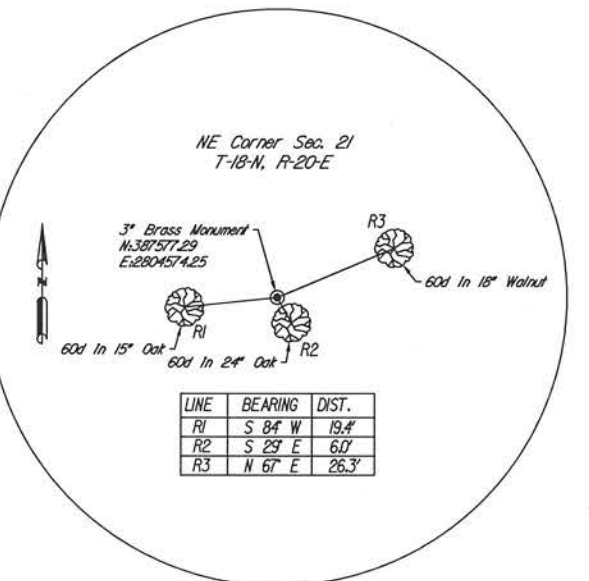
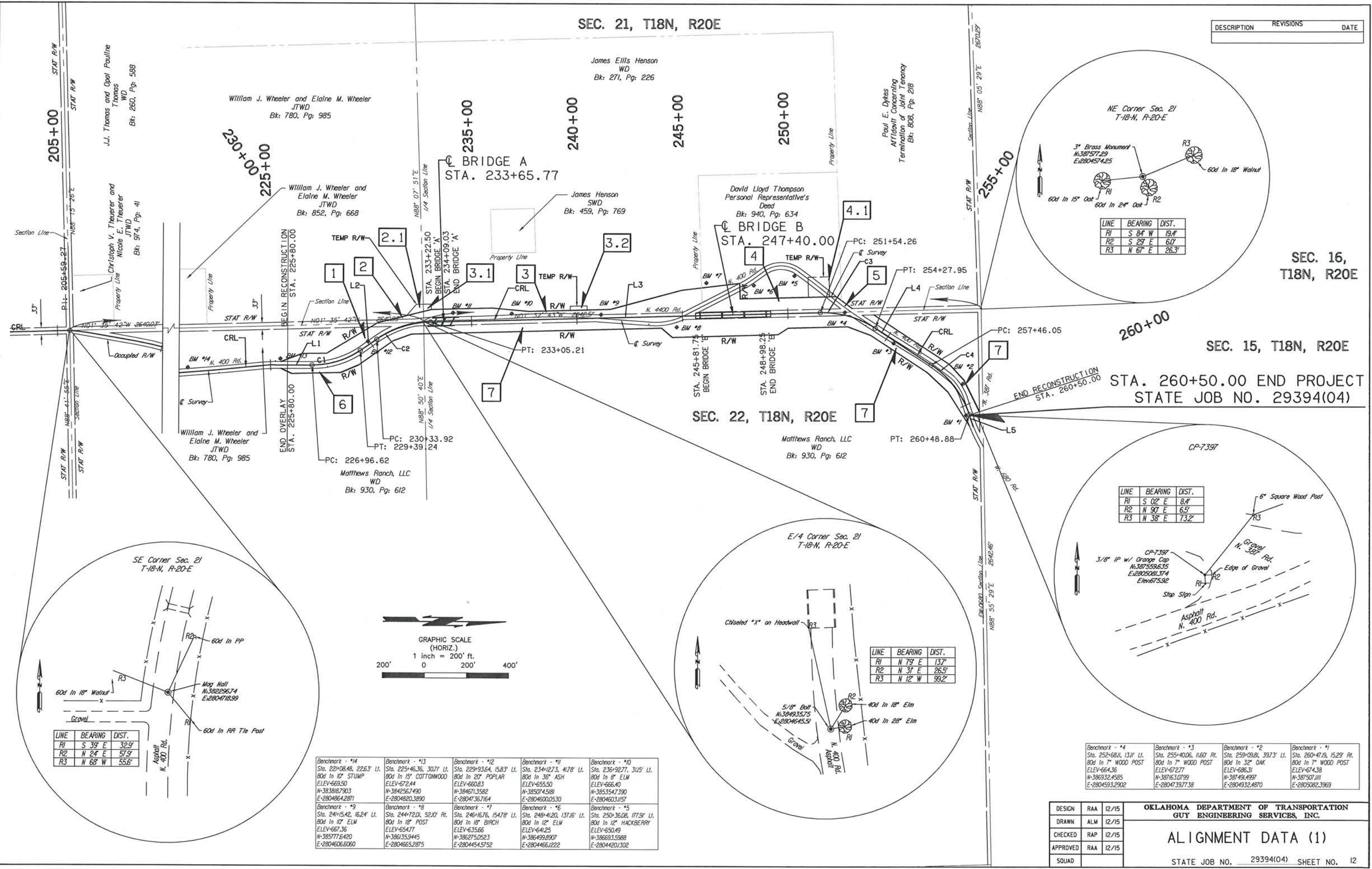
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DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

Wednesday, June 08, 2016 4:16:23 PM
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Wednesday, December 02, 2015 2:35:21 PM
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SEC. 21, T18N, R20E

DESCRIPTION	REVISIONS	DATE

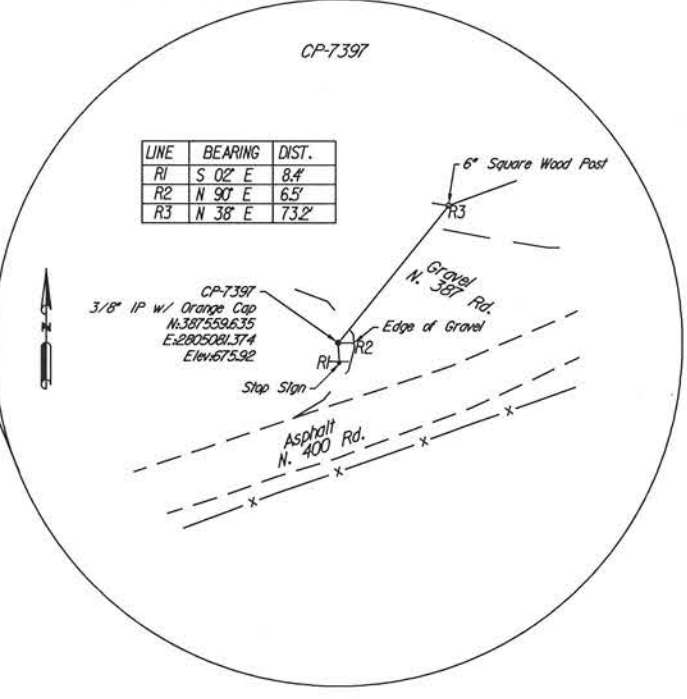
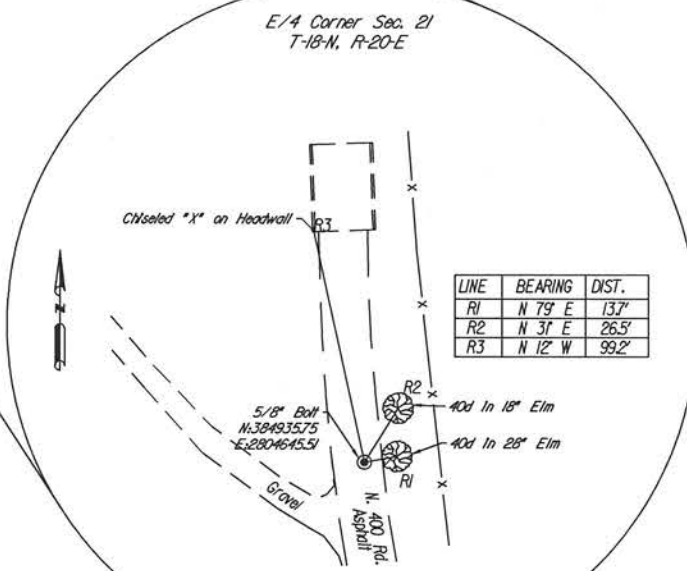
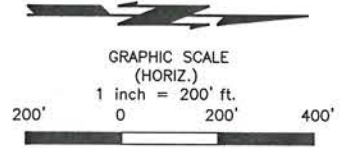
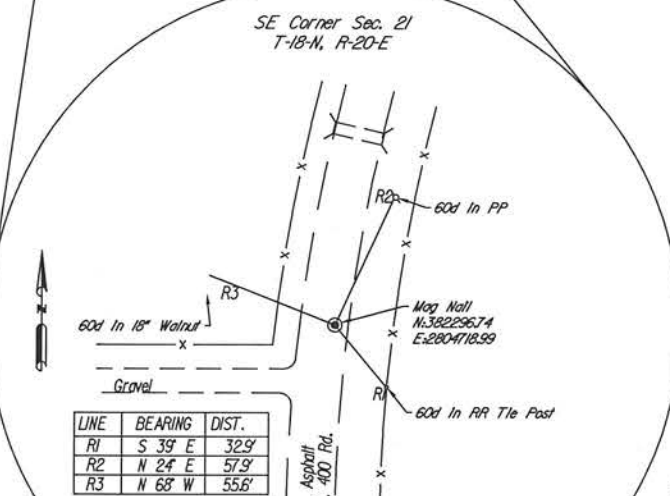


SEC. 16, T18N, R20E

SEC. 15, T18N, R20E

STA. 260+50.00 END PROJECT
STATE JOB NO. 29394(04)

SEC. 22, T18N, R20E



Benchmark - *14 Sta. 22108.48, 2263' Lt. 80d In 10" STUMP ELEV-669.50 N-3838187.903 E-2804864.2871	Benchmark - *13 Sta. 225+46.36, 3077 Lt. 80d In 15" COTTONWOOD ELEV-672.44 N-3842567.490 E-2804820.3890	Benchmark - *12 Sta. 229+93.64, 15.83' Lt. 80d In 20" POPLAR ELEV-660.83 N-384671.3582 E-2804736.7164	Benchmark - *11 Sta. 234+12.73, 41.78' Lt. 80d In 36" ASH ELEV-655.50 N-385074.5181 E-2804600.0530	Benchmark - *10 Sta. 236+92.77, 3115' Lt. 80d In 8" ELM ELEV-666.40 N-385354.7390 E-2804603.1157
Benchmark - *9 Sta. 241+15.42, 16.24' Lt. 80d In 10" ELM ELEV-667.36 N-385777.6420 E-2804606.6060	Benchmark - *8 Sta. 244+72.01, 52.07' Lt. 80d In 18" POST ELEV-654.77 N-386135.9445 E-2804665.2875	Benchmark - *7 Sta. 246+16.76, 15.478' Lt. 80d In 18" BIRCH ELEV-635.66 N-386275.0523 E-2804454.5752	Benchmark - *6 Sta. 248+41.20, 137.16' Lt. 80d In 12" ELM ELEV-641.25 N-386499.8907 E-2804466.1222	Benchmark - *5 Sta. 250+36.08, 177.91' Lt. 80d In 12" HACKBERRY ELEV-650.49 N-386693.5988 E-2804420.1302

Benchmark - *4 Sta. 252+68.11, 1311' Lt. 80d In 7" WOOD POST ELEV-664.36 N-386932.4585 E-2804593.2902	Benchmark - *3 Sta. 255+40.06, 1160' Lt. 80d In 7" WOOD POST ELEV-672.77 N-387163.0799 E-2804739.7738	Benchmark - *2 Sta. 259+09.81, 397.3' Lt. 80d In 32" OAK ELEV-686.31 N-387491.4997 E-2804932.4870	Benchmark - *1 Sta. 260+47.19, 15.29' Lt. 80d In 7" WOOD POST ELEV-674.38 N-387507.1111 E-2805082.3969
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DESIGN	RAA	12/15	OKLAHOMA DEPARTMENT OF TRANSPORTATION GUY ENGINEERING SERVICES, INC. ALIGNMENT DATA (1) STATE JOB NO. 29394(04) SHEET NO. 12 CHEROKEE COUNTY BARRINGTON HOLLOW BR 22 & LWC
DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

DESCRIPTION	REVISIONS	DATE
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	ALIGNMENT PT.	STATION	BEARING	DISTANCE	NORTHING	EASTING
L1	B.O.P.	225+80.00			384290.3986	2804851.0867
	P.C.	226+96.62	N00°00'54.34"W	116.62	384407.0229	2804851.0560
C1	P.I.	228+21.69	N00°00'54.34"W	125.07	384532.0909	2804851.0230
	P.T.	229+39.24	N34°20'15.09"W	117.55	384635.3633	2804780.4762
L2	P.C.	230+33.92	N34°20'15.09"W	94.68	384713.4162	2804727.1572
	P.I.	231+73.39	N34°20'15.09"W	139.47	384828.7145	2804648.3953
C2	P.T.	233+05.21	N01°32'42.71"W	131.82	384968.1351	2804644.6344
	B.O.B. 'A'	233+22.50			384985.4203	2804644.1682
L3	E.O.B. 'A'	234+09.03	N01°32'42.71"W	1849.05	385071.9222	2804641.8347
	B.O.B. 'B'	245+81.75			386244.2124	2804610.2118
	E.O.B. 'B'	248+98.25			386560.5973	2804601.6773
	P.C.	251+54.26	N01°32'42.71"W		141.23	386816.5149
C3	P.I.	252+95.49	N33°18'06.90"E	132.46	386957.6883	2804590.9656
	P.T.	254+27.95	N33°18'06.90"E	318.10	387075.7223	2804668.5051
L4	P.C.	257+46.05	N33°18'06.90"E	157.40	387341.5843	2804843.1566
	P.I.	259+03.45	N71°51'34.89"E	145.43	387473.1389	2804929.5780
L5	P.T.	260+48.88	N71°51'34.89"E	51.12	387522.1451	2805079.1563
	E.O.P.	261+00.00			387538.0615	2805127.7370

CURVE NO.	P.I. STATION	Δ	D	R	T	L	E	P.C.		P.I.		P.T.		DESIGN V MPH	FULL SUPER
								NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING		
1	228+21.69	34°19'21"	14°08'50"	405.00	125.07	242.61	18.87	384407.0229	2804851.0560	384532.0909	2804851.0230	384635.3633	2804780.4762	40	6.60%
2	231+73.39	32°47'32"	12°05'16"	474.00	139.47	271.29	20.09	384713.5490	2804727.0665	384828.3953	2804648.7145	384968.1351	2804644.6344	40	6.20%
3	252+95.49	34°50'50"	12°43'57"	450.00	141.22	273.69	21.64	386816.5149	2804594.7738	386957.6883	2804590.9656	387075.7223	2804668.5051	40	8.00%
4	259+03.45	38°33'28"	12°43'57"	450.00	157.40	302.83	26.73	387341.5843	2804843.1566	387473.1389	2804929.5780	387522.1451	2805079.1563	40	6.40%

Wednesday, December 02, 2015 2:35:27 PM V:\13-828E Berrington Hollow Br 22 & LWC-Cherokee 2-CED2\CIV3D\PLANS\828-ALIGNMENT DATA.dwg

DESIGN	RAA	12/15	OKLAHOMA DEPARTMENT OF TRANSPORTATION GUY ENGINEERING SERVICES, INC. ALIGNMENT DATA (2) STATE JOB NO. 29394(04) SHEET NO. 13 CHEROKEE COUNTY BARRINGTON HOLLOW BR 22 & LWC
DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

DESCRIPTION	REVISIONS	DATE

UTILITY COMPANY CONTACTS		
COMPANY	CONTACT	PHONE NO.
AT&T	GLENN LEACH	(918) 351-5023
Cherokee Co. RWD #11	JOSHUA HUBBARD	(918) 207-2797
Lake Region Electric & Water Coop.	JAMES COOK DUANE ROGERS	(918) 772-2526

ALL UTILITY LOCATIONS SHOWN ON PLANS AND PROFILES ARE APPROXIMATE. CONTRACTOR MUST CONTACT EACH UTILITY COMPANY PRIOR TO CONSTRUCTION TO VERIFY LOCATION.

STA. 100+09.75
BEGIN PROJECT
STATE JOB NO. 29394(04)

MEET & MATCH EX. ROADWAY
WIDTH AND GRADE, &
GRADE DITCHES TO DRAIN.

**WARNING
OVERHEAD
UTILITY**

STA 106+63 CONST.
12' PVT. DRIVE

STA 106+03 CONST.
12' PVT. DRIVE

STA 108+14 CONST.
12' PVT. DRIVE

PAVEMENT TYPICAL SECTION SHALL
FOLLOW EXISTING CENTERLINE OF
ROAD, NOT SECTION LINE.



SEC. 33, T18N, R20E

SEC. 34, T18N, R20E

SEC. 33 T18N, R20E

SEC. 34, T18N, R20E

**WARNING
OVERHEAD
UTILITY**

**WARNING
OVERHEAD
UTILITY**

STA 112+34 CONST.
12' PVT. DRIVE

STA 113+06 CONST.
12' PVT. DRIVE

STA 115+78 CONST.
12' FIELD ENT.

STA 121+91 CONST.
12' PVT. DRIVE

STA 113+62 CONST.
12' FIELD ENT.

STA 124+73 CONST.
12' FIELD ENT.

NOTE:
ALL UTILITY LOCATIONS
ARE APPROXIMATE.



LEGEND

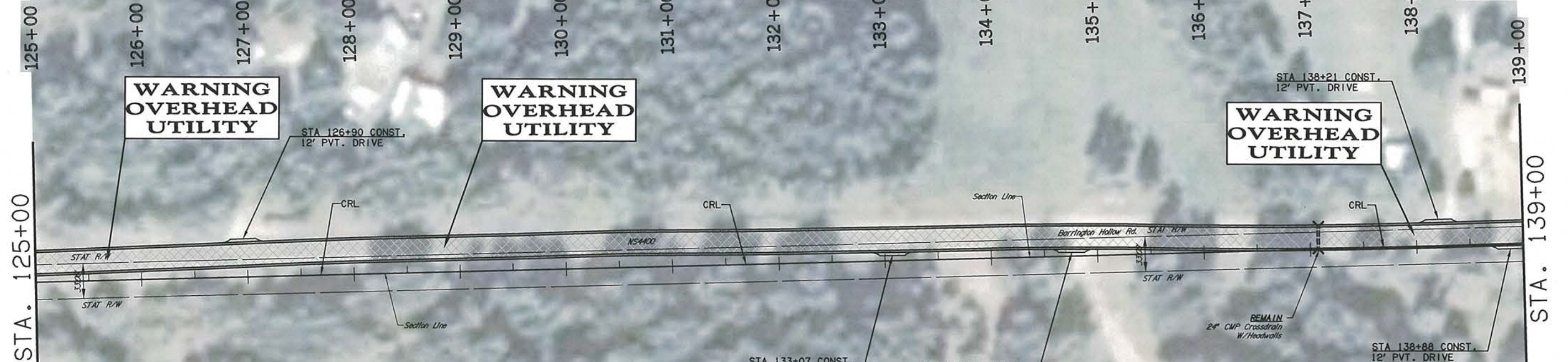
	PROPOSED OVERLAY
	T.B.S.C. TYPE E
	GUARDRAIL
	RIP RAP
	BENCHMARK

Wednesday, December 02, 2015 2:36:04 PM
V:\13-828E Barrington Hollow Br 22 & LWC-Cherokee 2-CEDZ\CV3D\PLANS\B28-PLAN SHEETS.dwg

DESCRIPTION	REVISIONS	DATE

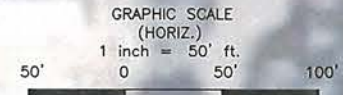
SEC. 33, T18N, R20E

SEC. 34, T18N, R20E



LEGEND

- PROPOSED OVERLAY
- T.B.S.C. TYPE E
- GUARDRAIL
- RIP RAP
- BENCHMARK

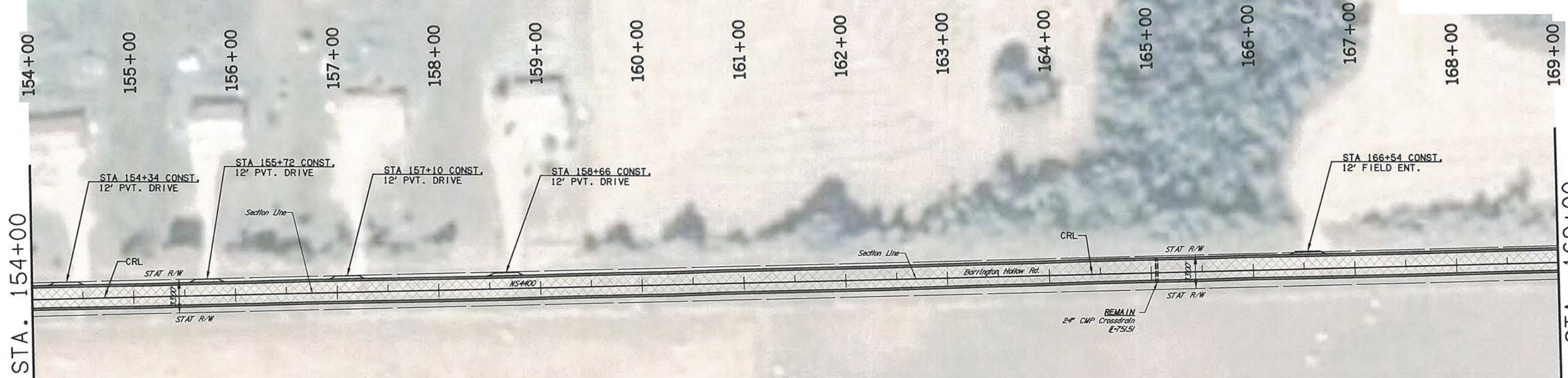


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Wednesday, December 02, 2015 2:36:35 PM
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SEC. 28, T18N, R20E

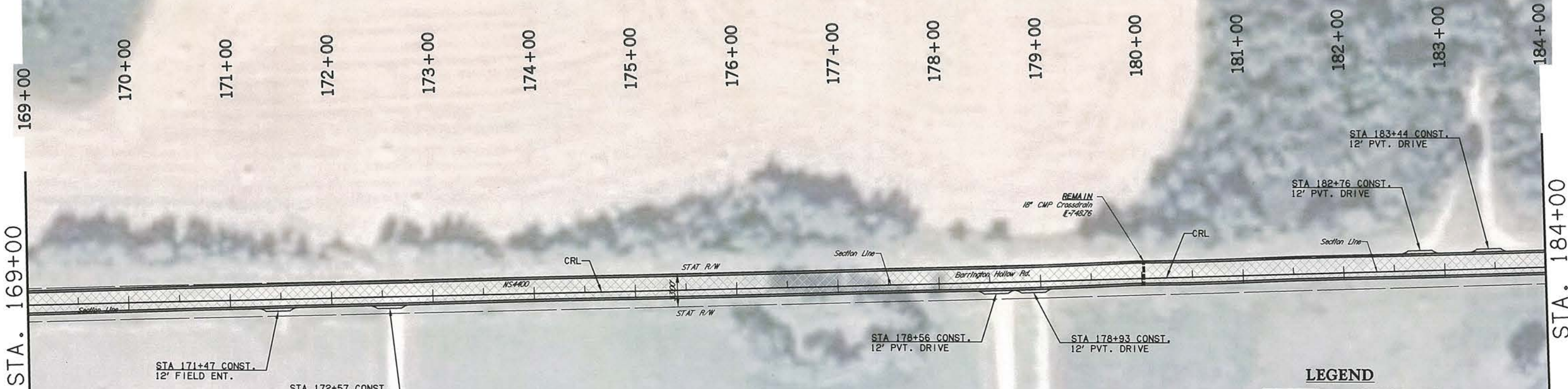
DESCRIPTION	REVISIONS	DATE



PAVEMENT TYPICAL SECTION SHALL FOLLOW EXISTING CENTERLINE OF ROAD, NOT SECTION LINE.

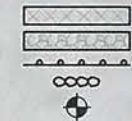
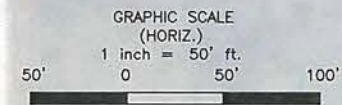
SEC. 27, T18N, R20E

SEC. 28, T18N, R20E



NOTE:
 ALL UTILITY LOCATIONS
 ARE APPROXIMATE.

LEGEND

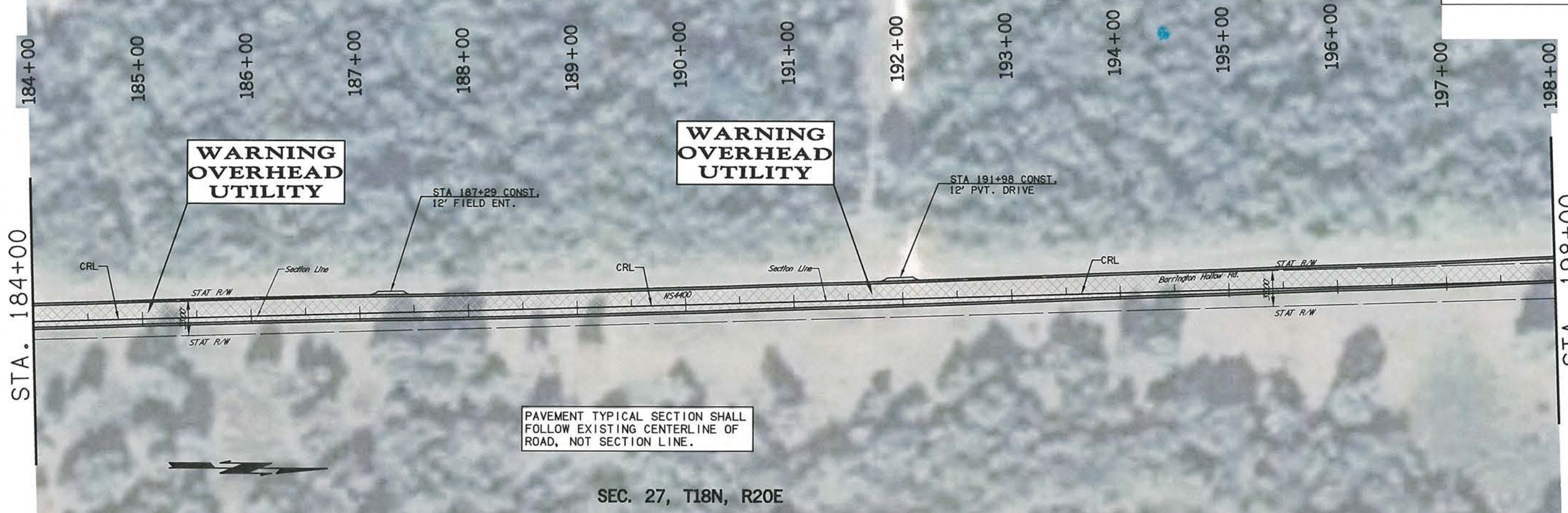


PROPOSED OVERLAY
 T.B.S.C. TYPE E
 GUARDRAIL
 RIP RAP
 BENCHMARK

SEC. 27, T18N, R20E

DESCRIPTION	REVISIONS	DATE

SEC. 28, T18N, R20E



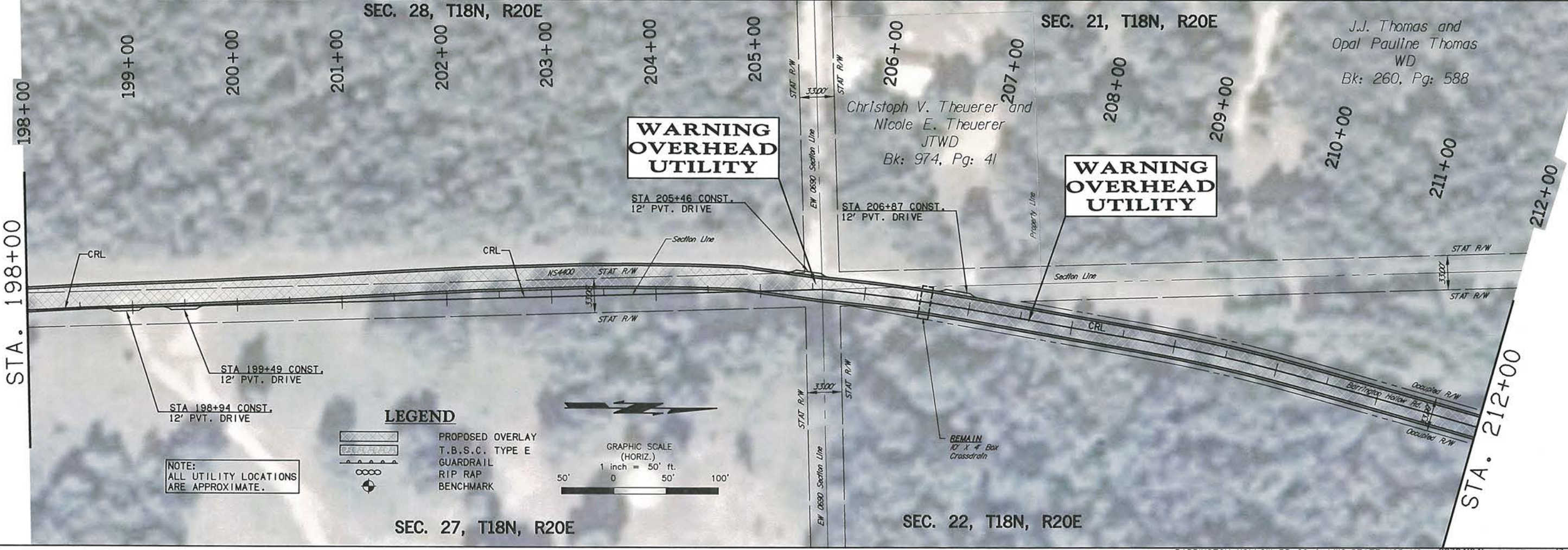
SEC. 27, T18N, R20E

SEC. 28, T18N, R20E

SEC. 21, T18N, R20E

J.J. Thomas and
Opal Pauline Thomas
WD
Bk: 260, Pg: 588

Christoph V. Theuerer and
Nicole E. Theuerer
JTWD
Bk: 974, Pg: 41

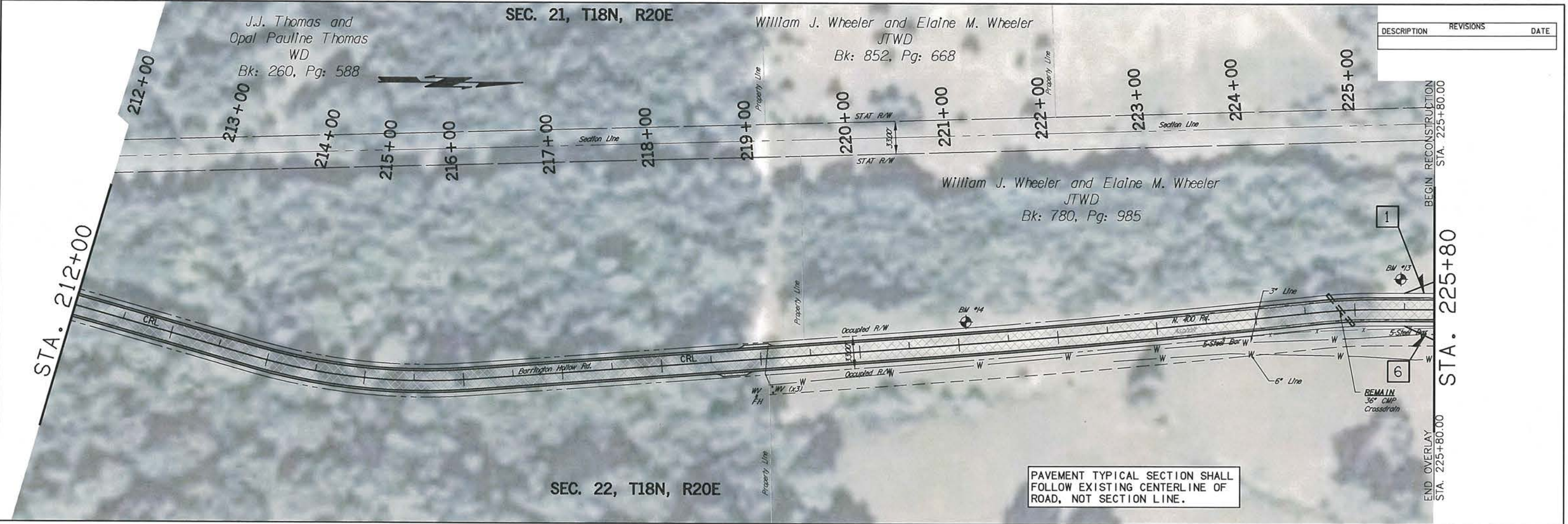


SEC. 27, T18N, R20E

SEC. 22, T18N, R20E

Wednesday, December 02, 2015 2:36:50 PM
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Wednesday, December 02, 2015 2:36:59 PM
 V:\13-828E Barrington Hollow Br 22 & LWC-Cherokee 2-CED2\CIV3D\PLANS\828-PLAN SHEETS.dwg



DESCRIPTION	REVISIONS	DATE

SEC. 22, T18N, R20E


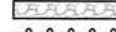
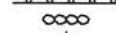

PAVEMENT TYPICAL SECTION SHALL FOLLOW EXISTING CENTERLINE OF ROAD, NOT SECTION LINE.

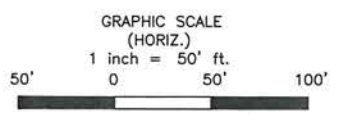
Benchmark - *14
 Sta. 224+08.48, 22.63' Lt.
 80d In 10" STUMP
 ELEV-669.50
 N-3838187903
 E-28048642871

Benchmark - *13
 Sta. 225+46.36, 30.77' Lt.
 80d In 15" COTTONWOOD
 ELEV-672.44
 N-3842567490
 E-28048203890

NOTE:
 ALL UTILITY LOCATIONS
 ARE APPROXIMATE.

LEGEND

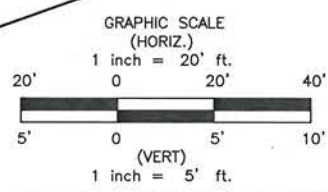
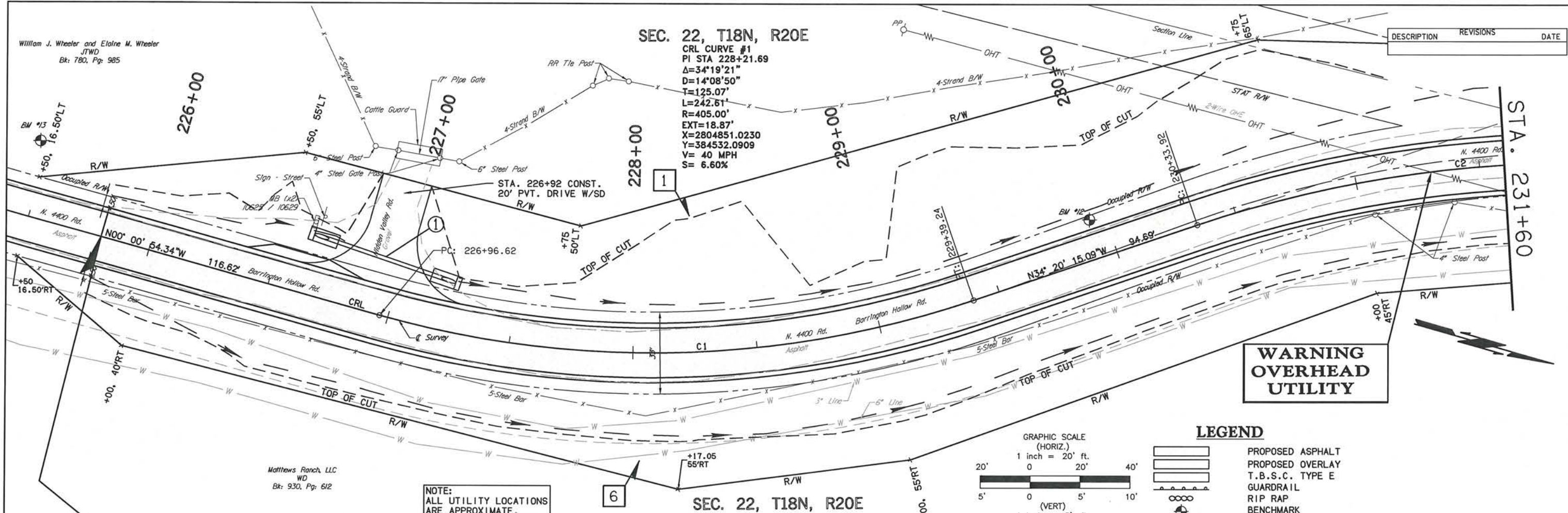
-  PROPOSED OVERLAY
-  T.B.S.C. TYPE E GUARDRAIL
-  RIP RAP
-  BENCHMARK



William J. Wheeler and Elaine M. Wheeler
 JTWD
 Bk: 780, Pg: 985

SEC. 22, T18N, R20E
 CRL CURVE #1
 PI STA 228+21.69
 $\Delta = 34^{\circ}19'21"$
 $D = 14^{\circ}08'50"$
 $T = 125.07'$
 $L = 242.61'$
 $R = 405.00'$
 $EXT = 18.87'$
 $X = 2804851.0230$
 $Y = 384532.0909$
 $V = 40$ MPH
 $S = 6.60\%$

DESCRIPTION	REVISIONS	DATE



LEGEND

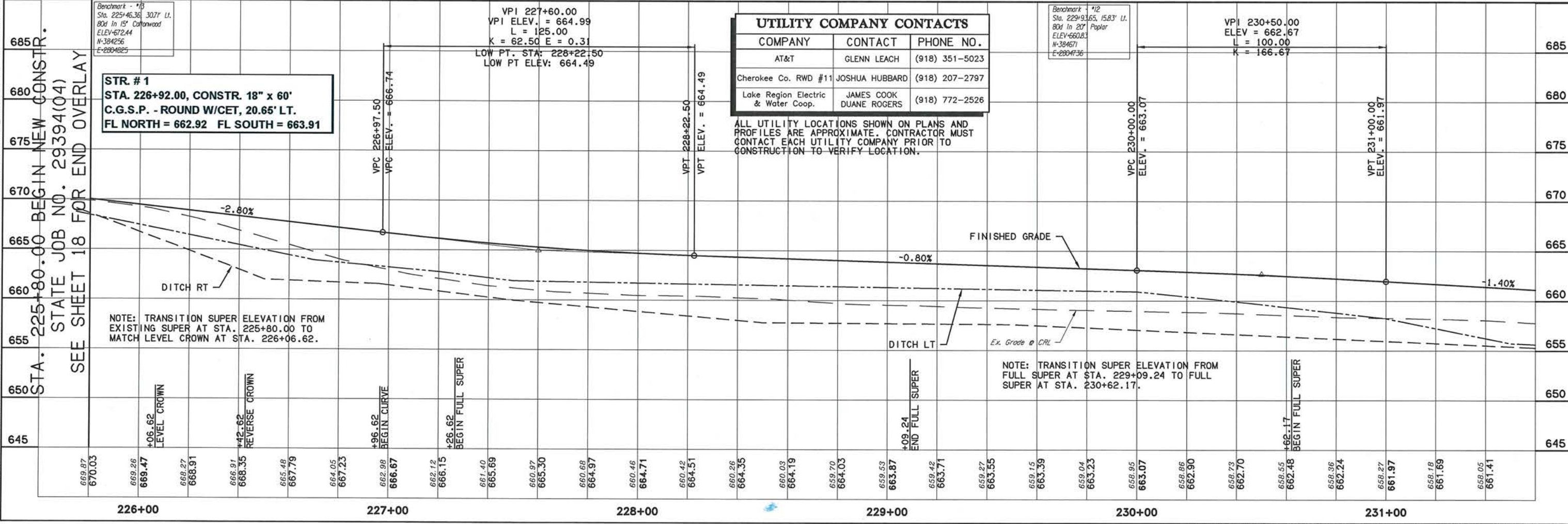
- PROPOSED ASPHALT
- PROPOSED OVERLAY
- T.B.S.C. TYPE E
- GUARDRAIL
- RIP RAP
- BENCHMARK

NOTE:
 ALL UTILITY LOCATIONS
 ARE APPROXIMATE.

UTILITY COMPANY CONTACTS

COMPANY	CONTACT	PHONE NO.
AT&T	GLENN LEACH	(918) 351-5023
Cherokee Co. RWD #11	JOSHUA HUBBARD	(918) 207-2797
Lake Region Electric & Water Coop.	JAMES COOK DUANE ROGERS	(918) 772-2526

ALL UTILITY LOCATIONS SHOWN ON PLANS AND PROFILES ARE APPROXIMATE. CONTRACTOR MUST CONTACT EACH UTILITY COMPANY PRIOR TO CONSTRUCTION TO VERIFY LOCATION.

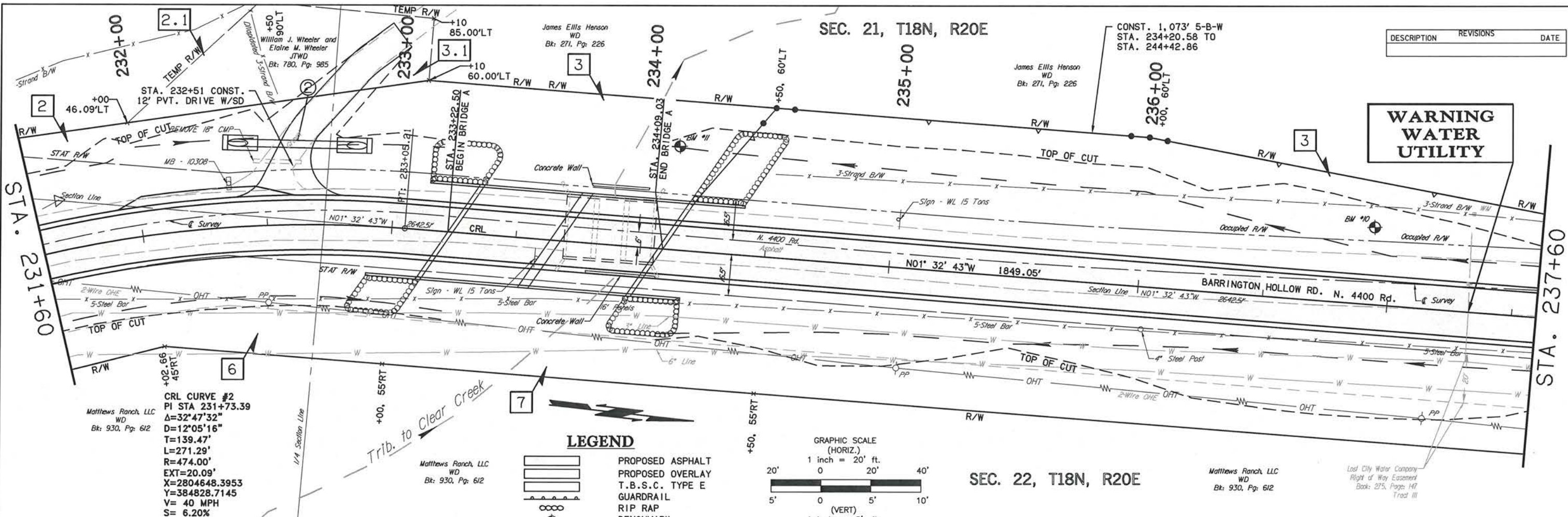


STR. # 1
 STA. 226+92.00, CONSTR. 18" x 60"
 C.G.S.P. - ROUND W/CET, 20.65' LT.
 FL NORTH = 662.92 FL SOUTH = 663.91

NOTE: TRANSITION SUPER ELEVATION FROM EXISTING SUPER AT STA. 225+80.00 TO MATCH LEVEL CROWN AT STA. 226+06.62.

NOTE: TRANSITION SUPER ELEVATION FROM FULL SUPER AT STA. 229+09.24 TO FULL SUPER AT STA. 230+62.17.

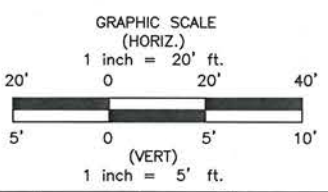
Wednesday, December 02, 2015 2:37:43 PM
 V: E:\13-828E Barrington Hollow Br 22 & LWC-Cherokee 2-CED2\EC\13\3\DEPLANS\B28-PLAN & PROF\ILE.dwg



CRL CURVE #2
 PI STA 231+73.39
 $\Delta = 32^\circ 47' 32''$
 $D = 12^\circ 05' 16''$
 $T = 139.47'$
 $L = 271.29'$
 $R = 474.00'$
 $EXT = 20.09'$
 $X = 2804648.3953$
 $Y = 384828.7145$
 $V = 40 \text{ MPH}$
 $S = 6.20\%$

LEGEND

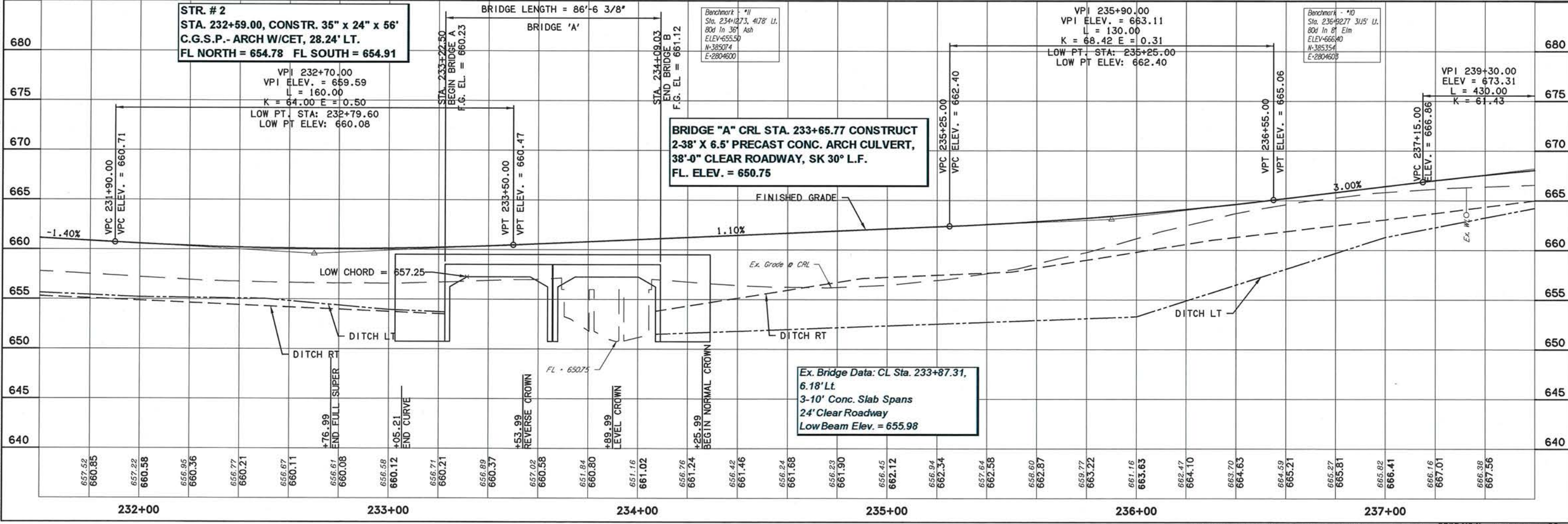
- PROPOSED ASPHALT
- PROPOSED OVERLAY
- T.B.S.C. TYPE E GUARDRAIL
- RIP RAP
- BENCHMARK



STR. #2
 STA. 232+59.00, CONSTR. 35" x 24" x 56"
 C.G.S.P. - ARCH W/CET, 28.24' LT.
 FL NORTH = 654.78 FL SOUTH = 654.91

BRIDGE LENGTH = 86'-6 3/8"
 BRIDGE 'A'

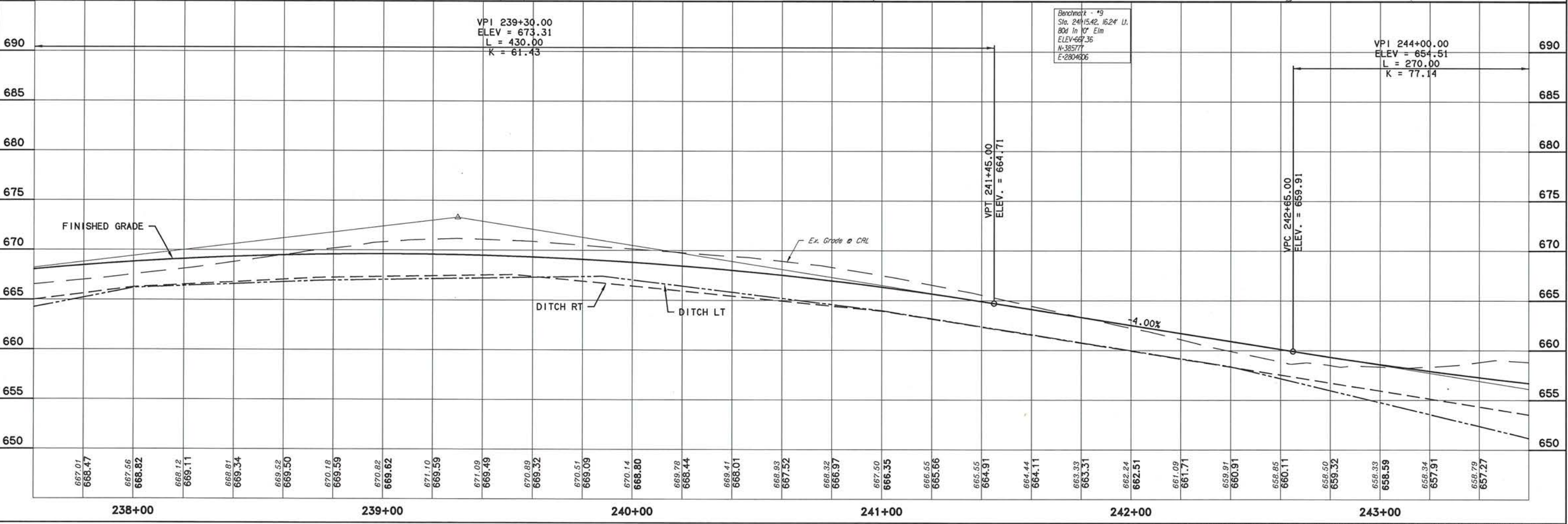
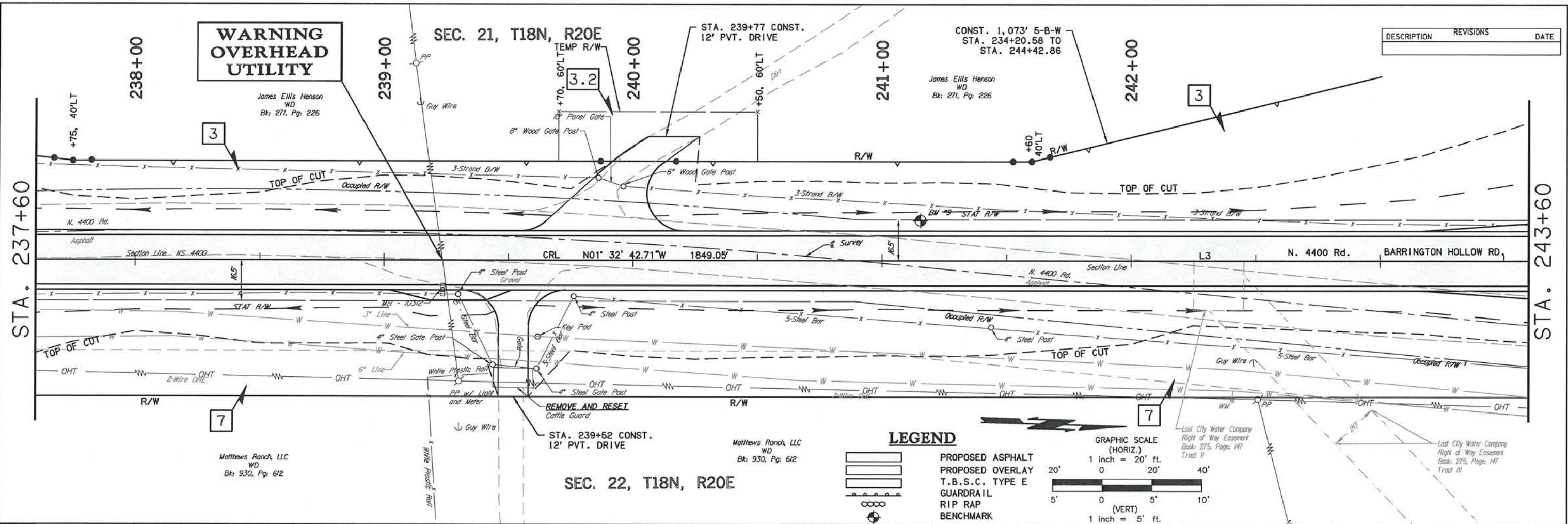
BRIDGE "A" CRL STA. 233+65.77 CONSTRUCT
 2-38" X 6.5' PRECAST CONC. ARCH CULVERT,
 38'-0" CLEAR ROADWAY, SK 30° L.F.
 FL. ELEV. = 650.75



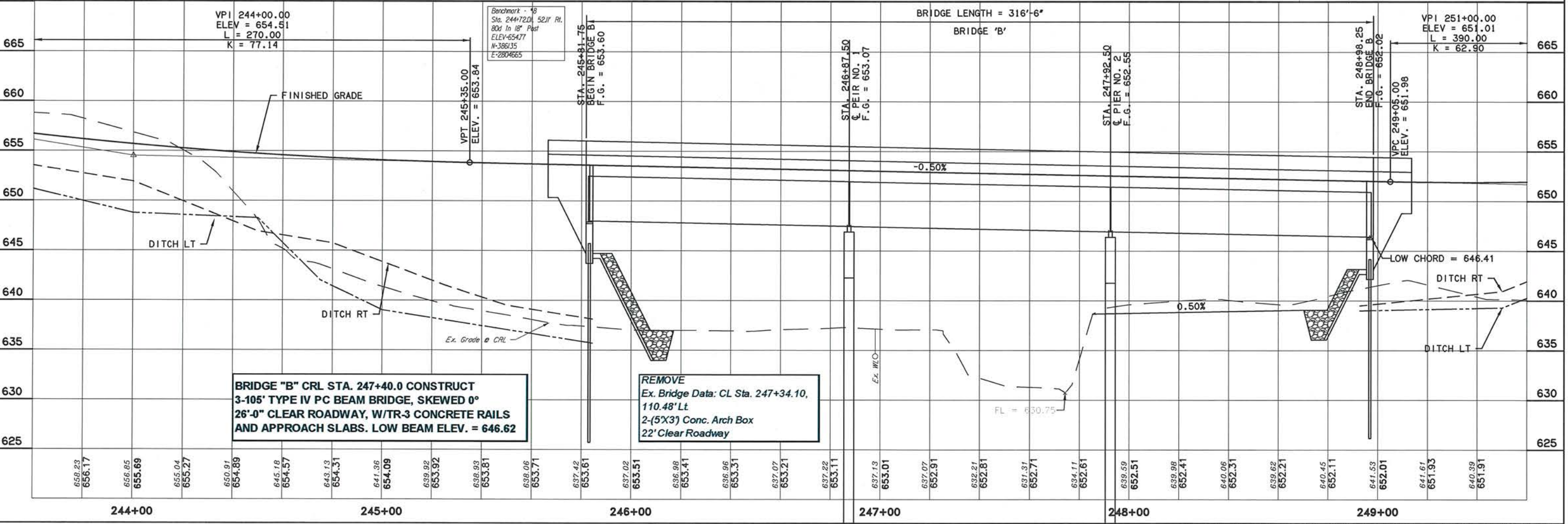
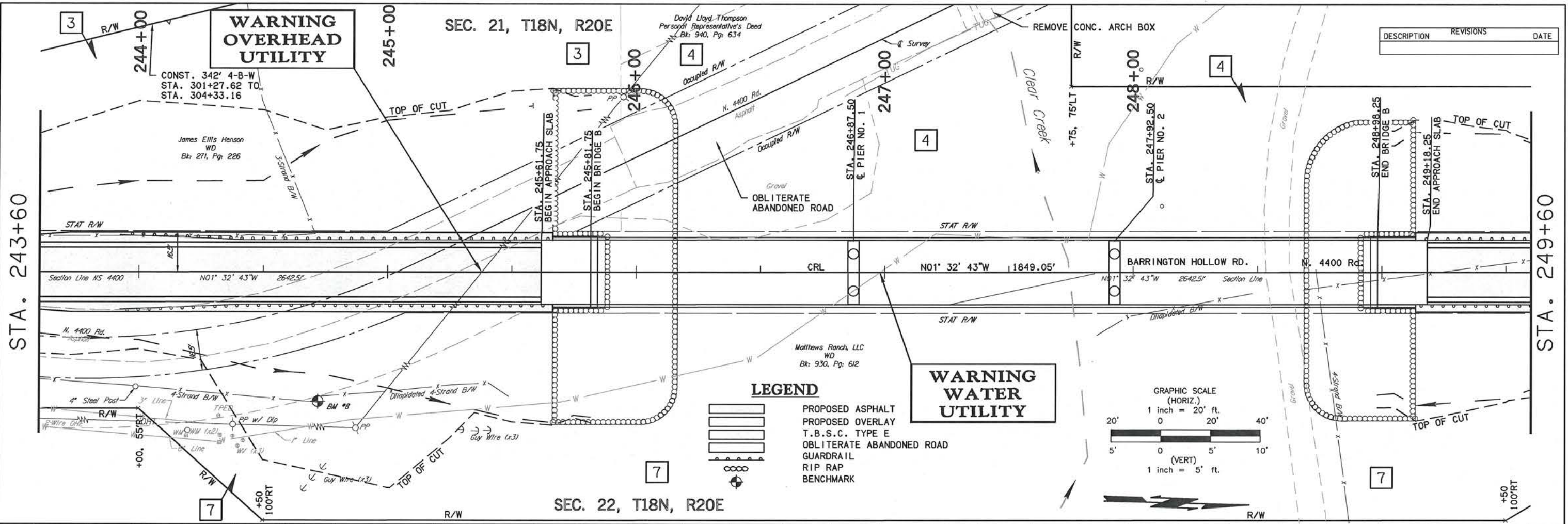
Ex. Bridge Data: CL Sta. 233+87.31,
 6.18' Lt.
 3-10' Conc. Slab Spans
 24' Clear Roadway
 Low Beam Elev. = 655.98

Wednesday, December 02, 2015 2:37:59 PM
 V:\13-828E Barrington Hollow Br 22 & LWC-Cherokee 2-CED2EC1V3DEPLANSE628-PLAN & PROF ILE.dwg

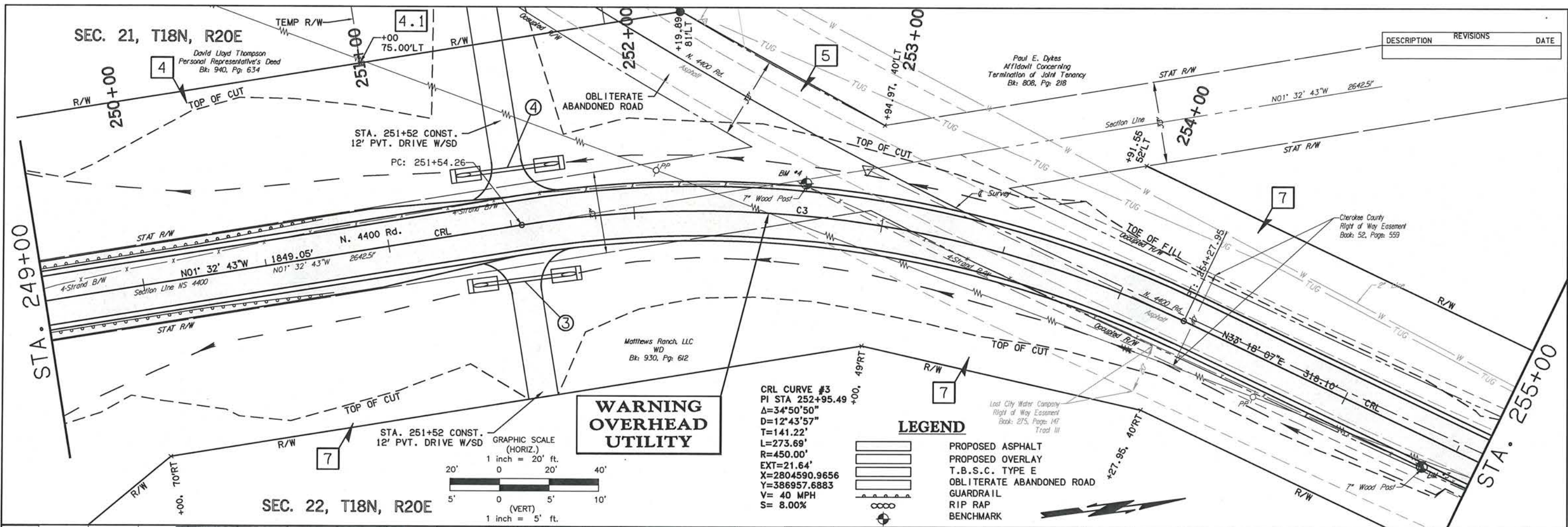
Wednesday, December 02, 2015 2:38:14 PM
 V:\13-828E Barrington Hollow Br 22 & LWC-Cherokee 2-CED2\EC\1\3\DEPLAN\SET\B28-PLAN & PROFILE.dwg



Wednesday, December 02, 2015 2:38:26 PM
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Wednesday, December 02, 2015 2:38:44 PM
 V:\13-828E Barrington Hollow Br 22 & LWC-Cherokee 2-CED2EC\133DEPLANSET\28-PLAN & PROF\ILE.dwg



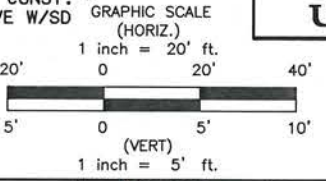
DESCRIPTION	REVISIONS	DATE

**WARNING
OVERHEAD
UTILITY**

CRL CURVE #3
 PI STA 252+95.49
 $\Delta = 34^{\circ}50'50''$
 $D = 12^{\circ}43'57''$
 $T = 141.22'$
 $L = 273.69'$
 $R = 450.00'$
 $EXT = 21.64'$
 $X = 2804590.9656$
 $Y = 386957.6883$
 $V = 40 \text{ MPH}$
 $S = 8.00\%$

LEGEND

- PROPOSED ASPHALT
- PROPOSED OVERLAY
- T.B.S.C. TYPE E
- OBLITERATE ABANDONED ROAD
- GUARDRAIL
- RIP RAP
- BENCHMARK



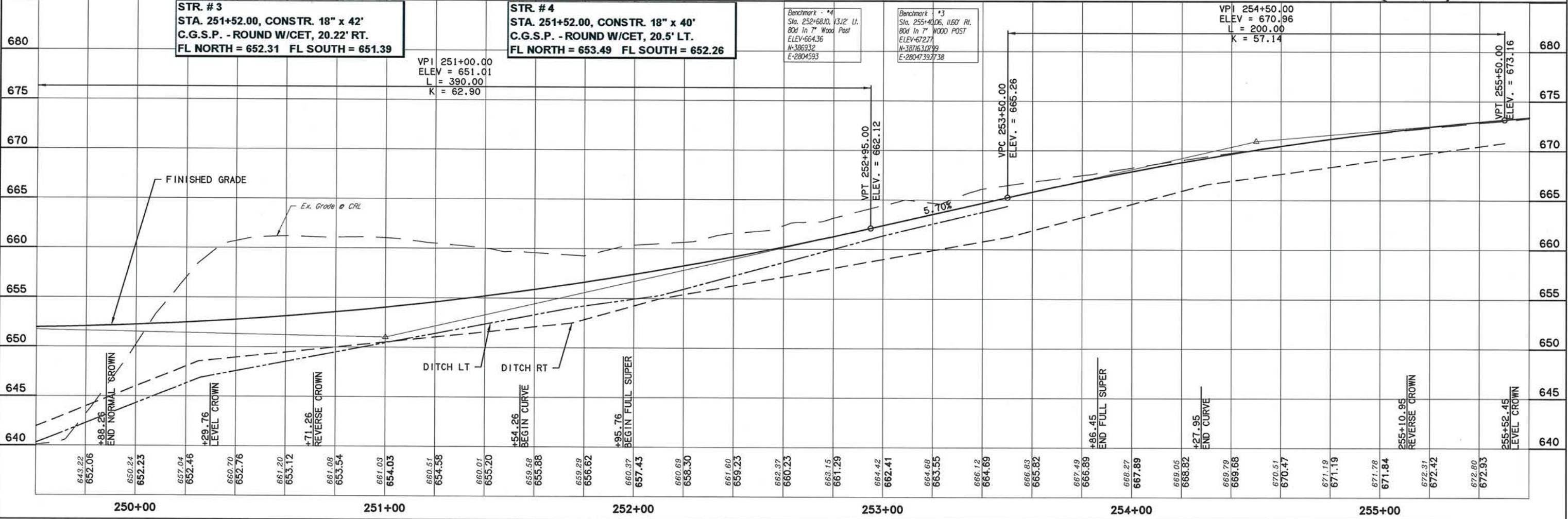
STR. #3
 STA. 251+52.00, CONSTR. 18" x 42"
 C.G.S.P. - ROUND W/CET, 20.22' RT.
 FL NORTH = 652.31 FL SOUTH = 651.39

STR. #4
 STA. 251+52.00, CONSTR. 18" x 40"
 C.G.S.P. - ROUND W/CET, 20.5' LT.
 FL NORTH = 653.49 FL SOUTH = 652.26

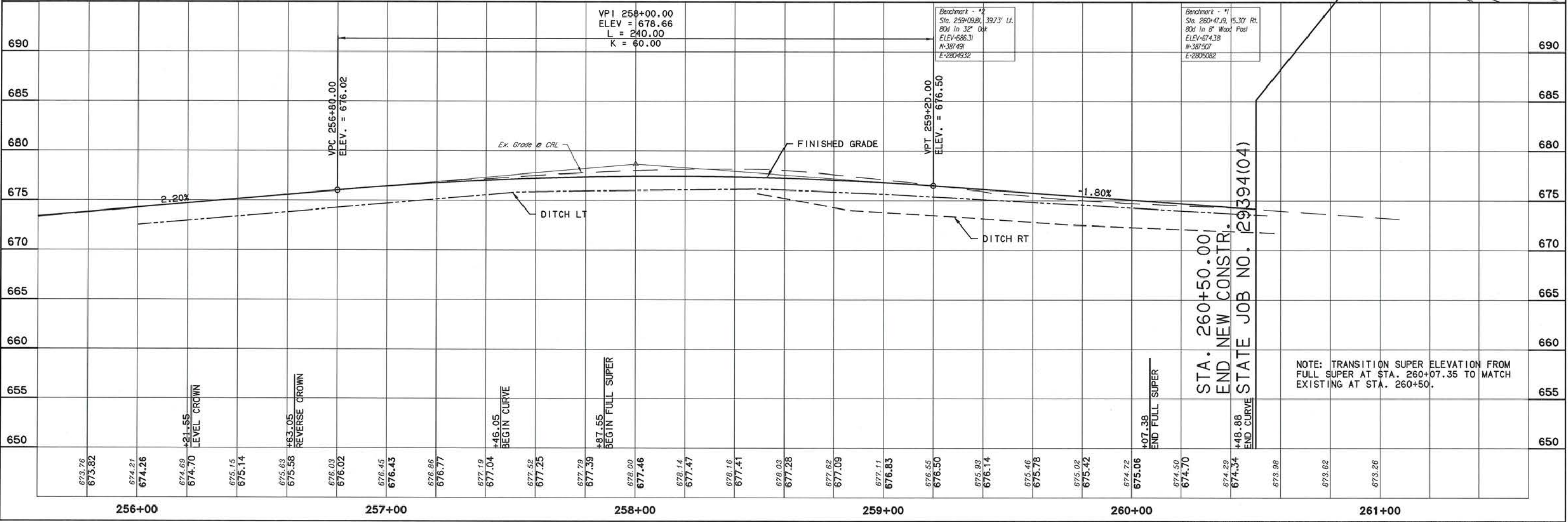
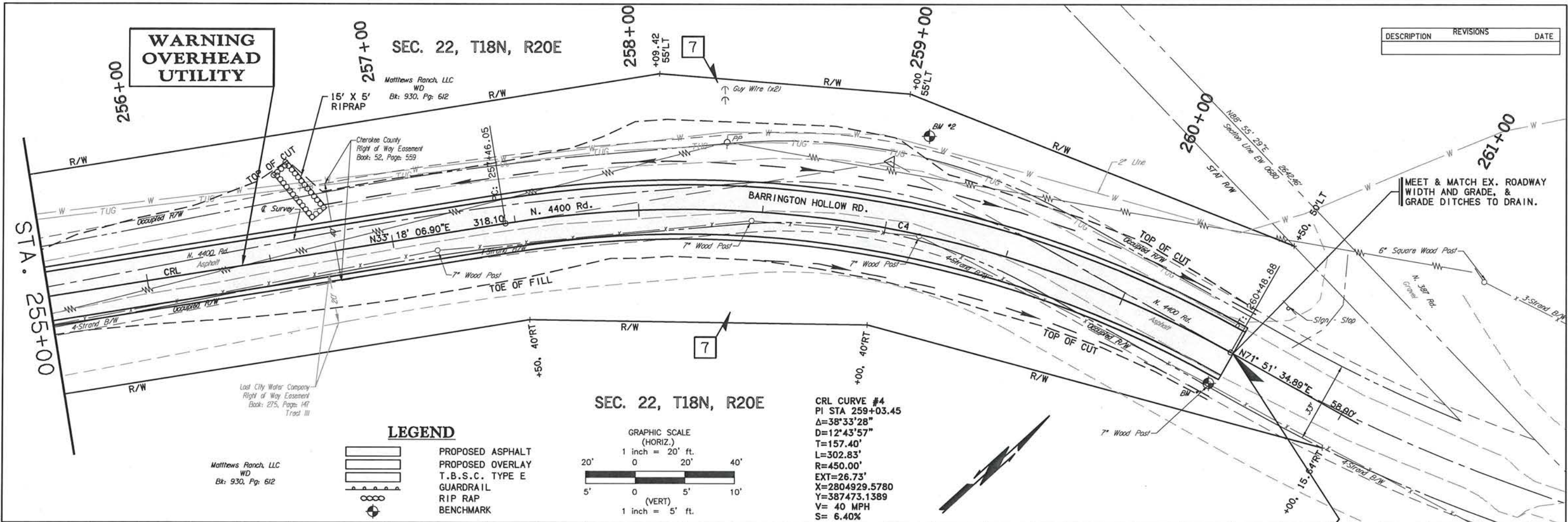
Benchmark #4
 Sta. 252+68.00, 13 1/2" LI.
 80d In 7" Wood Post
 ELEV=664.36
 N=386932
 E=2804593

Benchmark #3
 Sta. 255+40.06, 1167' RI.
 80d In 7" WOOD POST
 ELEV=672.77
 N=387163.0799
 E=2804739.7138

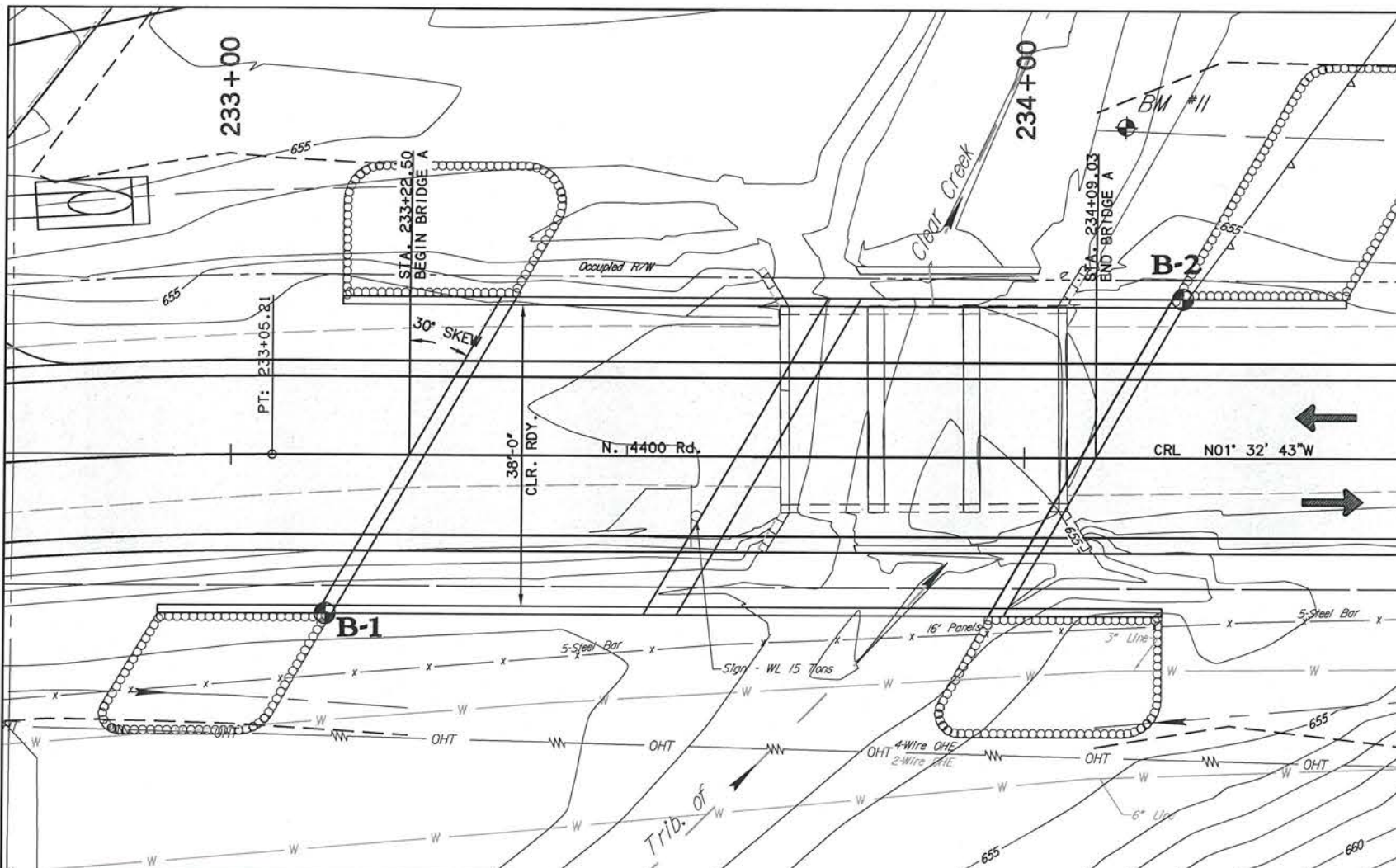
VPI 254+50.00
 ELEV = 670.96
 L = 200.00
 K = 57.14



Wednesday, December 02, 2015 2:39:04 PM
 V:\E13-828E Barrington Hollow Br 22 & LWC-Cherokee 2-CED2FC1V3D\FPLAN\SEB28-PLAN & PROFILE.dwg



Wednesday, December 02, 2015 2:53:14 PM
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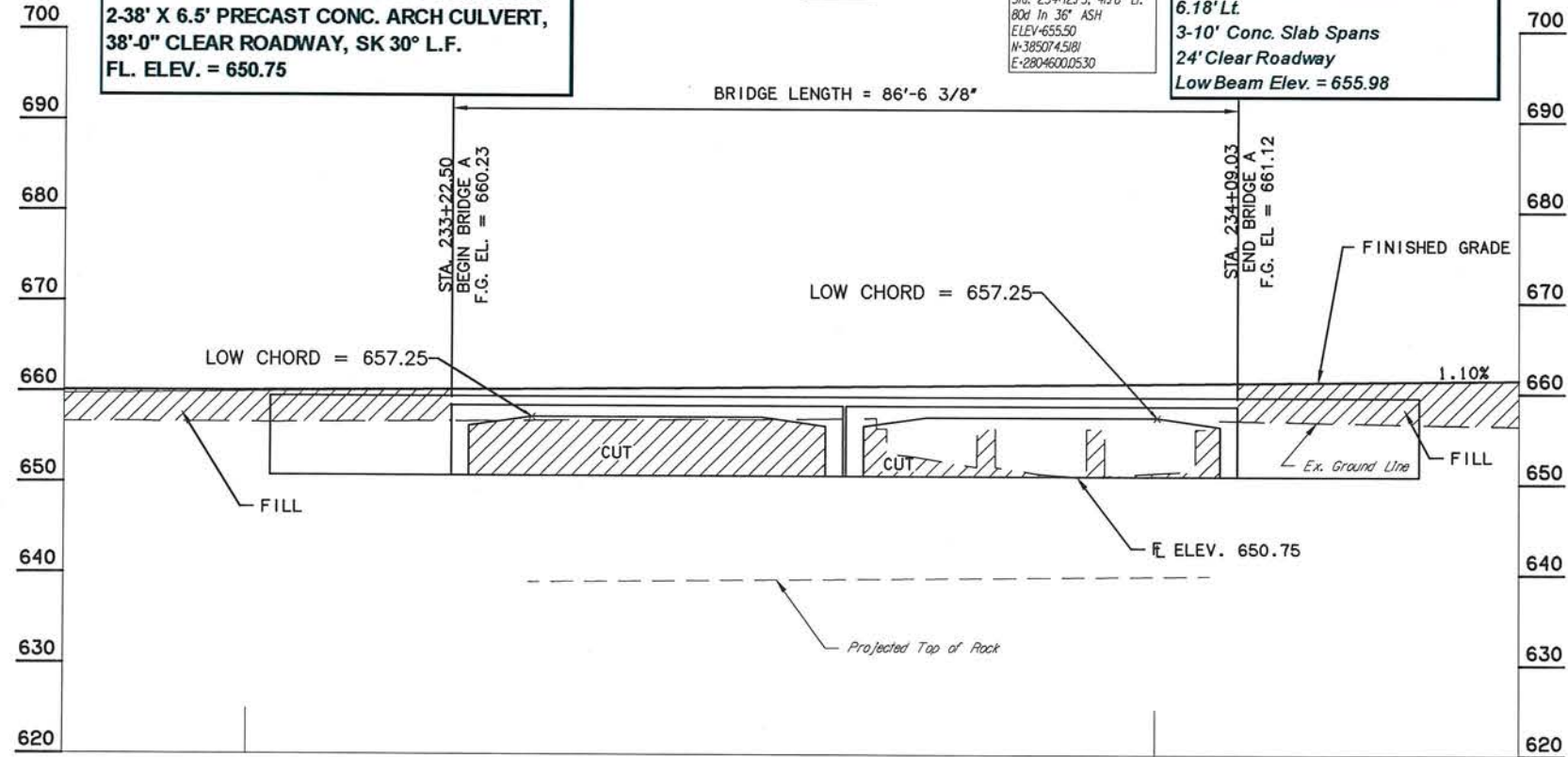
PLAN

BRIDGE "A" CRL STA. 233+65.77 CONSTRUCT
 2-38' X 6.5' PRECAST CONC. ARCH CULVERT,
 38'-0" CLEAR ROADWAY, SK 30° L.F.
 FL. ELEV. = 650.75

Benchmark - #11
 Sta. 234+12.73, 4178' L.
 80d In 36" ASH
 ELEV=655.50
 N=385074.5181
 E=2804600.0530

Ex. Bridge Data: CL Sta. 233+87.31,
 6.18' Lt.
 3-10' Conc. Slab Spans
 24' Clear Roadway
 Low Beam Elev. = 655.98

BRIDGE LENGTH = 86'-6 3/8"



ELEVATION

LEGEND

- BORING
- PROPOSED ASPH. SURFACING
- PROPOSED RIP RAP
- GUARDRAIL

DESCRIPTION	REVISIONS	DATE

UTILITY COMPANY CONTACTS

COMPANY	CONTACT	PHONE NO.
AT&T	GLENN LEACH	(918) 351-5023
Cherokee Co. RWD #11	JOSHUA HUBBARD	(918) 207-2797
Lake Region Electric & Water Coop.	JAMES COOK DUANE ROGERS	(918) 772-2526

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BRIDGE 'A'

HYDRAULIC DATA

D.A. = 1.63	SQ. MI.	Q100 = 3,280	CFS
		V100 = 9.64	FPS
		CHW100 = 659.63	FT
Q10 = 1,440	CFS	QOT (193 YR) = 3,630	CFS
V10 = 5.74	FPS	VOT (193 YR) = 10.11	FPS
CHW10 = 657.88	FT	CHWOT (193 YR) = 660.08	FT (RDY)
Q50 = 2,650	CFS		
V50 = 7.79	FPS		
CHW50 = 658.86	FT		

LOAD AND RESISTANCE FACTOR DESIGN DATA

CLASS AA CONCRETE	f'c = 4,000	P.S.I.
CLASS A CONCRETE	f'c = 3,000	P.S.I.
REINFORCING STEEL	fy = 60,000	P.S.I.
STRUCTURAL STEEL M270 (GRADE 50W)	fy = 50,000	P.S.I.
STAINLESS STEEL A240 (TYPE 316)	fy = 30,000	P.S.I.

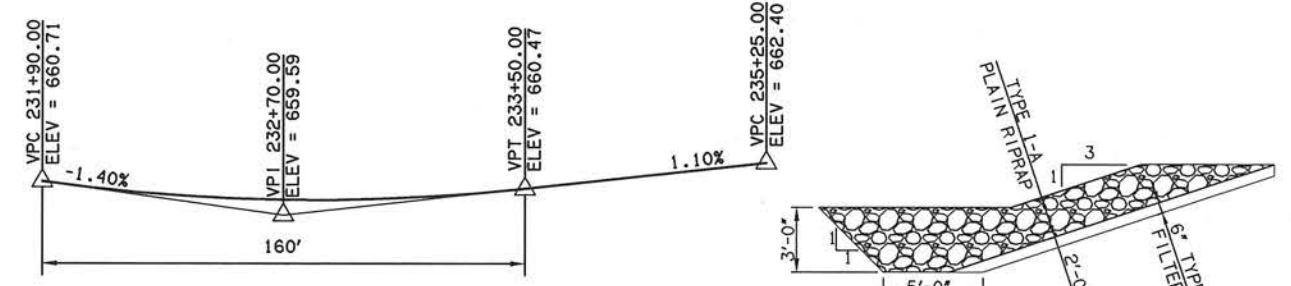
LOADING: HL-93 OR OKLAHOMA OVERLOAD TRUCK AND 20 P.S.F. FUTURE WEARING SURFACE, 5 P.S.F. STAY-IN-PLACE FORMS.
 DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH 2009 INTERIM REVISIONS.
 ANS I / AASHTO / AWS D1.5 BRIDGE WELDING CODE
 ANS I / AWS D1.6 STRUCTURAL WELDING CODE - STAINLESS STEEL

SHALLOW FOOTING FOUNDATION DATA

THE RECOMMENDED BEARING DEPTH FOR SHALLOW FOOTINGS IS APPROXIMATELY 8.5 FEET (APPROXIMATE ELEVATION 642.25 FEET). FOOTINGS BEARING IN STIFF NATIVE CLAY CAN BE DESIGNED USING A NOMINAL BEARING RESISTANCE OF 3,000 POUNDS PER SQUARE FOOT (PSF).

BEARING RESISTANCE FACTORS OF 1.0 AND 0.5, AS OUTLINED IN SECTION 10.5.5.1 OF THE LRFD MANUAL, SHOULD BE APPLIED TO THE NOMINAL BEARING VALUE WHEN ANALYZING THE SERVICE LIMIT STATE, RESPECTIVELY.

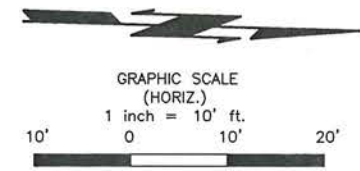
A QUALIFIED PERSON SHOULD OBSERVE AND EVALUATE THE FOOTING EXCAVATIONS TO VERIFY THAT MATERIALS SUITABLE FOR THE DESIRED BEARING RESISTANCE ARE ENCOUNTERED. FOOTING EXCAVATIONS SHOULD BE FREE OF LOOSE OR DISTURBED MATERIALS AND WATER AT THE TIME OF CONCRETE PLACEMENT. CONCRETE SHOULD BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATION IS COMPLETED TO PREVENT WETTING AND DRYING OF THE BEARING SURFACE.



GRADE DATA

SECTION THRU RIPRAP AT WINGWALLS

SEE "BORING LOGS" SHEETS FOR BORING DATA.



BARRINGTON HOLLOW BR 22 & LWC CHEROKEE COUNTY
 BRIDGE "A"
GENERAL PLAN & ELEVATION
 BRIDGE "A"
 86'-6 3/8" PRECAST BRIDGE x 38'-0" CLR RDWY.
 SKEW 30° L.F.

Design	RAA	12/15
Detail	ALM	12/15
Check	RAP	12/15
Spool		
Eng.	GUY	

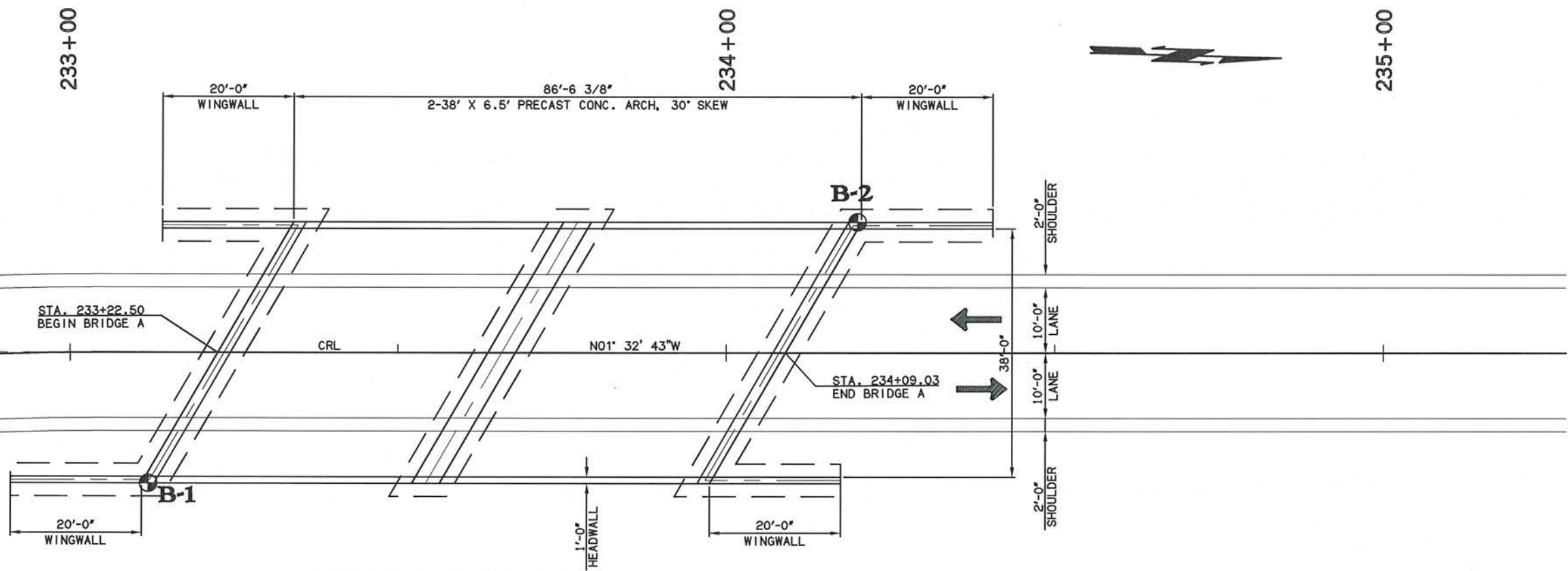
STATE OF OKLAHOMA GUY ENGINEERING SERVICES, INC.
 JOB PECE NO. 29394(O4) SHEET NO. 25

BORING LOG NO. B-1										Page 1 of 1			
PROJECT: Bridge No. 22 over Clear Creek					CLIENT: Guy Engineering								
SITE: Cherokee County, Oklahoma													
GRAPHIC LOG	LOCATION	DEPTH (FT.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	UNCONFINED COMPRESSIVE STRENGTH (psi)	WATER CONTENT (%)	ATTERBERG LIMITS	PERCENT FINES			
	See Exhibit A-2												
	Station: 233+31 Offset: 14' LT												
	Surface Elev.: 657.5 (FL.)												
	ELEVATION (FL.)												
	4" Asphalt LEAN CLAY (CL) , with chert fragments, reddish-brown, medium stiff to very stiff	8				7-7-6 N=13		12					
		10					3-5-10 N=15		13				
		16					3-3-4 N=7		16	37-19-18	80		
		18					8-11-13 N=24		14				
		18					12-16-21 N=37		14				
18.5		639											
	CHERTY LIMESTONE , grayish-white, hard, fractured					50/1"							
23.5		634				50/0"							
Boring Terminated at 23.5 Feet													
Stratification lines are approximate. In-situ, the transition may be gradual.													
Advancement Method: Power Auger			See Exhibit A-3 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any).			Notes: -Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.							
Abandonment Method: Backfilled with cuttings above 4'; grouted 4' to 14'; backfilled with cuttings from 14' to termination depth.			See Appendix C for explanation of symbols and abbreviations.										
WATER LEVEL OBSERVATIONS 13.5 ft While Sampling 13.5 ft After Boring						Boring Started: 5/22/2015		Boring Completed: 5/22/2015					
						Drill Rig: ATV 945		Driver: TJ					
						Project No.: 04145114		Exhibit: A-4					

BORING LOG NO. B-2										Page 1 of 1		
PROJECT: Bridge No. 22 over Clear Creek					CLIENT: Guy Engineering							
SITE: Cherokee County, Oklahoma												
GRAPHIC LOG	LOCATION	DEPTH (FT.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	UNCONFINED COMPRESSIVE STRENGTH (psi)	WATER CONTENT (%)	ATTERBERG LIMITS	PERCENT FINES		
	See Exhibit A-2											
	Station: 234+06 Offset: 3' RT											
	Surface Elev.: 658.3 (FL.)											
	ELEVATION (FL.)											
	4" Asphalt LEAN CLAY (CL) , with chert fragments, reddish-brown, medium stiff to stiff	6				4-6-6 N=12		13	43-21-22	76		
		12					6-7-10 N=17		14			
		12					2-3-3 N=6		18			
		13					7-10-9 N=19		17			
		18					9-10-16 N=26		21			
18.5		640										
	CHERTY LIMESTONE , grayish-white, hard, fractured					50/1"						
23.6		634.5				50/1"						
Boring Terminated at 23.6 Feet												
Stratification lines are approximate. In-situ, the transition may be gradual.												
Advancement Method: Power Auger			See Exhibit A-3 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any).			Notes: -Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.						
Abandonment Method: Backfilled with cuttings above 4'; grouted 4' to 14'; backfilled with cuttings from 14' to termination depth.			See Appendix C for explanation of symbols and abbreviations.									
WATER LEVEL OBSERVATIONS Not Encountered While Drilling Not Encountered After Drilling						Boring Started: 6/15/2015		Boring Completed: 6/15/2015				
						Drill Rig: ATV 945		Driver: TJ				
						Project No.: 04145114		Exhibit: A-5				

Wednesday, December 02, 2015 2:39:42 PM
 V:\13-828E Barrington Hollow Br. 22 & LWC-Cherokee 2-CED\CIV3D\PLANS\628-BORING LOGS.dwg

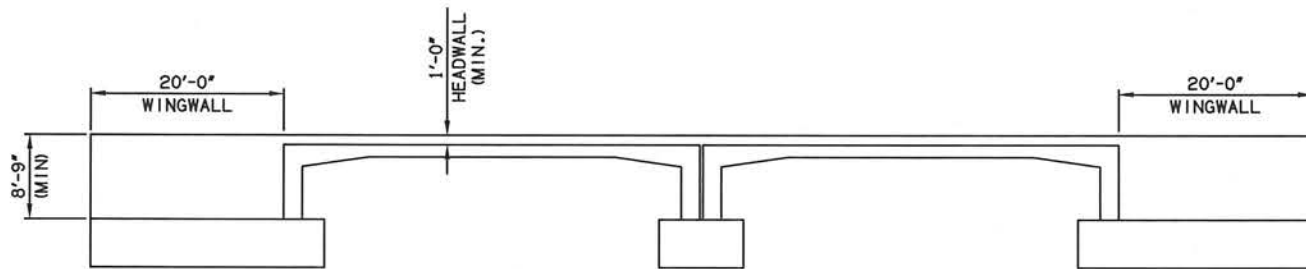
DESCRIPTION	REVISIONS	DATE



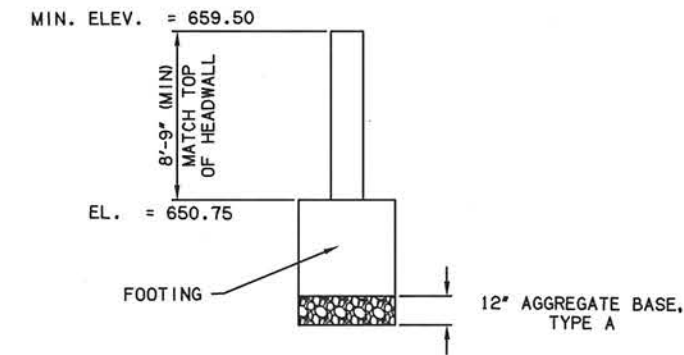
WINGWALL PLAN
Not To Scale

GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. HEADWALL SHALL HAVE A MINIMUM ELEVATION OF 659.50 TO ACCOMMODATE ROADWAY FILL SLOPES.
3. ELEVATION AT TOP OF WINGWALL SHALL MATCH ELEVATION OF THE TOP OF HEADWALLS.
4. WINGWALLS CAN BE CAST-IN-PLACE, PRECAST, OR RECON MODULAR BLOCK RETAINING WALLS, OR APPROVED EQUAL.



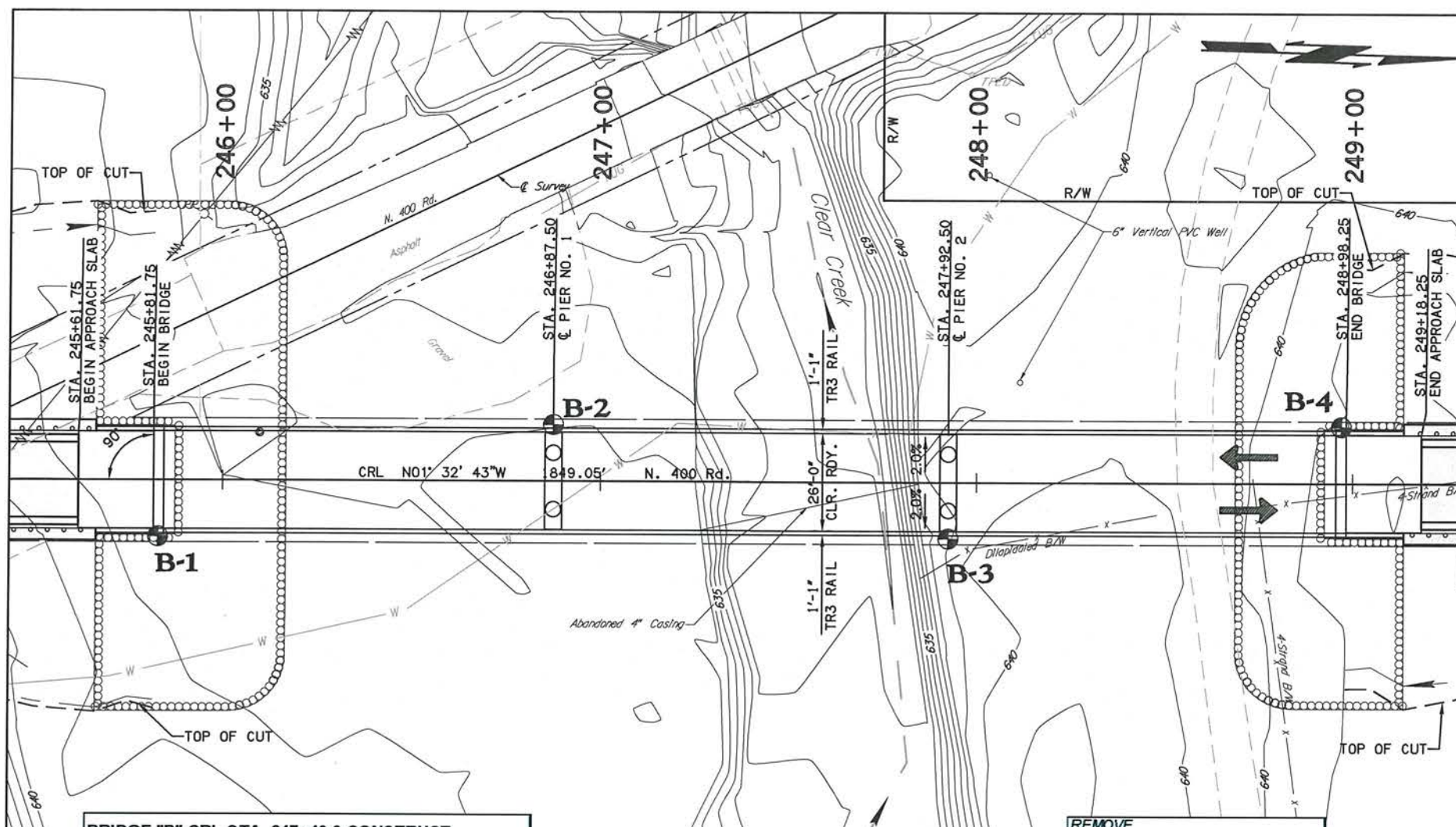
EAST VIEW FOOTING
Not To Scale



WINGWALL SECTION
Not To Scale

DESIGN	RAA	12/15	OKLAHOMA DEPARTMENT OF TRANSPORTATION GUY ENGINEERING SERVICES, INC. WINGWALL DIMENSIONS - BRIDGE 'A' STATE JOB NO. 29394(104) SHEET NO. 27
DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

Wednesday, December 02, 2015 2:54:23 PM W:\13-828E Barrington Hollow Br 22 & LWC-Cherokee 2-CED2\1\3\0\PLANS\828-GR&E Br B.dwg



SUMMARY OF QUANTITIES

DESCRIPTION	UNIT	SUPER	PIER	ABUT.	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.			100	100
CLSM BACKFILL	C.Y.			70	70
PRESTRESSED CONCRETE BEAMS (TYPE IV)	L.F.	942			942
APPROACH SLAB	S.Y.			115	115
SAW-CUT GROOVING	S.Y.			89	89
CONCRETE RAIL (TR3)	L.F.	633		62	695
STRUCTURAL STEEL	LB.	960		0	960
WEATHERING STEEL FIXED BEARING ASSEMBLY	EA.	9			9
WEATHERING STEEL EXPANSION BEARING ASSEMBLY	EA.	9			9
CLASS AA CONCRETE	C.Y.	266			266
CLASS A CONCRETE	C.Y.		40.4	41.8	82.2
REINFORCING STEEL	LB.	67,730	6,120	6,920	80,770
PILES, FURNISHED (HP 10x42)	L.F.			266	266
PILES, DRIVEN (HP 10x42)	L.F.			266	266
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.			1	1
DRILLED SHAFTS 42" DIAMETER	L.F.		128		128
CROSSHOLE SONIC LOGGING	EA.		1		1
TYPE 1-A PLAIN RIPRAP	TON			2,217	2,217
TYPE 1-A FILTER BLANKET	TON			314	314
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.			52	52
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.			60	60
REMOVAL OF EXISTING BRIDGE STRUCTURE	L. SUM				1
BEAM GUARDRAIL W-BEAM SINGLE	L.F.			375	375
GUARDRAIL ANCHOR UNIT (TYPE D-BF)	EA.			4	4

DESCRIPTION	REVISIONS	DATE

STANDARDS

CB26-I-SKO-ABUT-PC4-01E
 CB26-I-SKO-XSECT-PC234-01E
 CB26-I-SKO-LSECT-PCB-01E
 CB26-I-SKO-DKSLB-BL1ST-PCB-01E
 CB26-I-SKO-PCB-IV-105-01E
 CB26-I-SKO-DIA-ABUT-PC4-01E
 CB26-I-SKO-DIA-INTPR-PCB-01E
 CB26-I-SKO-BRG-PC4-01E
 CB26-I-SKO-SPR-QUAN-PCB-1-01E
 CB26-I-SKO-SPR-QUAN-PCB-2-01E
 CB26-I-SKO-AS-01E
 CB26-.32-1-SKO-WING-PC4-01E
 CB26-.32-1-SKO-DIA-MISC-01E
 CB26-.32-C...1-SKO...30-PCB-DTL-1-01
 CB26-.32-C...1-SKO...30-PCB-DTL-2-01
 HP1-2-00E
 DBF2-1-00

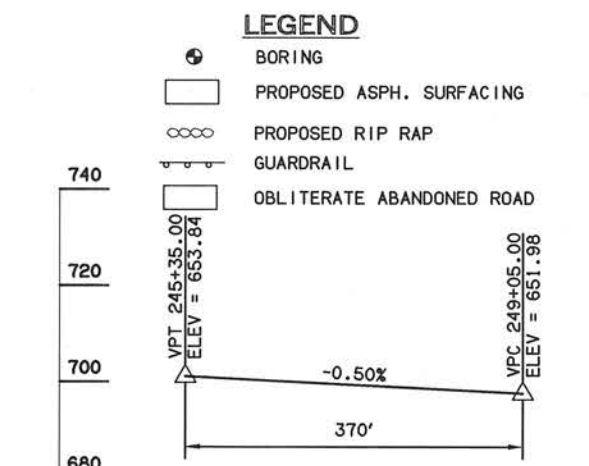
BRIDGE 'B' HYDRAULIC DATA

D.A. = 22.40 SQ. MI. Q100 = 21,200 CFS
 Q10 = 6,680 CFS V100 = 8.34 FPS
 V10 = 5.96 FPS CHW100 = 645.44 FT
 CHW10 = 640.78 FT
 Q50 = 12,200 CFS
 V50 = 7.51 FPS
 CHW50 = 642.88 FT

LOAD AND RESISTANCE FACTOR DESIGN DATA

CLASS AA CONCRETE f'c = 4,000 P.S.I.
 CLASS A CONCRETE f'c = 3,000 P.S.I.
 REINFORCING STEEL fy = 60,000 P.S.I.
 STRUCTURAL STEEL M270 (GRADE 50W) fy = 50,000 P.S.I.
 STAINLESS STEEL A240 (TYPE 316) fy = 30,000 P.S.I.

LOADING: HL-93 OR OKLAHOMA OVERLOAD TRUCK AND 20 P.S.F. FUTURE WEARING SURFACE, 5 P.S.F. STAY-IN-PLACE FORMS.
 DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH 2009 INTERIM REVISIONS.
 ANSI / AASHTO / AWS D1.5 BRIDGE WELDING CODE
 ANSI / AWS D1.6 STRUCTURAL WELDING CODE - STAINLESS STEEL
 LFD OPERATING RATING: HS 55.0



ABUTMENTS (HP 10 X 42 PILING)

FACTORED PILE REACTION = 75.2 TONS/PILE

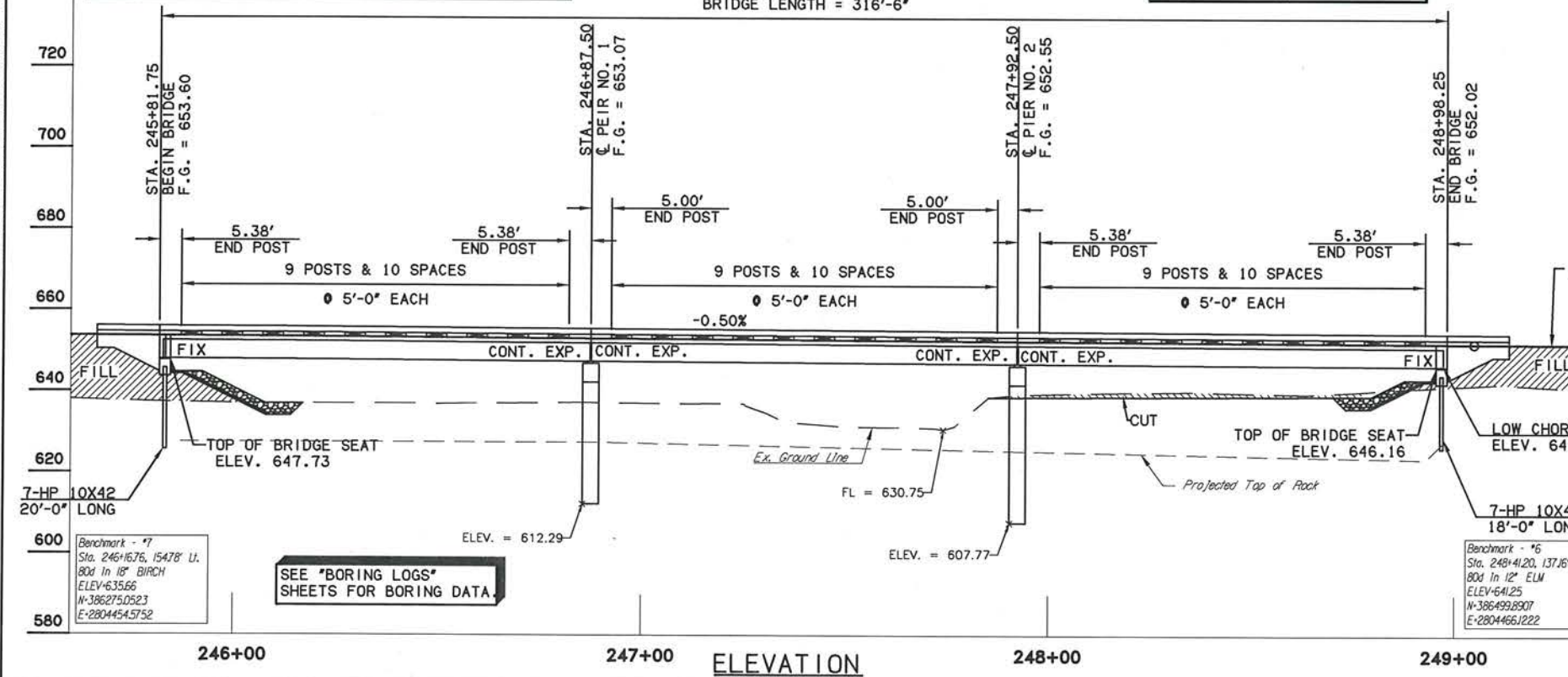
ALL ABUTMENT PILING SHALL BE DRIVEN THROUGH THE COMPACTED FILL. PILING SHALL BE DRIVEN TO POINT BEARING ON SOLID FOUNDATION MATERIAL AT THE APPROXIMATE ELEVATION SHOWN ON THE PLANS. IF THE ULTIMATE REQUIRED CAPACITY IS NOT OBTAINED AT THIS ELEVATION, DRIVING SHALL CONTINUE UNTIL THE REQUIRED ULTIMATE PILE CAPACITY IS OBTAINED. THE LENGTH OF STEEL PILING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY.

PIERS (48" DIAMETER DRILLED SHAFTS)

	PIER NO. 1	PIER NO. 2	
FACTORED REACTION	= 485.5	= 485.5	TONS/SHAFT
NOMINAL UNIT FRICTION RESISTANCE	= 8.07	= 6.35	T.S.F
FRICTION RESISTANCE FACTOR	= 0.55	= 0.55	
FACTORED FRICTION RESISTANCE	= 669	= 526	TONS/SHAFT
DEPTH OF ROCK NEGLECTED FOR FRICTION	= 3	= 3	FEET
TOTAL FACTORED RESISTANCE	= 669	= 526	TONS/SHAFT

BRIDGE "B" CRL STA. 247+40.0 CONSTRUCT 3-105' TYPE IV PC BEAM BRIDGE, SKEWED 0° 26'-0" CLEAR ROADWAY, W/TR-3 CONCRETE RAILS AND APPROACH SLABS. LOW BEAM ELEV. = 646.62

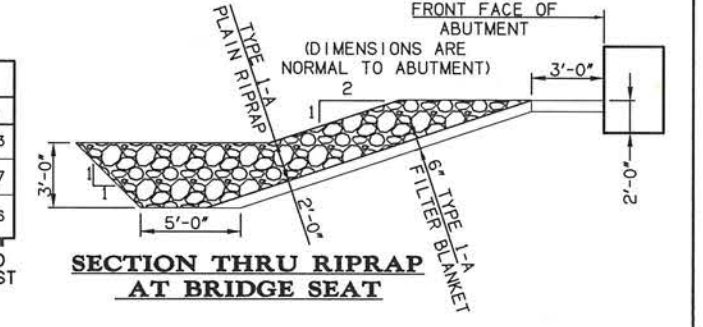
REMOVE
 Ex. Bridge Data: CL Sta. 247+34.10, 110.48' Lt.
 2-(5X3) Conc. Arch Box
 22' Clear Roadway



UTILITY COMPANY CONTACTS

COMPANY	CONTACT	PHONE NO.
AT&T	GLENN LEACH	(918) 351-5023
Cherokee Co. RWD #11	JOSHUA HUBBARD	(918) 207-2797
Lake Region Electric & Water Coop.	JAMES COOK DUANE ROGERS	(918) 772-2526

ALL UTILITY LOCATIONS SHOWN ON PLANS AND PROFILES ARE APPROXIMATE. CONTRACTOR MUST CONTACT EACH UTILITY COMPANY PRIOR TO CONSTRUCTION TO VERIFY LOCATION.



BARRINGTON HOLLOW BR 22 & LWC CHEROKEE COUNTY

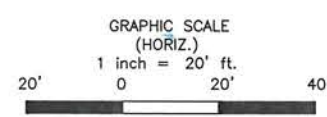
GENERAL PLAN & ELEVATION BRIDGE 'B'

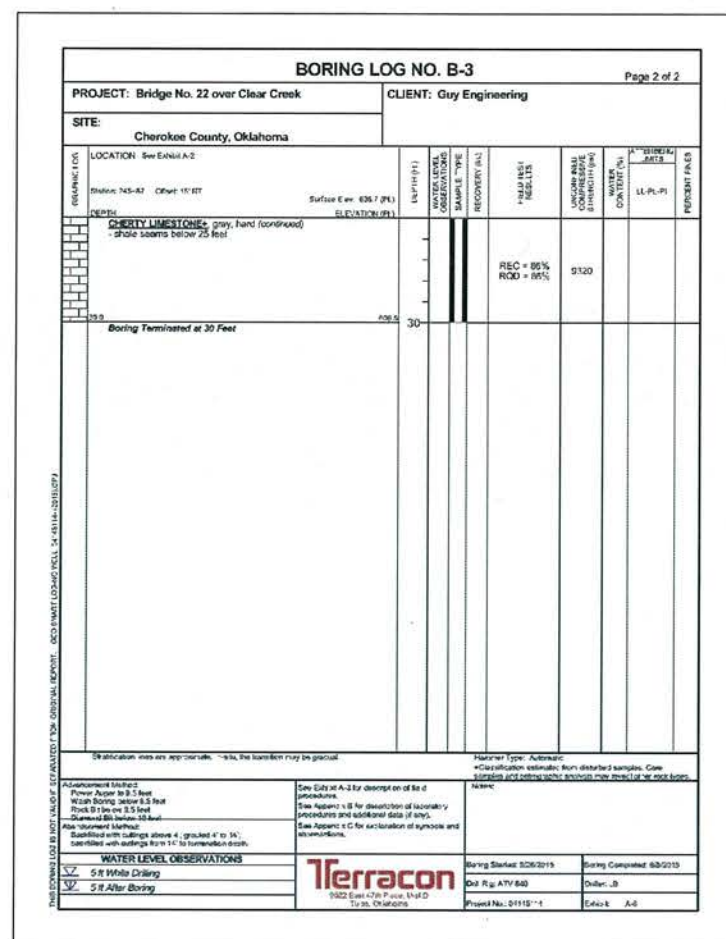
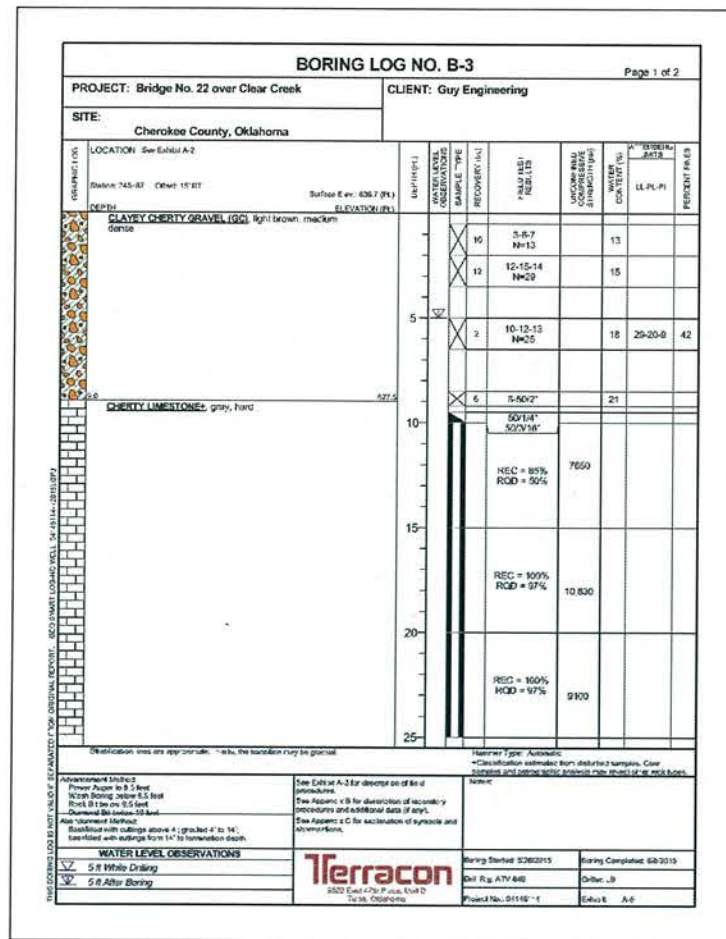
3-105' TYPE IV PC BEAM, 26'-0" CLR RWDY
W/TR-3 CONCRETE RAILS AND APPROACH SLABS

Design	RAA	12/15
Detail	ALM	12/15
Check	RAP	12/15
Squid		
Eng.	GUY	

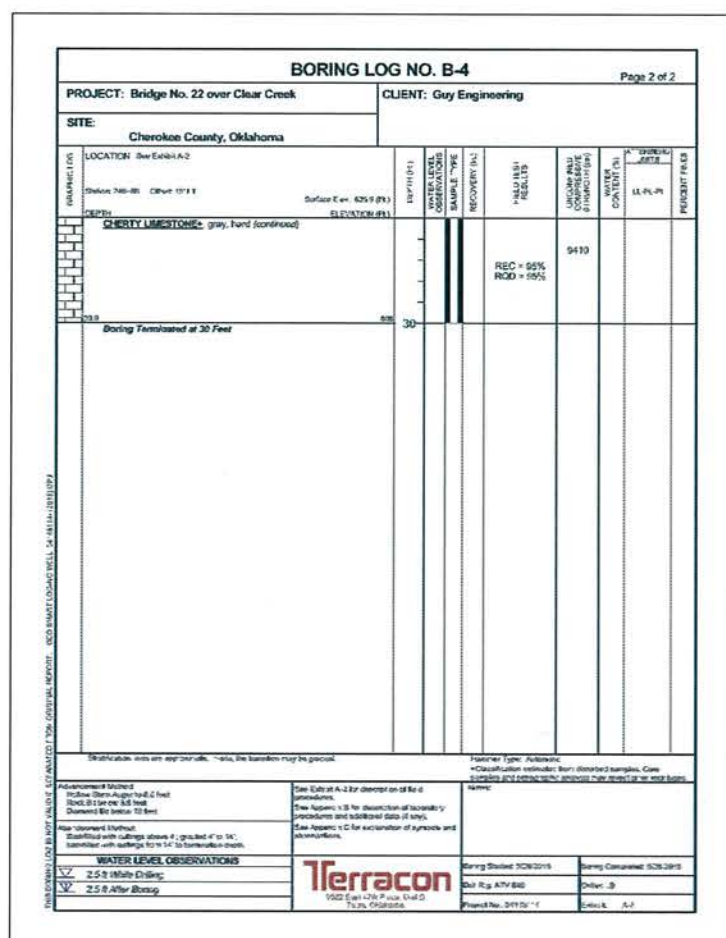
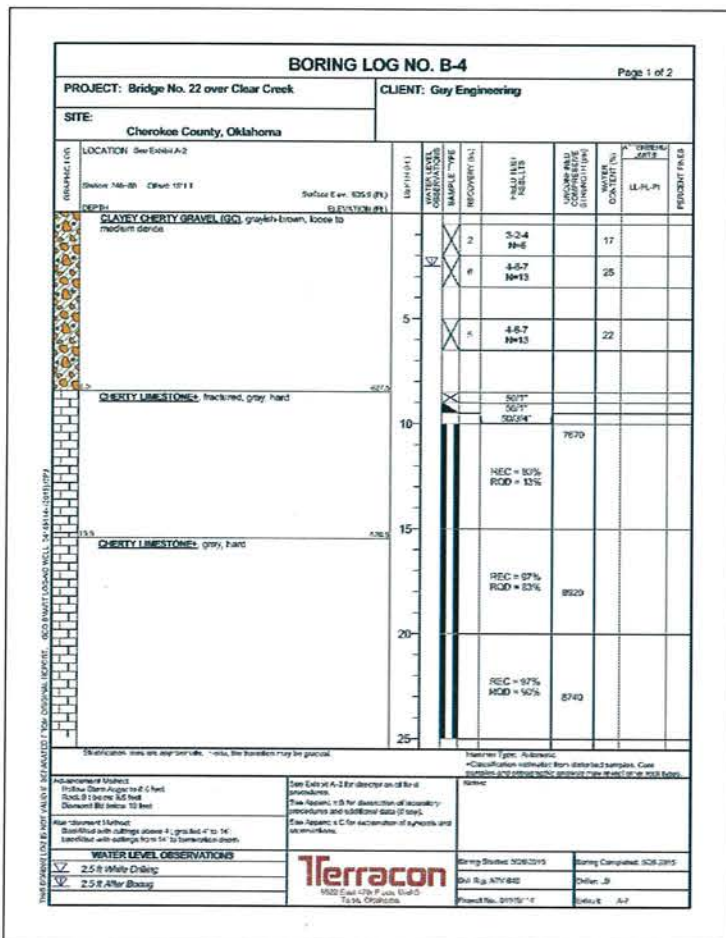
STATE OF OKLAHOMA **GUY ENGINEERING SERVICES, INC.**
 JOB PECE NO. 29394(O4) SHEET NO. 28

BARRINGTON HOLLOW BR 22 & LWC





NOTE:
 DRILLING PIERS IN THE LIMESTONE BEDROCK WILL BE DIFFICULT. THE LIMESTONE BEDROCK IS HARD AND THE CONTRACTOR SHOULD ANTICIPATE THE NEED FOR SPECIAL DRILLING EQUIPMENT AND TECHNIQUES. A HEAVY-DUTY DRILLING RIG EQUIPPED WITH A CORE BARREL WILL BE REQUIRED TO PENETRATE THE LIMESTONE.



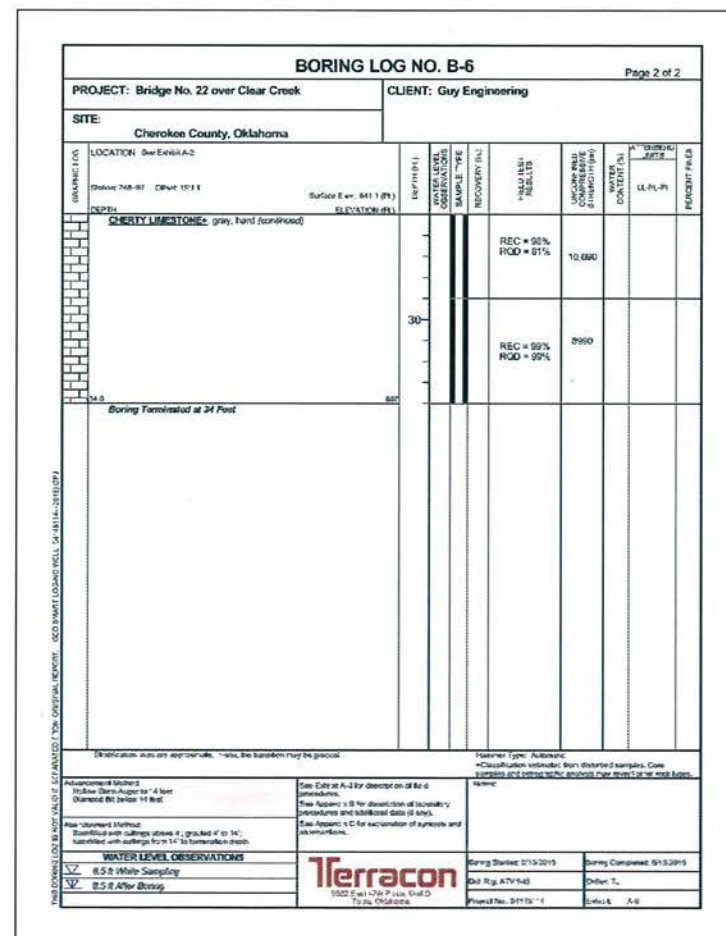
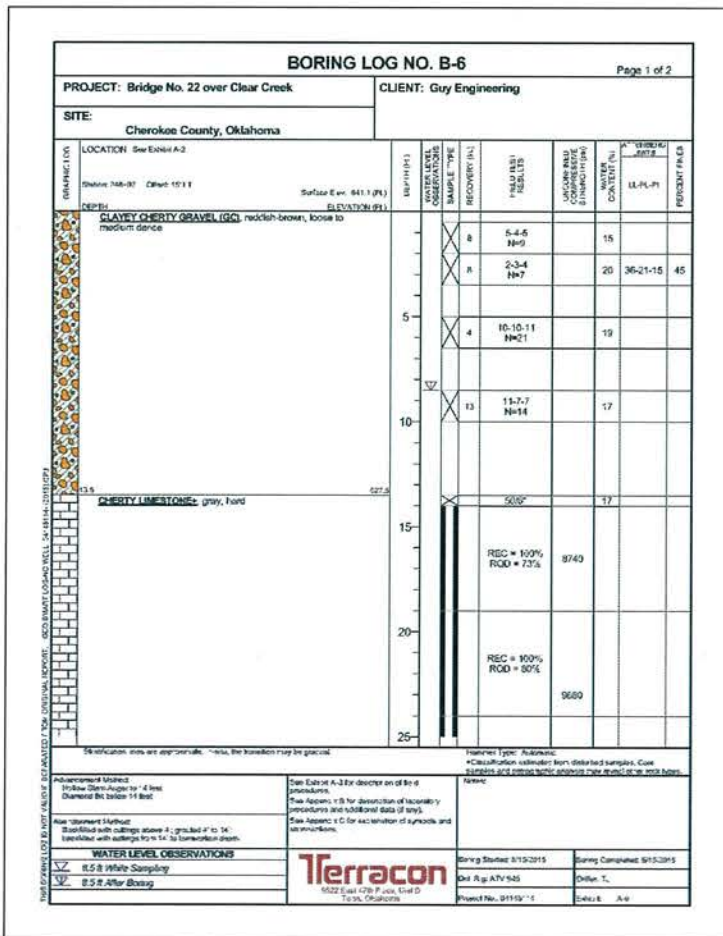
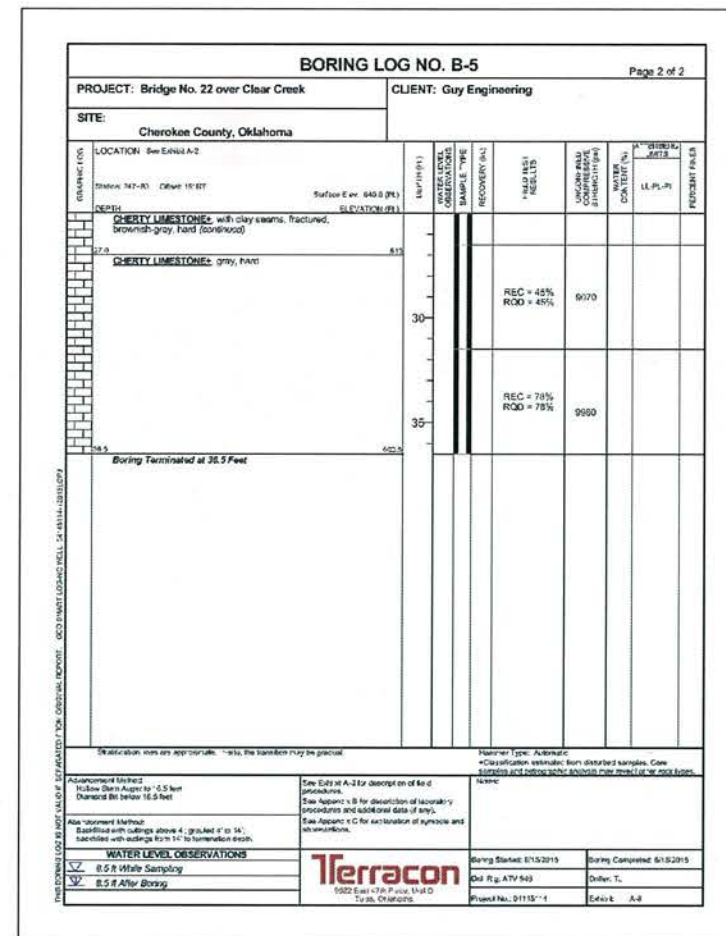
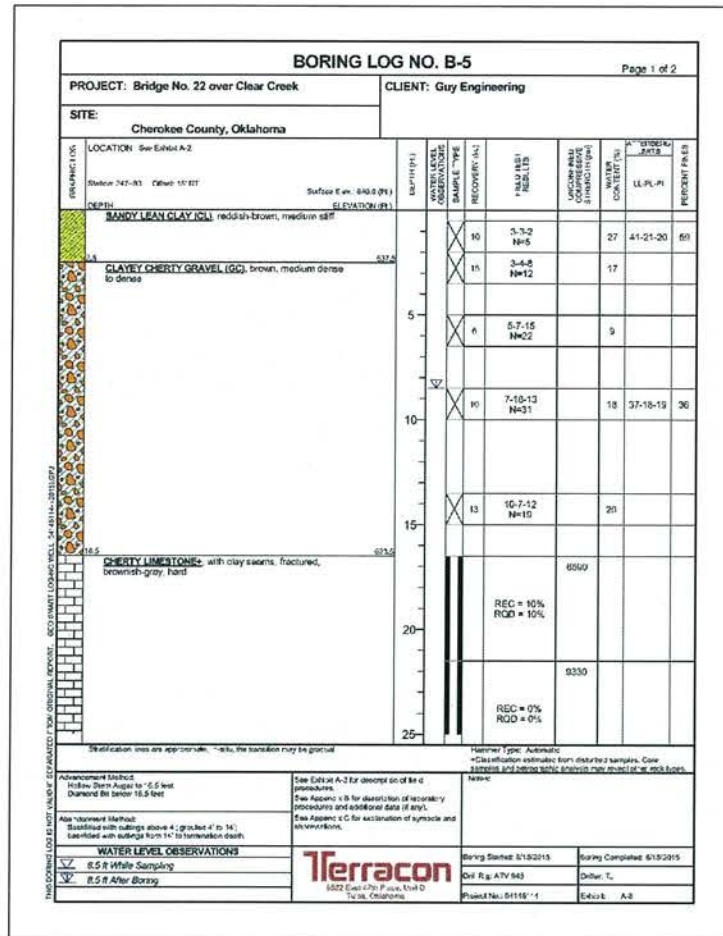
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DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

BORING LOGS BRIDGE 'B' (1)

STATE JOB NO. 29394(04) SHEET NO. 29

CHEROKEE COUNTY BARRINGTON HOLLOW BR 22 & LWC

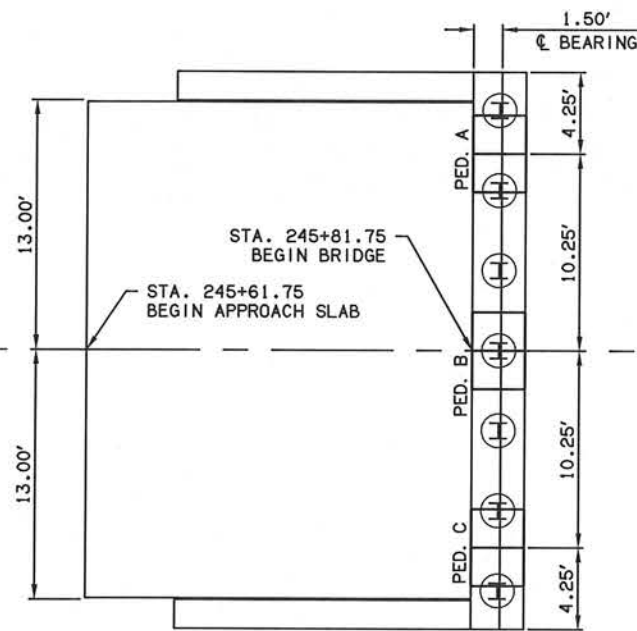
DESCRIPTION	REVISIONS	DATE
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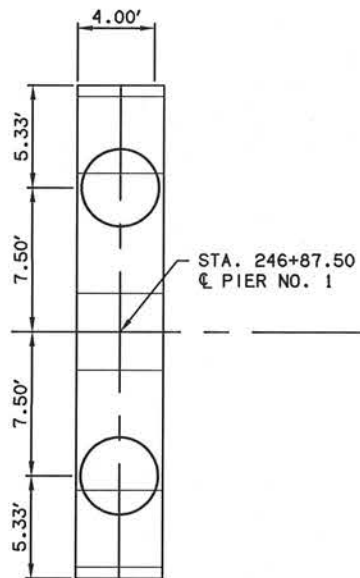
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DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

Wednesday, December 02, 2015 2:40:53 PM
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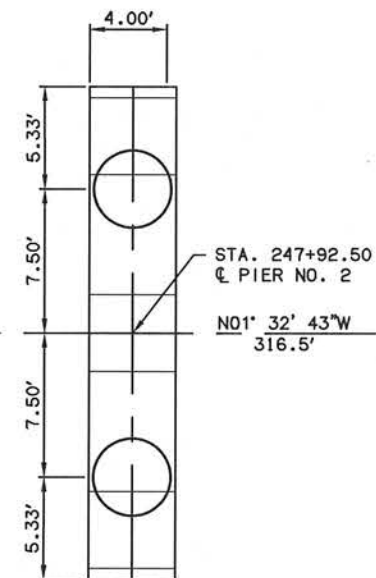
DESCRIPTION	REVISIONS	DATE
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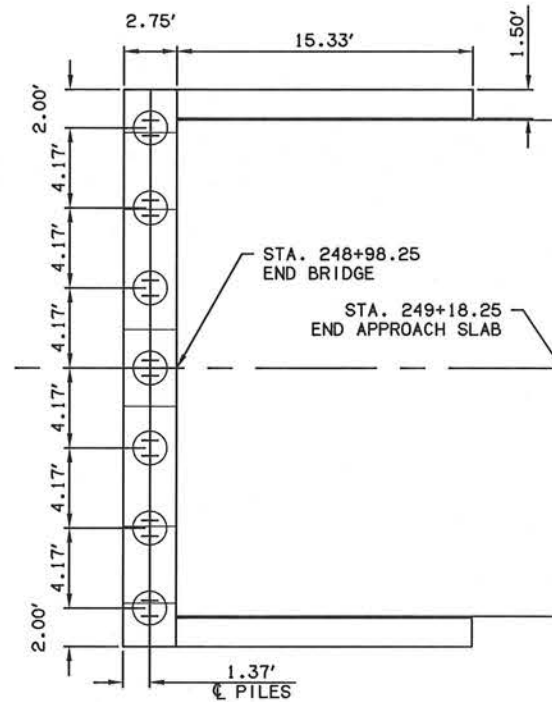
ABUT. NO. 1
CB26-1-SK0-ABUT-PC4



PIER NO. 1



PIER NO. 2



ABUT. NO. 2
CB26-1-SK0-ABUT-PC4

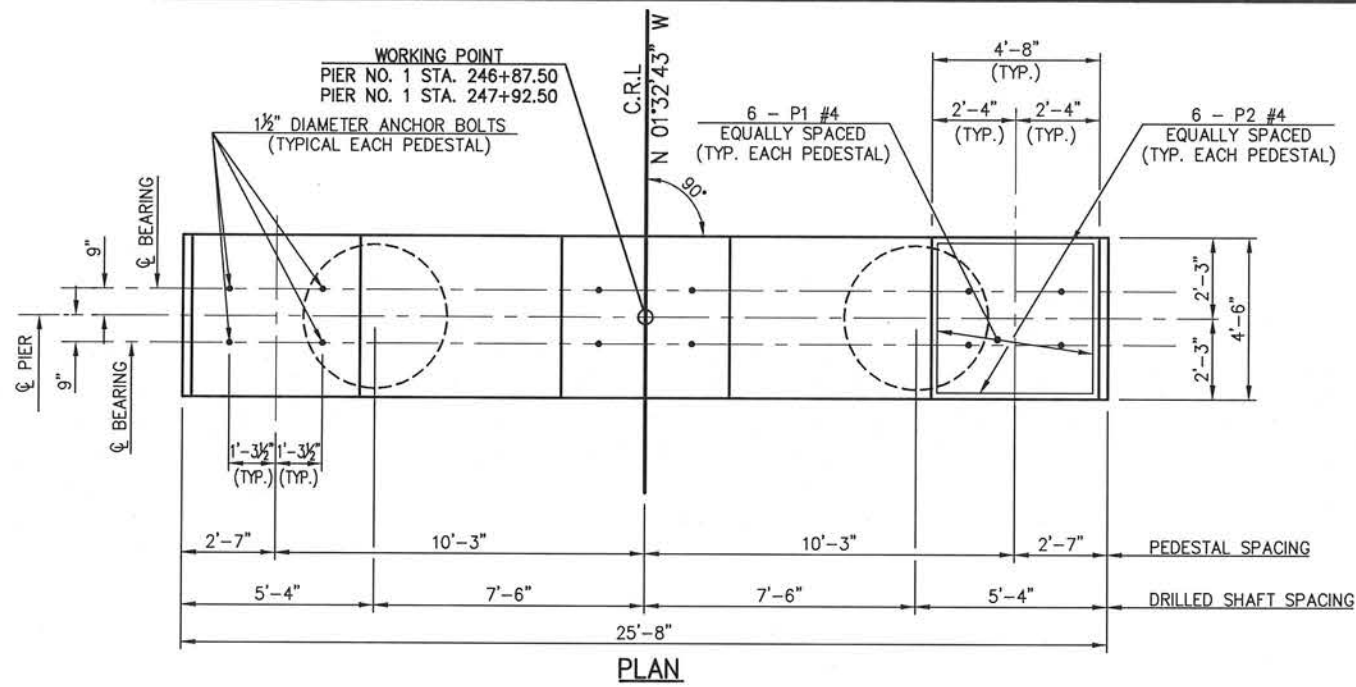
STAKING DIAGRAM
Not to Scale

PEDESTAL HEIGHTS								
	BRIDGE SEAT	LOW CHORD	PEDESTAL A		PEDESTAL B		PEDESTAL C	
			ELEV. (ft)	HEIGHT (ft)	ELEV. (ft)	HEIGHT (ft)	ELEV. (ft)	HEIGHT (ft)
ABUTMENT 1	647.73	647.98	647.89	0.17	648.09	0.37	647.89	0.17
ABUTMENT 2	646.16	646.41	646.33	0.17	646.53	0.37	646.33	0.17

Wednesday, December 02, 2015 2:41:02 PM V:\13-828E Berrington Hollow Br 22 & LWC-Cherokee 2-CED2\CIV3D\PLANS\828-SUBSTRUCTURE STAKING BRIDGE B.dwg

DESIGN	RAA	12/15	OKLAHOMA DEPARTMENT OF TRANSPORTATION GUY ENGINEERING SERVICES, INC. SUBSTRUCTURE STAKING BRIDGE 'B' STATE JOB NO. 29394(04) SHEET NO. 31 CHEROKEE COUNTY BARRINGTON HOLLOW BR 22 & LWC
DRAWN	ALM	12/15	
CHECKED	RAP	12/15	
APPROVED	RAA	12/15	
SQUAD			

REVISIONS		
REV. NO.	DESCRIPTION	DATE

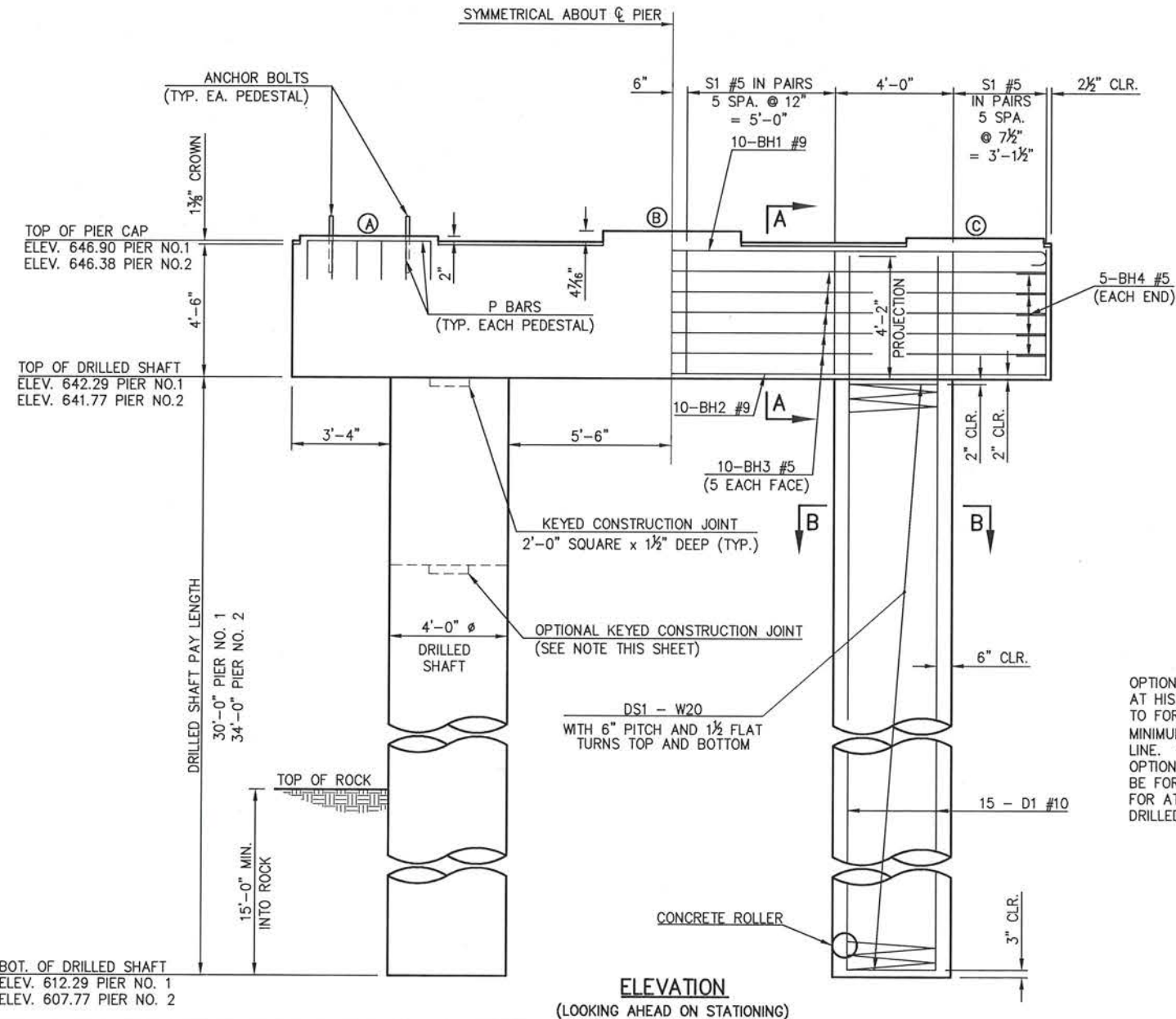


PIER NO.	A	B	C
1	647.07	647.27	647.07
2	646.55	646.75	646.55

MARK	SIZE	NO.	FORM	LENGTH
BH1	#9	10	BNT.	27'-10"
BH2	#9	10	STR.	25'-4"
BH3	#5	10	STR.	25'-4"
BH4	#5	10	BNT.	7'-2"
P1	#4	18	BNT.	7'-2"
P2	#4	18	BNT.	7'-4"
S1	#5	48	BNT.	14'-9"

MARK	SIZE	NO.	FORM	LENGTH
D1	#10	30	STR.	33' 11"
DS1	W20	2	SPIRAL	586'-8"

① INCLUDED IN PRICE BID PER LINEAR FOOT OF DRILLED SHAFT



NOTE:
INSTALL DRILLED SHAFTS AT LEAST THE SPECIFIED MINIMUM DISTANCE INTO ROCK. IN NO CASE SHALL THE BOTTOM OF THE DRILLED SHAFT BE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN IN THE PLANS.

MARK	SIZE	NO.	FORM	LENGTH
BH1	#9	10	BNT.	27'-10"
BH2	#9	10	STR.	25'-4"
BH3	#5	10	STR.	25'-4"
BH4	#5	10	BNT.	7'-2"
P1	#4	18	BNT.	7'-2"
P2	#4	18	BNT.	7'-4"
S1	#5	48	BNT.	14'-9"

MARK	SIZE	NO.	FORM	LENGTH
D1	#10	30	STR.	37' 11"
DS1	W20	2	SPIRAL	662'-2"

① INCLUDED IN PRICE BID PER LINEAR FOOT OF DRILLED SHAFT

OPTIONAL KEYED CONSTRUCTION JOINT:
AT HIS OPTION, THE CONTRACTOR MAY ELECT TO FORM A KEYED CONSTRUCTION JOINT A MINIMUM OF 1' ABOVE THE NATURAL GROUND LINE. THE PORTION OF SHAFT ABOVE THE OPTIONAL KEYED CONSTRUCTION JOINT SHALL BE FORMED AND POURED, AND SHALL BE PAID FOR AT THE UNIT PRICE PER LINEAR FOOT OF DRILLED SHAFT.

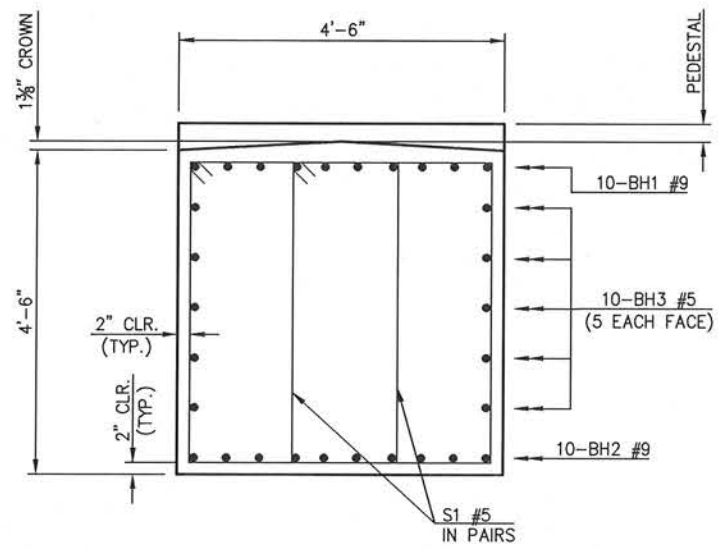
ITEM	UNIT	PIER NO. 1	PIER NO. 2	TOTAL
CLASS A CONCRETE	C.Y.	20.20	20.20	40.40
REINFORCING STEEL	LB.	3060.00	3060.00	6,120.00
DRILLED SHAFTS 48" DIAMETER	L.F.	60.00	68.00	128.00
CROSSHOLE SONIC LOGGING	EA	-	-	1.00

DESIGN	GMN	8/15	BARRINGTON HOLLOW BR. 22 & LWC	CHEROKEE COUNTY
DETAIL	GMN	8/15	BRIDGE "B"	
CHECK	MBS	12/15		
GUY ENGINEERING SERVICES, INC.			STATE JOB PIECE NO. 29394(04)	SHEET NO. 32

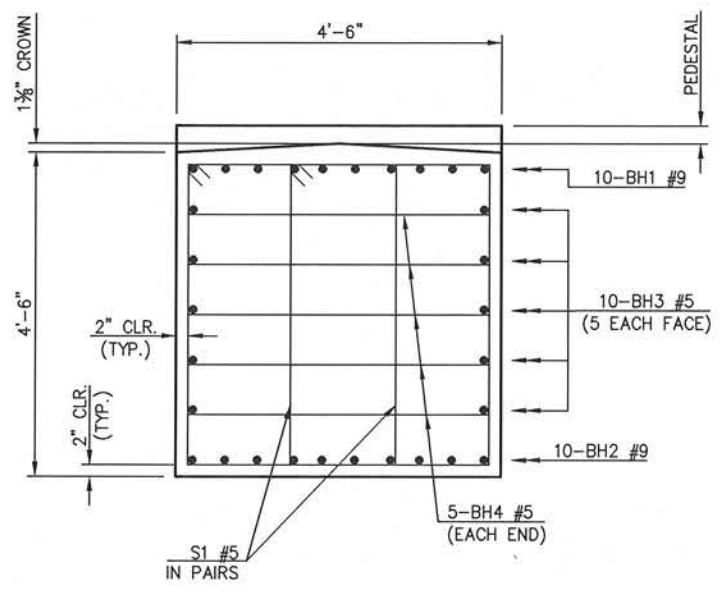
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BOT. OF DRILLED SHAFT
ELEV. 612.29 PIER NO. 1
ELEV. 607.77 PIER NO. 2

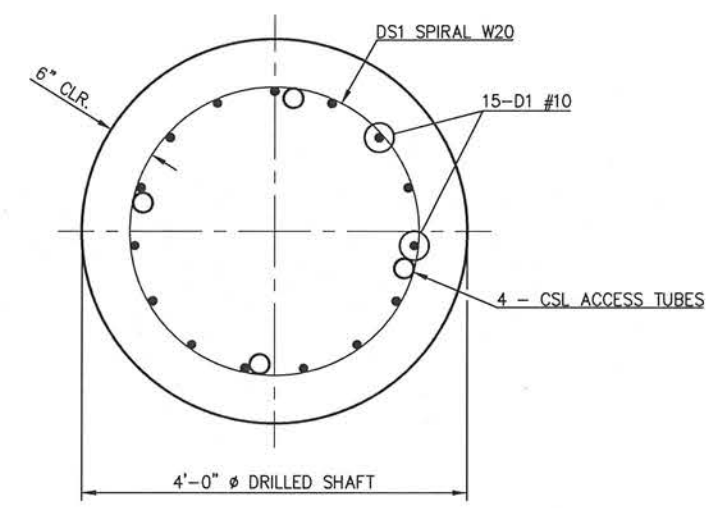
REVISIONS		
REV. NO.	DESCRIPTION	DATE



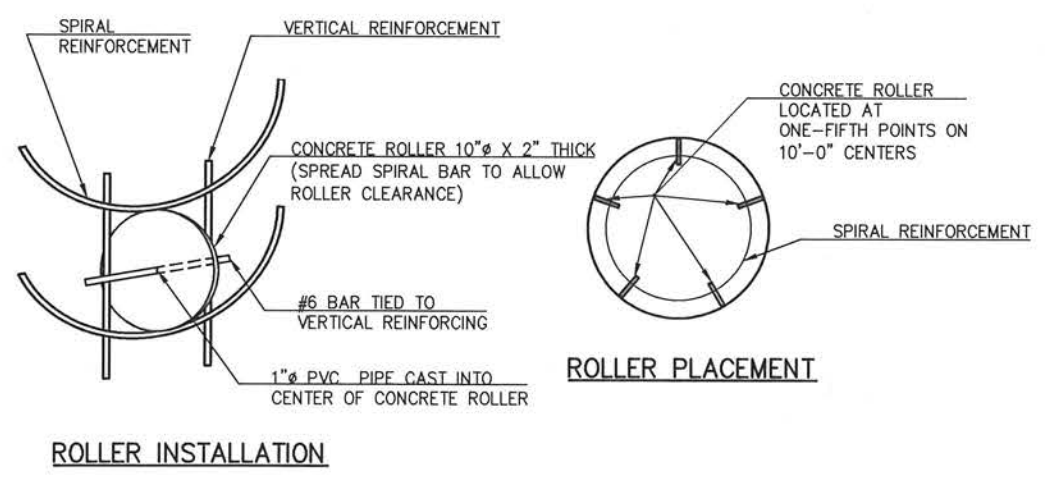
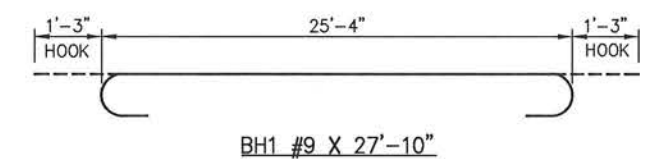
SECTION A-A



END SECTION

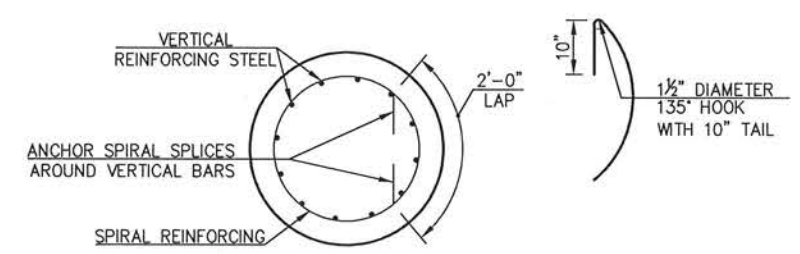


SECTION B-B



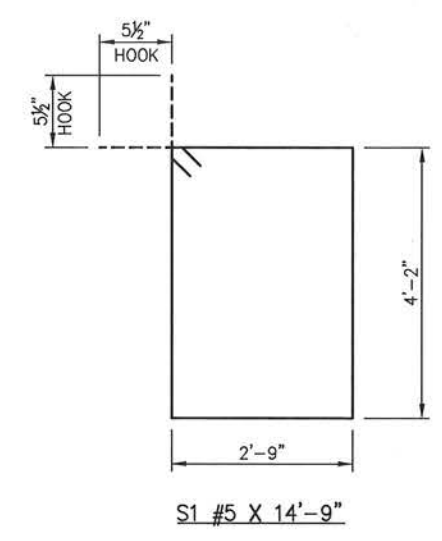
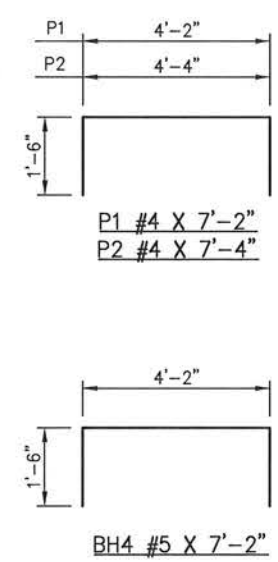
ROLLER INSTALLATION

ROLLER PLACEMENT



DETAIL OF SPIRAL REINFORCING SPLICE

NOTE: SPIRAL BARS SHALL CONFORM TO AASHTO M-32. SPIRAL BAR LENGTH DOES NOT INCLUDE LAP. IF LAP IS REQUIRED, THE LENGTH OF THE LAP SHALL BE AS SHOWN.



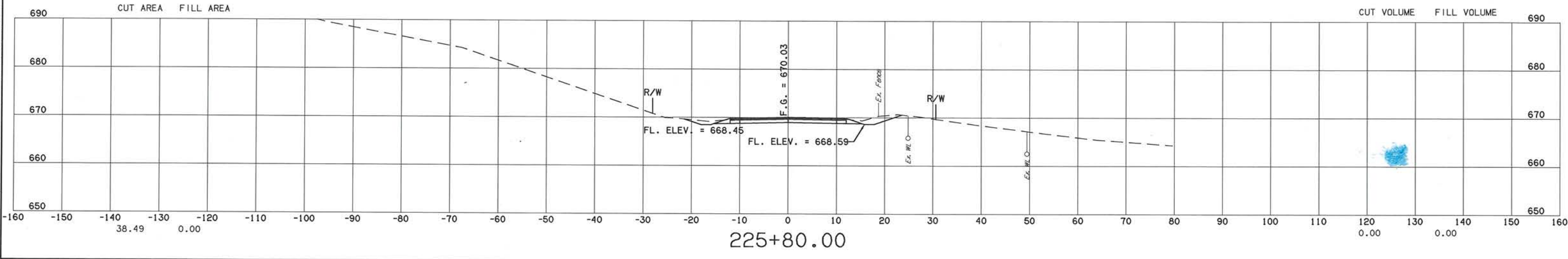
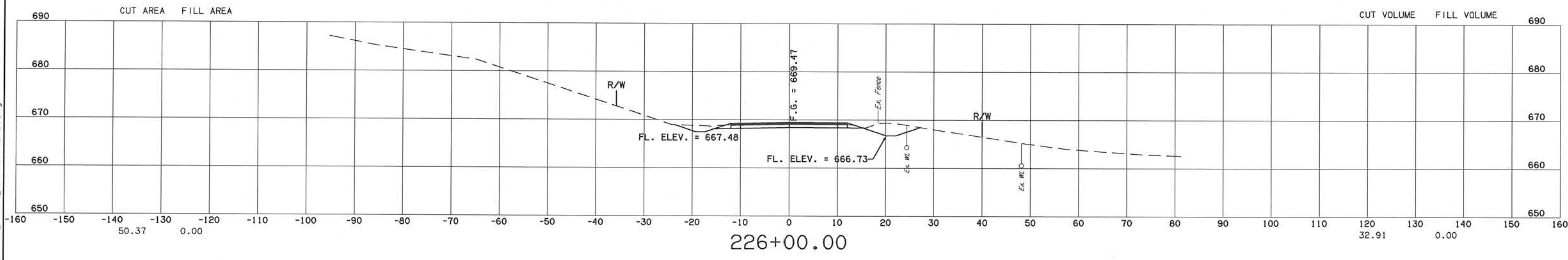
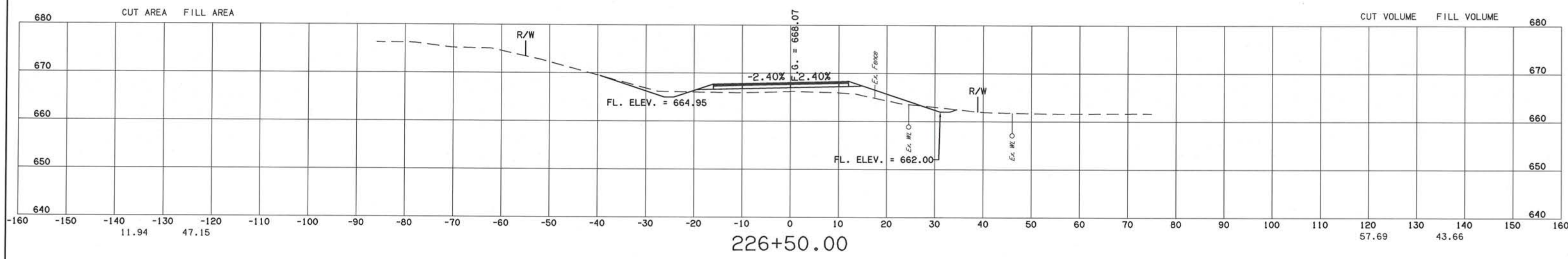
DETAIL OF CONCRETE ROLLER
 NOTE: CONCRETE USED IN THE CONCRETE ROLLERS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I. SLAB BOLSTERS, HIGH CHAIRS AND PLASTIC ROLLERS SHALL NOT BE SUBSTITUTED FOR THE CONCRETE ROLLERS.

DESIGN	GMN	8/15	BARRINGTON HOLLOW BR. 22 & LWC BRIDGE "B"	CHEROKEE COUNTY
DETAIL	GMN	8/15		
CHECK	MBS	12/15		
GUY ENGINEERING SERVICES, INC.			STATE JOB PIECE NO. 29394(04)	SHEET NO. 33

**DETAILS OF PIERS
(SHEET NO. 2 OF 2)**

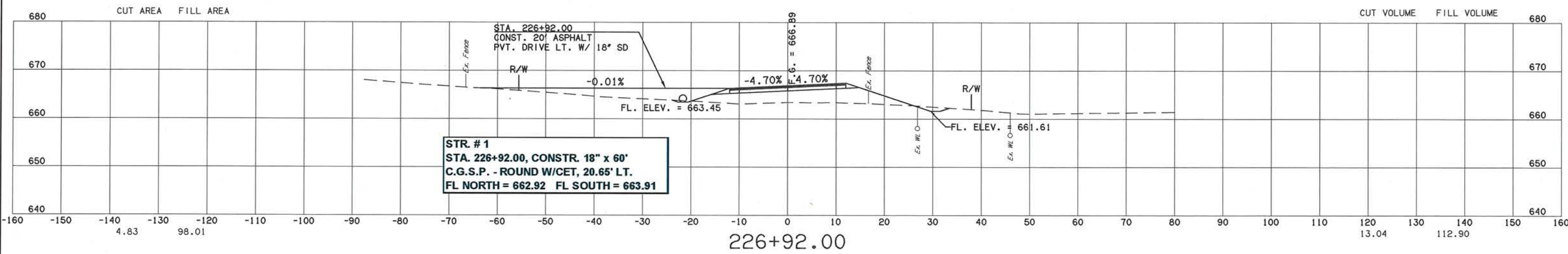
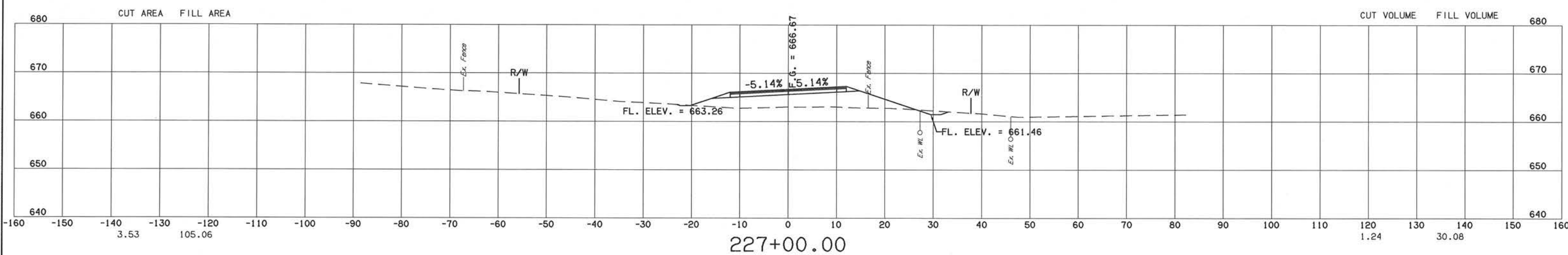
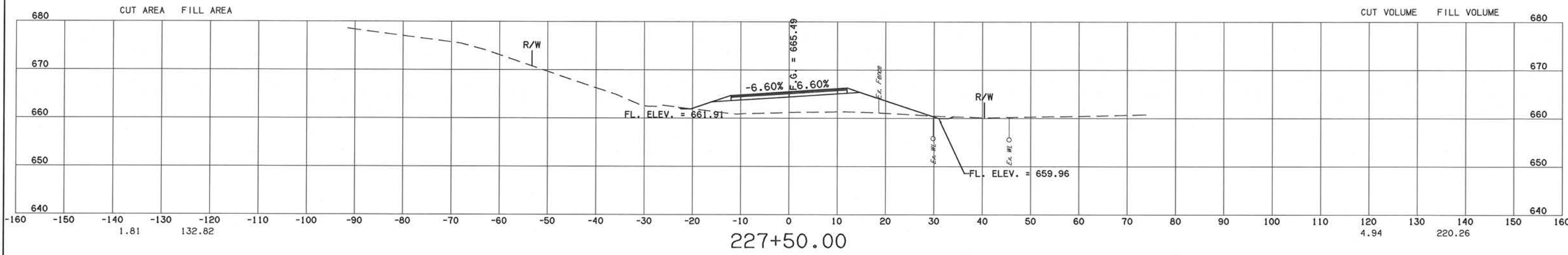
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DESCRIPTION	REVISIONS	DATE



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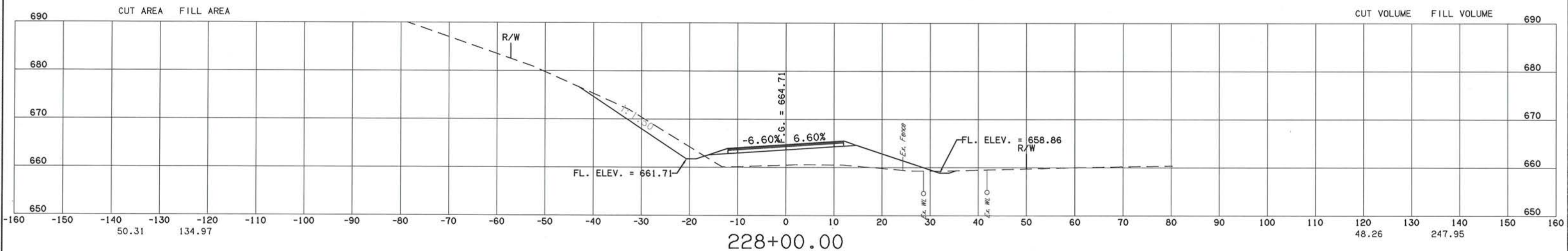
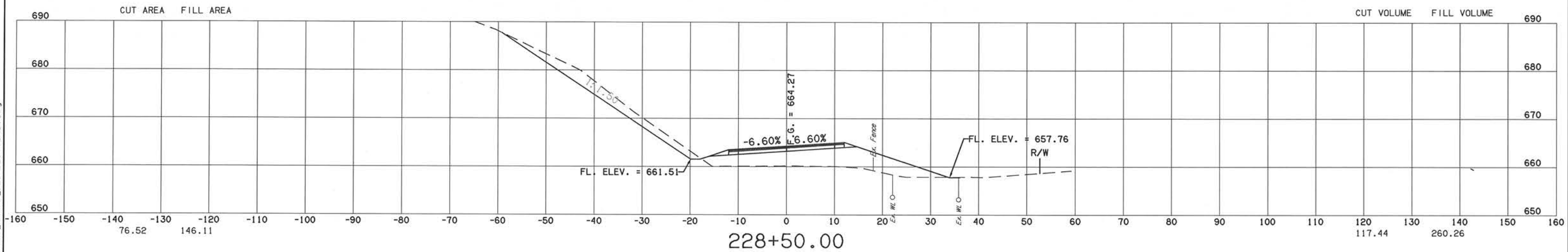
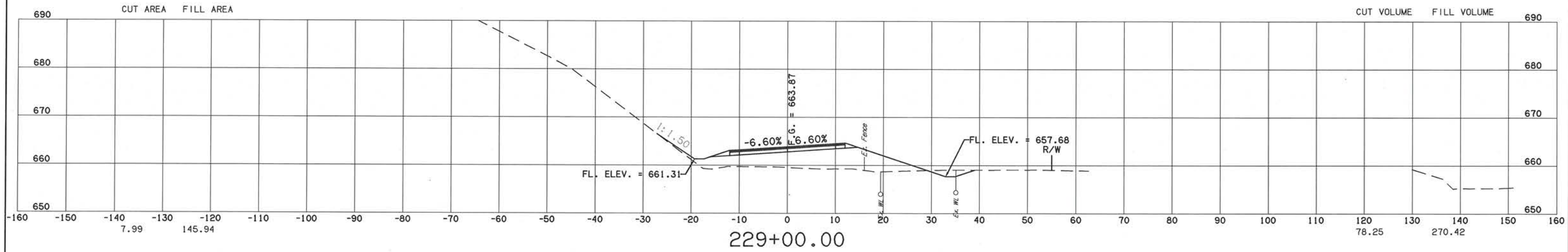
DESCRIPTION	REVISIONS	DATE



STR. #1
 STA. 226+92.00, CONSTR. 18" x 60'
 C.G.S.P. - ROUND W/CET, 20.65' LT.
 FL NORTH = 662.92 FL SOUTH = 663.91

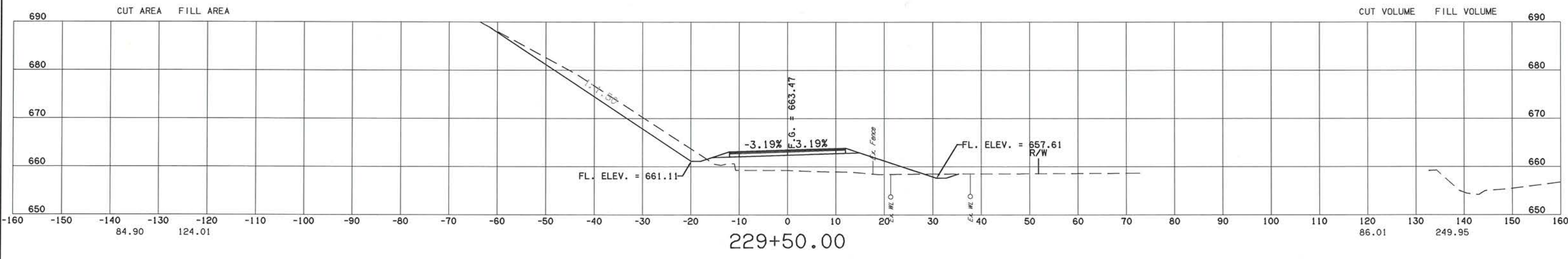
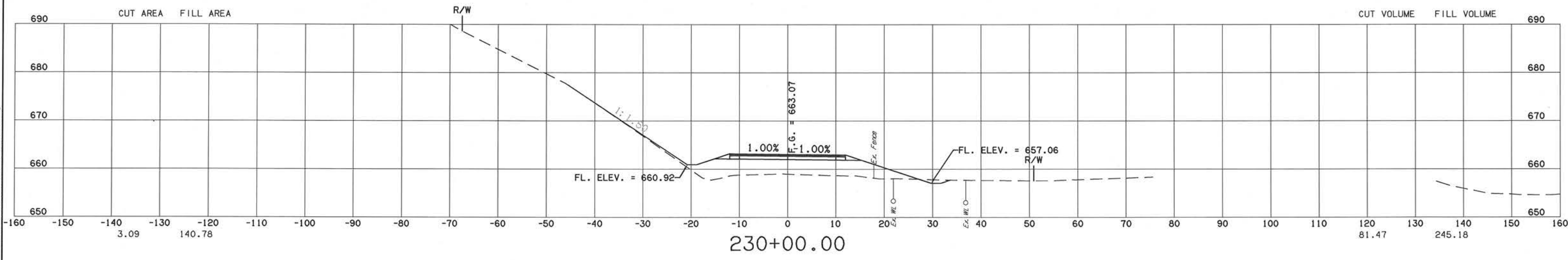
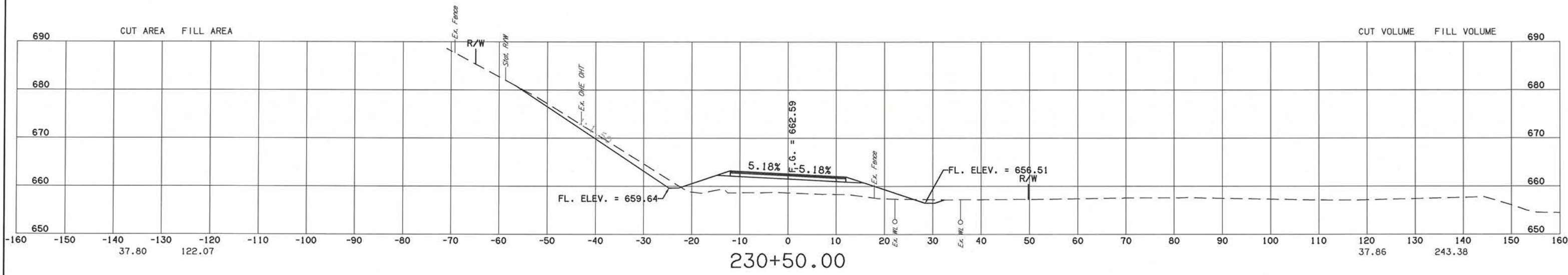
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DESCRIPTION	REVISIONS	DATE
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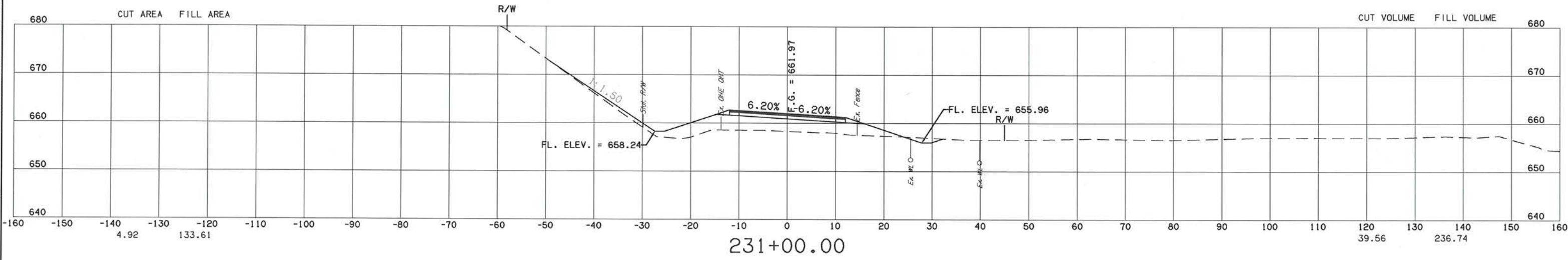
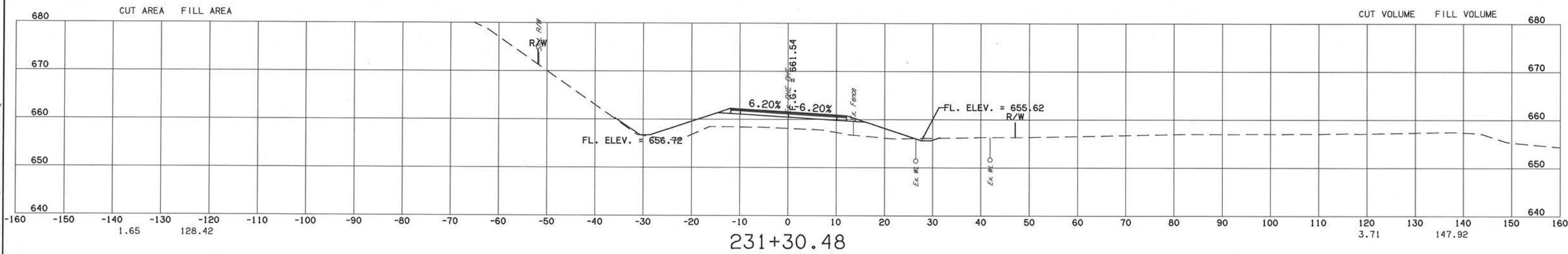
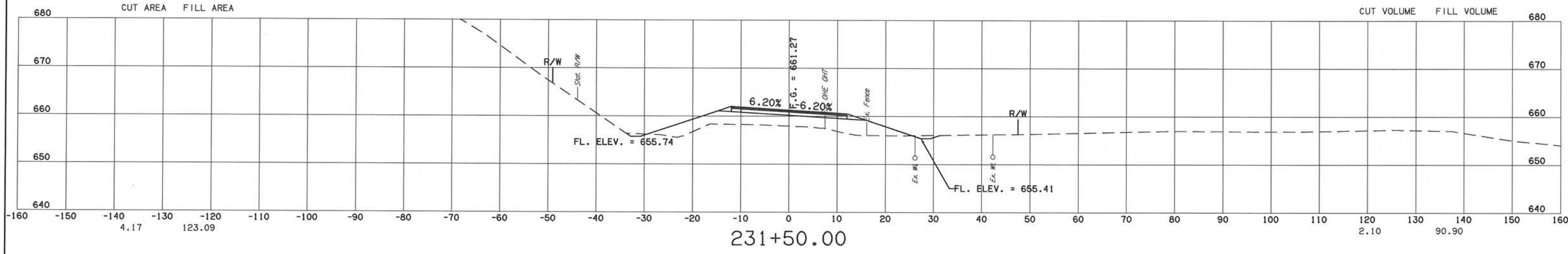
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DESCRIPTION	REVISIONS	DATE



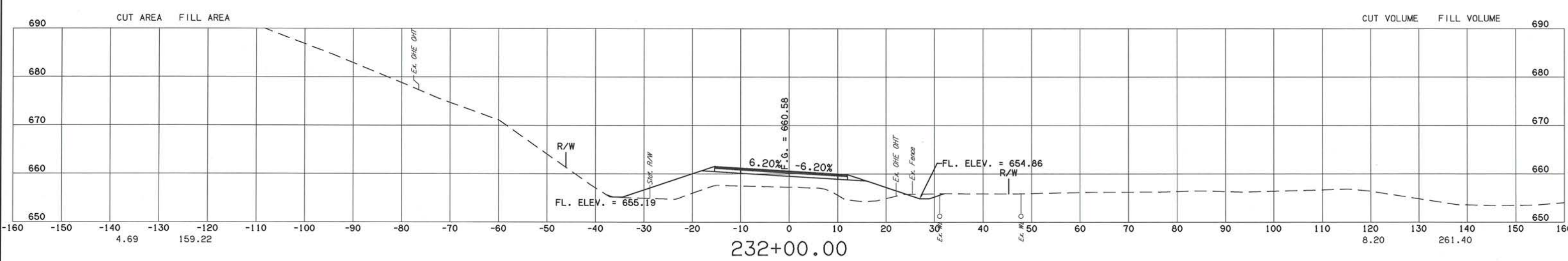
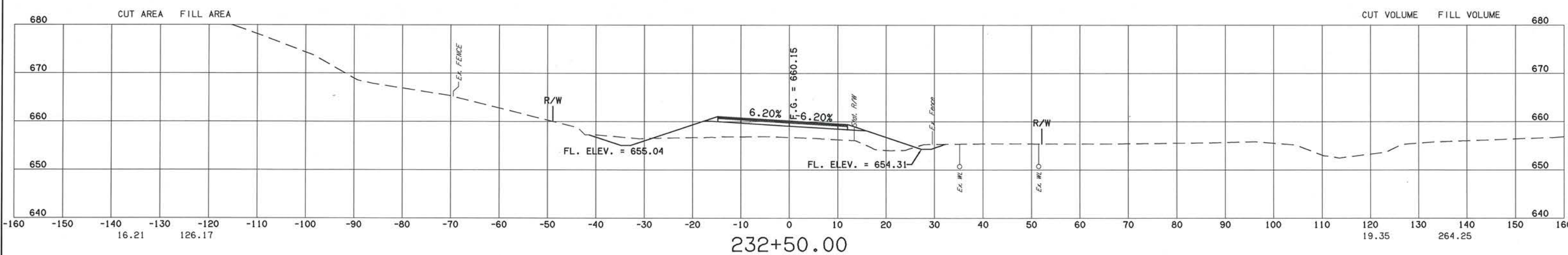
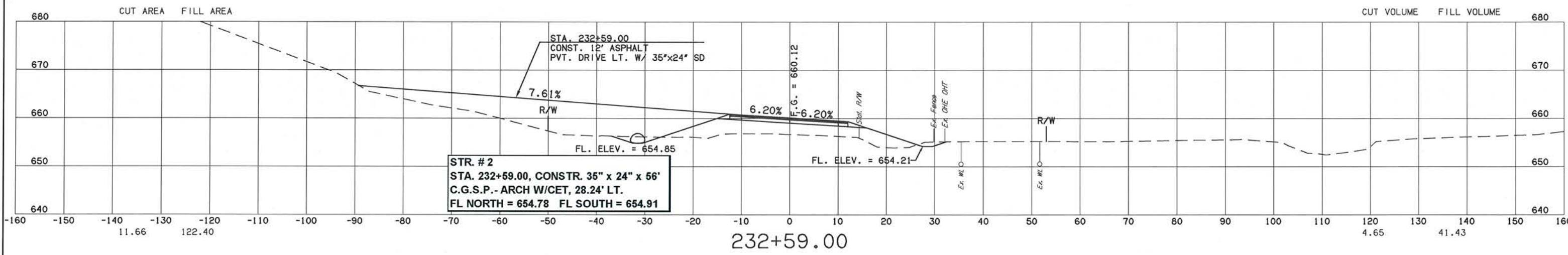
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DESCRIPTION	REVISIONS	DATE



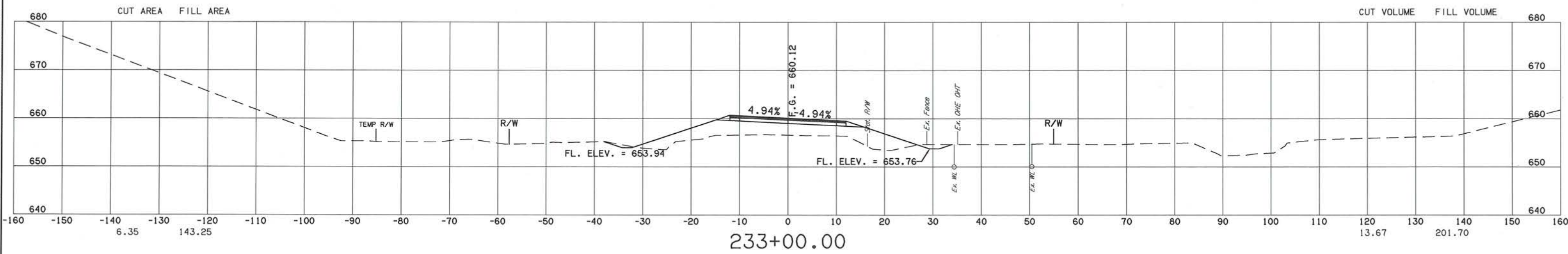
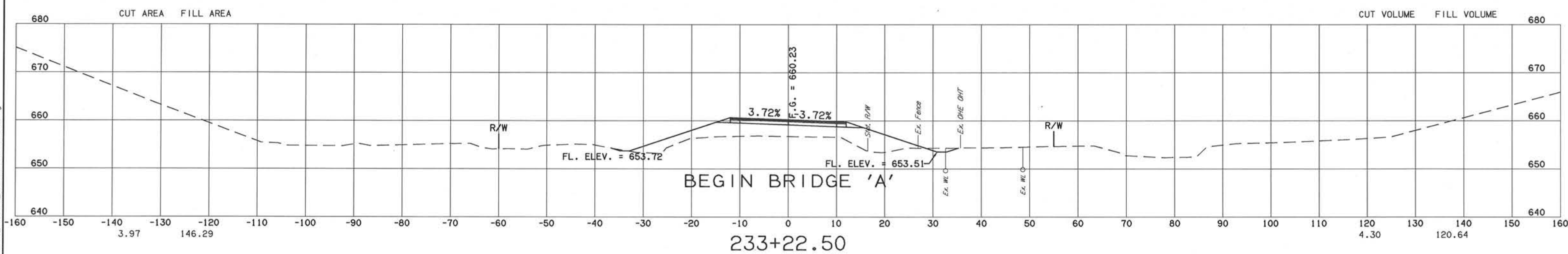
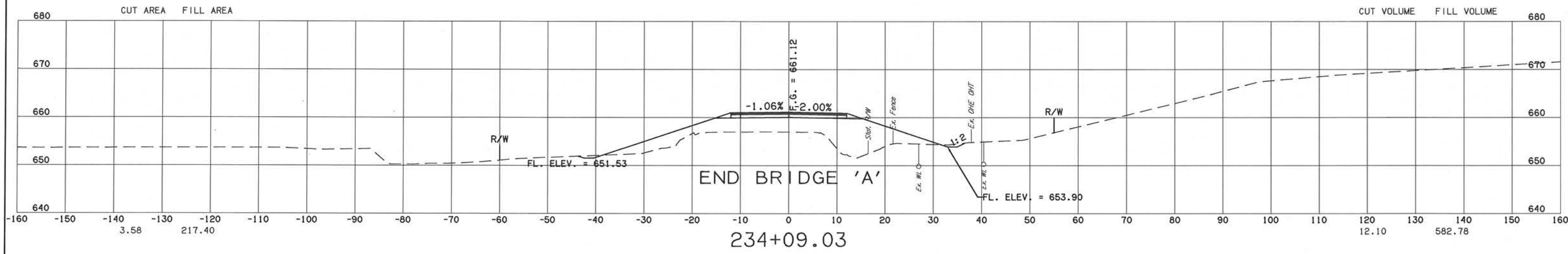
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DESCRIPTION	REVISIONS	DATE



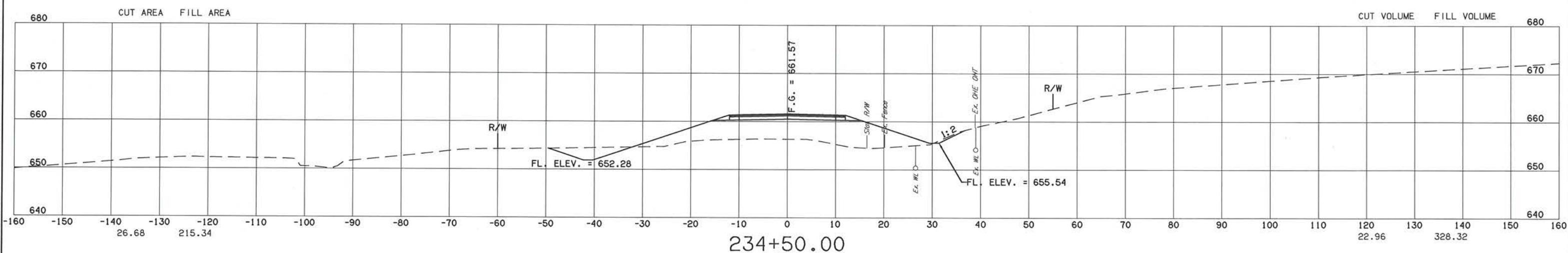
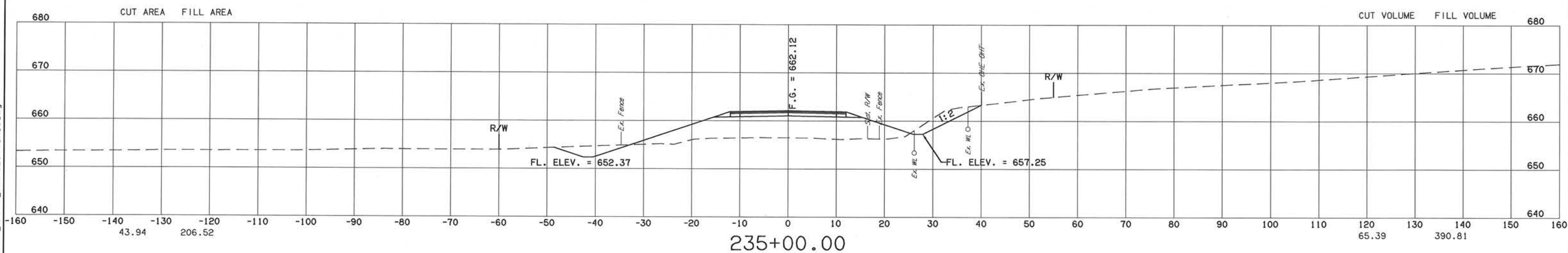
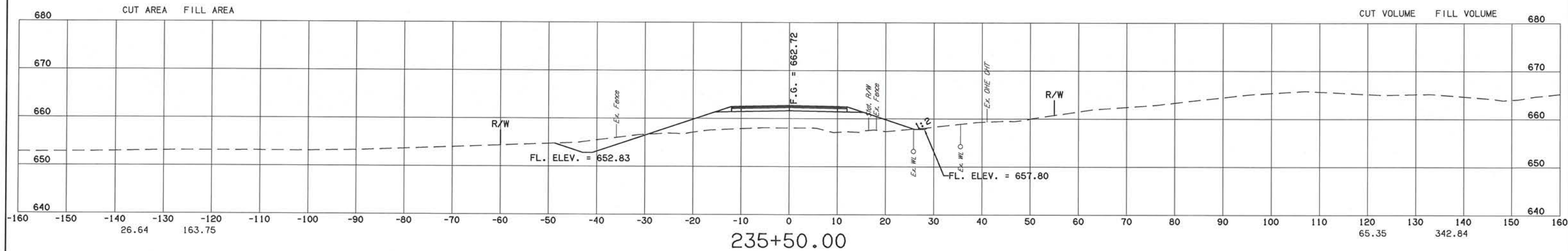
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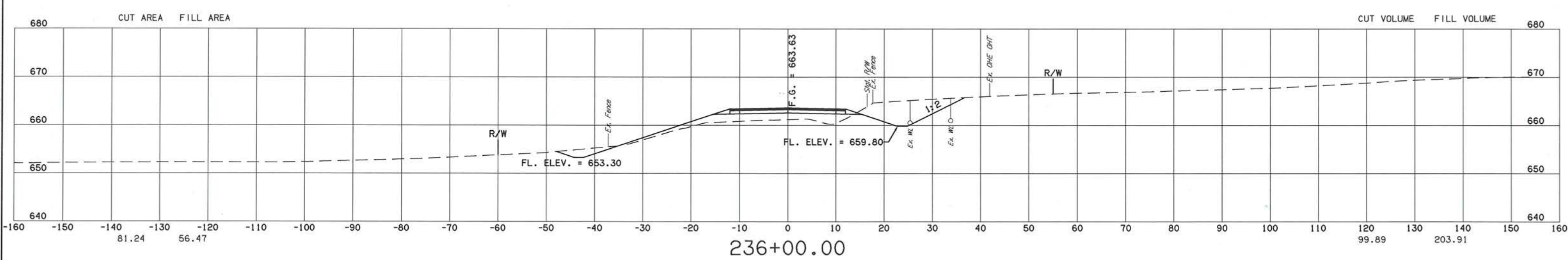
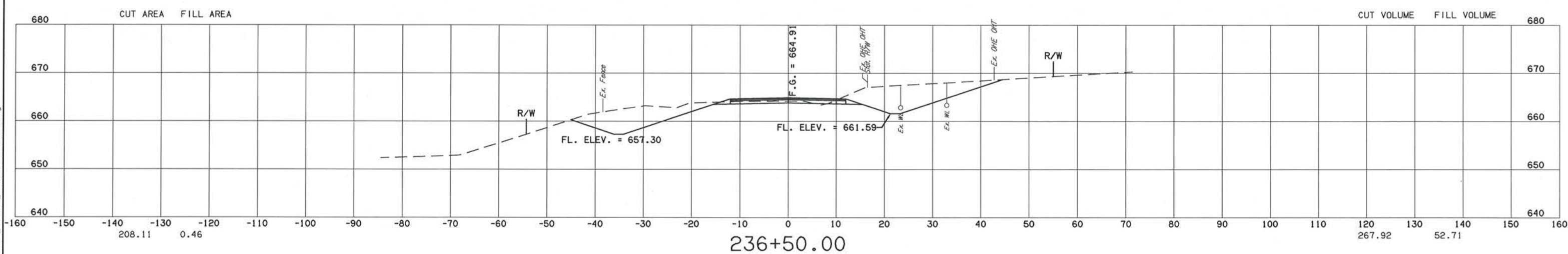
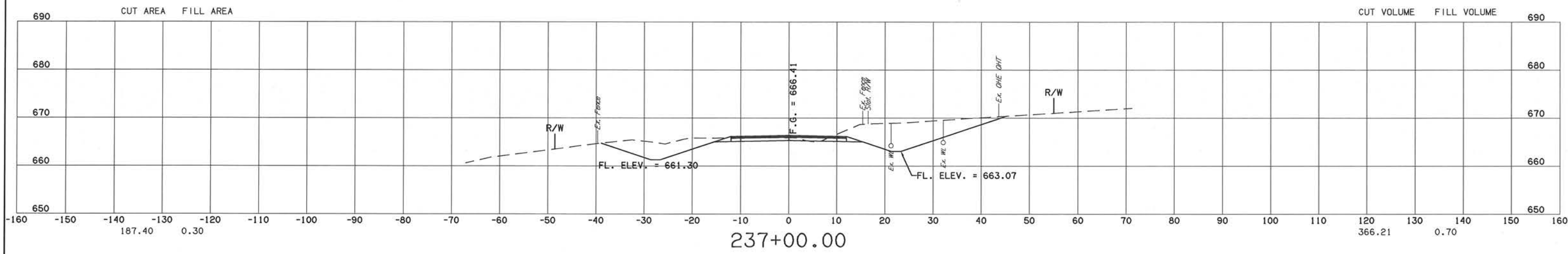
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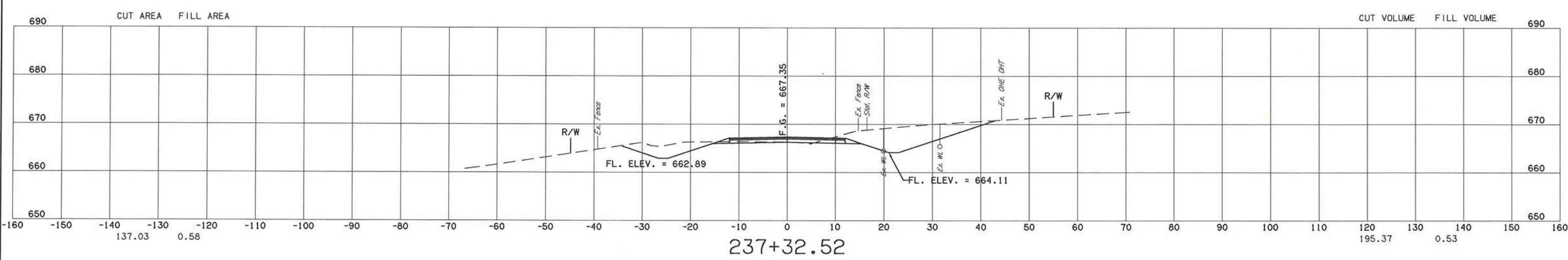
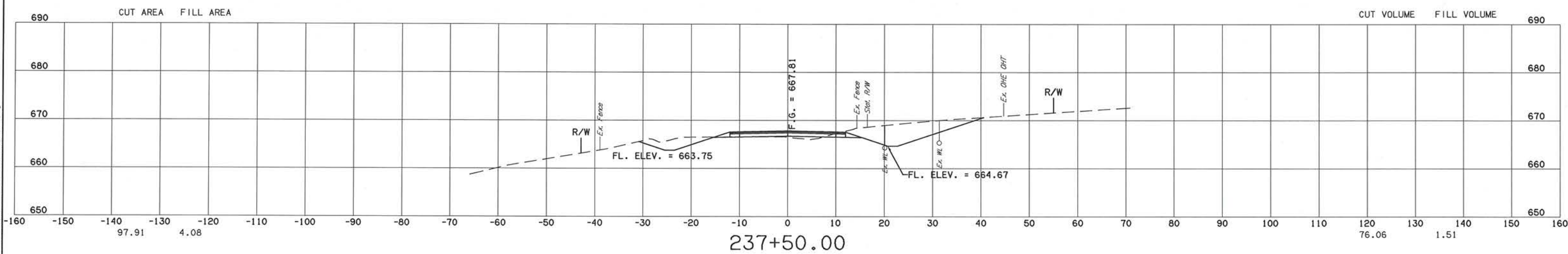
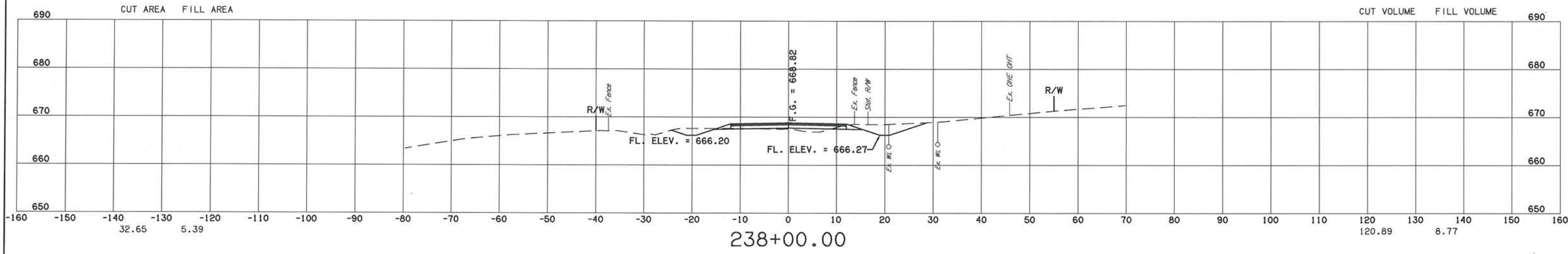
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DESCRIPTION	REVISIONS	DATE



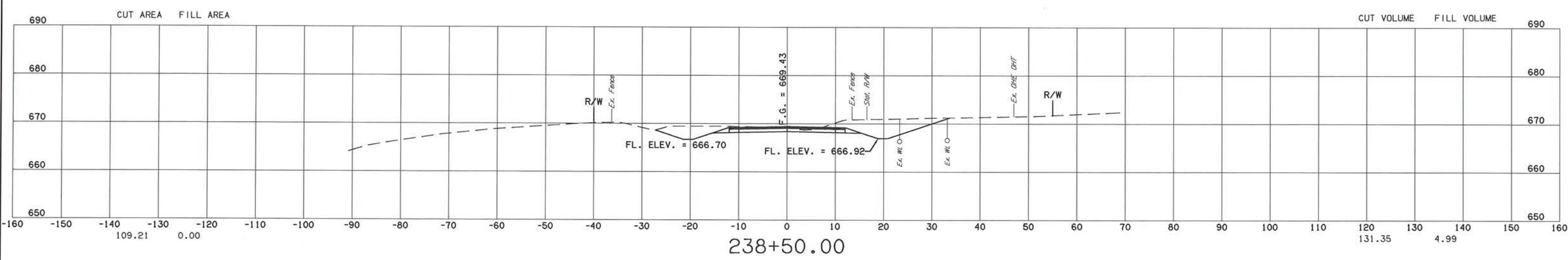
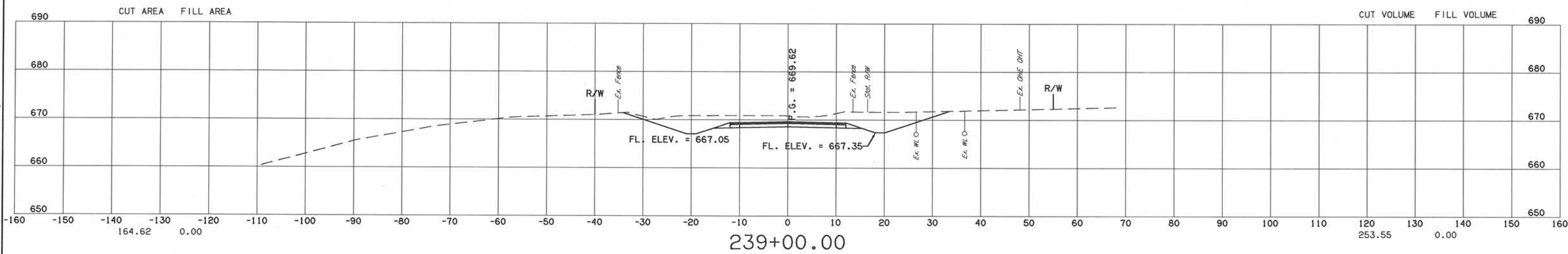
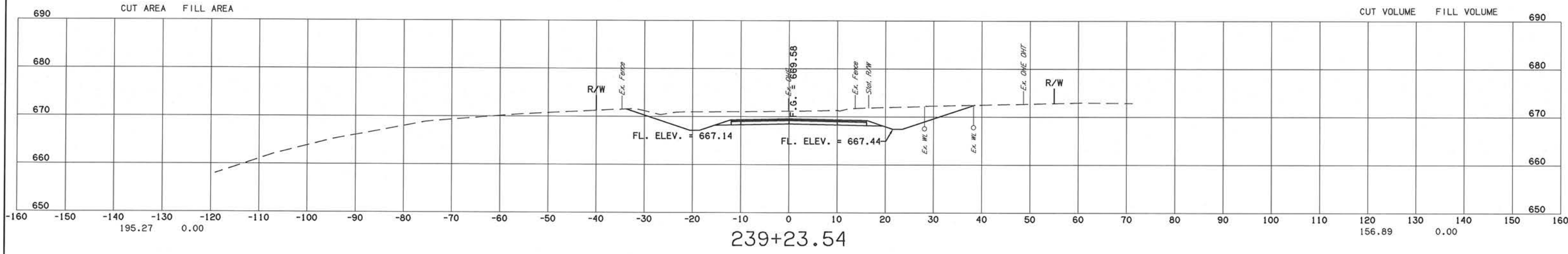
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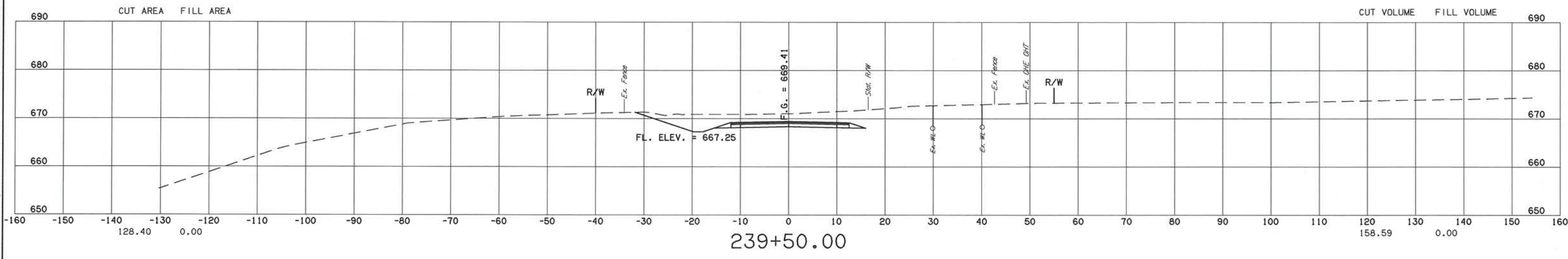
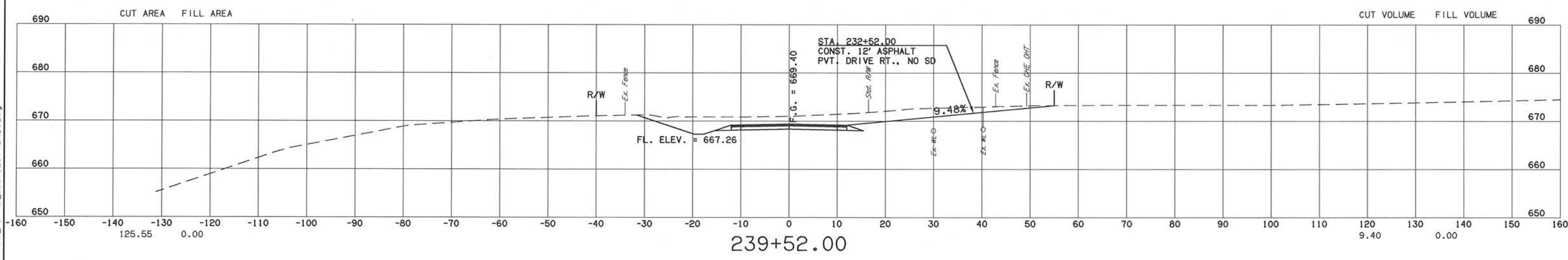
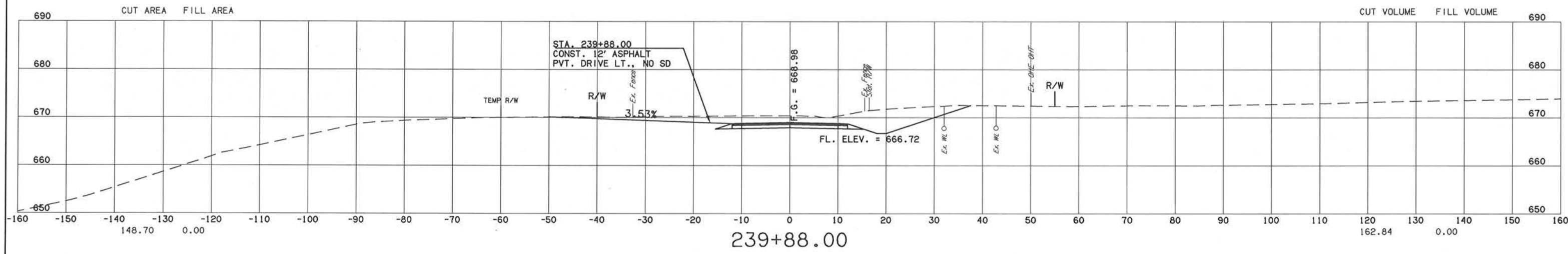
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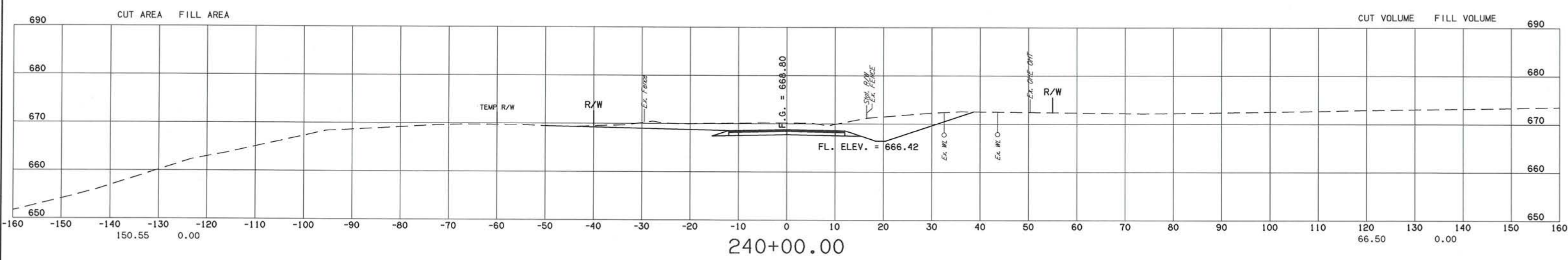
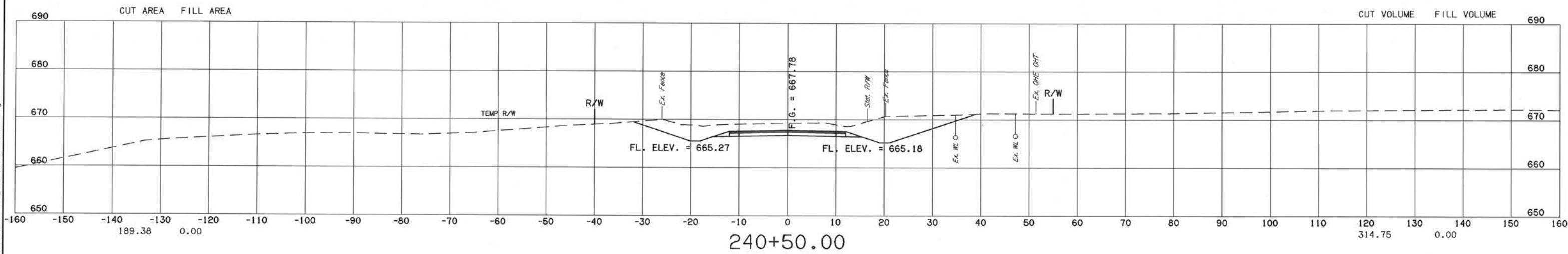
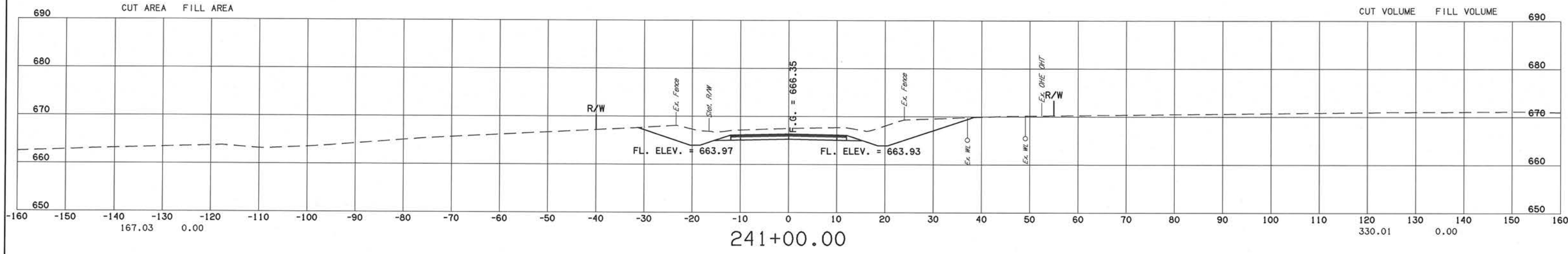
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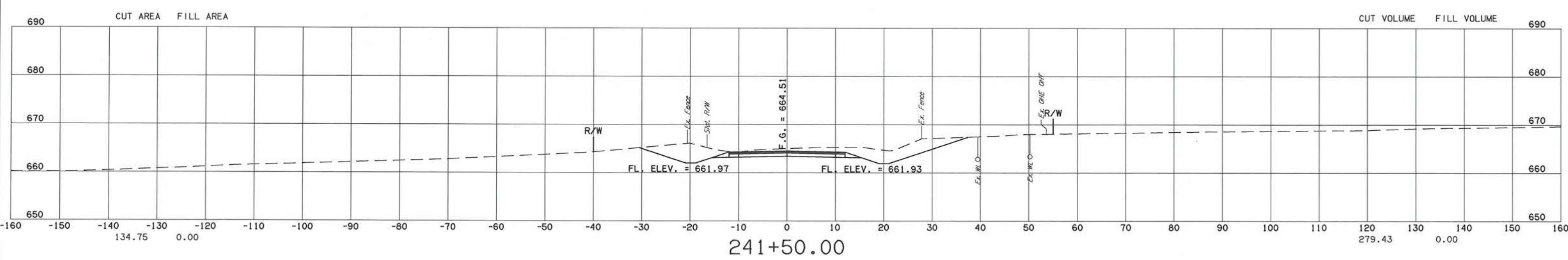
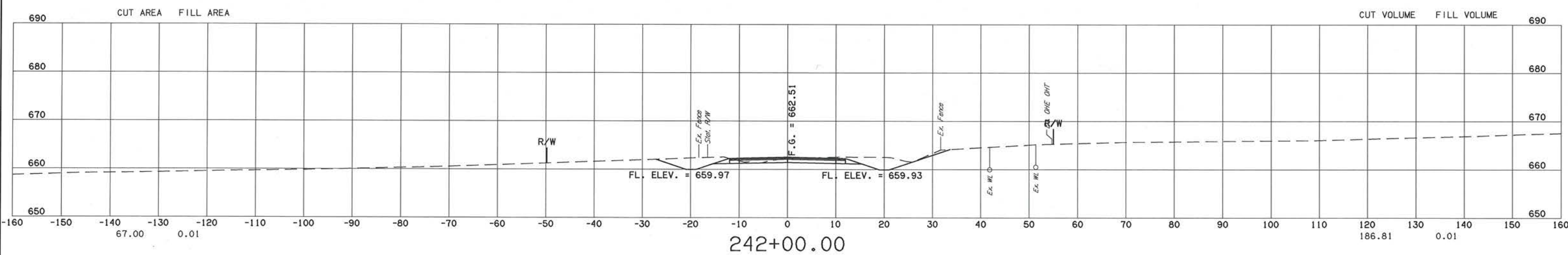
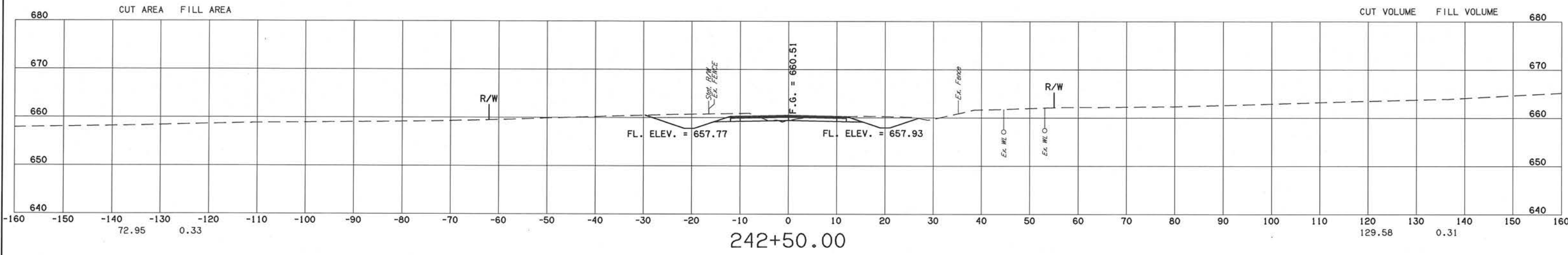
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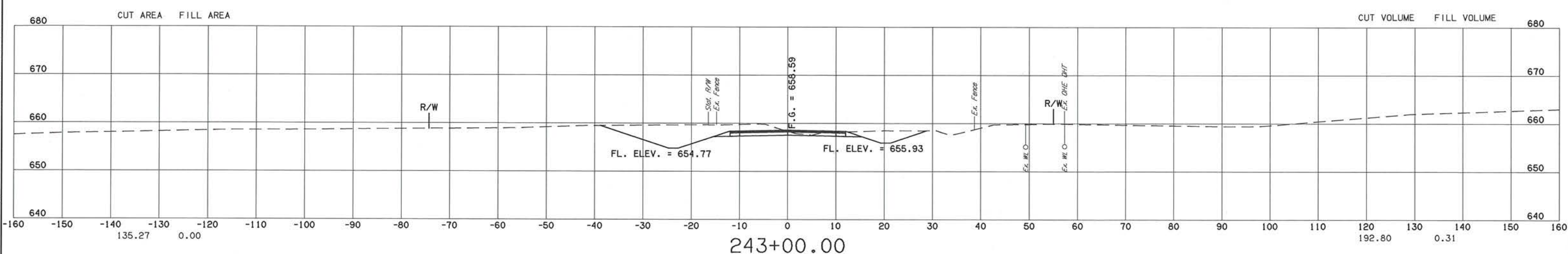
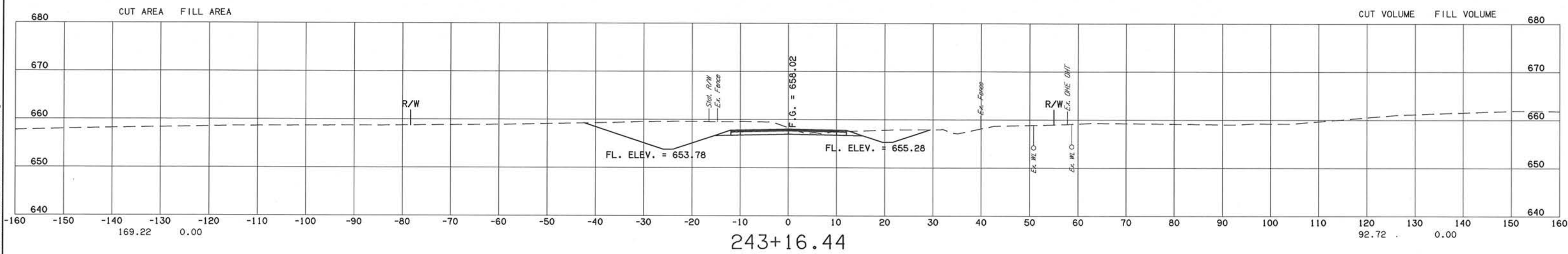
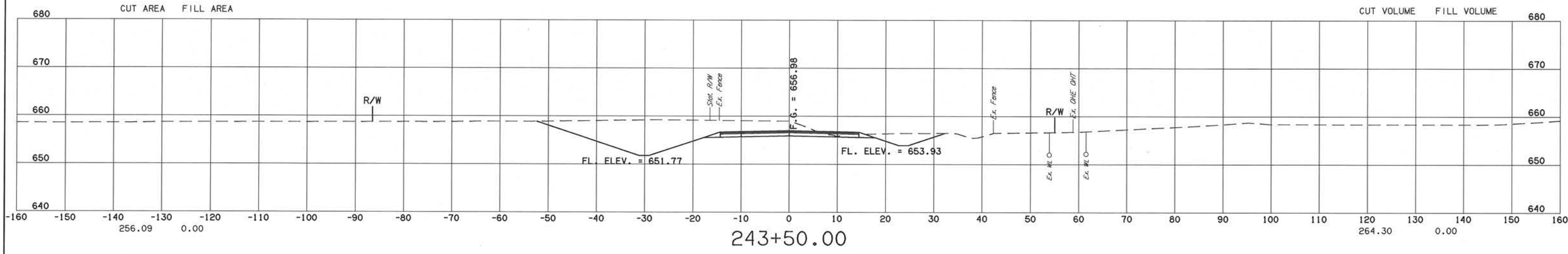
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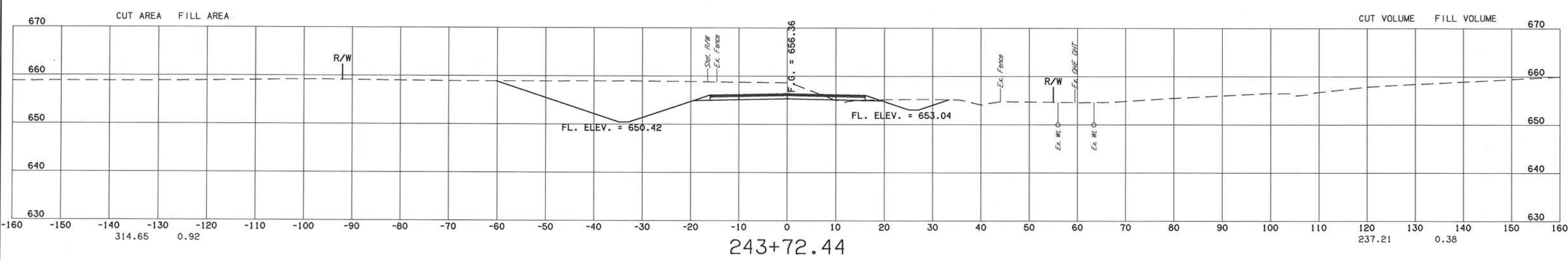
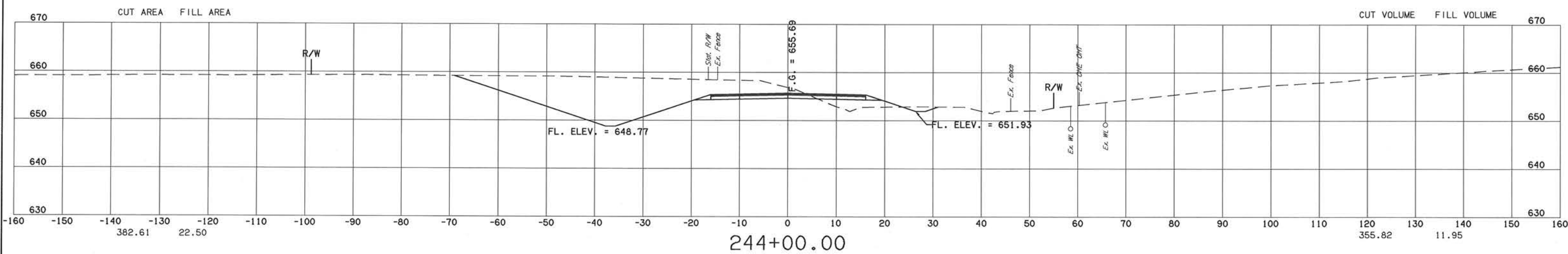
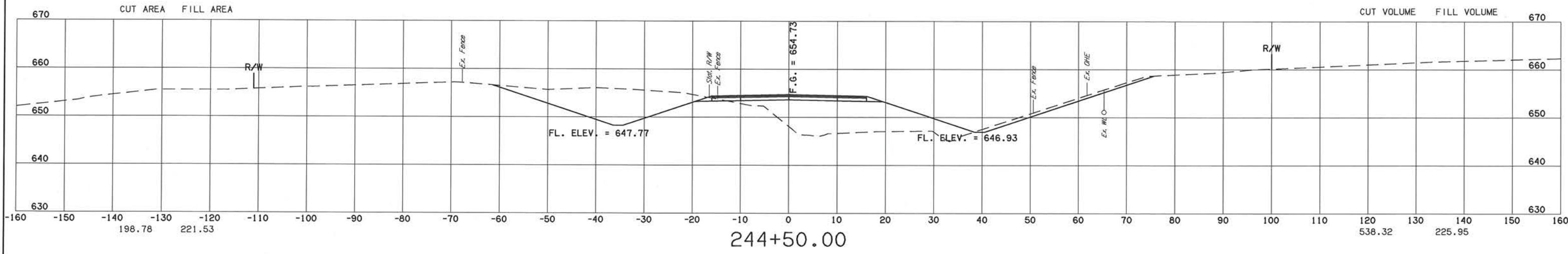
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DESCRIPTION	REVISIONS	DATE
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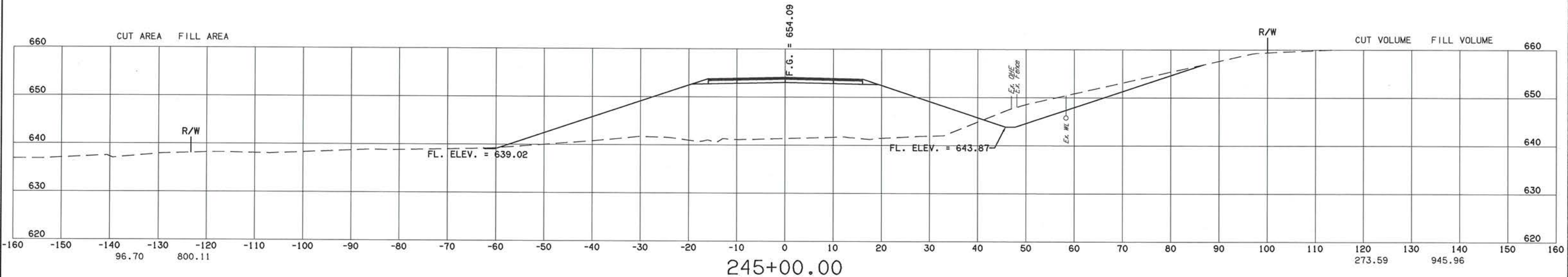
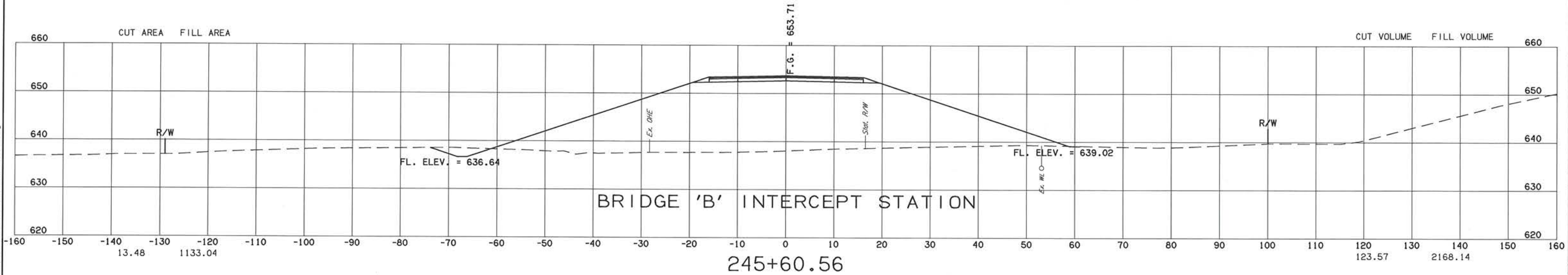
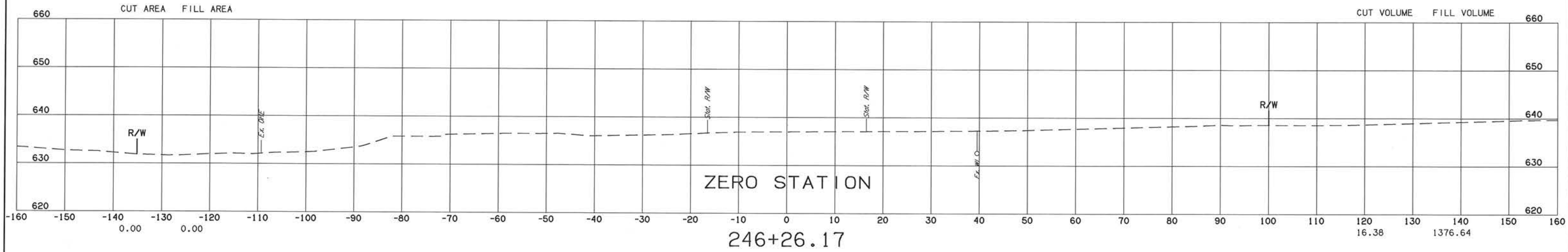
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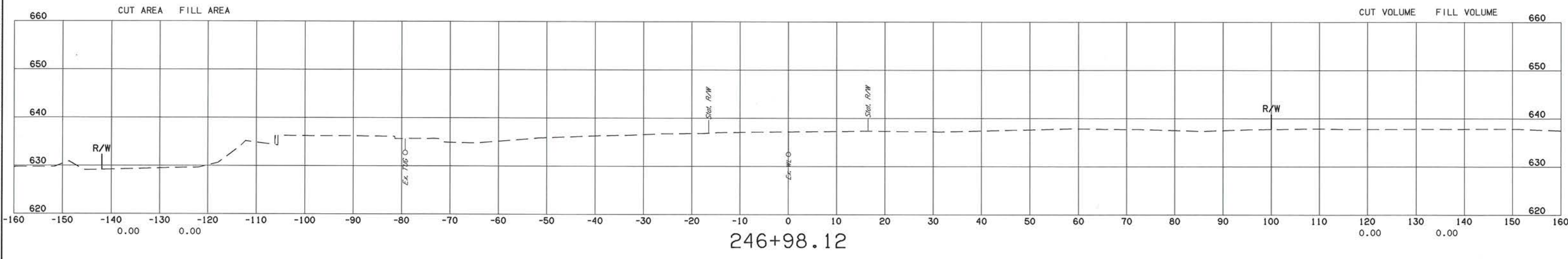
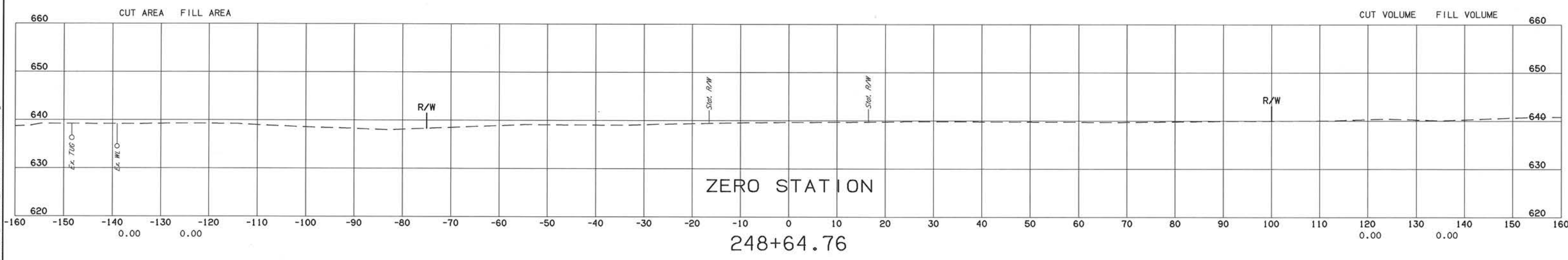
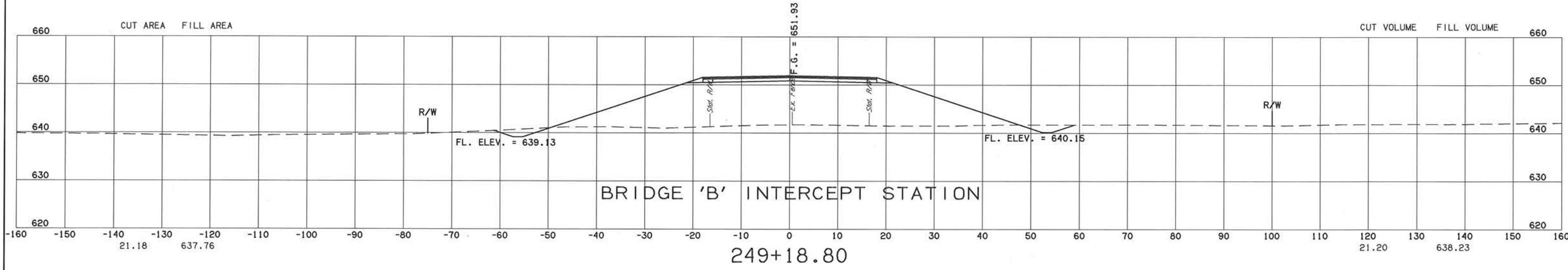
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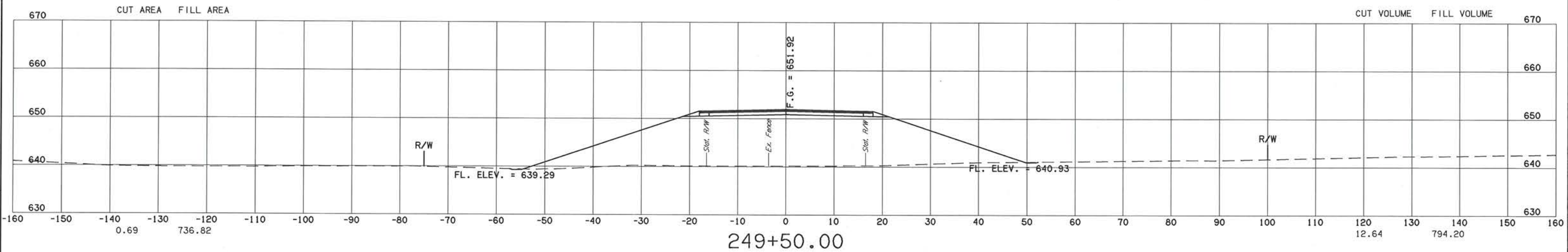
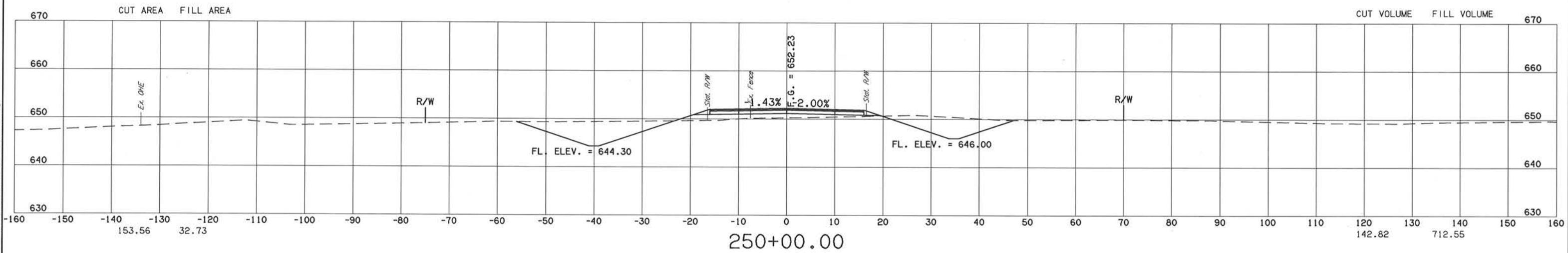
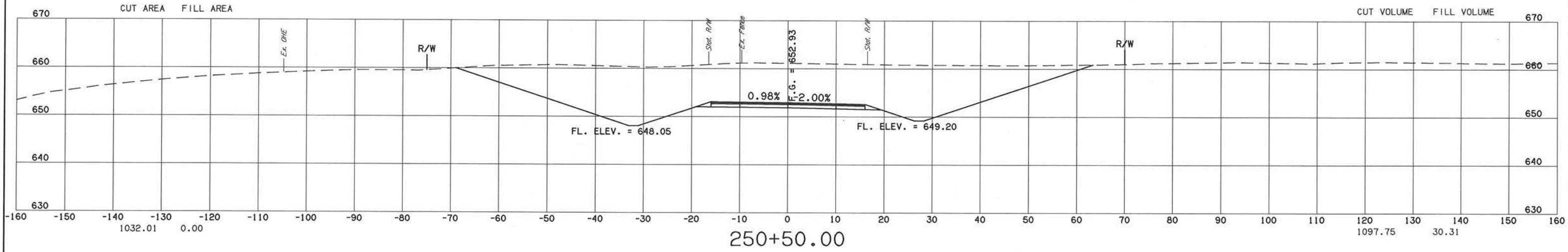
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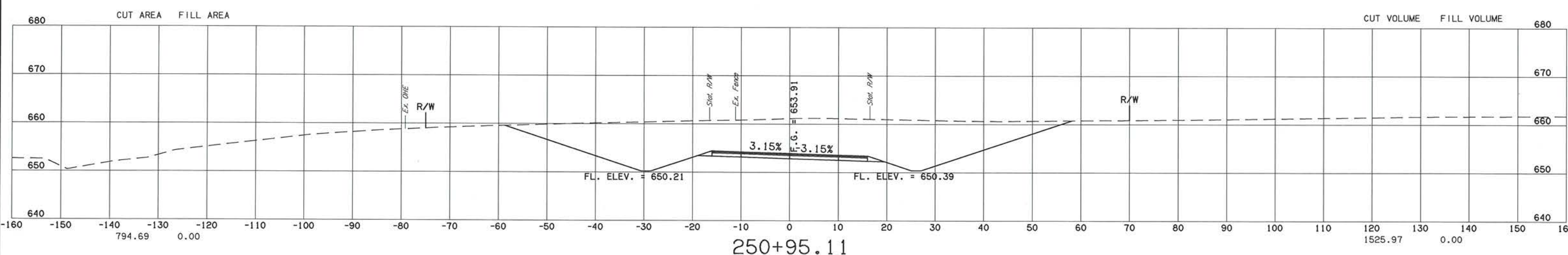
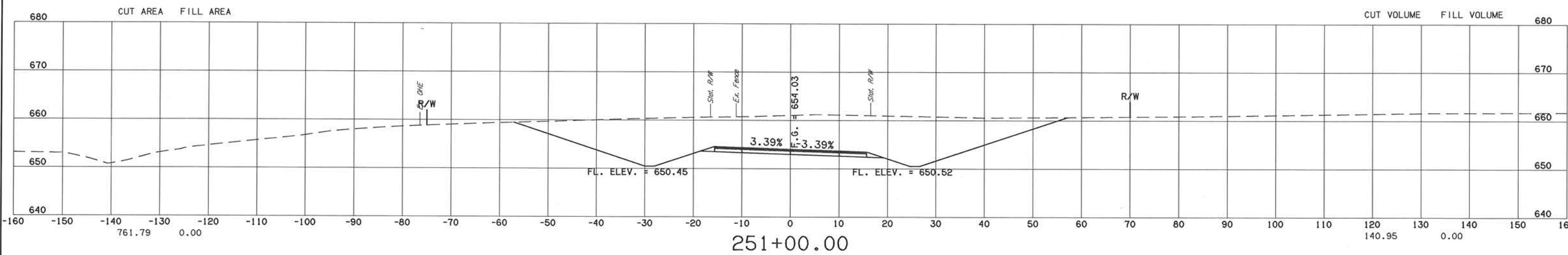
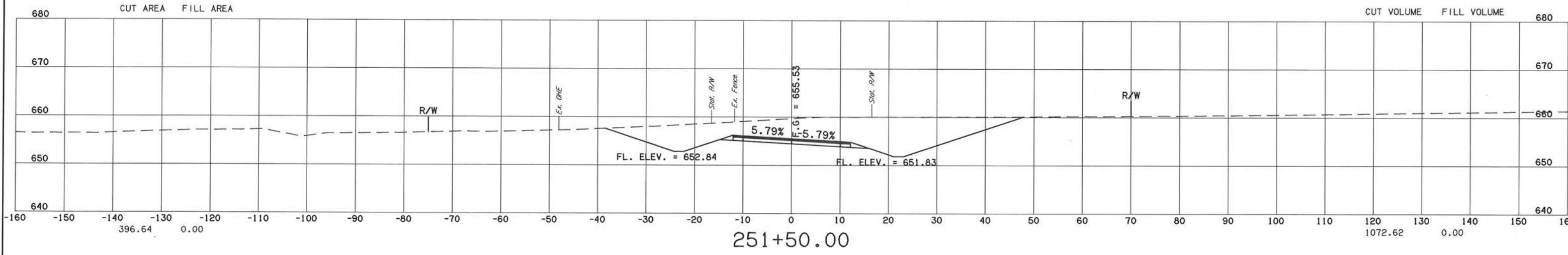
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DESCRIPTION	REVISIONS	DATE



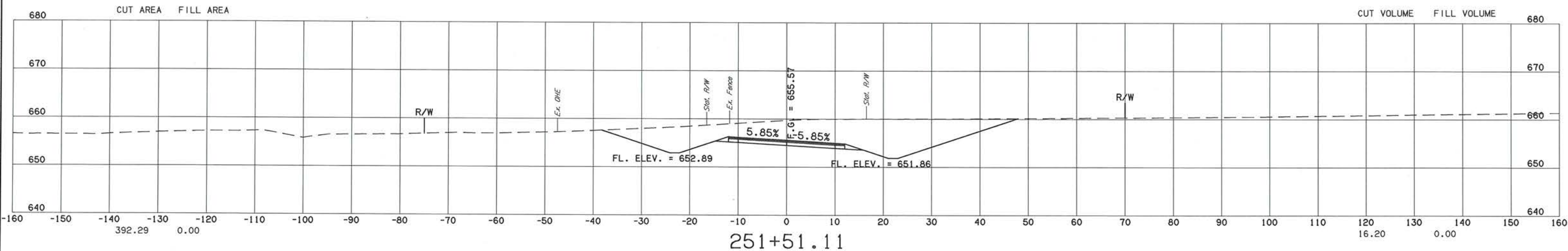
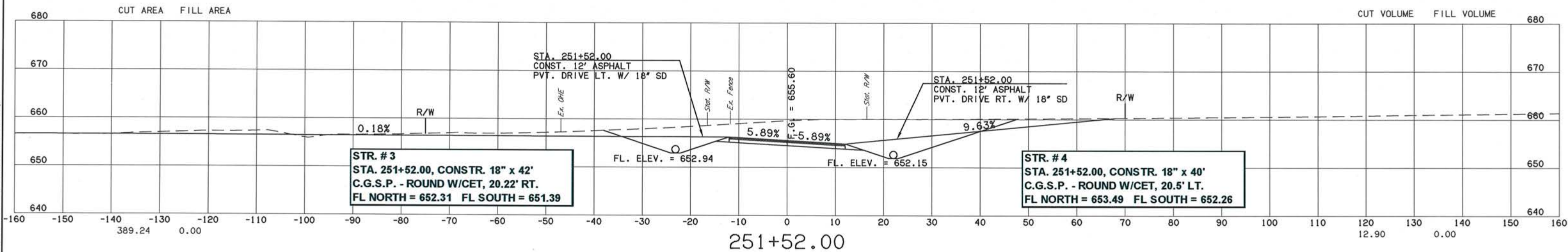
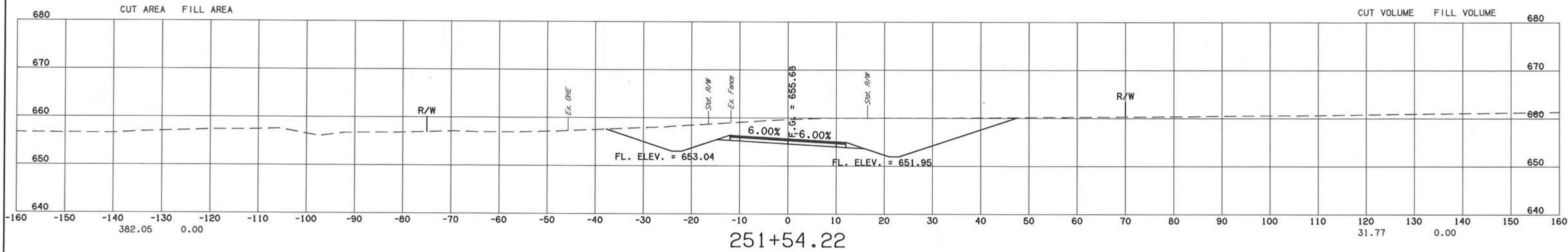
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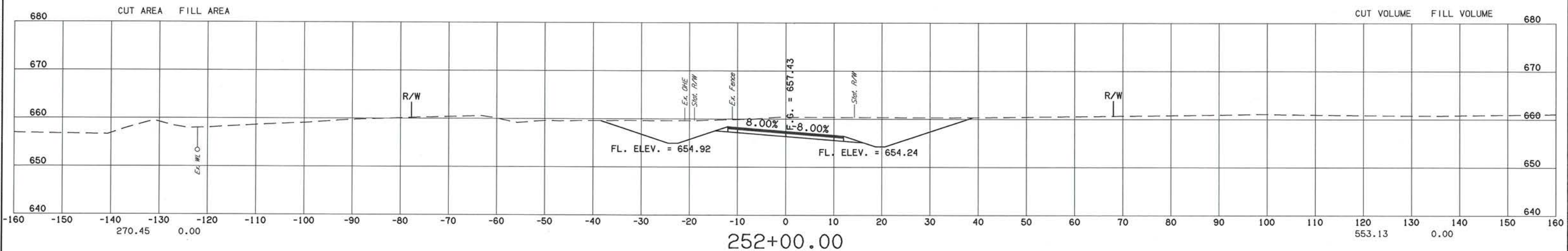
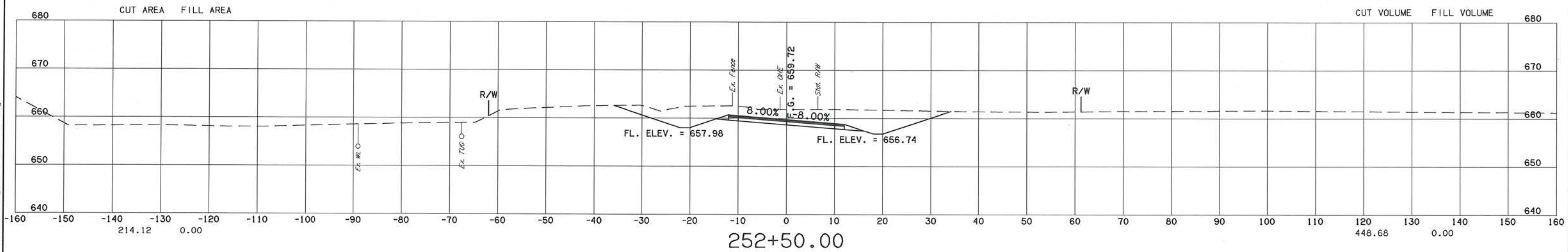
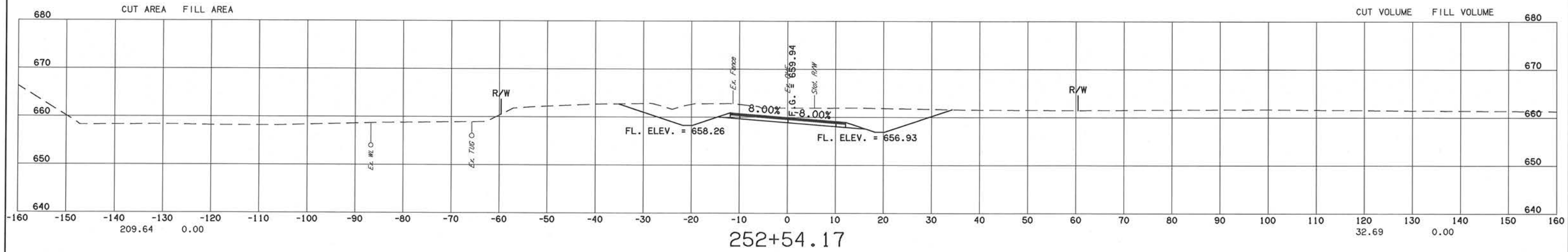
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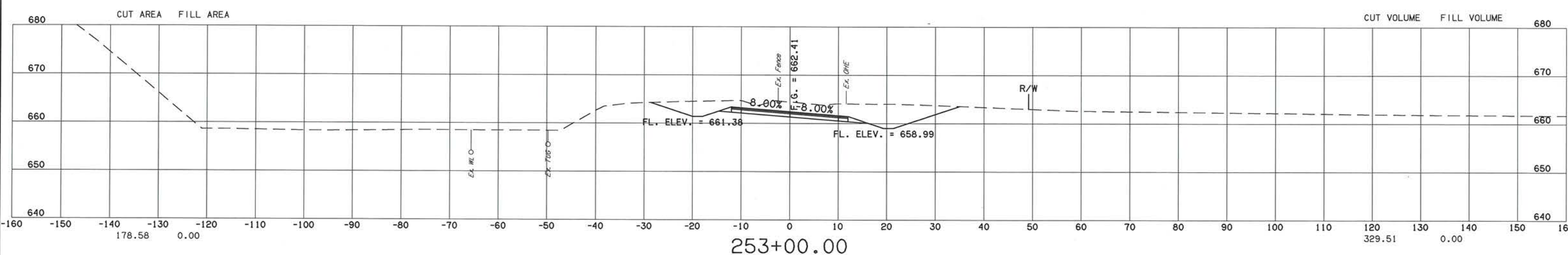
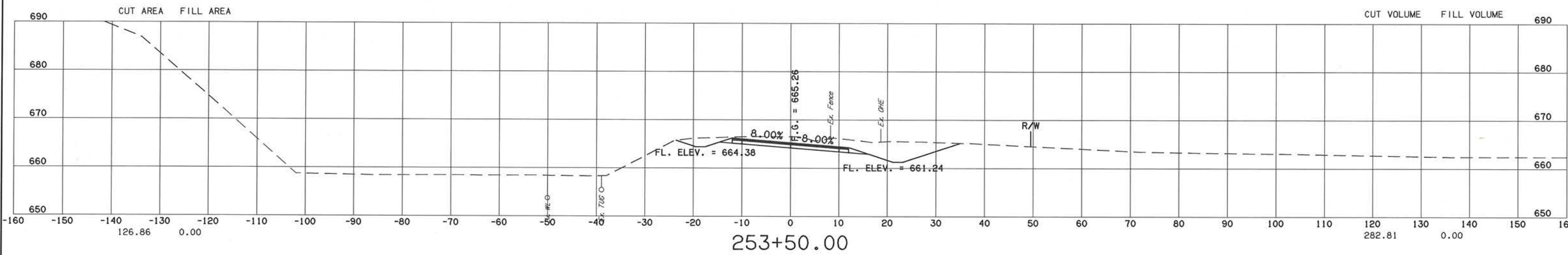
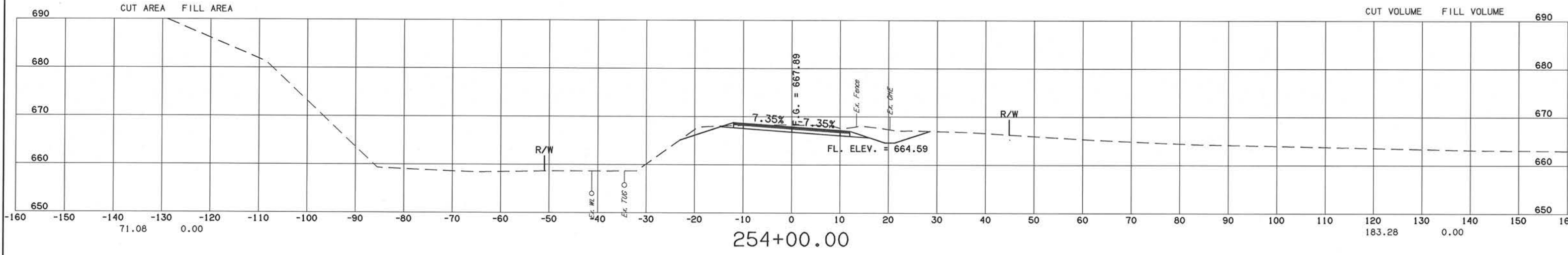
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DESCRIPTION	REVISIONS	DATE
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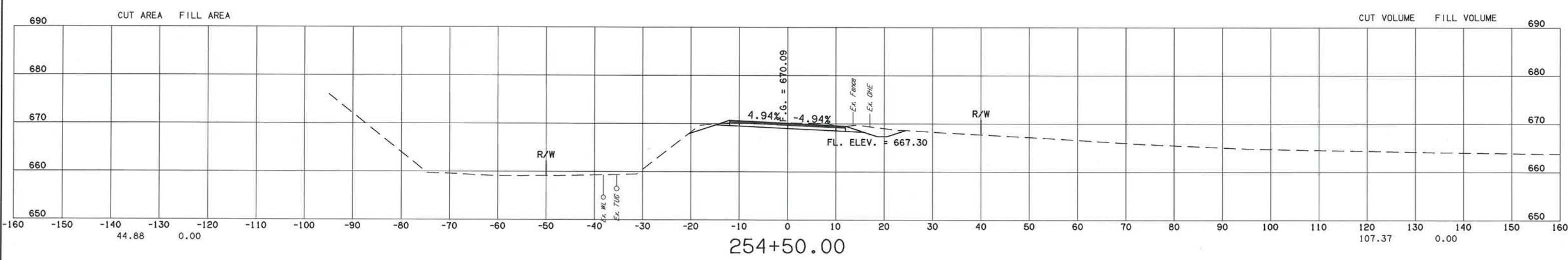
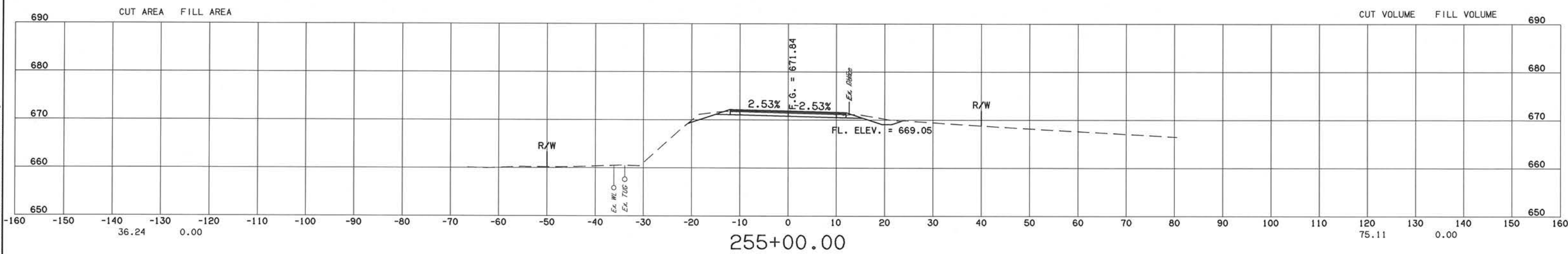
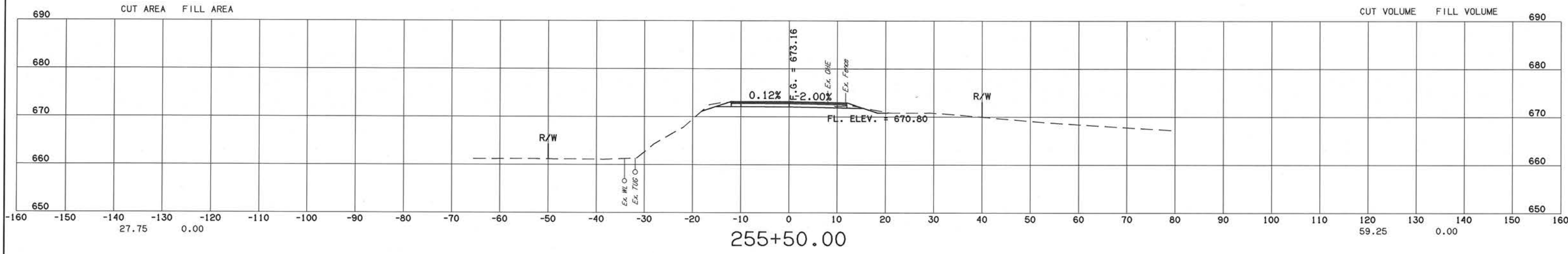
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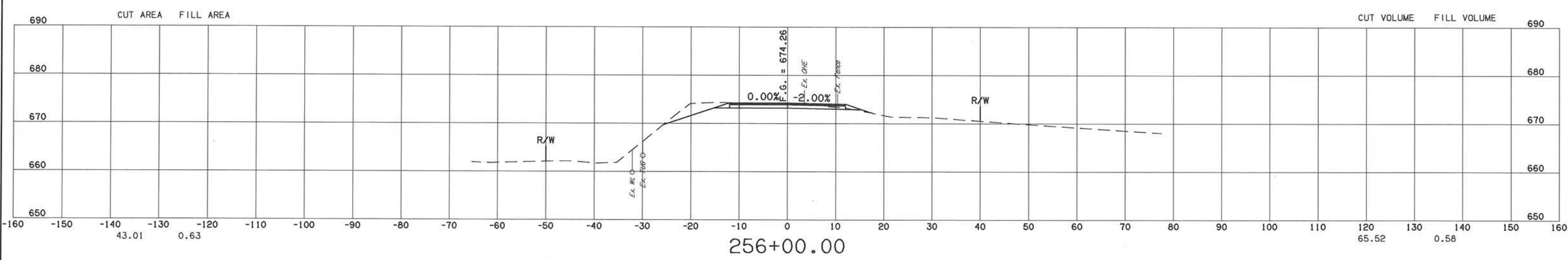
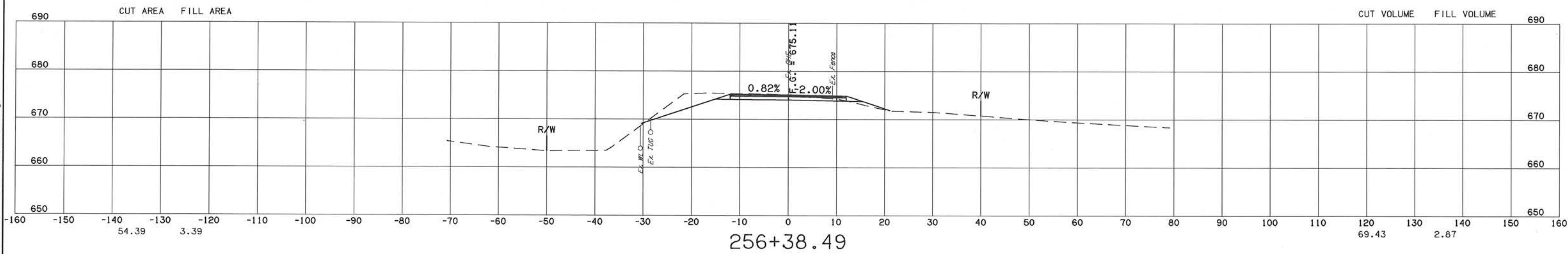
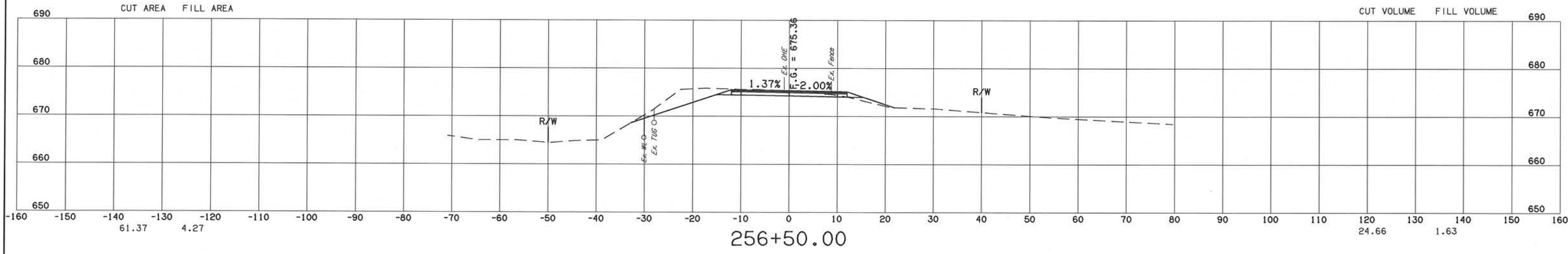
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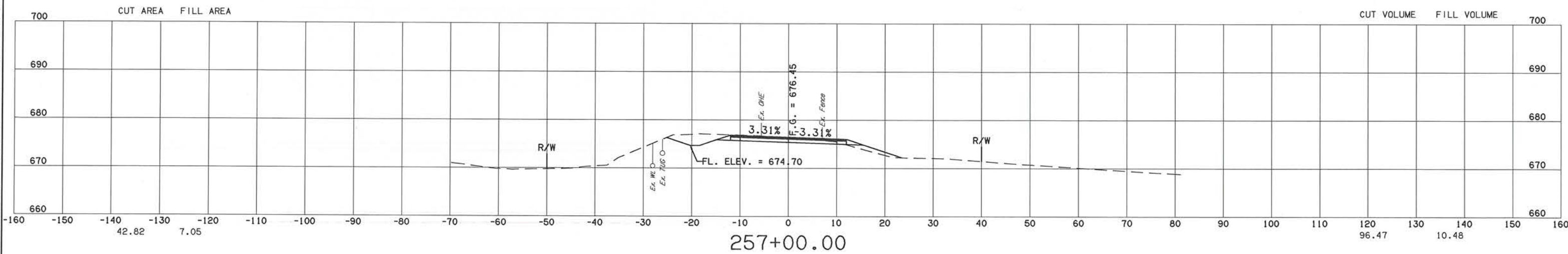
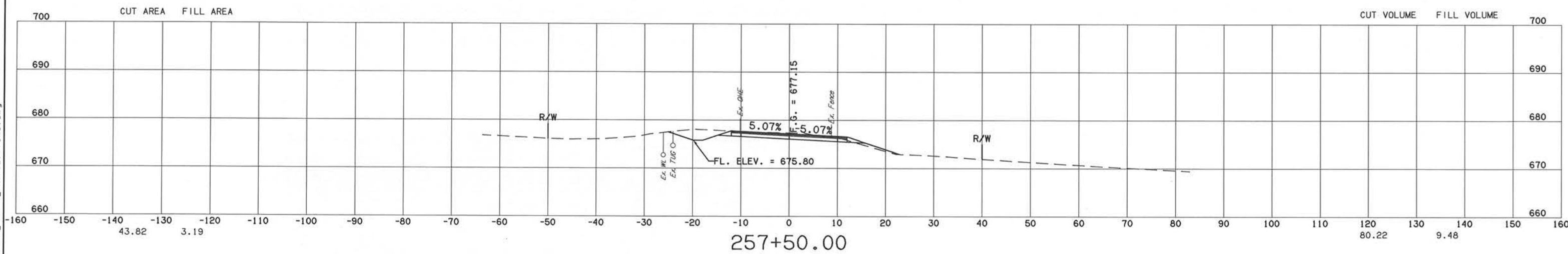
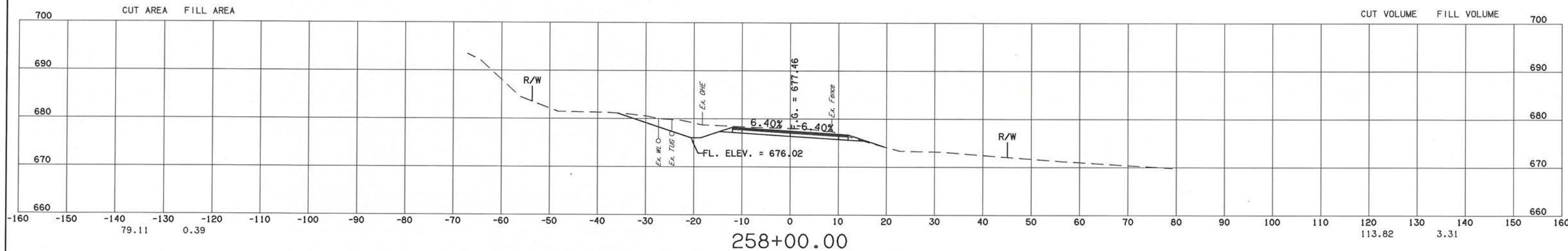
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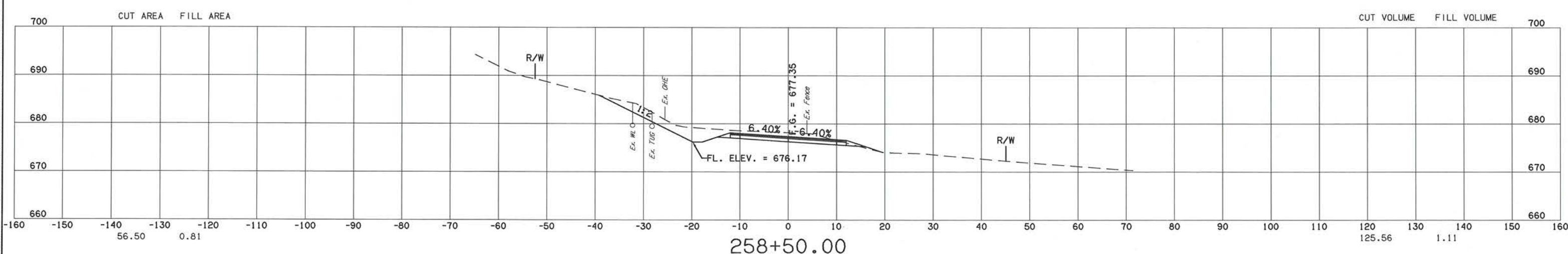
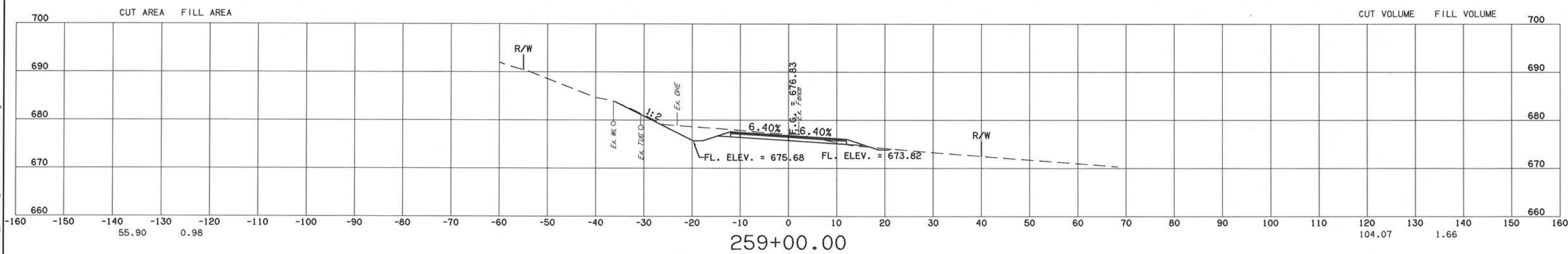
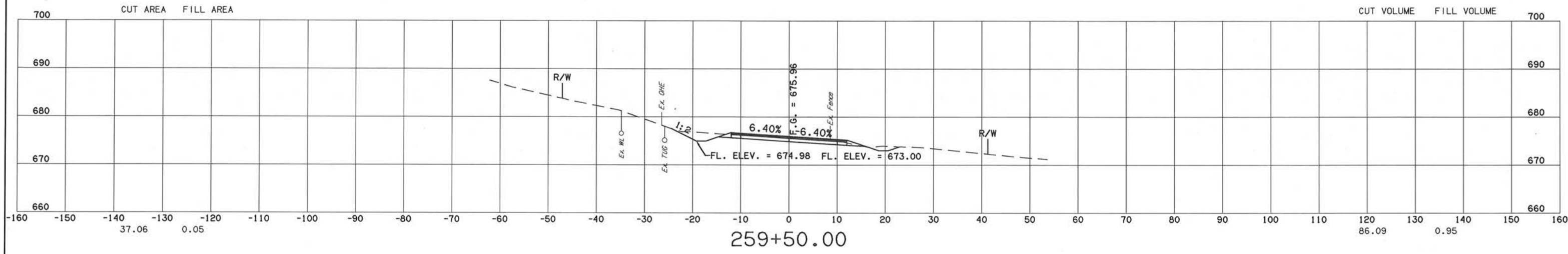
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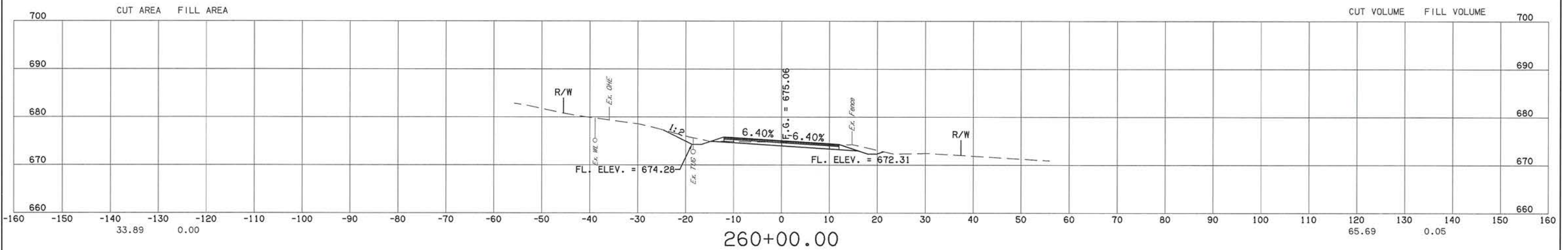
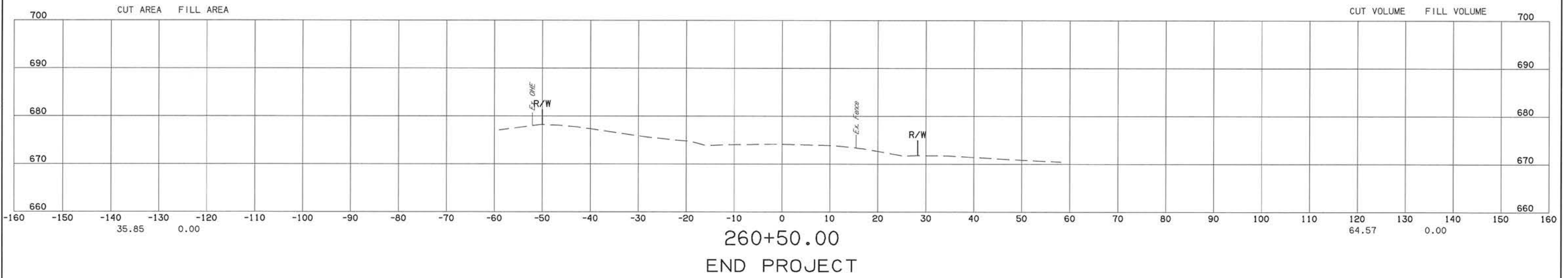
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