

STATE OF OKLAHOMA  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED  
**STATE HIGHWAY**  
FEDERAL AID PROJECT NO. STP-205C(061)PMΔ  
GRADE, DRAIN, SURFACE AND BRIDGE  
STATE HIGHWAY 34  
**BECKHAM COUNTY**

CONTROL SECTION NO. 34-05-22

STATE JOB NO. 26999(04)

BRIDGE "A" LOCATION NO. 0522-0237X EXISTING NBI NO. 03804; NEW NBI NO. 31574


BRIDGE "B" LOCATION NO. 0522-0343X EXISTING NBI NO. 03815; NEW NBI NO. 31575

FOR SURVEY CONTROL DATA,  
SEE SURVEY DATA SHEETS.

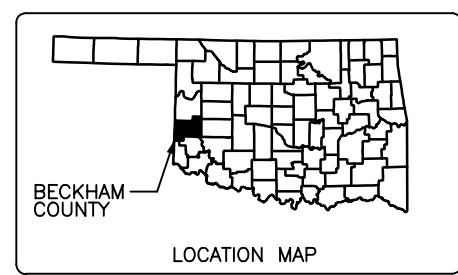
FOR INDEX OF SHEETS SEE SHEET NO. 0002.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	1	175
REVISIONS					
NO.	DATE	DESCRIPTION			
1	8/25/22	REVISED FEDERAL AID NUMBER			

DESIGN DATA	
ADT 2023	= 972
ADT 2043	= 1,339
DHV (2-WAY)	= 147
K (DHV/ADT)	= 11 %
D	= 56 %
T (% AADT)	= 26 %
T (% DHV)	= 22 %
T3	= 20 %
V	= 65 MPH
20yr FLEX ESALS	= 2.04 M

\* SCALES   
PLAN 1" = 50'  
PROFILE HOR. 1" = 50'  
VER. 1" = 5'  
LAYOUT MAP 1" = 5280'  
\* UNLESS OTHERWISE NOTED

- 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
  - RIGHT-OF-WAY FENCE



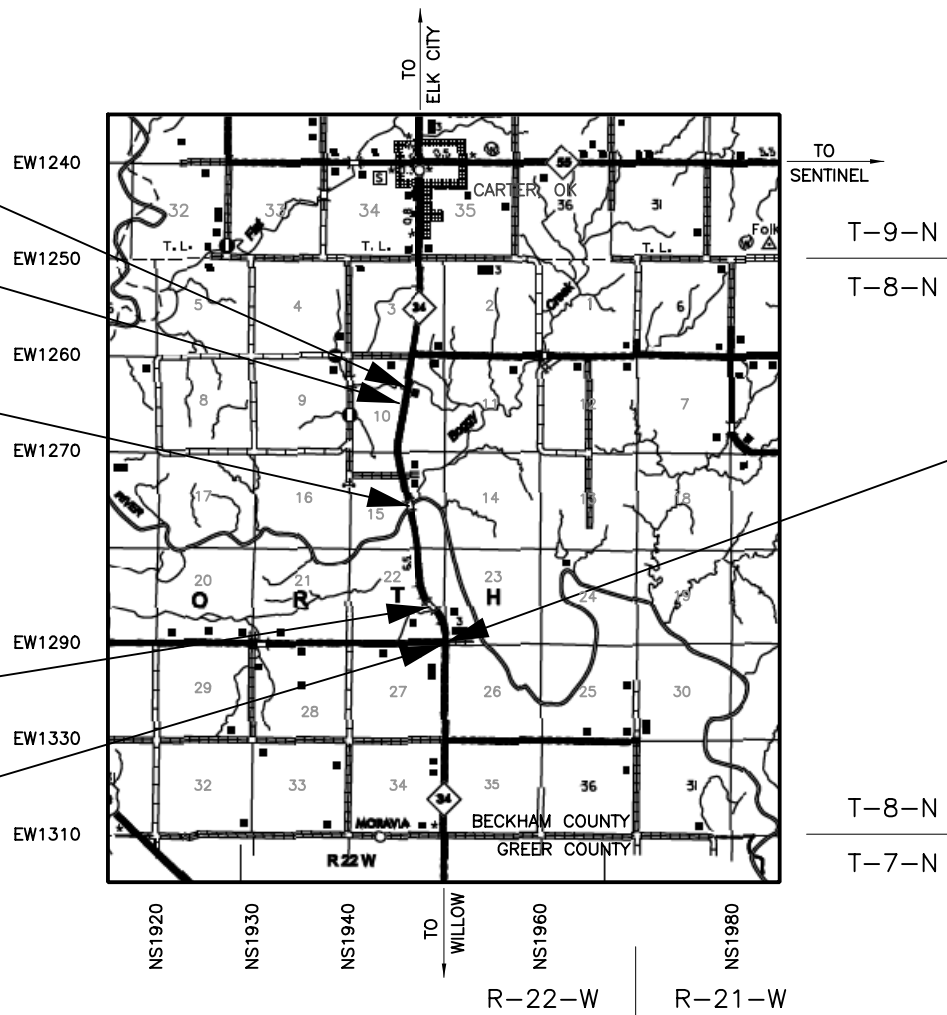
STA. 193+25.00  
END INCIDENTAL CONSTRUCTION

STA. 191+00.00  
END PROJECT  
BEGIN INCIDENTAL CONSTRUCTION

BEGIN CRL STA. 138+55.88  
LENGTH=901.66' BRIDGE "B"  
END CRL STA. 147+57.54

BEGIN CRL STA. 84+64.92  
LENGTH=501.84' BRIDGE "A"  
END CRL STA. 89+66.76


STA. 65+60.00  
BEGIN PROJECT



PROJECT LENGTH BASED ON C.R.L. STATIONING


ROADWAY LENGTH	11,136.50 FT.	2.109 MI.
BRIDGE LENGTH	1,403.50 FT.	0.265 MI.
PROJECT LENGTH	12,540.00 FT.	2.374 MI.

EQUATIONS : NONE  
EXCEPTIONS : NONE




OKLA. REG. NO. 4006

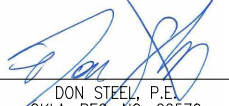
PREPARED BY:  
CP&Y, INC.  
2000 N. CLASSEN BLVD., SUITE 1410  
OKLAHOMA CITY, OK 73106  
405-848-2346

DATE 8/25/2022 


DAVID M. NEUHAUSER, P.E.  
OKLA. REG. NO. 19980



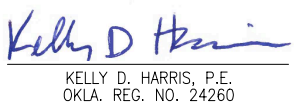
THE FOLLOWING DRAWINGS ARE INTENDED TO BE AUTHENTICATED BY MY SEAL:  
0001, 0002, AB01-AB04, AND B001-B050

DATE 8/25/22 


DON STEEL, P.E.  
OKLA. REG. NO. 22570



THE FOLLOWING DRAWINGS ARE INTENDED TO BE AUTHENTICATED BY MY SEAL:  
0003, AR01-AR05, R001-R032, AND X1-X47

DATE 8/25/22 

KELLY D. HARRIS, P.E.  
OKLA. REG. NO. 24260



THE FOLLOWING DRAWINGS ARE INTENDED TO BE AUTHENTICATED BY MY SEAL:  
AT01-AT02, AND T001-T014

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED _____	DATE APPROVED _____
BY _____	BY _____
CHIEF ENGINEER	DIVISION ADMINISTRATOR
SWO 4654(1) STP-205C(061)PMΔ	SHEET NO. 0001

PE NO. 26999(01)

2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, DECEMBER 18, 2019.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	2	175
REVISIONS					
NO.	DATE	DESCRIPTION			
1	8/18/22	ADDED E001 SHEET TO SHEET INDEX			

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
0001	TITLE SHEET
0002	INDEX OF SHEETS AND ODOT STANDARD DRAWINGS
0003	TYPICAL SECTIONS
AB01-AB04	GENERAL NOTES & SUMMARY OF PAY QUANTITIES (BRIDGE)
AE01	ENVIRONMENTAL NOTES
AR01	ROADWAY QUANTITIES AND PAY ITEM NOTES
AR02	GENERAL NOTES (ROADWAY)
AR03-AR05	SUMMARY SHEET
AT01	GENERAL NOTES & SUMMARY OF PAY QUANTITIES (TRAFFIC)
AT02	SUMMARY SHEET (TRAFFIC)

BRIDGE A

B001	GENERAL PLAN AND ELEVATION
B002	STAKING LAYOUT DIAGRAM
B003-B005	FOUNDATION SHEETS
B006	SUBSTRUCTURE EXCAVATION
B007	ABUTMENT NO. 1 DETAILS
B008	ABUTMENT NO. 2 DETAILS
B009-B010	ABUTMENT DETAILS
B011-B013	PIER DETAILS
B014-B018	SUPERSTRUCTURE DETAILS
B019	DIAPHRAGM DETAILS
B020-B021	TYPE IV BEAM DETAILS
B022	BEARING DETAILS
B023	APPROACH SLAB DETAILS
B024	DRAIN DETAILS

BRIDGE B

B025-B026	GENERAL PLAN AND ELEVATION
B027	STAKING LAYOUT DIAGRAM
B028	RIPRAP AND SPUR DIKE DETAILS
B029-B034	FOUNDATION SHEETS
B035	SUBSTRUCTURE EXCAVATION
B036-B038	ABUTMENT DETAILS
B039-B043	PIER DETAILS
B044-B046	SUPERSTRUCTURE DETAILS
B047	DIAPHRAGM DETAILS
B048-B049	TYPE IV BEAM DETAILS
B050	BEARING DETAILS
B051	DRAIN DETAILS

E E001 SECTION 404 PERMIT COMPLIANCE


R001	DRAINAGE AREA MAP
R002	STORM WATER MANAGEMENT PLAN
R003-R005	GEOMETRIC LAYOUT
R006-R012	EROSION CONTROL SHEETS
R013-R015	MASS DIAGRAM SHEETS
R016-R022	REMOVAL SHEETS
R023-R031	PLAN AND PROFILE SHEETS
R032	PLAN AND PROFILE SPECIAL DRIVE
S001-S015	SURVEY DATA SHEETS
T001	ADVANCE WARNING SIGNAGE PHASE 1
T002-T003	TRAFFIC CONTROL PHASE 1
T004	ADVANCE WARNING SIGNAGE PHASE 2
T005	TCP TYPICAL SECTIONS
T006-T007	TRAFFIC CONTROL PHASE 2A
T008-T009	TRAFFIC CONTROL PHASE 2B
T010-T014	SIGNING AND STRIPING

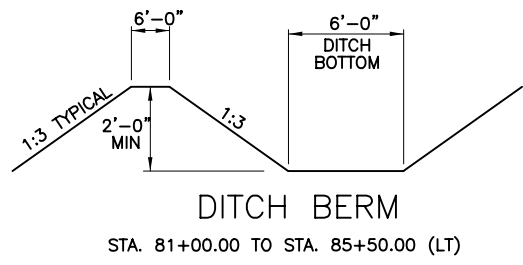
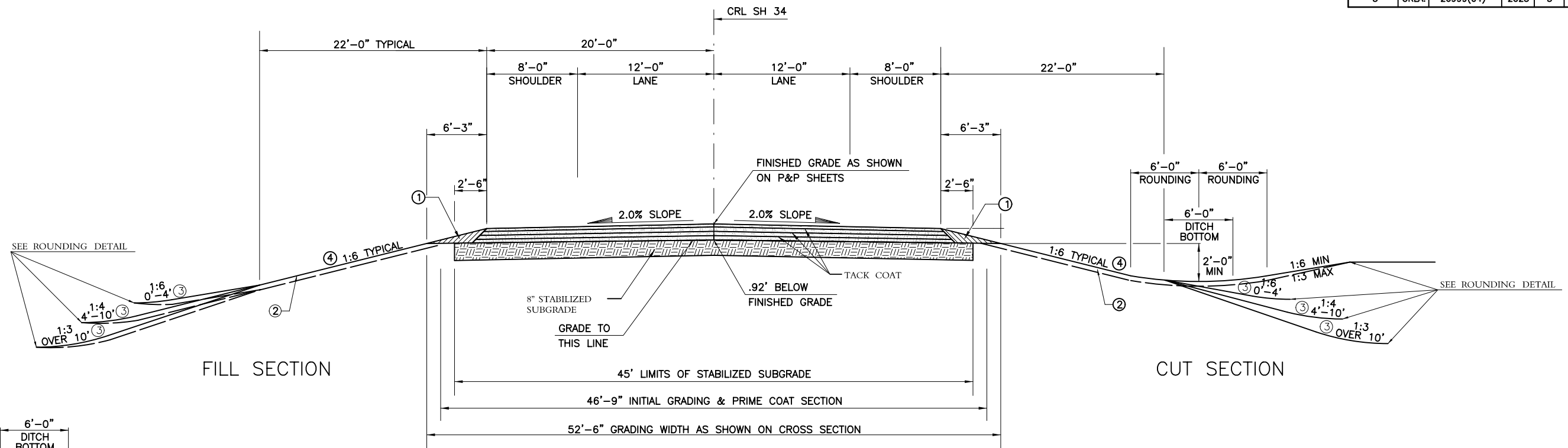
X001-X047 CROSS SECTIONS

THE FOLLOWING ODOT STANDARDS ARE INCLUDED FOR THIS PROJECT:

BRIDGE: (2009 STANDARDS)	ROADWAY: (2019 STANDARDS)	TRAFFIC CONTROL: (2009 STANDARDS)	TRAFFIC SIGNING: (2009 STANDARDS)
TR4-2-00E	SSS-2-0	TCS1-1-01	PM1-1-03
EJ-SQ-04E	TSC2-4-0	TCS2-1-00	PM3-1-02
EJ-DTL-02E	TSD-3-0	TCS3-1-01	DU2-1-00
HP1-2-01E	TRFD-2-0	TCS4-1-01	RSD1-1-00
B40-C-TR4-0-1-01E	LECS-5-1	TCS5-1-00	WSD3-1-00
B40-C-TR4-0-2-01E	PSE-2-0	TCS6-1-02	SBS1-1-00
B40-C-AS-03E	CET4S-4-1	TCS7-1-02	SBS2-1-00
RCB-C1-3&4&5(2-20)-01E	CET6S-4-1	TCS8-1-00	GMS1-1-00
RCB-E1-H5-0-1-01E	CET6D-4-1	TCS9-1-01	SSA1-1-00
RCB-E1-H5-0-2-01E	PCES-5-0	TCS10-1-00	
RCB-E2-H7-0-1-01E	SPI-5-1	TCS11-1-01	TRAFFIC SAFETY: (2009 STANDARDS)
RCB-E2-H7-0-2-01E	FPI-4-1	TCS14-1-00	THRI-1-02
RCB-CW1-D4-0-01E	SPB-2-1	TCS19-1-01	SKT-1-00
	FHTMPP-2-0	TCS20-1-00	GA31-1-00
	FHTCP-4-0	TCS21-1-02	GHW1-1-00
	SBI-5-1	TCS24-1-02	GHW2-1-00
	PUD-4-0		RS1-2-00
	RDI-4-1		
	DC-4-0		
	PDT-2-0		
	RWF3-3-1		
	SUEL2-4-0		
	SUEL4-4-0		

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DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	INDEX OF SHEETS AND ODOT STANDARD DRAWINGS	
APPRVD: CPY 2017	STATE JOB PIECE NO: 26999(04)	
		SHEET 1 OF 1 SHEET NO. 2



**TYPICAL SECTION NO. 1**  
 PROPOSED SH 34  
 STA. 65+60.00 TO STA. 84+34.14  
 STA. 89+97.54 TO STA. 138+25.88  
 STA. 147+87.54 TO STA. 191+00.00

	PAVEMENT REQUIREMENT	
	DRIVING LANES	SHOULDERS
<b>SURFACE COURSE</b>	2" SUPERPAVE TYPE S4 PG (64-22 OK)	2" SUPERPAVE TYPE S4 PG (64-22 OK)
<b>BASE COURSE</b>	3" SUPERPAVE TYPE S3 PG (64-22 OK)	3" SUPERPAVE TYPE S3 PG (64-22 OK)
	3" SUPERPAVE TYPE S3 PG (64-22 OK)	3" SUPERPAVE TYPE S3 PG (64-22 OK)

① **BACKFILL NOTE:**  
 TO BE BACKFILLED AND COMPACTED AS PART OF THE FINISHING OPERATIONS. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

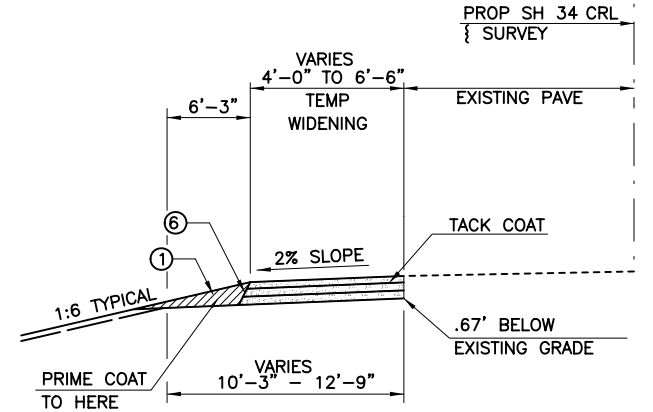
② **TOPSOIL NOTE:**  
 THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATIONS. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATIONS SHALL BE INCLUDED IN THE PAY ITEM FOR SALVAGED TOPSOIL, LUMP SUM. 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 QUANTITY IS INCLUDED IN THE MASS LINE BALANCE.

③ DISTANCE MEASURED VERTICALLY FROM EDGE OF FINISHED GRADE SHOULDER.

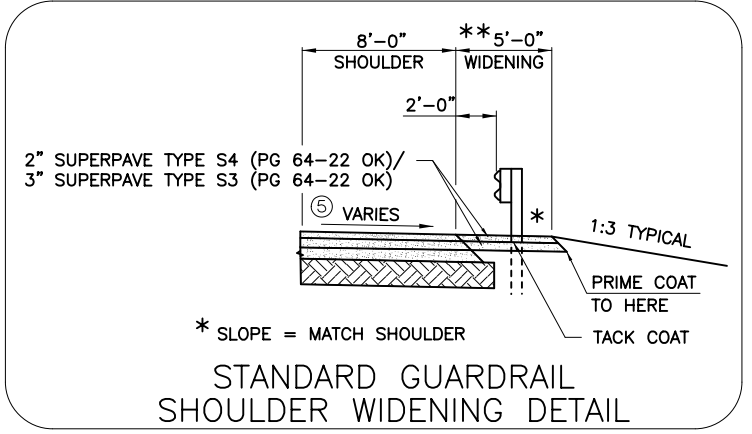
④ REFER TO CROSS SECTION SHEETS FOR ADDITIONAL INFORMATION.

⑤ SEE PLAN AND PROFILE SHEETS FOR CROSS SLOPE TRANSITIONS AND SUPERELEVATION RATES.

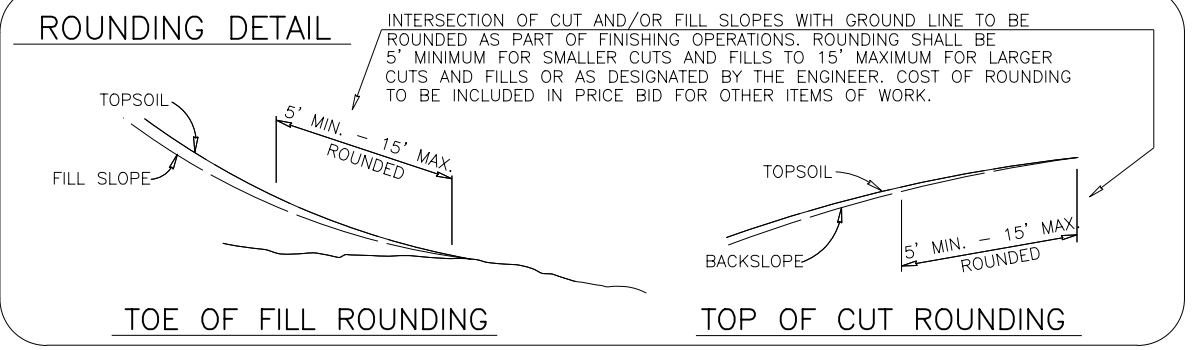
⑥ CONSTRUCT PAVING SAFETY EDGE ACCORDING TO STD. PSE-1-0(LATEST REVISION).



TEMP. PAVEMENT WIDENING	
<b>SURFACE COURSE</b>	2" SUPERPAVE TYPE S4 (PG 64-22 OK)
<b>BASE COURSE</b>	3" SUPERPAVE TYPE S3 (PG 64-22 OK)
	3" SUPERPAVE TYPE S3 (PG 64-22 OK)



- STA 81+14.04 TO STA 84+34.14 (RT)
- STA 82+13.22 TO STA 84+34.14 (LT)
- STA 89+97.54 TO STA 92+30.35 (RT)
- STA 89+97.54 TO STA 93+21.09 (LT)
- STA 135+18.11 TO STA 138+25.88 (RT)
- STA 135+90.90 TO STA 138+25.88 (LT)
- STA 147+87.54 TO STA 150+22.61 (RT)
- STA 147+87.54 TO STA 151+10.11 (LT)



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## GENERAL BRIDGE NOTES

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	AB01	173

### SPECIFICATIONS:

COMPLY WITH THE REQUIREMENTS OF THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLAN AND SPECIAL PROVISIONS.

### EXISTING PLANS:

CONSTRUCTION PLANS FOR THE EXISTING BRIDGE STRUCTURE(S) MAY BE OBTAINED FROM THE OFFICE SERVICES DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION.

PHYSICAL ADDRESS: OKLAHOMA DEPARTMENT OF TRANSPORTATION  
200 NE 21ST STREET  
OKLAHOMA CITY, OKLAHOMA 73105  
405-521-2586

CONSTRUCTION PLANS ARE AVAILABLE FOR DIGITAL DELIVERY THROUGH THE URL LISTED BELOW:  
<https://oklahoma.gov/odot/about/contact-us/divisions/office-services-division/plans-library.html>

FOR QUESTIONS AND CONCERNS REGARDING AS-BUILT PLANS, PLEASE EMAIL:  
ODOT-PlansLibrary@odot.org

THE EXISTING STRUCTURES WERE ORIGINALLY CONSTRUCTED AS PART OF FEDERAL AID PROJECT SAP-816-A IN BECKHAM COUNTY SH-34 OVER THE NORTH FORK OF THE RED RIVER AND OVERFLOW.

### UTILITIES:

CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

### 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 REQUIRED AXIAL LOAD RESISTANCE WITHOUT EXCEEDING THE LIMITATIONS SET ON THE ALLOWABLE DRIVING STRESSES IN ACCORDANCE WITH SECTION 514.03.A.(2) OF THE STANDARD SPECIFICATIONS.

### STEEL PILE CAPACITY:

THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES:  
AXIAL LOAD RESISTANCE =  $\phi [0.875 \sqrt{E} \log_{10} (10N)] - 50$  (TONS)

#### WHERE:

$\phi$  = 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 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 AND 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 ON THE HAMMER.
- 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 ABOVE ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

SEE GENERAL PLAN AND ELEVATION SHEETS FOR EACH BRIDGE FOR FACTORED REACTION FOR EACH PILE AT EACH BRIDGE.

### PRESTRESSED CONCRETE BRIDGE MEMBERS - (100' SPAN):

- COMPRESSIVE STRENGTH: THE COMPRESSIVE STRENGTH REQUIREMENTS FOR THE P.C. BEAMS - TYPE IV ARE: 7,000 PSI AT TRANSFER OF PRESTRESS, AND 10,000 PSI AT 28 DAYS.
- STRAND TYPE: THE REQUIRED STRAND TYPE IS LOW-RELAXATION. USE STRAND HAVING A NOMINAL DIAMETER OF 0.600 INCH.

### BRIDGE DECK CONSTRUCTION METHODS:

ANY STEEL USED BY CONTRACTOR TO FACILITATE DECK CONSTRUCTION, SUCH AS INSERT WELD ANCHORS, TY-BAR CLIPS, FORM HANGARS OR OTHER APPURTENANCES THAT REMAIN IN PLACE IN THE BRIDGE DECK MUST BE EPOXY COATED OR GALVANIZED.

EPOXY COAT IN ACCORDANCE WITH AASHTO M 284 AND OR GALVANIZE IN ACCORDANCE WITH AASHTO M 111.

IN THE EVENT OF AN EMERGENCY, HALT THE PLACEMENT OF CONCRETE BY FORMING A CONSTRUCTION JOINT MADE PERPENDICULAR TO THE DIRECTION OF TRAFFIC OR AS DIRECTED BY THE ENGINEER. DO NOT PLACE ANY HEAVY EQUIPMENT ON THE FINISHED DECK SLAB WITHIN 5 FEET OF ANY CONSTRUCTION JOINT UNTIL CONCRETE IS PLACE ON BOTH SIDES OF THE RESPECTIVE JOINT AND AT LEAST 48 HOURS HAS ELAPSED SINCE CONCRETE PLACEMENT.

SEAL ALL DECK SLAB CONSTRUCTION JOINTS WITH HIGH MOLECULAR WEIGHT METHACRYLATE IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS. INCLUDE ALL COST OF EQUIPMENT AND LABOR FOR THE INSTALLATION OF THE HIGH MOLECULAR WEIGHT METHACRYLATE SEALER IN THE CONTRACT UNIT PRICE OF "SEALER CRACK PREPARATION". INCLUDE ALL COST OF THE HIGH MOLECULAR WEIGHT METHACRYLATE SEALER IN THE CONTRACT UNIT PRICE OF "SEALER RESIN". MATERIAL, EQUIPMENT, AND LABOR FOR SEALING EMERGENCY CONSTRUCTION JOINTS WILL NOT BE MEASURED FOR PAYMENT.

### DECK HAUNCHES:

PLAN QUANTITY FOR CLASS AA CONCRETE INCLUDES 19.30 CUBIC YARDS FOR BRIDGE 'A' AND 34.60 CUBIC YARDS FOR BRIDGE 'B' FOR HAUNCHES. THE HAUNCH HEIGHTS WILL BE CALCULATED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER TO PROVIDE DEAD LOAD DEFLECTION AND BEAM CAMBER. NO PAYMENT WILL BE MADE FOR DIFFERENCE BETWEEN PLAN QUANTITY AND THE ACTUAL QUANTITY OF HAUNCH CONCRETE.

### STRUCTURAL STEEL:

PROVIDE STRUCTURAL STEEL FOR DIAPHRAGM BOLTS, PLATE WASHERS AND BEVELED SPACERS IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). THE CONTRACTOR MAY SUBSTITUTE A #10 REINFORCING BAR IN ACCORDANCE WITH AASHTO M31, GRADE 60, AND THREADED AT THE ENDS AS SHOWN IN THE PLANS AT NO ADDITIONAL COST TO THE DEPARTMENT. PROVIDE HEX NUTS IN ACCORDANCE WITH AASHTO M291 (ASTM A563). PAINT EXPOSED DIAPHRAGM BOLTS, PLATE WASHERS, BEVELED SPACERS AND HEX NUTS WITH TWO (2) COATS OF ZINC-RICH PAINT (6 MIL MINIMUM THICKNESS) AFTER ASSEMBLY. INCLUDE ALL COST OF DIAPHRAGM BOLTS, PLATE WASHERS, BEVELED SPACERS AND HEX NUTS IN THE CONTRACT UNIT PRICE FOR STRUCTURAL STEEL.

### TRANSVERSE CONSTRUCTION JOINTS:

TRANSVERSE CONSTRUCTION JOINTS IN THE BRIDGE DECK SHALL BE SEALED IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS, "CONCRETE SURFACE REPAIR BY SEALING".

### PENETRATING WATER REPELLENT SURFACE TREATMENT:

A PENETRATING WATER REPELLENT SURFACE TREATMENT SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES OF THE BRIDGE:

- EDGES AND UNDERSIDE CANTILEVER PORTION OF THE BRIDGE DECK, THE OUTSIDE FACE AND BOTTOM OF EXTERIOR TYPE IV BEAMS.
- THE ROADWAY FACE, TOP AND INSIDE OF THE POST OPENINGS OF THE CONCRETE TRAFFIC RAILS.
- THE EXPOSED OUTSIDE FACE OF SEAT AND ABUTMENT BACKWALL, INCLUDING TOP OF SEAT AND PEDESTALS.
- THE TOP AND SIDES OF THE PIER CAP, INCLUDING VERTICAL SURFACES OF PEDESTALS.

THE APPLICATION OF PENETRATING WATER REPELLENT SURFACE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 515 OF THE STANDARD SPECIFICATIONS. ALL COSTS ASSOCIATED WITH THE USE OF PENETRATING WATER REPELLENT SURFACE TREATMENT INCLUDING MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN CONTRACT UNIT PRICE OF "WATER REPELLENT (VISUALLY INSPECTED)".

### CONCRETE DIAPHRAGMS:

ONCE THE CONCRETE HAS BEEN PLACED FOR THE CONCRETE 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 COMPRESSIVE STRENGTH. DO NOT PLACE THE CONCRETE FOR THE DECK SLAB OR APPLY OTHER MASSIVE LOADS TO THE BEAMS OR 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.

### STAY-IN-PLACE FORMS:

STAY-IN-PLACE STEEL DECK FORMS MAY BE USED IF THE MINIMUM DECK SLAB THICKNESS SHOWN IN THE PLANS IS OBTAINED BY MEASURING FROM THE TOP OF THE DECK SLAB TO THE TOP PORTION OF THE STEEL CORRUGATION. PREFORMED FILLER SUCH AS POLYSTYRENE OR ANY OTHER FILLER MATERIAL USED IN THE STEEL CORRUGATIONS MUST BE BONDED TO THE STAY-IN-PLACE FORMS, AND NO ADDITIONAL CONCRETE WEIGHT OF THE DECK SLAB IS PERMITTED. PREFORMED STYROFOAM OR ANY OTHER FILLER MATERIAL MUST BE BONDED TO THE STEEL STAY-IN-PLACE FORMS. ADDITIONAL WEIGHT OF THE STEEL DECK FORMS AND FILLER MATERIAL SHALL NOT EXCEED 5 PSF.

STAY-IN-PLACE PRESTRESSED CONCRETE DECK FORMS MAY BE USED IF THE FOLLOWING CONDITIONS ARE MET:

- SHOP DRAWINGS AND STRUCTURAL CALCULATIONS FOR THE FORMS ARE SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL.
- A NEW STRUCTURAL DESIGN, STRUCTURAL CALCULATIONS, AND A NEW REINFORCING SCHEDULE FOR THE DECK SLAB ARE SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL.
- SHOP DRAWINGS, NEW DECK SLAB REINFORCING SCHEDULE, STRUCTURAL DESIGNS, AND CALCULATIONS SHALL BE PREPARED BY AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA.

ALL COST ASSOCIATED WITH THE USE OF STAY-IN-PLACE FORMS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT, INCIDENTALS AND PROFESSIONAL SERVICES SHALL BE AT THE CONTRACTOR'S EXPENSE. FOR ADDITIONAL INFORMATION CONCERNING THE USE OF STAY-IN-PLACE FORMS, SEE SECTION 502 OF THE SPECIFICATIONS.

### ELASTOMERIC COATING:

THE ELASTOMERIC COATING SHALL BE A LIQUID APPLIED URETHANE COATING SUCH AS CIM 1000 AS MANUFACTURED BY CIM INDUSTRIES, INC., POLYCOAT PC-IM 129 AS MANUFACTURED BY POLYCOAT PRODUCTS, OR AN APPROVED EQUAL.

THE ELASTOMERIC COATING SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES AS SHOWN IN THE PLANS.

- FRONT FACE OF THE ABUTMENT SEATS AND BACKWALLS, AND TOP OF ABUTMENT SEATS.
- SIDES OF CONVENTIONAL ABUTMENT CAPS.
- TOP AND SIDES OF THE PIER CAPS.
- BACK FACE OF PIER RISERS.

DO NOT PLACE THE ELASTOMERIC COATING UNDER BEARING PADS.

APPLY A COLORED TOP COAT IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTION. THE TOP COAT SHALL CLOSELY MATCH THE COLOR OF THE SURROUNDING CONCRETE STAIN. PROVIDE A COLOR SAMPLE TO THE ENGINEER FOR APPROVAL BEFORE APPLICATION OF THE TOP COAT.

THE EQUIPMENT, METHODS, AND THICKNESS OF APPLYING THE URETHANE COATING SHALL BE IN ACCORDANCE WITH THE PRODUCT COATING PROFILE AND INSTRUCTION GUIDES FOR APPLICATION TO CONCRETE. PRECAUTIONARY MEASURES SHALL BE IN ACCORDANCE WITH THE MATERIAL SAFETY DATA SHEETS AS PROVIDED BY THE MANUFACTURER.

IN ADDITION TO APPLYING THE COATING TO THE CONCRETE SUBSTRUCTURE UNITS AS SHOWN IN THE PLANS, THE COATING SHALL RETURN UP THE VERTICAL SURFACES OF THE PIER AND ABUTMENT BEARING PADS TO PROVIDE A WATER TIGHT SEAL WITH THE CONCRETE PEDESTALS. SURFACE PREPARATIONS AND PRODUCT MIXING SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS, AND ALL NEW CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI AT THE TIME OF APPLICATION. PRIMER SHALL BE APPLIED TO THE CONCRETE SURFACES PRIOR TO APPLYING THE COATING. ALL CONCRETE WORK SHALL BE COMPLETED PRIOR TO THE APPLICATION OF THE ELASTOMERIC COATING. EDGES OF THE ELASTOMERIC COATING SHALL BE MASKED WITH TAPE PRIOR TO APPLICATION TO ENSURE CLEAN STRAIGHT LINES ARE OBTAINED.

WATER REPELLENT WILL NOT BE REQUIRED ON SURFACES THAT ARE COATED WITH ELASTOMERIC COATING OR SPECIFIED FOR FUTURE ELASTOMERIC COATING.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER SQUARE FOOT OF "ELASTOMERIC COATING", WHICH PRICE SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

### 6" NON-PERFORATED PIPE UNDERDRAIN ROUND

ALL COST OF TRENCH EXCAVATION, STANDARD BEDDING MATERIAL, EQUIPMENT AND LABOR FOR THEIR INSTALLATION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF "6" NON-PERF. PIPE UNDERDRAIN RND.". INSTALLATION SHALL BE AS SHOWN ON THE PLANS AND ON STANDARD PUD-3.

### 6" PERFORATED PIPE UNDERDRAIN ROUND

ALL COST OF PIPE UNDERDRAIN COVER MATERIAL, BOTH FINE AND COARSE, EQUIPMENT AND LABOR FOR THEIR INSTALLATION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF "6" PERFORATED PIPE UNDERDRAIN ROUND". INSTALLATION SHALL BE AS SHOWN ON THE PLANS AND ON STANDARD PUD-3.

### DRAINS AT END OF BRIDGE:

THE ASPHALT WIDENING FOR THE BRIDGE GUARDRAILING SHALL BE IN ACCORDANCE WITH STANDARDS GHW1-1-00, GHW2-1-00, AND THRI-1-00 EXCEPT AS SHOWN ON THE PLANS. ALL COSTS OF ASPHALT WIDENING SHALL BE INCLUDED IN ROADWAY PAY ITEMS.

CLASS "C" CONCRETE SHALL BE USED IN THE CONSTRUCTION OF THE DRAINS AT THE ENDS OF THE BRIDGES. THERE IS 6.20 CUBIC YARDS REQUIRED AT THE ENDS OF THE BRIDGE. ALL COSTS OF THE SLOPE DRAINS, CURB, AND SPLASH BASINS INCLUDING MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS. ALL COSTS SHALL BE INCLUDED IN THE PRICE BID PER CUBIC YARD OF "CLASS "C" CONCRETE".

### REMOVAL OF EXISTING BRIDGE STRUCTURE-BRIDGE "A":


THE PAY ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF THE REMOVAL OF 7-36' I-BEAM STRUCTURE WITH 22' CLEAR ROADWAY WIDTH AT CENTERLINE SURVEY STA. 87+15.84.

THE REMOVAL OF THE EXISTING STRUCTURE SHALL BE IN ACCORDANCE WITH SECTION 619.04B OF THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND AS APPROVED BY THE ENGINEER. THE EXISTING STRUCTURAL STEEL MAY BE PAINTED WITH LEAD-BASED PAINT. THE CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS AND FOLLOW ALL NECESSARY REGULATIONS IN HANDLING AND TRANSPORTING ANY STRUCTURAL STEEL CONTAINING LEAD-BASED PAINT. LOOSE DEBRIS THAT MAY CONTAIN LEAD PAINT SHALL BE COLLECTED TO PREVENT DISPERSION OF DEBRIS, BOTH DURING DEMOLITION AND SUBSEQUENT TRANSPORT, AND PROPERLY DISPOSED. NO MATERIAL SHALL LAND IN THE WATERS OF THE NORTH FORK OF THE RED RIVER OVERFLOW.

THE CONTRACTOR SHALL SUBMIT TO ODOT, FOR APPROVAL, A DEMOLITION PLAN FOR REMOVING THE EXISTING BRIDGE. AS A MINIMUM, THE PLAN SHALL INCLUDE THE SEQUENCE OF DEMOLITION, PLACEMENT OF MATERIAL AFTER REMOVAL, TOOLS AND EQUIPMENT TO BE USED INCLUDING MEASURES TO PREVENT THE EXCURSION OF DEBRIS WHICH MAY CONTAIN LEAD-BASED PAINT, AND PLACEMENT OF THE EQUIPMENT.

THE EXISTING STEEL BEAMS SHALL BECOME THE PROPERTY OF BECKHAM COUNTY AND PLACED ON THE RIGHT-OF-WAY FOR PICK UP. THE REMAINING REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

ALL COSTS NECESSARY TO COMPLETE THE WORK AS SPECIFIED, INCLUDING THE COST OF SAWING, CUTTING, DEMOLITION, CONTAINMENT, AND REMOVAL OF DEBRIS, MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LUMP SUM OF "REMOVAL OF EXISTING BRIDGE STRUCTURE".

DESIGN: CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY		
DRAWN: CPY	2017				
CHECKED: CPY	2017				
APPRVD: CPY	2017				
		GENERAL NOTES & SUMMARY OF PAY QUANTITIES (BRIDGE)			
				STATE JOB PIECE NO: 26999(04)	



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	AB02	173

**REMOVAL OF EXISTING BRIDGE STRUCTURE—BRIDGE "B":**

THE PAY ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF THE REMOVAL OF 7-100' PONY TRUSS SPANS AND 2-60' I-BEAM SPANS WITH 22' CLEAR ROADWAY WIDTH AT CENTERLINE SURVEY STA. 143+06.71.

THE REMOVAL OF THE EXISTING STRUCTURE SHALL BE IN ACCORDANCE WITH SECTION 619.04B OF THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND AS APPROVED BY THE ENGINEER. THE EXISTING STRUCTURAL STEEL MAY BE PAINTED WITH LEAD-BASED PAINT. THE CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS AND FOLLOW ALL NECESSARY REGULATIONS IN HANDLING AND TRANSPORTING ANY STRUCTURAL STEEL CONTAINING LEAD-BASED PAINT. LOOSE DEBRIS THAT MAY CONTAIN LEAD PAINT SHALL BE COLLECTED TO PREVENT DISPERSION OF DEBRIS, BOTH DURING DEMOLITION AND SUBSEQUENT TRANSPORT, AND PROPERLY DISPOSED. NO MATERIAL SHALL LAND IN THE WATERS OF THE NORTH FORK OF THE RED RIVER.

THE CONTRACTOR SHALL SUBMIT TO ODOT, FOR APPROVAL, A DEMOLITION PLAN FOR REMOVING THE EXISTING BRIDGE. AS A MINIMUM, THE PLAN SHALL INCLUDE THE SEQUENCE OF DEMOLITION, PLACEMENT OF MATERIAL AFTER REMOVAL, TOOLS AND EQUIPMENT TO BE USED INCLUDING MEASURES TO PREVENT THE EXCURSION OF DEBRIS WHICH MAY CONTAIN LEAD-BASED PAINT, AND PLACEMENT OF THE EQUIPMENT.

THE EXISTING STEEL BEAMS LOCATED ON THE END SPANS (SPAN NO. 1 AND 9) SHALL BECOME THE PROPERTY OF BECKHAM COUNTY AND PLACED ON THE RIGHT-OF-WAY FOR PICK UP.

THE COMPONENTS OF A PONY TRUSS SPAN (SPAN NO. 2 THRU 8) SHALL BE DEFINED AS INCLUDING THE FOLLOWING STEEL MEMBERS FOR EACH BRIDGE SPAN: ALL LONGITUDINAL STEEL STRINGERS, INTERMEDIATE FLOOR BEAMS, END FLOOR BEAMS, BOTTOM LATERAL MEMBERS, AND TWO PONY TRUSS PANELS (ONE ON EACH SIDE OF THE DECK). FIVE (5) PONY TRUSS SPANS WITH THEIR BEARING ASSEMBLIES SHALL BECOME THE PROPERTY OF THE CITY OF ELK CITY, OKLAHOMA. ONE (1) PONY TRUSS SPAN WITH BEARING ASSEMBLIES SHALL BECOME THE PROPERTY OF THE CITY OF CLINTON, OKLAHOMA. THE REMOVED PONY TRUSSES CAN BE STORED ON ODOT RIGHT-OF-WAY FOR UP TO 30 DAYS. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING WITH THE IDENTIFIED CONTACT FOR EACH CITY, LOADING THE PONY TRUSSES ONTO TRANSPORT TRAILERS, AND DELIVERING THE PONY TRUSSES AND THEIR BEARING ASSEMBLIES TO LOCATIONS WITHIN THE CITY LIMITS TO BE IDENTIFIED.

CITY OF ELK CITY, OKLAHOMA  
CONTACT: TOM INVESTER,  
CITY MANAGER  
(580) 225-3230

CITY OF CLINTON, OKLAHOMA  
CONTACT: ROBERT JOHNSTON,  
CITY MANAGER  
(580) 323-0261

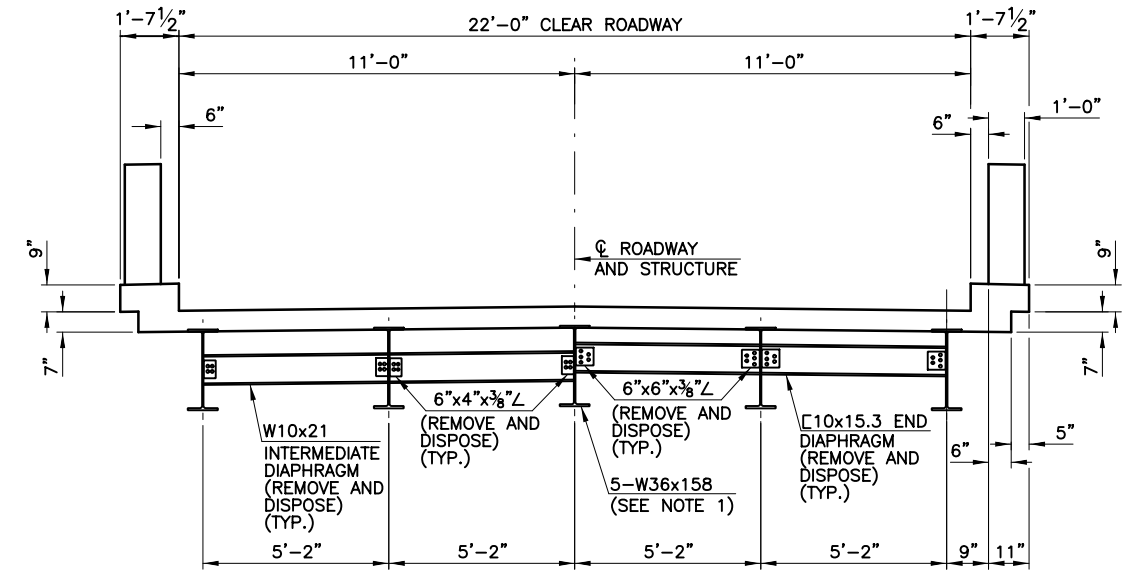
THE RIVETS REMOVED AS PART OF THE TRUSS DISASSEMBLY, THE REMAINING PONY TRUSS SPAN, AND THE REMAINING BEARING ASSEMBLIES WILL BECOME THE PROPERTY OF THE CONTRACTOR. ODOT WILL DETERMINE WHICH PONY TRUSS SPAN WILL BECOME CONTRACTOR PROPERTY.

THE COSTS OF TRANSPORTING THE PONY TRUSS SPANS AND THEIR BEARING ASSEMBLIES TO THE CITY OF ELK CITY, OK AND THE CITY OF CLINTON, OK SHALL BE INCLUDED IN THE UNIT PRICE BID PER LUMP SUM OF "HAULING BEAMS". ALL OTHER COSTS NECESSARY TO COMPLETE THE WORK AS SPECIFIED, INCLUDING THE COST OF SAWING, CUTTING, DEMOLITION OR DISASSEMBLY, CONTAINMENT, AND REMOVAL OF DEBRIS, LOADING AND UNLOADING THE PONY TRUSSES, MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LUMP SUM OF "REMOVAL OF EXISTING BRIDGE STRUCTURE".

THE REMAINING REMOVED MATERIALS NOT LISTED ABOVE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

**HAULING BEAMS:**

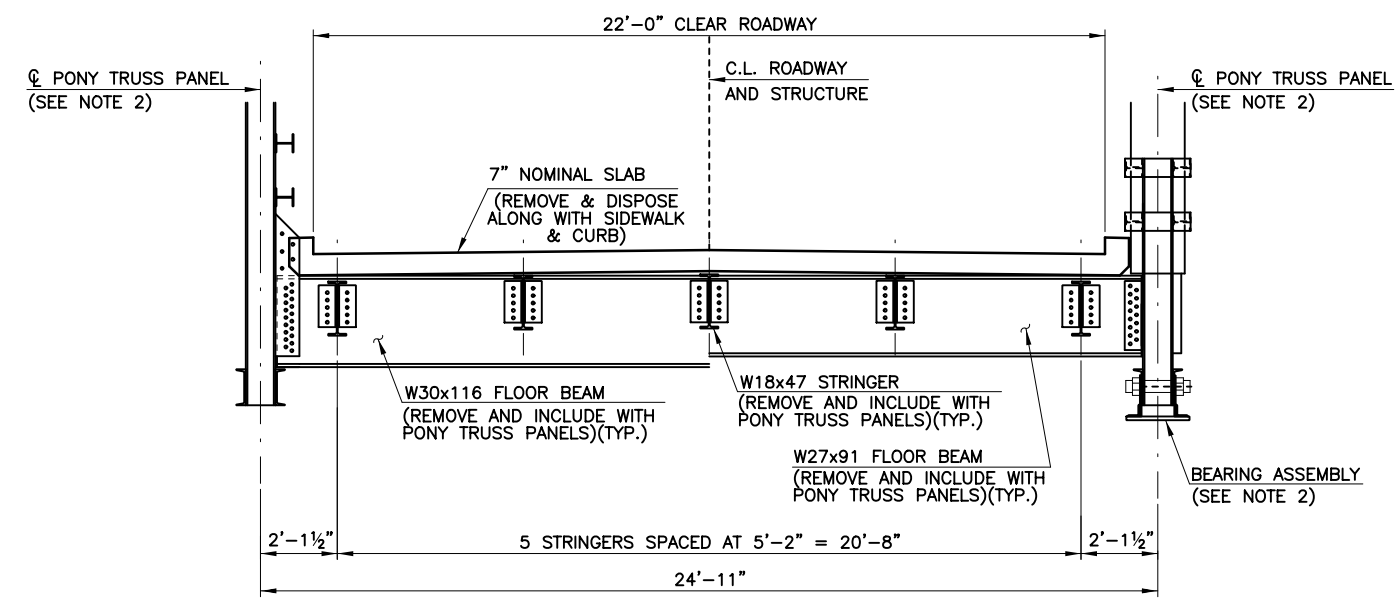
THE PAY ITEM "HAULING BEAMS" SHALL INCLUDE ALL COSTS, LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO TRANSFER FIVE (5) PONY TRUSS SPANS AND BEARING ASSEMBLIES FROM THE BRIDGE TO THE CITY OF ELK CITY, OK AND ONE (1) PONY TRUSS SPAN AND BEARING ASSEMBLIES FROM THE BRIDGE TO THE CITY OF CLINTON, OK AS DESCRIBED IN REMOVAL OF EXISTING BRIDGE STRUCTURE—BRIDGE "B" GENERAL NOTE.



HALF INTERIOR SECTION      HALF END VIEW  
**BRIDGE 'B' - EXISTING END SPAN SECTION**  
(SPANS 1 & 9)

**NOTES**

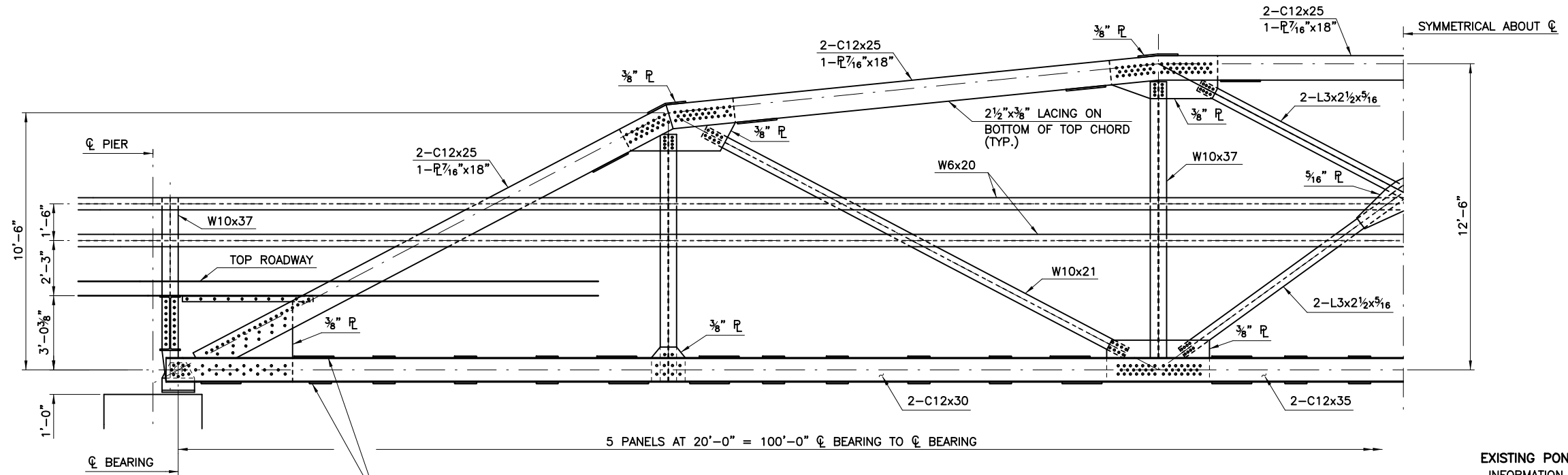
- 1: STEEL BEAMS TO BECOME PROPERTY OF BECKHAM COUNTY AND PLACED ON THE RIGHT-OF-WAY FOR PICKUP. REMAINING PORTIONS OF THE END SPANS TO BE DISPOSED IN ACCORDANCE WITH APPROVED DEMOLITION PLAN.
- 2: PONY TRUSS PANELS AND BEARING ASSEMBLIES TO BE SAVED FOR CITY OF ELK CITY AND CITY OF CLINTON SHALL REMAIN AS ONE PIECE AND IN PAIRS. STRINGERS, FLOOR BEAMS, AND BOTTOM LATERAL MEMBERS TO BE SAVED SHALL REMAIN WITH TRUSS PANELS. REMAINING PORTIONS OF THE STRUCTURE TO BE DISPOSED IN ACCORDANCE WITH APPROVED DEMOLITION PLAN.



HALF INTERIOR SECTION      HALF END VIEW  
**BRIDGE 'B' - EXISTING TRUSS SECTION**  
(SPANS 2 THROUGH 8)

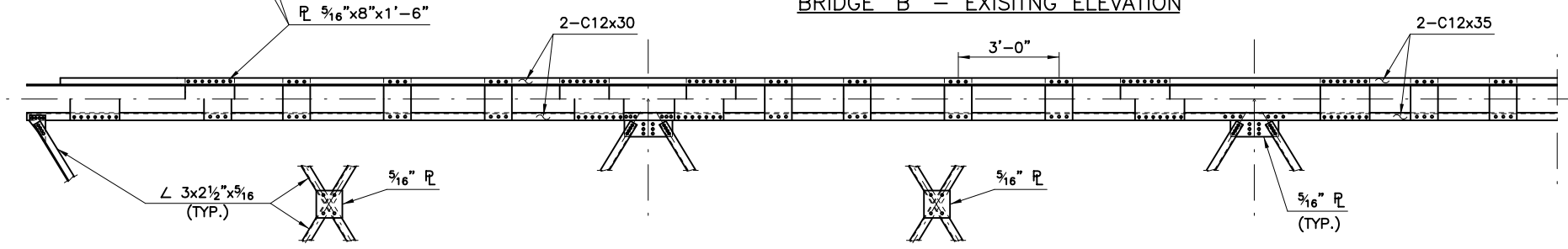
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DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>GENERAL NOTES &amp; SUMMARY OF PAY QUANTITIES (BRIDGE)</b>	
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 2 OF 4 SHEET NO. AB02

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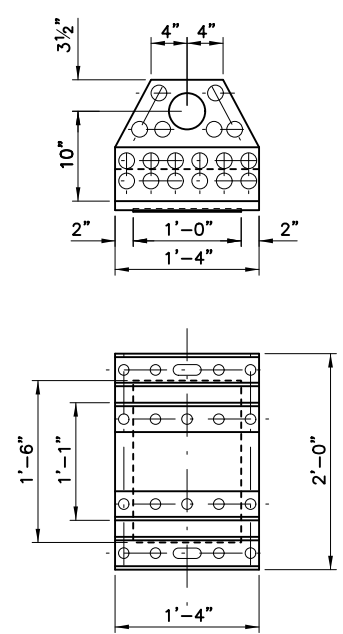
5 PANELS AT 20'-0" = 100'-0" CL BEARING TO CL BEARING

BRIDGE 'B' - EXISTING ELEVATION

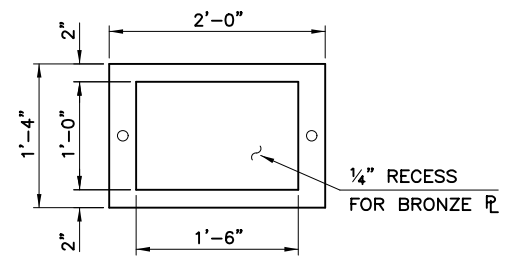


BRIDGE 'B' - EXISTING BOTTOM CHORD AND LATERALS

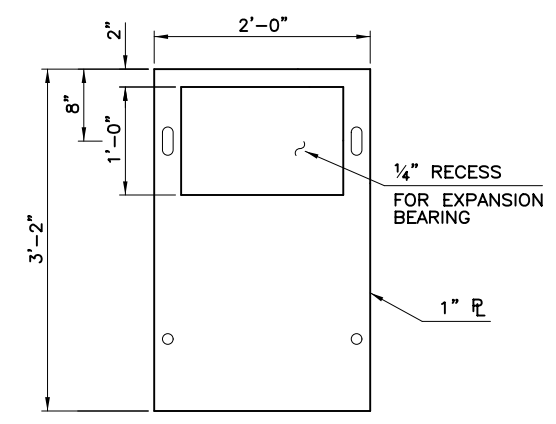
**EXISTING PONY TRUSSES AND END SPAN**  
 INFORMATION SHOWN FOR THE TRUSS SPANS AND END SPANS IS FOR INFORMATION ONLY. ALL DIMENSIONS OF EXISTING BRIDGE COMPONENTS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS NECESSARY TO COMPLETE THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY THEREOF.



FIXED BEARING  
EXPANSION BEARING



PIER NO. 1 AND NO. 8



PIER NO. 2 THRU NO. 7

BRIDGE 'B' - EXISTING DETAILS OF PLATES FOR PIERS

- MATERIAL FOR BEARINGS**  
 2-L6"x4"x3/8"x1'-4"  
 2-L4"x3 1/2"x3/8"x1'-4"  
 2-PL 1 1/4"x13 3/4"x1'-4"  
 1-PL 1"x16"x2'-0" FOR FIX. SHOE  
 1-PL 7/8"x16"x2'-0" FOR EXP. SHOE  
 1-PL 1/4"x12"x1'-6" PHOS. BRONZE FOR EXP. SHOE

DESIGN:	CPY	2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
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STATE JOB PIECE NO: 26999(04)			SHEET 3 OF 4 SHEET NO. AB03	


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### PAY QUANTITY NOTES

- (BR-1) PAYMENT FOR THIS ITEM WILL BE BASED ON THE PLAN QUANTITIES. SEE SUBSECTION 109.01(B) OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- (BR-2) PROVIDE AND INSTALL FIXED BEARING ASSEMBLIES OF THE SIZE, SHAPE, AND LOCATION AS DETAILED IN THE PLANS. THERE IS AN ESTIMATED TOTAL OF 191 LBS OF STRUCTURAL STEEL FOR EACH FIXED BEARING ASSEMBLY AT BOTH ABUTMENTS. INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE ANCHOR PLATES AND ANCHOR BOLTS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS IN THE CONTRACT UNIT PRICE OF "STAINLESS STEEL FIXED BEARING ASSEMBLY".
- (BR-3) PROVIDE AND INSTALL EXPANSION BEARING ASSEMBLIES OF THE SIZE, SHAPE, AND LOCATION AS DETAILED IN THE PLANS. THERE IS AN ESTIMATED TOTAL OF 194 LBS OF STRUCTURAL STEEL FOR EACH EXPANSION BEARING ASSEMBLY AT ALL PIERS. INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE ANCHOR PLATES, FILLER PLATES, AND ANCHOR BOLTS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS IN THE CONTRACT UNIT PRICE OF "STAINLESS STEEL EXPANSION BEARING ASSEMBLY".
- (BR-4) ALL COSTS OF THE SLOPE DRAINS AND SPLASH BASINS INCLUDING MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS SHALL BE INCLUDED IN THE CONTRACT PRICE OF "CLASS C CONCRETE". LOCATION OF SPLASH BASINS AND EXTENTS OF SLOPE DRAINS SHALL BE VERIFIED BY THE ENGINEER.
- (BR-5) PREPARE SURFACE AND INSTALL HIGH MOLECULAR WEIGHT METHACRYLATE SEALER FOR DECK SLAB CONSTRUCTION JOINTS AT LOCATIONS SHOWN IN THE PLANS IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS. INCLUDE COSTS FOR LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "SEALER CRACK PREPARATION".
- (BR-6) SEE GENERAL NOTES FOR "REMOVAL OF EXISTING BRIDGE STRUCTURE - BRIDGE "A"" FOR ADDITIONAL INFORMATION.
- (BR-7) SEE GENERAL NOTES FOR "REMOVAL OF EXISTING BRIDGE STRUCTURE - BRIDGE "B"" FOR ADDITIONAL INFORMATION. PONY TRUSS SPANS SHALL BE DISASSEMBLED AND STORED ON ODOT RIGHT-OF-WAY AS NOTED.
- (BR-8) PAY ITEM "ELASTOMERIC COATING" SHALL CONSIST OF APPLYING A URETHANE COATING TO THE ABUTMENTS AND PIERS AS NOTED IN THE PLANS.

26999(04) PAY QUANTITIES					
0200 BRIDGE "A" NBI NO. 31574 5-100' PRESTRESSED CONC BEAM SPANS X 40'-0" CLR RDY VARYING SKEW					
ITEM CODE		ITEM		UNIT	TOTAL
501(B)	1300	SUBSTRUCTURE EXCAVATION COMMON	(BR-1)	CY	180.00
501(G)	1800	CLSM BACKFILL	(BR-1)	CY	211.90
503(A)	4240	PRESTRESSED CONCRETE BEAMS (TYPE IV)	(BR-1)	LF	2,491.67
504(A)	5200	APPROACH SLAB	(BR-1)	SY	288.60
504(B)	5300	SAW-CUT GROOVING	(BR-1)	SY	2,504.10
504(D)	5420	CONCRETE RAIL (TR4)	(BR-1)	LF	1,126.90
506(A)	7200	STRUCTURAL STEEL	(BR-1)	LB	2,890.00
507(A)	8200	STAINLESS STEEL FIXED BEARING ASSEMBLY	(BR-1)(BR-2)	EA	20.00
507(B)	8300	STAINLESS STEEL EXP. BEARING ASSEMBLY	(BR-1)(BR-3)	EA	30.00
509	0120	ELASTOMERIC COATING	(BR-1)(BR-8)	SF	1,918.00
509(A)	0210	CLASS AA CONCRETE	(BR-1)	CY	551.70
509(B)	0320	CLASS A CONCRETE	(BR-1)	CY	286.80
509(D)	0510	CLASS C CONCRETE	(BR-4)	CY	6.20
511(B)	2310	EPOXY COATED REINFORCING STEEL	(BR-1)	LB	211,820.00
514(A)	5210	PILES, FURNISHED (HP 10X42)		LF	166.00
514(A)	5220	PILES, FURNISHED (HP 12X53)		LF	533.00
514(B)	5310	PILES, DRIVEN (HP 10X42)		LF	166.00
514(B)	5320	PILES, DRIVEN (HP 12X53)		LF	533.00
514(L)	6300	PILE SPLICE, H-PILE (NON-BIDDABLE)		EA	1.00
515(A)	7200	WATER REPELLENT (VISUALLY INSPECTED)	(BR-1)	SY	1,952.00
516(A)	8240	DRILLED SHAFTS 60" DIAMETER		LF	308.00
516(C)	8400	CROSSHOLE SONIC LOGGING		EA	2.00
518(B)	0300	SEALED EXPANSION JOINTS	(BR-1)	LF	86.34
523(A)	3200	SEALER CRACK PREPARATION	(BR-1)(BR-5)	LF	123.00
523(B)	3300	SEALER RESIN	(BR-1)	GAL	2.00
601(B)	1230	TYPE I-A PLAIN RIPRAP		TON	2,020.00
601(C)	1310	TYPE I-A FILTER BLANKET		TON	305.00
613(H)	6205	6" PERFORATED PIPE UNDERDRAIN ROUND	(BR-1)	LF	88.00
613(I)	6310	6" NON-PERF. PIPE UNDERDRAIN RND.		LF	72.00
619(D)	6700	REMOVAL OF EXISTING BRIDGE STRUCTURE	(BR-6)	LSUM	1.00

26999(04) PAY QUANTITIES					
0201 BRIDGE "B" NBI NO. 31575 9-100' PRESTRESSED CONC BEAM SPANS X 40'-0" CLR RDY 0 DEG. SKEW					
ITEM CODE		ITEM		UNIT	TOTAL
202(A)	2210	UNCLASSIFIED EXCAVATION	(BR-1)	CY	1,870.00
202(D)	2510	UNCLASSIFIED BORROW	(BR-1)	CY	220.00
501(B)	1300	SUBSTRUCTURE EXCAVATION COMMON	(BR-1)	CY	180.00
501(G)	1800	CLSM BACKFILL	(BR-1)	CY	211.10
503(A)	4240	PRESTRESSED CONCRETE BEAMS (TYPE IV)	(BR-1)	LF	4,485.00
504(A)	5200	APPROACH SLAB	(BR-1)	SY	281.20
504(B)	5300	SAW-CUT GROOVING	(BR-1)	SY	4,274.60
504(D)	5420	CONCRETE RAIL (TR4)	(BR-1)	LF	1,923.40
506(A)	7200	STRUCTURAL STEEL	(BR-1)	LB	7,710.00
507(A)	8200	STAINLESS STEEL FIXED BEARING ASSEMBLY	(BR-1)(BR-2)	EA	30.00
507(B)	8300	STAINLESS STEEL EXP. BEARING ASSEMBLY	(BR-1)(BR-3)	EA	60.00
509	0120	ELASTOMERIC COATING	(BR-1)(BR-8)	SF	2,996.00
509(A)	0210	CLASS AA CONCRETE	(BR-1)	CY	1,029.60
509(B)	0320	CLASS A CONCRETE	(BR-1)	CY	459.90
509(D)	0510	CLASS C CONCRETE	(BR-4)	CY	6.20
511(A)	2210	REINFORCING STEEL	(BR-1)	LB	590.00
511(B)	2310	EPOXY COATED REINFORCING STEEL	(BR-1)	LB	348,660.00
514(A)	5210	PILES, FURNISHED (HP 10X42)		LF	158.00
514(A)	5220	PILES, FURNISHED (HP 12X53)		LF	497.00
514(B)	5310	PILES, DRIVEN (HP 10X42)		LF	158.00
514(B)	5320	PILES, DRIVEN (HP 12X53)		LF	497.00
514(L)	6300	PILE SPLICE, H-PILE (NON-BIDDABLE)		EA	1.00
515(A)	7200	WATER REPELLENT (VISUALLY INSPECTED)	(BR-1)	SY	3,442.00
516(A)	8240	DRILLED SHAFTS 60" DIAMETER		LF	810.00
516(C)	8400	CROSSHOLE SONIC LOGGING		EA	4.00
518(B)	0300	SEALED EXPANSION JOINTS	(BR-1)	LF	129.50
523(A)	3200	SEALER CRACK PREPARATION	(BR-1)(BR-5)	LF	204.00
523(B)	3300	SEALER RESIN	(BR-1)	GAL	3.00
535	7120	HAULING BEAMS		LSUM	1.00
601(B)	1230	TYPE I-A PLAIN RIPRAP		TON	3,010.00
601(C)	1310	TYPE I-A FILTER BLANKET		TON	235.00
613(H)	6205	6" PERFORATED PIPE UNDERDRAIN ROUND	(BR-1)	LF	84.00
613(I)	6310	6" NON-PERF. PIPE UNDERDRAIN RND.		LF	72.00
619(D)	6700	REMOVAL OF EXISTING BRIDGE STRUCTURE	(BR-7)	LSUM	1.00

DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		
			GENERAL NOTES & SUMMARY OF PAY QUANTITIES (BRIDGE)	
			STATE JOB PIECE NO: 26999(04)	

ypietra cpyb&w\_ANSIB.tbl 7/29/2022 12:00:40 PM  
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 p:/Active Projects/ODOT14515.00/8.00 Plans and Drawings/8.30 Cut Sheets/8.3.01 General/26999BRA\_GN02.dgn

**ENVIRONMENTAL MITIGATION NOTES**



**EARTHWORK NOTE:**

THE CONTRACTOR MUST ENSURE THAT ANY MATERIAL INCORPORATED INTO THE PROJECT IS FREE OF ANY HAZARDOUS, INDUSTRIAL OR CONTAMINATED WASTE, REFER TO SUB-SECTIONS 106.01 AND 202.02 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

IMPORTED MATERIAL (EG. BORROW) - IF MATERIAL IS IMPORTED TO THE PROJECT AND AT ANY POINT THE MATERIAL IS DETERMINED BY THE ENGINEER TO INCLUDE ANY TYPE OF UNACCEPTABLE CONTAMINATION, THE MATERIAL MAY REQUIRE REMOVAL, IN WHOLE, OR IN PART. IF REMOVAL IS REQUIRED, THEN THE INITIAL PLACEMENT, REMOVAL AND PROPER DISPOSAL OF THIS MATERIAL SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE DISPOSAL OF THE UNACCEPTABLE MATERIAL SHALL BE APPROVED BY THE ENGINEER, REFER TO SUB-SECTION 107.15 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

TO ASSIST THE CONTRACTOR, THE "OFF PROJECT FACILITY/BORROW SITE HAZARDOUS MATERIALS QUESTIONNAIRE" IS PROVIDED ON THE DEPARTMENT'S WEB SITE:

<https://oklahoma.gov/content/dam/ok/en/odot/documents/ok-gov-docs/programs-and-projects/environmental/hazard-questionnaire-2016.pdf>

THIS QUESTIONNAIRE IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR SO THAT A CLEARER UNDERSTANDING OF THE CHARACTERISTICS OF THE PROPOSED SITE/ MATERIAL IS ACHIEVED. COMPLETION AND SUBMITTAL OF THIS FORM TO THE ENGINEER DOES NOT EXCUSE THE CONTRACTOR FROM PROVIDING MATERIALS THAT ARE FREE OF HAZARDOUS AND INDUSTRIAL COMPOSITION IN ACCORDANCE WITH SUB-SECTIONS 106.01 AND 202.02 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

**NON-COMPLIANCE NOTE:**

FAILURE TO IMPLEMENT THE COMMITMENTS SPECIFIED IN THE PLAN NOTES CAN RESULT IN NON-COMPLIANCE ISSUES ON THE PROJECT. WORK ACTIVITIES MAY BE SUSPENDED ON THE PROJECT, FOR AN UNDETERMINED DURATION, WHILE WORKING WITH REGULATORS TO BRING THE PROJECT BACK INTO COMPLIANCE. THE CONTRACTOR WILL NOT BE COMPENSATED FOR TIME LOST.

**WATER QUALITY CONSERVATION NOTE:**

APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE IMPACTS FROM STORM WATER DISCHARGES AND SEDIMENTATION IN STREAMS, AS ESTABLISHED BY THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY, SHALL BE CONSCIENTIOUSLY IMPLEMENTED THROUGHOUT THE PROPOSED CONSTRUCTION PERIODS, IN ORDER TO MINIMIZE ANY POTENTIAL IMPACTS TO ANY LISTED SPECIES. THE EFFECTIVENESS OF EROSION CONTROLS SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION ACTIVITIES. HAZARDOUS MATERIALS, CHEMICALS, FUELS, LUBRICATING OILS, AND OTHER SUCH SUBSTANCES SHALL BE STORED AT LEAST 100 FEET FROM THE ORDINARY HIGH WATER MARK (OHWM). REFUELING OF CONSTRUCTION EQUIPMENT SHALL ALSO BE CONDUCTED AT LEAST 100 FEET FROM THE OHWMS. SEDIMENT AND EROSION CONTROLS SHALL BE INSTALLED AROUND STAGING AREAS TO PROHIBIT DISCHARGE OF MATERIALS FROM THESE SITES. CONSTRUCTION WASTE MATERIALS AND DEBRIS SHALL BE STOCKPILED AT LEAST 25 FEET OUTSIDE OF THE OHWMS, AND THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF PROPERLY FOLLOWING COMPLETION OF THE PROJECT. PREVENTATIVE MEASURES MUST BE TAKEN TO PROHIBIT THE DISCHARGE OF CONTAMINANTS INTO ANY SURFACE WATERS.

**CULTURAL RESOURCES AVOIDANCE NOTE:**

LOCATIONS OUTSIDE THE PROJECT AREA IN THE FOLLOWING AREA MUST NOT BE UTILIZED FOR BORROW, EQUIPMENT STAGING, HAUL ROADS, SPOIL DUMPS OR ANY OFF-SITE PROJECT-RELATED ACTIVITY.

T8NR22W  
SECTION 22: NW1/4 SE1/4 SE1/4

**WHOOPIING CRANE PLAN NOTE:**

IF WHOOPING CRANES ARE SEEN AT OR WITHIN ONE MILE OF THE PROPOSED WORK SITE, THE RESIDENT ENGINEER SHALL IMMEDIATELY CONTACT THE ODOT BIOLOGIST. IF THERE IS A CONFIRMED SIGHTING AND/OR WHOOPING CRANES ARE OBSERVED WITHIN ONE MILE OF THE PROPOSED WORK SITE, ALL CONSTRUCTION ACTIVITIES SHALL CEASE UNTIL IT IS DETERMINED THAT WHOOPING CRANES HAVE LEFT THE PROJECT VICINITY WITHOUT BEING HARASSED.

**BALD EAGLE NOTE:**

SUITABLE NESTING, ROOSTING OR FORAGING HABITAT FOR THE BALD EAGLE OCCURS WITHIN THE PROJECT'S ACTION AREA. THE BALD EAGLE NESTING SEASON IN OKLAHOMA EXTENDS FROM SEPTEMBER 16, THROUGH MAY 31. THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST TO SCHEDULE A NEST SURVEY. NEST SEARCH SURVEYS CAN ONLY BE CONDUCTED WHEN LEAVES ARE NOT ON THE TREES TYPICALLY BETWEEN DECEMBER 1ST AND FEBRUARY 28TH. NO WORK MAY OCCUR WITHIN SUITABLE BALD EAGLE HABITAT, LOCATED THE FULL EXTENT OF THE PROJECT AREA, DURING THE NESTING SEASON (SEPTEMBER 16, THROUGH MAY 31) UNTIL THE COMPLETION OF THE SURVEY BY THE ODOT BIOLOGIST. IF NESTS ARE OBSERVED, A NO-WORK BUFFER UP TO A DISTANCE OF 660 FEET SHALL BE PLACED AROUND THE NEST. THE EXACT DISTANCE OF THE BUFFER ZONE SHALL BE ESTABLISHED BY THE ODOT BIOLOGIST IN CONSULTATION WITH US FISH AND WILDLIFE SERVICES. IF THE BUFFER CANNOT BE MAINTAINED, ALL CLEARING, EXTERNAL CONSTRUCTION AND LANDSCAPING ACTIVITIES, WITHIN THE BUFFER, SHALL BE CONDUCTED BETWEEN JUNE 1 AND SEPTEMBER 15 (OUTSIDE THE NESTING SEASON).

**MIGRATORY BIRD NOTE:**

MIGRATORY BIRDS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. MANY BIRDS COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR MOST MIGRATORY BIRD SPECIES EXTENDS FROM MARCH 1 TO AUGUST 31. MIGRATORY BIRD NESTING USE OF THE SH-34 NORTH FORK BRIDGE (NBI:03815) AND SH-34 TRIBUTARY BRIDGE (NBI:03804) WAS OBSERVED. PAINTING, REPAIR, RETROFIT, REHABILITATION OR DEMOLITION OF THE EXISTING BRIDGES SHALL BE CONDUCTED BETWEEN SEPTEMBER 1, AND FEBRUARY 28, WHEN MIGRATORY BIRD NESTS ARE NOT OCCUPIED. IF PAINTING, REPAIR, RETROFIT, REHABILITATION OR DEMOLITION CANNOT BE COMPLETED BETWEEN SEPTEMBER 1 AND FEBRUARY 28, THE BRIDGES SHALL BE PROTECTED FROM NEW NEST ESTABLISHMENT PRIOR TO MARCH 1, BY MEANS THAT DO NOT RESULT IN BIRD DEATH OR INJURY. OPTIONS INCLUDE THE EXCLUSION OF ADULT BIRDS FROM SUITABLE NEST SITES ON OR WITHIN A STRUCTURE BY THE PLACEMENT OF WEATHER-RESISTANT POLYPROPYLENE NETTING WITH 0.25-INCH OR SMALLER OPENINGS, PRIOR TO MARCH 1. METHODS OTHER THAN NETTING MUST BE PRE-APPROVED BY THE ODOT BIOLOGIST.

ALTHOUGH NO NESTS WERE OBSERVED ON ALL OTHER STRUCTURES, THE BIRDS MAY OCCUPY THE STRUCTURES IN THE FUTURE. THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST IF ANY BIRD USE OF THESE STRUCTURES IS OBSERVED. IF BIRDS ARE OBSERVED THEN PAINTING, REPAIR, RETROFIT, REHABILITATION OR DEMOLITION OF THE EXISTING BRIDGES AND CULVERT SHALL BE CONDUCTED BETWEEN SEPTEMBER 1, AND FEBRUARY 28 (WHEN MIGRATORY BIRD NESTS ARE NOT OCCUPIED).

**ENVIRONMENTAL MITIGATION NOTES**

**INTERIOR LEAST TERN NOTE:**

INTERIOR LEAST TERNS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. INTERIOR LEAST TERNS POTENTIAL NESTING HABITAT IS PRESENT WITHIN AND DOWNSTREAM OF THE NORTH FORK OF THE RED RIVER WITHIN THE PROJECT AREA. THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST TO SCHEDULE A PRE-CONSTRUCTION NESTING SURVEY DURING THE MONTH OF JUNE; SURVEYS ARE VALID FOR THAT NESTING SEASON ONLY. IF CONSTRUCTION ACTIVITIES WILL OCCUR DURING THE ACTIVE NESTING SEASON FOR THIS SPECIES (MAY 1 THROUGH AUGUST 31), A 0.25 MILE NO-WORK-ZONE BUFFER FROM THE ORDINARY HIGH WATER MARK OF THE ARKANSAS RIVER WILL BE ESTABLISHED UNTIL THE NESTING SURVEY CAN BE COMPLETED. IF THE SURVEY FINDS INTERIOR LEAST TERNS NESTING IN THE AREA, ALL WORK WITHIN 0.25 MILES OF ANY NESTING COLONIES WILL BE POSTPONED UNTIL AFTER SEPTEMBER 1 (THE END OF NESTING SEASON) AND BE COMPLETED BY APRIL 30, THE FOLLOWING YEAR.

SPECIES	SEASONAL RESTRICTION PERIOD
BALD EAGLE	SEPTEMBER 16 – MAY 31
MIGRATORY BIRDS: SWALLOWS AND PHOEBES (NESTS PRESENT)	MARCH 1 – AUGUST 31
MIGRATORY BIRDS: INTERIOR LEAST TERN	MAY 1 – AUGUST 31

REVISIONS		
REV. NO.	DESCRIPTION	DATE
△	SHEET ADDED	06/13/2022

<b>ENVIRONMENTAL NOTES</b>	DETAIL	
	REVIEW	
	APPROVED	
	ENVIRONMENTAL DIVISION	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB/PIECE NO. 26999(04) SHEET NO. AE01

### 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-3) INCLUDES 3000 CU. YDS. FOR DRIVEWAYS, RETURNS, DIKES, AND MISCELLANEOUS.
- (R-4) AN ESTIMATED QUANTITY OF 26,350 C.Y. TOPSOIL TO BE RESERVED FOR REPLACEMENT OF APPROXIMATELY 5' ON COMPLETED FORESLOPES, DITCHES, AND BACKSLOPES. THIS QUANTITY IS INCLUDED IN THE EARTHWORK BALANCE. ANY ADDITIONAL EXCAVATION REQUIRED IN CUT SECTIONS TO ALLOW FOR PLACEMENT OF TOPSOIL TO FINAL GRADE, SHALL BE INCLUDED IN THE PRICE BID.
- (R-6) FOR TYPE A - SALVAGED TOPSOIL PRICE BID TO INCLUDE COST OF 18-46-0 FERTILIZER, ESTIMATED AT 150 POUNDS PER ACRE.  
FOR SOLID SLAB SODDING PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 POUNDS PER 1,000 SQ. YDS.
- (R-7) FOR SOLID SLAB SODDING PRICE BID TO INCLUDE THE COST OF WATERING, ESTIMATED AT 80 GALLONS PER S.Y.
- (R-11) THE QUANTITIES ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 39 ACRES.
- (R-15) QUANTITY BASED ON TWO APPLICATIONS.
- (R-18) ESTIMATED AT 120 LBS. PER CU. FT.
- (R-21) 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 CUTBACK 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-24) ESTIMATED AT 112 LBS. PER SQ. YD. PER 1" THICK.
- (R-31) QUANTITY INCLUDES AN ESTIMATED 20 C.Y. TO BE USED AS DIRECTED BY THE ENGINEER.
- (R-37) INCLUDES REMOVAL OF ALL EXISTING ROADWAY DRAINAGE STRUCTURES, HEADWALLS (UNLESS OTHERWISE SPECIFIED), INLETS, FENCES, AND OTHER STRUCTURES WITHIN THE RIGHT-OF-WAY.
- (R-38) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
- (R-39) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIED EXCAVATION.
- (R-41) INCLUDES 2% FOR GROUND MEASUREMENT.
- (R-42) ALL GATES AND GATE END POSTS FOR STRANDED WIRE FENCE (SWF) SHALL BE CONSTRUCTED AT THE SAME WIDTH AS THE EXISTING, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

### PAY ITEM NOTES

- (1) INCLUDES 168 CY OF EXCAVATION FOR ROADWAY DRAINAGE STRUCTURES AND 655 CY OF EXCAVATION FOR BRIDGE HEADERS EXTENTS. SEE SUMMARY OF DRAINAGE STRUCTURES FOR DETAILS.
- (2) PRICE BID FOR THIS ITEM TO INCLUDE THE COST OF SEDIMENT REMOVAL AS REQUIRED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.
- (3) INCLUDES 100 TONS ADDITIONAL QUANTITY TO BE USED AS DIRECTED BY THE ENGINEER.
- (4) ESTIMATED AT 0.075 GAL PER S.Y. PRIOR TO DILUTION.
- (5) PRICE BID INCLUDES 12 CY TO PLUG AND ABANDON EXISTING STRUCTURES AS SHOWN ON PLAN AND PROFILE SHEETS.
- (6) PRICE BID INCLUDES TRENCH EXCAVATION, BACKFILL MATERIAL, AND STANDARD BEDDING MATERIAL AS SHOWN ON STD SPI-4, SPB-1(LATEST VERSION) AND ON THE SUMMARY OF DRAINAGE STRUCTURES.
- (7) PRICE SHALL INCLUDE, BUT NOT LIMITED TO THE REMOVAL OF CONCRETE DITCH LINER, CONCRETE FLUMES, FOOTINGS, STRUCTURES, STORM SEWERS, PIPELINES, LIGHT POLES, FENCES, GUARDRAIL, METER BOXES, POLES, SHEET METAL SIGNS, DELINEATORS, ETC. AND ANY OTHER NON-ORGANIC ITEM NOT SPECIFICALLY LISTED AS REMOVAL PAY ITEM. ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.  
  
THE FOLLOWING ITEMS SHALL ALSO BE REMOVED. ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.  
  

STATION	DESCRIPTION
78+76.41, 246' RT, PARCEL NO. 4	1 WATER WELL
- (8) PLUGGING ABANDONED WATER WELLS WILL BE HANDLED IN ACCORDANCE WITH CURRENT REGULATIONS ESTABLISHED BY THE OKLAHOMA WATER RESOURCES BOARD BY A LICENSED WELL-DRILLER.
- (9) THIS PAY ITEM WILL INCLUDE THE 31 INCH MASH SKT OR APPROVED SUBSTITUTE.
- (10) IN ADDITION TO SELECTION 642.04(B) THE CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING: SURVEY CONTROL POINTS, REFERENCE POINTS AND BENCH MARKS NOTED ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND REFERENCING THE CENTERLINE POINTS REQUIRED FOR CONSTRUCTION TO INCLUDE BRIDGE, CURVES, CONSTRUCTION REFERENCE LINES (CRL), AND RIGHT-OF-WAY. THE SURVEYOR WILL PROVIDE THE RESIDENT ENGINEER WITH A COMPUTERIZED DISK OF SURVEY DATA.  
  
THE SURVEYOR WILL IDENTIFY AND VERIFY BENCH MARKS SET AND MAINTAIN ADDITIONAL BENCH MARKS WITHIN THE PROJECT LIMITS AT A MINIMUM OF 500' AS REQUIRED TO ENSURE CONSTRUCTION OF A SMOOTH PROFILE OF MAINLINE AND TO ENSURE SMOOTH TRANSITIONS AT THE BOP, EOP, AND BRIDGES AS REQUIRED IN SECTION 642.04(C). THE SURVEYOR WILL SET TWO BENCHMARKS ON EACH BRIDGE, ONE ON EACH ABUTMENT. THE SURVEY WILL PROVIDE A COPY OF CHECKED BENCH MARKS TO THE RESIDENT ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO BEGINNING ANY EARTHWORK PAY ITEMS.
- (11) QUANTITY IS FOR OUTFALL OF DRAINAGE STRUCTURE NUMBER 6.
- (12) INCLUDES 1,011 CY OF EMBANKMENT FOR BRIDGE HEADERS.
- (13) MULTIPLE MOBILIZATIONS WILL BE REQUIRED TO COMPLETE SODDING OPERATIONS.
- (14) THE REMOVAL SHALL BE DONE BY COLD MILLING, AND MILLINGS SHALL REMAIN PROPERTY OF THE STATE AND DELIVERED TO A SPECIFIED LOCATION WITHIN 10 MILES OF THE PROJECT SITE.

26999(04) SUMMARY OF PAY QUANTITIES				
0100 ROADWAY				
ITEM NO.	SPEC CODE	DESCRIPTION	UNIT	QUANTITY
201(A)	1200	CLEARING AND GRUBBING	LSUM	1
202(A)	2200	UNCLASSIFIED EXCAVATION	(R-1)(1)(18) CY	40,863
202(C)	2400	ROCK EXCAVATION	(18)(19) CY	14,472
202(D)	2500	UNCLASSIFIED BORROW	(12)(15)(19)(R-3) CY	184,813
205(A)	6200	TYPE A - SALVAGED TOPSOIL	(R-4)(R-6) LSUM	1
221(B)	2300	TEMPORARY SILT FENCE	(2) LF	21,492
221(E)	2600	TEMPORARY SILT DIKE	(2) LF	1,785
221(F)	2700	TEMPORARY ROCK FILTER DAM TYPE I	(2) CY	15
230(A)	7200	SOLID SLAB SODDING	(13)(R-6)(R-7) SY	189,699
233(A)	0200	VEGETATIVE MULCHING	(17)(R-11) AC	39
241	3100	MOWING	(R-15) AC	78
307(K)	4200	STABILIZED SUBGRADE	(20) SY	55,082
402(E)	2600	TRAFFIC BOUND SURFACE COURSE TYPE E	(3)(R-18) TON	902
407(B)	7300	TACK COAT	(4) GAL	11,529
408	8100	PRIME COAT	(R-21) GAL	20,584
411(B)	1330	SUPERPAVE, TYPE S3(PG 64-22 OK)	(R-24) TON	26,001
411(C)	1430	SUPERPAVE, TYPE S4(PG 64-22 OK)	(R-24) TON	5,821
501(A)	1200	STRUCTURAL EXCAVATION UNCLASSIFIED	(R-1) CY	59
509(A)	0200	CLASS AA CONCRETE	(R-1) CY	235
509(D)	0500	CLASS C CONCRETE	(5)(R-31) CY	348
511(A)	2200	REINFORCING STEEL	(R-1) LB	34,450
601(A)	1100	TYPE I PLAIN RIPRAP	(11) TON	21
613(A)	5208	18" R.C. PIPE CLASS III	(6) LF	60
613(A)	5216	24" R.C. PIPE CLASS III	(6) LF	142
613(A)	5224	36" R.C. PIPE CLASS III	(6) LF	122
613(A)	5358	28" X 18" R.C. PIPE ARCH CLASS A-III	(6) LF	176
613(B)	5508	18" CORR. GALV. STEEL PIPE	(6) LF	496
613(L)	6716	24" PREFAB. CULVERT END SEC., ROUND	EA	1
613(M)	6960	TYPE A4 CULVERT END TREATMENT	EA	14
613(M)	6972	TYPE D4 CULVERT END TREATMENT	EA	2
613(M)	7008	TYPE B6 CULVERT END TREATMENT	EA	2
613(M)	7028	TYPE BB6 CULVERT END TREATMENT	EA	2
619(A)	6200	REMOVAL OF STRUCTURES & OBSTRUCTIONS	(7)(8)(R-37)(R-38)(R-39) LSUM	1
619(B)	6364	REMOVAL OF ASPHALT PAVEMENT	(14)(R-39) SY	34,213
619(B)	6396	REMOVAL OF GUARDRAIL	(16) LF	1,928
619(C)	6600	SAWING PAVEMENT	LF	680
623(A)	1200	BEAM GUARDRAIL W-BEAM SINGLE	LF	950
623(G)	1820	GUARDRAIL END TREATMENT (31")	(9) EA	8
623(I)	2050	GUARDRAIL BRIDGE CONN-THRIE BEAM (31")	EA	8
624(C)	3405	FENCE - STYLE SWF (5 BARBED WIRE)	(R-41)(R-42) LF	15,246

26999(04) SUMMARY OF PAY QUANTITIES				
0600 STAKING				
ITEM NO.	SPEC CODE	DESCRIPTION	UNIT	QUANTITY
642(B)	3300	CONSTRUCTION STAKING LEVEL II	(10) LSUM	1

26999(04) SUMMARY OF PAY QUANTITIES				
0640 CONSTRUCTION				
ITEM NO.	SPEC CODE	DESCRIPTION	UNIT	QUANTITY
220	1100	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1
641	2110	MOBILIZATION	LSUM	1

- (15) THE CONTRACTOR SHALL LIMIT THE AMOUNT OF SULFATES IN THE SOIL TO LESS THAN 1000 PPM AND DO NOT INCORPORATE IN THE TOP 24 INCHES.
- (16) THE GUARDRAIL REMOVED SHALL BECOME THE PROPERTY OF BECKHAM COUNTY AND SHALL BE PLACED WITHIN THE RIGHT-OF-WAY FOR PICK-UP.
- (17) VEGETATIVE MULCH SHALL BE WHEAT HAY ONLY.
- (18) BASED ON SOILS MAPS, ROCK OUTCROPS MAY BE ENCOUNTERED NEAR THE CUT LOCATION (STA. 171+00 TO 178+00) ON THE NORTH END OF THE PROJECT. THE UNCLASSIFIED EXCAVATION WAS REDUCED BY AN ESTIMATED 14,472 C.Y., TO BE INCLUDED IN THE BID PRICE AS ROCK EXCAVATION.
- (19) BASED ON SOILS MAPS, BEDROCK MAY BE ENCOUNTERED WITHIN 0-10 INCHES OF THE SURFACE NEAR THE CUT LOCATION (STA. 171+00 TO 178+00) ON THE NORTH END OF THE PROJECT. THE UNCLASSIFIED BORROW WAS INCREASED BY AN ESTIMATED 16,643 (14,472 + 15%) C.Y. TO ACCOUNT FOR THE UNSUITABLE MATERIAL FROM ROCK EXCAVATION.
- (20) THE COST OF THE CHEMICAL ADDITIVE AT A RATE SPECIFIED FOR THE APPROPRIATE SOIL CLASSIFICATION IN ACCORDANCE WITH OHDL-50 TO BE INCLUDED IN THE UNIT PRICE FOR STABILIZED SUBGRADE.

DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE BECKHAM COUNTY OF THE RED RIVER <b>ROADWAY QUANTITIES AND PAY ITEM NOTES</b> STATE JOB PIECE NO: 26999(04)
DRAWN: CPY 2017	
CHECKED: CPY 2017	
APPRVD: CPY 2017	

SHEET 1 OF 1  
SHEET NO. AR01

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	AR02	175
NO.	DATE	DESCRIPTION			
1	10/25/22	ADDED TESTING OF WATER SOURCES			

**GENERAL CONSTRUCTION NOTES**

MAINTENANCE OF THROUGH TRAFFIC INCLUDES THE MAINTENANCE OF THE EXISTING ROAD IN CLOSE PROXIMITY TO THE NEW CONSTRUCTION AS SHOWN ON THE PLANS.

FOR PROJECTS THAT INCLUDE WIDENING AND/OR RESURFACING, THE CONTRACTOR SHALL SCHEDULE OPERATIONS TO MINIMIZE POTENTIAL DROP-OFF HAZARDS AND SHALL SUBMIT A SEQUENCE OF CONSTRUCTION OPERATIONS TO THE RESIDENT ENGINEER FOR APPROVAL BEFORE OPERATIONS BEGIN. ANY PORTION OF THE CONSTRUCTION OPERATIONS, SUCH AS SUPERPAVE LAYING OPERATIONS, EXCAVATION FOR PAVEMENT WIDENING, OR EXTENSION OF ROADWAY STRUCTURES, SHALL BE LIMITED TO ONE SIDE AT A TIME, AND THE PROCEDURES OUTLINED IN THE PAVEMENT DROP-OFF TREATMENT STANDARD PDT-I(LATEST REVISION) SHALL BE IMPLEMENTED. ONLY THAT AMOUNT OF OPEN TRENCH WILL BE ALLOWED THAT CAN BE SURFACED IN 1 (ONE) DAY'S TIME WITHOUT APPROVAL BY THE ENGINEER. LIGHTS, SIGNS AND BARRICADES SHALL BE MOVED AS WORK PROGRESSES.

ALL TREES, BRUSH, AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER SHALL BE CLEANED OUT TO THE RIGHT-OF-WAY LINE, AT EACH STRUCTURE AND BRIDGE, IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY RIGHT-OF-WAY FENCE AS REQUIRED. WHEN THE PORTION OF THE PROJECT THAT REQUIRED THIS FENCE IS COMPLETED, THE TEMPORARY FENCE SHALL BE REMOVED, AND PERMANENT RIGHT-OF-WAY FENCING SHALL BE RESTORED OR INSTALLED IN A MANNER APPROVED BY THE ENGINEER. ALL COST OF TEMPORARY FENCING SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

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

IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OPERATIONS AND BEFORE PAVEMENT WORK IS COMPLETED, THE CONTRACTOR SHALL SPRINKLE GRADING AT INTERVALS APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

THIS PROJECT IS LOCATED NEAR KNOWN SOURCES OF GYPSUM (SULFATE) DEPOSITS. SPECIAL ATTENTION SHOULD BE USED TO AVOID BORROW MATERIAL THAT COULD ADVERSELY INTERACT WITH THE CALCIUM BASED ADDITIVES (FLY ASH, PORTLAND CEMENT, CEMENT KILN DUST, AND LIME) USED IN THE STABILIZED SUBGRADE. THE CONTRACTOR MAY BE REQUIRED TO PROVIDE **▲** SULFATE TESTING OF BORROW PIT SITES AND WATER SOURCES AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL NOT WASTE ANY EXCESS EXCAVATION UNTIL ALL PLANNED EMBANKMENTS AND BACKFILLS ARE COMPLETED. EXCESS UNCLASSIFIED EXCAVATION MATERIAL DETERMINED BY THE ENGINEER TO BE SUITABLE FOR BACKFILL SHALL BE USED TO REDUCE ANY UNCLASSIFIED BORROW NEEDED. COST OF SECOND HANDLING SHALL BE INCLUDED IN OTHER ITEMS OF WORK. ANY REMAINING EXCESS EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

PRIME COAT SHALL BE APPLIED TO THE SUBGRADE IMMEDIATELY AFTER FINAL COMPACTION AND SHAPING TO RETAIN MOISTURE FOR PROPER CHEMICAL REACTION OF THE SOIL ADDITIVE.

THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

VEGETATIVE MULCHING: THE VEGETATIVE MULCH SHALL BE ANCHORED IN ACCORDANCE WITH THE "MULCHING-TILLER METHOD", AS SPECIFIED IN 233.04B(2) OF THE STANDARD SPECIFICATIONS.

AT THE BEGINNING OF TURFING OPERATIONS, ANY AREAS INCLUDED IN PLANNED QUANTITIES THAT HAVE GROWN A SATISFACTORY VOLUNTEER TURF OF 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.

THE CONTRACTOR SHALL REMOVE AND RESET MAILBOXES AS NECESSARY. MAILBOXES ARE TO BE MAINTAINED IN AN UPRIGHT POSITION AND ACCESSIBLE TO MAIL CARRIER'S CAR DURING CONSTRUCTION. ANY DAMAGE TO BOXES OR SUPPORTS SHALL BE REPAIRED BY THE CONTRACTOR. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

SURFACING OF RETURNS, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL BE OF THE SAME MATERIAL (BASE AND SURFACE) AS THAT OF THE ABUTTING SHOULDER OF THE MAINLINE. BASE AND SURFACE THICKNESS SHALL BE THE THICKNESS SHOWN ON PLANS.

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

EXCESS ASPHALT AT JOINTS AND CRACKS IN EXISTING PAVEMENT SHALL BE REMOVED FLUSH TO TOP OF PAVING IN A MANNER APPROVED BY THE ENGINEER.

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

**SUGGESTED SEQUENCE OF CONSTRUCTION**

**PHASE 1**

- (1) INSTALL ROAD TRAFFIC CONTROL SIGNS AND DEVICES BASED ON PHASE 1 TRAFFIC CONTROL.
- (2) CONSTRUCT BRIDGE "A" AND "B".
- (3) CONSTRUCT GRADING, PAVING AND DRAINAGE FROM STA. 75+00 TO 182+50.
- (4) EARTHWORK WILL BE PHASED BETWEEN PHASE 1 AND PHASE 2B FROM THE FOLLOWING STATIONS, 75+00 TO 79+00 AND 120+00 TO 182+50

**PHASE 2A**


- (1) CONSTRUCT TEMPORARY WIDENING AS SHOWN ON THE PLAN AND PROFILE SHEETS.
- (2) INSTALL ROAD TRAFFIC CONTROL DEVICES, SIGNS, PORTABLE TRAFFIC SYSTEMS, AND PORTABLE LONGITUDINAL BARRIER BASED ON PHASE 2A TRAFFIC CONTROL.
- (3) CONSTRUCT EAST 20'-0" OF PROPOSED ROADWAY. SEE PHASE 2A TRAFFIC CONTROL PLAN AND TCP TYPICAL SECTIONS. STATION RANGE 65+40 TO 75+00 AND 182+50 TO 191+00.

**PHASE 2B**

- (1) INSTALL ROAD TRAFFIC CONTROL DEVICES, SIGNS, PORTABLE TRAFFIC SYSTEMS, AND PORTABLE LONGITUDINAL BARRIER BASED ON PHASE 2B TRAFFIC CONTROL.
- (2) CONSTRUCT WEST 20'-0" OF PROPOSED ROADWAY. SEE PHASE 2B TRAFFIC CONTROL PLAN AND TCP TYPICAL SECTIONS. STATION RANGE 65+40 TO 75+00 AND 182+50 TO 191+00.
- (3) COMPLETE GRADING AND DRAINAGE STRUCTURE WORK FROM STA. 75+00 TO 79+00 AND 120+00 TO 182+50.
- (4) COMPLETE REMOVAL OF ASPHALT ROAD ALONG THE CL OF SURVEY FROM CL SURVEY STA. 80+00 TO CL SURVEY STA. 120+00. REMOVE AND DECONSTRUCT EXISTING BRIDGES.

**\*\*NOTE\*\*** PRIOR TO CONSTRUCTION, THE CONTRACTOR MAY SUBMIT AN ALTERNATIVE WRITTEN SEQUENCE TO THE ENGINEER FOR APPROVAL.

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DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE BECKHAM COUNTY OF THE RED RIVER
DRAWN: CPY 2017	
CHECKED: CPY 2017	
APPRVD: CPY 2017	
<b>GENERAL NOTES (ROADWAY)</b>	
	
STATE JOB PIECE NO: 26999(04) SHEET 1 OF 1 SHEET NO.AR02	

SUMMARY OF SURFACING						
PLAN SHEET	STATION TO STATION CRL	8" STABILIZED SUBGRADE	TACK COAT	PRIME COAT	SUPERPAVE TYPE S3 (PG 64-22 OK)	SUPERPAVE TYPE S4 (PG 64-22 OK)
		307(K) SY	407(B) GAL	408 GAL	411 (B) TON	411 (C) TON
	<b>MAINLINE</b>					
1	BOP TO 76+00	5200.00	1089.31	2127.83	2487.40	550.15
2	76+00 TO 91+00	4690.58	961.96	1641.70	2154.79	468.17
3	91+00 TO 106+00	7500.00	1540.61	2625.00	3450.97	749.78
4	106+00 TO 121+00	7500.00	1540.61	2625.00	3450.97	749.78
5	121+00 TO 136+00	7500.00	1540.61	2625.00	3450.97	749.78
6	136+00 TO 151+00	2691.67	552.92	942.08	1238.53	269.09
7	151+00 TO 166+00	7500.00	1540.61	2625.00	3450.97	749.78
8	166+00 TO 181+00	7500.00	1540.61	2625.00	3450.97	749.78
9	181+00 TO EOP	5000.00	1085.25	2482.06	2561.27	584.57
	<b>TOTALS</b>	<b>55,082</b>	<b>11,392</b>	<b>20,319</b>	<b>25,697</b>	<b>5,621</b>

SUMMARY OF TEMPORARY SEDIMENT CONTROLS				
STATION TO STATION CRL	TEMPORARY SILT FENCE	TEMPORARY SILT DIKE	TEMPORARY ROCK FILTER DAM (TYPE 1)	VEGETATIVE MULCHING
	221(B) LF	221(E) LF	221(F) CY	233(A) AC
<b>MAINLINE</b>				
BEGIN PROJECT TO 91+00	2010.69	238.00		4.21
91+00 TO 121+00	3287.80	42.00		6.48
121+00 TO 151+00	3426.27	357.00	6.00	7.28
151+00 TO 181+00	3235.88	693.00	9.00	10.05
181+00 TO END PROJECT	1659.20	126.00		2.21
(EXIST.) STA 76+00 TO 106+00	2697.52	14.00		6.32
(EXIST.) STA 106+00 TO 121+00	5174.70	315.00		2.66
<b>TOTALS</b>	<b>21,492</b>	<b>1,785</b>	<b>15</b>	<b>39.2</b>

DRAINAGE SUMMARIES																				
STRUCTURE NO.	STATION	DESCRIPTION	DESIGN	FILL HEIGHT FT.	UNCLASSIFIED EXCAVATION	STRUCTURAL EXCAVATION UNCLASSIFIED	CLASS "AA" CONCRETE	REINFORCING STEEL	28"x18" RCPA RCPA	18" RCP	24" RCP	36" RCP	18" CGSP	24" PREFAB. CULVERT END SEC., ROUND	TYPE A4 CULVERT END TREATMENT	TYPE D4 CULVERT END TREATMENT	TYPE B6 CULVERT END TREATMENT	TYPE BB6 CULVERT END TREATMENT	(*) TRENCH EXCAVATION	(*) STANDARD BEDDING MATERIAL (CLASS C)
					202(A) CY	501(A) CY	509(A) CY	511(A) LB	613(A) LF	613(A) LF	613(A) LF	613(A) LF	613(B) LF	613(L) EA	613(M) EA	613(M) EA	613(M) EA	613(M) EA	613(V) CY	613(R) CY
1	65+90	CONST. 2-28" X 18" X 88.0' LG. RCPA 42' LT & 46' RT W/ CET GR	FHTCP-4-0, SPI-5-1, SPB-5-1, CET6D-4-1						176.00									2.00	105.33	55.00
2	68+18.22	CONST. 18" CGSP 46' LG 44' RT W/ CET NG	FHTMPP-2-0, SPI-5-1, SPB-5-1, CET4S-4-1	1.75									46.00		2.00					
T1	78+83.95	CONST. TEMP 18" 60' LG CGSP SD 49' LT	FHTMPP-2-0, SPI-5-1, SPB-5-1	3.75									60.00							
3	81+91.64	CONST. 18" CGSP 92' LG SD 70' LT W/ CET NG	FHTMPP-2-0, SPI-5-1, SPB-5-1, CET4S-4-1	4.60									92.00		2.00					
4	121+72.00	CONST. 18" CGSP 42' LG SD 45' RT W/ CET NG	FHTMPP-2-0, SPI-5-1, SPB-5-1, CET4S-4-1	1.50									42.00		2.00					
T2	122+84.55 (CL)	CONST. TEMP 18"x32' LG CGSP SD 53' LT	FHTMPP-2-0, SPI-5-1, SPB-5-1	1.55									32.00							
5	130+87.33	CONST. 5'X5' RCB, 92.6' LG, SK. 0°45.4' LT & 47.2' RT. W/STD. HD. WALLS & 4' CURT. WALLS	SBI-5-1, RCB-C1-3&4&5(2-20), RCB-E1-H5-0-1, RCB-E1-H5-0-2, RCB-CW1-D4-0		85.00	28.00	104.40	15551.00												
6	155+38.21	CONST. 24" X 126.0' LG. RCP 57.0' LT. & 69.0' RT. W/ CET NG	FHTCP-4-0, SPI-5-1, SPB-5-1, CET6S-4-1								126.00						2.00		219.00	48.00
7	160+82.68	CONST. 36" RCP 122' LG SD 73' RT NG	FHTCP-4-0, SPI-5-1, SPB-5-1, CET4S-4-1	6.42								122.00				2.00				
8	161+11.87	CONST. 18" RCP 60' LG SD 45' LT NG	FHTCP-4-0, SPI-5-1, SPB-5-1, CET4S-4-1	2.20					60.00						2.00					
9	164+60.51	CONST. 5'X7' RCB, 66.0' LG, SK. 0°66.0' LT & 47.2' RT. W/STD. HD. WALLS & 4' CURT. WALLS	SBI-5-1, RCB-C1-3&4&5(2-20), RCB-E1-H7-0-1, RCB-E1-H7-0-2, RCB-CW1-D4-0		83.00	31.00	131.00	18899.00												
10	184+82.11	CONST. 18" CGSP 62' LG SD 45' LT W/ CET NG	FHTMPP-2-0, SPI-5-1, SPB-5-1, CET4S-4-1	3.04									62.00		2.00					
11	187+00.41	CONST. 18" CGSP 44' LG SD 45' RT W/ CET NG	FHTMPP-2-0, SPI-5-1, SPB-5-1, CET4S-4-1	1.59									100.00		2.00					
12	187+29.25	CONST. 18" CGSP 62' LG SD 45' LT W/ CET NG	FHTMPP-2-0, SPI-5-1, SPB-5-1, CET4S-4-1	2.46									62.00		2.00					
13	191+90.97	EXTEND 24" 16' LG. RCP 30.0' LT. W/ PCES	FHTCP-4-0, SPI-5-1, SPB-5-1, PCES-5-1								16.00			1.00					6.00	3.00
		<b>TOTALS</b>			<b>168.00</b>	<b>59.00</b>	<b>235.40</b>	<b>34,450.00</b>	<b>176.00</b>	<b>60.00</b>	<b>142.00</b>	<b>122.00</b>	<b>496.00</b>	<b>1.00</b>	<b>14.00</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>330.33</b>	<b>106.00</b>

\*FOR CONTRACTOR'S INFORMATION ONLY.

SUMMARY OF FENCING				
PLAN SHEET	STATION TO STATION CRL	OFFSET		FENCE, STYLE SHIF. (SBW) +2%
		LT	RT	624(C) LF
	<b>MAINLINE</b>			
1	STA 65+52.39 TO STA 68+02.76		X	252
1-2	STA 68+71.10 TO STA 85+07.02		X	1747
1-2	STA 70+83.27 TO STA 85+07.02	X		1202
2-6	STA 89+23.60 TO STA 142+69.41		X	5469
2-4	STA 89+23.60 TO STA 111+12.76	X		2393
4-6	STA 118+84.44 TO STA 137+75.00	X		2169
7	STA 153+16.00 TO STA 161+18.87	X		804
7-9	STA 187+39.00 TO STA 193+59.70	X		632
9	STA 187+80.79 TO STA 193+59.70	X		578
	<b>TOTALS</b>			<b>15,246</b>

DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017		
APPRVD: CPY 2017		

**SUMMARY SHEET**

SHEET 1 OF 3  
STATE JOB PIECE NO: 26999(04) SHEET NO. AR03

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**SUMMARY OF DRIVES**

DRIVE NO.	P&P SHEET	STATION CRL	SIDE	TYPE	SURFACE	SIDE DRAIN	WIDTH	LENGTH	RADIUS	TBSC TYPE E (5")	TACK COAT	PRIME COAT	3" SUPERPAVE, TYPE S3 (PG 64-22 OK)	2" SUPERPAVE, TYPE S4 (PG 64-22 OK)
							FT	FT	FT	402(E) TON	407(B) GAL	408 GAL	411 (B) TON	411(C) TON
1	1	68+18.22	RT	PRIVATE	ASPH		12	79.89	15					
2	2	78+53.95	RT	FIELD	TBSC	X	12	238.69	15	74				
3	2	78+76.41	RT	FIELD	TBSC		14	175.15	15	64				
4	2	81+91.64	LT	FIELD	TBSC		24	121.07	15	75				
5	3	95+30.59	LT	FIELD	TBSC		20	102.62	20	56				
6	3	95+30.59	RT	FIELD	TBSC		20	106.08	20	57				
7	3	105+60.72	LT	FIELD	TBSC		12	93.00	15	30				
8	3	105+60.72	RT	FIELD	TBSC		12	86.10	15	28				
9	4	111+62.76	LT	FIELD	TBSC		12	398.97	15	122				
10	4	118+20.71	RT	FIELD	TBSC		24	71.43	20	47				
11	5	121+72.00	RT	FIELD	TBSC	X	12	67.22	15	23				
12	5	122+84.55	RT	FIELD	TBSC		12	203.16	15	63				
13	5	135+08.44	RT	FIELD	TBSC		12	117.40	20	40				
14	7	160+98.85	RT	RETURN	ASPH	X	20	134.50	20		24	112	54	36
15	7	161+07.58	LT	RETURN	ASPH	X	20	134.95	20		24	112	54	36
16	9	184+82.11	LT	FIELD	TBSC	X	12	81.60	20	29				
17	9	187+00.48	RT	FIELD	TBSC	X	18	54.06	20	29				
18	9	187+29.25	LT	FIELD	TBSC	X	20	68.76	20	39				
19	9	187+59.42	RT	FIELD	TBSC	X	16	53.93	20	26				
<b>TOTALS</b>										<b>802</b>	<b>57</b>	<b>265</b>	<b>128</b>	<b>85</b>

**SUMMARY OF GUARDRAIL**

STATION TO STATION CRL	OFFSET		ANCHOR UNITS		BEAM GUARDRAIL W-BEAM SINGLE	TACK COAT	SUPERPAVE TYPE S3 (PG 64-22 OK) (3")	SUPERPAVE TYPE S4 (PG 64-22 OK) (2")	GUARDRAIL DELINEATORS (TYPE 1 CODE 1)
	LEFT	RIGHT	GUARDRAIL BRIDGE CONNECTION THRIE BEAM (31")	GUARDRAIL END TREATMENT (31")					
			623(I) EA	623(G) EA					
<b>MAINLINE</b>									
STA. 81+14.04 TO 84+34.14		X	1	1	162.5	12	26	17	5
STA. 82+13.22 TO 84+34.14	X		1	1	75.0	8	18	12	3
STA. 89+97.54 TO 92+30.35		X	1	1	75.0	8	18	11	3
STA. 89+97.54 TO 93+21.09	X		1	1	162.5	12	26	17	5
STA. 135+18.11 TO 138+25.88		X	1	1	162.5	12	26	17	5
STA. 135+90.90 TO 138+25.88	X		1	1	75.0	8	18	12	3
STA. 147+87.54 TO 150+22.61		X	1	1	75.0	8	18	12	3
STA. 147+87.54 TO 151+10.11	X		1	1	162.5	12	26	17	5
<b>TOTALS:</b>			<b>8</b>	<b>8</b>	<b>950</b>	<b>80</b>	<b>176</b>	<b>115</b>	<b>32</b>

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DESIGN: CPY 2017	<b>SUMMARY SHEET</b> 	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017		OF THE RED RIVER	
CHECKED: CPY 2017			
APPRVD: CPY 2017			
		STATE JOB PIECE NO: 26999(04)	SHEET 2 OF 3 SHEET NO.AR04

SUMMARY OF EARTHWORK				
STATION TO STATION CRL	UNCLASSIFIED EXCAVATION	EMBANKMENT +15%	EXCESS EXCAVATION	UNCLASSIFIED BORROW
	202(A) CY			202(D) CY
PHASE 1 ESTIMATE 1				
STA. 65+60.00 TO 84+64.93	612	25102		24489
PHASE 1 ESTIMATE 2				
STA. 89+97.66 TO 138+55.88	6737	120223		113486
PHASE 1 ESTIMATE 3				
STA. 147+57.54 TO 191+90.97	22933	49117		26184
PHASE 2A ESTIMATE 1				
STA. 65+60.00 TO 75+71.77	2854	580	2274	
PHASE 2A ESTIMATE 2				
STA. 182+00.00 TO 191+90.97	2577	452	2125	
PHASE 2B ESTIMATE 1				
STA. 65+60.00 TO 84+64.93	3566	21	3545	
PHASE 2B ESTIMATE 2				
STA. 89+97.66 TO 138+55.88	5618	168	5450	
PHASE 2B ESTIMATE 3				
STA. 147+57.54 TO 191+90.97	10515	806	9709	
PROJECT TOTAL	54512*	196469	23103	164159


(\*) UNCLASSIFIED EXCAVATION HAS BEEN REDUCED BY 900 CY FOR REMOVAL OF ASPHALT FROM STA. 65+60 TO 73+00 AND STA. 185+00 TO 192+40.

SUMMARY OF EROSION CONTROL		
STATION TO STATION CRL	DESCRIPTION	SOLID SLAB SODDING
		230(A) SY
<b>MAINLINE</b>		
BOP TO STA 84+50	LT. SIDE OF ROADWAY	11150.80
BOP TO STA 84+50	RT. SIDE OF ROADWAY	8162.40
89+82 TO 91+00	LT. SIDE OF ROADWAY	462.84
89+82 TO 91+00	RT. SIDE OF ROADWAY	568.09
91+00 TO 121+00	LT. SIDE OF ROADWAY	17366.09
91+00 TO 121+00	RT. SIDE OF ROADWAY	13991.34
121+00 TO 138+60	LT. SIDE OF ROADWAY	22901.90
121+00 TO 138+43	RT. SIDE OF ROADWAY	8267.20
147+43 TO 151+00	LT. SIDE OF ROADWAY	2716.33
147+74 TO 151+00	RT. SIDE OF ROADWAY	1348.93
151+00 TO 181+00	LT. SIDE OF ROADWAY	33358.26
151+00 TO 181+00	RT. SIDE OF ROADWAY	15274.85
181+00 TO EOP	LT. SIDE OF ROADWAY	6045.88
181+00 TO EOP	RT. SIDE OF ROADWAY	4631.91
(EXIST.) 78+30 TO 84+23	LT. SIDE OF ROADWAY	2717.78
(EXIST.) 78+30 TO 84+23	RT. SIDE OF ROADWAY	3107.59
(EXIST.) 86+77 TO 106+00	LT. SIDE OF ROADWAY	11689.47
(EXIST.) 86+77 TO 106+00	RT. SIDE OF ROADWAY	13063.79
(EXIST.) 106+00 TO 120.43	LT. SIDE OF ROADWAY	4716.52
(EXIST.) 106+00 TO 120.43	RT. SIDE OF ROADWAY	8157.18
<b>TOTALS</b>		<b>189,699</b>

SUMMARY OF REMOVALS						
REMOVAL SHEET	STATION TO STATION CRL	(*) REMOVAL OF ASPHALT PAVEMENT	(**) REMOVAL OF EXISTING STRUCTURES	REMOVAL OF GUARDRAIL	(**) REMOVAL OF FENCE	(**) REMOVAL OF MAILBOX INSTALLATION
		619(B) SY	619(B) EA	619(B) LF	619(B) LF	629(D) EA
<b>MAINLINE</b>						
1	BOP TO STA 76+00.00	3337.5	1		1470.50	
1	STA 76+00.00 TO STA 91+00.00	3551.3		964	0.00	1
2	STA 91+00.00 TO STA 106+00.00	4226.3			0.00	
2	STA 106+00.00 TO STA 121+00.00	4221.5			1052.00	
3	STA 121+00.00 TO STA 136+00.00	4265.6	1		3002.50	
3	STA 136+00.00 TO STA 151+00.00	1886.2		964	2036.60	
4	STA 151+00.00 TO STA 166+00.00	4230.0	2		3681.70	
4	STA 166+00.00 TO STA 181+00.00	4226.3			2996.00	
5	STA 181+00.00 TO EOP	3981.2			2307.8	
6	(PROP.) STA 76+00.00 TO STA 91+00.00				1311.2	
6	(PROP.) STA 91+00.00 TO STA 106+00.00				0.0	
7	(PROP.) STA 106+00.00 TO STA 121+00.00				0.0	
<b>TOTALS</b>		<b>34,213</b>	<b>4</b>	<b>1,928</b>	<b>17,858</b>	<b>1</b>

(\*) INCLUDES REMOVAL OF ASPHALT DRIVEWAYS. ESTIMATED AT 287 SY & TEMP. WIDENING PAVEMENT.  
(\*\*) INCLUDED IN PAY ITEM "REMOVAL OF STRUCTURES AND OBSTRUCTIONS"  
(FOR CONTRACTOR'S INFORMATION ONLY)

SUMMARY OF DITCH TREATMENT							
ALIGNMENT	STATION TO STATION	LOCATION	LENGTH	BOTTOM WIDTH	DESIGN NO.	CURTAIN WALLS	CLASS "C" CONCRETE 509(D)
			LF	LF		EA	CY
CRL	164+80.00 TO 175+00.00	RT	1020	6	2A	11	158.0
CRL	164+80.00 TO 175+00.00	LT	1020	6	2A	11	158.0
<b>TOTALS:</b>						<b>22</b>	<b>316</b>

DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>SUMMARY SHEET</b>	
APPRVD: CPY 2017		
		SHEET 3 OF 3
STATE JOB PIECE NO: 26999(04)		SHEET NO. AR05

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### GENERAL TRAFFIC NOTES

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET ODOT'S "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES."

THE CONTRACTOR SHALL PROVIDE A PERSON TO BE ON 24 HOUR CALL AS NEEDED AS DETERMINED BY THE ENGINEER. THIS PERSON SHALL HOLD A CURRENT CERTIFICATION FROM THE AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA) OR THE OKLAHOMA TRAFFIC ENGINEERING ASSOCIATION (OTEA) AS A TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR.

SIGNAL TIMING FOR PORTABLE TRAFFIC SIGNAL SYSTEM SHALL BE COORDINATED WITH ODOT TRAFFIC DIVISION AND THE RESIDENT ENGINEER.

ANY SIGNS AND/OR DELINEATORS WHICH ARE TO BE REMOVED DURING THIS PROJECT WILL BE STORED IN A PROTECTED AREA DESIGNATED BY THE RESIDENT ENGINEER, UNTIL SUCH A TIME THAT THEY ARE TO BE RESET BY THE CONTRACTOR. COST OF THIS WORK TO BE INCLUDED IN OTHER ITEMS OF WORK.

EXISTING ROADWAY SHALL REMAIN OPEN DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS. CONSTRUCTION TRAFFIC CONTROL WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS.

ALL REGULATORY SIGNS SHALL HAVE HIGH INTENSITY SHEETING. THE HIGH INTENSITY SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956--(LATEST REVISION) FOR TYPE III SHEETING.

ALL WARNING SIGNS SHALL HAVE FLUORESCENT YELLOW SHEETING. THE FLUORESCENT YELLOW SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956-- (LATEST REVISION) REQUIREMENTS FOR TYPE VIII SHEETING.

ALL GREEN AND BLUE SIGNS ON CONVENTIONAL HIGHWAYS SHALL HAVE HIGH INTENSITY SHEETING. THE HIGH INTENSITY SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956--(LATEST REVISION) FOR TYPE III SHEETING.

ALL PANEL AND OVERHEAD SIGNS SHALL HAVE TYPE III HIGH INTENSITY BACKGROUND WITH TYPE VIII LEGENDS AND BORDERS. THE TYPE III BACKGROUND AND THE TYPE VIII LEGENDS AND BORDERS SHALL MEET THE REQUIREMENTS OF ASTM D4956--(LATEST REVISION).

THE MANUFACTURER SHALL FURNISH A TYPE "A" CERTIFICATION IN ACCORDANCE WITH ODOT STANDARD SPECIFICATIONS, LATEST EDITION, SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON THE MATERIAL SUBMITTED FOR APPROVAL.

ALL BROKEN CONCRETE INCLUDING OLD SIGN FOOTINGS WITH STUBS, WASTE MATERIAL AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THE DISPOSAL OF THIS MATERIAL. ANY PIPE POST OR WIDE FLANGE POST ABOVE THE OLD SIGN FOOTINGS SHALL BE CUT AND HANDLED AS PROPERTY OF THE STATE AND SHALL BE NEATLY STACKED ON THE JOB SITE, AS DESIGNATED BY THE ENGINEER UNTIL SUCH TIME AS DIVISION PERSONNEL CAN REMOVE THE MATERIAL FROM THE JOB SITE.

THE STATIONS AND LOCATIONS OF THE SIGN PLACEMENT, AS SHOWN ON THE PLAN SHEETS, ARE APPROXIMATE. EXACT STATIONS AND LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH DEPARTMENT STANDARDS AND THE MUTCD IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES OR OTHER ROADWAY FEATURES, THE ENGINEER SHALL BE NOTIFIED.

POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE, EXACT LENGTH SHALL BE DETERMINED BY FIELD SURVEY BY THE CONTRACTOR.

ALL REMOVED SIGNS, SIGN POSTS, BOLTS, MISCELLANEOUS HARDWARE, AND DELINEATORS SHALL REMAIN THE PROPERTY OF THE STATE. THE CONTRACTOR SHALL NEATLY STACK SUCH REMOVED MATERIAL AT A LOCATION OF THE JOB SITE AS DESIGNATED BY THE ENGINEER UNTIL SUCH TIME AS DIVISION PERSONNEL CAN REMOVE THE MATERIAL FROM THE JOB SITE.

AFTER REMOVAL OF ANY SIGN FOOTINGS, THE HOLES SHALL BE FILLED WITH SOIL AND TAMPED AND SHAPED IN A MANNER APPROVED BY THE ENGINEER.

FOR NEW OR EXISTING GROUND MOUNTED SIGNS, MAXIMUM STUB POST PROJECTION ABOVE FOOTING/GROUND LINE SHALL BE 1-3/4" +/- 1/4". MAXIMUM FOOTING PROJECTION ABOVE GROUND LINE SHALL BE NO MORE THAN 2". SHOULD ADDITIONAL SOIL BE REQUIRED, THE ENGINEER WILL DESIGNATE AN AREA TO OBTAIN ADDITIONAL SOIL. ALL ASSOCIATED COSTS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

### PAY QUANTITY NOTES

- (TS-19) QUANTITY SHOWN INCLUDES 0 L.F. TRAFFIC STRIPE (PLASTIC)(WHITE) AND 15422 L.F. TRAFFIC STRIPE (PLASTIC)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.
- (TS-20) QUANTITY SHOWN INCLUDES 25120 L.F. TRAFFIC STRIPE (PLASTIC)(WHITE) WILL BE MEASURED BY THE LINEAR FOOT OF SIX INCH (6") WIDE TRAFFIC STRIPE.
- (TS-23) QUANTITY SHOWN INCLUDES 90 L.F. TRAFFIC STRIPE (PLASTIC)(WHITE) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWENTY-FOUR INCH (24") WIDE TRAFFIC STRIPE.
- (TS-33) INCLUDED IN THIS PAY ITEM IS ALL HARDWARE ASSOCIATED WITH PROPERLY ANCHORING AND MOUNTING THE HIGHWAY SIGN IN ACCORDANCE WITH O.D.O.T. PLANS AND STANDARD DRAWINGS SSA1-1 AND SSP1-1--(LATEST REVISION).
- (TS-41) "REMOVAL OF EXISTING SIGNS" SHALL INCLUDE THE REMOVAL OF A COMPLETE SIGN ASSEMBLY WHICH MAY INCLUDE MULTIPLE SIGNS, POSTS, FOOTINGS, AND ANY FOOTINGS ADJACENT TO THE SIGN ASSEMBLY. WHEN APPROVED BY THE ENGINEER, FOOTINGS MAY BE OBLITERATED TO A POINT BELOW GROUND LEVEL IN LIEU OF BEING COMPLETELY REMOVED. SEE GENERAL CONSTRUCTION NOTES FOR DISPOSAL OF OLD CONCRETE FOOTING MATERIAL.
- (TC-1) THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES, AND PROVIDE FLAGGERS AS NECESSARY FOR THE CONTROL, SAFETY, AND MAINTENANCE OF TRAFFIC WHEN INSTALLING, RELOCATING OR DELIVERING PORTABLE LONGITUDINAL BARRIER.
- (TC-2) QUANTITY INCLUDES SUFFICIENT LENGTH OF PORTABLE LONGITUDINAL BARRIER TO PROVIDE FOR THE LONGEST SECTION SHOWN ON THE PLANS. THIS SAME BARRIER WILL BE USED ON OTHER DETOUR PHASES.
- (TC-13) A PART, OR ALL, OF THIS ITEM IS INTENDED FOR REPLACEMENT OF REMOVED EXISTING CONFLICTING STRIPING.
- (TC-14) SEE STANDARD DRAWING PM1-1, PM2-1, PM3-1, PM4-1, PM5-1, PM6-1, PM7-1, PM8-1 (LATEST REVISION). A PART, OR ALL, OF THE QUANTITY SHOWN IS TO BE USED AS FINAL PAVEMENT MARKING.
- (TC-17) INCLUDES AN ESTIMATED 0 L.F. (PAINT)(4"WIDE) WHITE 12000 L.F. (PAINT)(4"WIDE) YELLOW STRIPE.
- (TC-20) ALL STRIPING TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE NOTED ON THE PLANS OR STANDARD DRAWINGS. TEMPORARY PAVEMENT MARKING PLACED ON FINISHED PAVEMENT OR EXISTING PAVEMENT TO REMAIN IN PLACE SHALL USE ONE OF THE FOLLOWING METHODS:  
 1. REMOVEABLE PAVEMENT MARKING TAPE  
 2. CLASS A PAVEMENT MARKERS
- (TC-21) INCLUDED IN THE COST OF THIS ITEM SHALL BE INSTALLATION, MAINTENANCE, AND REMOVAL. THIS ITEM SHALL BE BID ACCORDINGLY.
- (TC-22) AMOUNT SHOWN IN AN APPROXIMATION AND THE ACTUAL AMOUNT OF REMOVAL, IF NECESSARY, SHALL BE DETERMINED BY THE ENGINEER. PRICE BID FOR PAVEMENT MARKING REMOVAL SHALL INCLUDE THE COST OF REMOVING STRIPE, ARROWS, WORDS, AND SYMBOLS, AS SHOWN IN THE PLANS. THESE ITEMS MAY CONSIST OF PLASTIC, PAINT OR NON-REMOVABLE MARKING TAPE.
- (TC-26) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES REQUIRED FOR COMPLETION OF THE PROJECT.  
  
 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.
- (TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION).  
  
 THE MANUFACTURER SHALL FURNISH A TYPE "D" CERTIFICATION IN ACCORDANCE WITH O.D.O.T. STANDARD SPECIFICATIONS (CURRENT EDITION) SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.
- (TC-52) ANY USED CHANGEABLE MESSAGE SIGN AND CONSTRUCTION ZONE IMPACT ATTENUATOR TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.
- (TC-61) ANY DAMAGE TO A FINISHED OR EXISTING SURFACE RESULTING FROM THE CONTRACTORS NEGLIGENCE IN THE REMOVAL OF CONSTRUCTION ZONE PAVEMENT MARKERS OR CHANNELIZING DEVICES AND THE BITUMINOUS ADHESIVE USED IN THEIR INSTALLATION, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.
- (TC-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.

FED. ROAD DIST. NO.		STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5		OKLA.	26999(04)	2023	AT01	175
REVISIONS						
NO.	DATE	DESCRIPTION				
1	8/25/22	REVISED PAY ITEM CODE				

26999(04) PAY QUANTITIES						
ITEM CODE		DESCRIPTION	UNIT	TOTAL		
0300 TRAFFIC						
413(F)	4700	SINUSOIDAL RUMBLE STRIP	LF	22033		
805(A)	3252	(PL)REMOVAL OF EXISTING SIGNS	(TS-41) EA	15		
805(D)	3528	(PL)REMOVE & RESET EXISTING SIGNS	EA	1		
850(A)	1200	SHEET ALUMINUM SIGNS	SF	72.28		
851(C)	2430	2 1/2" SQUARE TUBE POST	(TS-33) LF	150		
853	5175	GUARDRAIL DELINEATORS (TYPE 2, CODE 1)	EA	32		
855(A)	7200	TRAFFIC STRIPE (PLASTIC)(4" WIDE)	(TC-13,14)(TS-19) LF	15422		
855(A)	7204	TRAFFIC STRIPE (PLASTIC)(6" WIDE)	(TC-13,14)(TS-20) LF	25120		
855(A)	7216	TRAFFIC STRIPE (PLASTIC)(24" WIDE)	(TC-13,14)(TS-23) LF	24		

26999(04) PAY QUANTITIES						
ITEM CODE		DESCRIPTION	UNIT	TOTAL		
0340 TRAFFIC CONTROL						
823	6100	(SP)PORTABLE TRAFFIC SIGNAL SYSTEM	(SP-2)(TC-80,84) SD	180		
857(C)	9400	REMOVABLE PAVEMENT MARKING TAPE (4" WIDE)	(TC-17,20,70,75) LF	12000		
857(E)	9620	(PL)CONST. ZONE PAV. MRKRS (FLEX TAB)TYP. 2-1	(TC-21,61,70,73,75) EA	1500		
857(F)	9700	PAVEMENT MRKNG. REMOVAL (TRAF. STRP)	(TC-22,70,75) LF	14585		
871(B)	2300	CONSTR. ZONE IMPACT ATTEN.	(TC-52,84) SD	240		
877(B)	4300	DELIVER PORTABLE LONGITUDINAL BARRIER	(TC-1,2) LF	2425		
877(C)	4400	RELOCATION OF PORT. LONGITUDINAL BARRIER	(TC-1) LF	2425		
880(B)	6300	CONSTRUCTION SIGNS 0 TO 6.25 SF	(TC-26,33,84) SD	9000		
880(B)	6310	CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF	(TC-26,33,84) SD	5400		
880(B)	6320	CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF	(TC-26,33,84) SD	7200		
880(C)	6410	CONSTRUCTION BARRICADES (TYPE III)	(TC-26,84) SD	4320		
880(C)	6420	WING BARRICADES	(TC-26,84) SD	1728		
880(E)	6600	WARNING LIGHTS (TYPE A)	(TC-26,84) SD	8532		
880(F)	6700	DRUMS	(SP-1)(TC-26,84) SD	1908		
880(G)	6805	CHANNELIZER CONES	(TC-26,70,84) SD	1908		
882(A)	8210	PORT. CHANGEABLE MESSAGE SIGN	(TC-52,70,84,85)(SP-3) SD	1496		

### PAY QUANTITY NOTES (CONT'D)

- (TC-73) QUANTITY SHOWN INCLUDES 750 EA. (WHITE) AND 750 EA. (YELLOW) CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS). THESE CONSTRUCTION ZONE PAVEMENT MARKERS SHALL BE EITHER "DAVIDSON PLASTICS: MODEL TOM", OR AN APPROVED EQUAL. PRICE BID FOR THIS ITEM SHALL INCLUDE THE INITIAL PLACEMENT, SUBSEQUENT REPLACEMENT, AND REMOVAL. THE CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS) SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS SHOWN ON STANDARD DRAWING TCS21-1--(LATEST REVISION).
- (TC-75) TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE THE SAME DAY THAT EXISTING PAVEMENT MARKINGS ARE REMOVED FROM ANY ROADWAY OPEN TO TRAFFIC. ALSO, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING.
- (TC-80) INCLUDED IN THIS ITEM SHALL BE ONE (1) ADDITIONAL UNIT TO BE USED AS A STAND-BY OR REPLACEMENT. THIS STAND-BY UNIT SHALL BE IMMEDIATELY ACCESSIBLE TO REPLACE A DAMAGED, STOLEN OR MALFUNCTIONING UNIT. THE AMOUNT OF TIME BETWEEN THE REMOVAL OF THE DAMAGED UNIT AND THE INSTALLATION OF THE STAND-BY UNIT SHALL BE NO MORE THAN TWENTY-FOUR (24) HOURS.
- (TC-84) 360 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.
- (TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR A LIST OF THE APPROVED SIGNS GO TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION WEBSITE AT:  
<http://www.okladot.state.ok.us/traffic/qpl/index.php>

### SPECIAL PROVISION NOTES

- (SP-1) TYPE 'C' WARNING LIGHTS NOT REQUIRED
- (SP-2) ONE PORTABLE TRAFFIC SIGNAL SYSTEM WILL BE USED AT EACH END OF THE PROJECT.
- (SP-3) CHANGEABLE MESSAGE BOARDS SHALL BE PLACED TWO WEEKS PRIOR TO ROAD WORK. LOCATIONS FOR THE CHANGEABLE MESSAGE BOARDS SHALL BE DETERMINED BY THE ENGINEER.

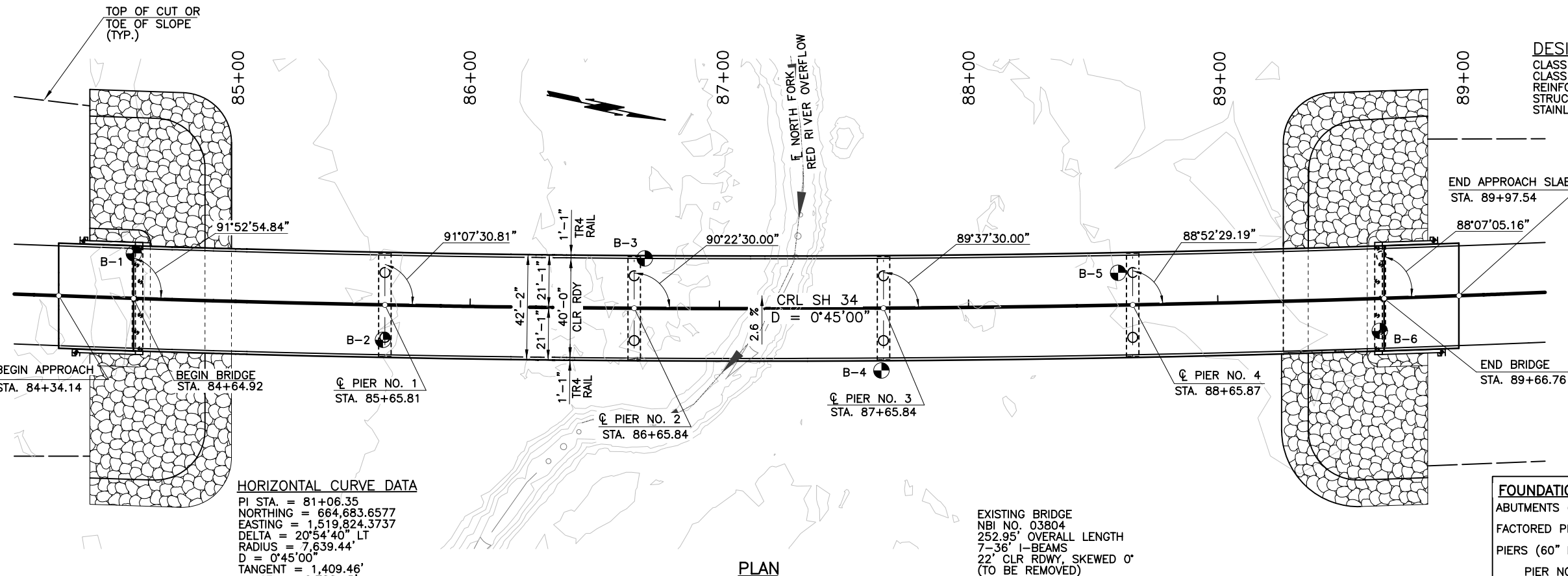
DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	GENERAL NOTES & SUMMARY OF PAY QUANTITIES (TRAFFIC)	
APPRVD: CPY 2017	SHEET 1 OF 1	
STATE JOB PIECE NO: 26999(04)		SHEET NO. AT01



SIGN NO.	ALIGNMENT	APPROXIMATE STATION LOCATION	SIGN TYPE  (STD.)	SIGN THICKNESS				POSTS		(PL) REMOVAL OF EXISTING SIGNS	(PL) REMOVE & RESET EXISTING SIGNS	REMARKS	
				0.063"	0.080"	0.100"	12 GA.						
				SHEET ALUMINUM			2-1/2" SQUARE TUBE POST		805(A)				805(D)
				850(A)	851(C)		POST A	POST B					
(S.F.)	(S.F.)	(S.F.)	(L.F.)	(L.F.)	(EA.)	(EA.)							
1	☉ SURVEY	68+77	W5-2	-	-	-	-	-	1	-	-		
2	CRL	69+00	R2-1	-	5	-	12.5	-	-	-	INSTALL NEW SIGN (SPEED LIMIT 65)		
3	CRL	71+77	SPECIAL SIGN	-	-	-	-	-	-	1	REMOVE & RESET EXISTING SIGN (SPRING CREEK DIRCTION SIGN)		
4	CRL	74+08	W8-13	-	6.25	-	12.5	-	-	-	INSTALL NEW SIGN (BRIDGE ICES BEFORE ROAD)		
5	☉ SURVEY	74+08	W8-13	-	-	-	-	-	1	-	-		
6	☉ SURVEY	99+00	W8-13	-	-	-	-	-	1	-	-		
7	CRL	99+00	W8-13	-	6.25	-	12.5	-	-	-	INSTALL NEW SIGN (BRIDGE ICES BEFORE ROAD)		
8	☉ SURVEY	103+50	W8-13	-	-	-	-	-	1	-	-		
9	☉ SURVEY	114+80	W1-4(L)	-	-	-	-	-	1	-	-		
10	☉ SURVEY	126+75	W5-2	-	-	-	-	-	1	-	-		
11	CRL	128+50	W8-13	-	6.25	-	12.5	-	-	-	INSTALL NEW SIGN (BRIDGE ICES BEFORE ROAD)		
12	☉ SURVEY	129+80	W8-13	-	-	-	-	-	1	-	-		
13	CRL	138+25	SPECIAL SIGN	-	8.67	-	12.5	-	1	-	REMOVE & INSTALL NEW SIGN (NORTH FORK RED RIVER)		
14	CRL	148+00	SPECIAL SIGN	-	8.67	-	12.5	-	1	-	REMOVE & INSTALL NEW SIGN (NORTH FORK RED RIVER)		
15	CRL	160+00	W8-13	-	6.25	-	12.5	-	-	-	INSTALL NEW SIGN (BRIDGE ICES BEFORE ROAD)		
16	☉ SURVEY	161+10	W8-13	-	-	-	-	-	1	-	-		
17	☉ SURVEY	161+50	W1-2(R)	-	-	-	-	-	1	-	-		
18	CRL	161+00	R1-1	-	5.18	-	12.5	-	-	-	INSTALL NEW SIGN (STOP)		
19	☉ SURVEY	162+15	R1-1	-	-	-	-	-	1	-	-		
20	CRL	161+15	R1-1	-	5.18	-	12.5	-	-	-	INSTALL NEW SIGN (STOP)		
21	☉ SURVEY	162+40	R1-1	-	-	-	-	-	1	-	-		
22	☉ SURVEY	166+20	W5-2	-	-	-	-	-	1	-	-		
23	CRL	186+00	R2-1	-	5	-	12.5	-	-	-	INSTALL NEW SIGN (SPEED LIMIT 65)		
24	CRL	193+50	W1-2(L)	-	-	-	-	-	1	-	-		
25	CRL	84+50	SPECIAL SIGN	-	4.79	-	12.5	-	1	-	INSTALL NEW SIGN (SPRING CREEK)		
26	CRL	90+00	SPECIAL SIGN	-	4.79	-	12.5	-	1	-	INSTALL NEW SIGN (SPRING CREEK)		
SUB-TOTAL				-	72.28	-	150	-	15	1			
TOTAL					72.28		150		15	1			

SUMMARY OF STRIPING			
STATION TO STATION CRL	TRAFFIC STRIPE (PLASTIC) (4" WIDE) (YELLOW)	TRAFFIC STRIPE (PLASTIC) (6" WIDE) (WHITE)	TRAFFIC STRIPE (PLASTIC) (24" WIDE) (WHITE)
	855(A) LF	855(A) LF	855(A) LF
65+40-91+00	4626	5120	-
91+00-121+00	3000	6000	-
121+00-151+00	3000	6000	-
151+00-181+00	3360	6000	24
181+00-191+00	1436	2000	-
TOTAL	15422	25120	24

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 pw:/Active Projects/ODOT14515.00/8.00 Plans and Drawings/8.30 Cut Sheets/8.3.01 General/26999RD\_GN03.dgn



**HORIZONTAL CURVE DATA**  
 PI STA. = 81+06.35  
 NORTHING = 664,683.6577  
 EASTING = 1,519,824.3737  
 DELTA = 20°54'40" LT  
 RADIUS = 7,639.44'  
 D = 0°45'00"  
 TANGENT = 1,409.46'  
 LENGTH = 2,788.15'

EXISTING BRIDGE  
 NBI NO. 03804  
 252.95' OVERALL LENGTH  
 7-36" I-BEAMS  
 22' CLR RDWY, SKEWED 0°  
 (TO BE REMOVED)

**DESIGN DATA**  
 CLASS AA CONCRETE  
 CLASS A CONCRETE  
 REINFORCING STEEL  
 STRUCTURAL STEEL M270 (GRADE 50W)  
 STAINLESS STEEL A240 (TYPE 316)

f'c = 4,000 psi  
 f'c = 3,000 psi  
 Fy = 60 ksi  
 Fy = 50 ksi  
 Fy = 30 ksi

LOADING:  
 HL-93 LOADING OR OKLAHOMA OVERLOAD TRUCK  
 (INCLUDING TYPE 315 TRUCK)  
 20 PSF FUTURE WEARING SURFACE  
 5 PSF STAY-IN-PLACE FORMS

DESIGN:  
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS,  
 7TH EDITION WITH CURRENT INTERIMS  
 ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE  
 ANSI/AWS D1.6 STRUCTURAL STEEL WELDING  
 CODE-STAINLESS STEEL

LRFR OPERATING RATING FACTOR: 2.31  
 LRFR INVENTORY RATING FACTOR: 1.44

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

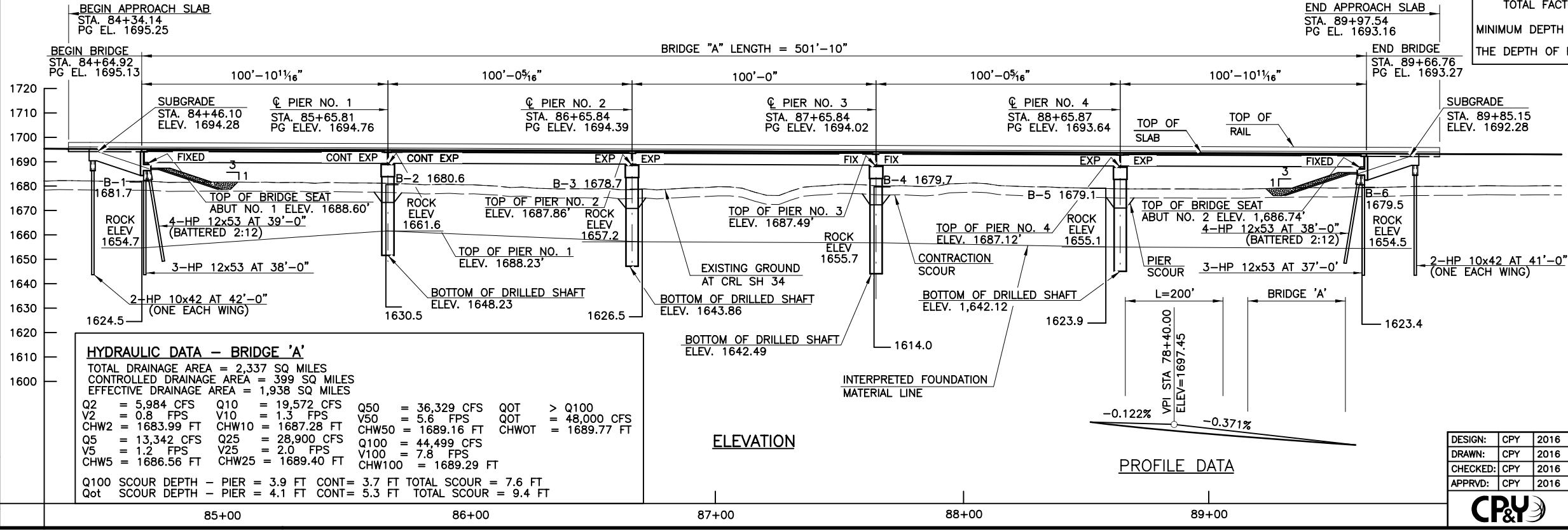
**FOUNDATION DATA**

ABUTMENTS (HP 12x53 PILING)	ABUTMENT NOS. 1 & 2
FACTORED PILE REACTION	= 101.0 TONS/PILE
PIERS (60" DIAMETER DRILLED SHAFTS)	PIER NOS. 1 THROUGH 4
PIER NO. 1 FACTORED REACTION	= 596.8 TONS/SHAFT
PIER NO. 3 FACTORED REACTION	= 604.2 TONS/SHAFT
PIER NO. 3 FACTORED REACTION	= 606.3 TONS/SHAFT
PIER NO. 4 FACTORED REACTION	= 606.7 TONS/SHAFT
NOMINAL UNIT FRICTION RESISTANCE	= 3.0 T.S.F.
FRICTION RESISTANCE FACTOR	= 0.45
FACTORED FRICTION RESISTANCE	= 160.3 TONS/SHAFT
NOMINAL UNIT BEARING RESISTANCE	= 40.00 T.S.F.
BEARING RESISTANCE FACTOR	= 0.70
FACTOR BEARING RESISTANCE	= 549.8 TONS/SHAFT
TOTAL FACTORED RESISTANCE	= 710.1 TONS/SHAFT

MINIMUM DEPTH OF PENETRATION INTO ROCK IS 12'-6" FOR ALL PIERS.  
 THE DEPTH OF ROCK NEGLECTED FOR FRICTION IS 5'-0" FOR ALL PIERS.

B.M. 201  
 STA. 84+23.55 ADJ. ELEV. 1690.906  
 2" ALUMINUM CAP 17.34" RT.

B.M. 202  
 STA. 94+28.77 ADJ. ELEV. 1682.185  
 2" ALUMINUM CAP 247.21" RT.



**HYDRAULIC DATA - BRIDGE 'A'**

TOTAL DRAINAGE AREA = 2,337 SQ MILES  
 CONTROLLED DRAINAGE AREA = 399 SQ MILES  
 EFFECTIVE DRAINAGE AREA = 1,938 SQ MILES

Q2 = 5.984 CFS	Q10 = 19.572 CFS	Q50 = 36,329 CFS	QOT > Q100
V2 = 0.8 FPS	V10 = 1.3 FPS	V50 = 5.6 FPS	QOT = 48,000 CFS
CHW2 = 1683.99 FT	CHW10 = 1687.28 FT	CHW50 = 1689.16 FT	CHWOT = 1689.77 FT
Q5 = 13,342 CFS	Q25 = 28,900 CFS	Q100 = 44,499 CFS	
V5 = 1.2 FPS	V25 = 2.0 FPS	V100 = 7.8 FPS	
CHW5 = 1686.56 FT	CHW25 = 1689.40 FT	CHW100 = 1689.29 FT	

Q100 SCOUR DEPTH - PIER = 3.9 FT CONT = 3.7 FT TOTAL SCOUR = 7.6 FT  
 Qot SCOUR DEPTH - PIER = 4.1 FT CONT = 5.3 FT TOTAL SCOUR = 9.4 FT

**INDEX OF SHEETS:**

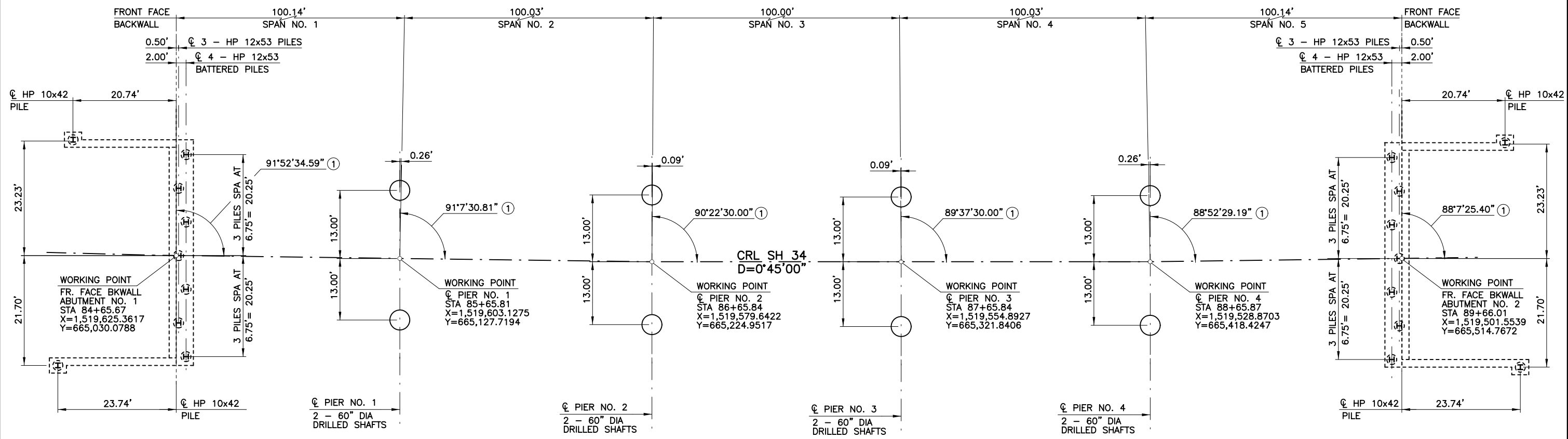
SHEET NO.	DESCRIPTION
B001	GENERAL PLAN AND ELEVATION
B002	STAKING LAYOUT DIAGRAM
B003-B005	FOUNDATION SHEETS
B006	SUBSTRUCTURE EXCAVATION
B007	ABUTMENT NO. 1 DETAILS
B008	ABUTMENT NO. 2 DETAILS
B009-B010	ABUTMENT DETAILS
B011-B013	PIER DETAILS
B014-B018	SUPERSTRUCTURE DETAILS
B019	DIAPHRAGM DETAILS
B020-B021	TYPE IV BEAM DETAILS
B022	BEARING DETAILS
B023	APPROACH SLAB DETAILS
B024	DRAIN DETAILS

**REQUIRED STANDARDS**

EJ-SQ-04E	HP1-2-01E
EJ-DTL-02E	TR4-2-00E
PUD-4-0	
LECS-5-1	

DESIGN: CPY	2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY	2016	OVERFLOW - BRIDGE "A"	
CHECKED: CPY	2016	<b>GENERAL PLAN AND ELEVATION</b>	
APPRVD: CPY	2016		
		CONST 5'-100' TYPE IV PC BEAM SPANS, 40'-0" CLR RDY AT CL CRL STA. 87+15.84 WITH TR4 RAILS	
		SHEET 1 OF 1	
		STATE JOB PIECE NO: 26999(04)	
		SHEET NO. B001	

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 Active Projects\ODOT114515.00\8.00 Plans and Drawings\8.30 Cut Sheets\8.3.07 Bridge/Bridge A - Overflow Bridge (AUS Office)\26999BRA\_LA01.dgn

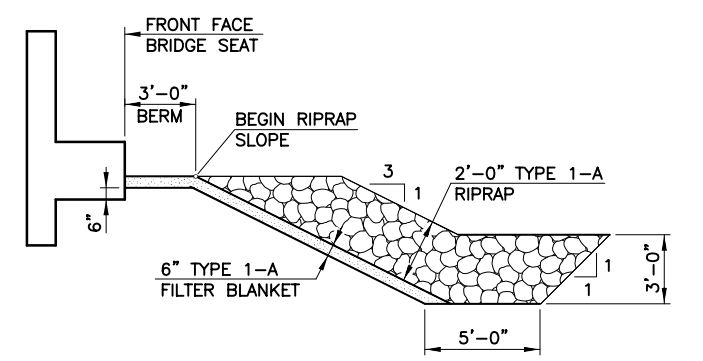


### ITEMIZED QUANTITIES

DESCRIPTION	UNIT	ABUTMENT	PIERS	SUPER-STRUCTURE	APPROACH SLAB	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	CY	180.00				180.00
CLSM BACKFILL	CY	211.90				211.90
PRESTRESSED CONCRETE BEAMS (TYPE IV)	LF			2,491.67		2,491.67
APPROACH SLAB	SY				288.60	288.60
SAW-CUT GROOVING	SY			2,230.50	273.60	2,504.10
CONCRETE RAIL (TR4)	LF			1,003.70	123.20	1,126.90
STRUCTURAL STEEL	LB			2,890.00		2,890.00
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA			20.00		20.00
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA			30.00		30.00
ELASTOMERIC COATING	SF	470.00	1,448.00			1,918.00
CLASS AA CONCRETE	CY			551.70		551.70
CLASS A CONCRETE	CY	104.00	182.80			286.80
CLASS C CONCRETE	CY				6.20	6.20
EPOXY COATED REINFORCING STEEL	LB	14,960.00	25,400.00	171,460.00		211,820.00
PILES, FURNISHED (HP 10X42)	LF	166.00				166.00
PILES, FURNISHED (HP 12X53)	LF	533.00				533.00
PILES, DRIVEN (HP 10X42)	LF	166.00				166.00
PILES, DRIVEN (HP 12X53)	LF	533.00				533.00
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA					1.00
WATER REPELLENT (VISUALLY INSPECTED)	SY	68.00	188.00	1,638.00	58.00	1,952.00
DRILLED SHAFTS 60" DIAMETER	LF		308.00			308.00
CROSSHOLE SONIC LOGGING	EA		2.00			2.00
SEALED EXPANSION JOINT	LF			86.34		86.34
SEALER CRACK PREPARATION	LF			123.00		123.00
SEALER RESIN	GAL			2.00		2.00
TYPE I-A PLAIN RIPRAP	TON	2,020.00				2,020.00
TYPE I-A FILTER BLANKET	TON	305.00				305.00
6" PERFORATED PIPE UNDERDRAIN ROUND	LF	88.00				88.00
6" NON-PERF. PIPE UNDERDRAIN RND.	LF	72.00				72.00
REMOVAL OF EXISTING BRIDGE STRUCTURE	LSUM					1.00

### STAKING LAYOUT DIAGRAM

① TANGENT TO CRL AT WORKING POINT



TYPICAL SECTION THROUGH RIPRAP

DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OVERFLOW - BRIDGE "A"	
CHECKED: CPY 2016		
APPRVD: CPY 2016		

**STAKING LAYOUT DIAGRAM**

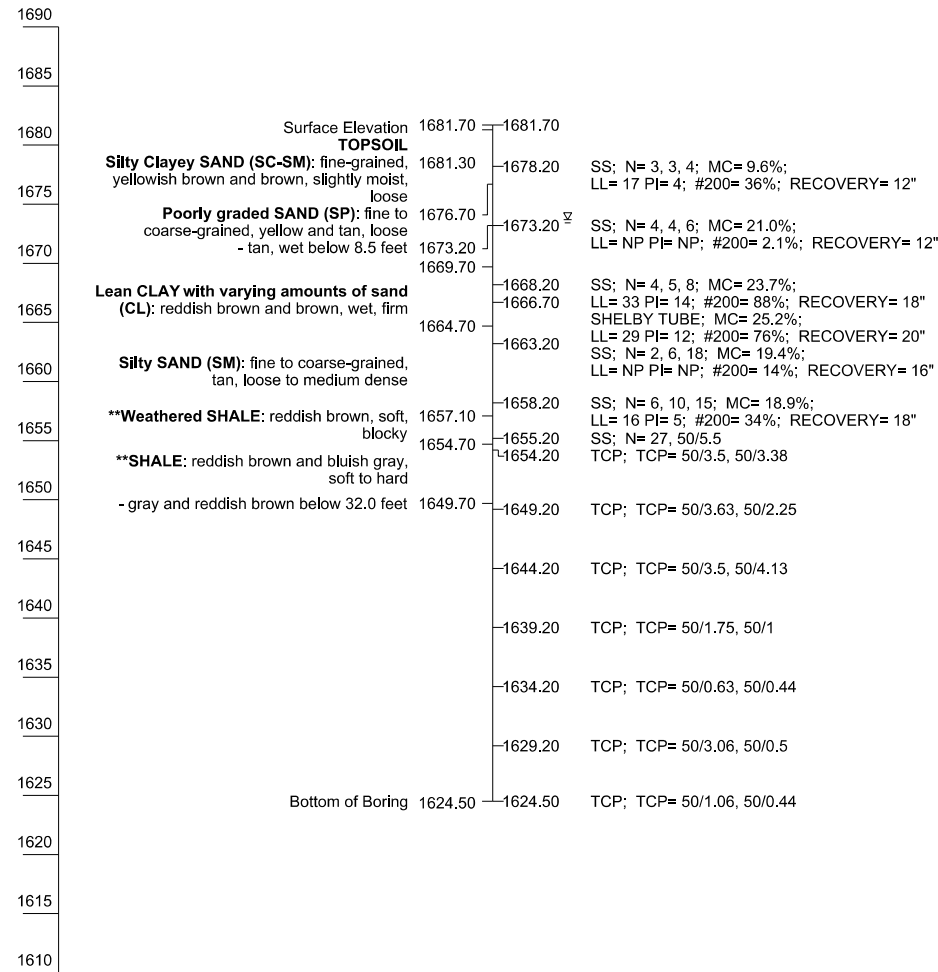
STATE JOB PIECE NO: 26999(04)

SHEET 1 OF 1  
SHEET NO. B002

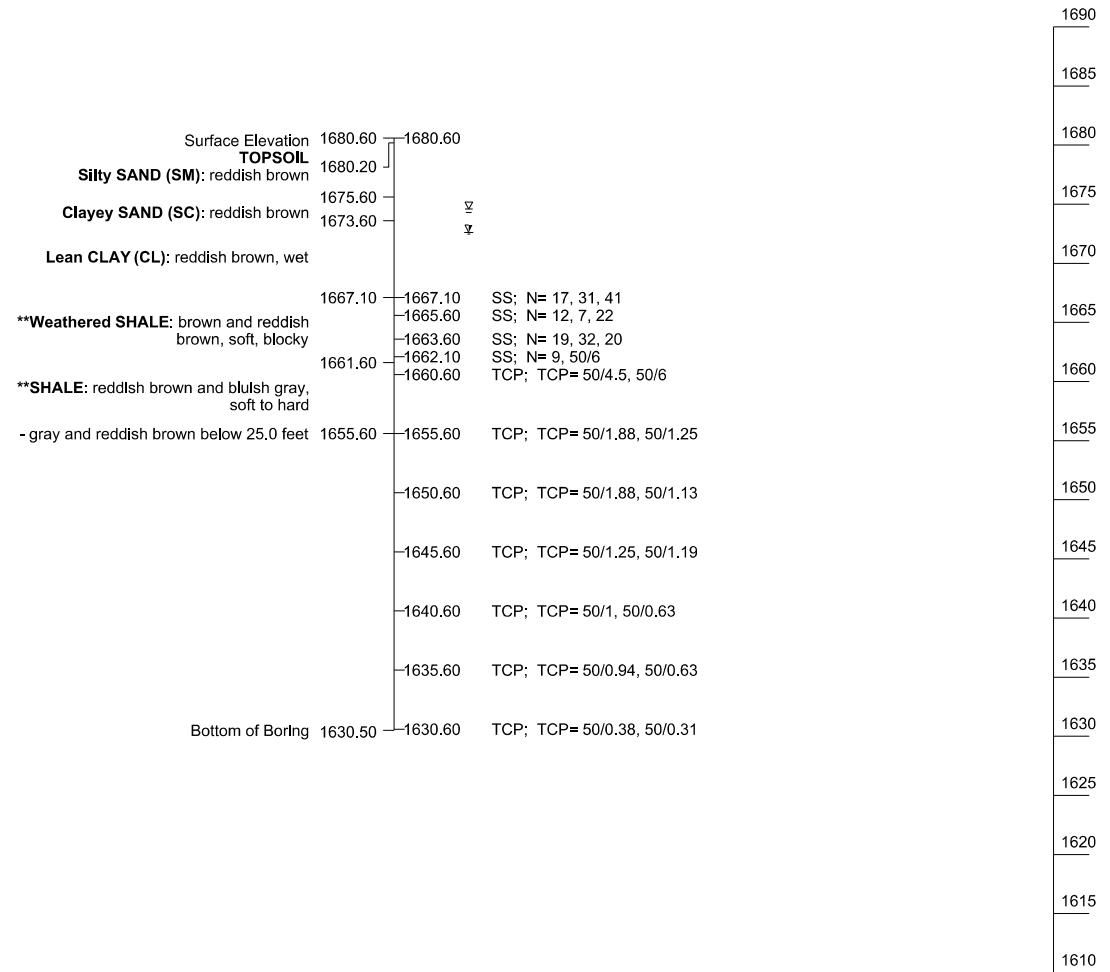
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REV. NO.	DESCRIPTION	REVISIONS	DATE

**BORING NO. B-1**  
Sta. 84+65 Offset 18' Lt.  
(Drilled March 04, 2016)



**BORING NO. B-2**  
Sta. 85+65 Offset 14' Rt.  
(Drilled March 03, 2016)



**SITE GEOLOGY**

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**LEGEND**

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- WCI = WET CAVE IN
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NOTE: WATER LEVEL ELEVATIONS SHOWN WERE OBTAINED AT TIME OF THE BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR.

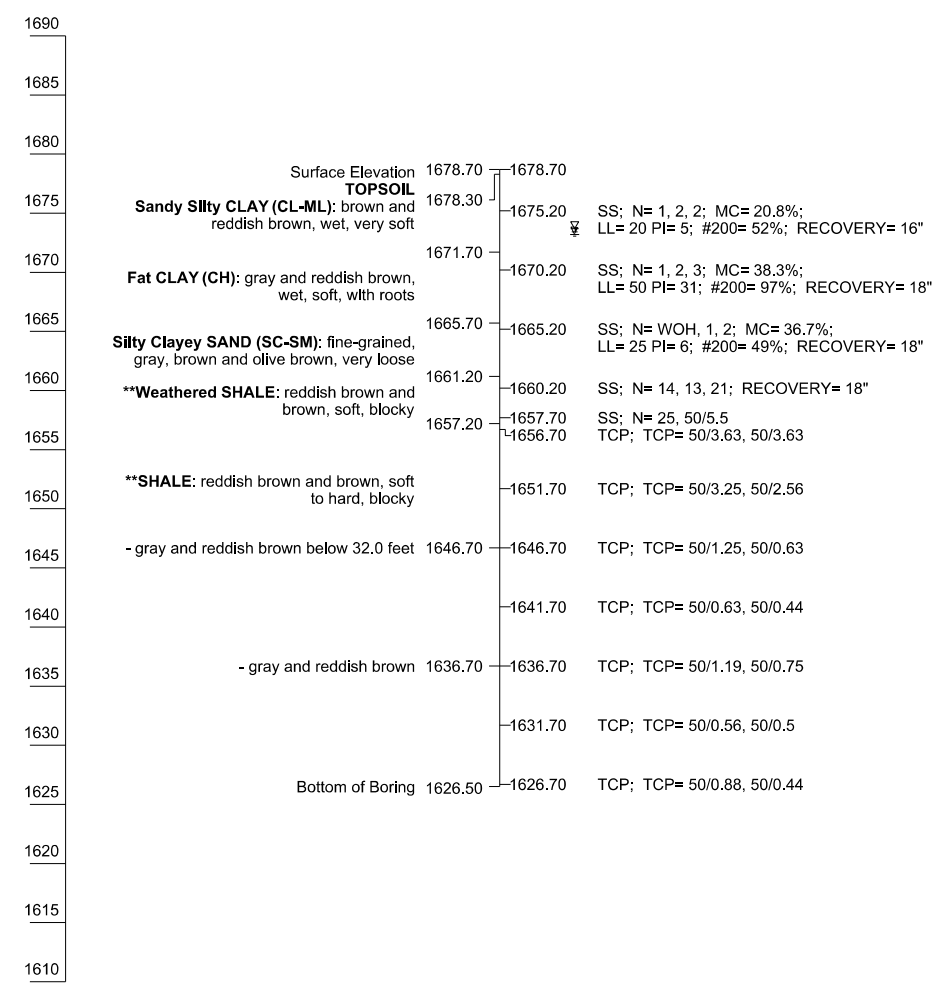
NOTE: SS DENOTES STANDARD PENETRATION TEST, AASHTO D1586-84 TCP DENOTES TEXAS CONE PENETRATION TEST.

TO OBTAIN THE COMPLETE GEOTECHNICAL REPORT CONTACT THE BRIDGE DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT (405) 521-2606

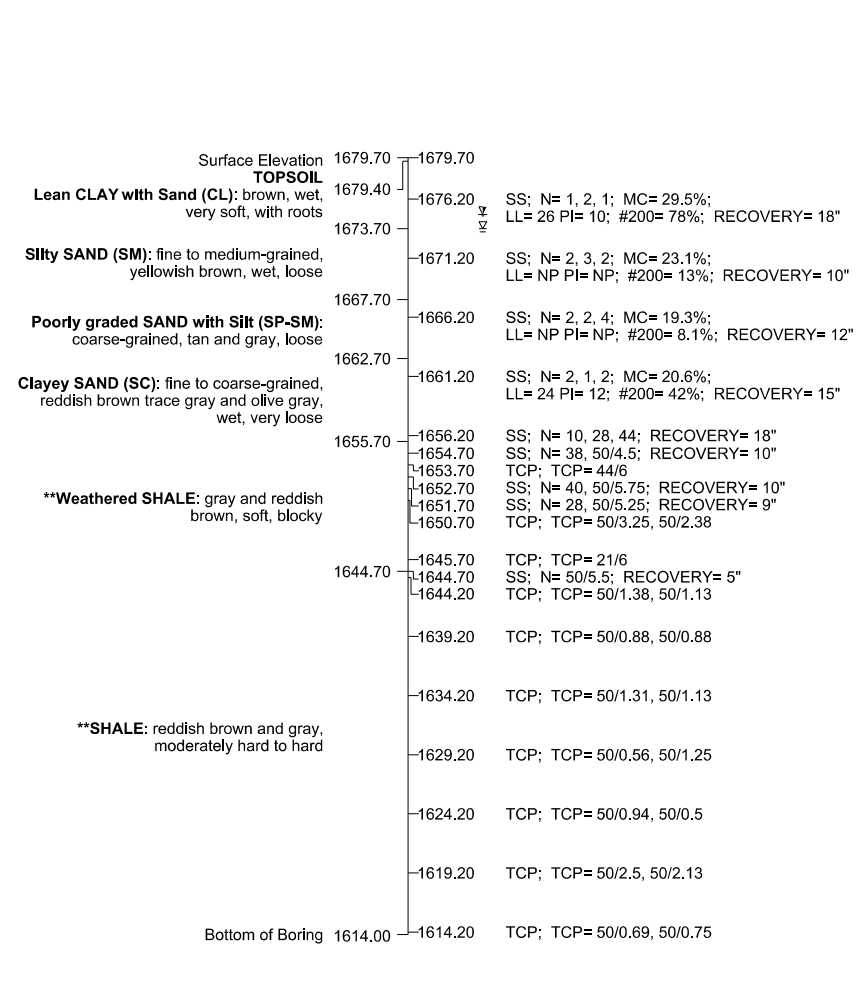
SH-34 OVER NORTH FORK OF RED RIVER OVERLOW BRIDGE  <b>FOUNDATION SHEETS</b>	BECKHAM COUNTY	Design	-	-
		Detail	-	-
		Check	-	-
		Squad	-	-
	Engr.	-	-	-
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION		SHEET NO. B003
JOB PRICE NO. 26999(04)				

REV. NO.	DESCRIPTION	REVISIONS	DATE

**BORING NO. B-3**  
Sta. 86+70 Offset 20' Lt.  
(Drilled March 03, 2016)



**BORING NO. B-4**  
Sta. 87+65 Offset 25' Rt.  
(Drilled March 02, 2016)



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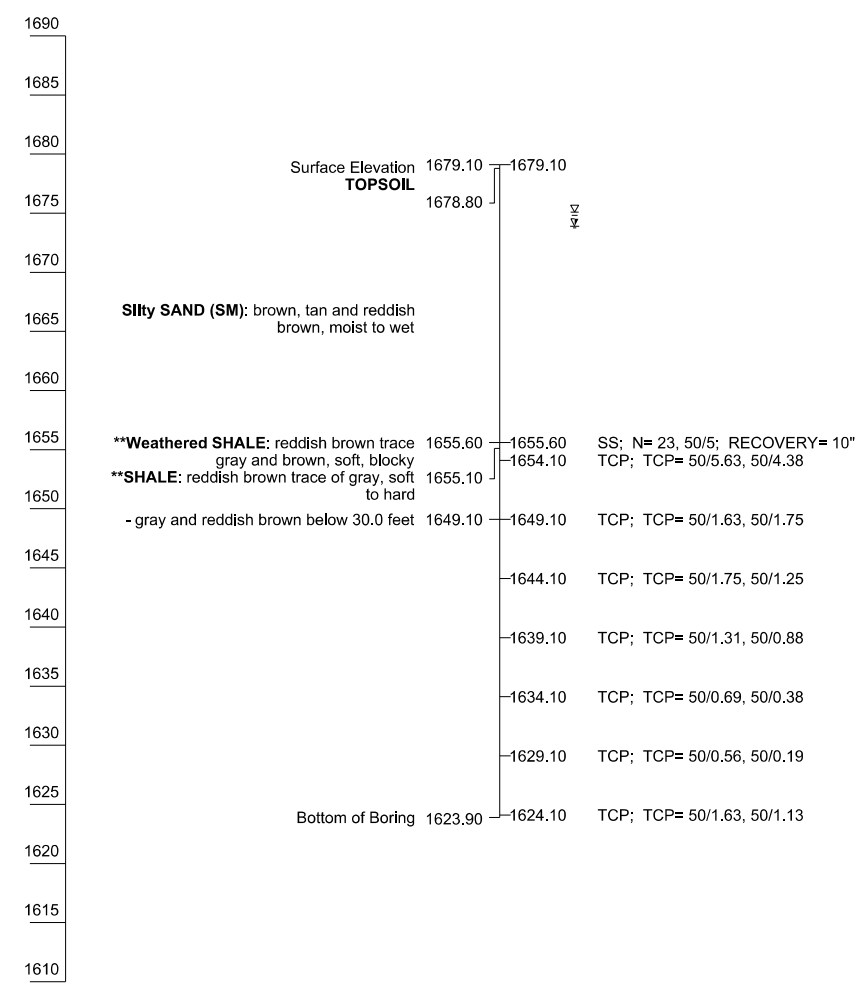
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SH-34 OVER NORTH FORK OF RED RIVER OVERLOW BRIDGE		BECKHAM COUNTY	Design	-	-
			Detail	-	-
			Check	-	-
			Squad	-	-
			Engr.	-	-
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION			
JOB PRECE NO. 26999(04)				SHEET NO. B004	

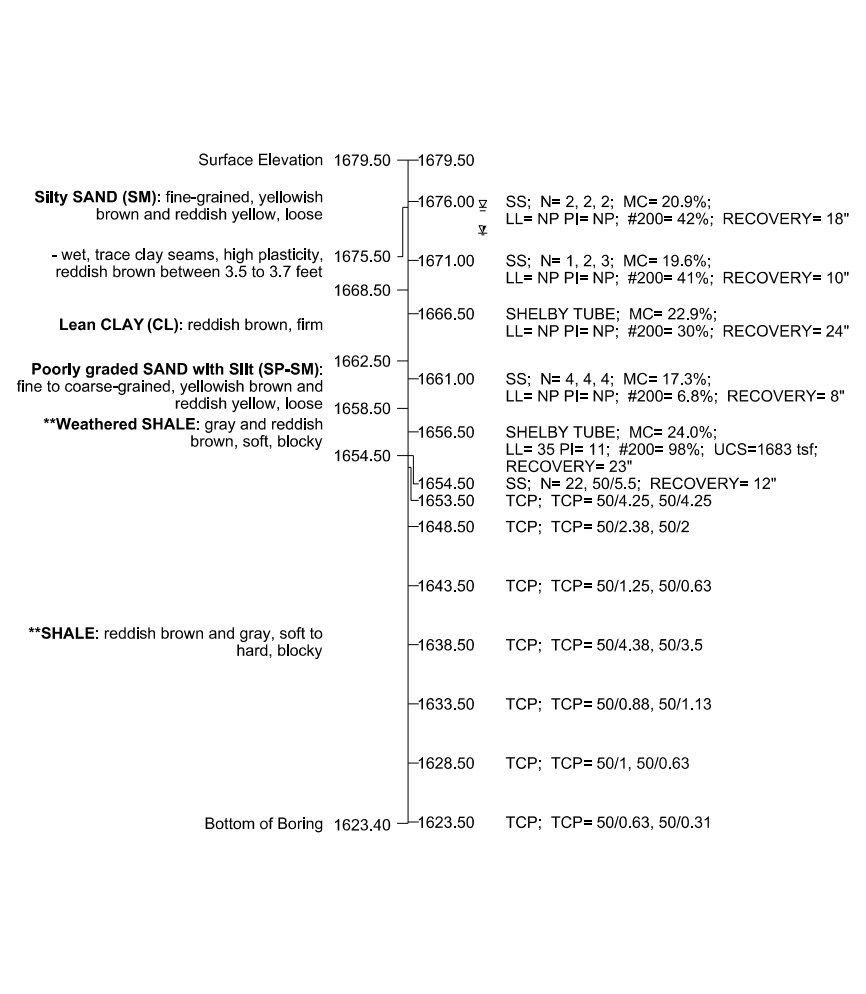


REV. NO.	DESCRIPTION	REVISIONS	DATE

**BORING NO. B-5**  
Sta. 88+60 Offset 13' Lt.  
(Drilled March 02, 2016)



**BORING NO. B-6**  
Sta. 89+65 Offset 13' Rt.  
(Drilled March 01, 2016)



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SH-34 OVER NORTH FORK OF RED RIVER OVERLOW BRIDGE		BECKHAM COUNTY	Design	-	-
FOUNDATION SHEETS			Detail	-	-
			Check	-	-
			Squod:	-	-
			Engr.	-	-
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION			
JOB PRICE NO. 26999(04)		SHEET NO. B005			

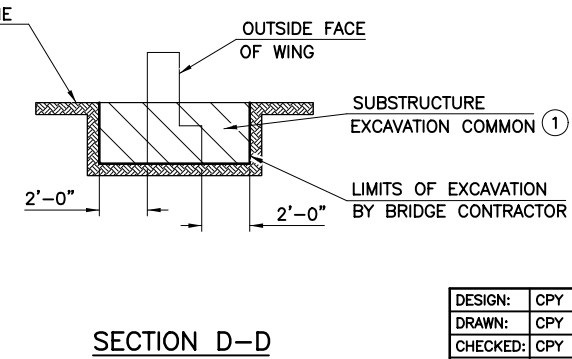
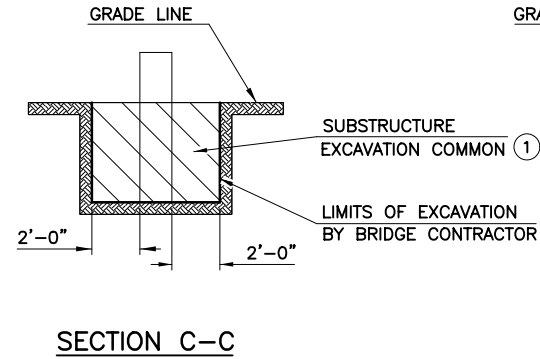
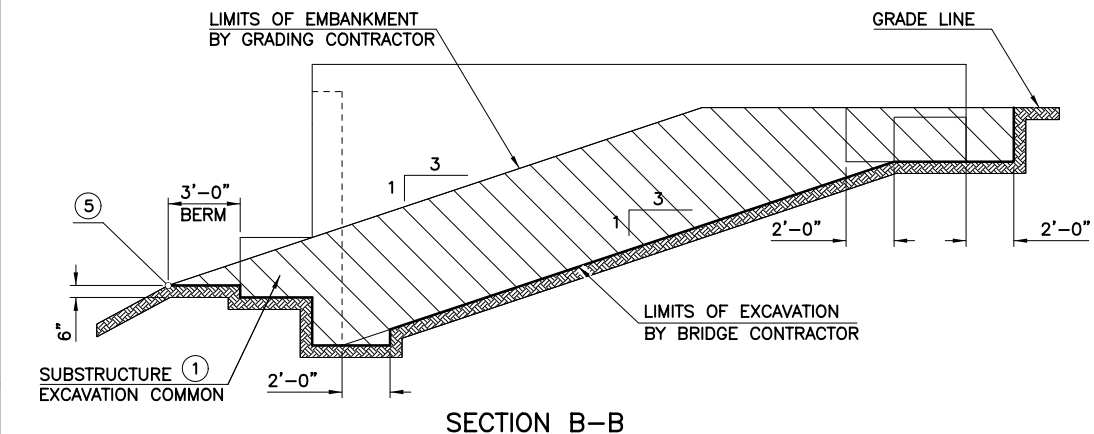
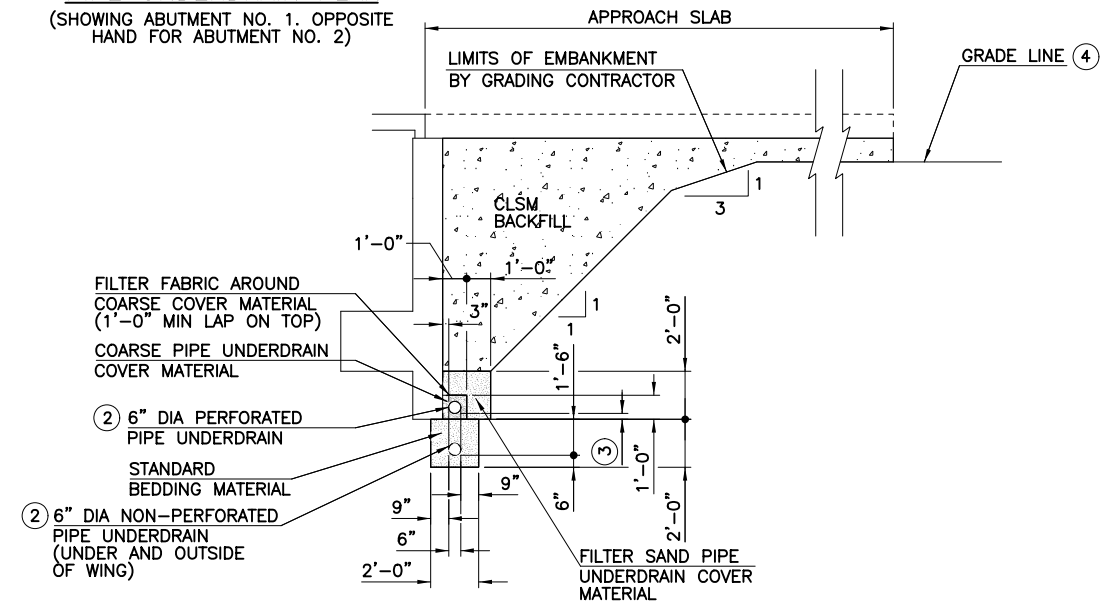
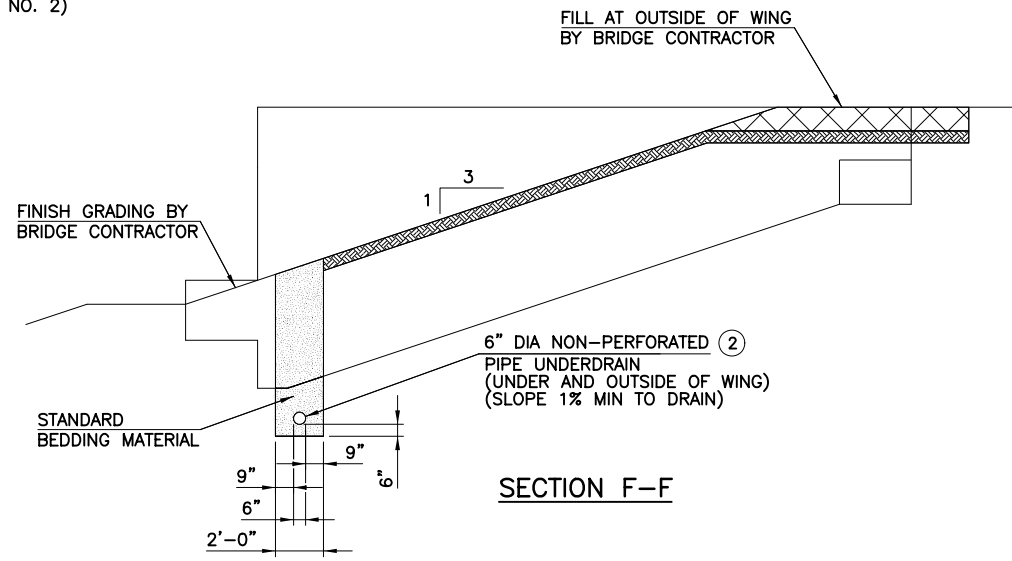
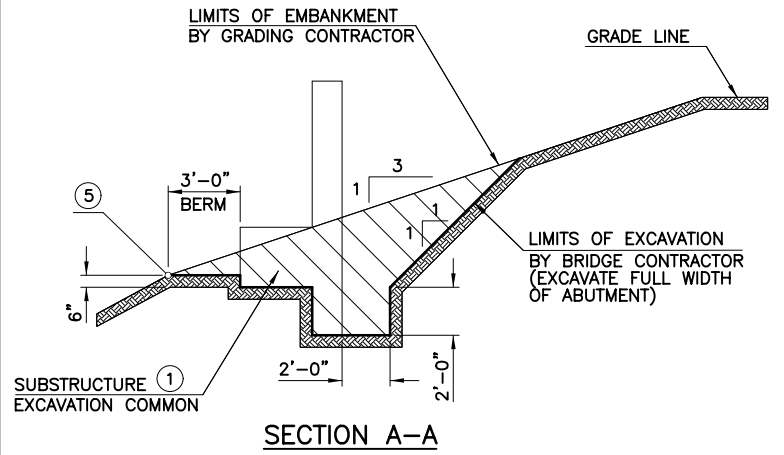
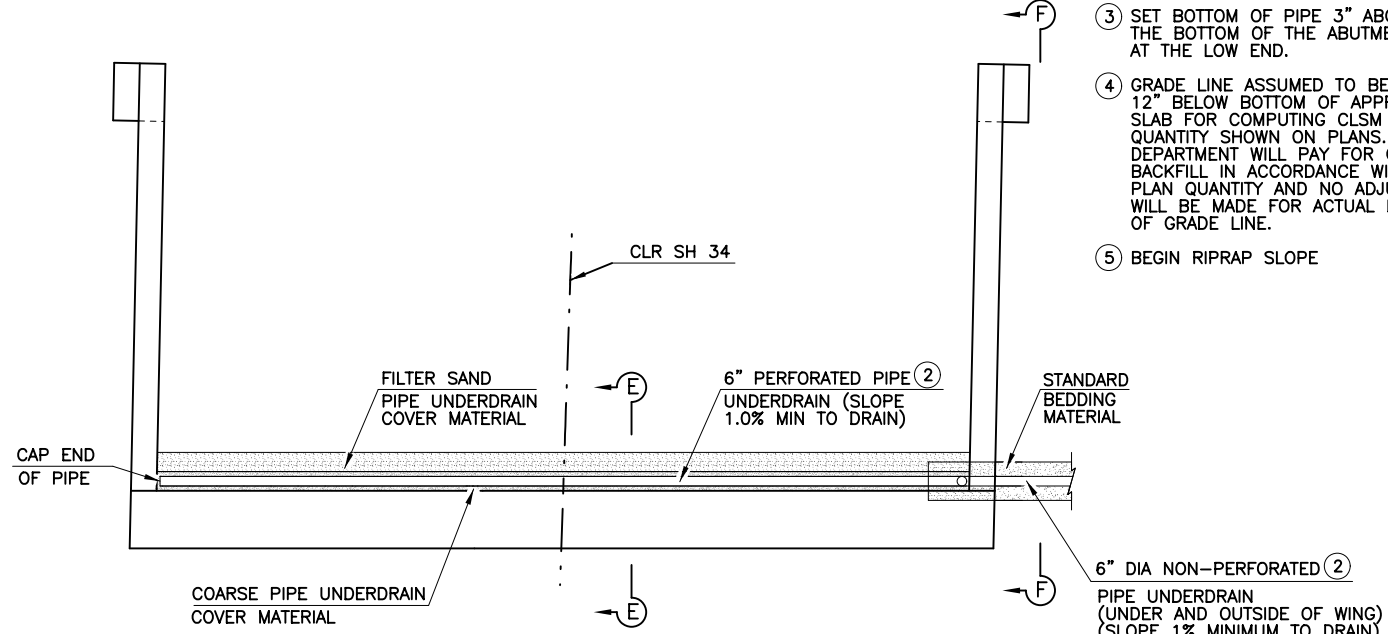
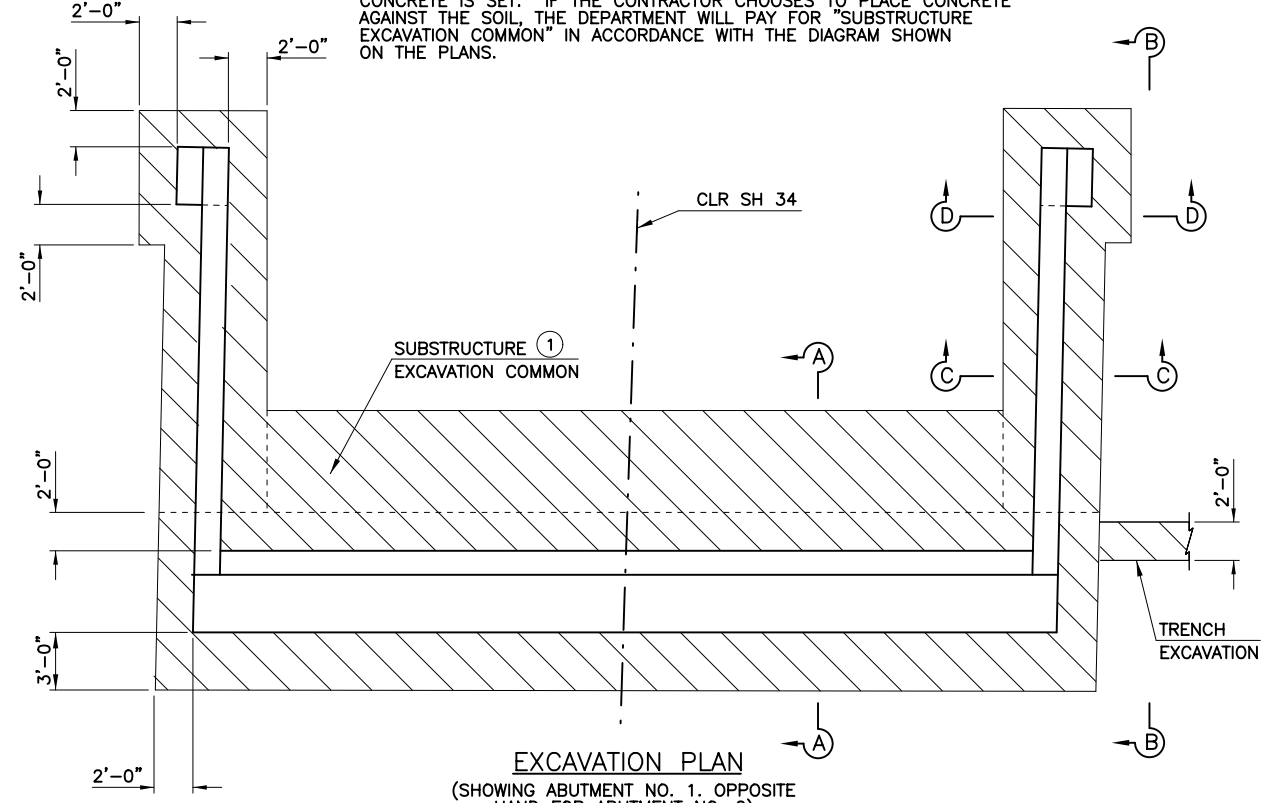
① CONCRETE MAY BE PLACED AGAINST THE LIMITS OF EXCAVATION IF THE MATERIAL IS EXCAVATED TO THE NEAT LINES OF THE ABUTMENT AND APPROVED BY THE ENGINEER. IF NECESSARY, FORMS SHALL BE USED ON THE BACK VERTICAL FACE OF THE ABUTMENT AND REMOVED AFTER CONCRETE IS SET. IF THE CONTRACTOR CHOOSES TO PLACE CONCRETE AGAINST THE SOIL, THE DEPARTMENT WILL PAY FOR "SUBSTRUCTURE EXCAVATION COMMON" IN ACCORDANCE WITH THE DIAGRAM SHOWN ON THE PLANS.

② THE ENGINEER MAY ADJUST THE EXTENT, LOCATION AND DEPTH OF 6" NON-PERFORATED UNDERDRAIN DURING CONSTRUCTION. INCLUDE THE COST OF PIPE UNDERDRAIN COVER MATERIAL (BOTH FINE SAND AND COARSE), FILTER FABRIC, TRENCH EXCAVATION, STANDARD BEDDING MATERIAL, AND EQUIPMENT AND LABOR FOR THEIR INSTALLATION IN THE CONTRACT UNIT PRICE OF 6" PERFORATED PIPE UNDERDRAIN ROUND AND 6" NON-PERF. PIPE UNDERDRAIN RND. INSTALL AS SHOWN ON THE PLANS AND ON STD. PUD-3.

③ SET BOTTOM OF PIPE 3" ABOVE THE BOTTOM OF THE ABUTMENT AT THE LOW END.

④ GRADE LINE ASSUMED TO BE LOCATED 12" BELOW BOTTOM OF APPROACH SLAB FOR COMPUTING CLSM BACKFILL QUANTITY SHOWN ON PLANS. THE DEPARTMENT WILL PAY FOR CLSM BACKFILL IN ACCORDANCE WITH THE PLAN QUANTITY AND NO ADJUSTMENT WILL BE MADE FOR ACTUAL LOCATION OF GRADE LINE.

⑤ BEGIN RIPRAP SLOPE



CLSM BACKFILL SHALL NOT BE PLACED UNTIL THE ABUTMENT WINGS HAVE ATTAINED A STRENGTH OF 3000 PSI.

DESIGN:	CPY	2016	SH 34 OVER NORTH FORK OVERFLOW - BRIDGE "A"	BECKHAM COUNTY
DRAWN:	CPY	2016		
CHECKED:	CPY	2016		
APPRVD:	CPY	2016		

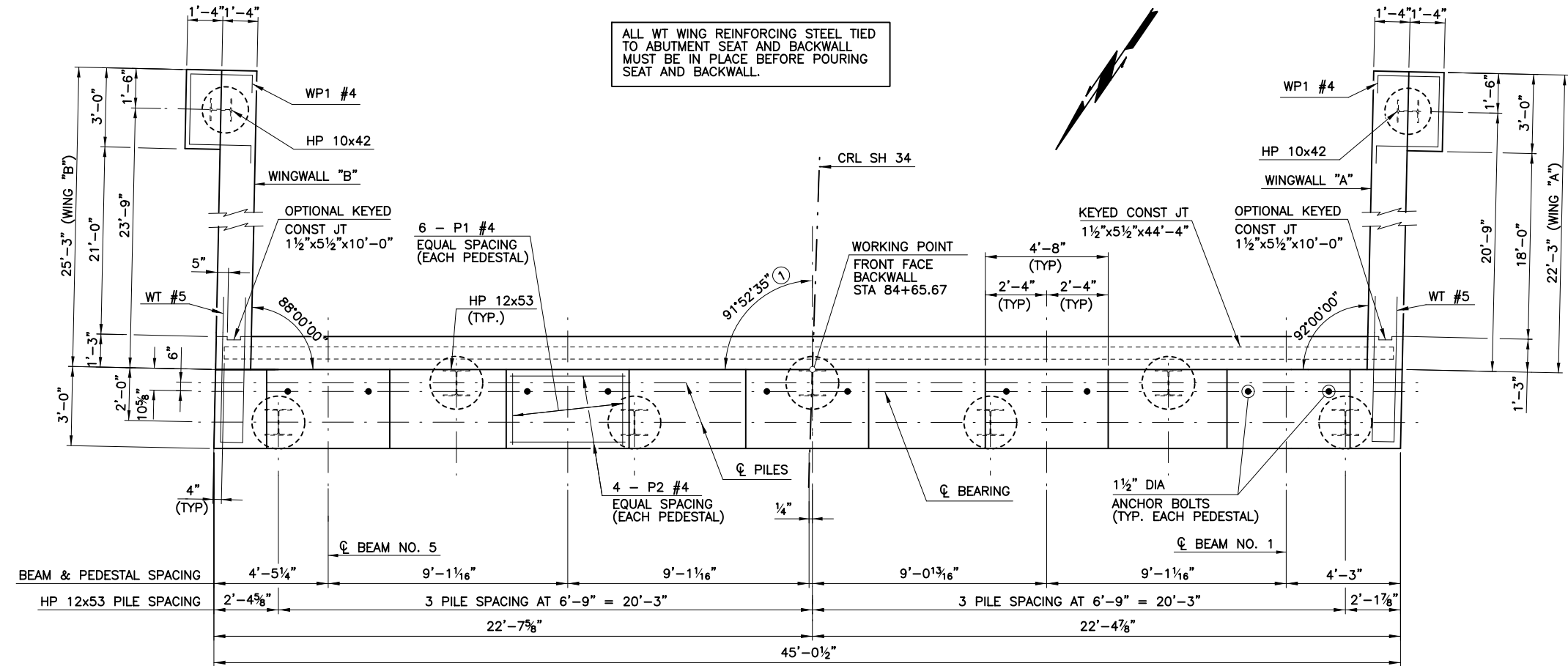
**CP&Y**

**SUBSTRUCTURE EXCAVATION**

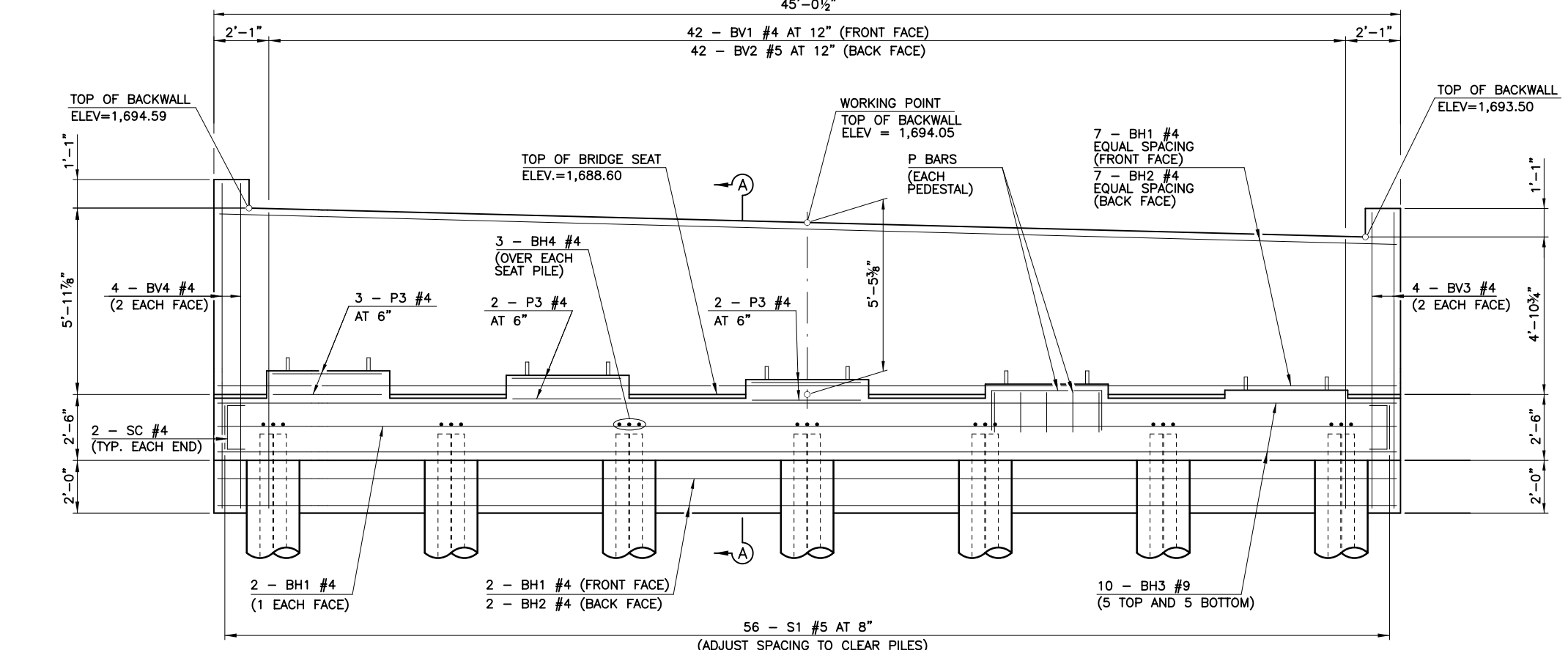
STATE JOB PIECE NO: 26999(04) SHEET 1 OF 1 SHEET NO. B006

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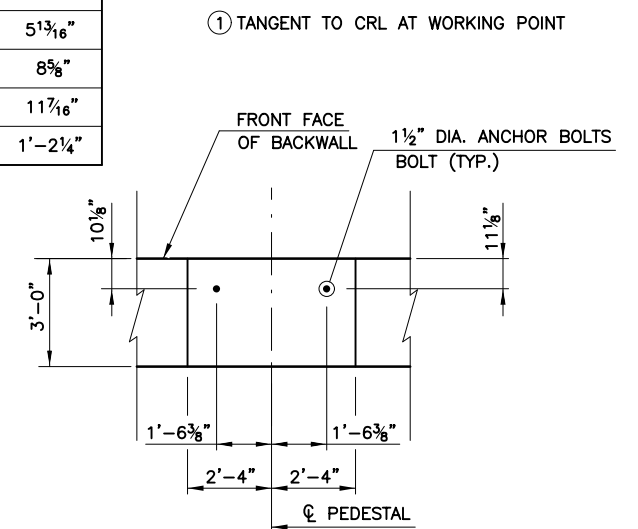
PEDESTAL HEIGHTS	
BEAM NO.	HEIGHT
1	3"
2	5 $\frac{3}{16}$ "
3	8 $\frac{5}{8}$ "
4	11 $\frac{7}{16}$ "
5	1'-2 $\frac{1}{4}$ "



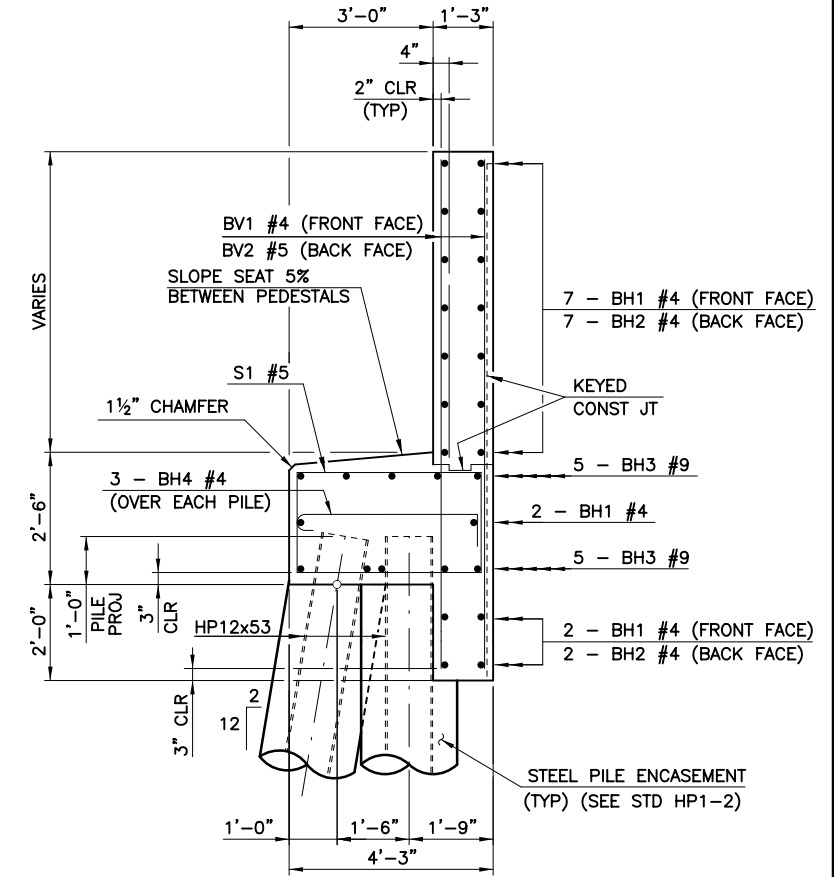
PLAN



ELEVATION



ANCHOR BOLT LAYOUT



SECTION A-A

DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OVERFLOW - BRIDGE "A"	
CHECKED: CPY 2016		
APPRVD: CPY 2016		

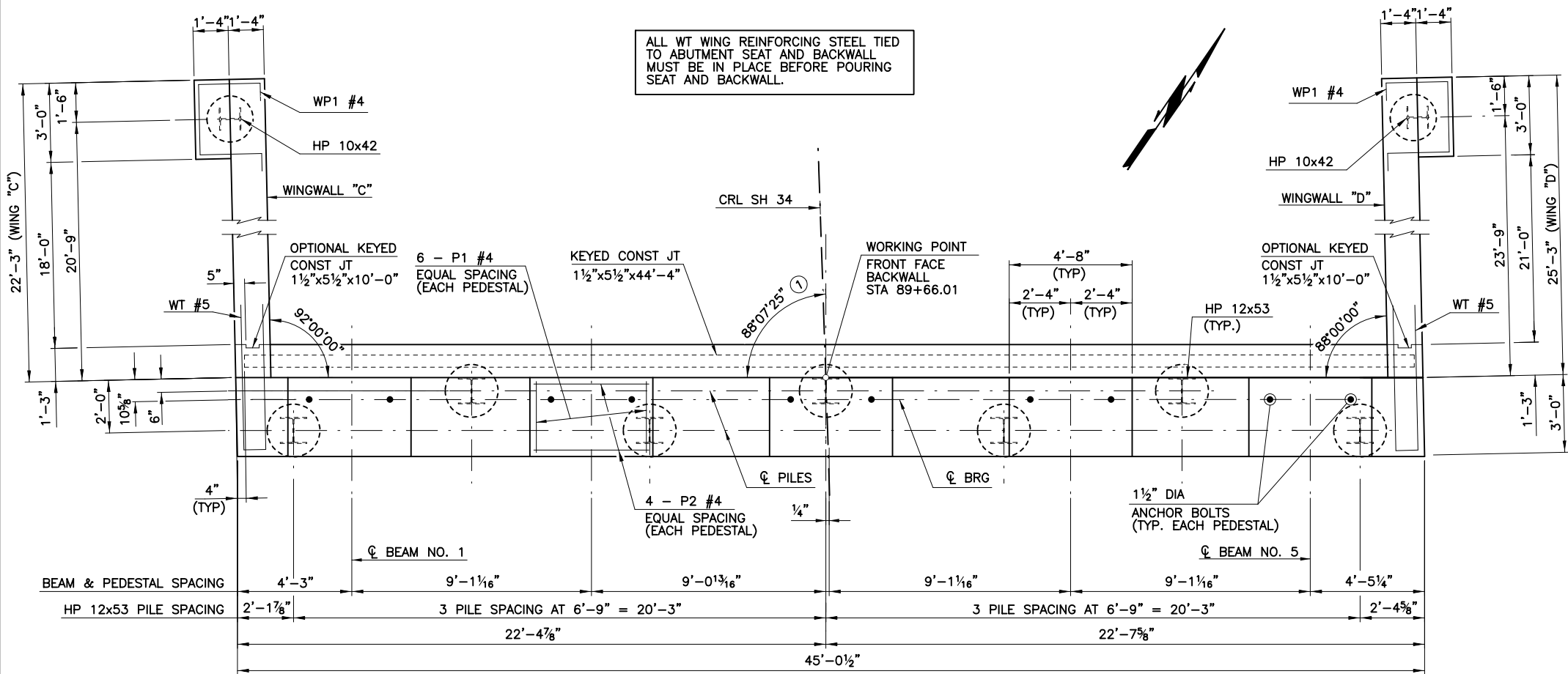
ABUTMENT NO. 1 DETAILS

STATE JOB PIECE NO: 26999(04)

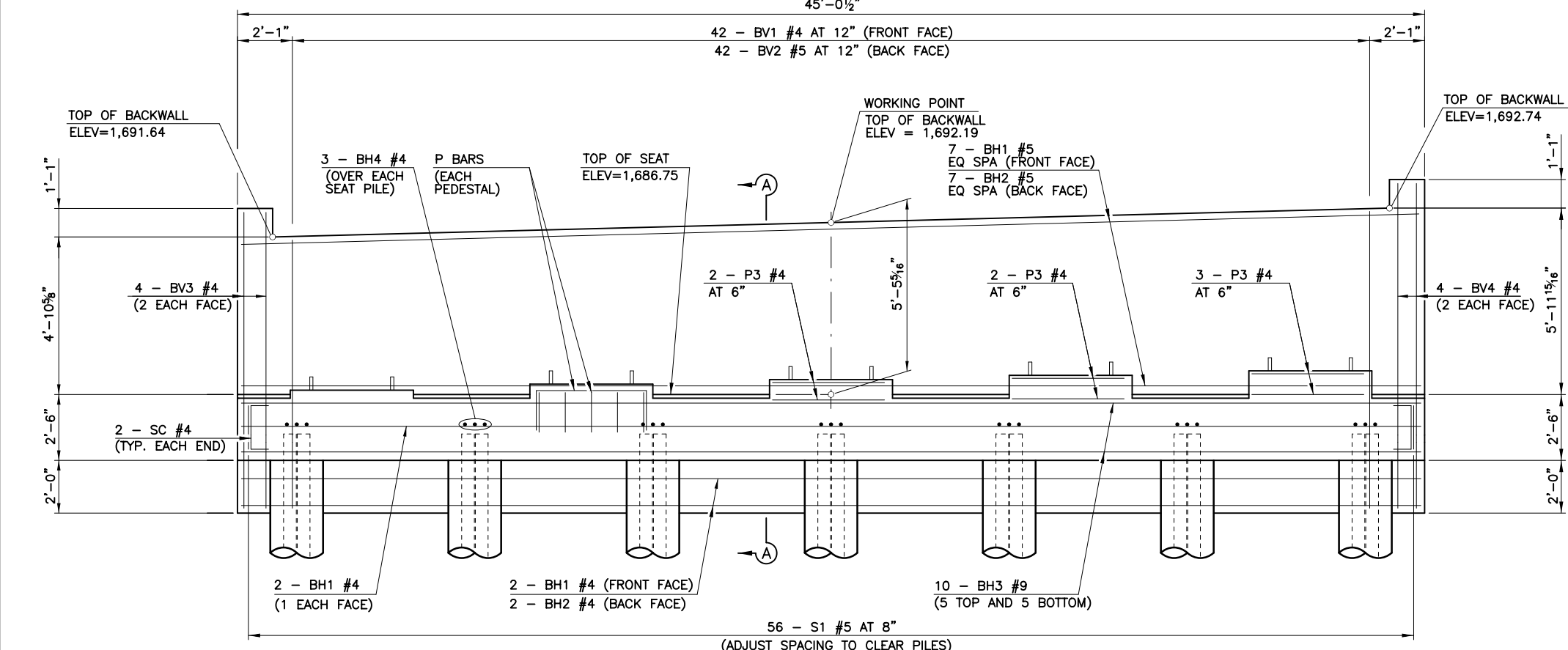
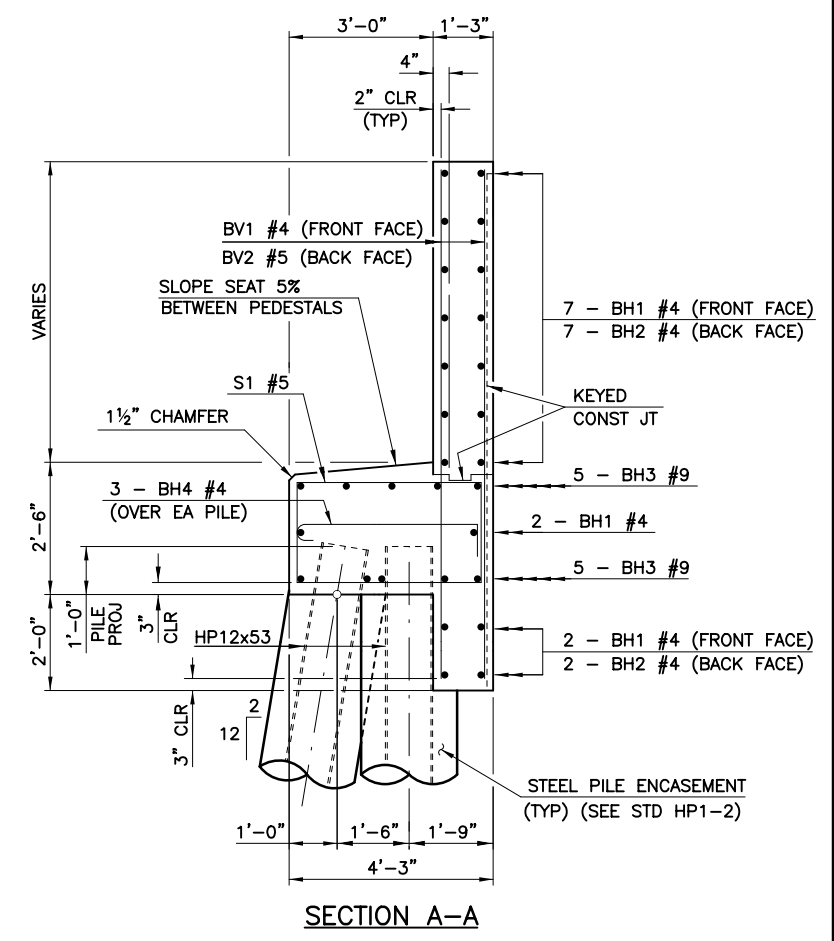
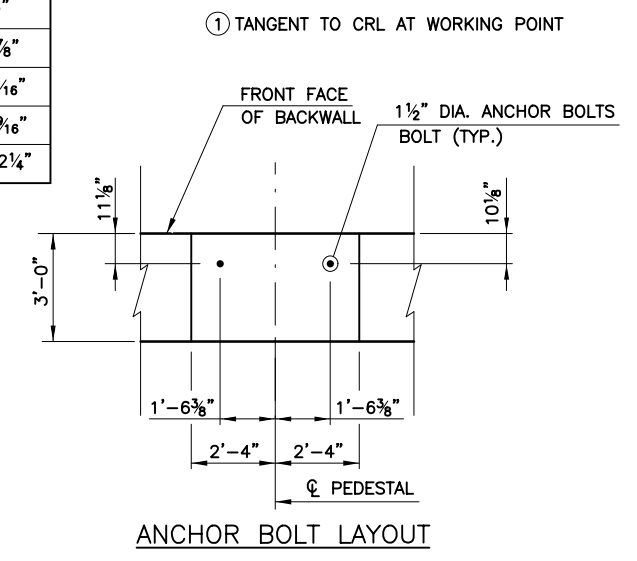
SHEET 1 OF 1  
SHEET NO. B007

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PEDESTAL HEIGHTS	
BEAM NO.	HEIGHT
1	3"
2	5 <sup>7</sup> / <sub>8</sub> "
3	8 <sup>11</sup> / <sub>16</sub> "
4	11 <sup>9</sup> / <sub>16</sub> "
5	1'-2 <sup>1</sup> / <sub>4</sub> "



PLAN



ELEVATION

DESIGN: CPY	2016	SH 34 OVER NORTH FORK OVERFLOW - BRIDGE "A"	BECKHAM COUNTY
DRAWN: CPY	2016		
CHECKED: CPY	2016		
APPRVD: CPY	2016		

STATE JOB PIECE NO: 26999(04)

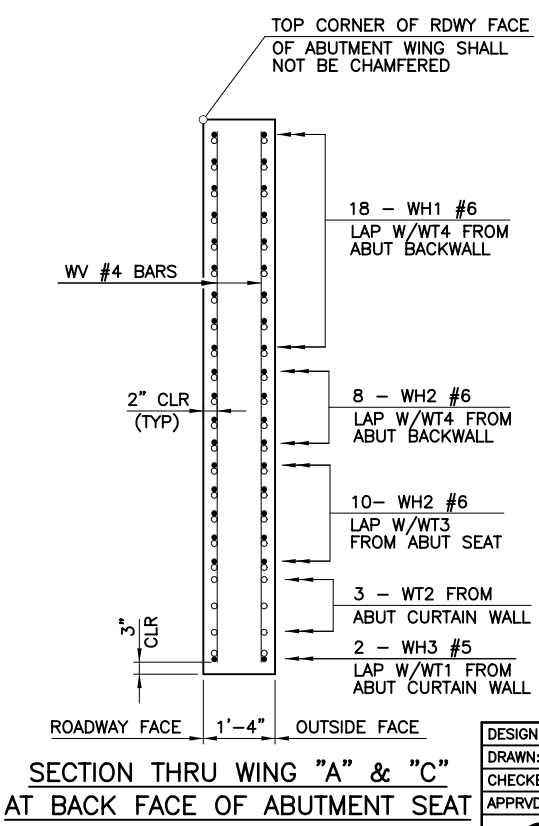
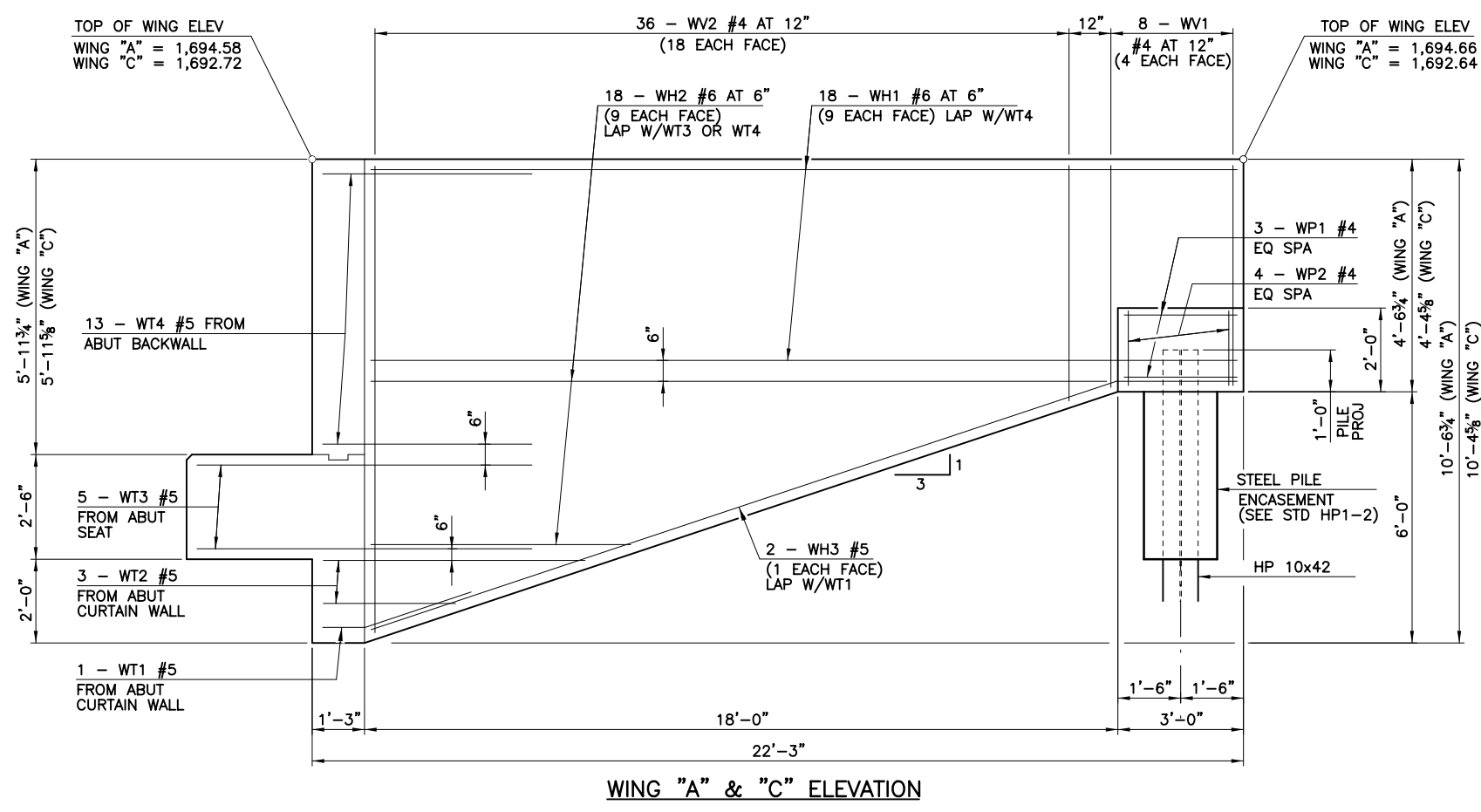
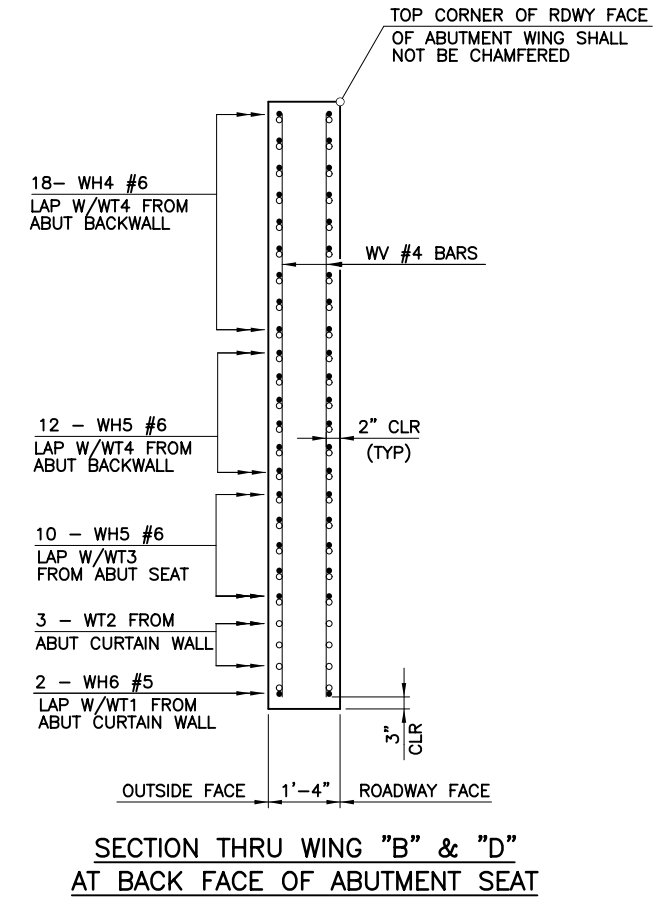
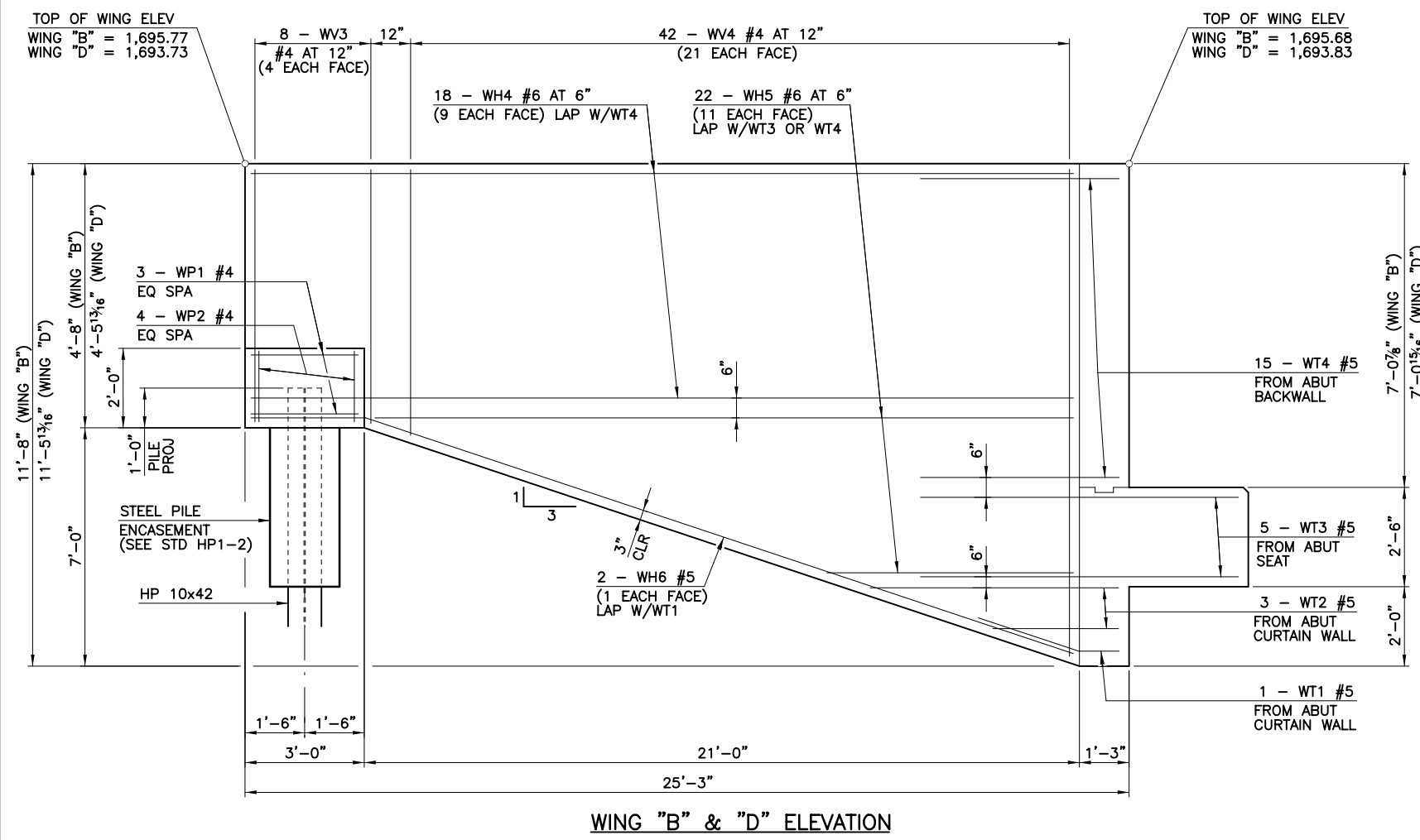
ABUTMENT NO. 2 DETAILS

SHEET 1 OF 1

SHEET NO. B008

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	B009	173



DESIGN: CPY 2016	SH 34 OVER NORTH FORK OVERFLOW - BRIDGE "A"	BECKHAM COUNTY
DRAWN: CPY 2016		
CHECKED: CPY 2016		
APPRVD: CPY 2016		
<b>ABUTMENT DETAILS</b>		
STATE JOB PIECE NO: 26999(04)		SHEET 1 OF 2 SHEET NO. B009

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### ABUTMENT NO. 1 BAR LIST

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
BH1	#4	11	STR	44'-8"	
BH2	#4	9	BNT	46'-0"	
BH3	#9	10	STR	44'-8"	
BH4	#4	21	BNT	5'-1"	
BV1	#4	42	STR	10'-6" AVG	10'-0" TO 11'-1"
BV2	#5	42	STR	10'-6" AVG	10'-0" TO 11'-1"
BV3	#4	4	STR	10'-0"	
BV4	#4	4	STR	11'-1"	
P1	#4	30	BNT	7'-8"	
P2	#4	20	BNT	9'-4"	
P3	#4	7	BNT	14'-9"	
S1	#5	56	BNT	12'-11"	
SC	#4	4	BNT	3'-3"	

### ABUTMENT WINGWALL "A"

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
WH1	#6	18	STR	20'-8"	
WH2	#6	18	STR	13'-6" AVG	6'-5" TO 20'-8"
WH3	#5	2	BNT	21'-8"	
WP1	#4	3	BNT	8'-8"	
WP2	#4	4	STR	1'-7"	
WT1	#5	1	BNT	8'-6"	
WT2	#5	3	BNT	9'-0" AVG	6'-0" TO 12'-0"
WT3	#5	5	BNT	17'-0"	
WT4	#5	13	BNT	11'-0"	
WV1	#4	8	STR	4'-1"	
WV2	#4	36	STR	7'-1" AVG	4'-1" TO 10'-1"

### ABUTMENT WINGWALL "B"

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
WH4	#6	19	STR	23'-8"	
WH5	#6	22	STR	15'-1" AVG	6'-5" TO 23'-8"
WH6	#5	2	BNT	24'-9"	
WP1	#4	3	BNT	8'-8"	
WP2	#4	4	STR	1'-7"	
WT1	#5	1	BNT	8'-6"	
WT2	#5	3	BNT	9'-0" AVG	6'-0" TO 12'-0"
WT3	#5	5	BNT	17'-0"	
WT4	#5	15	BNT	11'-0"	
WV3	#4	8	STR	4'-2"	
WV4	#4	42	STR	7'-8" AVG	4'-2" TO 11'-2"

### SUMMARY OF ABUTMENT QUANTITIES

DESCRIPTION	UNIT	ABUT NO. 1	ABUT NO. 2	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	CY	90.00	90.00	180.00
CLSM BACKFILL	CY	106.00	105.90	211.90
ELASTOMERIC COATING	SF	235.00	235.00	470.00
CLASS A CONCRETE	CY	52.10	51.90	104.00
EPOXY COATED REINFORCING STEEL	LB	7,480.00	7,480.00	14,960.00
PILES, FURNISHED (HP10x42)	LF	84.00	82.00	166.00
PILES, FURNISHED (HP12x53)	LF	270.00	263.00	533.00
PILES, DRIVEN (HP10x42)	LF	84.00	82.00	166.00
PILES, DRIVEN (HP12x53)	LF	270.00	263.00	533.00
WATER REPELLENT (VISUALLY INSPECTED)	SY	34.00	34.00	68.00
TYPE I-A PLAIN RIPRAP	TON	1,020.00	1,000.00	2,020.00
TYPE I-A FILTER BLANKET	TON	150.00	155.00	305.00
6" PERF PIPE UNDERDRAIN RND	LF	44.00	44.00	88.00
6" NON-PERF PIPE UNDERDRAIN RND	LF	36.00	36.00	72.00

### ABUTMENT NO. 2 BAR LIST

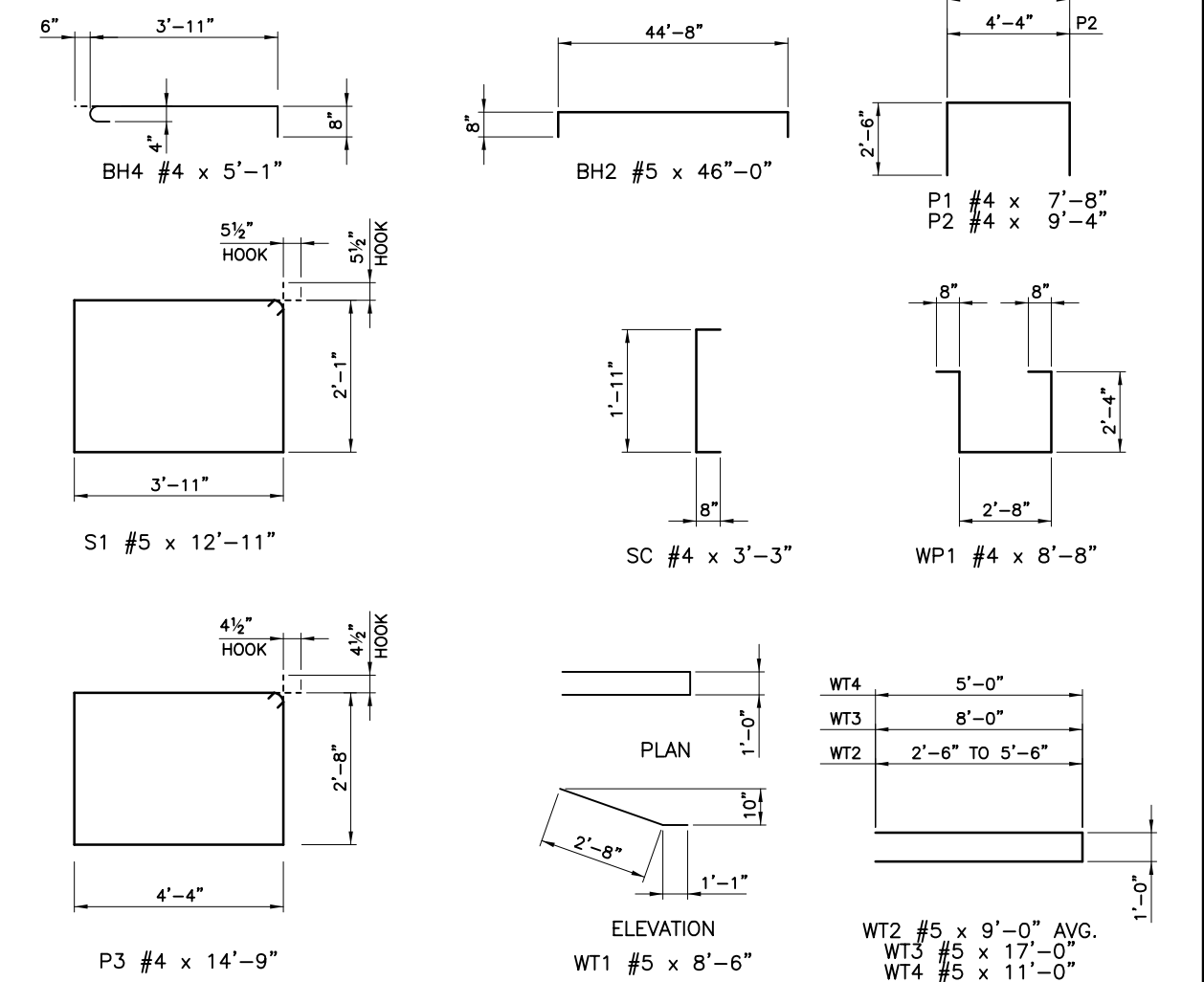
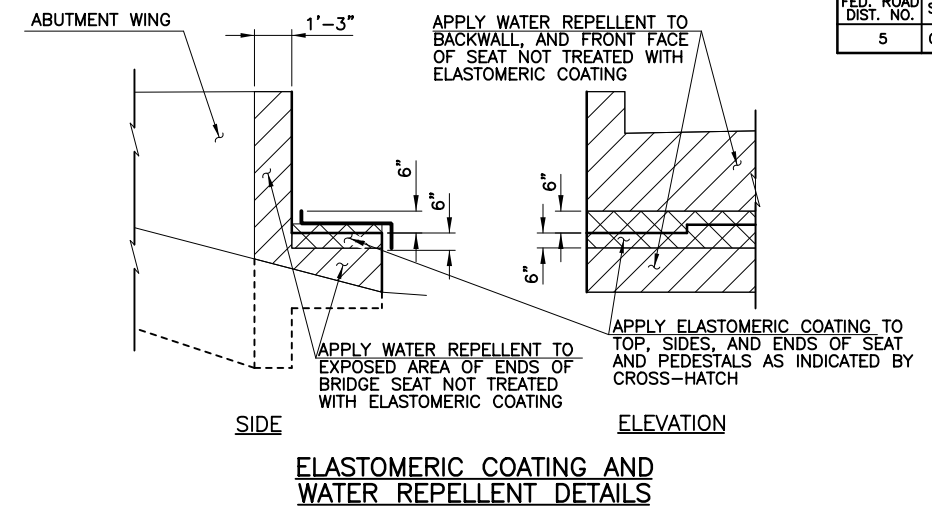
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
BH1	#4	11	STR	44'-8"	
BH2	#4	9	BNT	46'-0"	
BH3	#9	10	STR	44'-8"	
BH4	#4	21	BNT	5'-1"	
BV1	#4	42	STR	10'-6" AVG	10'-0" TO 11'-1"
BV2	#5	42	STR	10'-6" AVG	10'-0" TO 11'-1"
BV3	#4	4	STR	10'-0"	
BV4	#4	4	STR	11'-1"	
P1	#4	30	BNT	7'-8"	
P2	#4	20	BNT	9'-4"	
P3	#4	7	BNT	14'-9"	
S1	#5	56	BNT	12'-11"	
SC	#4	4	BNT	3'-3"	

### ABUTMENT WINGWALL "C"

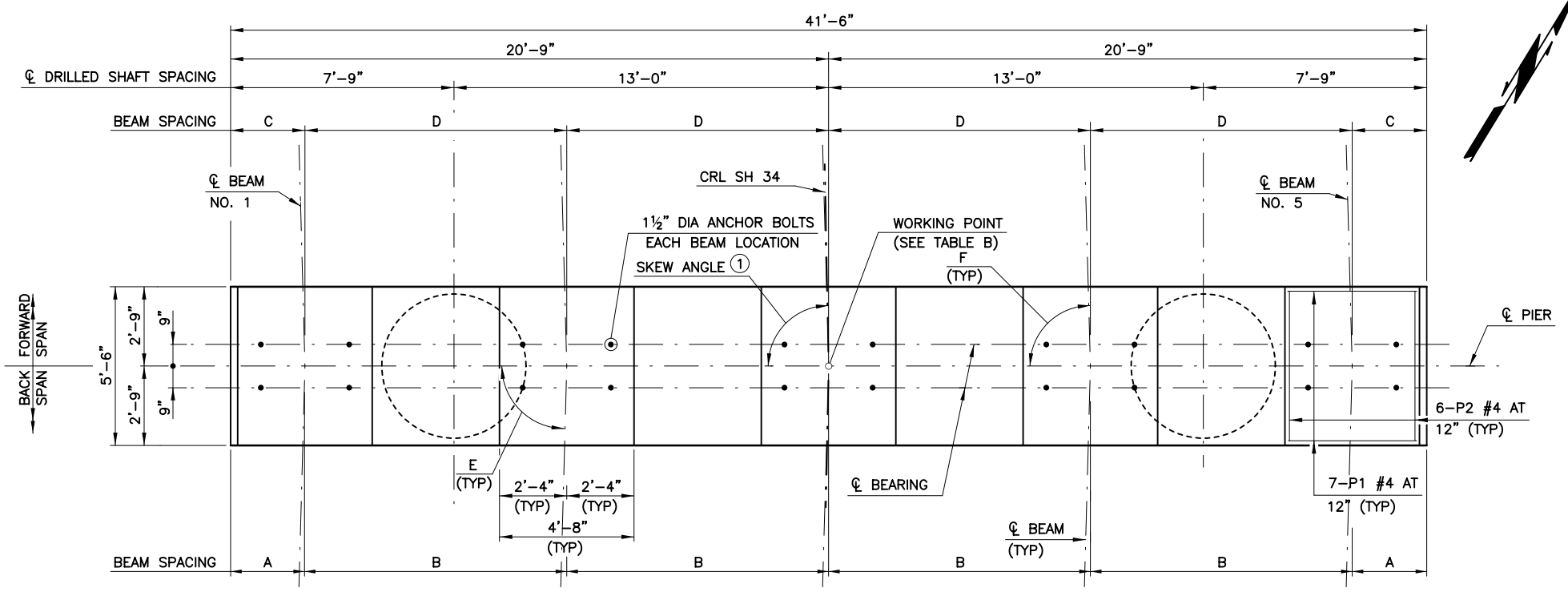
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
WH1	#6	18	STR	20'-8"	
WH2	#6	18	STR	13'-6" AVG	6'-5" TO 20'-8"
WH3	#5	2	BNT	21'-8"	
WP1	#4	3	BNT	8'-8"	
WP2	#4	4	STR	1'-7"	
WT1	#5	1	BNT	8'-6"	
WT2	#5	3	BNT	9'-0" AVG	6'-0" TO 12'-0"
WT3	#5	5	BNT	17'-0"	
WT4	#5	13	BNT	11'-0"	
WV1	#4	8	STR	4'-1"	
WV2	#4	36	STR	7'-1" AVG	4'-1" TO 10'-1"

### ABUTMENT WINGWALL "D"

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
WH4	#6	19	STR	23'-8"	
WH5	#6	22	STR	15'-1" AVG	6'-5" TO 23'-8"
WH6	#5	2	BNT	24'-9"	
WP1	#4	3	BNT	8'-8"	
WP2	#4	4	STR	1'-7"	
WT1	#5	1	BNT	8'-6"	
WT2	#5	3	BNT	9'-0" AVG	6'-0" TO 12'-0"
WT3	#5	5	BNT	17'-0"	
WT4	#5	15	BNT	11'-0"	
WV3	#4	8	STR	4'-2"	
WV4	#4	42	STR	7'-8" AVG	4'-2" TO 11'-2"



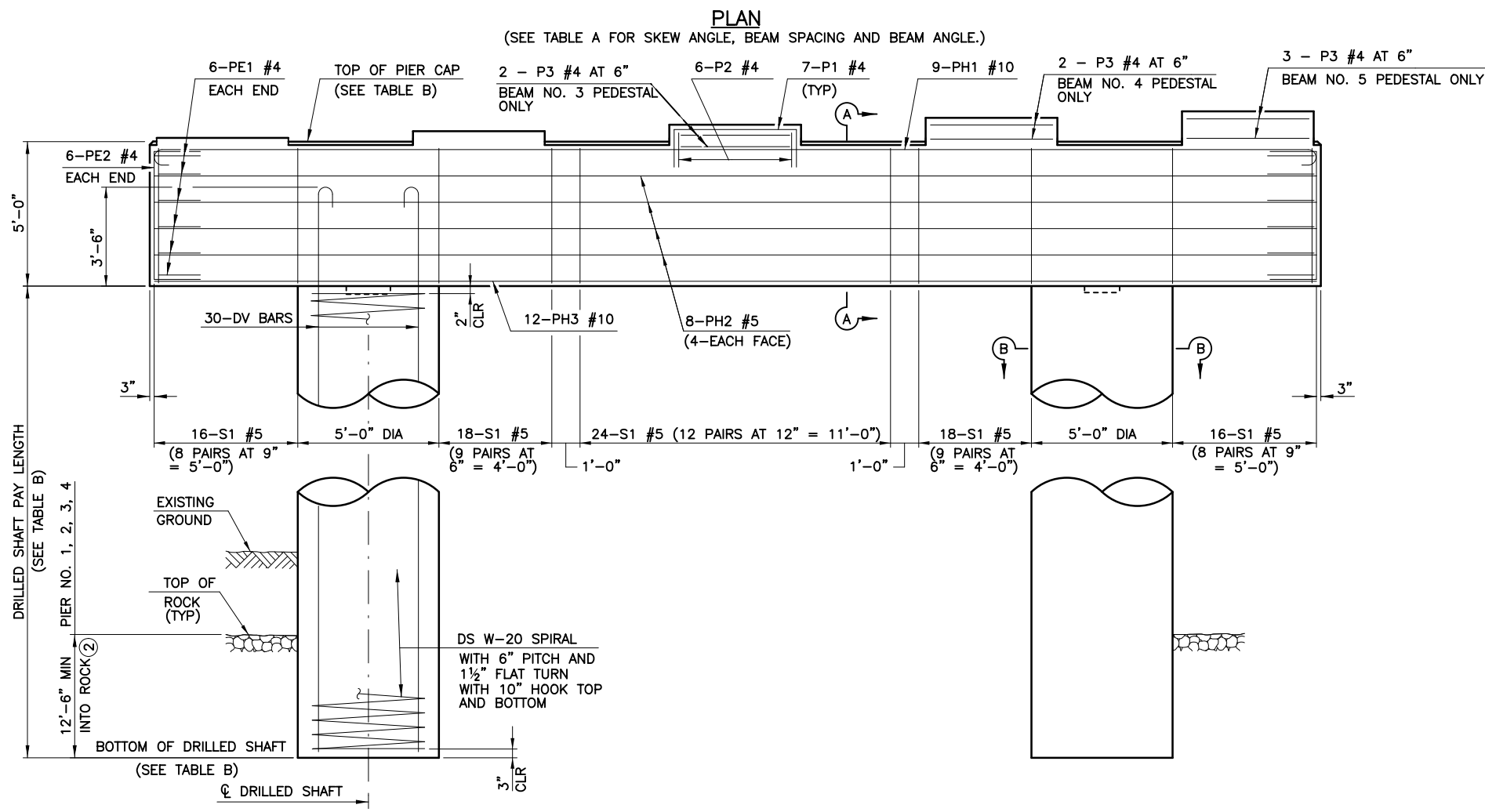
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BEAM NO.	HEIGHT
1	3"
2	5 <sup>13</sup> / <sub>16</sub> "
3	8 <sup>5</sup> / <sub>8</sub> "
4	11 <sup>1</sup> / <sub>2</sub> "
5	1'-2 <sup>5</sup> / <sub>16</sub> "

LOCATION	SKEW ANGLE	A	B	C	D	E	F
PIER NO. 1	91° 07' 30.81"	2'-6 <sup>7</sup> / <sub>8</sub> "	9'-1 <sup>1</sup> / <sub>16</sub> "	2'-7"	9'-1"	88° 29' 47.18"	89° 14' 59.60"
PIER NO. 2	90° 22' 30.00"	2'-7"	9'-1"	2'-7"	9'-1"	89° 14' 59.60"	90° 00' 00.00"
PIER NO. 3	89° 37' 30.00"	2'-7"	9'-1"	2'-7"	9'-1"	90° 00' 00.00"	89° 14' 59.60"
PIER NO. 4	88° 52' 29.19"	2'-7"	9'-1"	2'-6 <sup>7</sup> / <sub>8</sub> "	9'-1 <sup>1</sup> / <sub>16</sub> "	89° 14' 59.60"	88° 29' 47.18"

LOCATION	WORKING POINT STA	TOP OF PIER CAP ELEV	TOP OF DS ELEVATION	BOTTOM OF DS ELEVATION	DS LENGTH
PIER NO. 1	85+65.81	1,688.23	1,683.23	1,648.23	35'-0"
PIER NO. 2	86+65.84	1,687.86	1,682.86	1,643.86	39'-0"
PIER NO. 3	87+65.84	1,687.49	1,682.49	1,642.49	40'-0"
PIER NO. 4	88+65.87	1,687.12	1,682.12	1,642.12	40'-0"



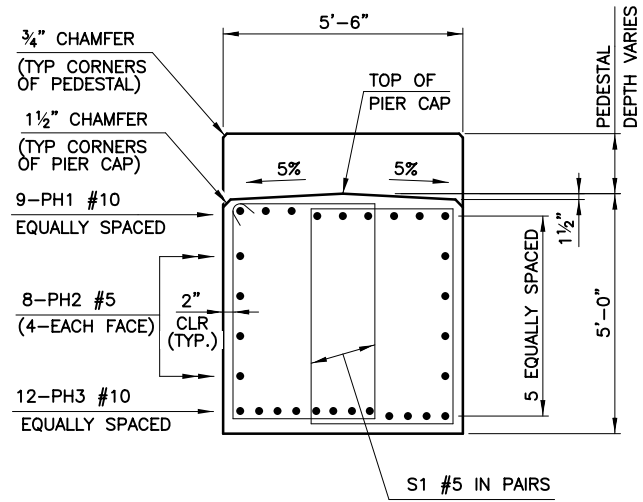
- ① TANGENT TO CRL AT WORKING POINT
- ② DRILLED SHAFT SHALL BE INSTALLED THE SPECIFIED MINIMUM DISTANCE INTO ROCK AND IN NO CASE SHALL BE HIGHER THAN THE BOTTOM DRILLED SHAFT ELEVATION ON THE PLANS.

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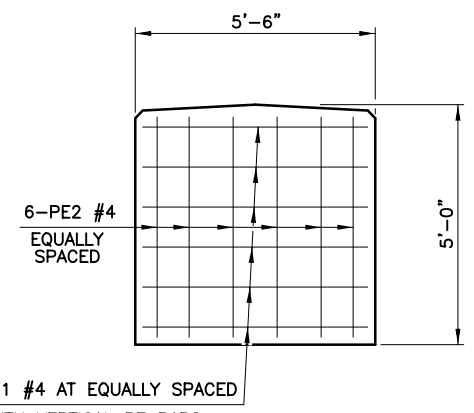
DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OVERFLOW - BRIDGE "A"	
CHECKED: CPY 2016		
APPRVD: CPY 2016		

PIER DETAILS

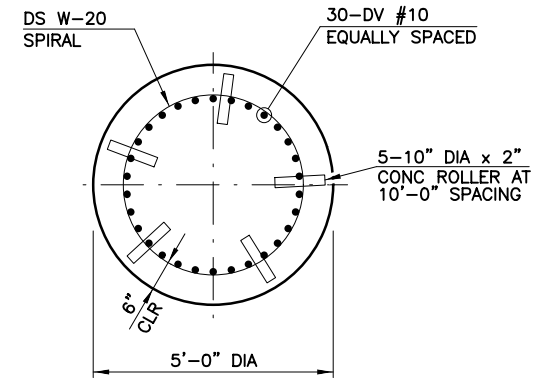
STATE JOB PIECE NO: 26999(04) SHEET 1 OF 3 SHEET NO. B011



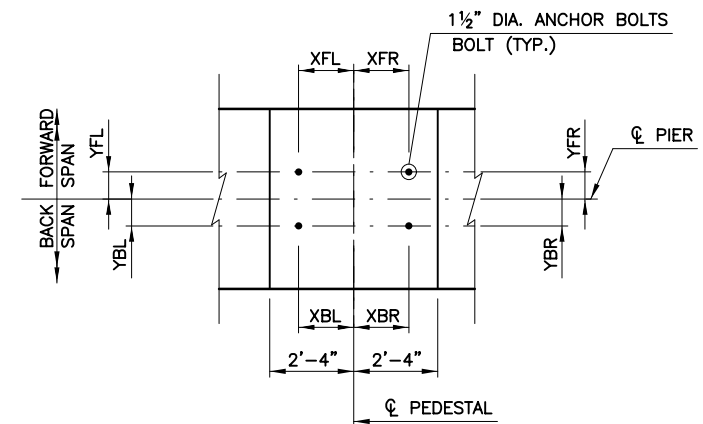
SECTION A-A



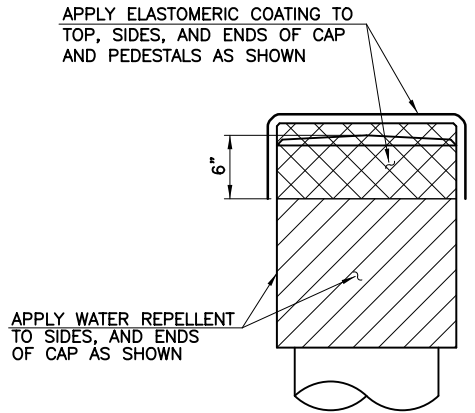
END ELEVATION



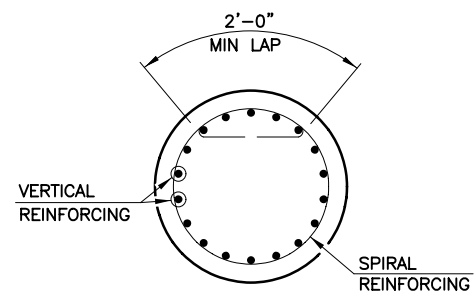
SECTION B-B



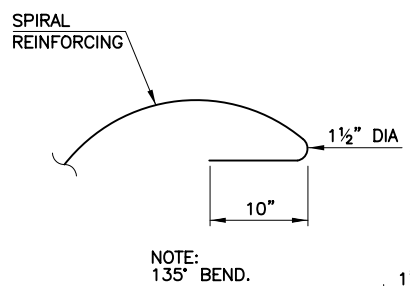
ANCHOR BOLT LAYOUT



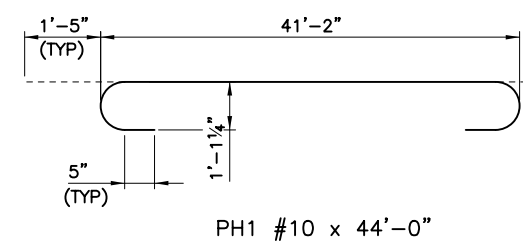
ELASTOMERIC COATING AND WATER REPELLENT DETAIL



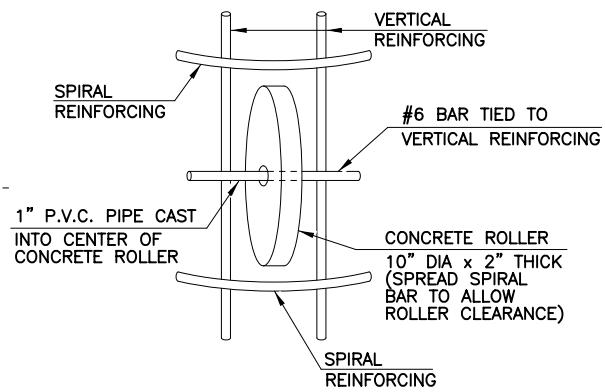
SPIRAL REINFORCING SPLICE DETAIL



ANCHOR BOLT DIMENSIONS								
LOCATION	XBL	YBL	XBR	YBR	XFL	YFR	XFR	YFR
PIER NO. 1	1'-6 3/16"	8 1/2"	1'-6 3/16"	9 1/2"	1'-6 3/16"	9 1/4"	1'-6 3/16"	8 3/4"
PIER NO. 2	1'-6 7/16"	8 3/4"	1'-6 5/16"	9 1/4"	1'-6 5/16"	9"	1'-6 7/16"	9"
PIER NO. 3	1'-6 5/16"	9"	1'-6 7/16"	9"	1'-6 7/16"	9 3/4"	1'-6 5/16"	9 1/4"
PIER NO. 4	1'-6 3/16"	9 1/4"	1'-6 1/16"	8 3/4"	1'-6 3/16"	8"	1'-6 3/16"	9 1/2"

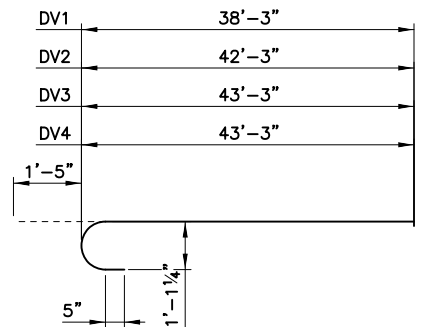


PH1 #10 x 44'-0"

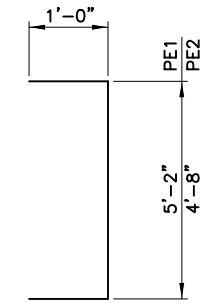


DRILLED SHAFT ROLLER DETAIL

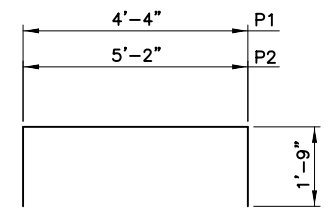
NOTE: CONCRETE USED IN THE CONCRETE ROLLER SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI. SLAB BOLSTERS, OR HIGH CHAIRS SHALL NOT BE SUBSTITUTED FOR THE CONCRETE ROLLERS.



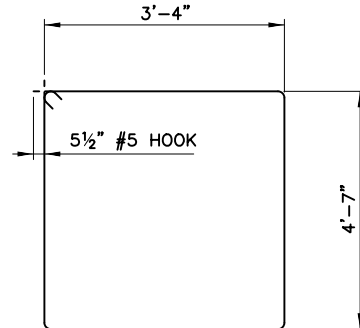
- DV1 #10 x 39'-8" PIER NO. 1
- DV2 #10 x 43'-8" PIER NO. 2
- DV3 #10 x 44'-8" PIER NO. 3
- DV4 #10 x 44'-8" PIER NO. 4



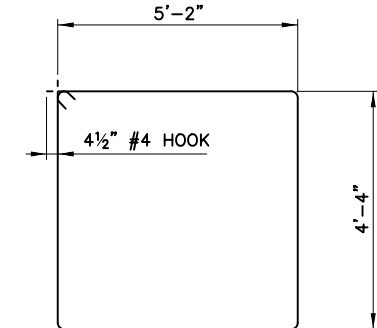
- PE1 #4 x 7'-2"
- PE2 #4 x 6'-8"



- P1 #4 x 7'-10"
- P2 #4 x 8'-8"



S1 #5 x 16'-9"



P3 #4 x 19'-9"

DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OVERFLOW - BRIDGE "A"	
CHECKED: CPY 2016		
APPRVD: CPY 2016		
<b>CP&amp;Y</b>		
STATE JOB PIECE NO: 26999(04)		SHEET 2 OF 3
PIER DETAILS		SHEET NO. B012

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**PIER CAP BAR LIST – (ONE PIER CAP SHOWN, FOUR REQUIRED)**

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
PH1	#10	9	BNT	44'-0"	
PH2	#5	8	STR	41'-2"	
PH3	#10	12	STR	41'-2"	
P1	#4	35	BNT	7'-10"	
P2	#4	30	BNT	8'-8"	
P3	#4	7	BNT	19'-9"	
PE1	#4	12	BNT	7'-2"	
PE2	#4	12	BNT	6'-8"	
S1	#5	92	BNT	16'-9"	

**SUMMARY OF PIER QUANTITIES**

DESCRIPTION	UNIT	PIER NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	TOTAL
CLASS A CONCRETE	CY	45.70	45.70	45.70	45.70	182.80
EPOXY COATED REINFORCING STEEL	LB	6,350.00	6,350.00	6,350.00	6,350.00	25,400.00
WATER REPELLENT (VISUALLY INSPECTED)	SY	47.00	47.00	47.00	47.00	188.00
DRILLED SHAFTS 60" DIAMETER	LF	70.00	78.00	80.00	80.00	308.00
CROSSHOLE SONIC LOGGING	EA					2.00
ELASTOMERIC COATING	SF	362.00	362.00	362.00	362.00	1,448.00

**DRILLED SHAFT BAR LIST – PIER NO. 1  
(ONE DRILLED SHAFT SHOWN; TWO REQUIRED)**

PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS1	W20	1	BNT	909'-3"	

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DV1	#10	30	BNT	39'-8"	

① ②

②

**DRILLED SHAFT BAR LIST – PIER NO. 2  
(ONE DRILLED SHAFT SHOWN; TWO REQUIRED)**

PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS2	W20	1	BNT	1009'-11"	

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DV2	#10	30	BNT	43'-8"	

① ②

②

**DRILLED SHAFT BAR LIST – PIER NO. 3  
(ONE DRILLED SHAFT SHOWN; TWO REQUIRED)**

PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS3	W20	1	BNT	1035'-0"	

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DV3	#10	30	BNT	44'-8"	

① ②

②

**DRILLED SHAFT BAR LIST – PIER NO. 4  
(ONE DRILLED SHAFT SHOWN; TWO REQUIRED)**

PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS4	W20	1	BNT	1035'-0"	

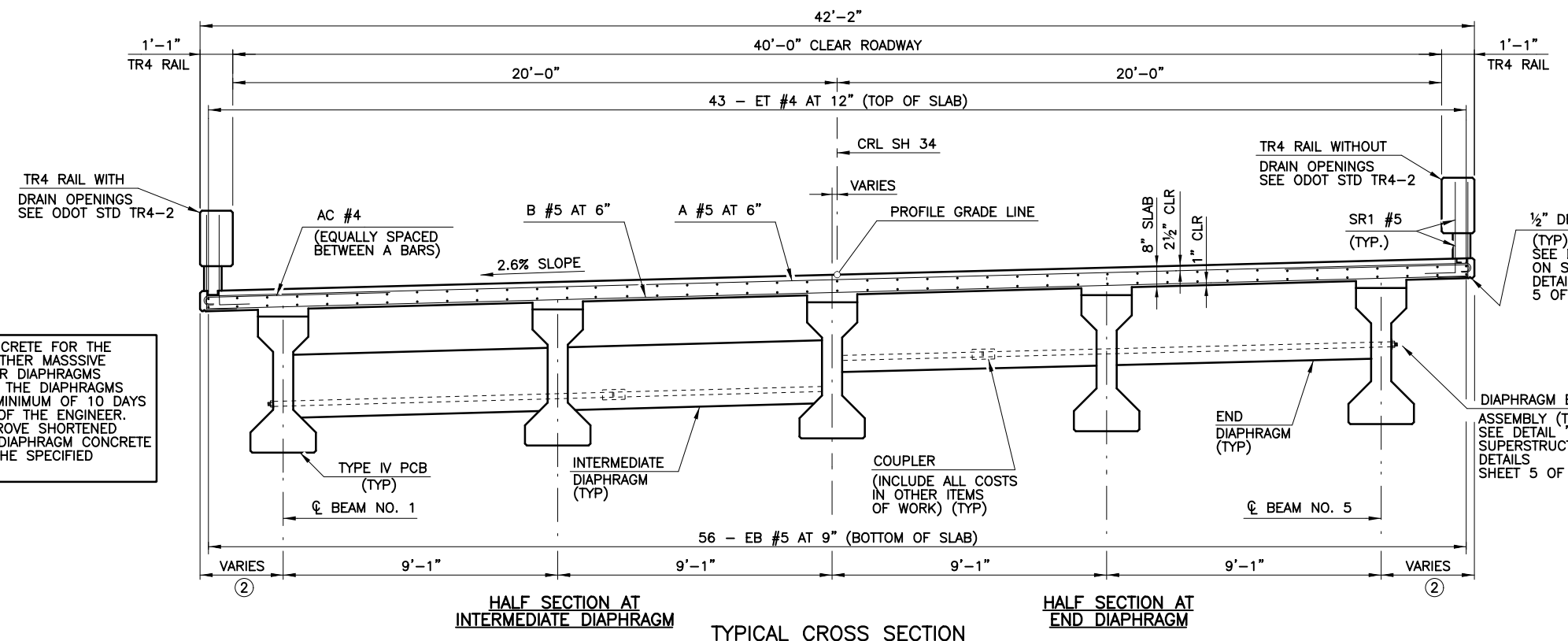
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DV4	#10	30	BNT	44'-8"	

① ②

②

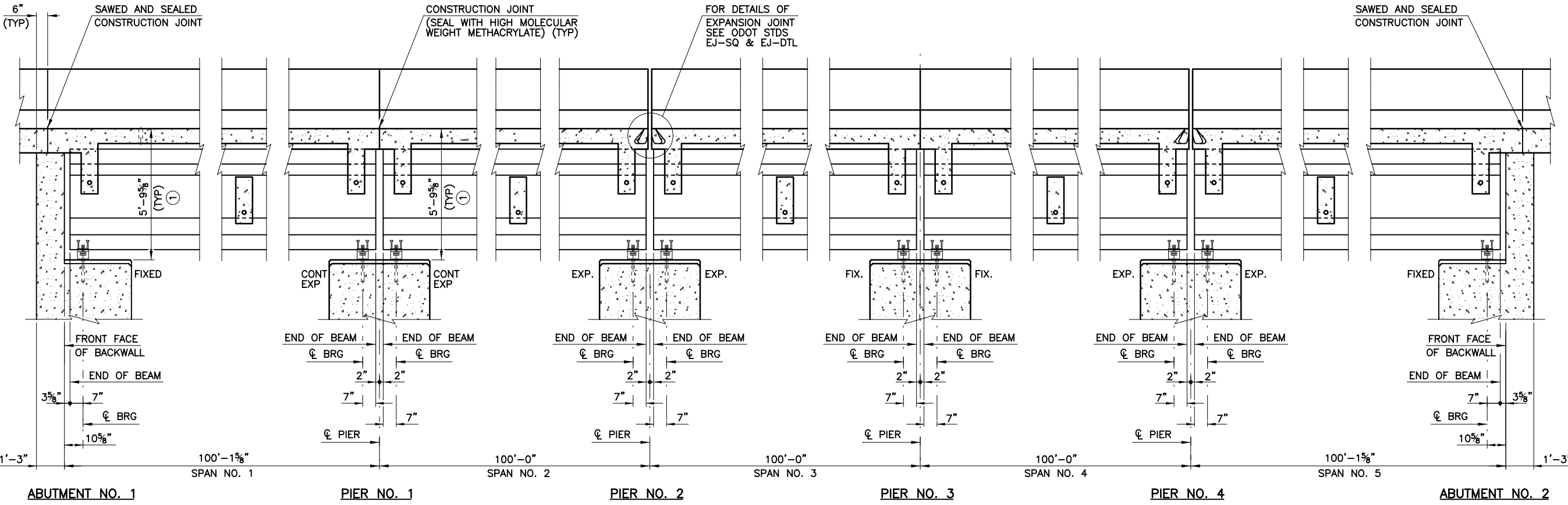
- ① LENGTH SHOWN DOES NOT ACCOUNT FOR SPLICES. CONTRACTOR MAY ADD SPLICES AS NECESSARY, BUT PAYMENT WILL NOT BE MADE FOR EXTRA LENGTH REQUIRED FOR SPLICES.
- ② INCLUDED IN CONTRACT UNIT PRICE OF DRILLED SHAFT.

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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 A MINIMUM OF 10 DAYS OR AT THE DISCRETION OF THE ENGINEER. THE ENGINEER MAY APPROVE SHORTENED TIME IF THE BEAM AND DIAPHRAGM CONCRETE HAS ATTAINED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH.

SUMMARY OF SUPERSTRUCTURE QUANTITIES		
ITEM	UNIT	TOTAL
PRESTRESSED CONCRETE BEAMS (TYPE IV)	LF	2,491.67
SAW-CUT GROOVING	SY	2,230.50
SEALED EXPANSION JOINT	LF	86.34
CONCRETE RAIL (TR4)	LF	1,003.70
STRUCTURAL STEEL	LB	2,890.00
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA	20.00
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA	30.00
CLASS AA CONCRETE	CY	551.70
EPOXY COATED REINFORCING STEEL	LB	171,460.00
WATER REPELLENT (VISUALLY INSPECTED)	SY	1,638.00
SEALER CRACK PREPARATION	LF	123.00
SEALER RESIN	GAL	2.00



**LONGITUDINAL SECTION**

(ALL DIMENSIONS ARE ALONG  $\phi$  BEAM, UNLESS NOTED OTHERWISE)

① DIMENSION IS FROM TOP OF DECK SLAB TO BOTTOM OF BEARING ASSEMBLY AT  $\phi$  BEARING.

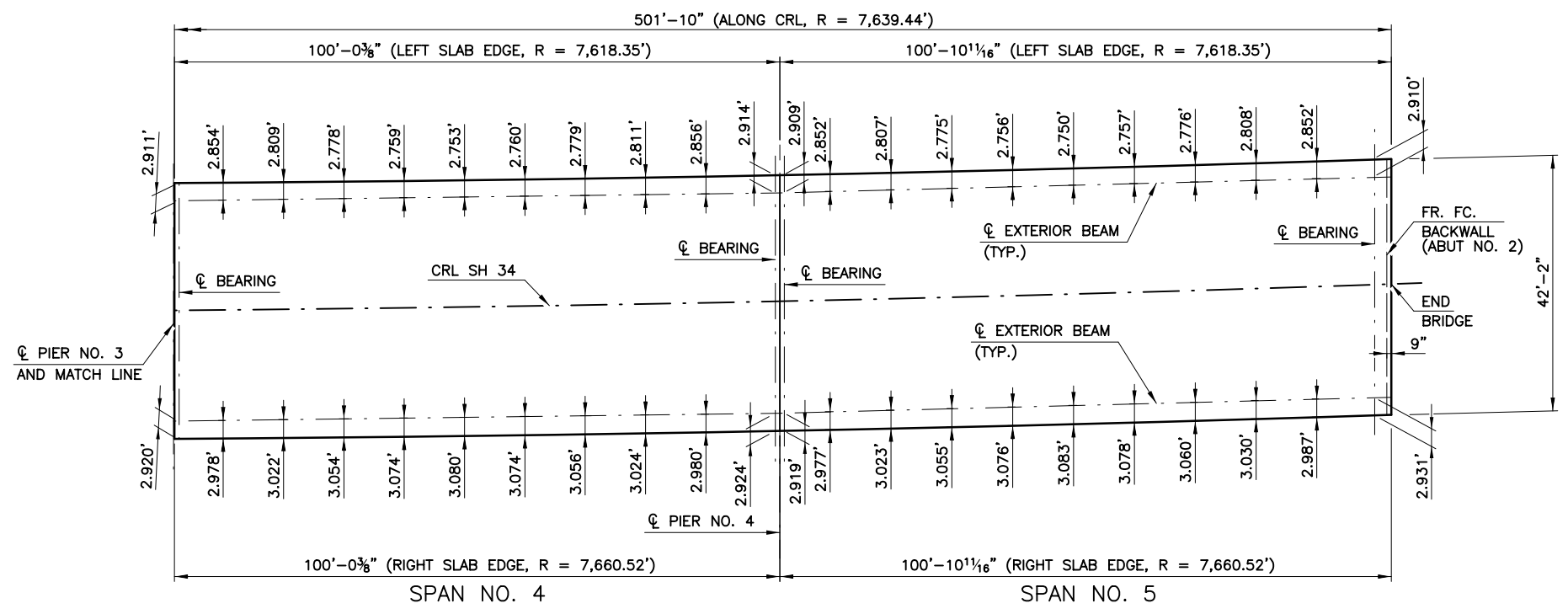
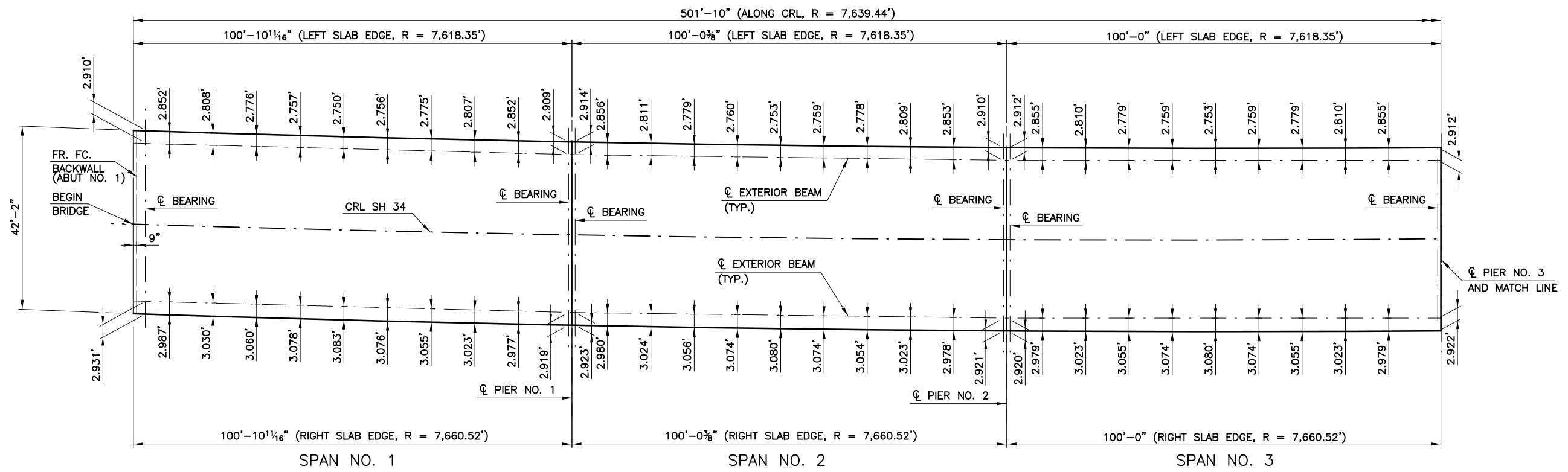
NOTE:  
MINIMUM CURE TIME OF 48 HOURS WILL BE REQUIRED BETWEEN ADJACENT CONCRETE DECK POURS.

DESIGN: CPY 2016	SH 34 OVER NORTH FORK OVERFLOW - BRIDGE "A"	BECKHAM COUNTY
DRAWN: CPY 2016		
CHECKED: CPY 2016		
APPRVD: CPY 2016		

**SUPERSTRUCTURE DETAILS**

STATE JOB PIECE NO: 26999(04) SHEET 1 OF 5 SHEET NO. B014

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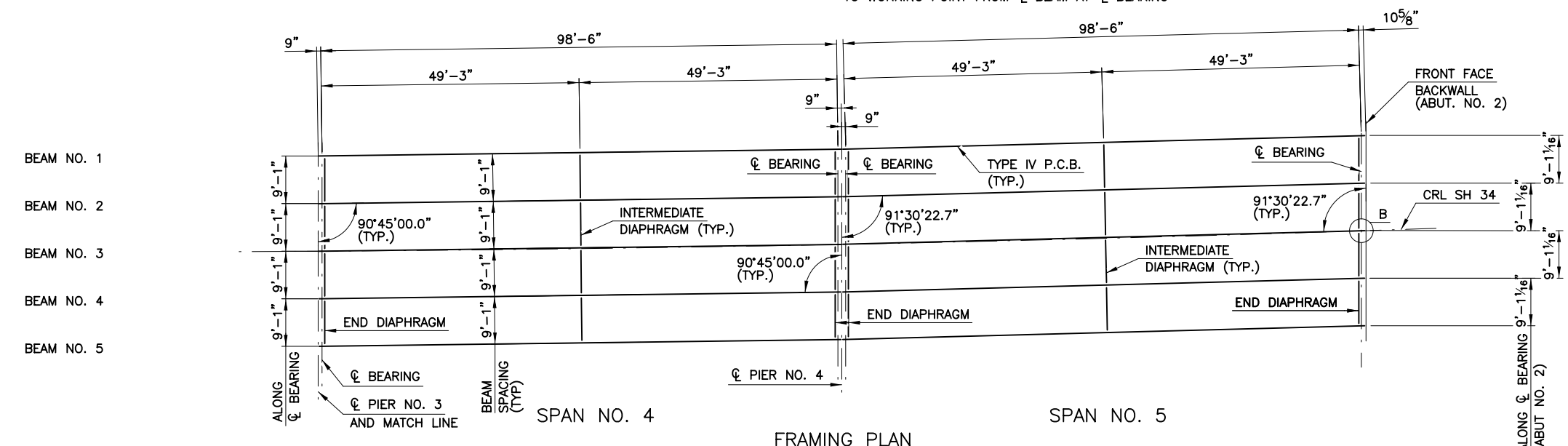
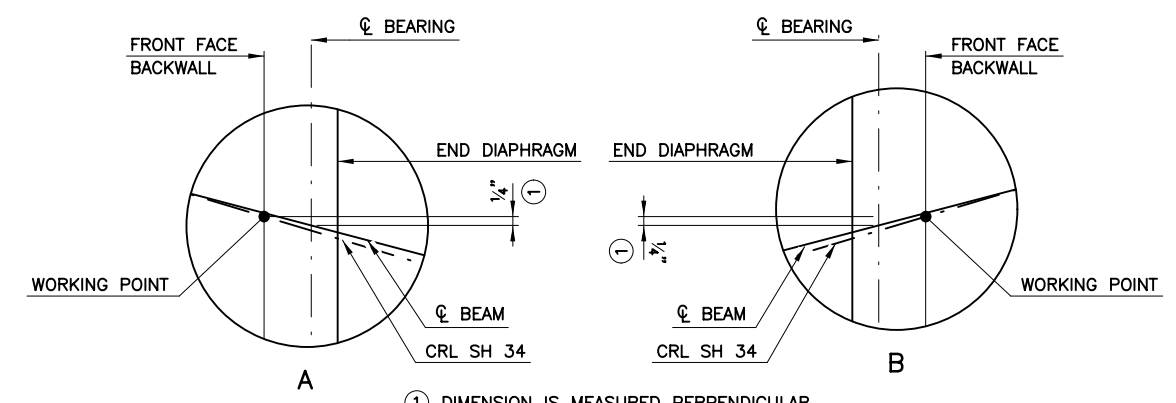
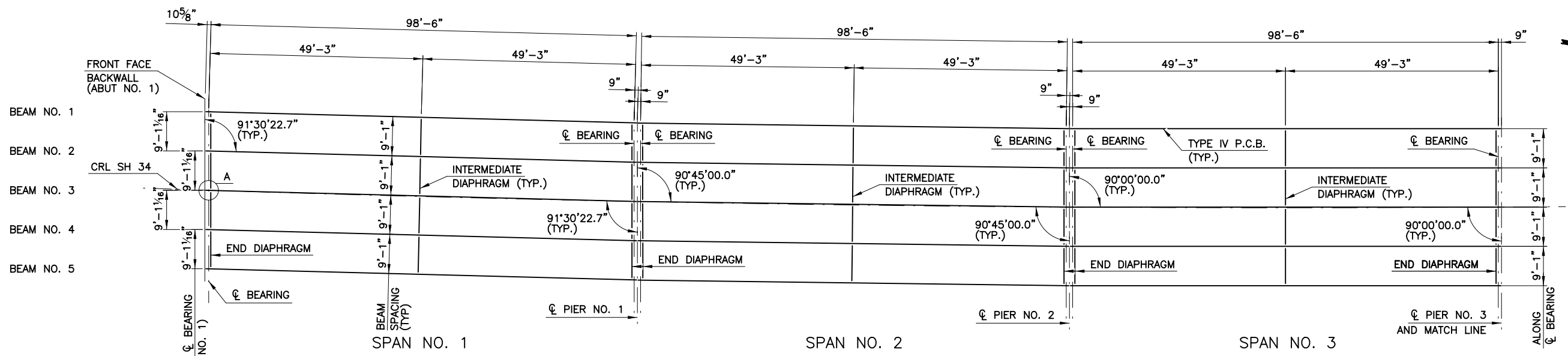


NOTE:  
ALL CANTILEVER DIMENSIONS ARE AT TENTH POINTS ALONG THE CENTERLINE OF EXTERIOR BEAMS. DIMENSIONS ARE PERPENDICULAR TO THE EXTERIOR BEAMS FROM BEARING TO BEARING.

DECK LAYOUT PLAN

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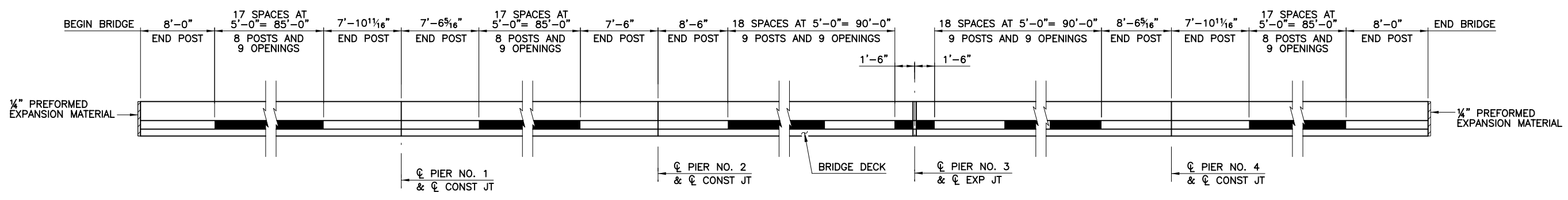
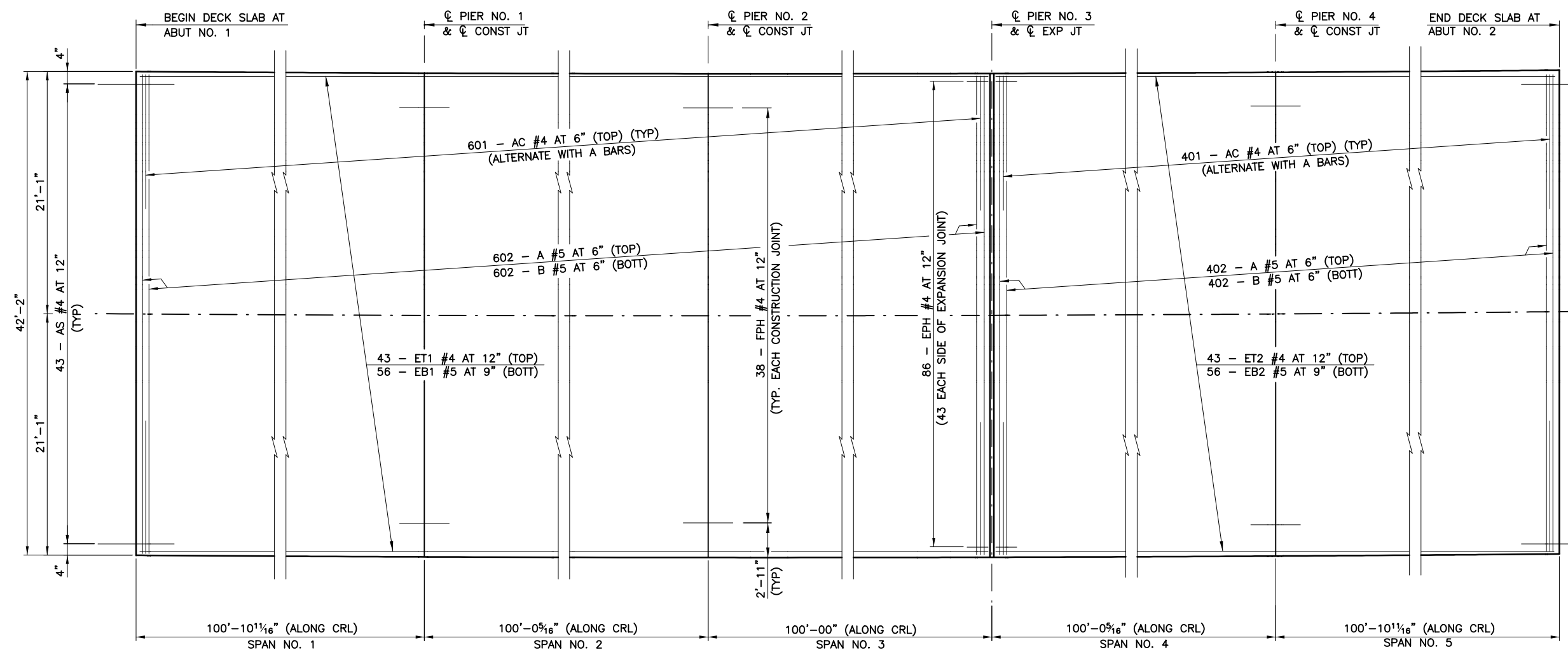
DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OVERFLOW - BRIDGE "A"	
CHECKED: CPY 2016		
APPRVD: CPY 2016		
<b>CP&amp;Y</b>		
STATE JOB PIECE NO: 26999(04)		SHEET 2 OF 5 SHEET NO.B015



FRAMING PLAN

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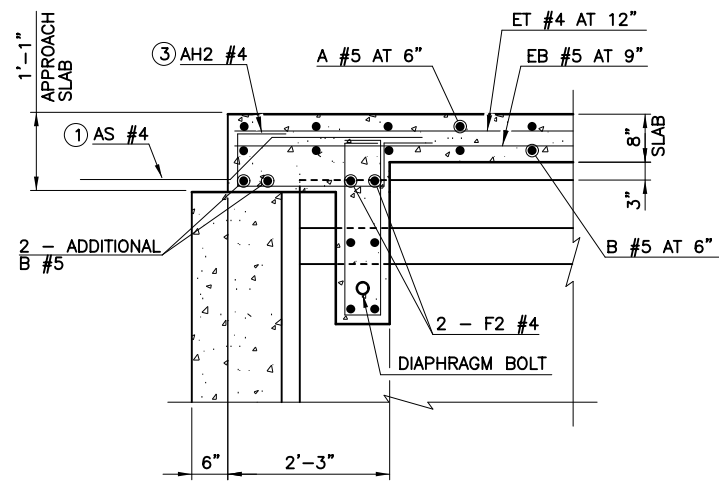
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DRAWN: CPY 2016	OVERFLOW - BRIDGE "A"	
CHECKED: CPY 2016		
APPRVD: CPY 2016		
<b>CP&amp;Y</b>		SUPERSTRUCTURE DETAILS
		SHEET 3 OF 5
STATE JOB PIECE NO: 26999(04)		SHEET NO. B016



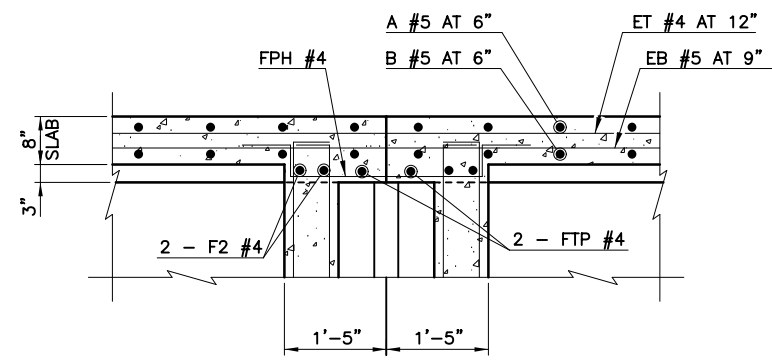
DESIGN: CPY 2016	SH 34 OVER NORTH FORK OVERFLOW - BRIDGE "A"	BECKHAM COUNTY
DRAWN: CPY 2016	<b>SUPERSTRUCTURE DETAILS</b>	SHEET 4 OF 5 SHEET NO. B017
CHECKED: CPY 2016		
APPRVD: CPY 2016		
STATE JOB PIECE NO: 26999(04)		

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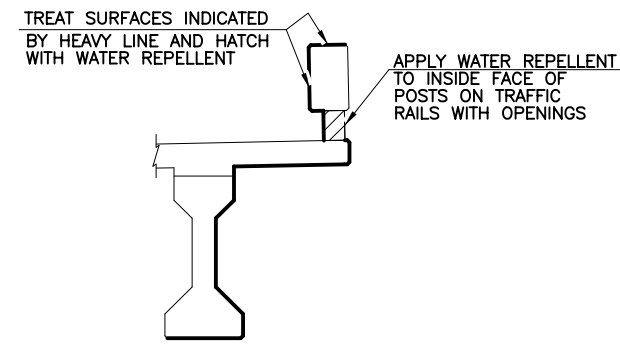




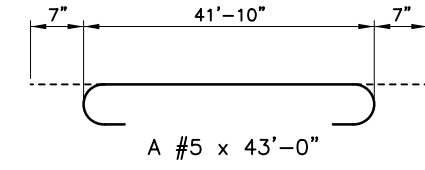
SECTION AT ABUTMENT BETWEEN BEAMS



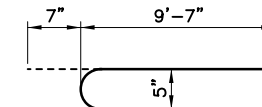
SECTION AT FIXED PIER BETWEEN BEAMS



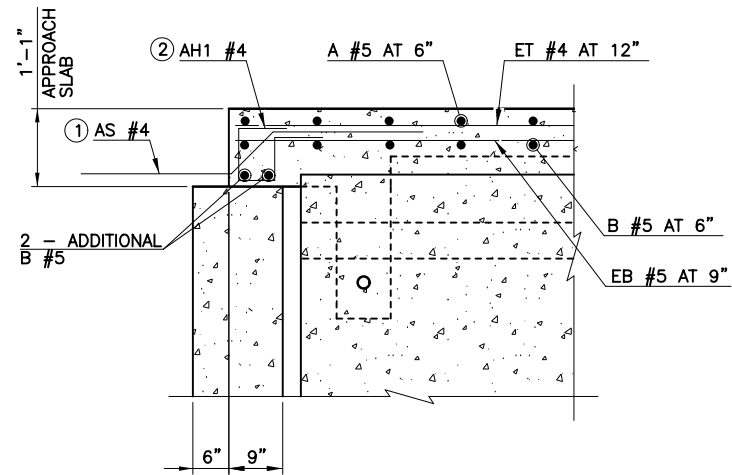
WATER REPELLENT TREATMENT DETAIL



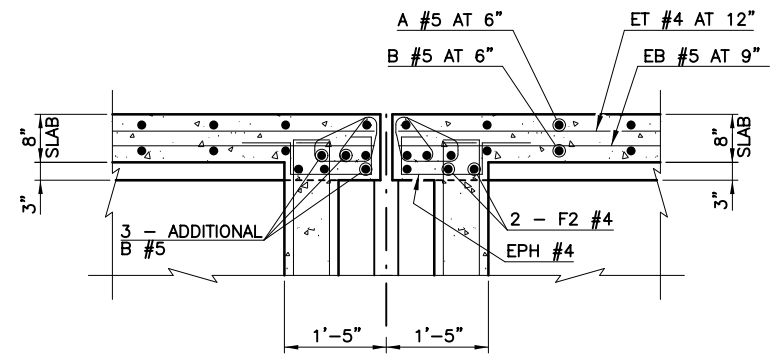
A #5 x 43'-0"



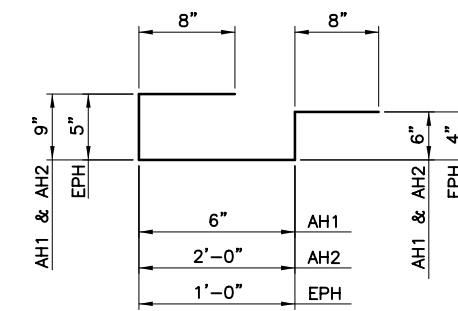
AC #5 x 10'-2"



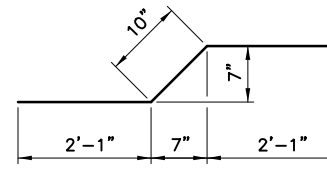
SECTION AT ABUTMENT THRU BEAM



SECTION AT EXPANSION PIERS BETWEEN BEAMS



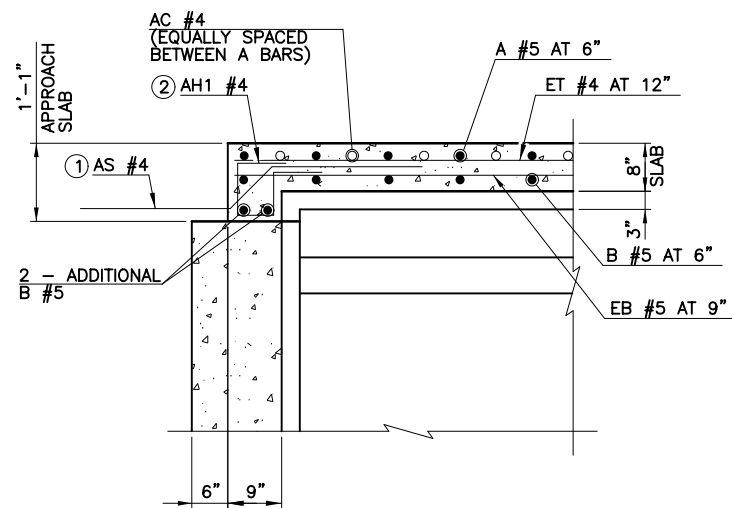
AS #4 x 5'-0"



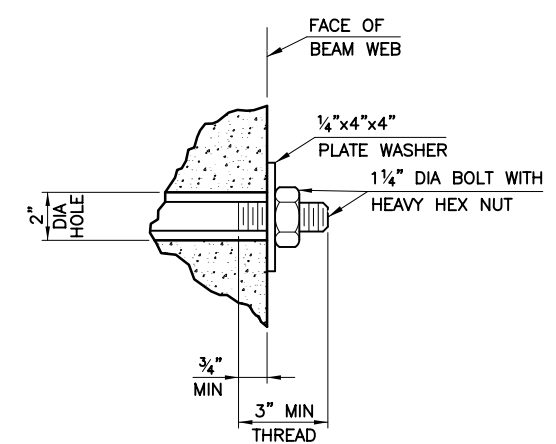
FPH #4 x 4'-9"

AH1 #4 x 3'-1"  
 AH2 #4 x 4'-7"  
 EPH #4 x 3'-1"

- ① TIE TO TOP REINFORCING OF DECK SLAB AND BOTTOM REINFORCING OF THE APPROACH SLAB (PLACE BOTTOM LEG OF BAR "AS" THROUGH JOINT).
- ② 3 - AH1 #4 AT 12" IN OVERHANG AND 1 - AH1 #4 AT  $\phi$  EACH BEAM.
- ③ 9 - AH2 #4 AT 12" EQUALLY SPACED BETWEEN BEAMS.



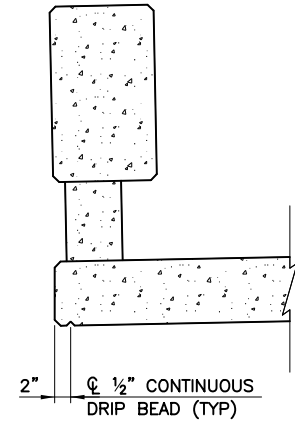
SECTION AT ABUTMENT THRU CANTILEVER



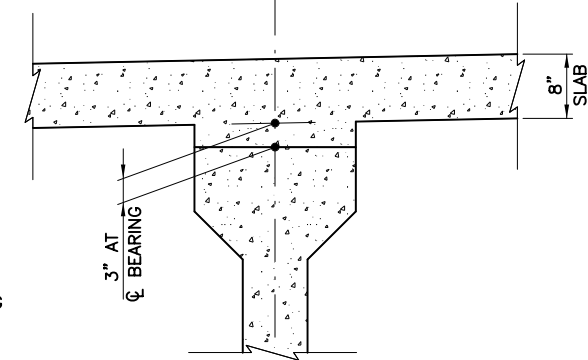
DETAIL "A"

**DIAPHRAGM BOLT NOTES**

STRUCTURAL STEEL FOR DIAPHRAGM RODS AND PLATE WASHERS SHALL CONFORM TO AASHTO M270 (ASTM A709) GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). A #10 REINFORCING BAR CONFORMING TO AASHTO M31, GRADE 60, AND THREADED AT THE ENDS AS SHOWN MAY BE SUBSTITUTED FOR THE DIAPHRAGM ROD. HEX NUTS SHALL CONFORM TO AASHTO M291 (ASTM A563), PAINT EXPOSED DIAPHRAGM ROD, PLATE WASHER, AND HEX NUT WITH TWO (2) COATS OF ZINC RICH PAINT (6 MIL MINIMUM THICKNESS) AFTER ASSEMBLY. ALL COST OF DIAPHRAGM ROD, PLATE WASHER AND HEX NUT TO BE INCLUDED IN THE UNIT PRICE BID PER ROUND OF STRUCTURAL STEEL.



DETAIL "B"



BEAM HAUNCH DETAIL

PLAN QUANTITIES FOR "CLASS AA CONCRETE" INCLUDE HAUNCHES OVER BEAMS. HAUNCH HEIGHT SHOWN IS AT CENTERLINE OF BEARING ONLY, MEASURED FROM BOTTOM OF DECK SLAB TO TOP OF BEAM, AND VARIES ACROSS THE SPAN. HAUNCH HEIGHT TO BE DETERMINED AFTER ERECTION OF BEAMS TO PROVIDE FOR DEAD LOAD DEFLECTION AND GRADE ADJUSTMENT, BUT THE PAY QUANTITY WILL BE AS SHOWN IN THE PLANS.

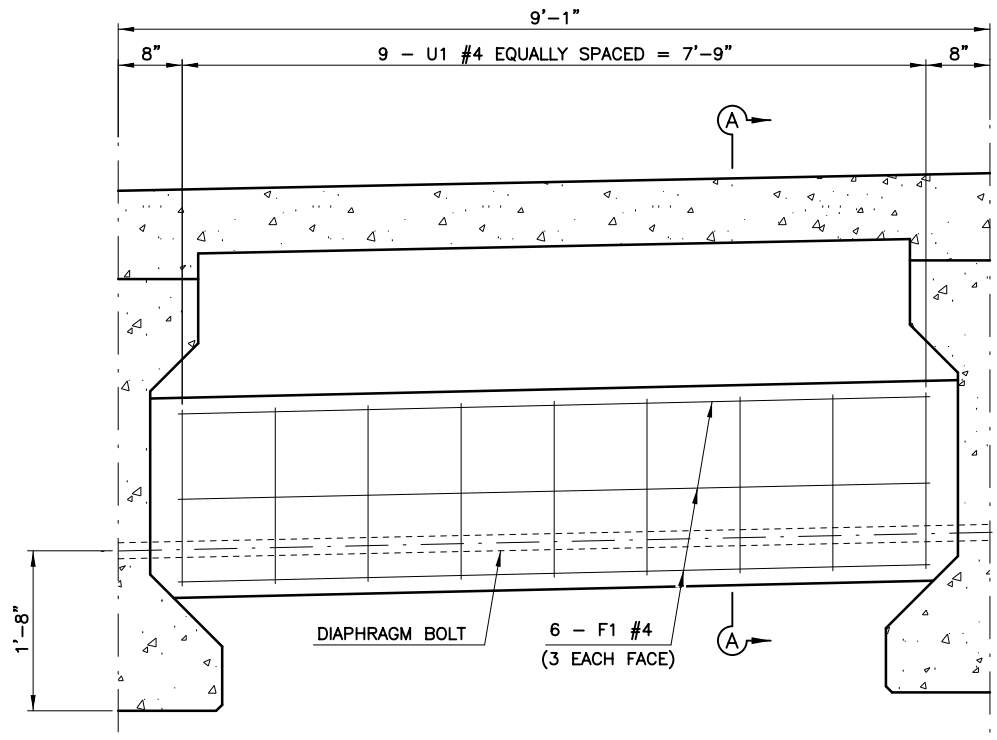
SUPERSTRUCTURE BAR LIST				
EPOXY COATED REINFORCING BARS				
MARK	SIZE	NO.	FORM	LENGTH
A	#5	1004	BNT	43'-0"
AC	#4	2004	BNT	10'-2"
AH1	#4	22	BNT	3'-1"
AH2	#4	72	BNT	4'-7"
AS	#4	86	BNT	5'-0"
B	#5	1020	STR	41'-10"
EB1	#5	56	STR	319'-6"
EB2	#5	56	STR	215'-9"
EPH	#4	86	BNT	3'-1"
ET1	#4	43	STR	310'-9"
ET2	#4	43	STR	208'-9"
FPH	#4	114	BNT	4'-9"
SR1	#5	4012	BNT	4'-1"

EXPANSION JOINT SETTING		
EXP JOINT OPENING	TEMP. (°F) PIER NO. 2	TEMP. (°F) PIER NO. 4
2 5/8"	14	
2 1/2"	20	
2 3/8"	26	17
2 1/4"	31	26
2 1/8"	37	34
2"	43	43
1 7/8"	49	52
1 3/4"	55	60
1 5/8"	60	69
1 1/2"	66	78
1 3/8"	72	86
1 1/4"	78	95
1 1/8"	83	104
1"	89	112
7/8"	95	
3/4"	105	
5/8"	107	
1/2"	112	

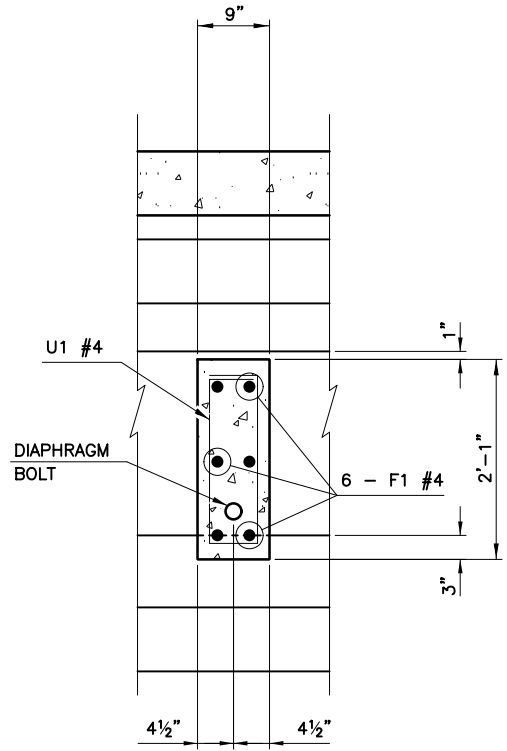
- ④ INCLUDES 5 - 3'-9" MIN LAP LENGTH.
- ⑤ INCLUDES 4 - 3'-9" MIN LAP LENGTH.
- ⑥ INCLUDES 5 - 2'-0" MIN LAP LENGTH.
- ⑦ INCLUDES 4 - 2'-0" MIN LAP LENGTH.
- ⑧ LAPS SHALL BE STAGGERED. DO NOT LAP WITHIN 10' OF CENTERLINE PIER.

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APPRVD: CPY 2016	STATE JOB PIECE NO: 26999(04)	
<b>CP&amp;Y</b>		SHEET 5 OF 5 SHEET NO. B018

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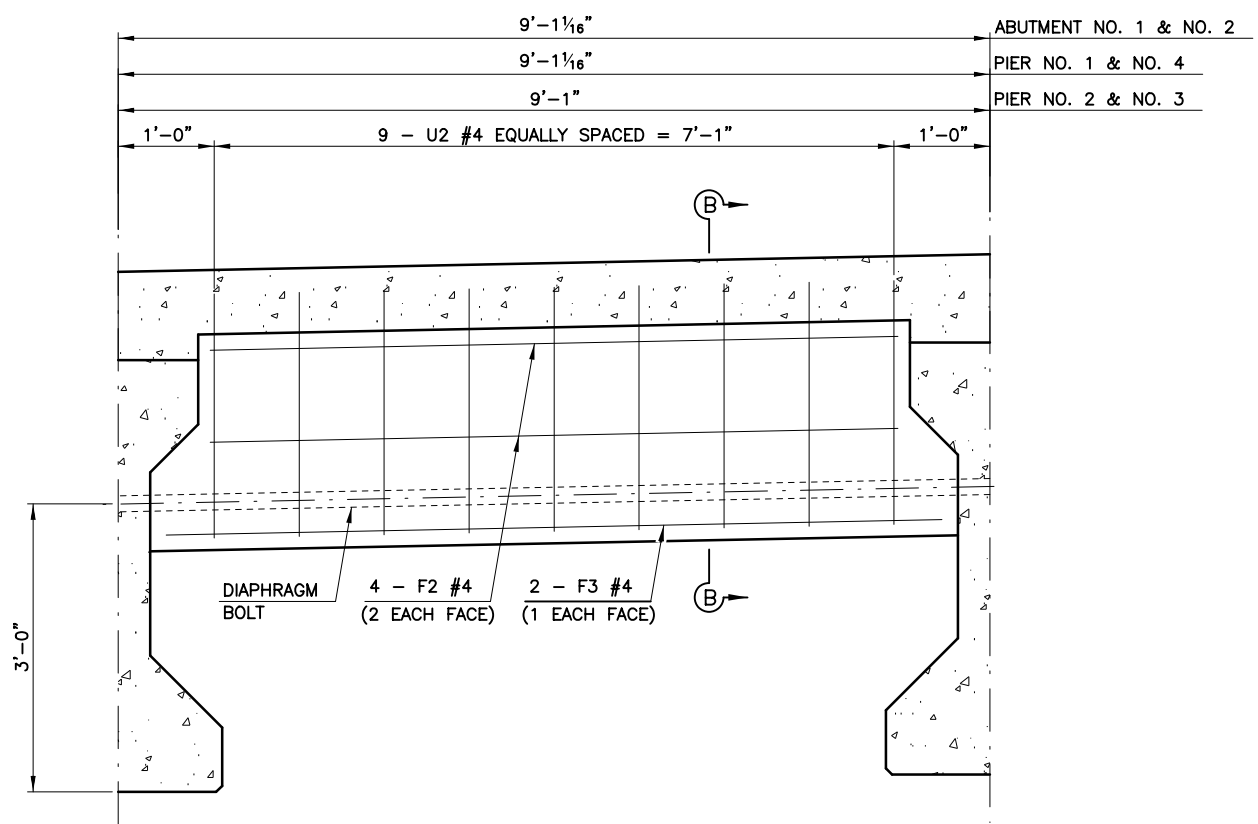
**ELEVATION**



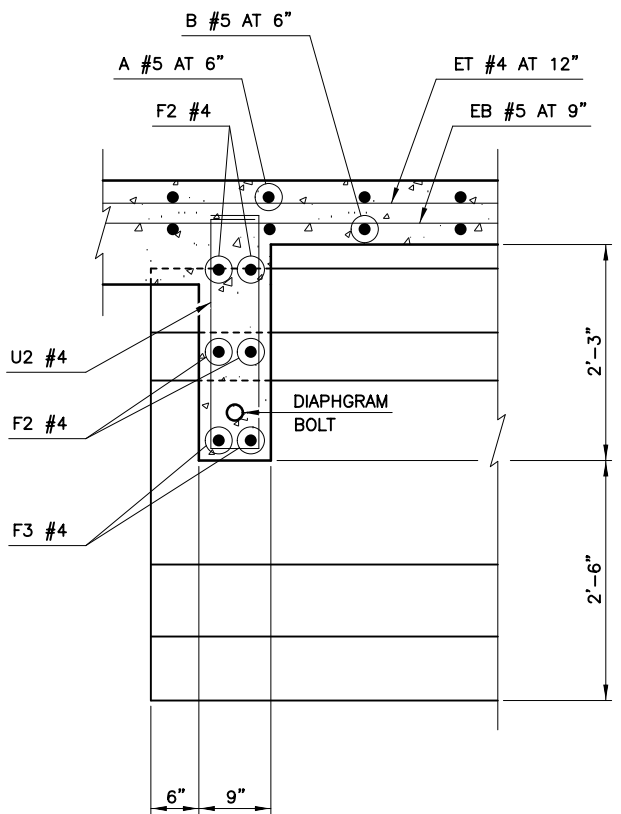
**SECTION A-A**

DIAPHRAGM BAR LIST (ONE SPAN SHOWN)				
EPOXY COATED REINFORCING BARS				
MARK	SIZE	NO.	FORM	LENGTH
F1	#4	24	STR.	8'-1"
F2	#4	32	STR.	7'-1"
F3	#4	16	STR.	8'-1"
U1	#4	36	BNT.	4'-9"
U2	#4	72	BNT.	6'-3"

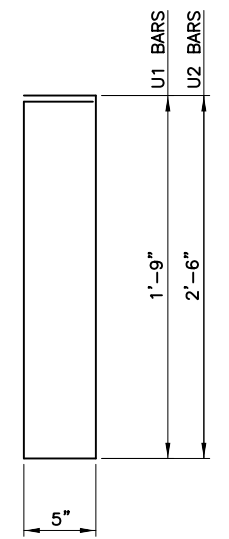
**INTERMEDIATE DIAPHRAGM DETAILS**  
(1 INTERMEDIATE DIAPHRAGM PER SPAN)



**ELEVATION**



**SECTION B-B**



U1 #4 x 4'-9"  
U2 #4 x 6'-3"

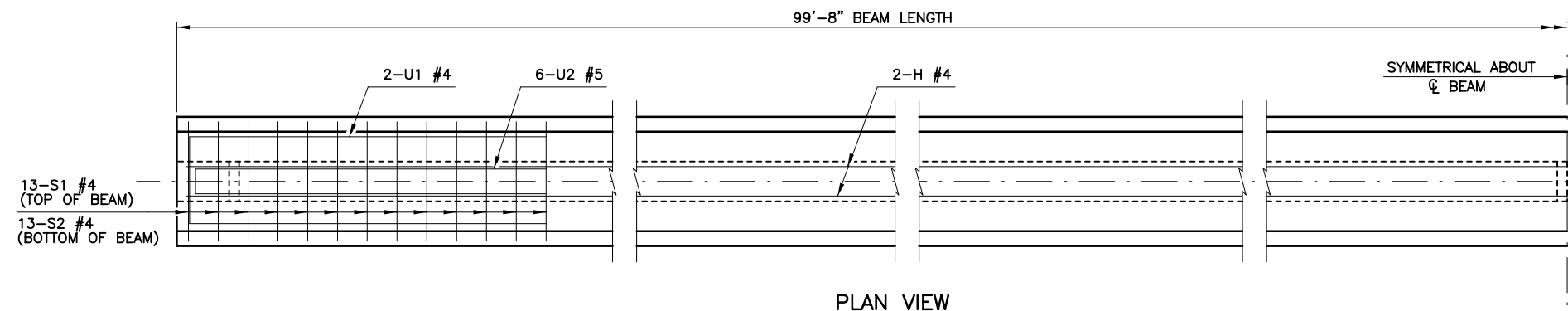
**END DIAPHRAGM DETAILS**  
(2 END DIAPHRAGM PER SPAN)

DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OVERFLOW - BRIDGE "A"	
CHECKED: CPY 2016		
APPRVD: CPY 2016		

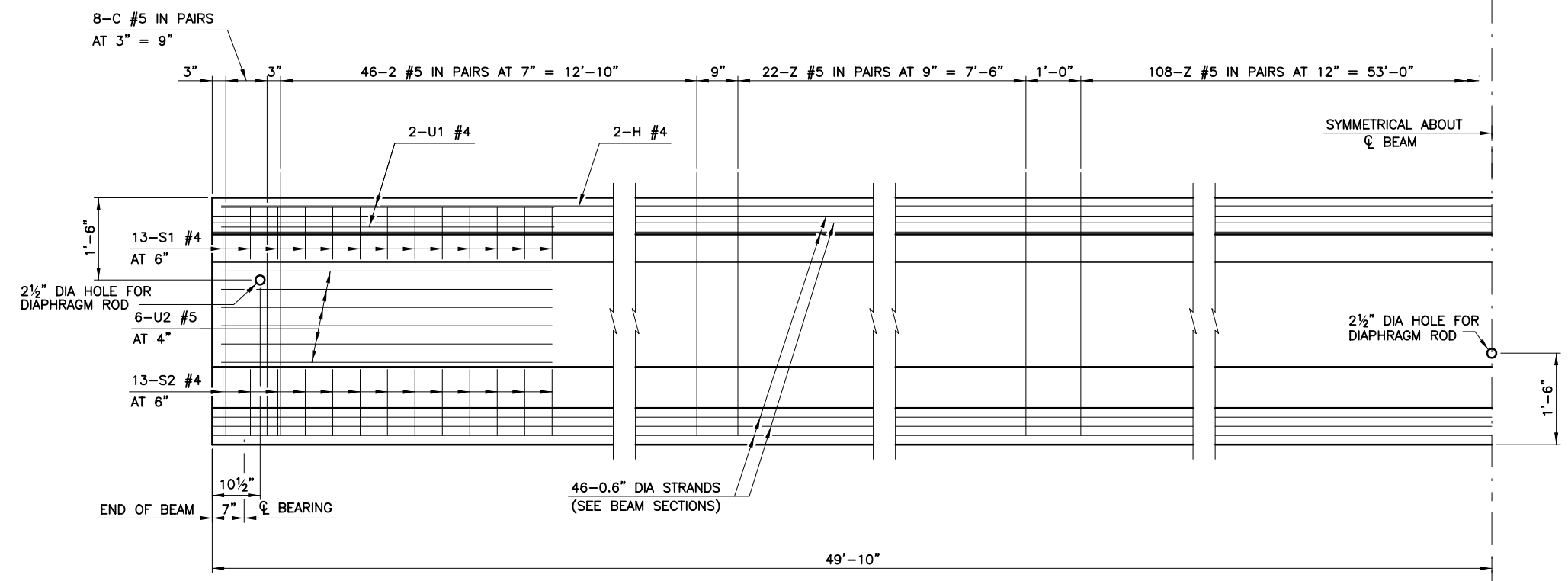
**DIAPHRAGM DETAILS**

STATE JOB PIECE NO: 26999(04) SHEET 1 OF 1  
SHEET NO. B019

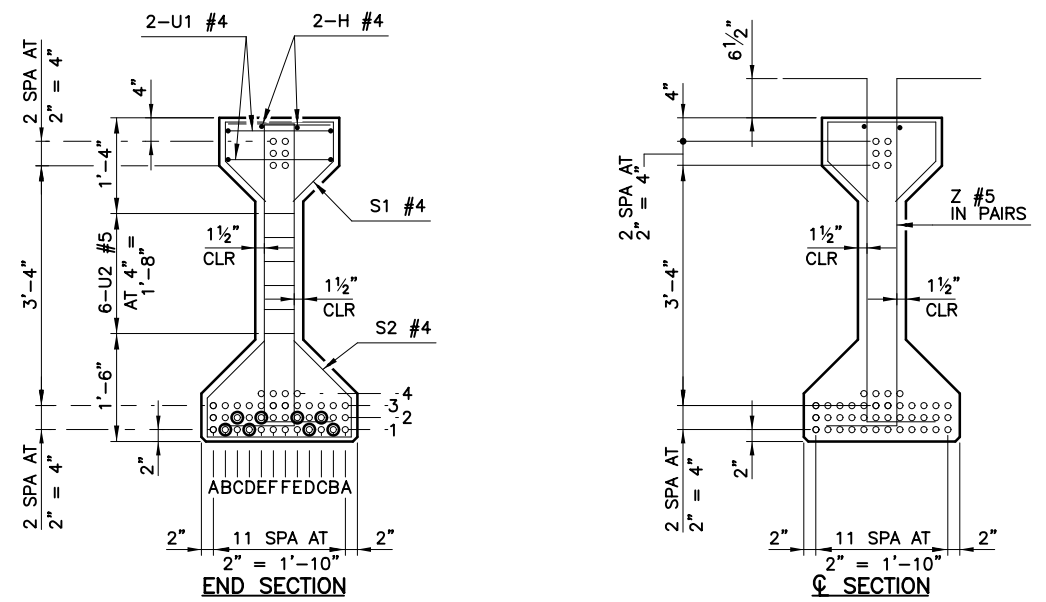
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PLAN VIEW



ELEVATION VIEW



BEAM SECTIONS  
(46-0.6" DIA STRANDS)

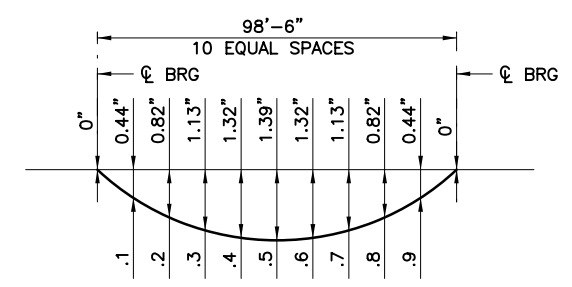
DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	16'-0"
D1	8'-0"
C2 & E2	4'-0"

**PRESTRESSED CONCRETE BEAM NOTES**

COMPRESSION STRENGTH  
 PROVIDE CONCRETE WITH A COMPRESSION STRENGTH OF 7,000 P.S.I. AT TRANSFER OF PRESTRESS AND 10,000 P.S.I. AT 28 DAYS

STRAND TYPE  
 PROVIDE LOW-RELAXATION STRANDS HAVING A NOMINAL DIAMETER OF 0.6" WITH ULTIMATE TENSILE STRENGTH OF 270 K.S.I.

LRFR OPERATING RATING FACTOR: 2.31  
 LRFR INVENTORY RATING FACTOR: 1.44

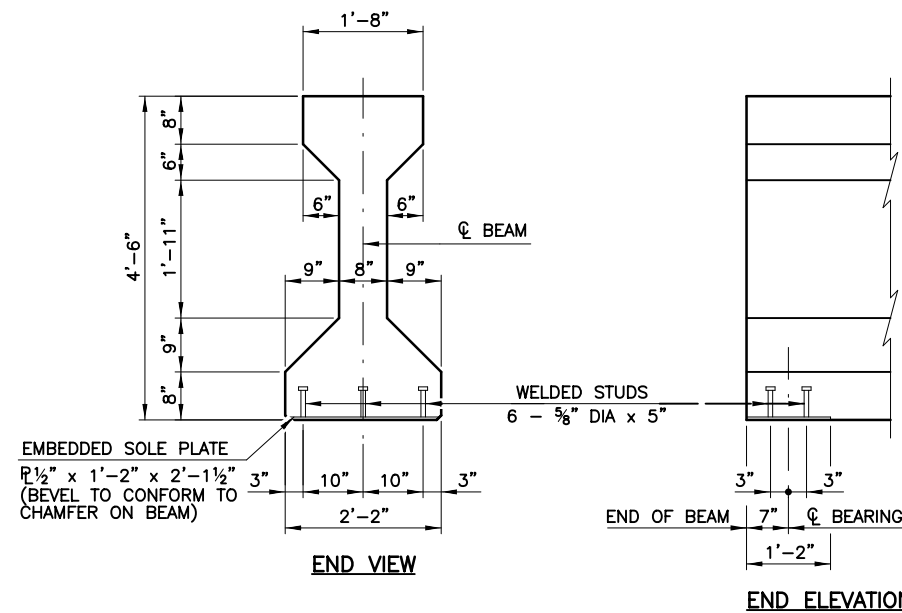


**DEAD LOAD DEFLECTION DIAGRAM**

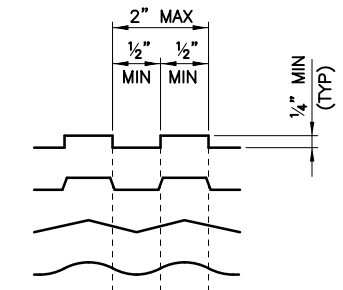
NOTE:  
 THE DEAD LOAD DEFLECTIONS SHOWN ABOVE AT THE TENTH POINTS ARE THE INITIAL DEFLECTIONS DUE TO DECK SLAB + HAUNCH + S.I.P. STEEL DECK FORM ALLOWANCE + CONCRETE TRAFFIC RAIL. IT DOES NOT INCLUDE THE BEAM WEIGHT OR FUTURE WEARING SURFACE.

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STATE JOB PIECE NO: 26999(04)		SHEET 1 OF 2 SHEET NO. B020

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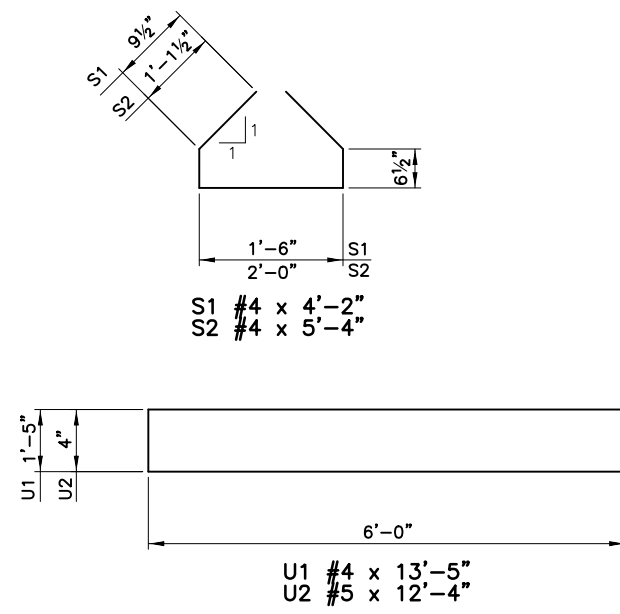


NOTE: PROVIDE AN EMBEDDED SOLE PLATE AT EACH END OF BEAM

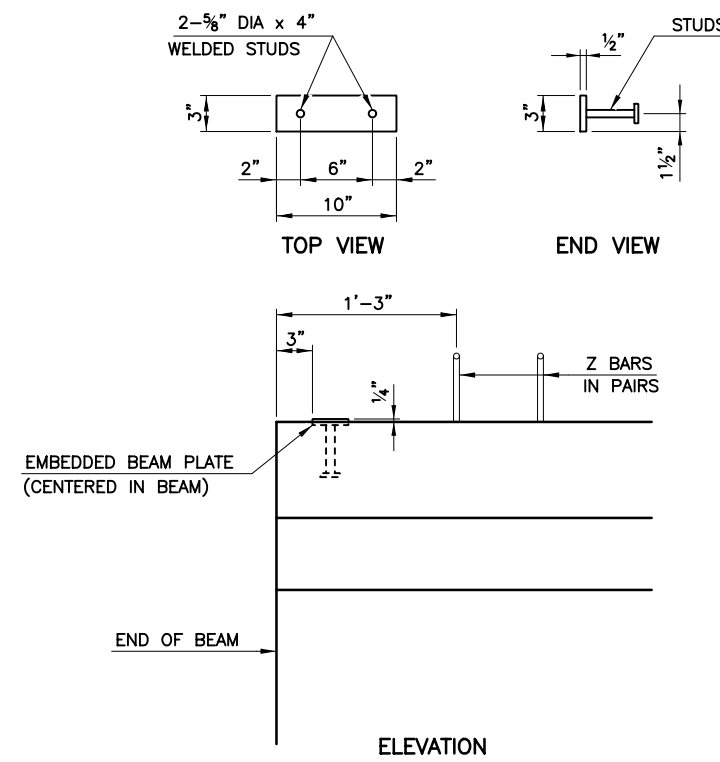
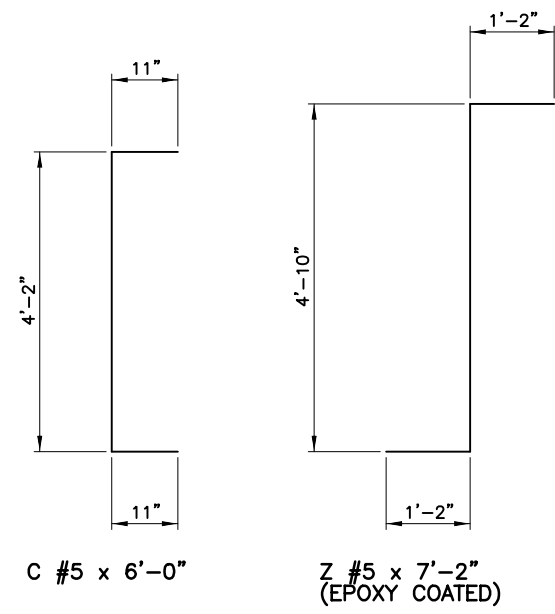


**INTENTIONALLY ROUGHENED SURFACE EXAMPLES**

INTENTIONALLY ROUGHEN THE ENTIRE TOP SURFACE OF P.C. BEAM TO A MINIMUM HEIGHT OF 1/4" OVER A MAXIMUM PITCH OF 2" MEASURED LONGITUDINALLY ALONG THE LENGTH OF THE BEAM. PROVIDE A CREST AND TROUGH ASSOCIATED WITH THE HEIGHT OF NOT LESS THAN 1/2". PRODUCE THE ROUGHENED SURFACE BY USING A SPECIAL TROWEL TO FORM ONE OF THE SURFACES SHOWN IN THE DETAILS, BY CLEANING THE CONCRETE SURFACE WITH A STIFF WIRE BRUSH (OR BLASTING) TO EXPOSE THE AGGREGATE TO A HEIGHT OF 1/4", OR BY USING ANOTHER APPROVED METHOD. SUBMIT THE METHOD TO BE USED FOR APPROVAL BY THE ENGINEER. REPAIR ANY DAMAGE TO REINFORCEMENT'S EPOXY COATING BEFORE PLACEMENT OF DECK CONCRETE.



**TYPE IV BAR BENDS**

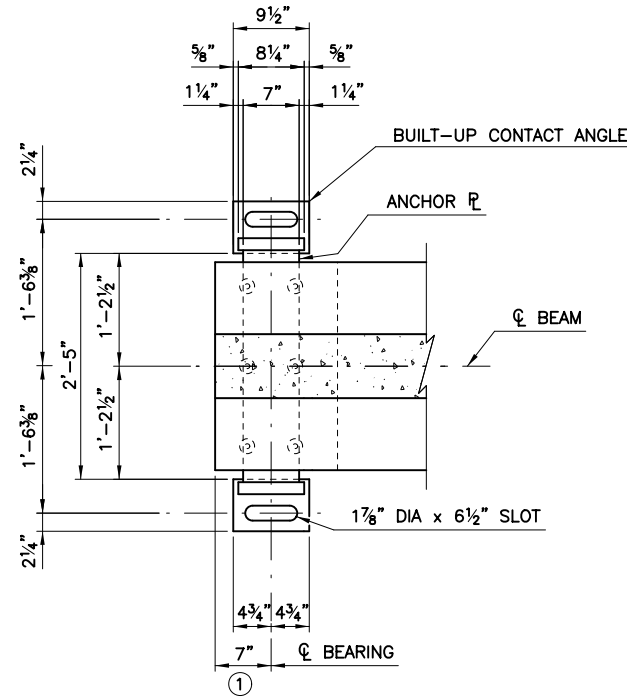


**EMBEDDED BEAM PLATE DETAILS**

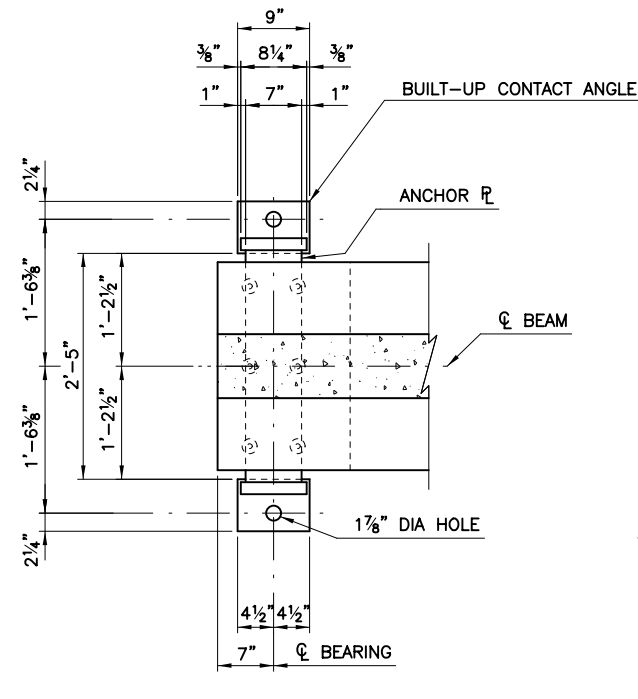
NOTE: PROVIDE AN EMBEDDED BEAM PLATE AT EXPANSION ENDS ONLY.

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CHECKED: CPY 2016		
APPRVD: CPY 2016		
<b>TYPE IV BEAM DETAILS</b>		
STATE JOB PIECE NO: 26999(04)		SHEET 2 OF 2 SHEET NO. B021

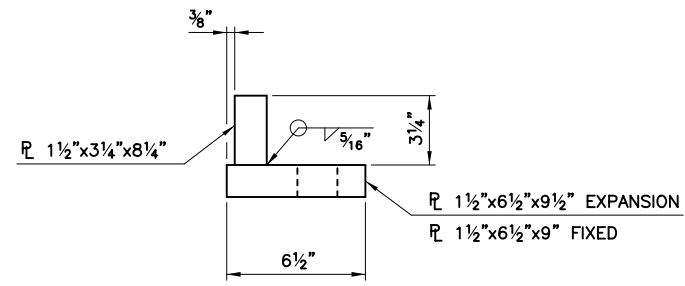
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 7/29/2022



EXPANSION BEARING PLAN

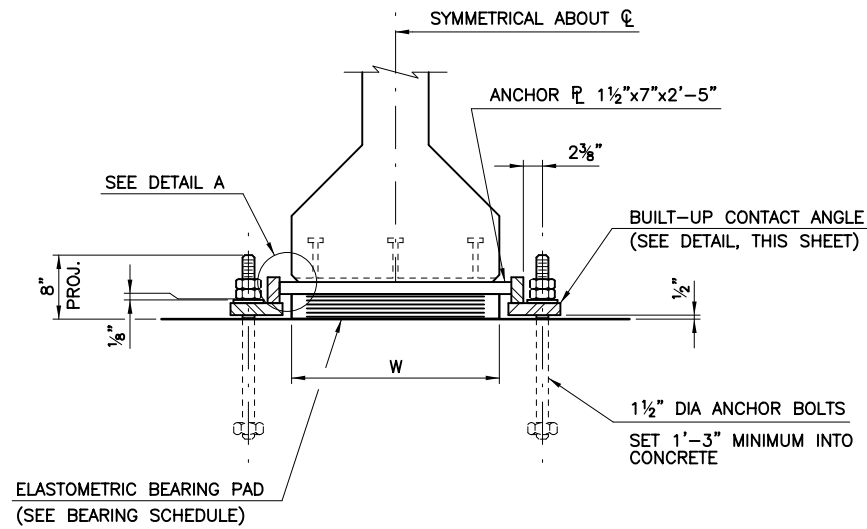


FIXED BEARING PLAN

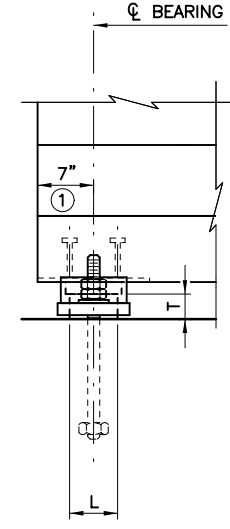


BUILT-UP CONTACT ANGLE DETAIL

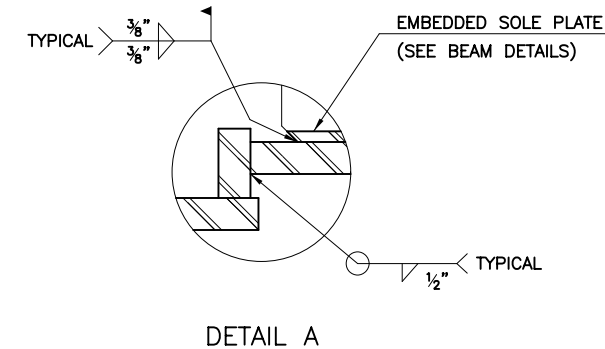
BEARING SCHEDULE				
SPAN	60 DUROMETER ELASTOMETER BEARING PAD			
	SIZE (T x L x W)	COVER LAYER	INNER LAYER	LAMINATE PLATE
100'	3 1/8" x 6 1/2" x 2'-2"	2 - 1/4"	5 - 3/8"	6 - 1/8"



END VIEW

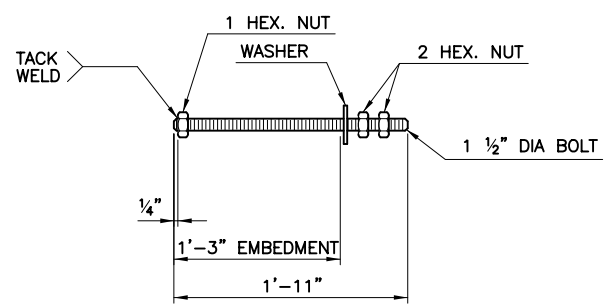


SIDE VIEW

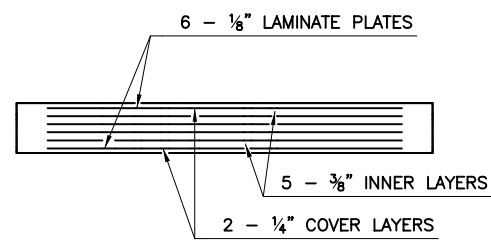


DETAIL A

**BEARING ASSEMBLY NOTES:**  
 PROVIDE STRUCTURAL STEEL FOR ANCHOR PLATES AND BUILT-UP CONTACT ANGLES IN ACCORDANCE WITH ASTM A240 (AUSTENIC STAINLESS STEEL, TYPE 316, CHARPY V-NOTCH TESTING NOT REQUIRED). FOR ANCHOR BOLTS, PROVIDE CONTINUOUSLY THREADED BARS IN ACCORDANCE WITH ASTM A320, CLASS 2, GRADE B8M (AUSTENIC STAINLESS STEEL, TYPE 316, CHARPY V-NOTCH TESTING NOT REQUIRED). USE AUSTENIC STAINLESS STEEL NUTS AND WASHERS CONFORMING TO ASTM A194, GRADE 8M AND ASTM A320, RESPECTIVELY. PERFORM ALL WELDING CONSISTENT WITH PROCEDURES FOR STAINLESS STEEL.



ANCHOR BOLT DETAIL



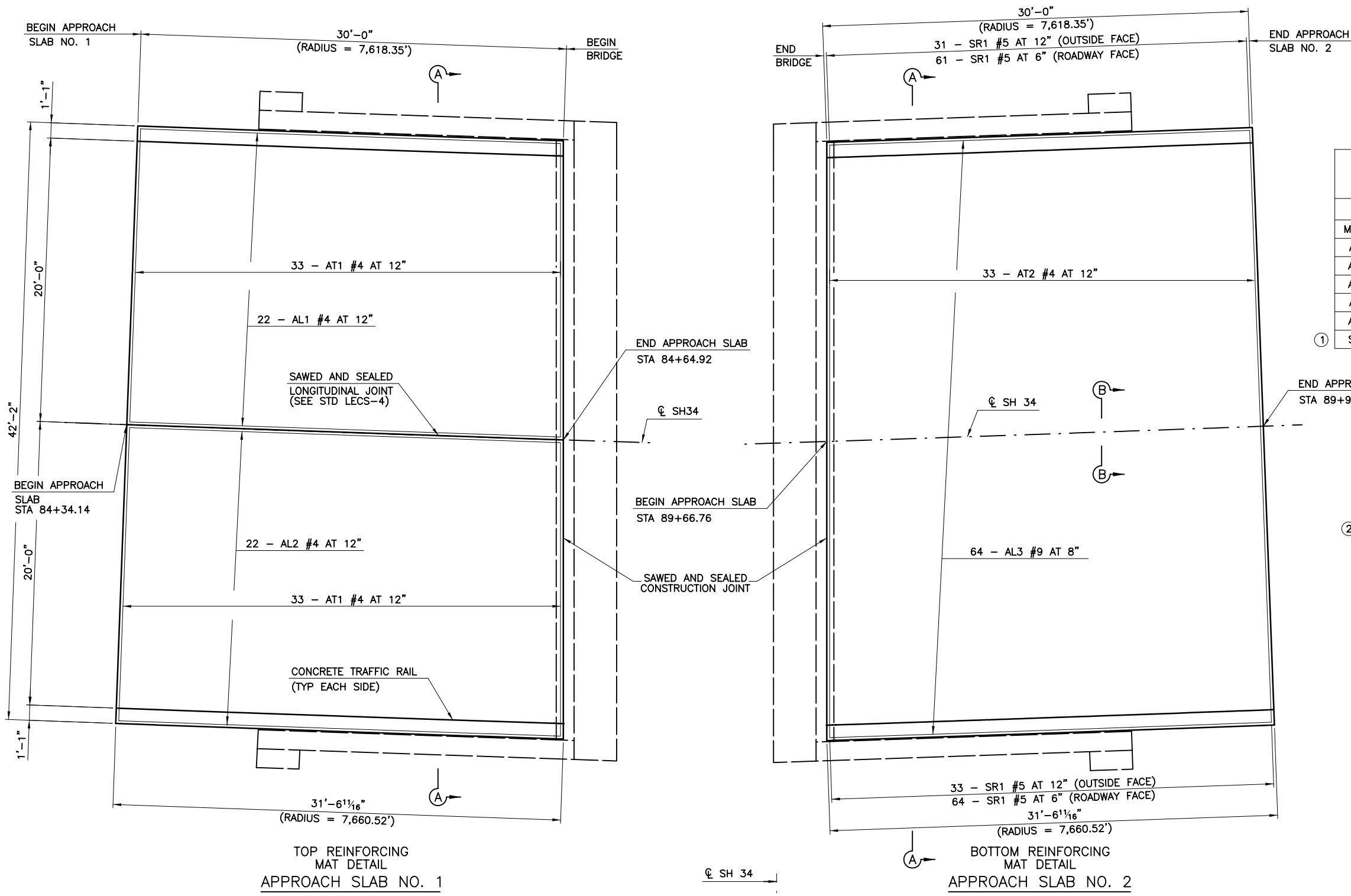
BEARING PAD DETAIL

① CENTER ANCHOR BOLTS IN SLOTS AT EXPANSION BEARINGS DURING SETTING OF BEAMS. DIMENSION MAY VARY DEPENDING ON TEMPERATURE AT THE TIME OF BEAM SETTING.

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APPRVD: CPY 2016		
<b>CP&amp;Y</b>		SHEET 1 OF 1
STATE JOB PIECE NO: 26999(04)		SHEET NO. B022

BEARING DETAILS

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### APPROACH SLAB BAR LIST (PER APPROACH SLAB)

EPOXY COATED REINFORCING BARS

MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
AL1	#4	22	STR	30'-1" AVG	29'-8" TO 30'-5"
AL2	#4	22	STR	30'-10" AVG	30'-5" TO 31'-2"
AL3	#9	64	STR	30'-5" AVG	29'-8" TO 31'-2"
AT1	#4	66	STR	20'-9"	
AT2	#4	33	STR	41'-10"	
SR1	#5	189	BNT	4'-1"	

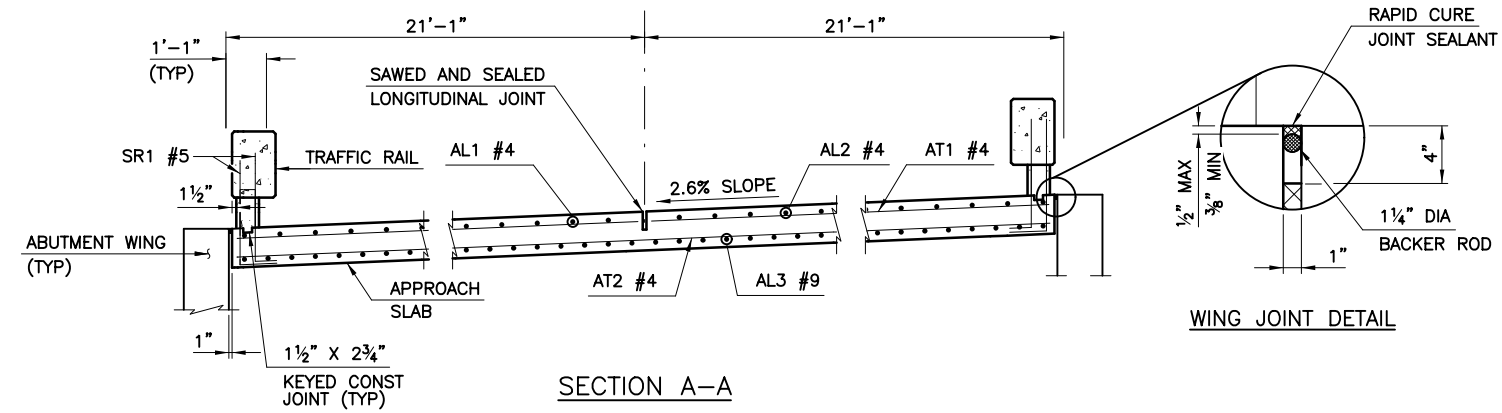
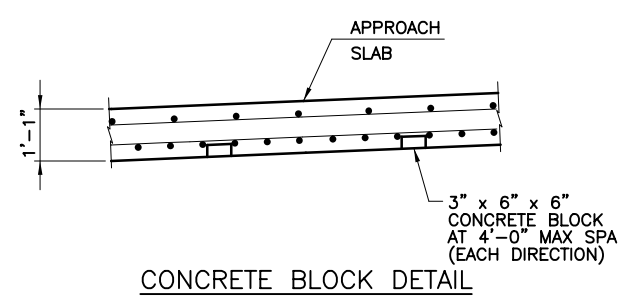
### APPROACH SLAB QUANTITIES (PER APPROACH SLAB)

ITEM	UNIT	TOTAL
APPROACH SLAB	SY	144.30
SAW-CUT GROOVING	SY	136.80
CONCRETE RAIL (TR4)	LF	61.60
WATER REPELLENT (VISUALLY INSPECTED)	SY	29.00

- ① SEE STANDARD TR4-2 FOR SR1 BAR BEND
- ② THE COST OF CONCRETE, REINFORCING STEEL (INCLUDING TRAFFIC RAIL BARS), BACKER ROD, RAPID CURE JOINT SEALANT, POLYSTYRENE AND POLYETHYLENE SHEETING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF "APPROACH SLAB."

TOP REINFORCING MAT DETAIL  
APPROACH SLAB NO. 1

BOTTOM REINFORCING MAT DETAIL  
APPROACH SLAB NO. 2



DESIGN: CPY	2016	SH 34 OVER NORTH FORK OVERFLOW - BRIDGE "A"	BECKHAM COUNTY
DRAWN: CPY	2016		
CHECKED: CPY	2016		
APPRVD: CPY	2016		

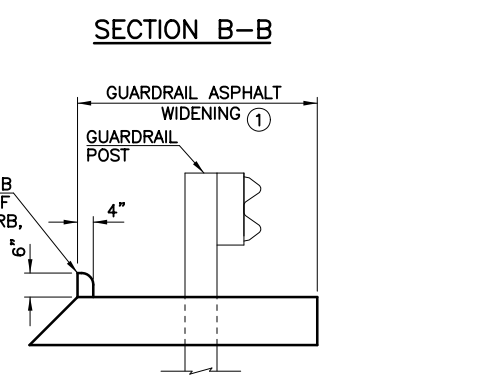
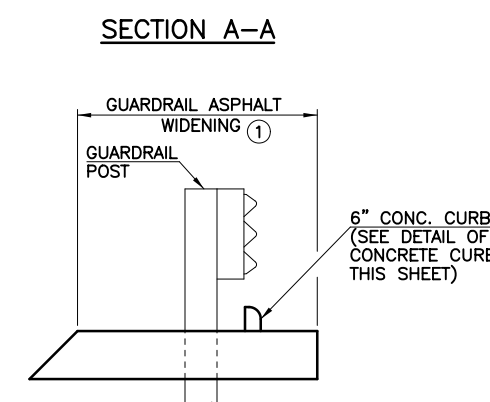
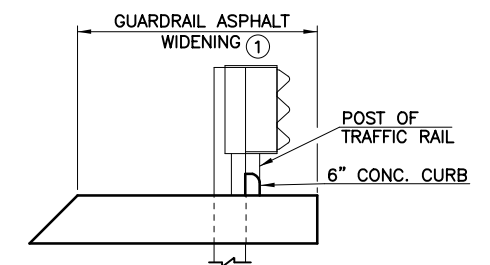
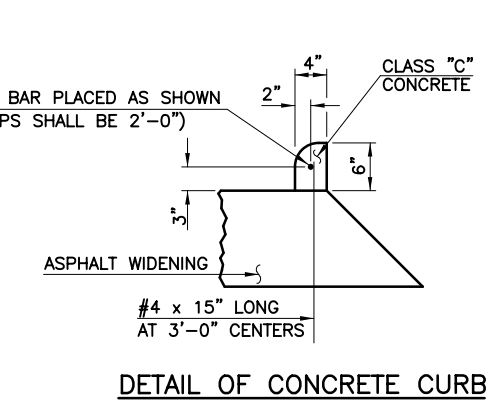
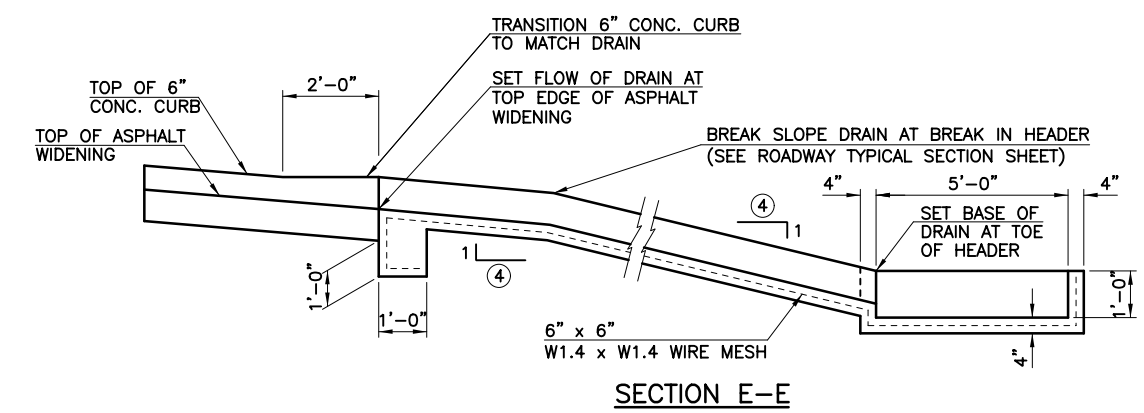
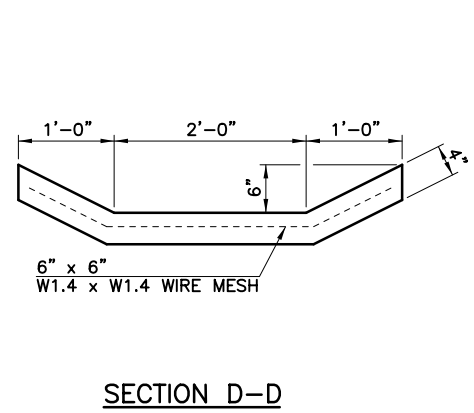
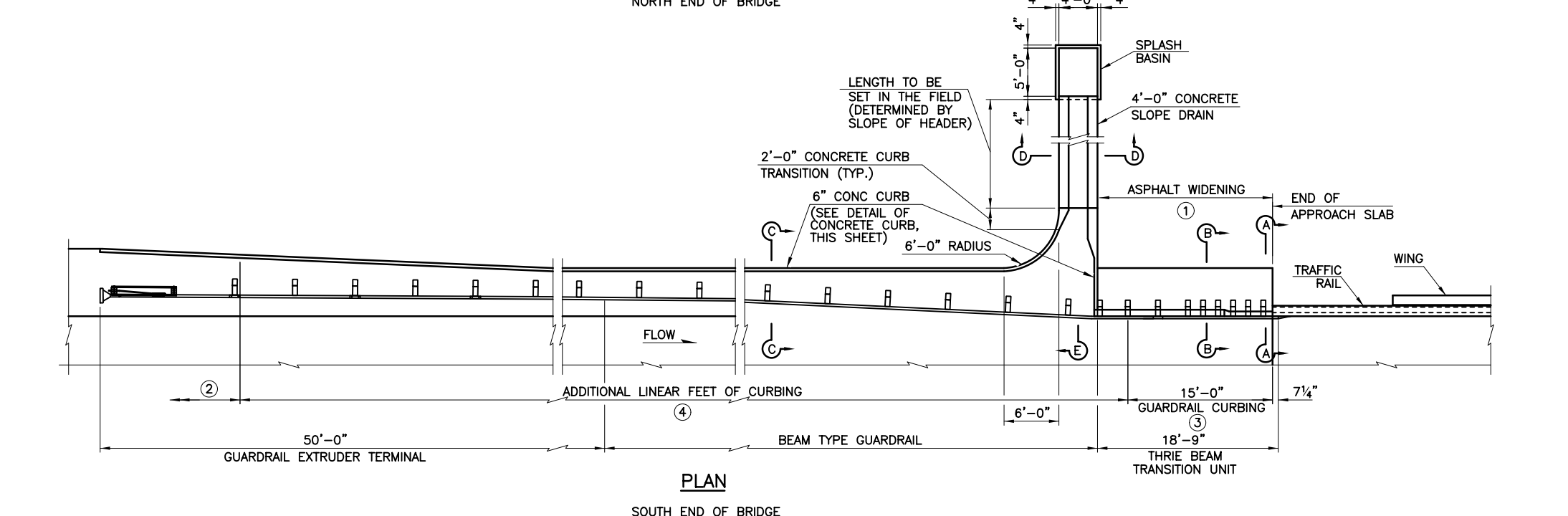
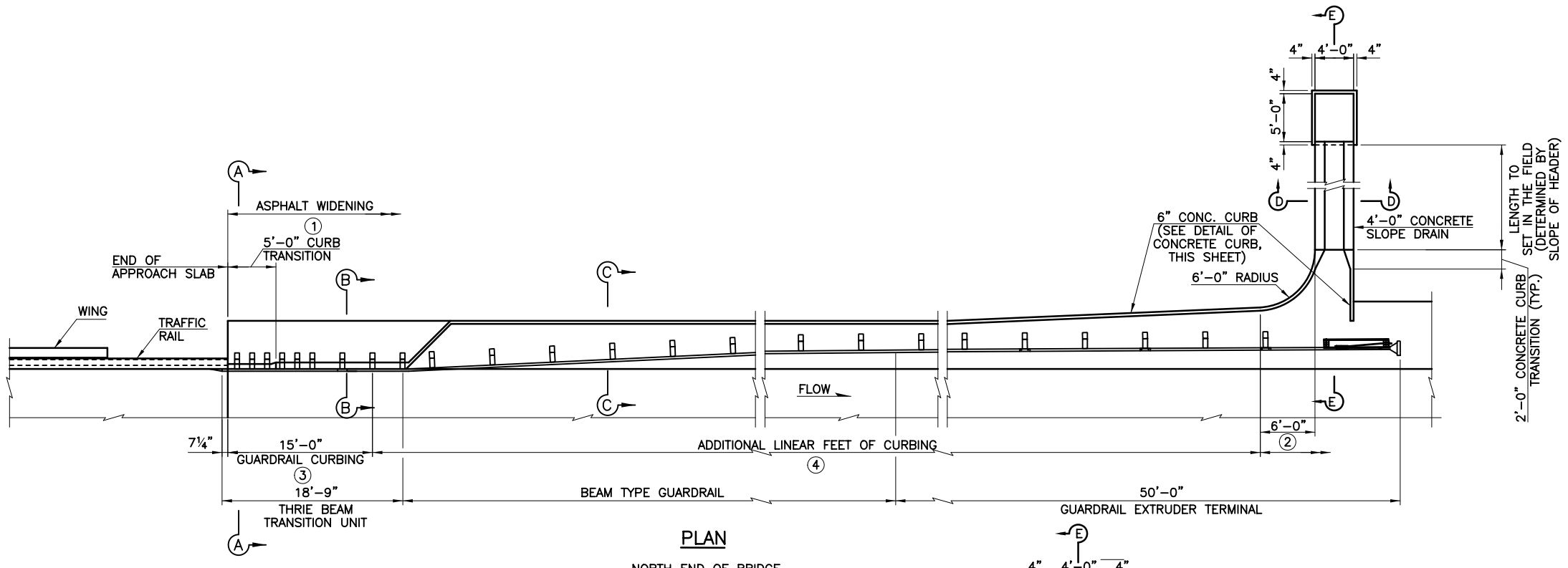
**CP&Y**

**APPROACH SLAB DETAILS**

STATE JOB PIECE NO: 26999(04)

SHEET 1 OF 1  
SHEET NO. B023

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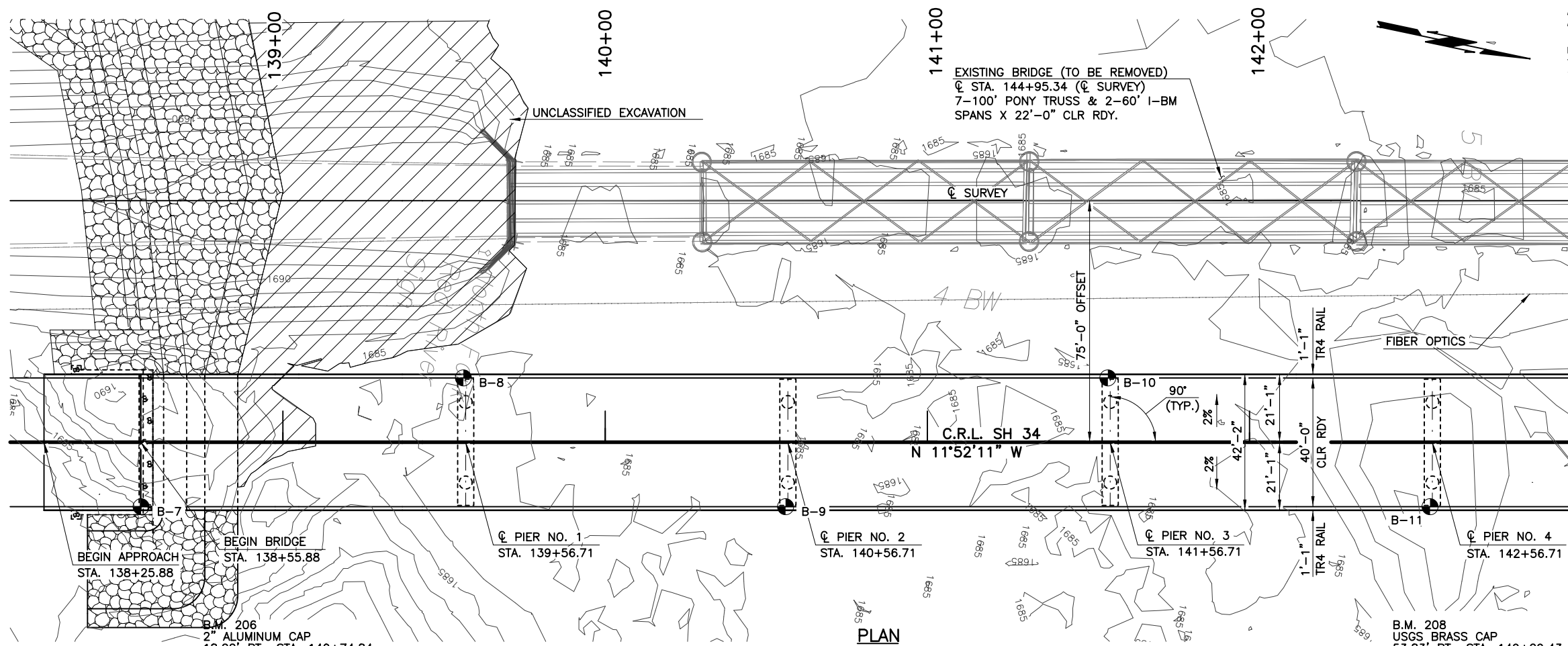
- GENERAL NOTES**
- ASPHALT WIDENING SHALL BE IN ACCORDANCE WITH ODOT STANDARDS GHW1-1-00, GHW2-1-00 AND THRI-1-00 EXCEPT AS SHOWN ON THIS SHEET. ALL COSTS OF ASPHALT WIDENING SHALL BE INCLUDED IN ROADWAY PAY ITEMS.
  - SLOPE DRAINS, SPLASH BASINS AND CONCRETE CURBS SHALL BE CONSTRUCTED USING CLASS "C" CONCRETE AS SHOWN ON THIS SHEET. ALL COSTS OF THE SLOPE DRAINS, SPLASH BASINS, AND CONCRETE CURBS SHALL BE INCLUDED IN THE BRIDGE PAY ITEM FOR "CLASS "C" CONCRETE".
  - ADDITIONAL CURBING SHALL BE CONSTRUCTED AS SHOWN IN "DETAIL OF CONCRETE CURB", THIS SHEET. ALL COSTS OF MATERIALS AND INSTALLATION OF CLASS C CONCRETE CURB AND #4 BARS AS SHOWN SHALL BE PAID IN THE BRIDGE PAY ITEM FOR "CLASS C CONCRETE".
  - SET IN THE FIELD (DETERMINED BY SLOPE OF HEADER)

DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OVERFLOW - BRIDGE "A"	
CHECKED: CPY 2017		
APPRVD: CPY 2017		

**DRAIN DETAILS**

STATE JOB PIECE NO: 26999(04) SHEET 1 OF 1 SHEET NO. B024

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PLAN

**DESIGN DATA**

CLASS AA CONCRETE  $f'_c = 4,000$  psi  
 CLASS A CONCRETE  $f'_c = 3,000$  psi  
 REINFORCING STEEL  $F_y = 60$  ksi  
 STRUCTURAL STEEL M270 (GRADE 50W)  $F_y = 50$  ksi  
 STAINLESS STEEL A240 (TYPE 316)  $F_y = 30$  ksi

LOADING:  
 HL-93 LOADING OR OKLAHOMA OVERLOAD TRUCK  
 20 PSF FUTURE WEARING SURFACE  
 5 PSF STAY-IN-PLACE FORMS.

DESIGN:  
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION WITH CURRENT INTERIMS  
 ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE  
 ANSI/AWS D1.6 STRUCTURAL STEEL WELDING CODE—STAINLESS STEEL

LRFR OPERATING RATING FACTOR: 2.31  
 LRFR INVENTORY RATING FACTOR: 1.44

**STEEL PILING**

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

**FOUNDATION DATA**

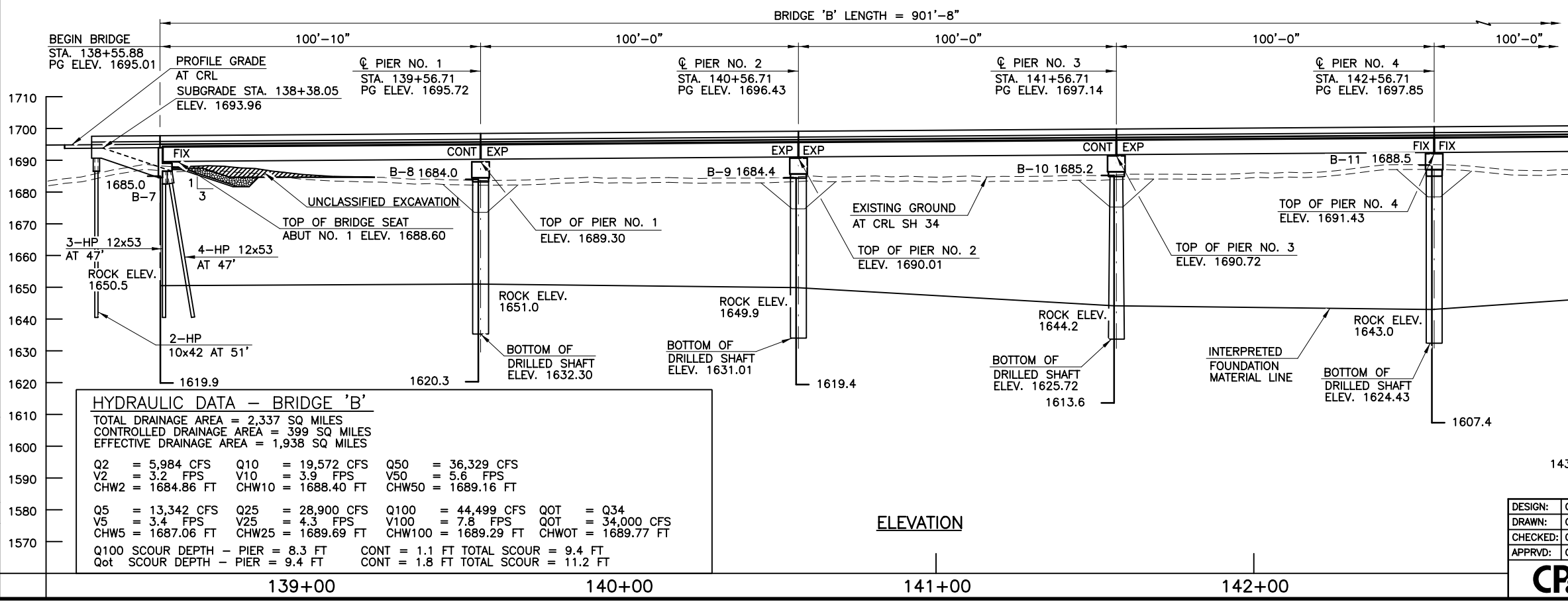
FOR FOUNDATION DATA SEE, "SUBSTRUCTURE STAKING DIAGRAM" SHEET.

**INDEX OF SHEETS:**

SHEET NO.	DESCRIPTION
B025-B026	GENERAL PLAN AND ELEVATION
B027	STAKING LAYOUT DIAGRAM
B028	RIPRAP AND SPUR DIKE DETAILS
B029-B034	FOUNDATION SHEETS
B035	SUBSTRUCTURE EXCAVATION
B036-B038	ABUTMENT DETAILS
B039-B043	PIER DETAILS
B044-B046	SUPERSTRUCTURE DETAILS
B047	DIAPHRAGM DETAILS
B048-B049	TYPE IV BEAM DETAILS
B050	BEARING DETAILS
B051	DRAIN DETAILS

**REQUIRED STANDARDS:**

- B40-C-TR4-0-1-01E
- B40-C-TR4-0-2-01E
- B40-C-AS-03E
- EJ-SQ-04E
- EJ-DTL-02E
- HP1-2-01E
- TR4-2-00E
- PUD-4-0
- LECS-5-1



ELEVATION

**HYDRAULIC DATA — BRIDGE 'B'**

TOTAL DRAINAGE AREA = 2,337 SQ MILES  
 CONTROLLED DRAINAGE AREA = 399 SQ MILES  
 EFFECTIVE DRAINAGE AREA = 1,938 SQ MILES

Q2 = 5,984 CFS	Q10 = 19,572 CFS	Q50 = 36,329 CFS
V2 = 3.2 FPS	V10 = 3.9 FPS	V50 = 5.6 FPS
CHW2 = 1684.86 FT	CHW10 = 1688.40 FT	CHW50 = 1689.16 FT

Q5 = 13,342 CFS	Q25 = 28,900 CFS	Q100 = 44,499 CFS	QOT = Q34
V5 = 3.4 FPS	V25 = 4.3 FPS	V100 = 7.8 FPS	QOT = 34,000 CFS
CHW5 = 1687.06 FT	CHW25 = 1689.69 FT	CHW100 = 1689.29 FT	CHWOT = 1689.77 FT

Q100 SCOUR DEPTH - PIER = 8.3 FT    CONT = 1.1 FT    TOTAL SCOUR = 9.4 FT  
 Qot SCOUR DEPTH - PIER = 9.4 FT    CONT = 1.8 FT    TOTAL SCOUR = 11.2 FT

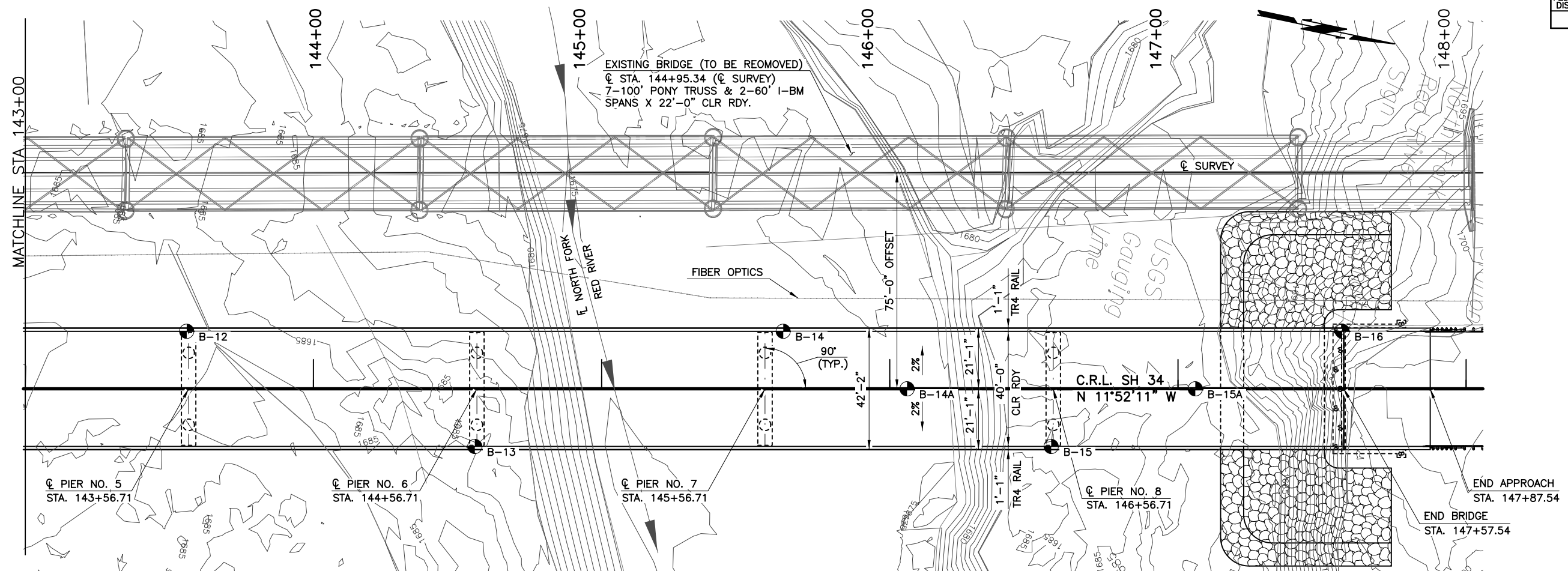
DESIGN: CPY	2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY	2016	OF THE RED RIVER— BRIDGE "B"	
CHECKED: CPY	2016	GENERAL PLAN AND ELEVATION	
APPRVD: CPY	2016	CONST. 9'-100' TYPE IV PC BEAM SPANS, 40'-0"	
		CLR RDY AT CL CRL STA. 143+06.71 WITH TR4 RAILS	SHEET 1 OF 2
			SHEET NO. B025

STATE JOB PIECE NO: 26999(04)

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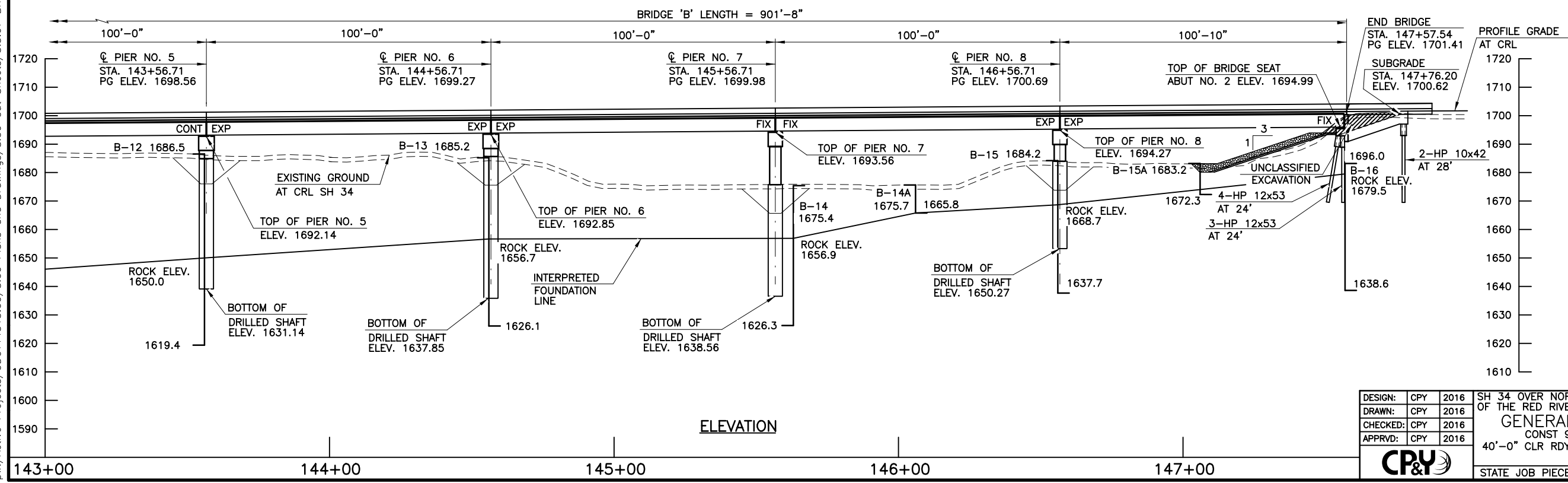
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	B026	173



PLAN

B.M. 206  
2" ALUMINUM CAP  
18.22' RT STA. 140+74.84  
ADJ. ELEV. 1693.538

B.M. 208  
USGS BRASS CAP  
53.83' RT STA. 149+29.43  
ADJ. ELEV. 1701.917

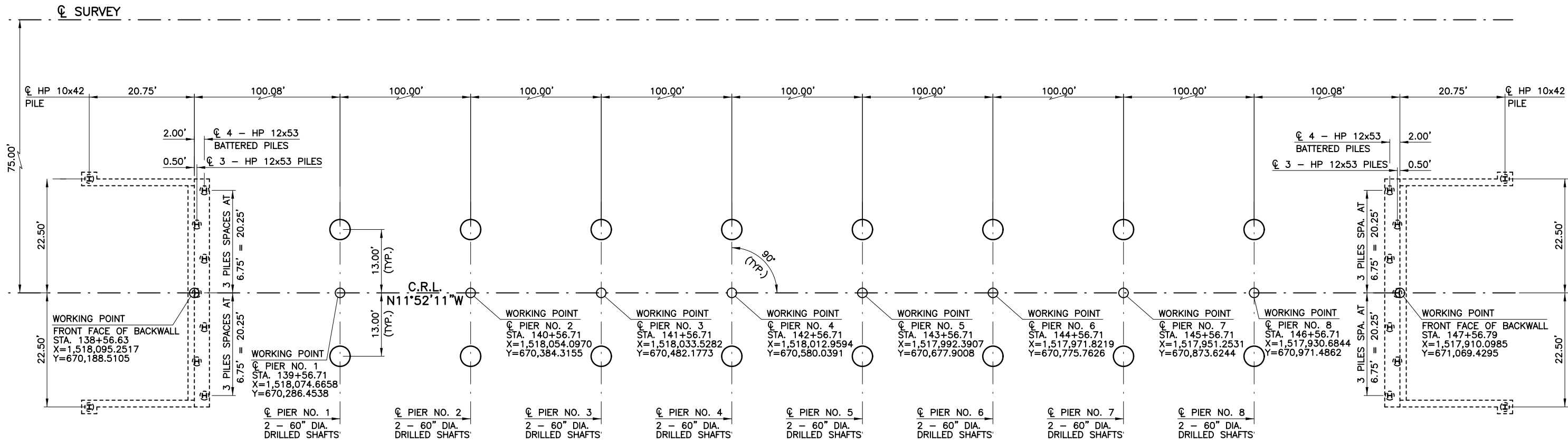


ELEVATION

DESIGN:	CPY	2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B" BECKHAM COUNTY GENERAL PLAN AND ELEVATION CONST 9-100' TYPE IV PC BEAM SPANS, 40'-0" CLR RDY AT CL STA. 143+06.71 WITH TR4 RAILS SHEET 2 OF 2 STATE JOB PIECE NO: 26999(04) SHEET NO. B026
DRAWN:	CPY	2016	
CHECKED:	CPY	2016	
APPRVD:	CPY	2016	



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**SUBSTRUCTURE STAKING LAYOUT**

NOTE: ABUTMENT PILES SHALL BE DRIVEN VERTICAL UNLESS OTHERWISE NOTED.

**ITEMIZED QUANTITIES**

DESCRIPTION	UNIT	ABUTMENT	PIERS	SUPER-STRUCTURE	APPROACH SLAB	TOTAL
UNCLASSIFIED EXCAVATION	CY	1,870.00				1,870.00
UNCLASSIFIED BORROW	CY	220.00				220.00
SUBSTRUCTURE EXCAVATION COMMON	CY	180.00				180.00
CLSM BACKFILL	CY	211.10				211.10
PRESTRESSED CONCRETE BEAMS (TYPE IV)	LF			4,485.00		4,485.00
APPROACH SLAB	SY				281.20	281.20
SAW-CUT GROOVING	SY			4,007.00	266.60	4,274.60
SEALED EXPANSION JOINT	LF			129.50		129.50
CONCRETE RAIL (TR4)	LF			1,803.40	120.00	1,923.40
STRUCTURAL STEEL	LB			7,710.00		7,710.00
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA			30.00		30.00
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA			60.00		60.00
ELASTOMERIC COATING	SF	430.00	2,566.00			2,996.00
CLASS AA CONCRETE	CY			1,029.60		1,029.60
CLASS A CONCRETE	CY	97.60	362.30			459.90
CLASS C CONCRETE	CY				6.20	6.20
REINFORCING STEEL	LB		580.00			590.00
EPOXY COATED REINFORCING STEEL	LB	12,950.00	55,390.00	280,320.00		348,660.00
PILES, FURNISHED (HP 10X42)	LF	158.00				158.00
PILES, FURNISHED (HP 12X53)	LF	497.00				497.00
PILES, DRIVEN (HP 10X42)	LF	158.00				158.00
PILES, DRIVEN (HP 12X53)	LF	497.00				497.00
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA	1.00				1.00
WATER REPELLENT (VISUALLY INSPECTED)	SY	60.00	380.00	2,946.00	56.00	3,442.00
DRILLED SHAFTS 60" DIAMETER	LF		810.00			810.00
CROSSHOLE SONIC LOGGING	EA		4.00			4.00
SEALER CRACK PREPARATION	LF			204.00		204.00
SEALER RESIN	GAL			3.00		3.00
HAULING BEAMS	LSUM					1.00
TYPE I-A PLAIN RIPRAP	TON	3,010.00				3,010.00
TYPE I-A FILTER BLANKET	TON	235.00				235.00
6" PERFORATED PIPE UNDERDRAIN ROUND	LF	84.00				84.00
6" NON-PERF. PIPE UNDERDRAIN RND.	LF	72.00				72.00
REMOVAL OF EXISTING BRIDGE STRUCTURE	LSUM					1.00

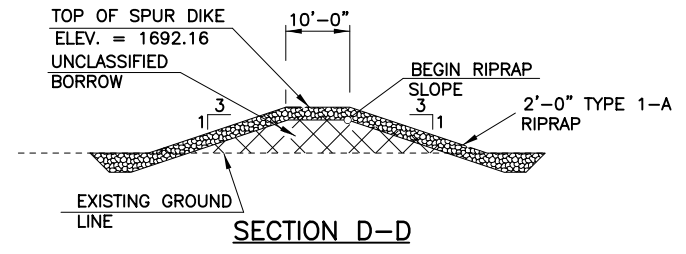
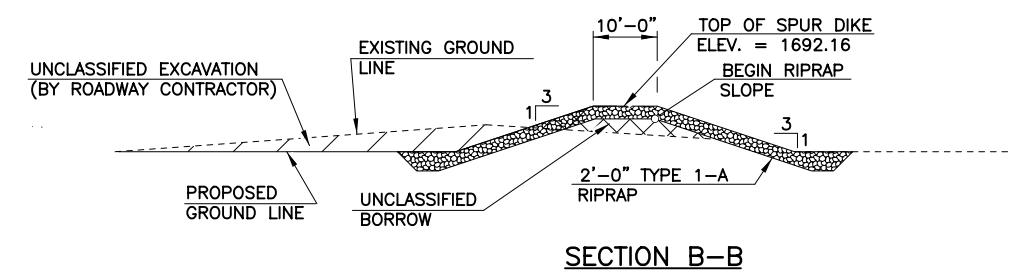
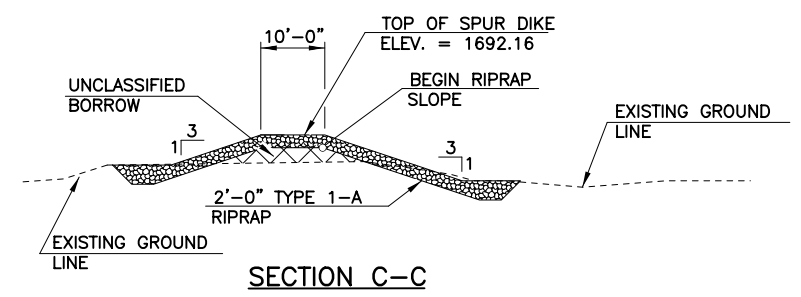
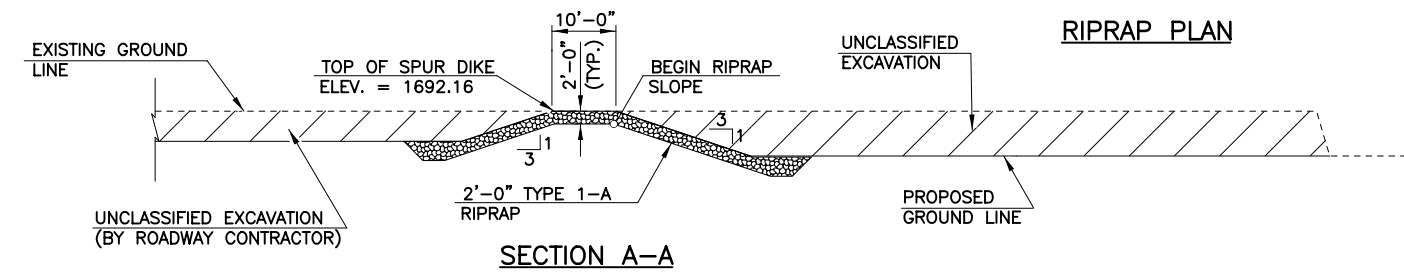
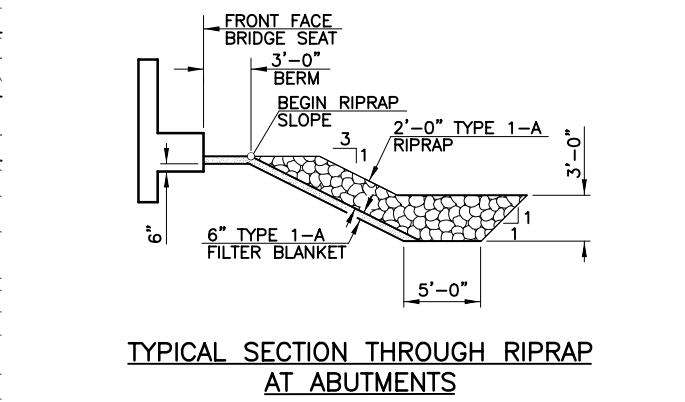
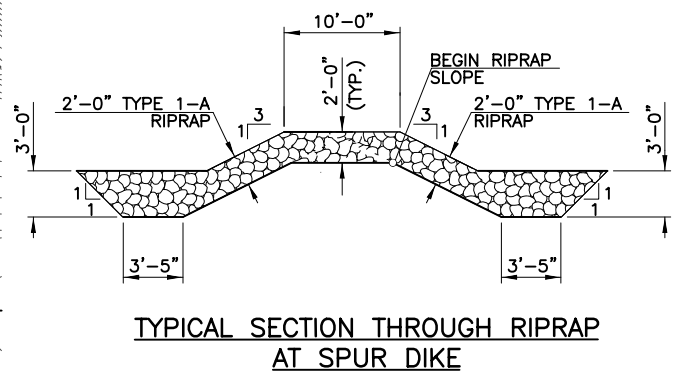
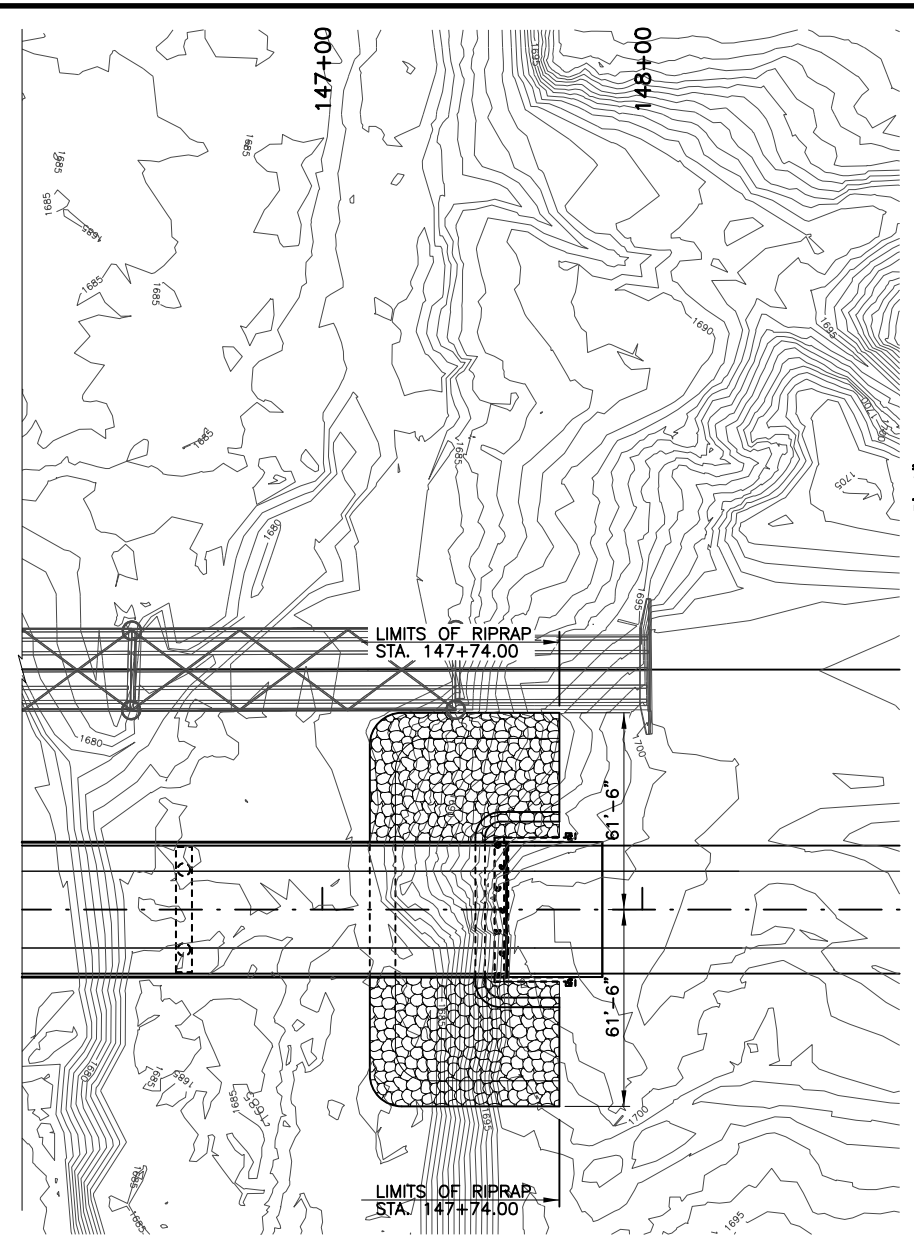
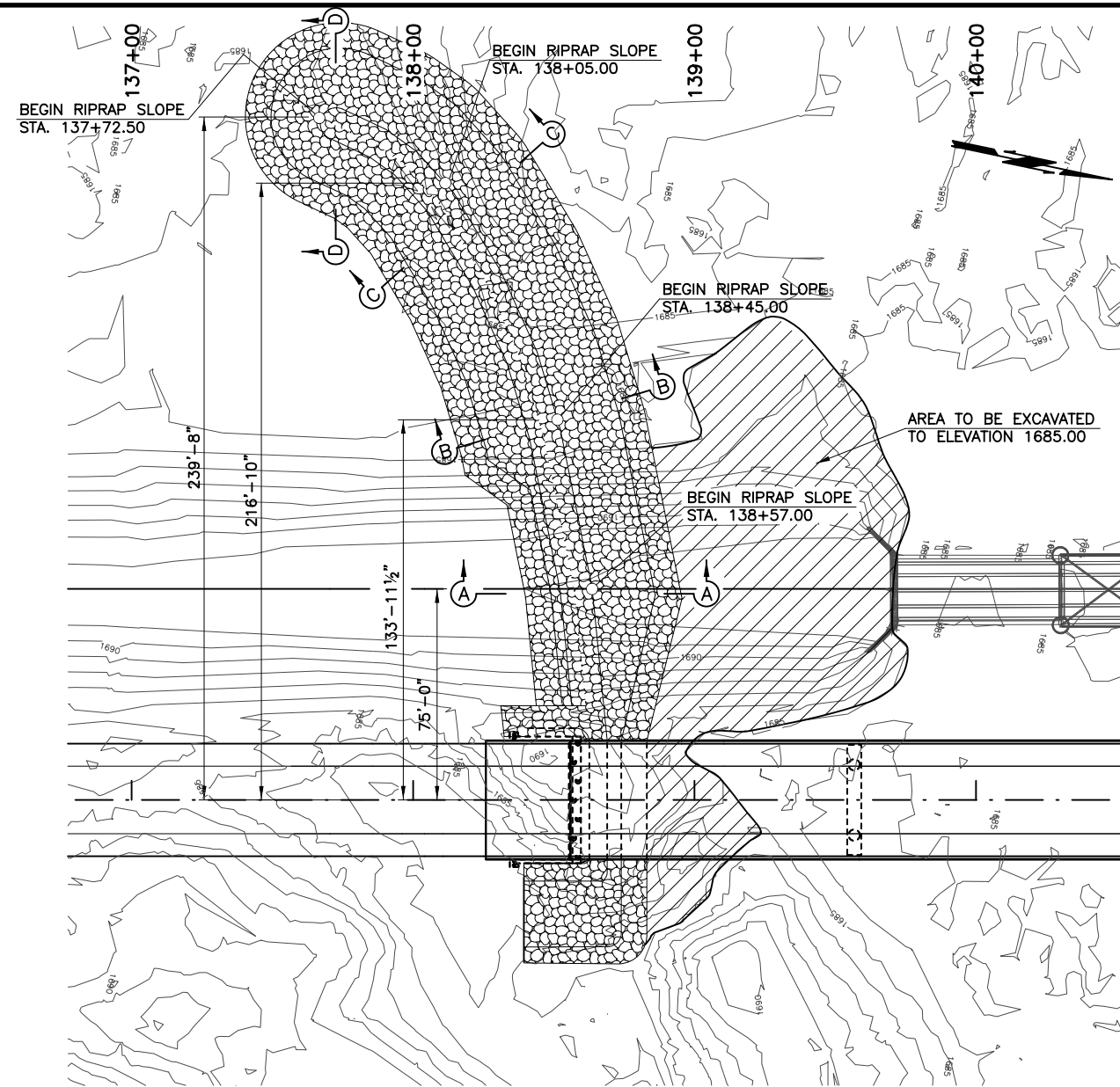
**FOUNDATION DATA**

ABUTMENTS (HP 12x53 PILING)	ABUT NO. 1	ABUT NO. 2						
FACTORED PILE REACTION (TONS/PILE)	100.0	100.0						
PIERS (60" DIAMETER DRILLED SHAFTS)	PIER NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	PIER NO. 6	PIER NO. 7	PIER NO. 8
FACTORED REACTION (TONS/SHAFT)	= 628.4	= 631.8	= 643.6	= 647.1	= 635.5	= 624.5	= 625.4	= 605.0
NOMINAL UNIT FRICTION RESISTANCE (T.S.F.)	= 3.93	= 4.44	= 4.44	= 5.37	= 5.37	= 3.62	= 3.62	= 3.76
FRICTION RESISTANCE FACTOR	= 0.45	= 0.45	= 0.45	= 0.45	= 0.45	= 0.45	= 0.45	= 0.45
FACTORED FRICTION RESISTANCE (TONS/SHAFT)	= 361.3	= 408.4	= 408.4	= 493.7	= 493.7	= 332.3	= 332.3	= 345.2
NOMINAL UNIT BEARING RESISTANCE (T.S.F.)	= 23.62	= 23.62	= 21.57	= 21.57	= 21.57	= 24.80	= 24.80	= 24.80
BEARING RESISTANCE FACTOR	= 0.70	= 0.70	= 0.70	= 0.70	= 0.70	= 0.70	= 0.70	= 0.70
FACTORED BEARING RESISTANCE (TONS/SHAFT)	= 324.6	= 324.6	= 296.4	= 296.4	= 296.4	= 340.4	= 340.9	= 340.9
TOTAL FACTORED RESISTANCE	= 686.0	= 733.0	= 705.0	= 790.0	= 790.0	= 673.0	= 673.0	= 686.0
MINIMUM DEPTH OF PENETRATION INTO ROCK	= 18'-0"	= 18'-0"	= 18'-0"	= 18'-0"	= 18'-0"	= 18'-0"	= 18'-0"	= 18'-0"
DEPTH OF ROCK NEGLECTED FOR FRICTION	= 5'-0"	= 5'-0"	= 5'-0"	= 5'-0"	= 5'-0"	= 5'-0"	= 5'-0"	= 5'-0"

DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OF THE RED RIVER- BRIDGE "B"	
CHECKED: CPY 2016	<b>STAKING LAYOUT DIAGRAM</b>	
APPRVD: CPY 2016	STATE JOB PIECE NO: 26999(04)	SHEET 1 OF 1 SHEET NO. B027

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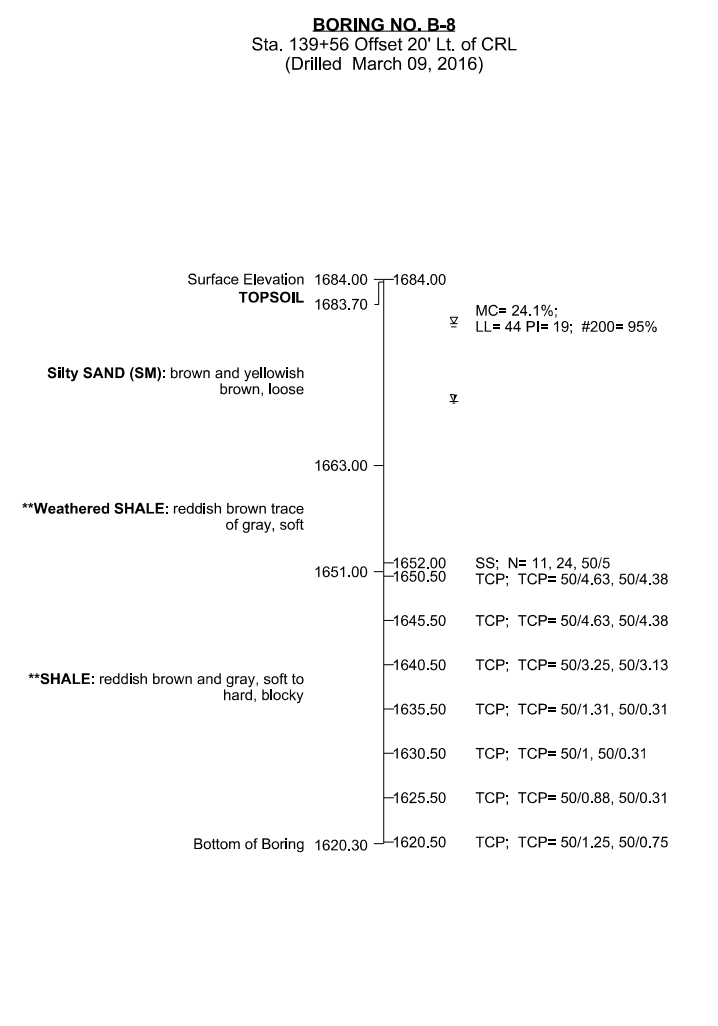
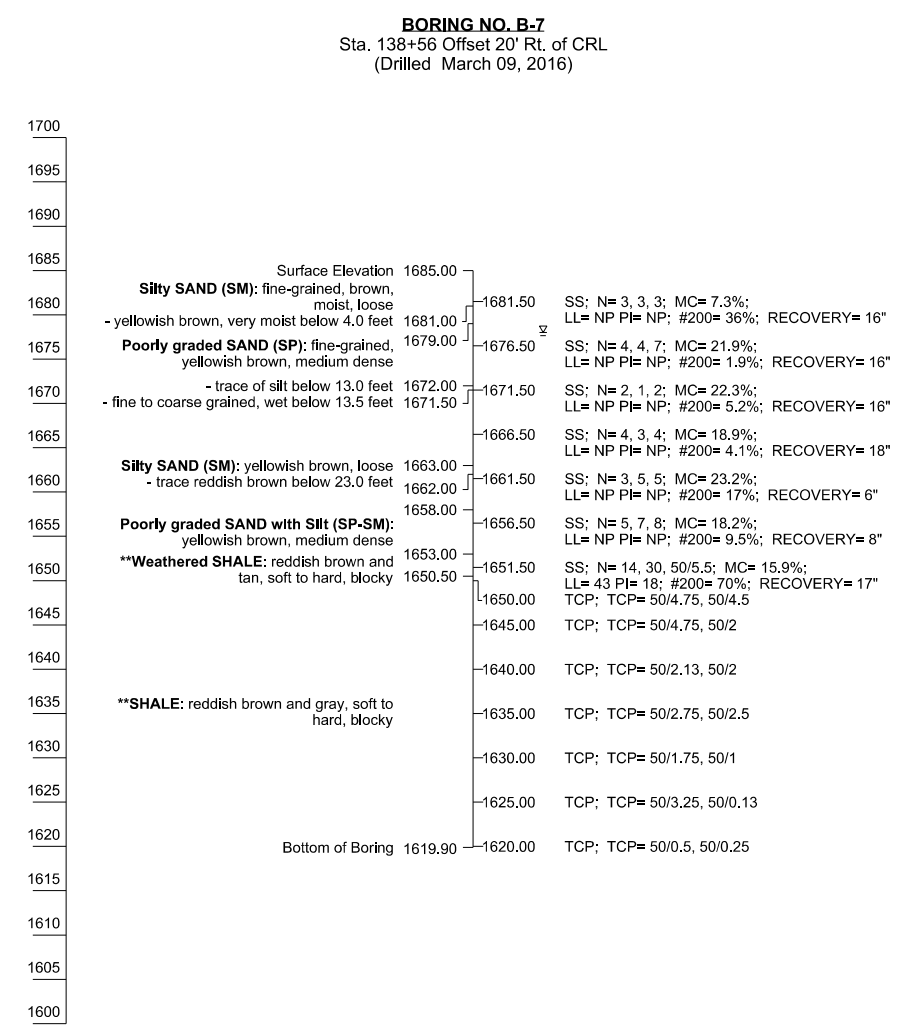
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	B028	173



DESIGN: CPY 2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN: CPY 2016	RIPRAP AND SPUR DIKE DETAILS	
CHECKED: CPY 2016	STATE JOB PIECE NO: 26999(04)	
APPRVD: CPY 2016	SHEET 1 OF 1	
<b>CP&amp;Y</b>		SHEET NO. B028

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REV. NO.	DESCRIPTION	REVISIONS	DATE



**SITE GEOLOGY**

ACCORDING TO THE "ENGINEERING CLASSIFICATION OF GEOLOGIC MATERIALS - DIVISION FIVE" FROM THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, 1969, THE ALIGNMENT APPEARS TO BE LOCATED WITHIN THE ALLUVIUM DEPOSITS (QAS) UNDERLAIN BY FLOWERPOT UNIT (PF).

ALLUVIUM UNIT (QAS): THIS UNIT CONSISTS OF DEPOSITS OF SAND, SILT, CLAY, GRAVEL, AND/OR COMBINATIONS OF THESE MATERIALS. ALLUVIUM IS FOUND ALONG THE FLOOD PLAINS (BOTTOM LAND) OF STREAMS AND IS NORMALLY PRESENT AT PLACES ALONG ALL STREAMS.

FLOWERPOT UNIT (PF): THIS UNIT CONSISTS DOMINANTLY OF REDDISH-BROWN, BLOCKY SHALE WITH MINOR AMOUNTS OF THIN, INTERBEDDED, GREENISH-GRAY SHALE, SILTSTONE, GYPSUM, AND DOLOMITE. THE SHALES CONTAIN SALT IN MUCH OF BECKHAM AND HARMON COUNTIES, IN BLAINE COUNTY, THE UNIT CONTAINS A ZONE OF SOFT SANDSTONES AND MUDSTONE CONGLOMERATES WHICH LIE SOME 180 FEET ABOVE THE BASE OF THE UNIT. THIS ZONE IS MAPPED AS THE CHICKASHA SUBUNIT, ON THE SOUTHERN FLANKS OF THE ANADARKO BASIN (JACKSON COUNTY) THE LOWER 28 TO 200 FEET OF THE UNIT CONSISTS OF A SANDSTONE AND SHALE ZONE WHICH IS MAPPED SEPARATELY AS THE DUNCAN SUBUNIT.

THE TOTAL THICKNESS OF THE UNIT IS ABOUT 450 FEET (INCLUDES CHICKASHA SUBUNIT) IN BLAINE COUNTY. SOUTHWARD, IN DIVISION 5, IT VARIES FROM 90 TO 250 FEET IN THICKNESS (DOES NOT INCLUDE DUNCAN SUBUNIT).

IN DIVISION 5, THE FLOWERPOT UNIT OUTCROPS IN A NORTHWEST-SOUTHEAST BAND, 10 MILES WIDE, ACROSS BLAINE COUNTY WHICH IS ON THE NORTH FLANK OF THE ANADARKO BASIN, ON THE SOUTH FLANK, THE UNIT FORMS A NARROW EAST-WEST BAND 100 FEET TO 1 MILE WIDE ACROSS NORTHERN KIOWA AND SOUTHERN WASHITA COUNTIES. IT THEN OUTCROPS IN IRREGULAR PATTERNS ACROSS SOUTHERN BECKHAM, NORTHERN HARMON, AND NORTHERN GREER COUNTIES. SOUTHWARD, IT FORMS A NORTH-SOUTH BAND 3 TO 8 MILES WIDE ACROSS CENTRAL GREER AND JACKSON COUNTIES.

TOPOGRAPHICALLY, THE UNIT TYPICALLY FORMS VALLEYS WHERE THE OUTCROP IS NARROW. ELSEWHERE, THE UNIT FORMS GENTLY ROLLING TO NEARLY LEVEL TOPOGRAPHY. SHORT GRASS IS THE MAJOR VEGETATION. LOCALLY, MESQUITE, CACTI, AND NEARLY BARREN ROCK EXPOSURES DENOTE AREAS CONTAINING SALT OR GYPSUM.

**LEGEND**

- SS = SPLIT SPOON SAMPLER
- N = NUMBER OF BLOWS PER 12 INCHES
- MC = MOISTURE CONTENT
- LL = LIQUID LIMIT (NV=NO VALUE)
- PI = PLASTICITY INDEX (NP=NO PLASTICITY)
- #200 = PERCENT PASSING #200 SIEVE
- UCS = UNCONFINED COMPRESSIVE STRENGTH
- TCP = TEXAS CONE PENETROMETER
- WCI = WET CAVE IN
- ☉ = WATER LEVEL WHILE DRILLING OR SAMPLING
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- ☼ = WATER LEVEL 24 HOURS AFTER DRILLING

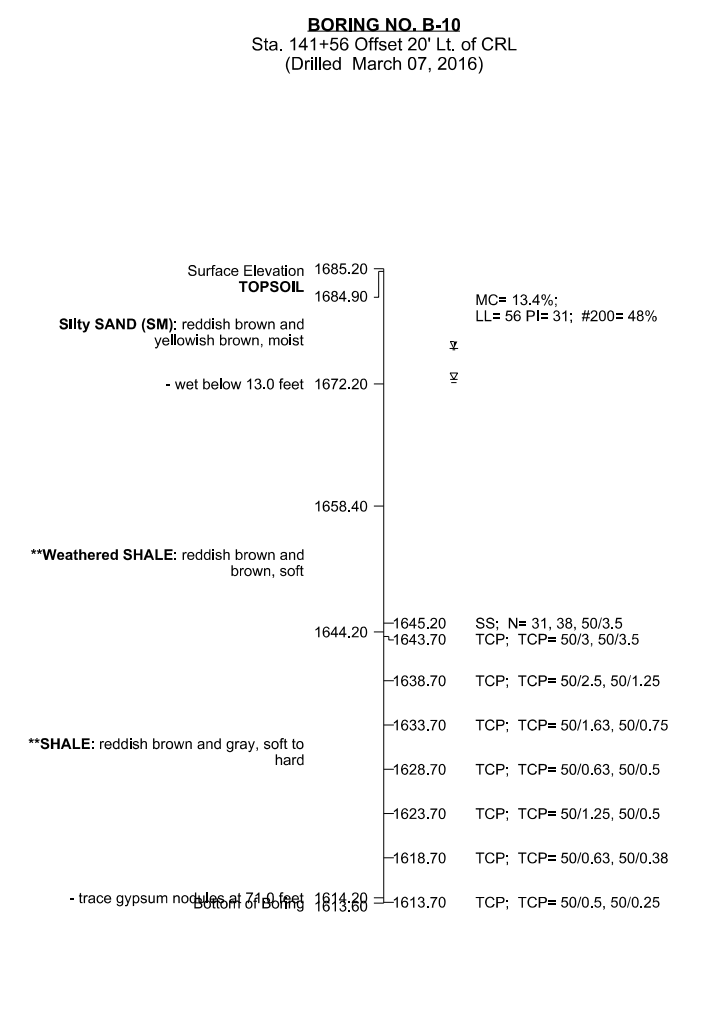
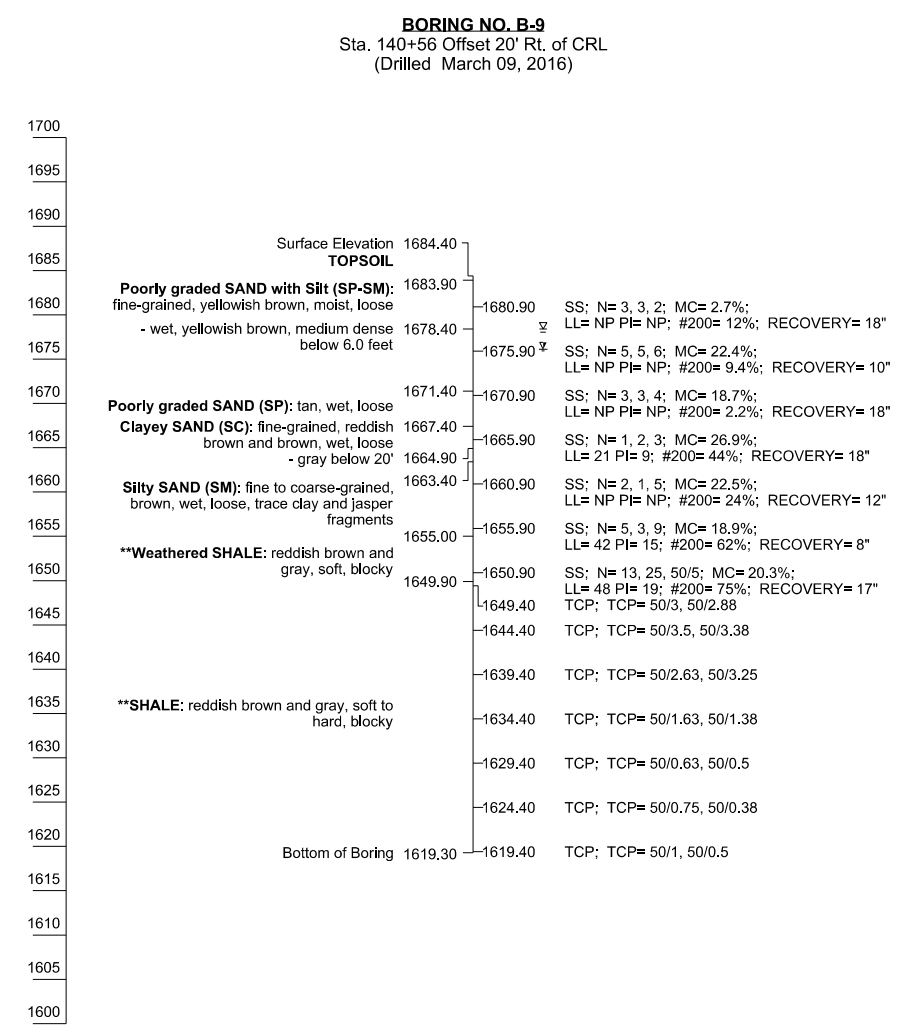
NOTE: WATER LEVEL ELEVATIONS SHOWN WERE OBTAINED AT TIME OF THE BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR.

NOTE: SS DENOTES STANDARD PENETRATION TEST, AASHTO D1586-84 TCP DENOTES TEXAS CONE PENETRATION TEST.

TO OBTAIN THE COMPLETE GEOTECHNICAL REPORT CONTACT THE BRIDGE DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT (405) 521-2606

SH-34 OVER NORTH FORK OF BECKHAM COUNTY		Design	-	-
RED RIVER BRIDGE		Detail	-	-
<b>FOUNDATION SHEETS</b>		Check	-	-
		Squad	-	-
		Engr.	-	-
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 26999(04)		SHEET NO. B029		

REV. NO.	DESCRIPTION	REVISIONS	DATE



**SITE GEOLOGY**

ACCORDING TO THE "ENGINEERING CLASSIFICATION OF GEOLOGIC MATERIALS - DIVISION FIVE" FROM THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, 1969, THE ALIGNMENT APPEARS TO BE LOCATED WITHIN THE ALLUVIUM DEPOSITS (QAS) UNDERLAIN BY FLOWERPOT UNIT (PF).

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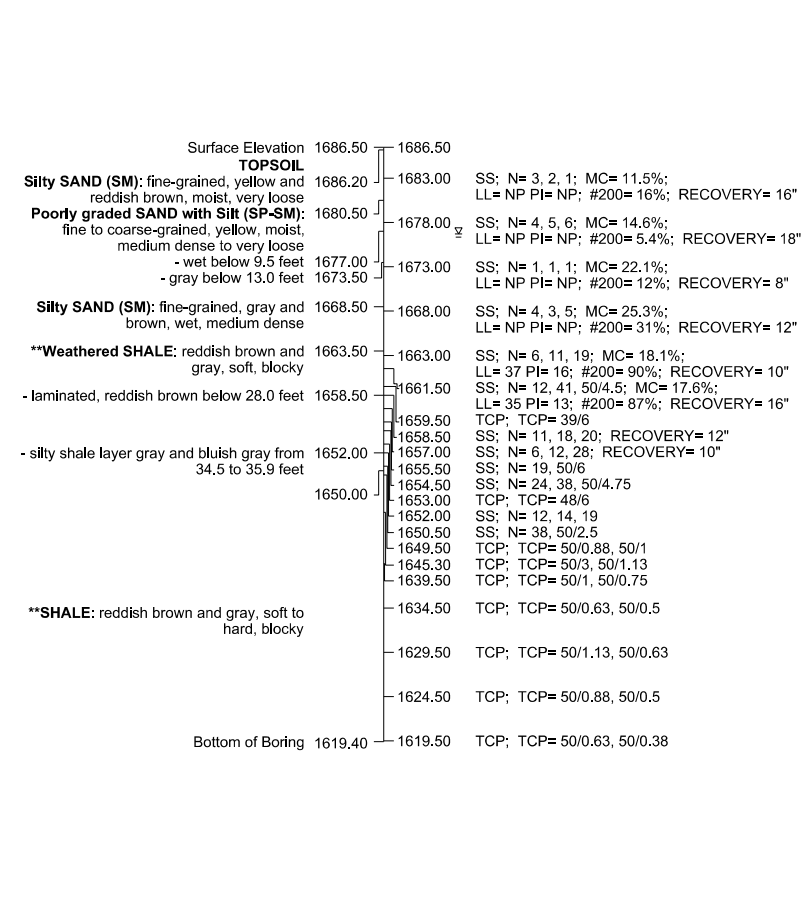
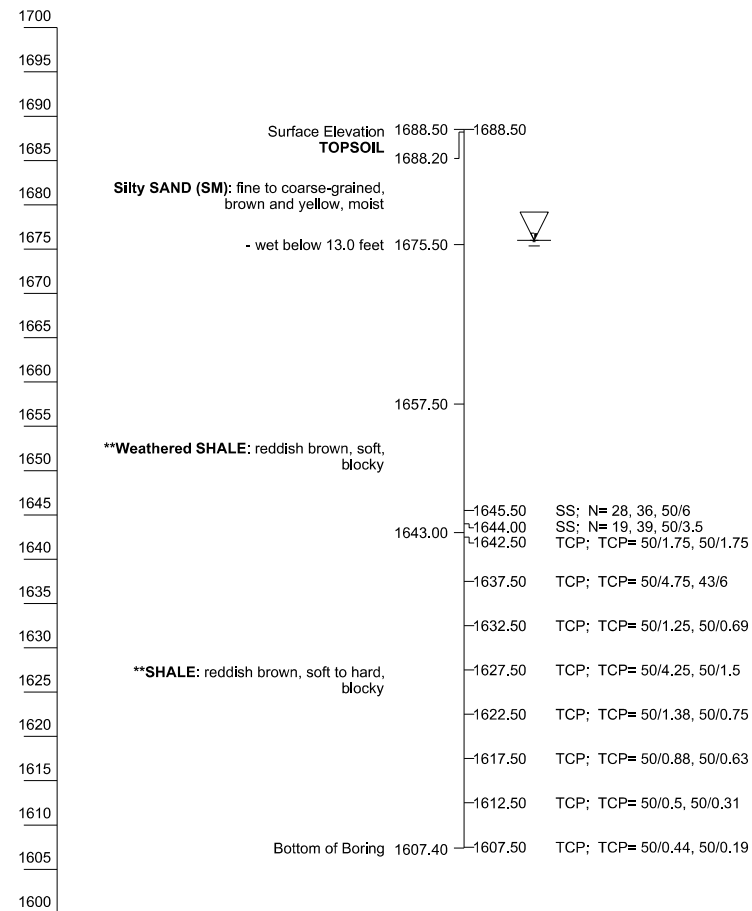
TO OBTAIN THE COMPLETE GEOTECHNICAL REPORT CONTACT THE BRIDGE DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT (405) 521-2606

SH-34 OVER NORTH FORK OF RED RIVER BRIDGE		BECKHAM COUNTY	Design	--	--
FOUNDATION SHEETS			Detail	--	--
			Check	--	--
			Squad	--	--
			Engr.	--	--
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION			
		JOB PIECE NO. 26999(04)		SHEET NO. B030	

REV. NO.	DESCRIPTION	REVISIONS	DATE

**BORING NO. B-11**  
Sta. 142+56 Offset 20' Rt. of CRL  
(Drilled March 07, 2016)

**BORING NO. B-12**  
Sta. 143+56 Offset 20' Lt. of CRL  
(Drilled March 07, 2016)



**SITE GEOLOGY**

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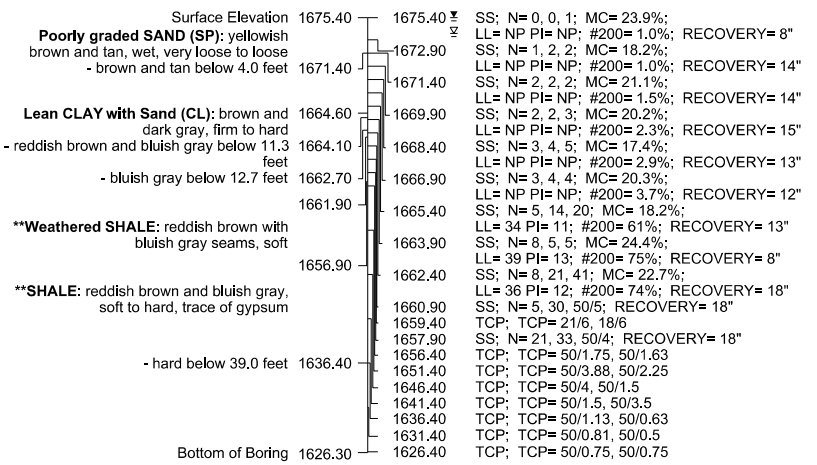
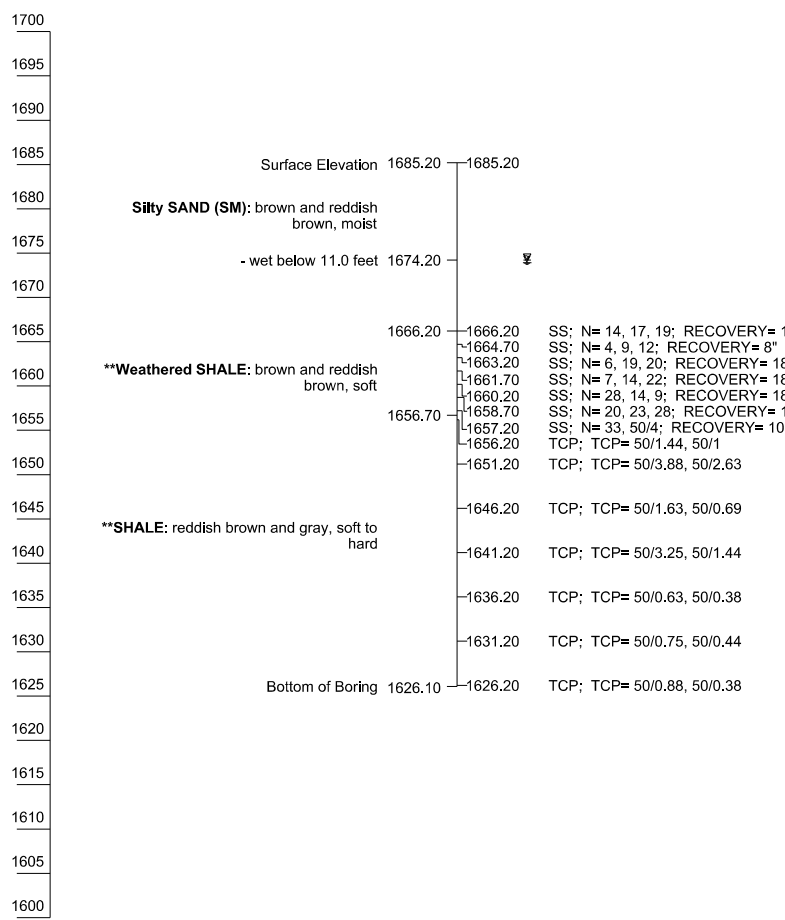
TO OBTAIN THE COMPLETE GEOTECHNICAL REPORT CONTACT THE BRIDGE DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT (405) 521-2606

SH-34 OVER NORTH FORK OF RED RIVER BRIDGE  <b>FOUNDATION SHEETS</b>	BECKHAM COUNTY	Design	—	—
		Detail	—	—
		Check	—	—
		Squad	—	—
		Engr.	—	—
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION		SHEET NO. B031
JOB PIECE NO. 26999(04)				

REV. NO.	DESCRIPTION	REVISIONS	DATE

**BORING NO. B-13**  
Sta. 144+56 Offset 20' Rt. of CRL  
(Drilled March 07, 2016)

**BORING NO. B-14**  
Sta. 145+63 Offset 20' Lt. of CRL  
(Drilled March 05, 2016)



**SITE GEOLOGY**

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TO OBTAIN THE COMPLETE GEOTECHNICAL REPORT CONTACT THE BRIDGE DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT (405) 521-2606

<b>FOUNDATION SHEETS</b>	Design	—	—
	Detail	—	—
	Check	—	—
	Squad	—	—
Engr.	—	—	—

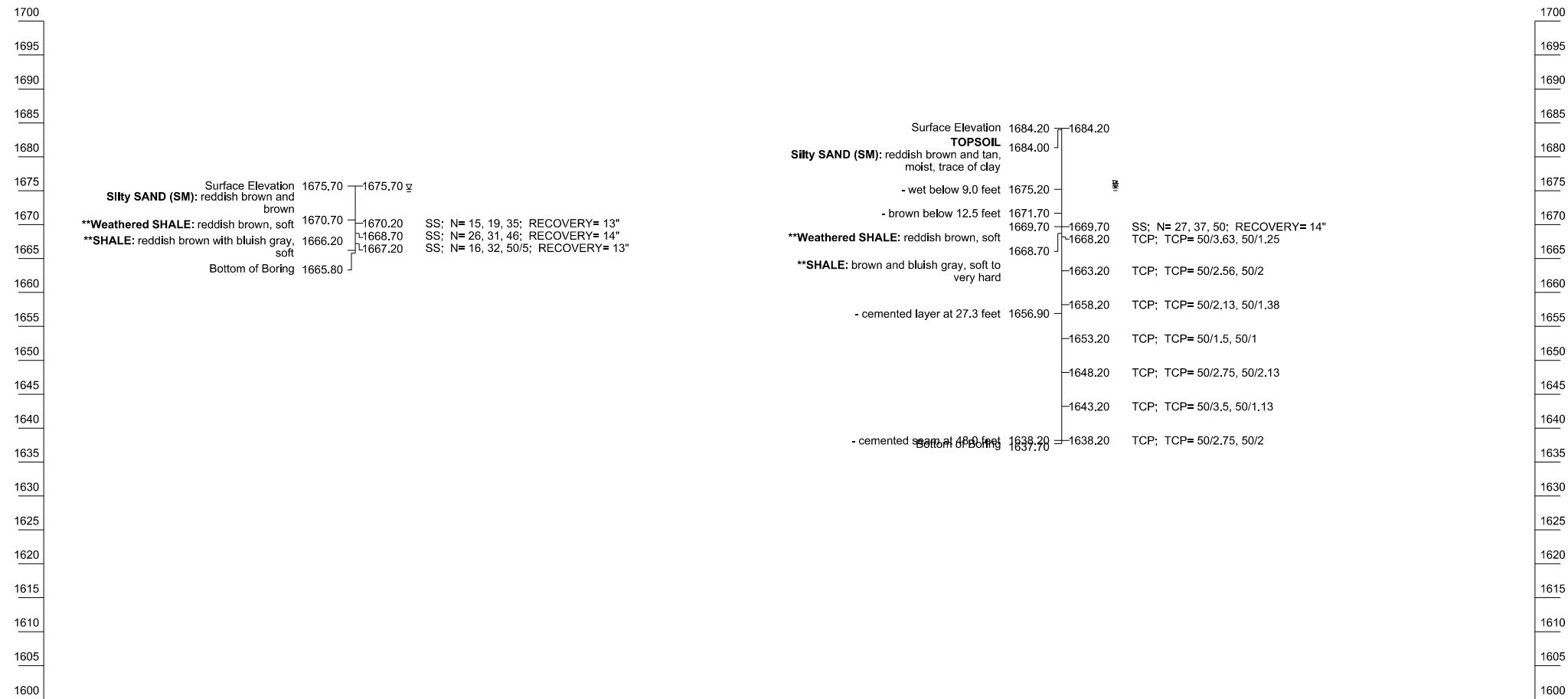
SH-34 OVER NORTH FORK OF BECKHAM COUNTY  
RED RIVER BRIDGE

**STATE OF OKLAHOMA** DEPARTMENT OF TRANSPORTATION  
JOB PIECE NO. 26999(04) SHEET NO. B032

REV. NO.	DESCRIPTION	REVISIONS	DATE

**BORING NO. B-14A**  
Sta. 146+06 Offset ' on CRL  
(Drilled March 06, 2016)

**BORING NO. B-15**  
Sta. 146+56 Offset 20' Rt. of CRL  
(Drilled March 05, 2016)



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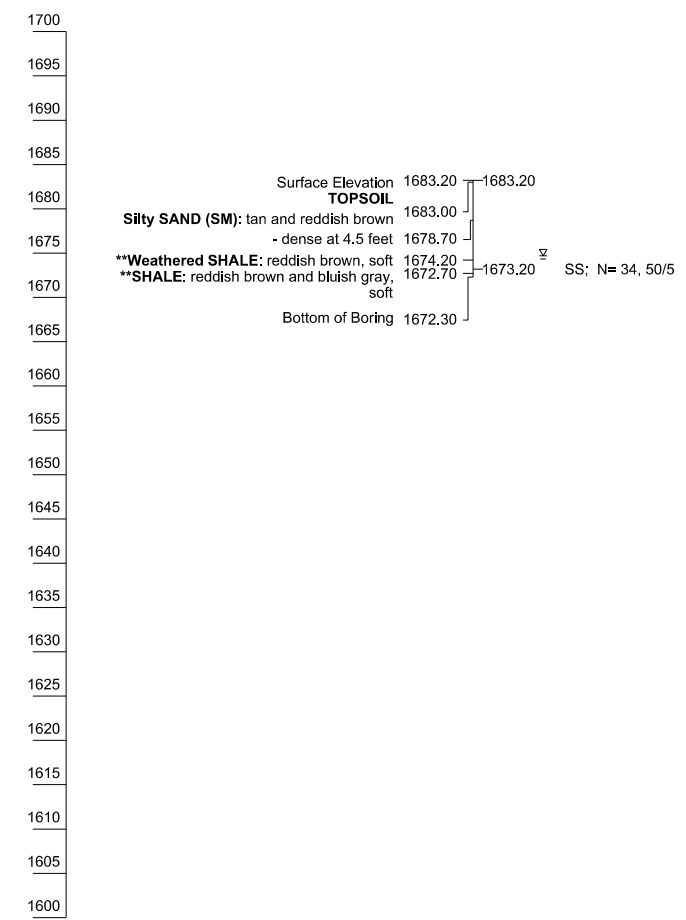
TO OBTAIN THE COMPLETE GEOTECHNICAL REPORT CONTACT THE BRIDGE DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT (405) 521-2606

SH-34 OVER NORTH FORK OF RED RIVER BRIDGE  <b>FOUNDATION SHEETS</b>	Design	—	—
	Detail	—	—
	Check	—	—
	Squad	—	—
	Engr.	—	—
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION JOB PIECE NO. 26999(04)	
		SHEET NO. B033	

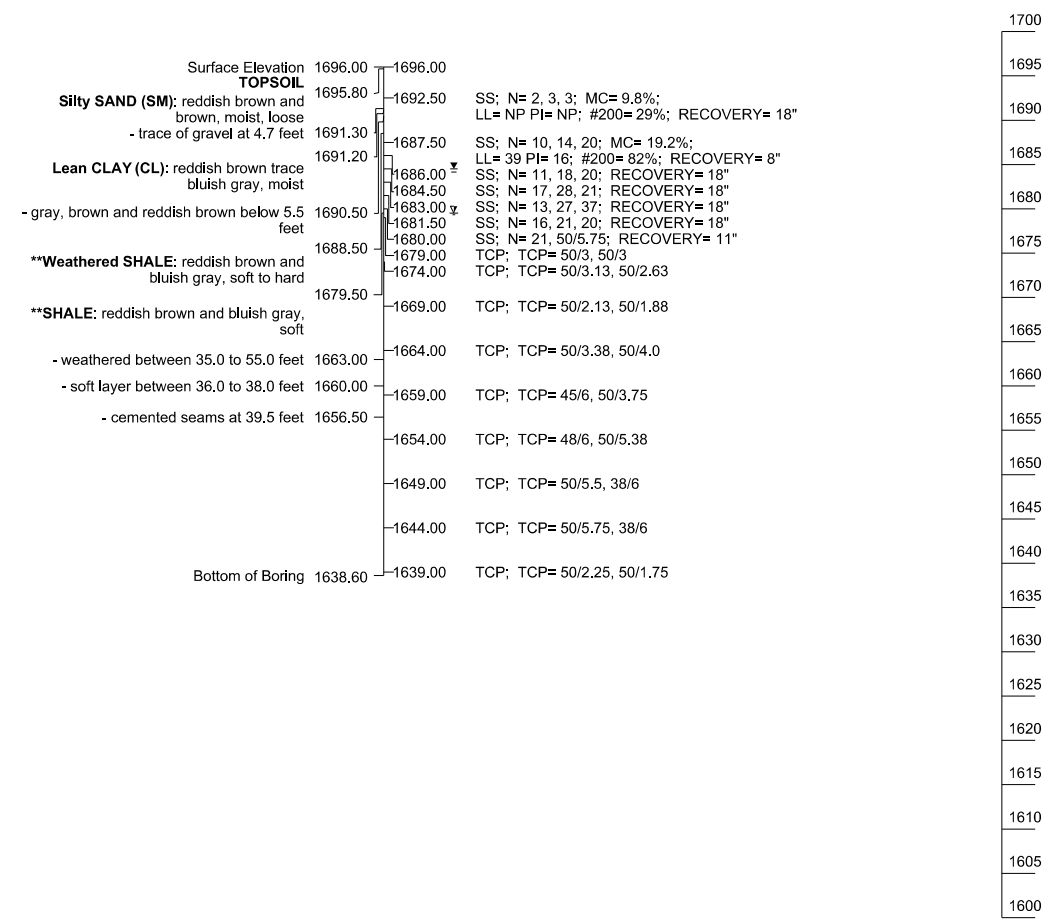


REV. NO.	DESCRIPTION	REVISIONS	DATE

**BORING NO. B-15A**  
Sta. 147+06 Offset 1' on CRL  
(Drilled March 06, 2016)



**BORING NO. B-16**  
Sta. 147+57 Offset 20' Lt. of CRL  
(Drilled March 06, 2016)



**SITE GEOLOGY**

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SH-34 OVER NORTH FORK OF BECKHAM COUNTY		Design	-	-
RED RIVER BRIDGE		Detail	-	-
<b>FOUNDATION SHEETS</b>		Check	-	-
		Squad	-	-
		Engr.	-	-
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 26999(04)		SHEET NO. B034		

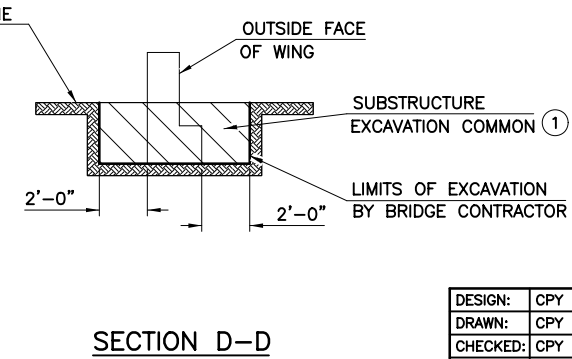
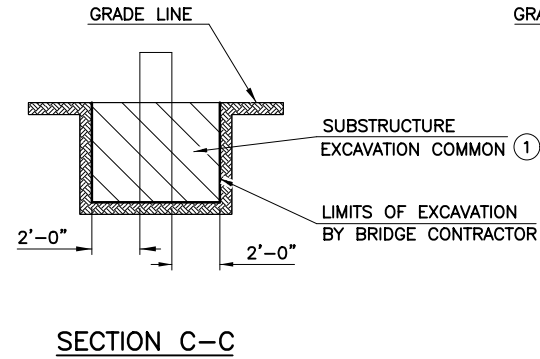
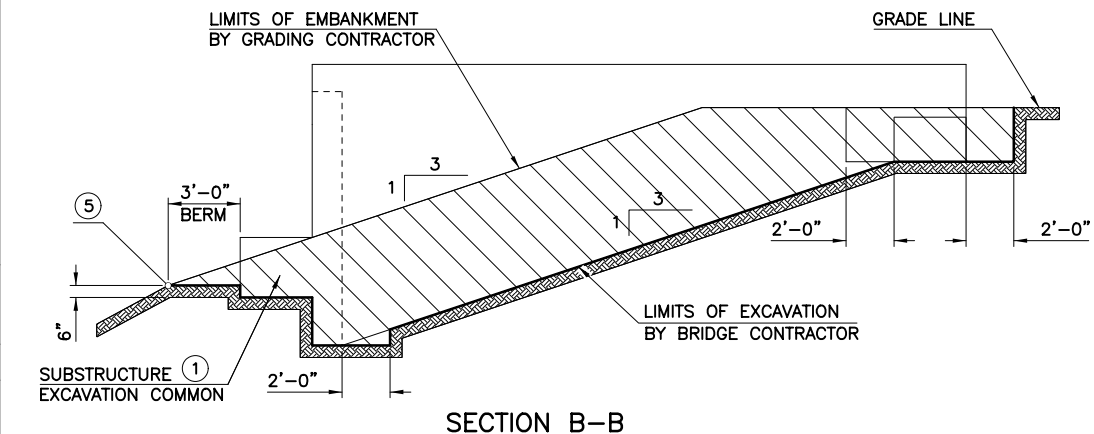
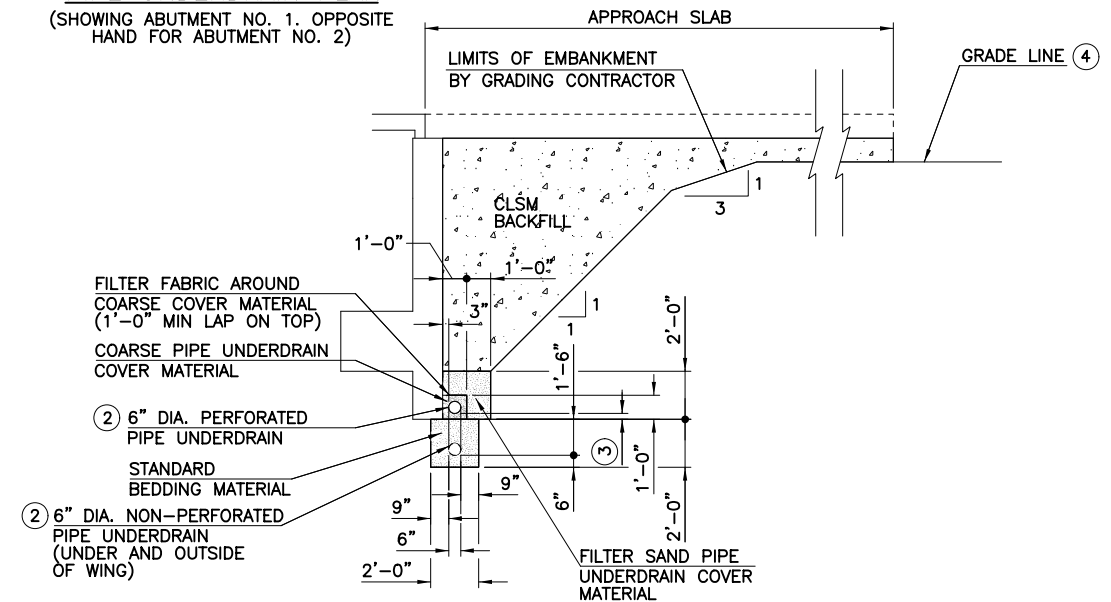
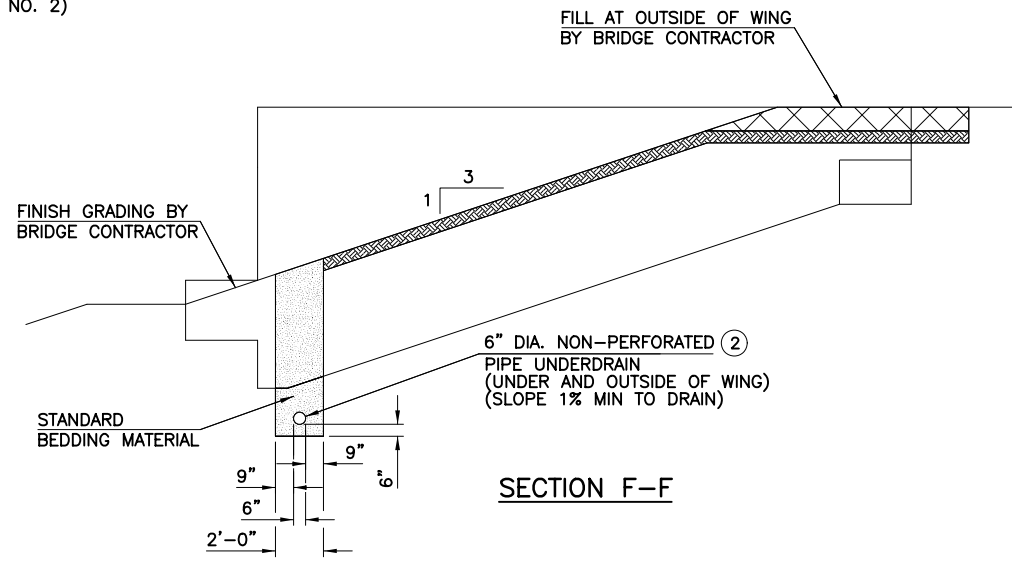
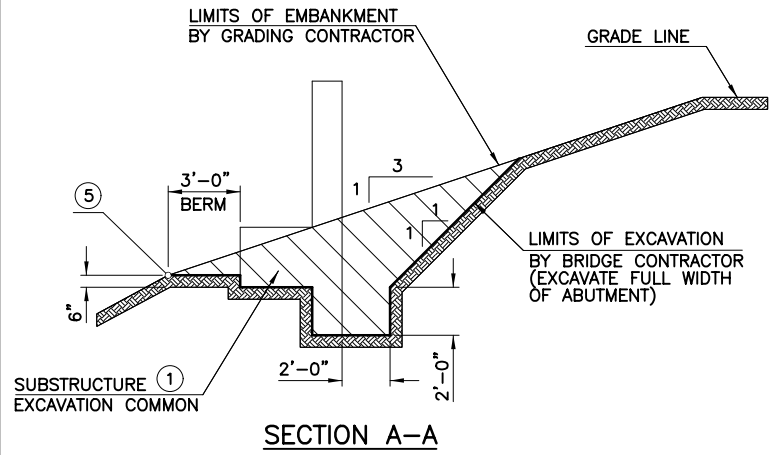
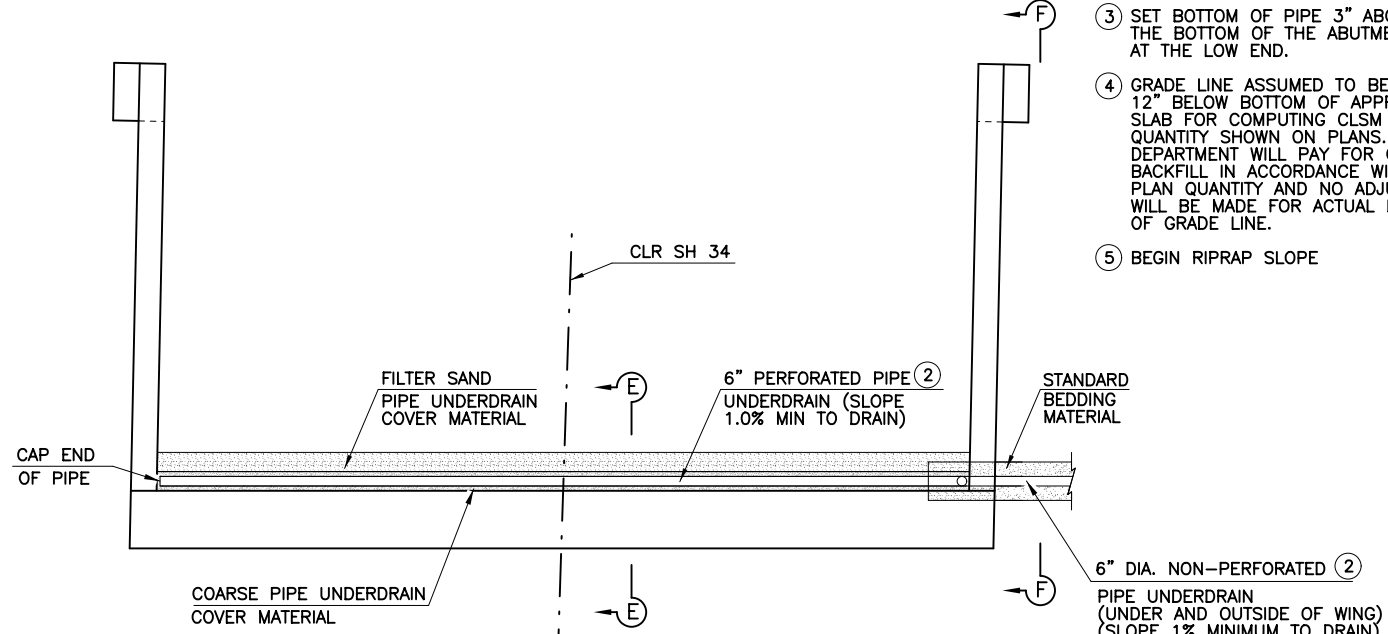
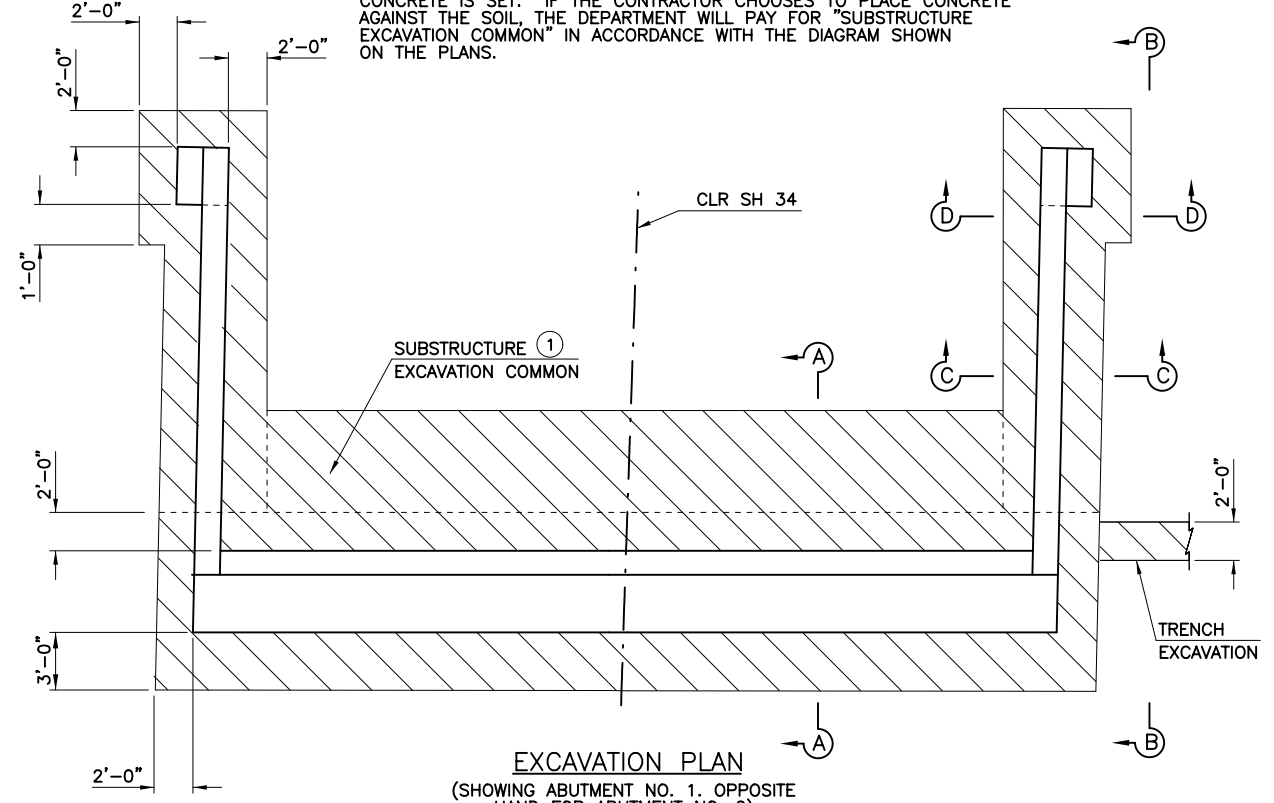
① CONCRETE MAY BE PLACED AGAINST THE LIMITS OF EXCAVATION IF THE MATERIAL IS EXCAVATED TO THE NEAT LINES OF THE ABUTMENT AND APPROVED BY THE ENGINEER. IF NECESSARY, FORMS SHALL BE USED ON THE BACK VERTICAL FACE OF THE ABUTMENT AND REMOVED AFTER CONCRETE IS SET. IF THE CONTRACTOR CHOOSES TO PLACE CONCRETE AGAINST THE SOIL, THE DEPARTMENT WILL PAY FOR "SUBSTRUCTURE EXCAVATION COMMON" IN ACCORDANCE WITH THE DIAGRAM SHOWN ON THE PLANS.

② THE ENGINEER MAY ADJUST THE EXTENT, LOCATION AND DEPTH OF 6" NON-PERFORATED UNDERDRAIN DURING CONSTRUCTION. INCLUDE THE COST OF PIPE UNDERDRAIN COVER MATERIAL (BOTH FINE SAND AND COARSE), FILTER FABRIC, TRENCH EXCAVATION, STANDARD BEDDING MATERIAL, AND EQUIPMENT AND LABOR FOR THEIR INSTALLATION IN THE CONTRACT UNIT PRICE OF 6" PERFORATED PIPE UNDERDRAIN ROUND AND 6" NON-PERF. PIPE UNDERDRAIN RND. INSTALL AS SHOWN ON THE PLANS AND ON STD. PUD-3.

③ SET BOTTOM OF PIPE 3" ABOVE THE BOTTOM OF THE ABUTMENT AT THE LOW END.

④ GRADE LINE ASSUMED TO BE LOCATED 12" BELOW BOTTOM OF APPROACH SLAB FOR COMPUTING CLSM BACKFILL QUANTITY SHOWN ON PLANS. THE DEPARTMENT WILL PAY FOR CLSM BACKFILL IN ACCORDANCE WITH THE PLAN QUANTITY AND NO ADJUSTMENT WILL BE MADE FOR ACTUAL LOCATION OF GRADE LINE.

⑤ BEGIN RIPRAP SLOPE



CLSM BACKFILL SHALL NOT BE PLACED UNTIL THE ABUTMENT WINGS HAVE ATTAINED A STRENGTH OF 3000 PSI.

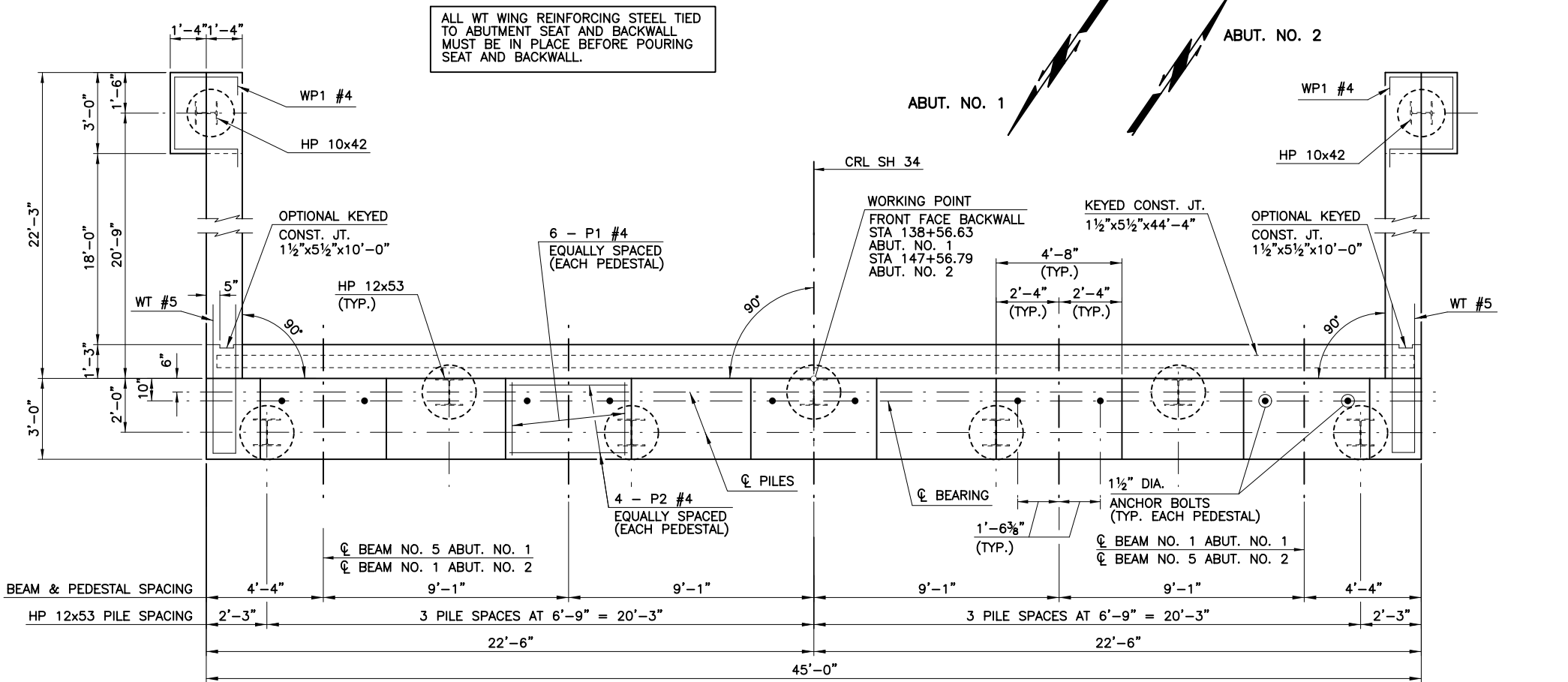
DESIGN:	CPY	2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN:	CPY	2016		
CHECKED:	CPY	2016		
APPRVD:	CPY	2016		

**CP&Y**

**SUBSTRUCTURE EXCAVATION**

STATE JOB PIECE NO: 26999(04) SHEET 1 OF 1 SHEET NO. B035

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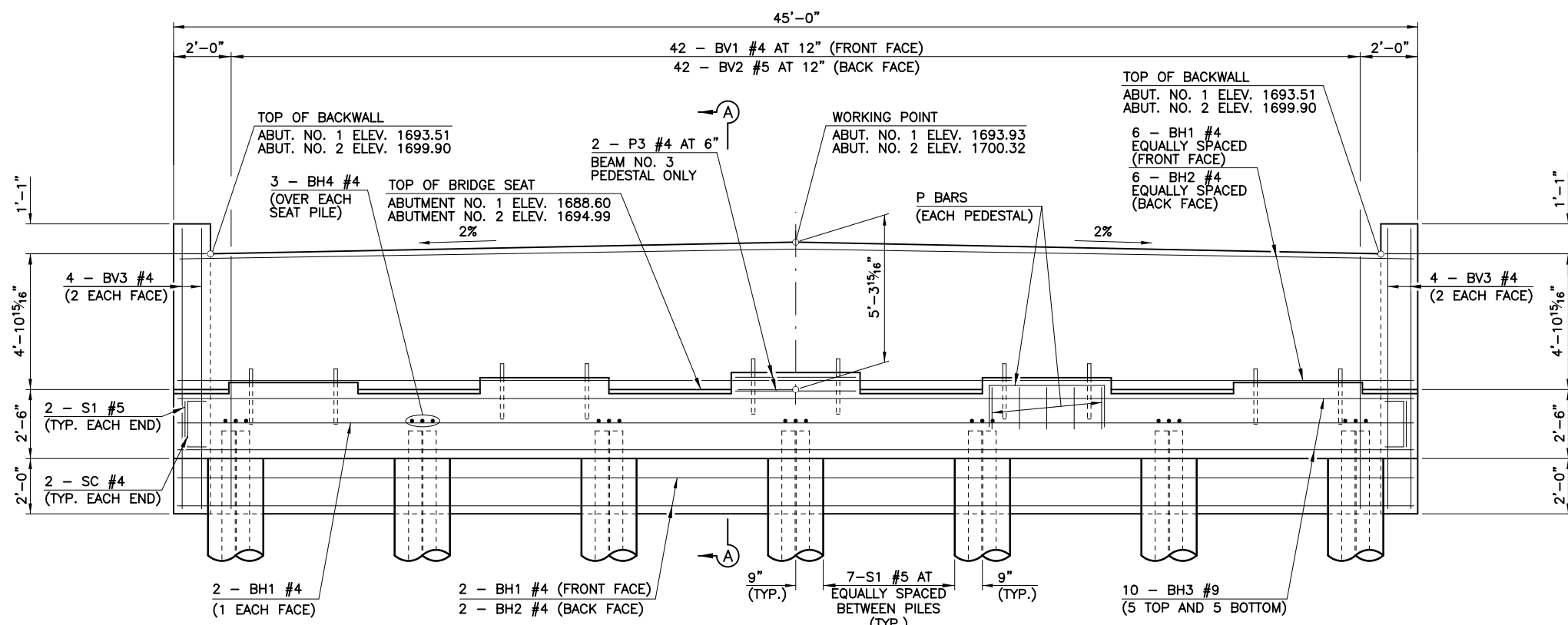
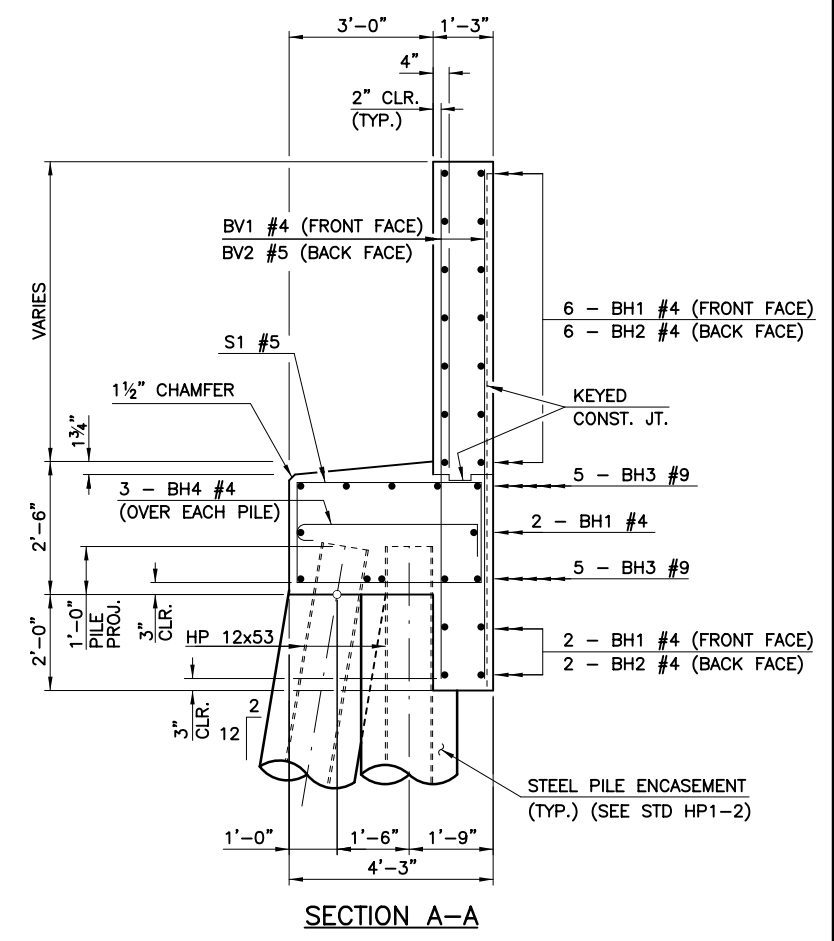


**PEDESTAL HEIGHTS (ABUT. NO. 1)**

BEAM NO.	HEIGHT
1	3"
2	5¾"
3	7¾"
4	5¾"
5	3"

**PEDESTAL HEIGHTS (ABUT. NO. 2)**

BEAM NO.	HEIGHT
1	3"
2	5¾"
3	7¾"
4	5¾"
5	3"



**ELEVATION**

DESIGN: CPY 2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN: CPY 2016		
CHECKED: CPY 2016		
APPRVD: CPY 2016		

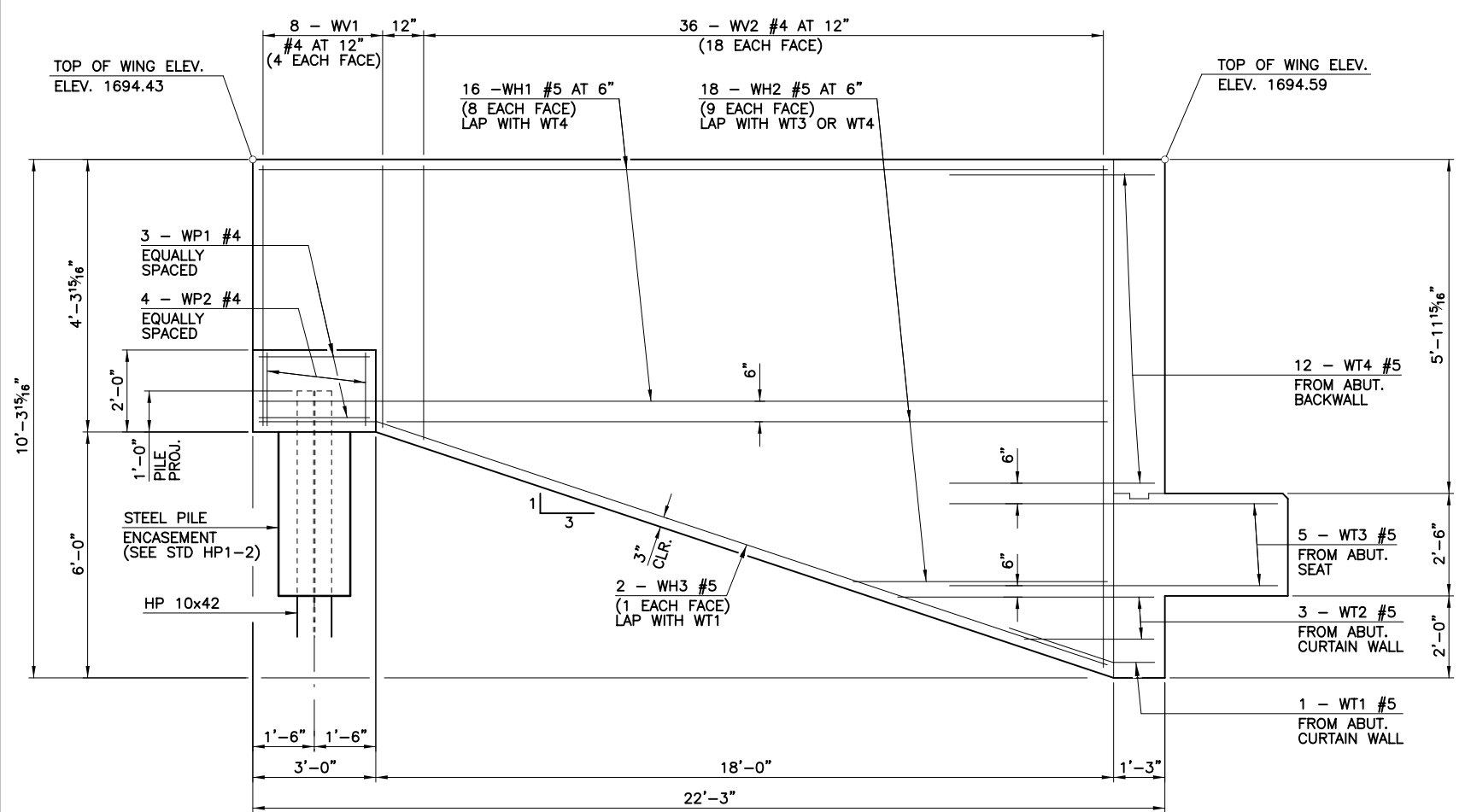
**ABUTMENT DETAILS**

STATE JOB PIECE NO: 26999(04)

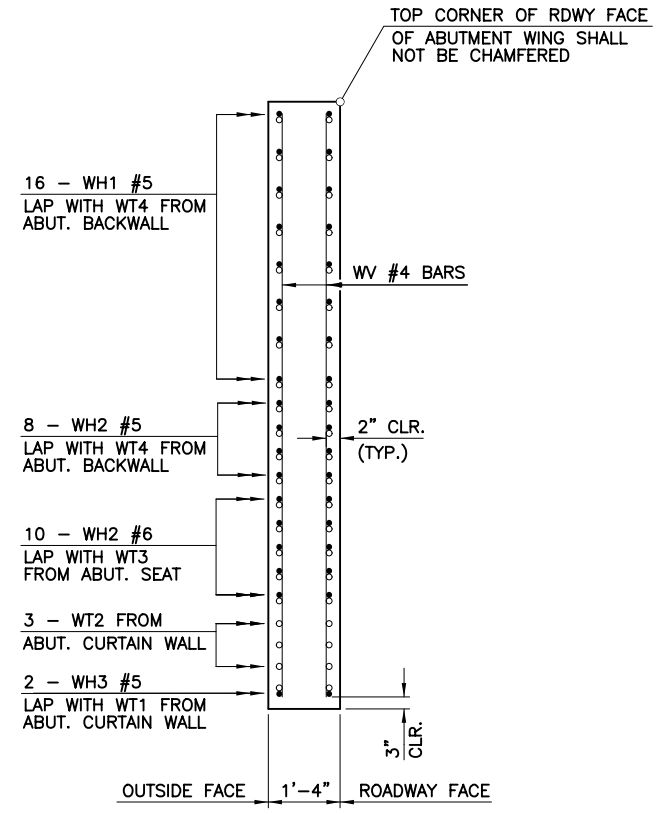
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SHEET NO. B036

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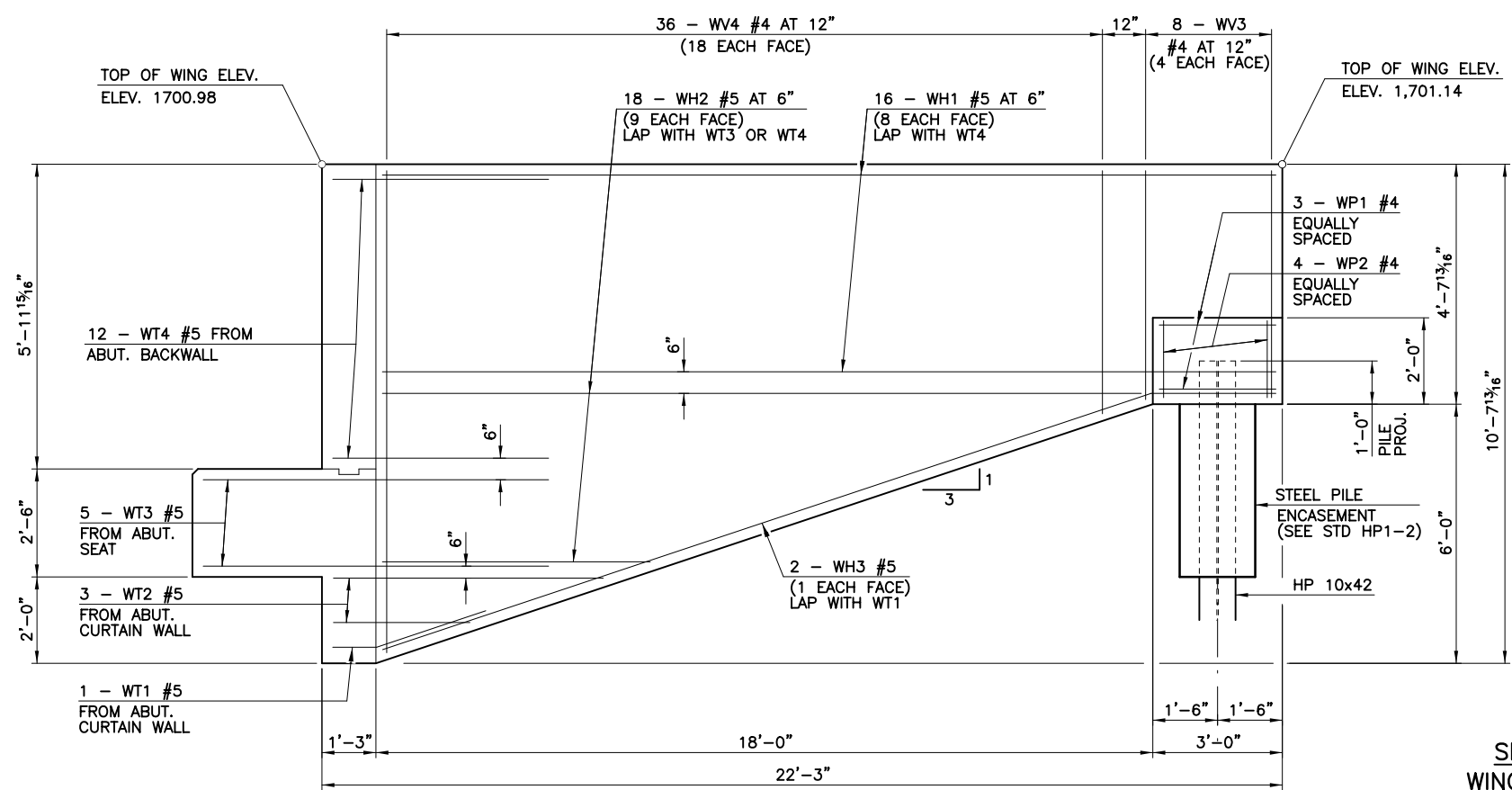
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	B037	173



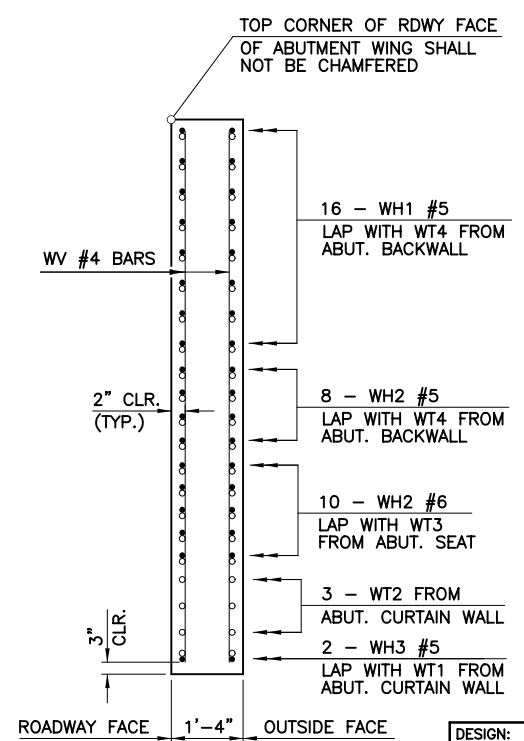
ABUT NO. 1 WING ELEVATION



SECTION THROUGH ABUTMENT NO. 1 WING AT BACK FACE OF ABUTMENT SEAT



ABUT NO. 2 WING ELEVATION



SECTION THROUGH ABUTMENT NO. 2 WING AT BACK FACE OF ABUTMENT SEAT

DESIGN:	CPY	2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN:	CPY	2016		
CHECKED:	CPY	2016		
APPRVD:	CPY	2016		
<b>CP&amp;Y</b>			ABUTMENT DETAILS	
			STATE JOB PIECE NO: 26999(04)	
			SHEET 2 OF 3 SHEET NO. B037	

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### ABUTMENT NO. 1 BAR LIST

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
BH1	#4	10	STR	44'-8"	
BH2	#4	8	BNT	46'-0"	
BH3	#9	10	STR	44'-8"	
BH4	#4	21	BNT	5'-1"	
BV1	#4	42	STR	9'-2½" AVG.	9'-0" TO 9'-5"
BV2	#5	42	STR	9'-2½" AVG.	9'-0" TO 9'-5"
BV3	#4	8	STR	10'-0"	
P1	#4	30	BNT	6'-2"	
P2	#4	20	BNT	7'-10"	
P3	#4	2	BNT	14'-9"	
S1	#5	46	BNT	12'-11"	
SC	#4	4	BNT	3'-3"	

### ABUTMENT WINGWALL BAR LIST (ONE SHOWN, TWO REQUIRED)

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
WH1	#5	16	STR	20'-8"	
WH2	#5	18	STR	11'-10" AVG.	5'-9" TO 17'-11"
WH3	#5	2	BNT	21'-8"	
WP1	#4	3	BNT	8'-8"	
WP2	#4	4	STR	1'-7"	
WT1	#5	1	BNT	8'-6"	
WT2	#5	3	BNT	9'-0" AVG.	6'-0" TO 12'-0"
WT3	#5	5	BNT	17'-0"	
WT4	#5	12	BNT	11'-0"	
WV1	#4	8	STR	3'-11"	
WV2	#4	36	STR	7'-1" AVG.	4'-2" TO 10'-0"

① 2 SETS OF 9 BARS      ② 2 SETS OF 18 BARS

### ABUTMENT NO. 2 BAR LIST

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
BH1	#4	10	STR	44'-8"	
BH2	#4	8	BNT	46'-0"	
BH3	#9	10	STR	44'-8"	
BH4	#4	21	BNT	5'-1"	
BV1	#4	42	STR	9'-2½" AVG.	9'-0" TO 9'-5"
BV2	#5	42	STR	9'-2½" AVG.	9'-0" TO 9'-5"
BV3	#4	8	STR	10'-0"	
P1	#4	30	BNT	6'-2"	
P2	#4	20	BNT	7'-10"	
P3	#4	2	BNT	14'-9"	
S1	#5	46	BNT	12'-11"	
SC	#4	4	BNT	3'-3"	

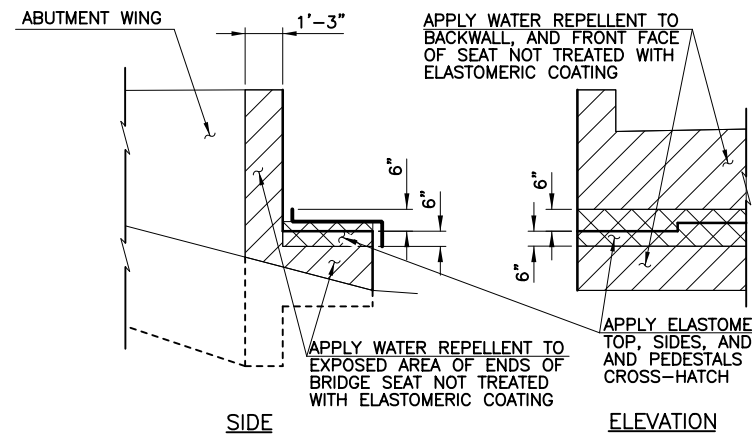
### ABUTMENT WINGWALL BAR LIST (ONE SHOWN, TWO REQUIRED)

EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
WH1	#5	16	STR	20'-8"	
WH2	#5	18	STR	11'-10" AVG.	5'-9" TO 17'-11"
WH3	#5	2	BNT	21'-8"	
WP1	#4	3	BNT	8'-8"	
WP2	#4	4	STR	1'-7"	
WT1	#5	1	BNT	8'-6"	
WT2	#5	3	BNT	9'-0" AVG.	6'-0" TO 12'-0"
WT3	#5	5	BNT	17'-0"	
WT4	#5	12	BNT	11'-0"	
WV3	#4	8	STR	4'-2"	
WV4	#4	36	STR	7'-2½" AVG.	4'-5" TO 10'-0"

②

### SUMMARY OF ABUTMENT QUANTITIES

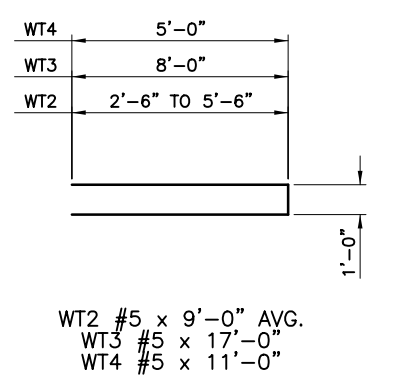
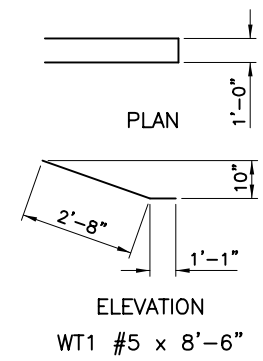
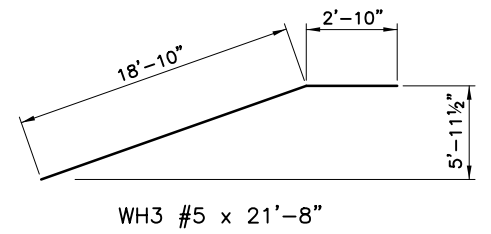
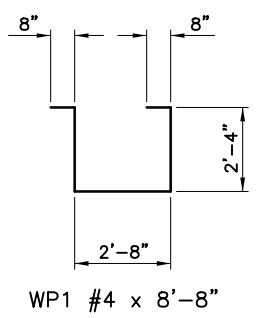
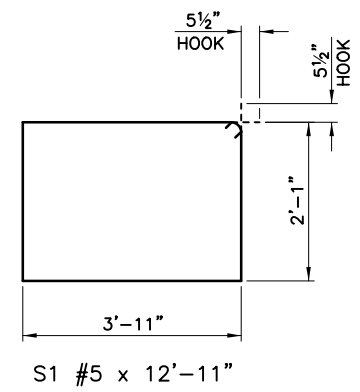
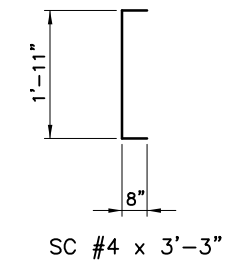
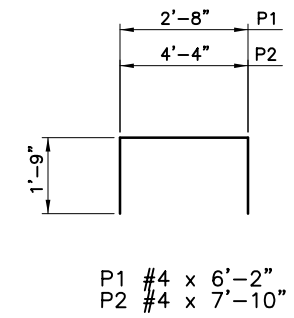
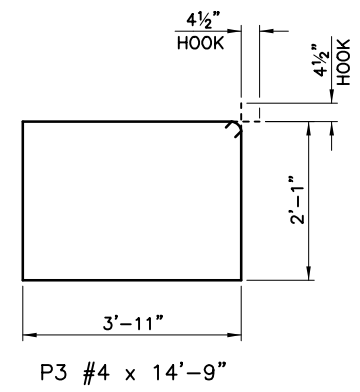
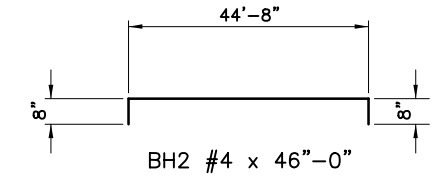
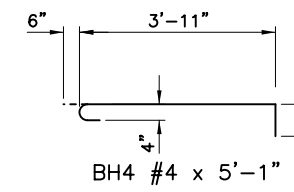
DESCRIPTION	UNIT	ABUT NO. 1	ABUT NO. 2	TOTAL
UNCLASSIFIED EXCAVATION	CY	1,870.00		1,870.00
UNCLASSIFIED BORROW	CY	220.00		220.00
SUBSTRUCTURE EXCAVATION COMMON	CY	90.00	90.00	180.00
CLSM BACKFILL	CY	105.60	105.50	211.10
ELASTOMERIC COATING	SF	215.00	215.00	430.00
CLASS A CONCRETE	CY	48.60	49.00	97.60
EPOXY COATED REINFORCING STEEL	LB	6,470.00	6,480.00	12,950.00
PILES, FURNISHED (HP10x42)	LF	102.00	56.00	158.00
PILES, FURNISHED (HP12x53)	LF	329.00	168.00	497.00
PILES, DRIVEN (HP10x42)	LF	102.00	56.00	158.00
PILES, DRIVEN (HP12x53)	LF	329.00	168.00	497.00
WATER REPELLENT (VISUALLY INSPECTED)	SY	30.00	30.00	60.00
TYPE I-A PLAIN RIPRAP	TON	2,210.00	800.00	3,010.00
TYPE I-A FILTER BLANKET	TON	110.00	125.00	235.00
6" PERF PIPE UNDERDRAIN RND	LF	42.00	42.00	84.00
6" NON-PERF PIPE UNDERDRAIN RND	LF	36.00	36.00	72.00



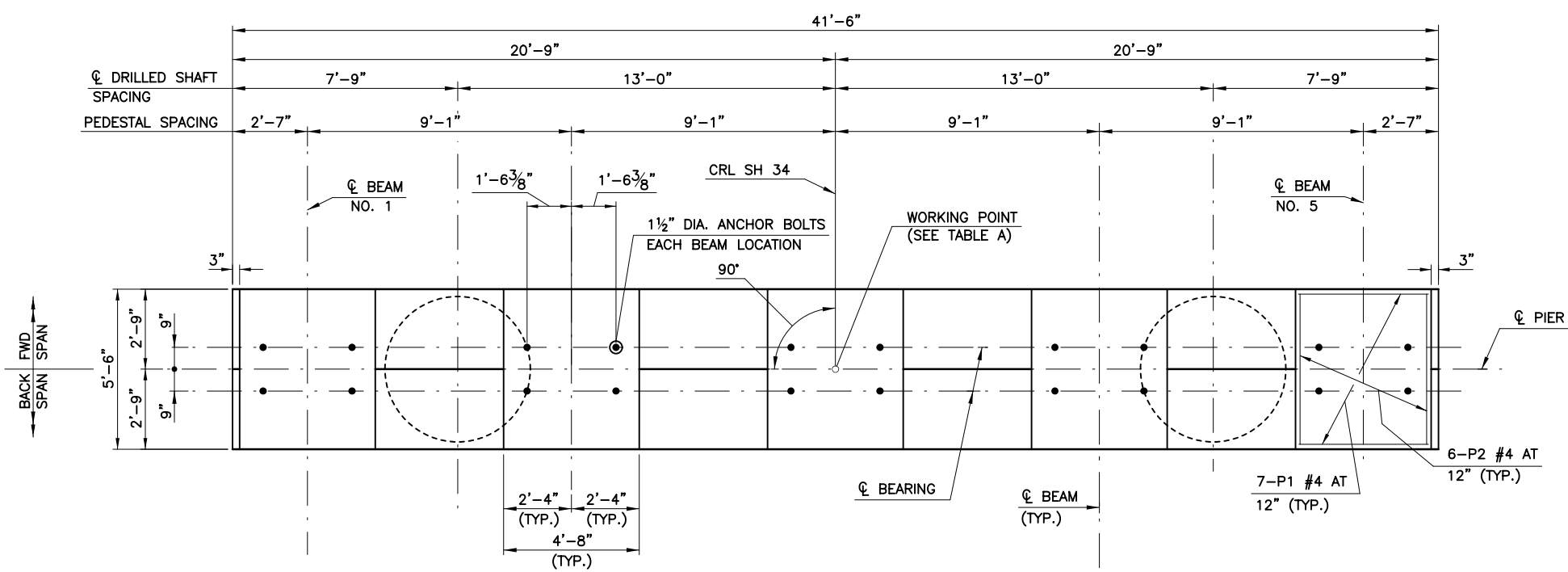
### ELASTOMERIC COATING AND WATER REPELLENT DETAILS

⊠ ELASTOMERIC COATING

▨ WATER REPELLENT



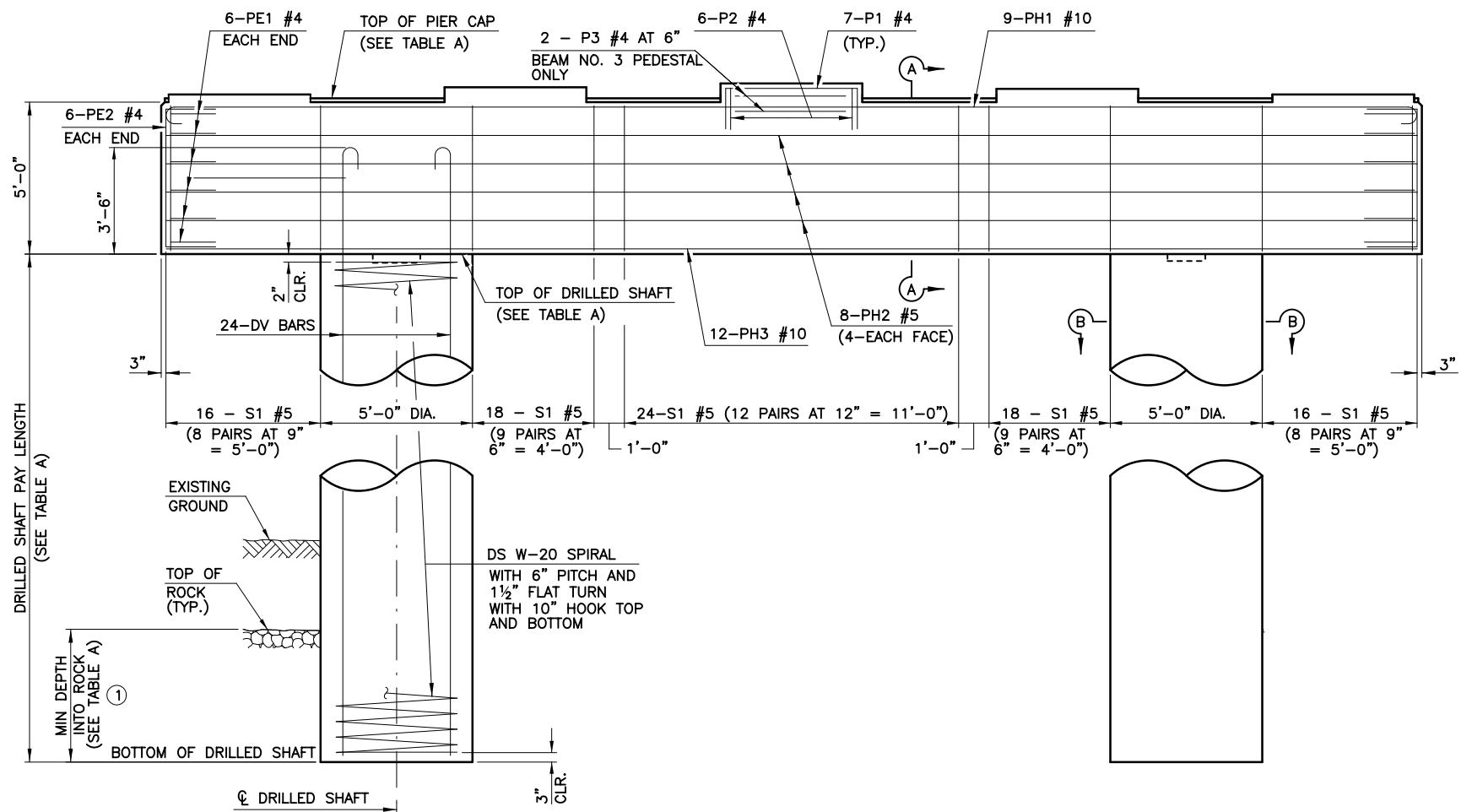
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BEAM NO.	HEIGHT
1	3"
2	5 3/16"
3	7 3/8"
4	5 3/16"
5	3"

LOCATION	WORKING POINT STATION	TOP OF PIER CAP ELEVATION	TOP OF DS ELEVATION	BOTTOM OF DS ELEVATION	DRILLED SHAFT LENGTH	MINIMUM DEPTH INTO ROCK
PIER NO. 1	139+56.71	1,689.30	1,684.30	1,632.30	52'-0"	18'-0"
PIER NO. 2	140+56.71	1,690.01	1,685.01	1,631.01	54'-0"	18'-0"
PIER NO. 3	141+56.71	1,690.72	1,685.72	1,625.72	60'-0"	18'-0"
PIER NO. 4	142+56.71	1,691.43	1,686.43	1,624.43	62'-0"	18'-0"
PIER NO. 5	143+56.71	1,692.14	1,687.14	1,631.14	56'-0"	18'-0"
PIER NO. 6	144+56.71	1,692.85	1,687.85	1,637.85	50'-0"	18'-0"

PLAN

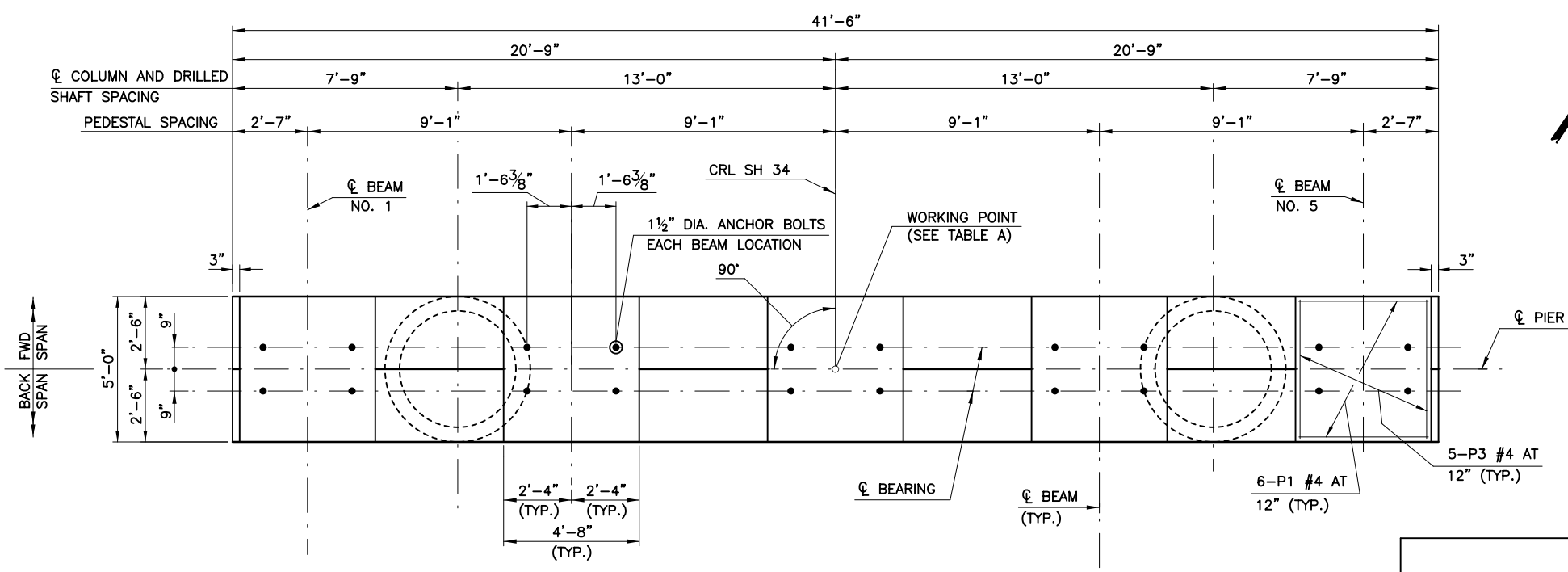


ELEVATION

① DRILLED SHAFT SHALL BE INSTALLED THE SPECIFIED MINIMUM DISTANCE INTO ROCK AND IN NO CASE SHALL BE HIGHER THAN THE BOTTOM DRILLED SHAFT ELEVATION SHOWN ON THE PLANS.

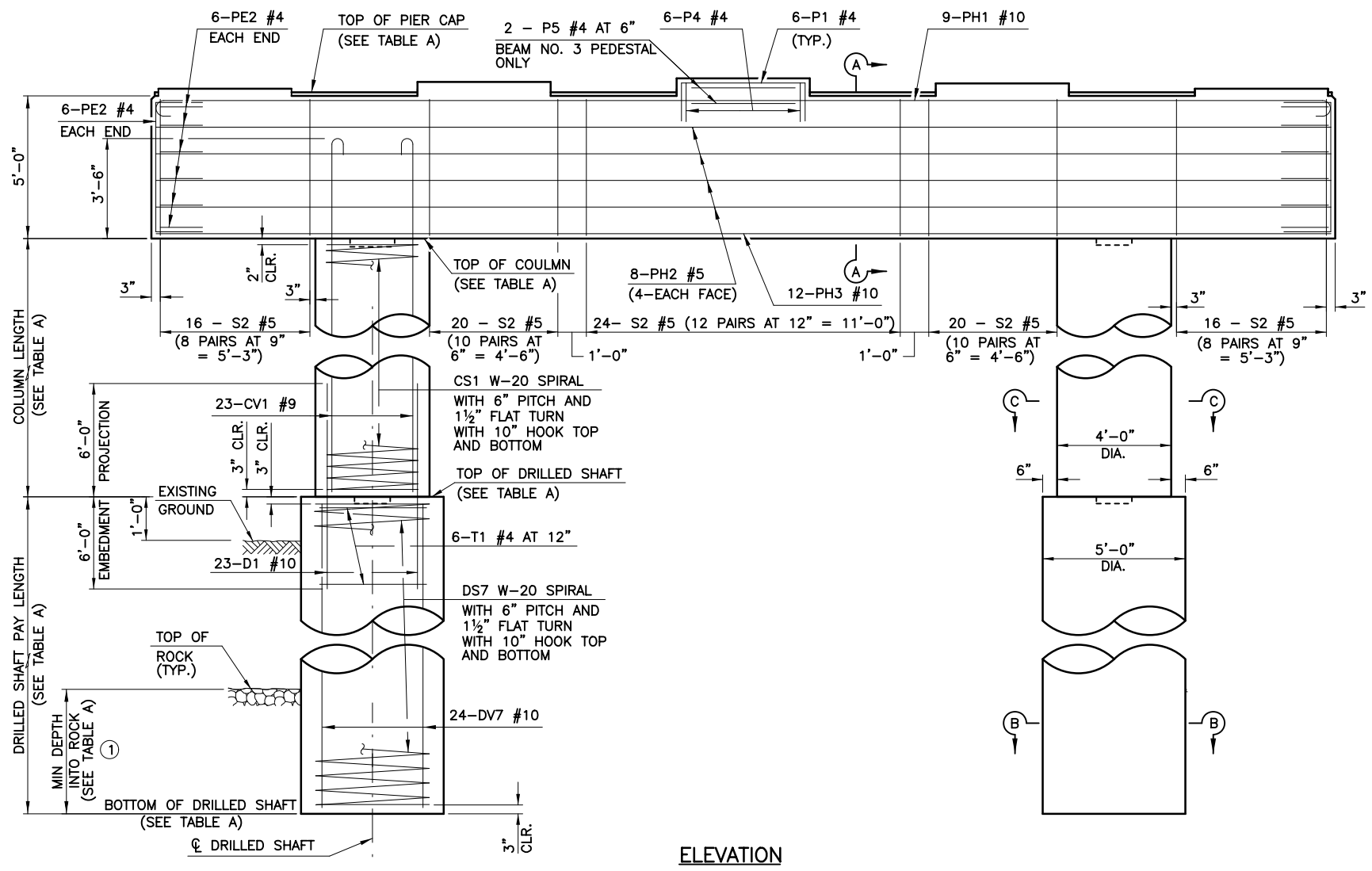
DESIGN: CPY 2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN: CPY 2016	PIER DETAILS (PIERS NO. 1 THROUGH NO. 6)	
CHECKED: CPY 2016		
APPRVD: CPY 2016		
STATE JOB PIECE NO: 26999(04)		SHEET 1 OF 5 SHEET NO. B039

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BEAM NO.	HEIGHT
1	3"
2	5 <sup>3</sup> / <sub>16</sub> "
3	7 <sup>3</sup> / <sub>8</sub> "
4	5 <sup>3</sup> / <sub>16</sub> "
5	3"

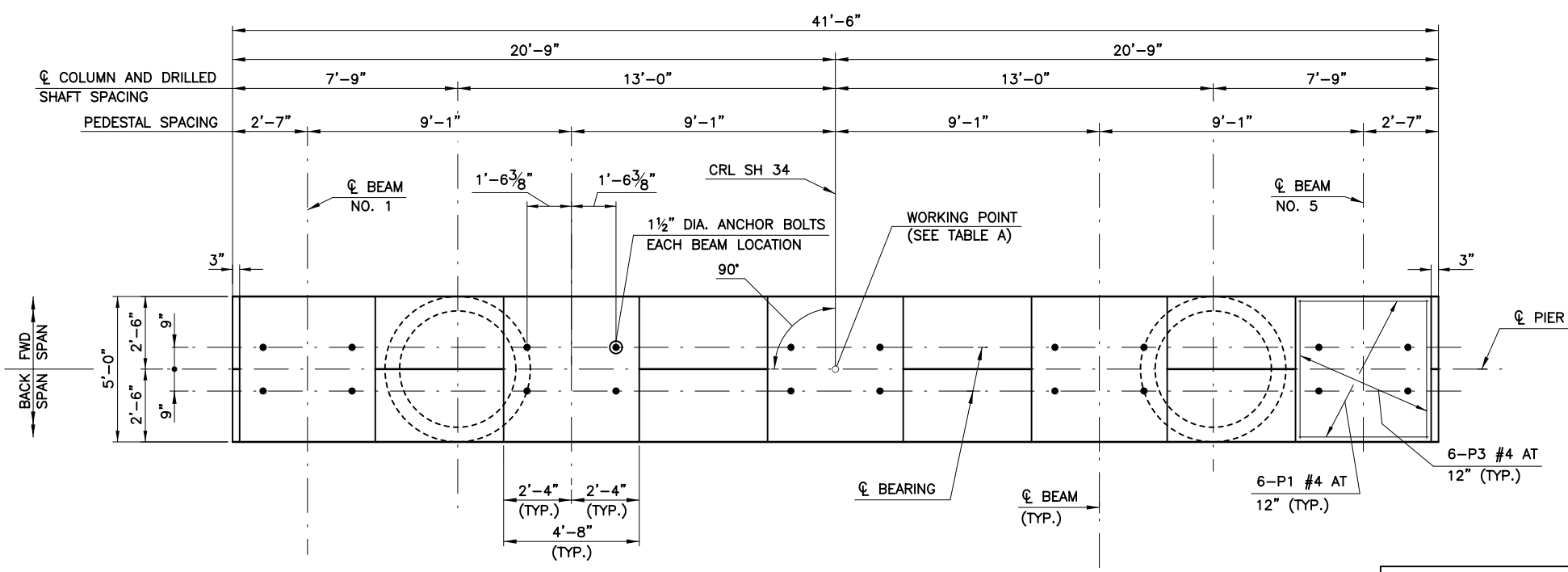
LOCATION	WORKING POINT STATION	TOP OF PIER CAP ELEVATION	TOP OF COL. ELEVATION	COLUMN LENGTH	TOP OF DS ELEVATION	BOTTOM OF DS ELEVATION	DRILLED SHAFT LENGTH	MINIMUM DEPTH INTO ROCK
PIER NO. 7	145+56.71	1,693.56	1,688.56	13'-0"	1,675.56	1,638.56	37'-0"	18'-0"



① DRILLED SHAFT SHALL BE INSTALLED THE SPECIFIED MINIMUM DISTANCE INTO ROCK AND IN NO CASE SHALL BE HIGHER THAN THE BOTTOM DRILLED SHAFT ELEVATION SHOWN ON THE PLANS.

DESIGN: CPY 2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN: CPY 2016	PIER DETAILS (PIERS NO. 7)	
CHECKED: CPY 2016		
APPRVD: CPY 2016		
STATE JOB PIECE NO: 26999(04)		SHEET 2 OF 5 SHEET NO. B040

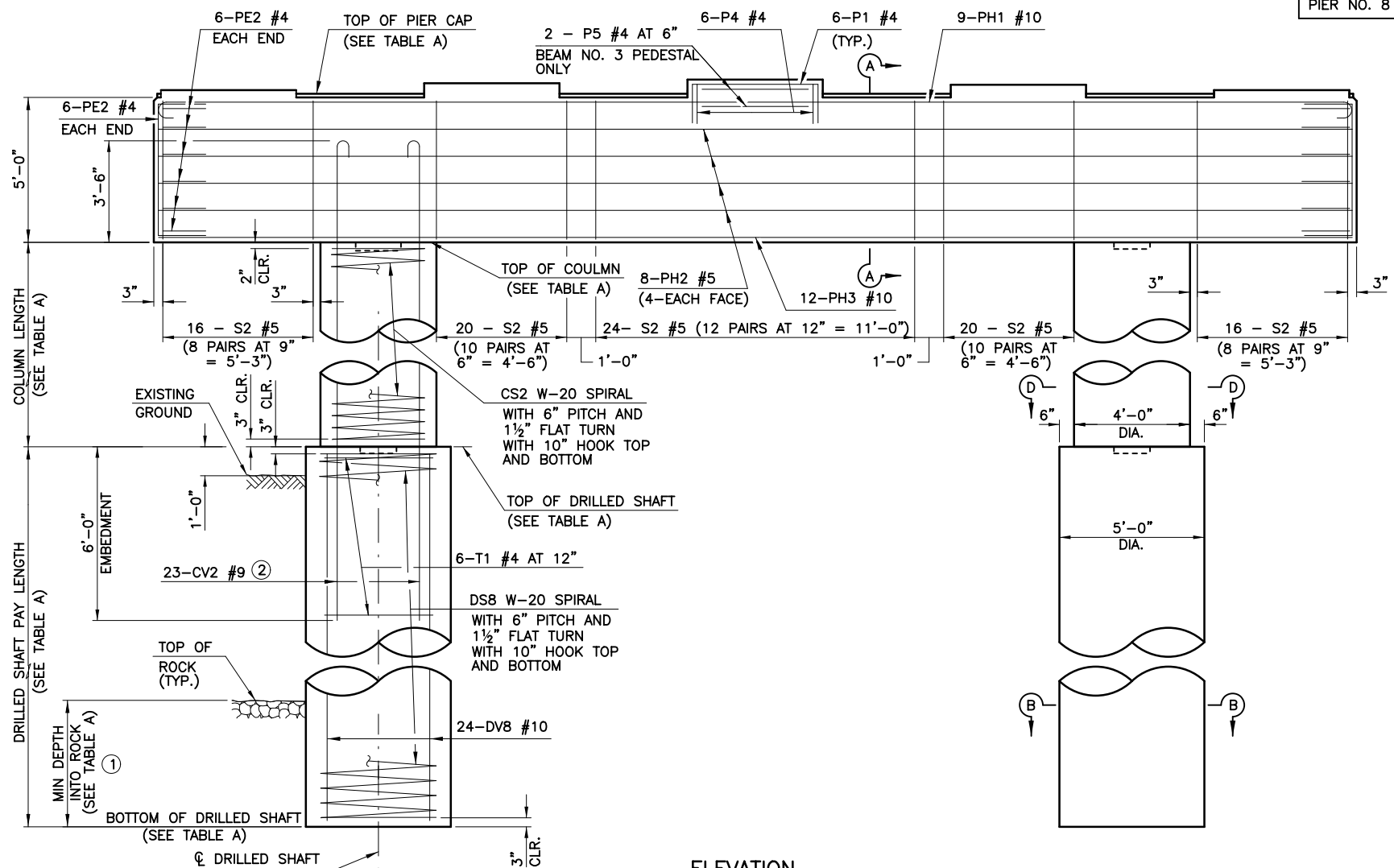
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BEAM NO.	HEIGHT
1	3"
2	5 <sup>5</sup> / <sub>16</sub> "
3	7 <sup>3</sup> / <sub>8</sub> "
4	5 <sup>5</sup> / <sub>16</sub> "
5	3"

PLAN

LOCATION	WORKING POINT STATION	TOP OF PIER CAP ELEVATION	TOP OF COL. ELEVATION	COLUMN LENGTH	TOP OF DS ELEVATION	BOTTOM OF DS ELEVATION	DRILLED SHAFT LENGTH	MINIMUM DEPTH INTO ROCK
PIER NO. 8	146+56.71	1,694.27	1,689.27	5'-0"	1,684.27	1,650.27	34'-0"	18'-0"



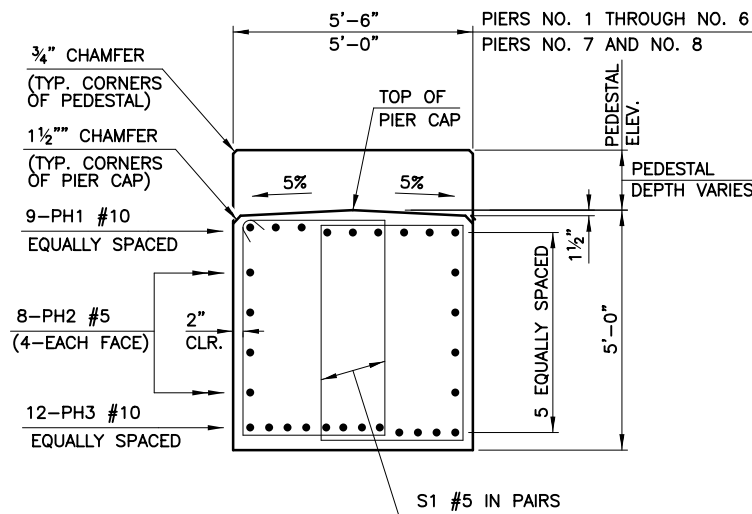
ELEVATION

- DRILLED SHAFT SHALL BE INSTALLED THE SPECIFIED MINIMUM DISTANCE INTO ROCK AND IN NO CASE SHALL BE HIGHER THAN THE BOTTOM DRILLED SHAFT ELEVATION SHOWN ON THE PLANS.
- EMBED CV2 BARS 6'-0" INTO DRILLED SHAFTS BEFORE POURING CONCRETE FOR DRILLED SHAFTS.

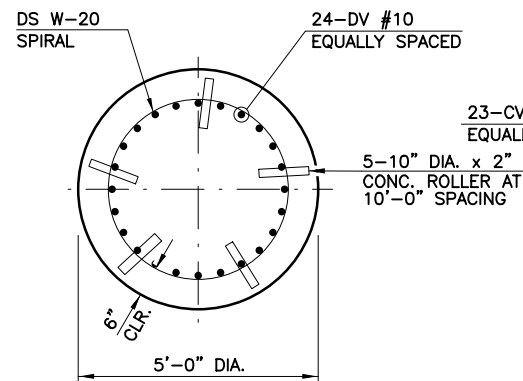
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DRAWN: CPY 2016	PIER DETAILS (PIERS NO. 8)	
CHECKED: CPY 2016		
APPRVD: CPY 2016		
STATE JOB PIECE NO: 26999(04)		SHEET 3 OF 5 SHEET NO. B041

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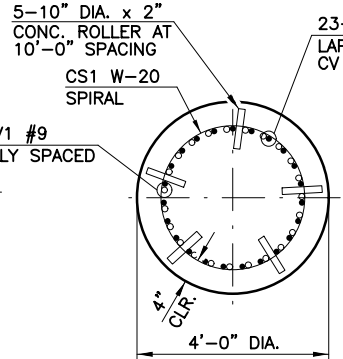




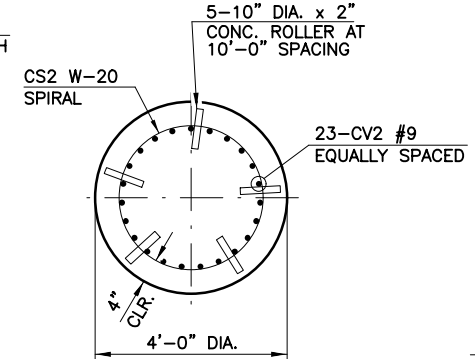
SECTION A-A



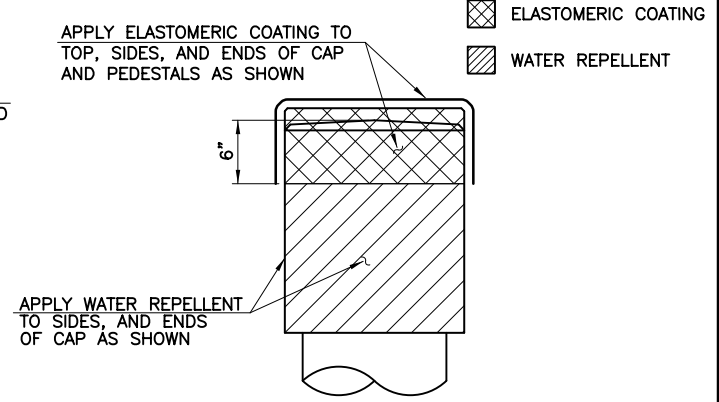
SECTION B-B



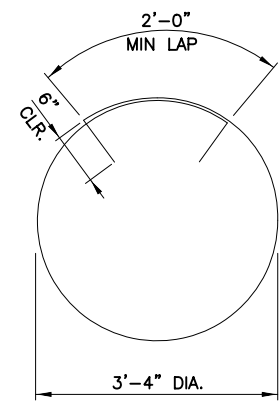
SECTION C-C



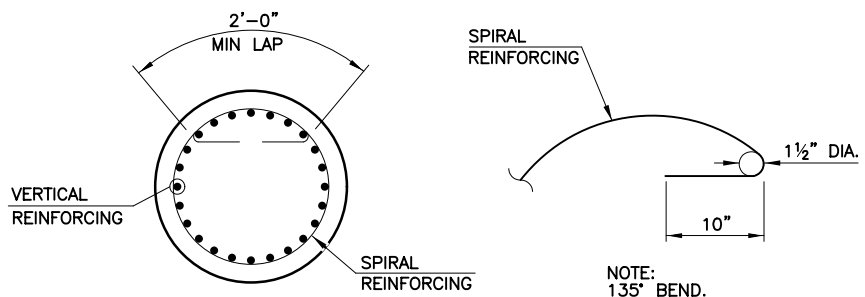
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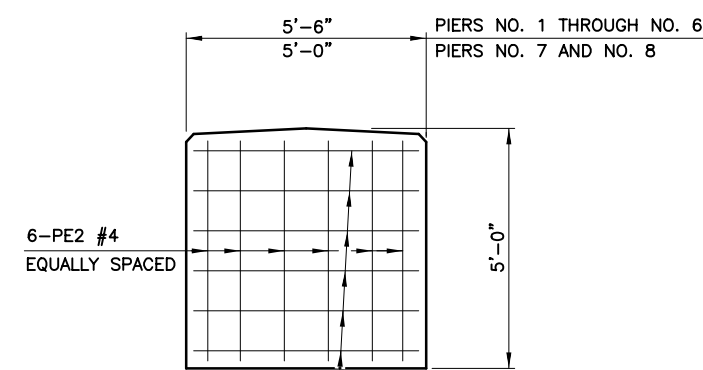
ELASTOMERIC COATING AND WATER REPELLENT DETAIL



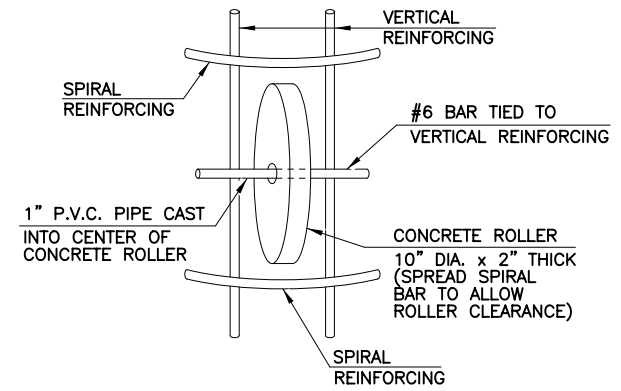
T1 #4 x 13'-6"



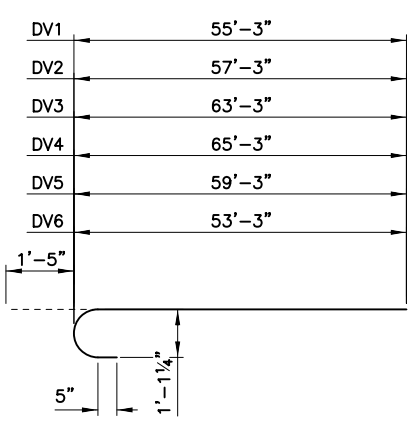
SPIRAL REINFORCING SPLICE DETAIL



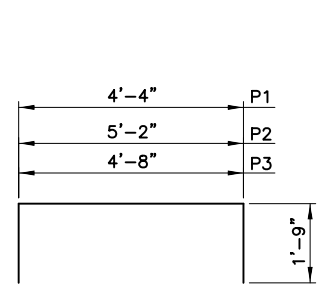
END VIEW



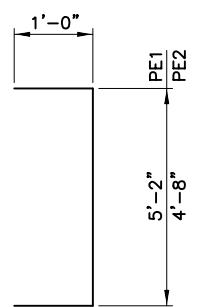
DRILLED SHAFT ROLLER DETAIL



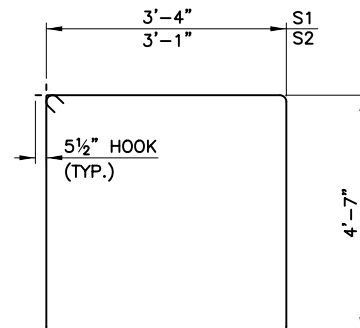
- DV1 #10 x 56'-8" (PIER NO. 1)
- DV2 #10 x 58'-8" (PIER NO. 2)
- DV3 #10 x 64'-8" (PIER NO. 3)
- DV4 #10 x 66'-8" (PIER NO. 4)
- DV5 #10 x 60'-8" (PIER NO. 5)
- DV6 #10 x 54'-8" (PIER NO. 6)



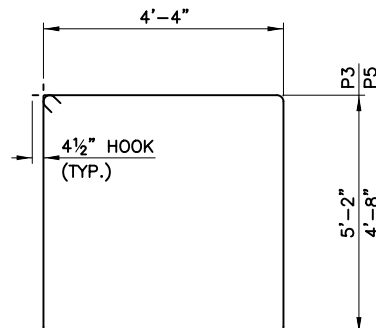
- P1 #4 x 7'-10"
- P2 #4 x 8'-8"
- P4 #4 x 8'-2"



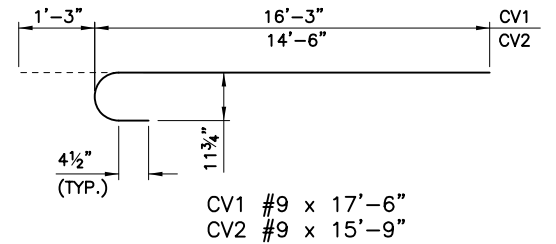
- PE1 #4 x 7'-2"
- PE2 #4 x 6'-8"



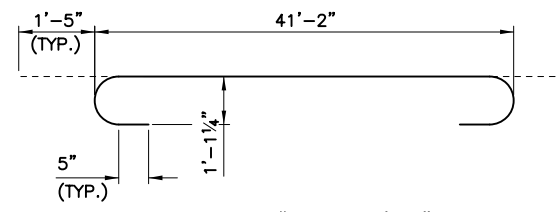
- S1 #5 x 16'-9"
- S2 #5 x 16'-3"



- P3 #4 x 19'-9"
- P5 #4 x 18'-9"



- CV1 #9 x 17'-6"
- CV2 #9 x 15'-9"



- PH1 #10 x 44'-0"

DESIGN: CPY 2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN: CPY 2016	PIER DETAILS	
CHECKED: CPY 2016		
APPRVD: CPY 2016		
STATE JOB PIECE NO: 26999(04)		SHEET 4 OF 5 SHEET NO. B042

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PIER CAP BAR LIST (PIER NO. 1 THROUGH NO. 6)					
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
PH1	#10	9	BNT	44'-0"	
PH2	#5	8	STR	41'-2"	
PH3	#10	12	STR	41'-2"	
P1	#4	35	BNT	7'-10"	
P2	#4	30	BNT	8'-8"	
P3	#4	2	BNT	19'-9"	
PE1	#4	12	BNT	7'-2"	
PE2	#4	12	BNT	6'-8"	
S1	#5	92	BNT	16'-9"	

DRILLED SHAFT BAR LIST – PIER NO. 1 (ONE DRILLED SHAFT SHOWN, TWO REQUIRED)					
PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS1	W20	1	BNT	1336'-9"	
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DV1	#10	24	BNT	56'-8"	

DRILLED SHAFT BAR LIST – PIER NO. 5 (ONE DRILLED SHAFT SHOWN, TWO REQUIRED)					
PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS5	W20	1	BNT	1437'-4"	
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DV5	#10	24	BNT	60'-8"	

PIER CAP BAR LIST (PIER NO. 7)					
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
CV1	#9	46	BNT.	17'-6"	
PH1	#10	9	BNT	44'-0"	
PH2	#5	8	STR	41'-2"	
PH3	#10	12	STR	41'-2"	
P1	#4	30	BNT	7'-10"	
P4	#4	30	BNT	8'-2"	
P5	#4	2	BNT	18'-9"	
PE2	#4	24	BNT	6'-8"	
S2	#5	96	BNT	16'-3"	
PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
CS1	W20	2	BNT	297'-10"	

DRILLED SHAFT BAR LIST – PIER NO. 2 (ONE DRILLED SHAFT SHOWN, TWO REQUIRED)					
PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS2	W20	1	BNT	1387'-1"	
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DV2	#10	24	BNT	58'-8"	

DRILLED SHAFT BAR LIST – PIER NO. 6 (ONE DRILLED SHAFT SHOWN, TWO REQUIRED)					
PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS6	W20	1	BNT	1286'-6"	
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DV6	#10	24	BNT	54'-8"	

DRILLED SHAFT BAR LIST – PIER NO. 3 (ONE DRILLED SHAFT SHOWN, TWO REQUIRED)					
PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS3	W20	1	BNT	1538'-0"	
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DV3	#10	24	BNT	64'-8"	

DRILLED SHAFT BAR LIST – PIER NO. 7 (ONE DRILLED SHAFT SHOWN, TWO REQUIRED)					
PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS7	W20	1	BNT	957'-6"	
T1	#4	6	BNT	13'-6"	
D1	#10	23	STR	12'-0"	
DV7	#10	24	STR	36'-6"	

PIER CAP BAR LIST (PIER NO. 8)					
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
CV2	#9	46	BNT	15'-9"	
PH1	#10	9	BNT	44'-0"	
PH2	#5	8	STR	41'-2"	
PH3	#10	12	STR	41'-2"	
P1	#4	30	BNT	7'-10"	
P4	#4	30	BNT	8'-2"	
P5	#4	2	BNT	18'-9"	
PE2	#4	24	BNT	6'-8"	
S2	#5	96	BNT	16'-3"	
PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
CS2	W20	2	BNT	128'-5"	

DRILLED SHAFT BAR LIST – PIER NO. 4 (ONE DRILLED SHAFT SHOWN, TWO REQUIRED)					
PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS4	W20	1	BNT	1588'-3"	
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DV4	#10	24	BNT	66'-8"	

DRILLED SHAFT BAR LIST – PIER NO. 8 (ONE DRILLED SHAFT SHOWN, TWO REQUIRED)					
PLAIN REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
DS8	W20	1	BNT	882'-0"	
T1	#4	6	BNT	13'-6"	
DV8	#10	24	STR	33'-6"	

- ① LENGTH SHOWN DOES NOT ACCOUNT FOR SPLICES. CONTRACTOR MAY ADD SPLICES AS NECESSARY, BUT PAYMENT WILL NOT BE MADE FOR EXTRA LENGTH REQUIRED FOR SPLICES.
- ② INCLUDED IN CONTRACT UNIT PRICE OF DRILLED SHAFT.
- ③ PLACE CV2 BARS WITH 6'-0" EMBEDMENT INTO DRILLED SHAFT BEFORE POURING CONCRETE FOR THE DRILLED SHAFT.
- ④ ONE 6'-0" LAP IS REQUIRED. BAR SHALL BE INCLUDED IN THE UNIT PRICE OF DRILLED SHAFT.

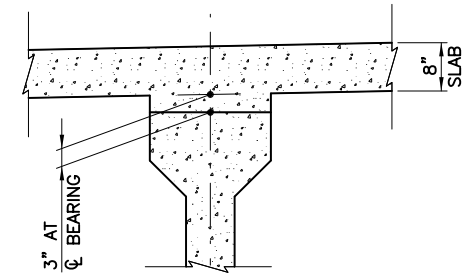
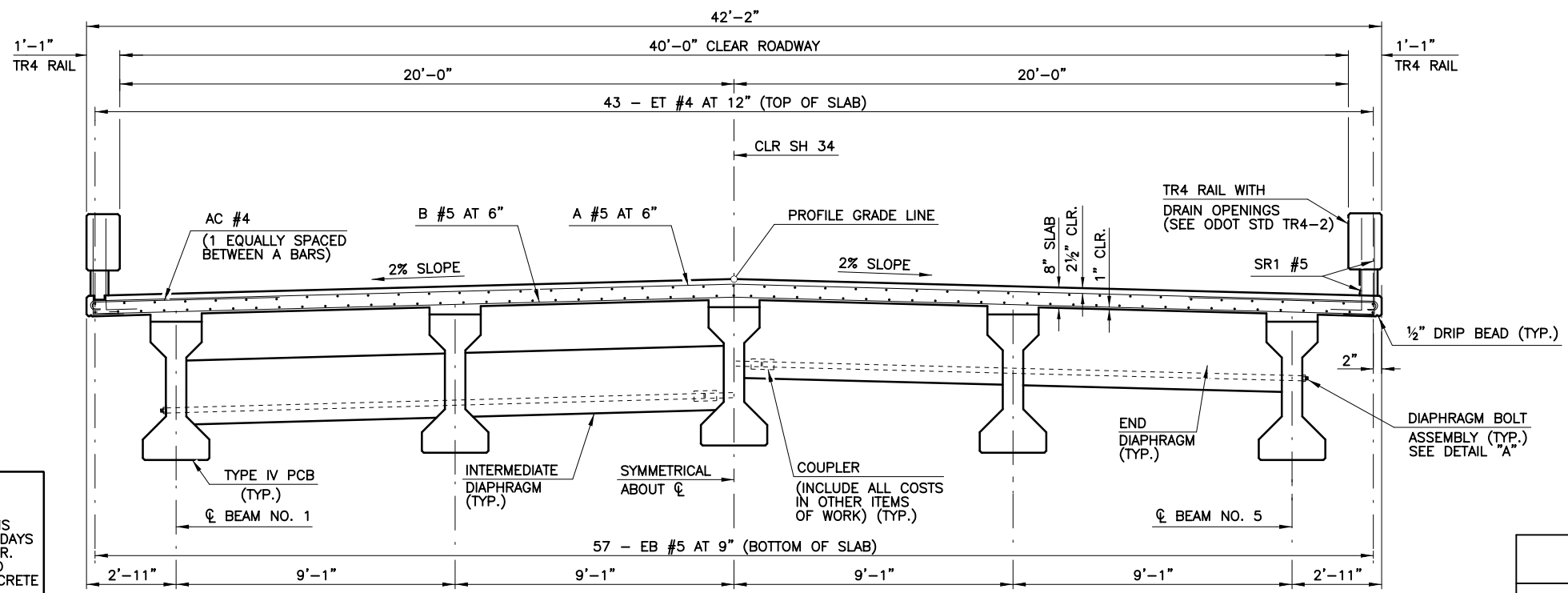
SUMMARY OF PIER QUANTITIES										
DESCRIPTION	UNIT	PIER NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	PIER NO. 6	PIER NO. 7	PIER NO. 8	TOTAL
CLASS A CONCRETE	CY	44.20	44.20	44.20	44.20	44.20	44.20	52.30	44.80	362.30
REINFORCING STEEL	LB							400.00	180.00	580.00
EPOXY COATED REINFORCING STEEL	LB	6,280.00	6,280.00	6,280.00	6,280.00	6,280.00	6,280.00	8,990.00	8,720.00	55,390.00
WATER REPELLENT (VISUALLY INSPECTED)	SY	48.00	48.00	48.00	48.00	48.00	48.00	46.00	46.00	380.00
DRILLED SHAFTS 60" DIAMETER	LF	104.00	108.00	120.00	124.00	112.00	100.00	74.00	68.00	810.00
CROSSHOLE SONIC LOGGING	EA									4.00
ELASTOMERIC COATING	SF	327.00	327.00	327.00	327.00	327.00	327.00	302.00	302.00	2,566.00

DESIGN: CPY 2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN: CPY 2016		
CHECKED: CPY 2016		
APPRVD: CPY 2016		

PIER DETAILS

STATE JOB PIECE NO: 26999(04) SHEET 5 OF 5  
SHEET NO. B043

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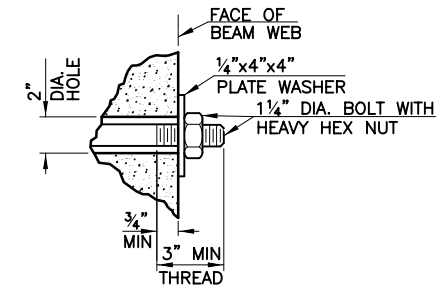
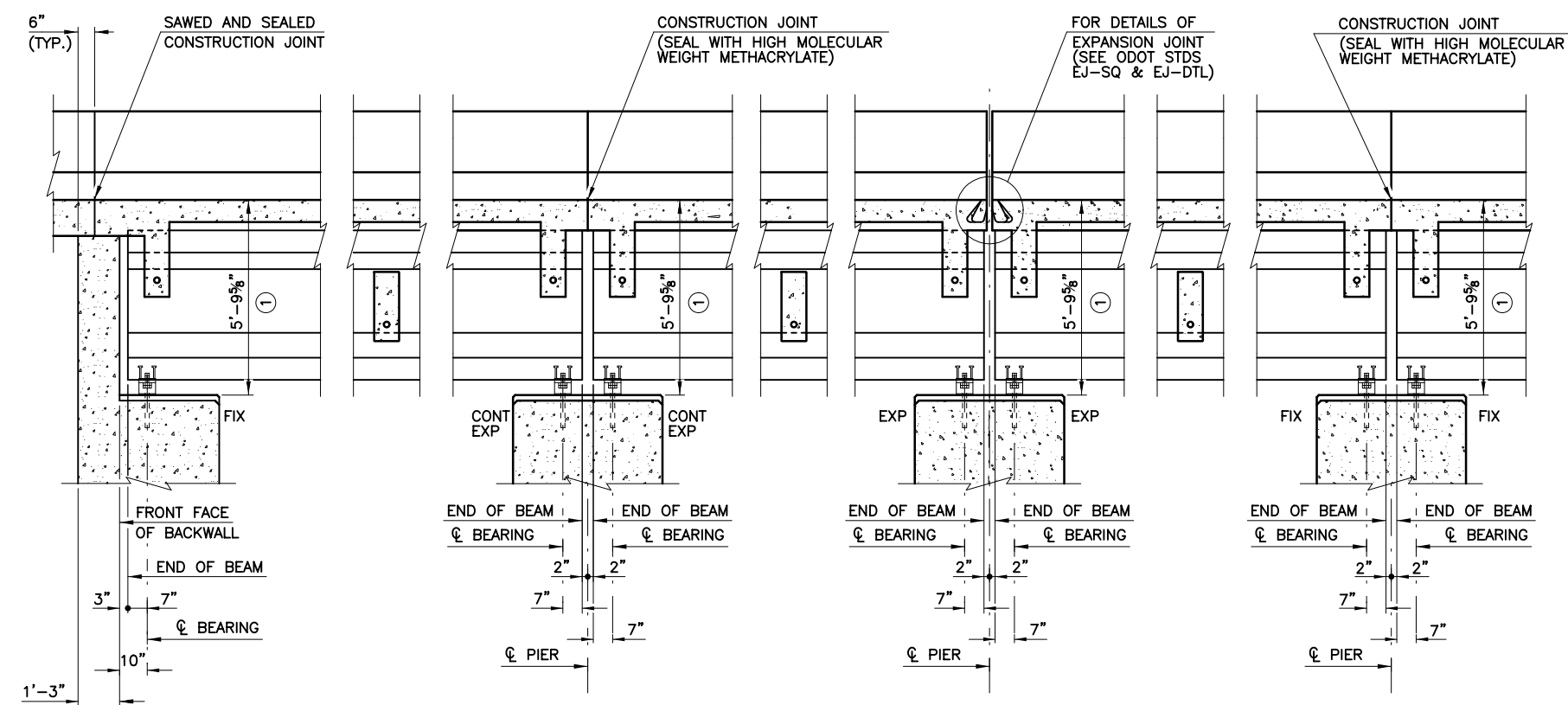
**BEAM HAUNCH DETAIL**

PLAN QUANTITIES FOR "CLASS AA CONCRETE" INCLUDE HAUNCHES OVER BEAMS. HAUNCH HEIGHT SHOWN IS AT CENTERLINE OF BEARING ONLY, MEASURED FROM BOTTOM OF DECK SLAB TO TOP OF BEAM, AND VARIES ACROSS THE SPAN. HAUNCH HEIGHT TO BE DETERMINED AFTER ERECTION OF BEAMS TO PROVIDE FOR DEAD LOAD DEFLECTION AND GRADE ADJUSTMENT, BUT THE PAY QUANTITY WILL BE AS SHOWN IN THE PLANS.

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 A MINIMUM OF 10 DAYS OR AT THE DISCRETION OF THE ENGINEER. THE ENGINEER MAY APPROVE SHORTENED TIME IF THE BEAM AND DIAPHRAGM CONCRETE HAS ATTAINED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH.

SUPERSTRUCTURE QUANTITIES		
DESCRIPTION	UNIT	TOTAL
PRESTRESSED CONCRETE BEAMS (TYPE IV)	LF	4,485.00
SAW-CUT GROOVING	SY	4,007.00
SEALED EXPANSION JOINT	LF	129.50
CONCRETE RAIL (TR4)	LF	1,803.40
STRUCTURAL STEEL	LB	7,710.00
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA	30.00
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA	60.00
CLASS AA CONCRETE	CY	1,029.60
EPOXY COATED REINFORCING STEEL	LB	280,320.00
WATER REPELLENT (VISUALLY INSPECTED)	SY	2,946.00
SEALER CRACK PREPARATION	LF	204.00
SEALER RESIN	GAL	3.00

HALF SECTION AT INTERMEDIATE DIAPHRAGM      TYPICAL CROSS SECTION      HALF SECTION AT END DIAPHRAGM



**DETAIL "A"**

**DIAPHRAGM BOLT NOTES**

STRUCTURAL STEEL FOR DIAPHRAGM RODS AND PLATE WASHERS SHALL CONFORM TO AASHTO M270 (ASTM A709) GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). A #10 REINFORCING BAR CONFORMING TO AASHTO M31, GRADE 60, AND THREADED AT THE ENDS AS SHOWN MAY BE SUBSTITUTED FOR THE DIAPHRAGM ROD. HEX NUTS SHALL CONFORM TO AASHTO M291 (ASTM A563). PAINT EXPOSED DIAPHRAGM ROD, PLATE WASHER, AND HEX NUT WITH TWO (2) COATS OF ZINC RICH PAINT (6 MIL MINIMUM THICKNESS) AFTER ASSEMBLY. ALL COST OF DIAPHRAGM ROD, PLATE WASHER AND HEX NUT TO BE INCLUDED IN THE UNIT PRICE BID PER ROUND OF STRUCTURAL STEEL.

ABUTMENT NO. 1      PIER NO. 1      PIER NO. 2      PIER NO. 4  
 ABUTMENT NO. 2      PIER NO. 3      PIER NO. 6      PIER NO. 7  
 PIER NO. 5      PIER NO. 8

**LONGITUDINAL SECTION**

① DIMENSION IS FROM TOP OF DECK SLAB TO BOTTOM OF BEARING ASSEMBLY AT  $\phi$  BEARING.

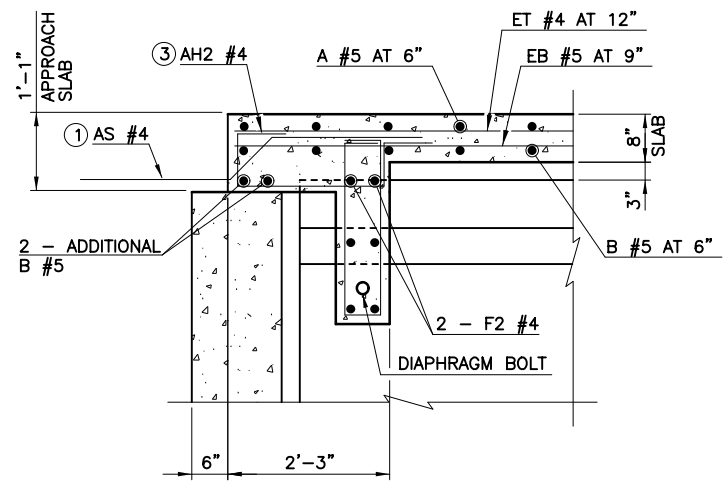
NOTE: MINIMUM CURE TIME OF 48 HOURS WILL BE REQUIRED BETWEEN ADJACENT CONCRETE DECK POURS.

DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OF THE RED RIVER- BRIDGE "B"	
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APPRVD: CPY 2016		

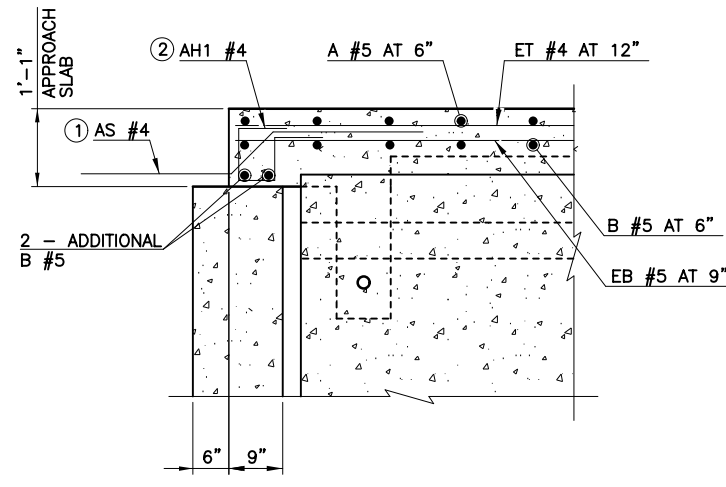
**SUPERSTRUCTURE DETAILS**

SHEET 1 OF 3  
STATE JOB PIECE NO: 26999(04)      SHEET NO. B044

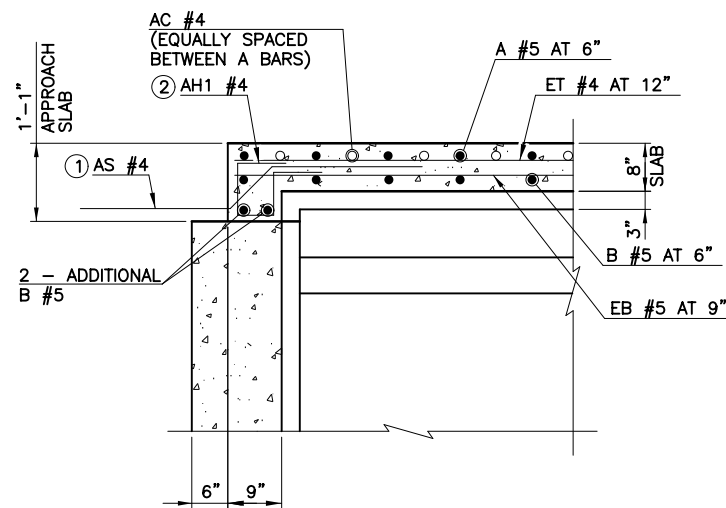
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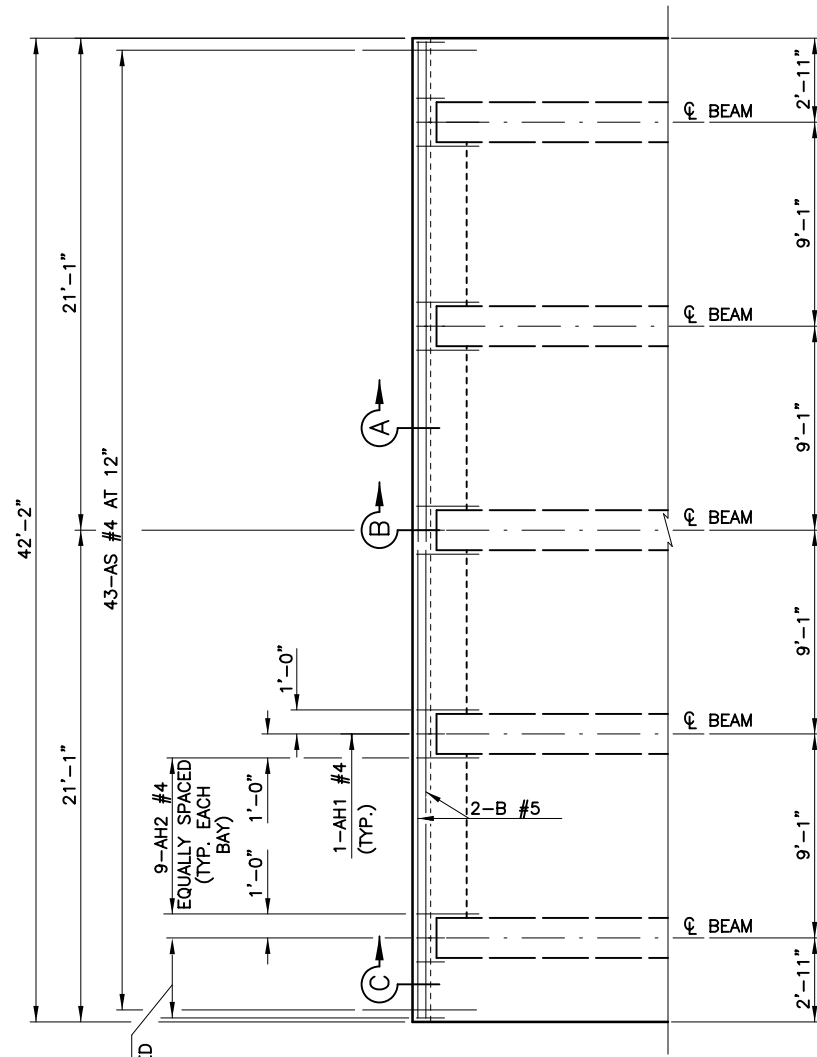
SECTION A-ABUTMENT BETWEEN BEAMS



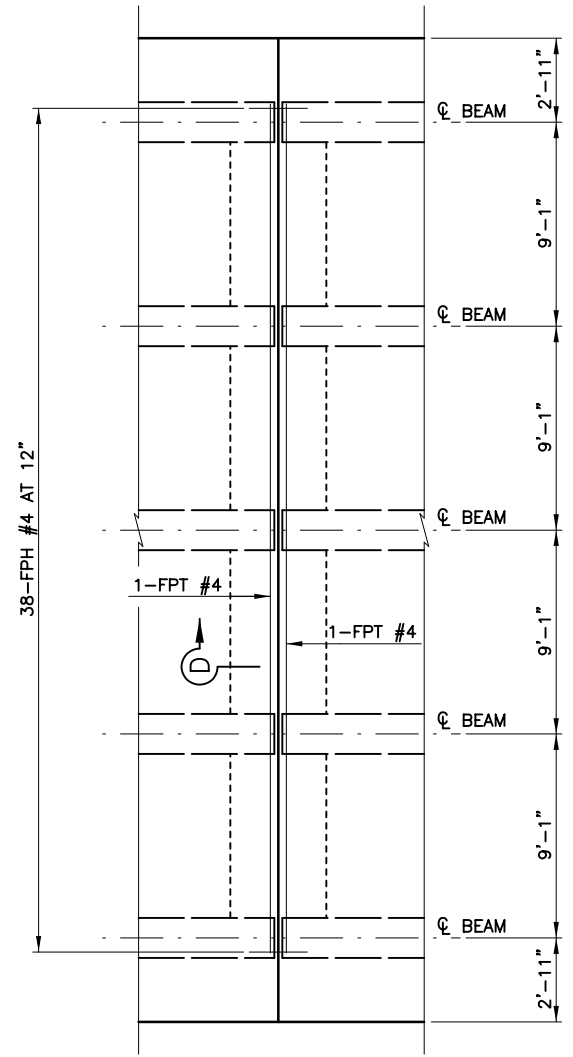
SECTION B-ABUTMENT THROUGH BEAM



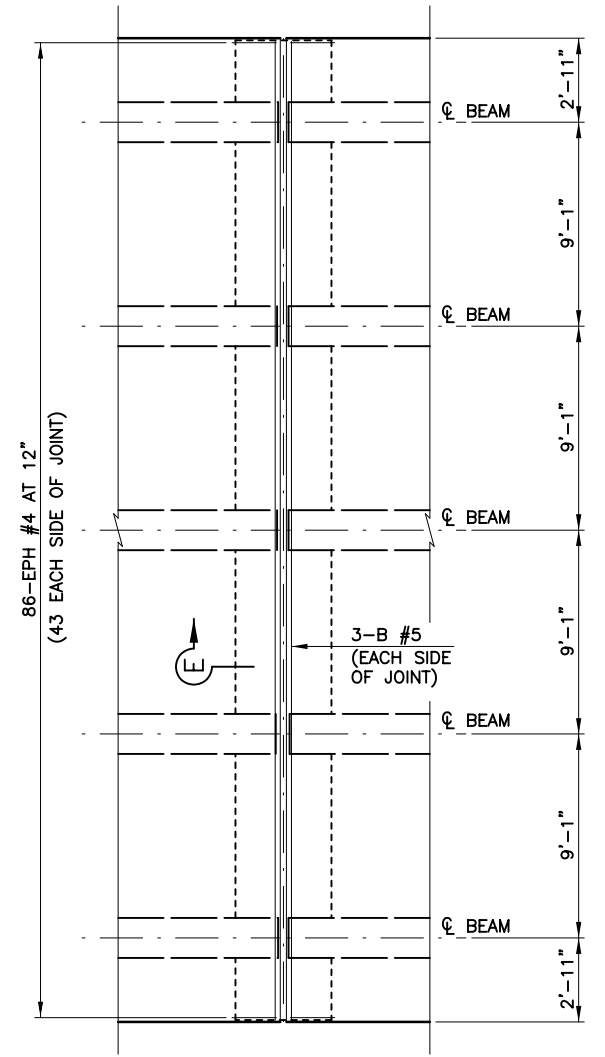
SECTION C-ABUTMENT THROUGH CANTILEVER



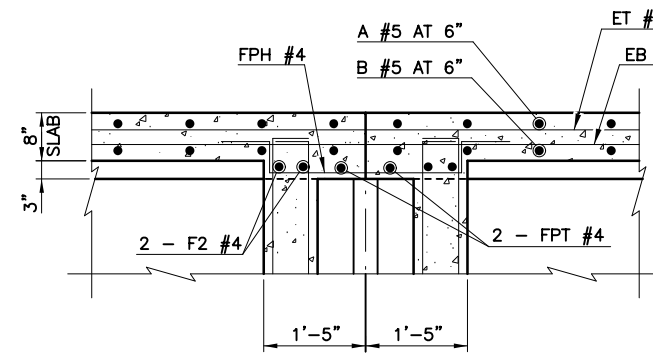
ABUTMENTS NO. 1 AND 2



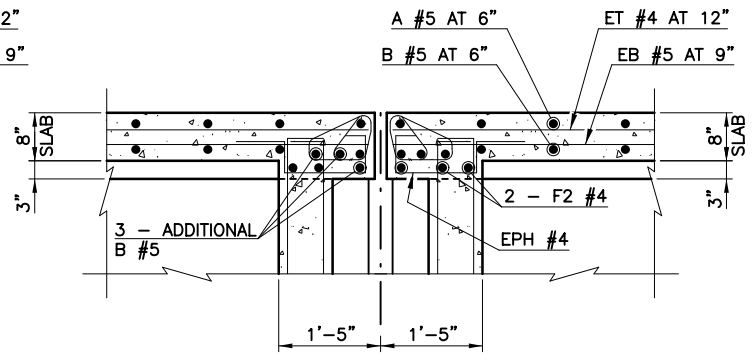
CONTINUOUS EXPANSION PIER  
(PIERS NO. 1, NO. 3, & NO. 5)



EXPANSION PIER  
(PIERS NO. 2, NO. 6, & NO. 8)



SECTION D-FIXED PIER BETWEEN BEAMS

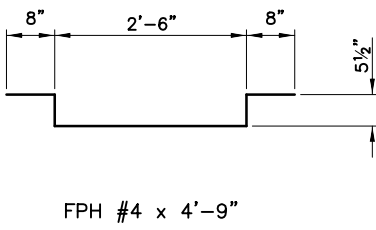
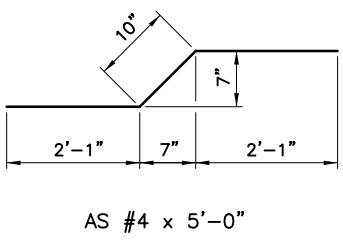
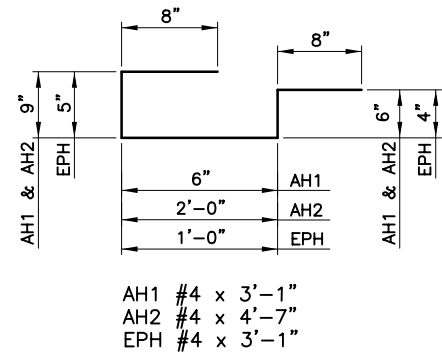
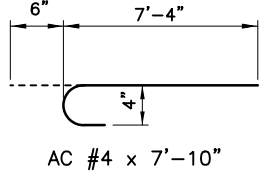
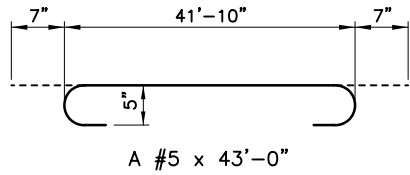


SECTION E-EXPANSION PIERS BETWEEN BEAMS

- ① TIE TO TOP REINFORCING OF DECK SLAB AND BOTTOM REINFORCING OF THE APPROACH SLAB (PLACE BOTTOM LEG OF BAR "AS" THROUGH JOINT).
- ② 3 - AH1 #4 AT 12" IN OVERHANG AND 1 - AH1 #4 AT  $\phi$  EACH BEAM.
- ③ 9 - AH2 #4 EQUALLY SPACED BETWEEN BEAMS.

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DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OF THE RED RIVER- BRIDGE "B"	
CHECKED: CPY 2016	SUPERSTRUCTURE DETAILS	
APPRVD: CPY 2016	STATE JOB PIECE NO: 26999(04)	
		SHEET 2 OF 3 SHEET NO. B045

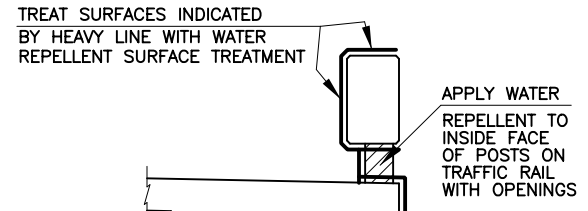


SUPERSTRUCTURE BAR LIST					
EPOXY COATED REINFORCING BARS					
MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
A	#5	1811	BNT	43'-0"	
AC	#4	3604	BNT	7'-10"	
AH1	#4	22	BNT	3'-1"	
AH2	#4	72	BNT	4'-7"	
AS	#4	86	BNT	5'-0"	
B	#5	1833	STR	41'-10"	
EB1	#5	57	STR	211'-11"	
EB2	#5	57	STR	426'-1"	
EB3	#5	57	STR	211'-1"	
EB4	#5	57	STR	104'-5"	
EPH	#4	258	BNT	3'-1"	
ET1	#4	43	STR	206'-8"	
ET2	#4	43	STR	411'-10"	
ET3	#4	43	STR	205'-10"	
ET4	#4	43	STR	102'-8"	
FPH	#4	190	BNT	4'-9"	
FPT	#4	10	STR	37'-8"	
SR1	#5	3524	BNT	4'-1"	

- ⑦ ①
- ⑦ ②
- ⑦ ①
- ⑦ ③
- ⑦ ④
- ⑦ ⑤
- ⑦ ④
- ⑦ ⑥

- ① INCLUDES 3 - 3'-9" MIN LAP LENGTH.
- ② INCLUDES 7 - 3'-9" MIN LAP LENGTH.
- ③ INCLUDES 1 - 3'-9" MIN LAP LENGTH.
- ④ INCLUDES 3 - 2'-0" MIN LAP LENGTH.
- ⑤ INCLUDES 6 - 2'-0" MIN LAP LENGTH.
- ⑥ INCLUDES 1 - 2'-0" MIN LAP LENGTH.
- ⑦ LAPS SHALL BE STAGGERED. DO NOT LAP WITHIN 10' OF CENTERLINE PIER.

EXPANSION JOINT SETTING			
EXP JOINT OPENING	TEMP. (°F) PIER NO. 2	TEMP. (°F) PIER NO. 6	TEMP. (°F) PIER NO. 8
3"	8		
2 7/8"	13		
2 3/4"	17	8	
2 5/8"	21	14	
2 1/2"	26	20	8
2 3/8"	30	26	17
2 1/4"	34	31	26
2 1/8"	39	37	34
2"	43	43	43
1 7/8"	47	49	52
1 3/4"	52	55	60
1 5/8"	56	60	69
1 1/2"	60	66	78
1 3/8"	65	72	86
1 1/4"	69	78	95
1 1/8"	73	84	104
1"	78	89	
7/8"	82	95	
3/4"	86	101	
5/8"	91		
1/2"	95		
3/8"	99		
1/4"	104		



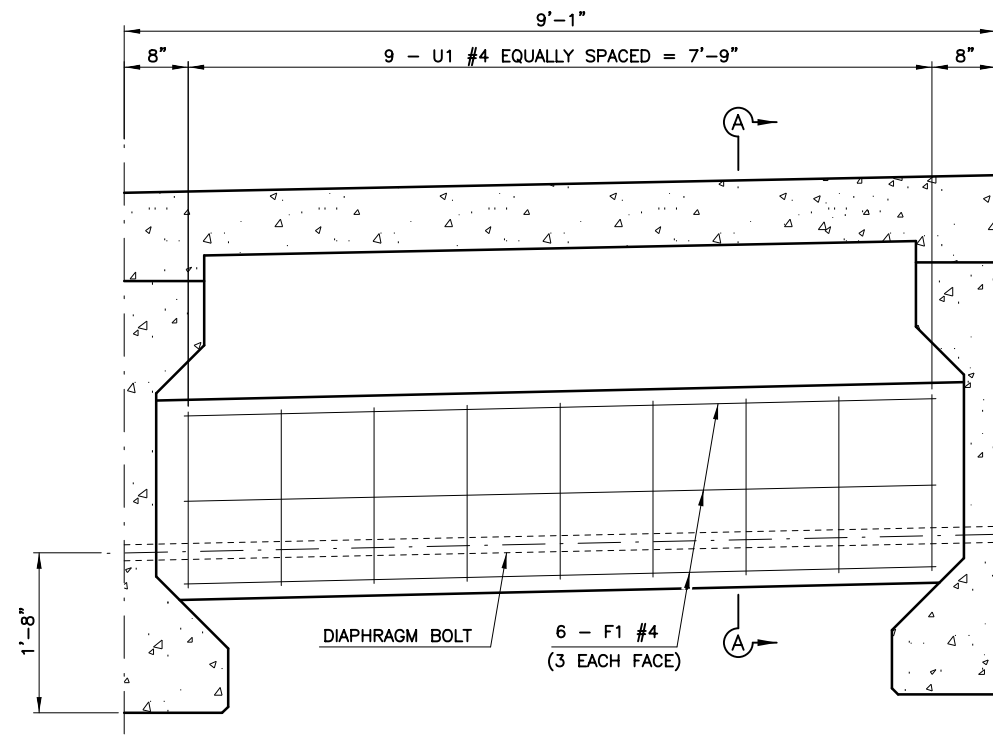
**WATER REPELLENT TREATMENT DETAILS**

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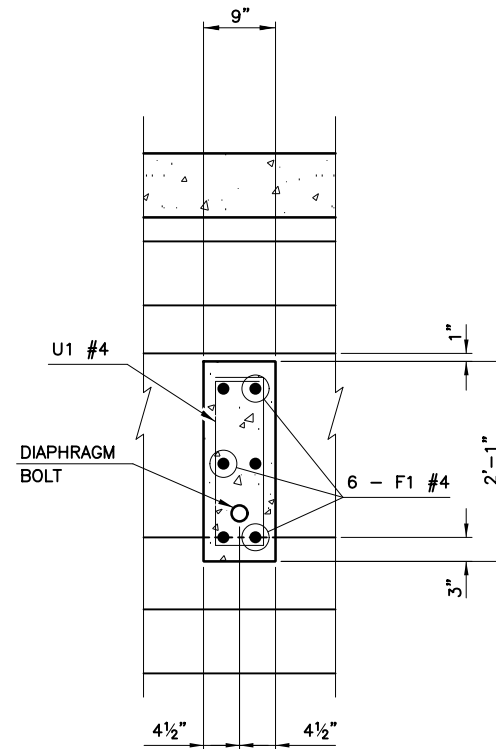
DESIGN: CPY 2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN: CPY 2016		
CHECKED: CPY 2016		
APPRVD: CPY 2016		

**SUPERSTRUCTURE DETAILS**

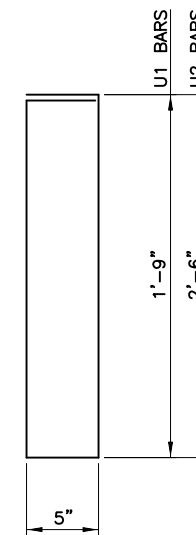
STATE JOB PIECE NO: 26999(04) SHEET 3 OF 3 SHEET NO. B046



ELEVATION

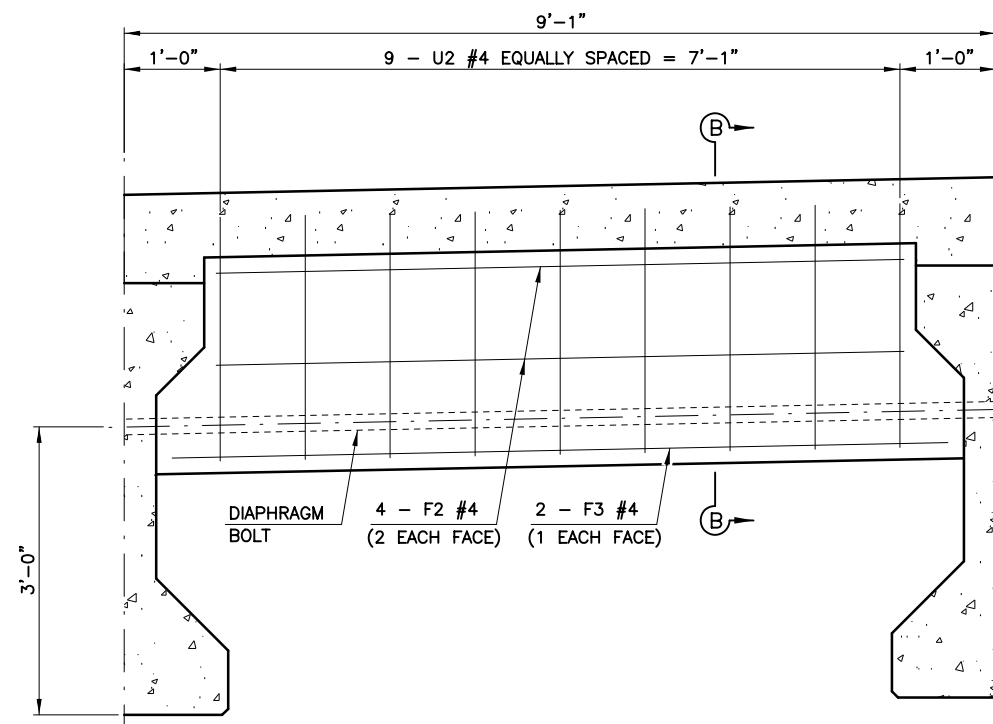


SECTION A-A

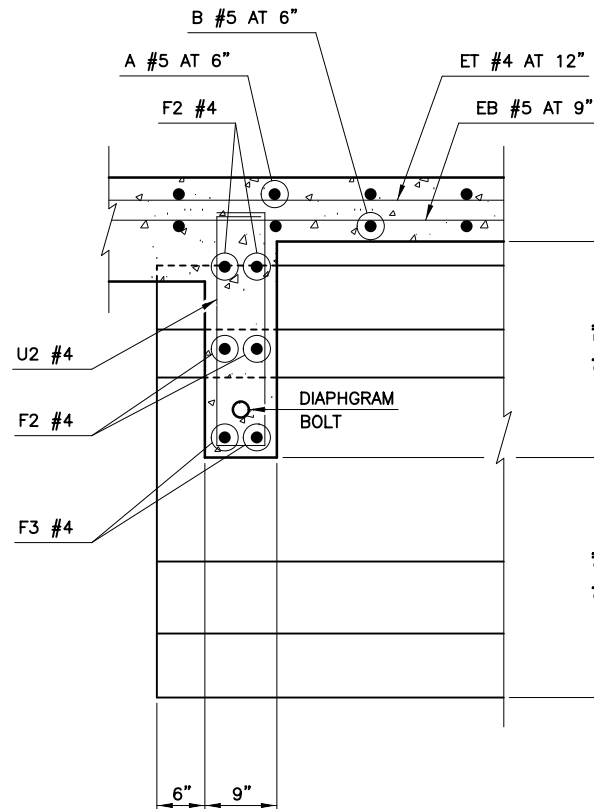


U1 #4 x 4'-9"  
U2 #4 x 6'-3"

INTERMEDIATE DIAPHRAGM DETAILS  
(1 INTERMEDIATE DIAPHRAGM PER SPAN)



ELEVATION



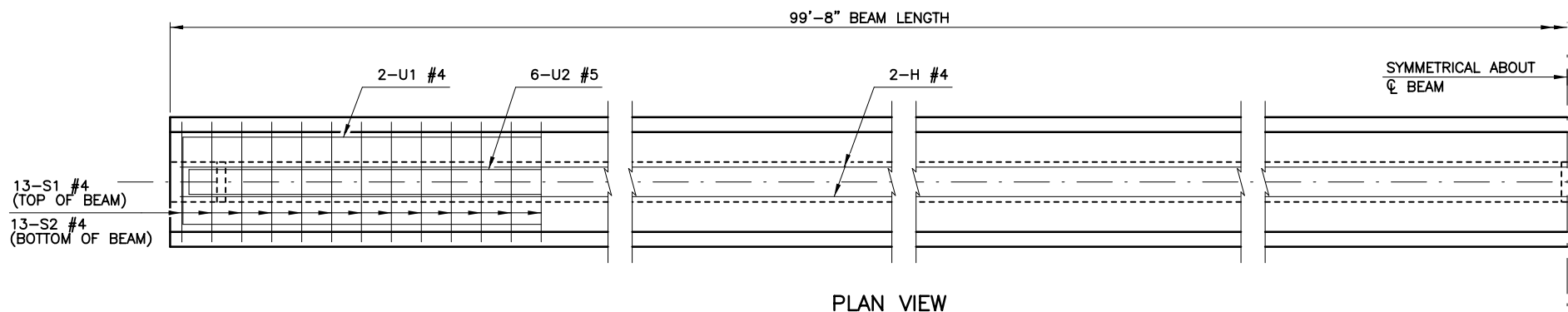
SECTION B-B

DIAPHRAGM BAR LIST (ONE SPAN SHOWN)				
EPOXY COATED REINFORCING BARS				
MARK	SIZE	NO.	FORM	LENGTH
F1	#4	24	STR.	8'-1'
F2	#4	32	STR.	7'-1"
F3	#4	16	STR.	8'-1'
U1	#4	36	BNT.	4'-9'
U2	#4	72	BNT.	6'-3"

END DIAPHRAGM DETAILS  
(2 END DIAPHRAGM PER SPAN)

DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OF THE RED RIVER- BRIDGE "B"	
CHECKED: CPY 2016	DIAPHRAGM DETAILS	
APPRVD: CPY 2016		
STATE JOB PIECE NO: 26999(04)		SHEET 1 OF 1 SHEET NO. B047

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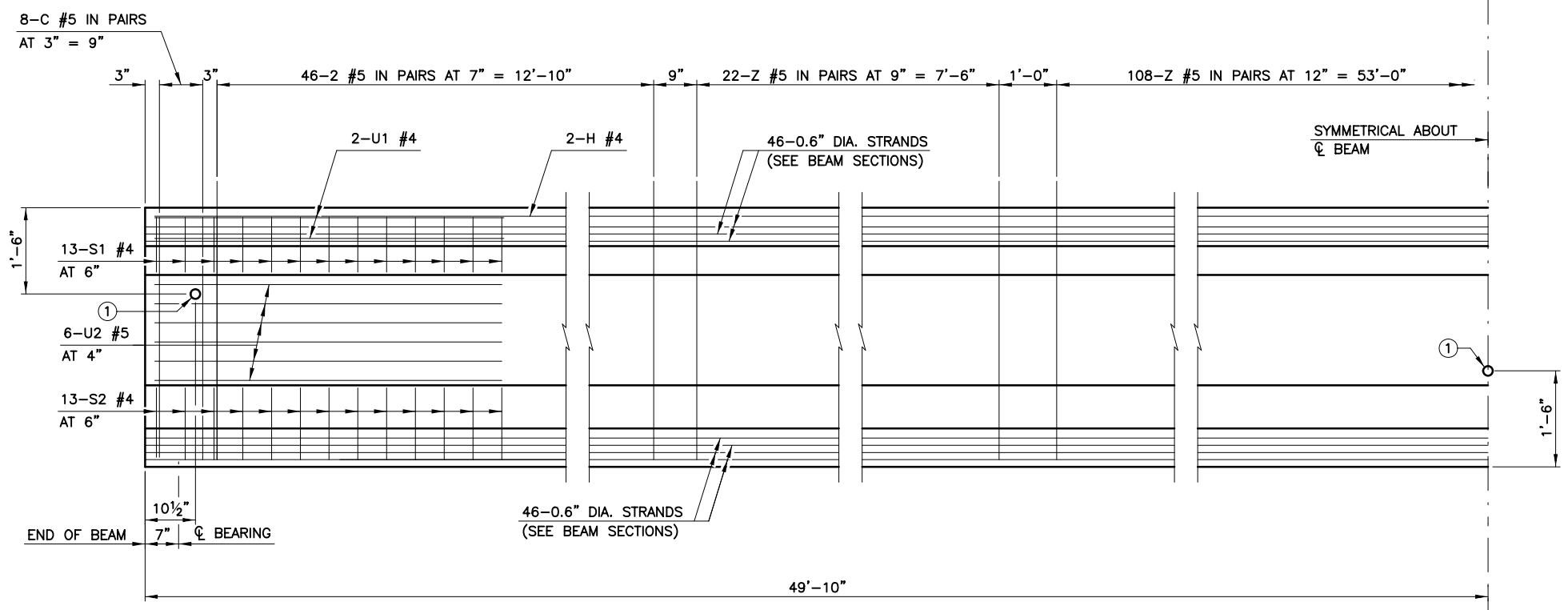
PLAN VIEW

**PRESTRESSED CONCRETE BEAM NOTES**

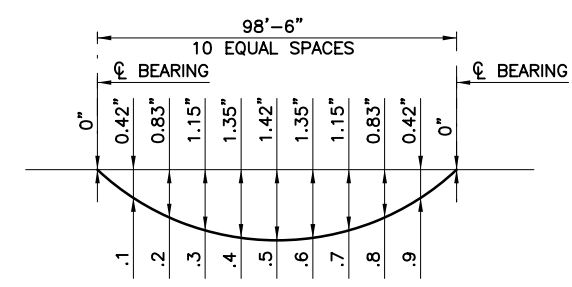
**COMPRESSIVE STRENGTH**  
 PROVIDE CONCRETE WITH A COMPRESSIVE STRENGTH OF 7,000 P.S.I. AT TRANSFER OF PRESTRESS AND 10,000 P.S.I. AT 28 DAYS

**STRAND TYPE**  
 PROVIDE LOW-RELAXATION STRANDS HAVING A NOMINAL DIAMETER OF 0.6" WITH ULTIMATE TENSILE STRENGTH OF 270 K.S.I.

**LRFR OPERATING RATING FACTOR: 2.31**  
**LRFR INVENTORY RATING FACTOR: 1.44**

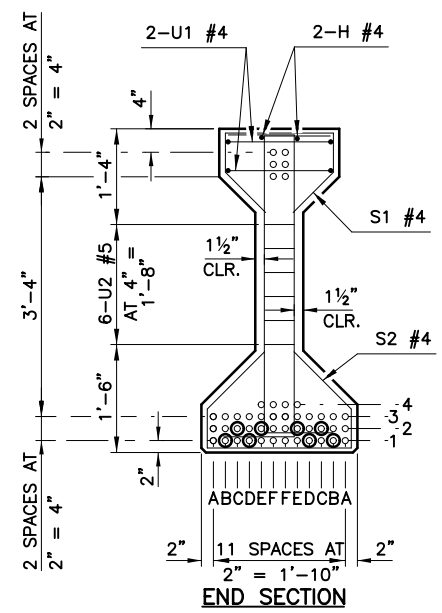


ELEVATION VIEW

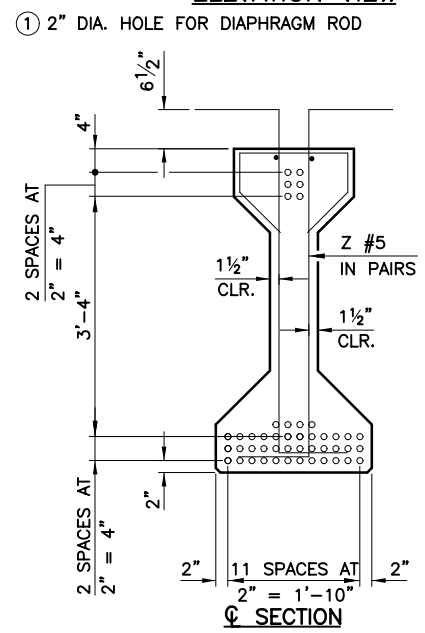


**DEAD LOAD DEFLECTION DIAGRAM**

**NOTE:**  
 THE DEAD LOAD DEFLECTIONS SHOWN ABOVE AT THE TENTH POINTS ARE THE INITIAL DEFLECTIONS DUE TO DECK SLAB + HAUNCH + S.I.P. STEEL DECK FORM ALLOWANCE + CONCRETE TRAFFIC RAIL. IT DOES NOT INCLUDE THE BEAM WEIGHT OR FUTURE WEARING SURFACE.



END SECTION



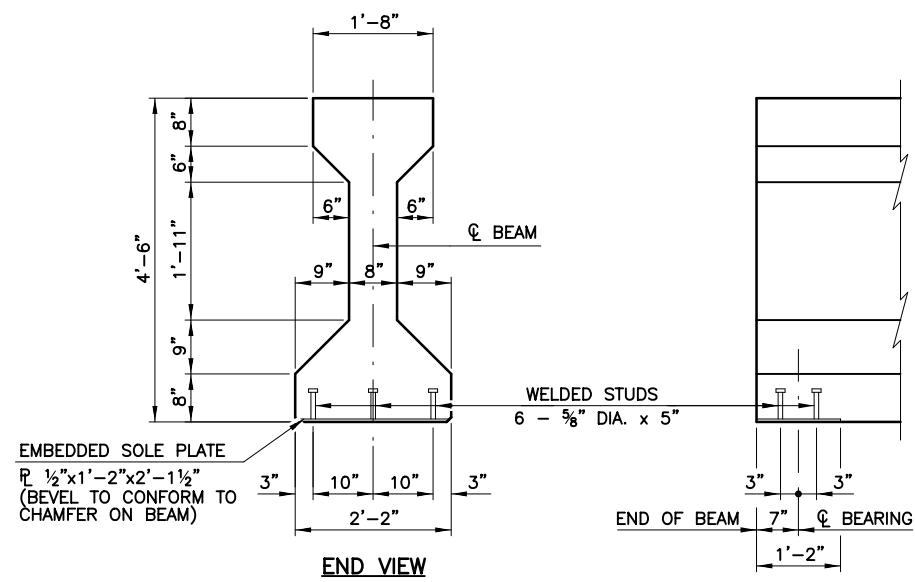
SECTION

**BEAM SECTIONS**  
(46-0.6" DIA STRANDS)

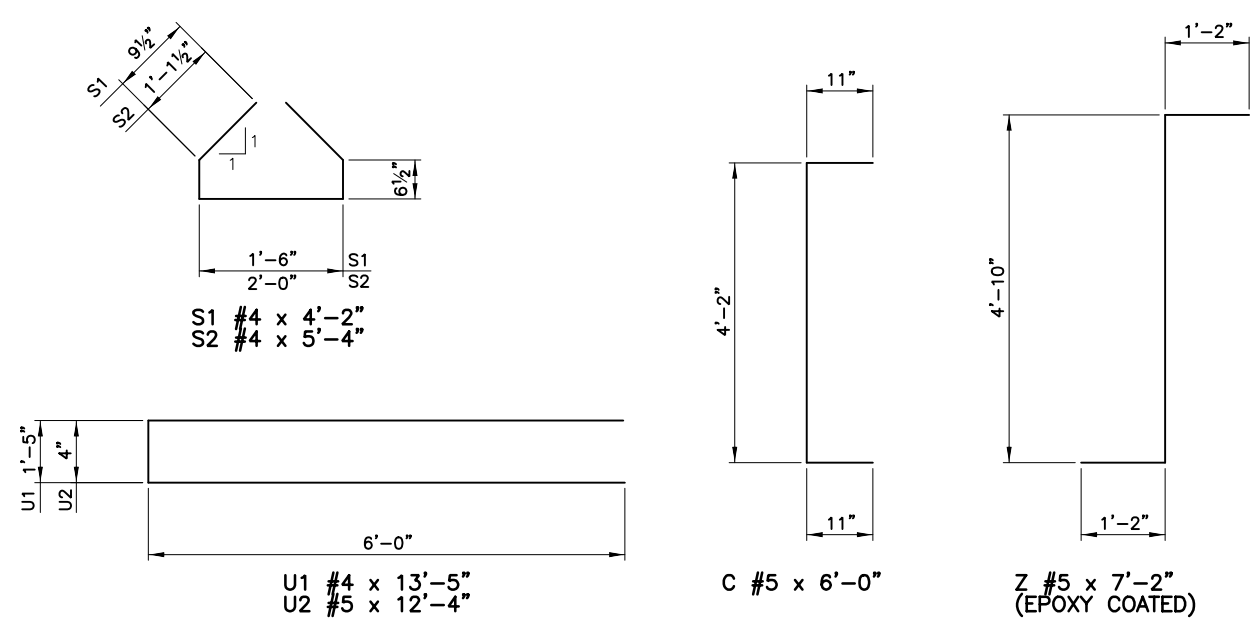
DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	16'-0"
D1	8'-0"
C2 & E2	4'-0"

DESIGN: CPY 2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN: CPY 2016		
CHECKED: CPY 2016		
APPRVD: CPY 2016		
<b>TYPE IV BEAM DETAILS</b>		
STATE JOB PIECE NO: 26999(04)		SHEET 1 OF 2 SHEET NO. B048

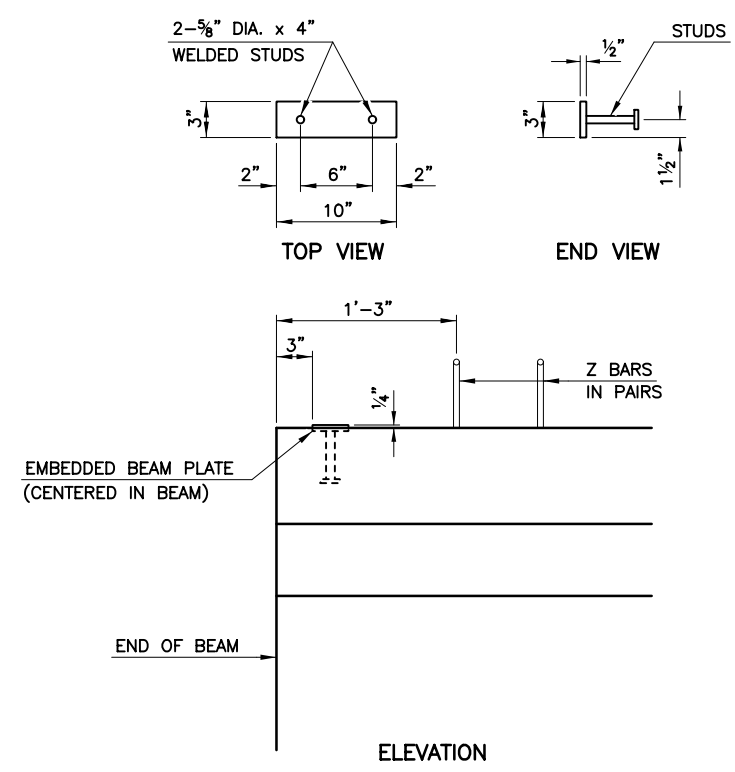
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NOTE: PROVIDE AN EMBEDDED SOLE PLATE AT EACH END OF BEAM

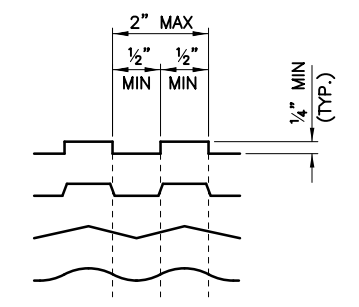


TYPE IV BAR BENDS



EMBEDDED BEAM PLATE DETAILS

NOTE: PROVIDE AN EMBEDDED BEAM PLATE AT EXPANSION ENDS ONLY.



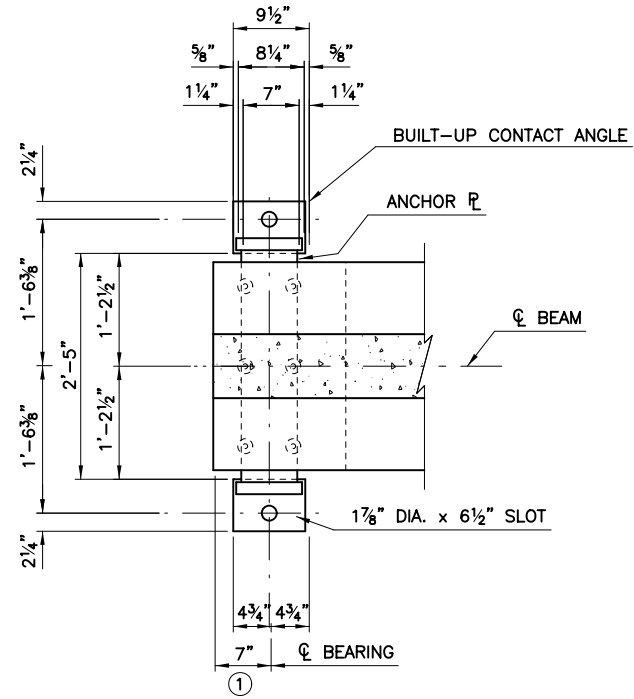
INTENTIONALLY ROUGHENED SURFACE EXAMPLES

INTENTIONALLY ROUGHEN THE ENTIRE TOP SURFACE OF P.C. BEAM TO A MINIMUM HEIGHT OF 1/4" OVER A MAXIMUM PITCH OF 2" MEASURED LONGITUDINALLY ALONG THE LENGTH OF THE BEAM. PROVIDE A CREST AND TROUGH ASSOCIATED WITH THE HEIGHT OF NOT LESS THAN 1/2". PRODUCE THE ROUGHENED SURFACE BY USING A SPECIAL TROWEL TO FORM ONE OF THE SURFACES SHOWN IN THE DETAILS, BY CLEANING THE CONCRETE SURFACE WITH A STIFF WIRE BRUSH (OR BLASTING) TO EXPOSE THE AGGREGATE TO A HEIGHT OF 1/4", OR BY USING ANOTHER APPROVED METHOD. SUBMIT THE METHOD TO BE USED FOR APPROVAL BY THE ENGINEER. REPAIR ANY DAMAGE TO REINFORCEMENT'S EPOXY COATING BEFORE PLACEMENT OF DECK CONCRETE.

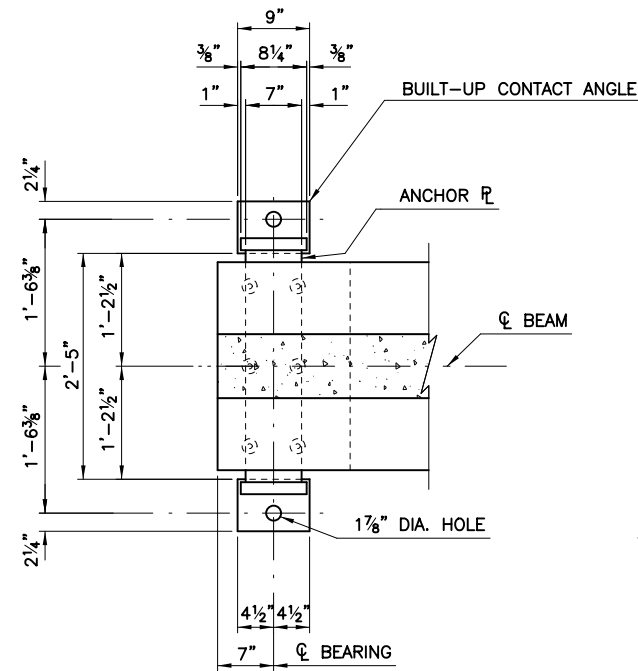
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DRAWN: CPY 2016	OF THE RED RIVER- BRIDGE "B"	
CHECKED: CPY 2016	TYPE IV BEAM DETAILS	
APPRVD: CPY 2016	SHEET 2 OF 2	
STATE JOB PIECE NO: 26999(04)		SHEET NO. B049

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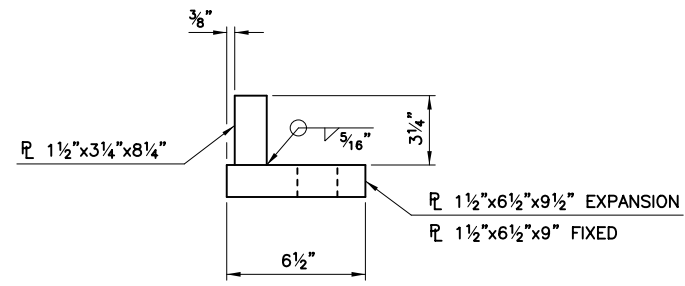




EXPANSION BEARING PLAN

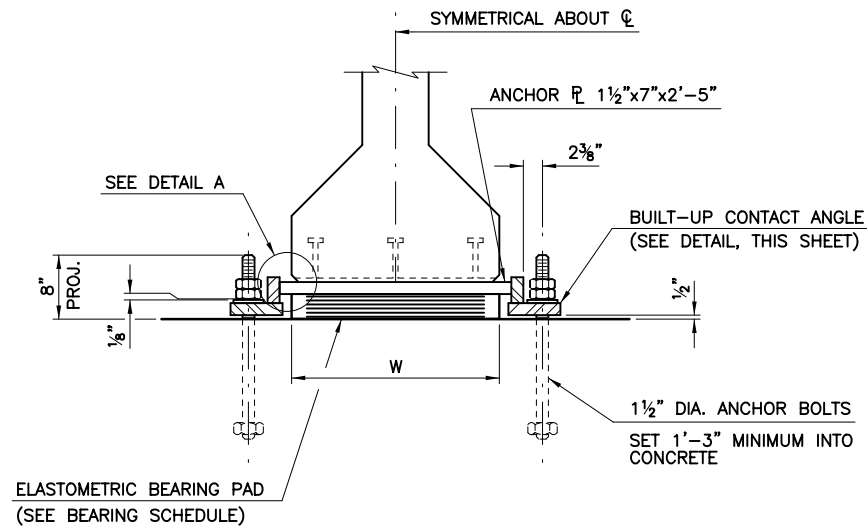


FIXED BEARING PLAN

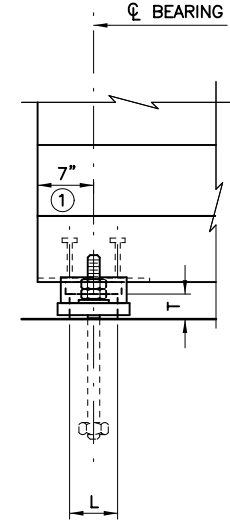


BUILT-UP CONTACT ANGLE DETAIL

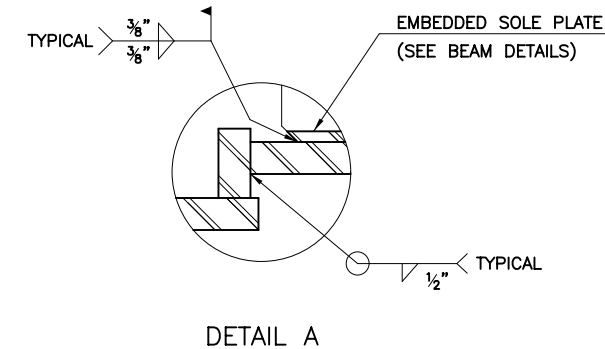
BEARING SCHEDULE				
SPAN	60 DUROMETER ELASTOMER BEARING PAD			
	SIZE (T x L x W)	COVER LAYER	INNER LAYER	LAMINATE PLATE
100'	3 1/8\" x 6 1/2\" x 2'-2"	2 - 1/4"	5 - 3/8"	6 - 1/8"



END VIEW

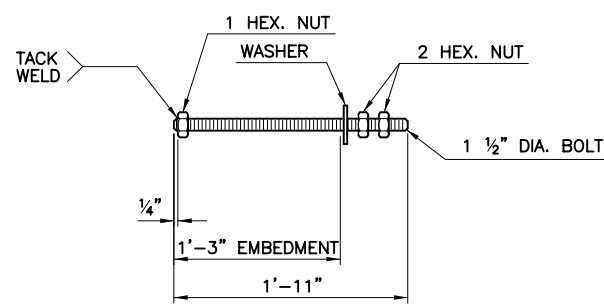


SIDE VIEW

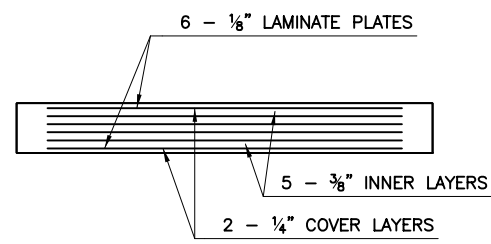


DETAIL A

**BEARING ASSEMBLY NOTES:**  
 PROVIDE STRUCTURAL STEEL FOR ANCHOR PLATES AND BUILT-UP CONTACT ANGLES IN ACCORDANCE WITH ASTM A240 (AUSTENIC STAINLESS STEEL, TYPE 316, CHARPY V-NOTCH TESTING NOT REQUIRED). FOR ANCHOR BOLTS, PROVIDE CONTINUOUSLY THREADED BARS IN ACCORDANCE WITH ASTM A320, CLASS 2, GRADE B8M (AUSTENIC STAINLESS STEEL, TYPE 316, CHARPY V-NOTCH TESTING NOT REQUIRED). USE AUSTENIC STAINLESS STEEL NUTS AND WASHERS CONFORMING TO ASTM A194, GRADE 8M AND ASTM A320, RESPECTIVELY. PERFORM ALL WELDING CONSISTENT WITH PROCEDURES FOR STAINLESS STEEL.



ANCHOR BOLT DETAIL



BEARING PAD DETAIL

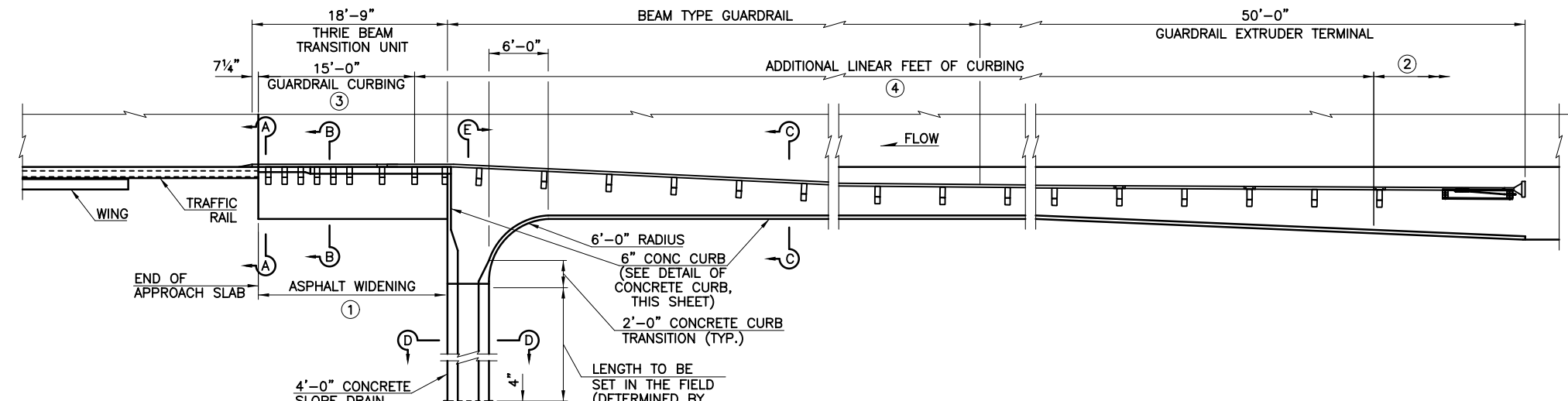
① CENTER ANCHOR BOLTS IN SLOTS AT EXPANSION BEARINGS DURING SETTING OF BEAMS. DIMENSION MAY VARY DEPENDING ON TEMPERATURE AT THE TIME OF BEAM SETTING.

DESIGN: CPY 2016	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2016	OF THE RED RIVER- BRIDGE "B"	
CHECKED: CPY 2016		
APPRVD: CPY 2016		

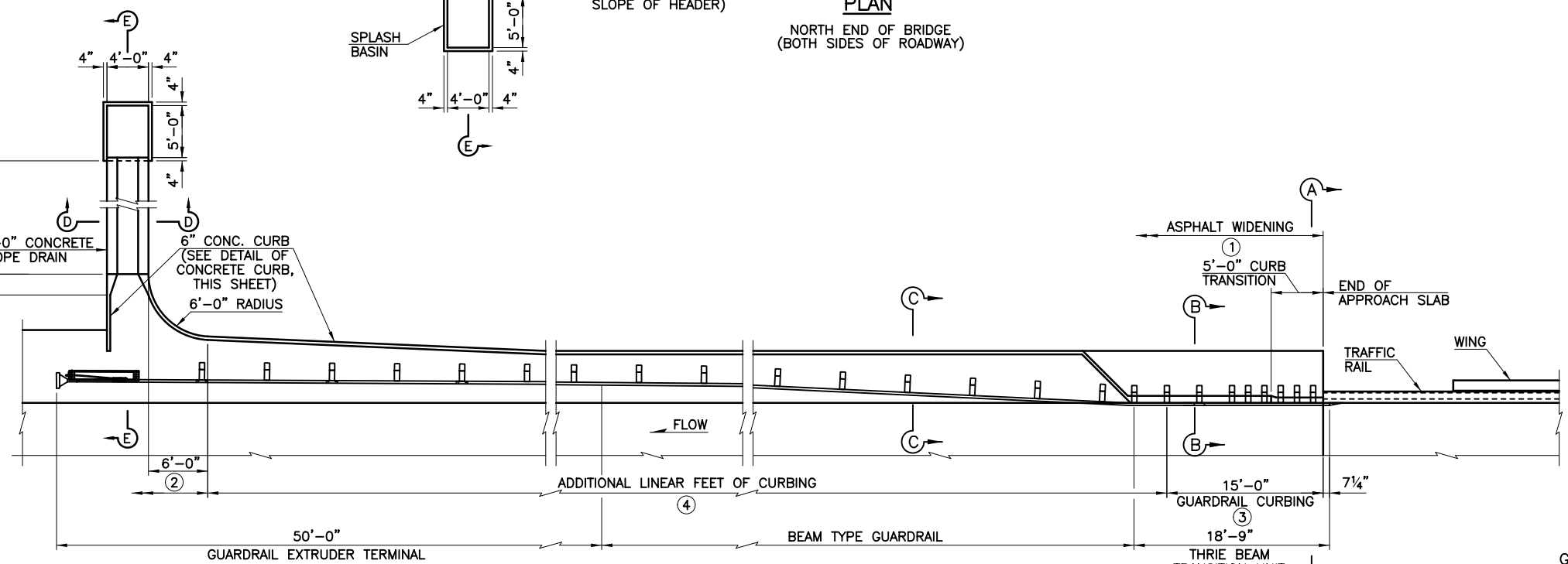
**BEARING DETAILS**

SHEET 1 OF 1  
STATE JOB PIECE NO: 26999(04) SHEET NO. B050

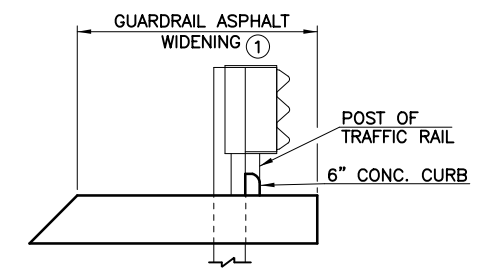
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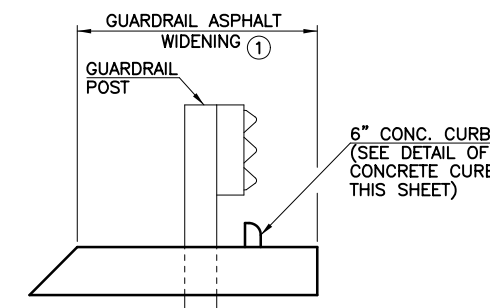
**PLAN**  
NORTH END OF BRIDGE  
(BOTH SIDES OF ROADWAY)



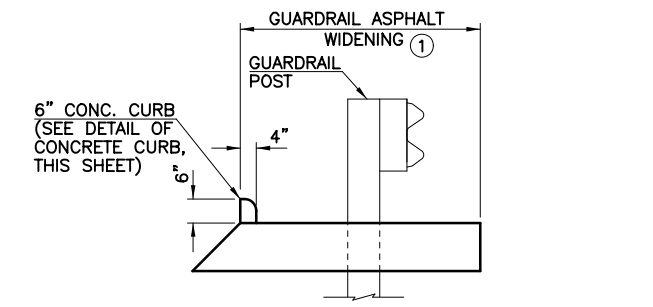
**PLAN**  
SOUTH END OF BRIDGE  
(BOTH SIDES OF ROADWAY)



**SECTION A-A**



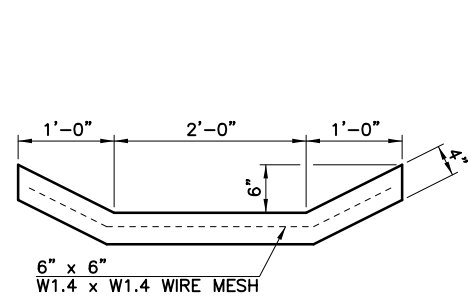
**SECTION B-B**



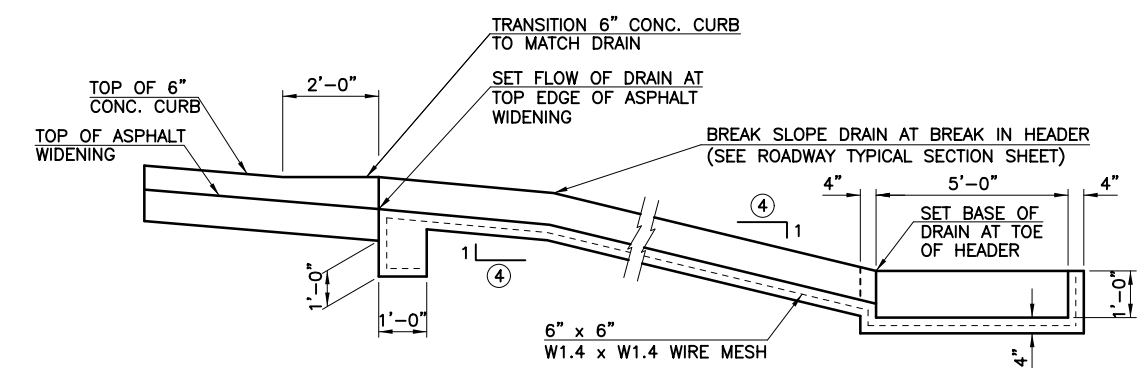
**SECTION C-C**

**GENERAL NOTES**

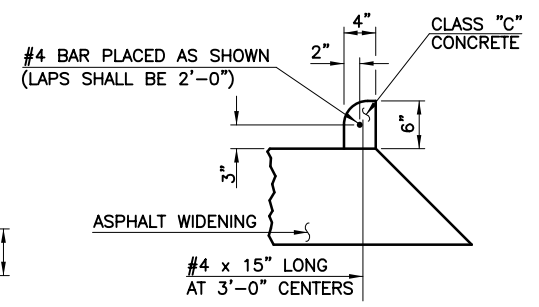
- ASPHALT WIDENING SHALL BE IN ACCORDANCE WITH ODOT STANDARDS GHW1-1-00, GHW2-1-00 AND THRI-1-00 EXCEPT AS SHOWN ON THIS SHEET. ALL COSTS OF ASPHALT WIDENING SHALL BE INCLUDED IN ROADWAY PAY ITEMS.
- SLOPE DRAINS, SPLASH BASINS AND CONCRETE CURBS SHALL BE CONSTRUCTED USING CLASS "C" CONCRETE AS SHOWN ON THIS SHEET. ALL COSTS OF THE SLOPE DRAINS, SPLASH BASINS, AND CONCRETE CURBS SHALL BE INCLUDED IN THE BRIDGE PAY ITEM FOR "CLASS "C" CONCRETE".
- ADDITIONAL CURBING SHALL BE CONSTRUCTED AS SHOWN IN "DETAIL OF CONCRETE CURB", THIS SHEET. ALL COSTS OF MATERIALS AND INSTALLATION OF CLASS C CONCRETE CURB AND #4 BARS AS SHOWN SHALL BE PAID IN THE BRIDGE PAY ITEM FOR "CLASS C CONCRETE".
- SET IN THE FIELD (DETERMINED BY SLOPE OF HEADER)



**SECTION D-D**



**SECTION E-E**



**DETAIL OF CONCRETE CURB**

DESIGN: CPY	2016	SH 34 OVER NORTH FORK OF THE RED RIVER- BRIDGE "B"	BECKHAM COUNTY
DRAWN: CPY	2016		
CHECKED: CPY	2016		
APPRVD: CPY	2016		

**DRAIN DETAILS**

STATE JOB PIECE NO: 26999(04) SHEET 1 OF 1  
SHEET NO. B051

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REVISIONS		
REV. NO.	DESCRIPTION	DATE

# U.S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT CONDITIONS

## 404 PERMIT INFORMATION

NATIONWIDE PERMIT NO. \_\_\_\_\_

TO BE PROVIDED AT A LATER DATE

SECTION 404 OF THE CLEAN WATER ACT REQUIRES PRIOR AUTHORIZATION FROM SECRETARY OF THE ARMY (CORPS) FOR THE DISCHARGE OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES.

- NO PRE-CONSTRUCTION NOTIFICATION REQUIRED: PROJECT DOES NOT REQUIRE NOTIFICATION TO THE US ARMY CORPS OF ENGINEERS (USACE) IN ORDER TO COMMENCE.
- PRE-CONSTRUCTION NOTIFICATION REQUIRED: RESIDENT ENGINEER MUST NOTIFY THE USACE WITHIN 30 DAYS OF THE START OF CONSTRUCTION AND 30 DAYS PRIOR TO COMPLETION OF CONSTRUCTION, FORMS LOCATED IN THE CONTRACT.
- INDIVIDUAL PERMIT: WILL BE MONITORED CLOSELY BY THE USACE.
- GENERAL PERMIT: PROJECT WITHIN A DESIGNATED CRITICAL RESOURCE WATER AND WILL REQUIRE PRE-CONSTRUCTION NOTIFICATION SEE ABOVE FOR EXPLANATION OF PRE-CONSTRUCTION NOTIFICATION.
- NO PERMIT REQUIRED

SWT TRACKING NO. \_\_\_\_\_

## SPECIAL CONDITIONS

- NAVIGABLE WATER OF THE U.S.
- ON-SITE MITIGATION
- ENDANGERED SPECIES PRESENT
- HISTORIC PROPERTIES PRESENT
- DESIGNATED CRITICAL RESOURCE WATERS

## PERMIT GENERAL CONDITIONS

THE CONTRACTOR SHALL BE RESPONSIBLE BUT NOT LIMITED TO THE FOLLOWING HIGHLIGHTS OF THE 404 PERMIT (SEE CONTRACT FOR COMPLETE LIST):

**TEMPORARY FILLS:**  
 APPROPRIATE MEASURES MUST BE TAKEN TO MAINTAIN NORMAL DOWNSTREAM FLOWS AND MINIMIZE FLOODING TO THE MAXIMUM EXTENT PRACTICABLE. WHEN TEMPORARY STRUCTURES (WORK ROADS, WORK PADS, ETC.) WORK, AND DISCHARGES, INCLUDING COFFERDAMS, ARE NECESSARY FOR CONSTRUCTION ACTIVITIES, ACCESS FILLS, OR DE WATERING OF CONSTRUCTION SITES. TEMPORARY FILLS MUST CONSIST OF MATERIALS, AND BE PLACED IN A MANNER, THAT WILL NOT BE ERODED BY EXPECTED HIGH FLOWS. TEMPORARY FILLS MUST BE REMOVED IN THEIR ENTIRETY AND THE AFFECTED AREAS RETURNED TO PRE-CONSTRUCTION ELEVATIONS. THE AREAS AFFECTED BY TEMPORARY FILLS MUST BE RE VEGETATED, AS APPROPRIATE.

**NAVIGATION:**  
 NO ACTIVITY MAY CAUSE MORE THAN A MINIMAL ADVERSE EFFECT ON NAVIGATION WITHIN A NAVIGABLE WATER OF THE U.S. IF THIS PROJECT IS LOCATED WITHIN A NAVIGABLE WATER OF THE U.S., IT WILL BE IDENTIFIED IN THE SPECIAL CONDITIONS.

**AQUATIC LIFE MOVEMENTS & ADVERSE EFFECTS FROM IMPOUNDMENTS:**  
 NO ACTIVITY MAY LARGELY DISRUPT THE NECESSARY LIFE CYCLE MOVEMENTS OF THOSE SPECIES INDIGENOUS TO THE BODY OF WATER, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA. CULVERTS WILL BE DESIGNED TO PROVIDE SUFFICIENT PASSAGE FOR AQUATIC LIFE AND INSTALLED TO MAINTAIN LOW FLOW. RATE OF FLOW CANNOT BE MADE HIGHER THAN WHAT WAS PRIOR TO THE START OF CONSTRUCTION. EROSION CONTROL MEASURES SHOULD BE UTILIZED AROUND THE PERIMETER OF NEW STRUCTURES TO AVOID SILT BUILD UP. CAUTION SHOULD BE TAKEN TO MINIMIZE HARM IF CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN A STREAM OR RIVER CHANNEL AND CREATE A CONFINED BODY OF WATER, CAUSE ADVERSE EFFECTS TO THE AQUATIC SYSTEM IN ANY WAY, AND/OR RESTRICTING ITS FLOW.

**MANAGEMENT OF WATER FLOWS:**  
 CONSTRUCTION ACTIVITIES MAY NOT IMPEDE THE PASSAGE OF NORMAL OR HIGH FLOWS. TO THE GREATEST EXTENT POSSIBLE, THE PRE- CONSTRUCTION COURSE, CONDITIONS, CAPACITY AND LOCATION OF OPEN WATERS MUST BE MAINTAINED. THIS INCLUDES STREAM CANALIZATION AND STORM WATER MANAGEMENT.

**SUITABLE MATERIAL:**  
 NO ACTIVITY MAY USE UNSUITABLE MATERIAL (E.G., TRASH, DEBRIS, CAR BODIES, ASPHALT, ETC.). MATERIALS USED FOR CONSTRUCTION OR DISCHARGED MUST BE FREE FROM TOXIC POLLUTANTS IN TOXIC AMOUNTS (SEE SECTION 307 OF CLEAN WATER ACT).

**PROPER MAINTENANCE:**  
 ANY AUTHORIZED STRUCTURE OR FILL SHALL BE PROPERLY MAINTAINED, INCLUDING MAINTENANCE TO ENSURE PUBLIC SAFETY AND COMPLIANCE WITH APPLICABLE NATION WIDE PERMIT GENERAL CONDITIONS, AS WELL AS ANY ACTIVITY- SPECIFIC CONDITIONS ADDED BY THE DISTRICT ENGINEER TO AN NATIONWIDE PERMIT AUTHORIZATION

**HAZARDOUS MATERIALS:**  
 HAZARDOUS MATERIALS, CHEMICALS, FUELS, LUBRICATING OILS AND OTHER SUCH SUBSTANCES SHOULD BE STORED AWAY FROM ANY STREAM OR RIVER CHANNEL (SEE SECTION 307 OF CLEAN WATER ACT)

**EQUIPMENT:**  
 HEAVY EQUIPMENT WORKING IN WETLANDS OR MUDFLATS MUST BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE; FOR EXAMPLE IF WETLANDS ARE PRESENT WITHIN THE CONSTRUCTION, THE FOOTPRINT WILL BE SHOWN ON THE PLANS. MEASURES SHOULD BE TAKEN TO PREVENT DISCHARGE INTO ANY WATERS OF THE STATE (e.g. CONCRETE WASHOUT).

**SOIL EROSION AND SEDIMENT CONTROLS:**  
 APPROPRIATE SOIL EROSION AND SEDIMENT CONTROLS MUST BE USED AND MAINTAINED IN EFFECTIVE OPERATING CONDITION DURING CONSTRUCTION, AND ALL EXPOSED SOILS AND OTHER FILLS, AS WELL AS ANY WORK WITHIN STREAM OR RIVER CHANNELS OR BANKS, MUST BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE.

**404 COMPLIANCE:**  
 IN ORDER TO REMAIN COMPLIANT WITH THE 404 PERMIT, THE PROJECT MUST COMPLY WITH ALL FEDERAL ENVIRONMENTAL PROTECTION LAWS ASSOCIATED AND, THE ENVIRONMENTAL COMMITMENTS AS SHOWN ON THE PLANS. THIS INCLUDES BUT IS NOT LIMITED TO COMPLIANCE WITH ALL ENVIRONMENTAL NOTES IN THE PLANS, INCLUDING CULTURAL RESOURCES, HAZARDOUS WASTE, BIOLOGICAL FOR PROTECTED SPECIES, AND DEQ STORM WATER REGULATIONS AS THEY PERTAIN TO THE SWMP SHEET WITHIN THE PLANS. ALL OF THE 404 PERMIT GENERAL AND SPECIFIC CONDITIONS MUST BE ADHERED TO. A COPY OF THESE CONDITIONS CAN BE FOUND IN THE CONTRACT WITH THE 404 PERMIT.

## PERMIT GENERAL CONDITIONS

**FUELING:**  
 ALL FUELING AND SERVICING OF VEHICLES AND EQUIPMENT SHALL BE DONE ABOVE THE ORDINARY HIGH WATER MARK (OHWM).

**MATERIAL STORAGE:**  
 STORE MATERIAL AND FUEL OUTSIDE OF THE ORDINARY HIGH WATER MARK OR ANY AREA LIKELY TO FLOOD.

**DEBRIS STORAGE:**  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY MATERIALS, DEBRIS, OR REFUSE WHICH HAS FALLEN INTO ANY STREAM OR RIVER CHANNELS RESULTING FROM THE EXECUTION OF THE PROJECT AS SOON AS POSSIBLE

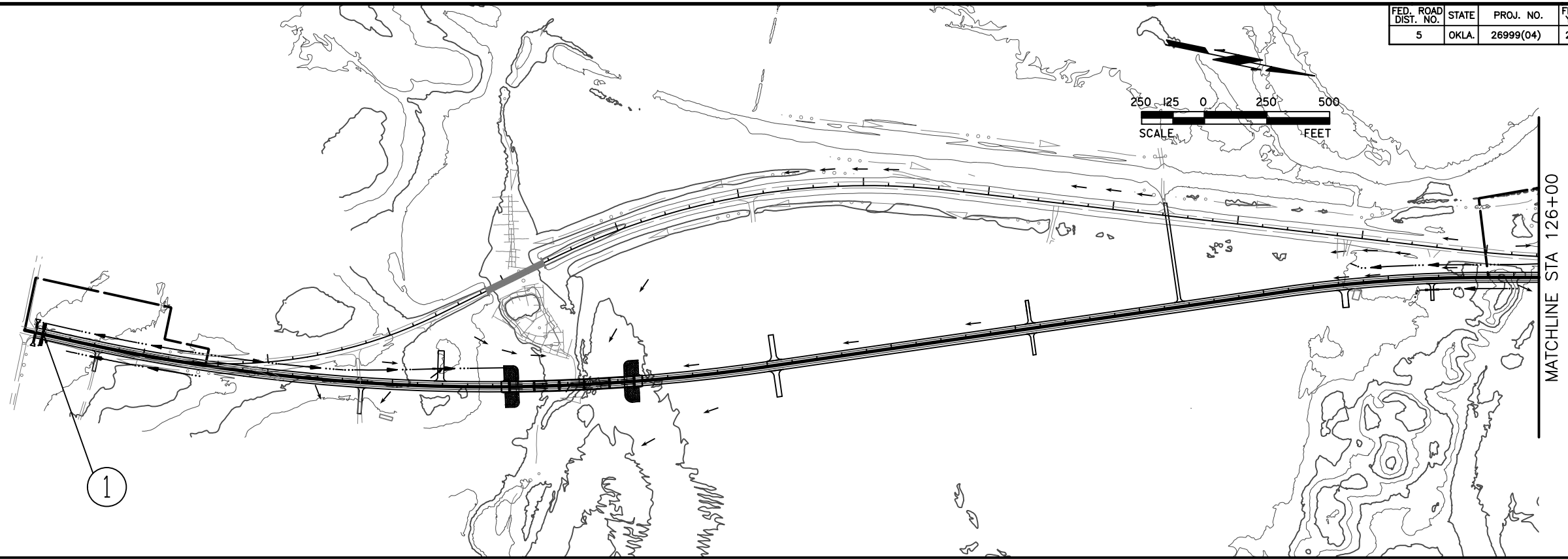
SEE NATIONWIDE PERMIT 14 IN THE CONTRACT

## 401 CERTIFICATION CONDITIONS

THE CONTRACTOR SHALL BE RESPONSIBLE BUT NOT LIMITED TO THE FOLLOWING HIGHLIGHTS OF THE 401 CERTIFICATION (SEE CONTRACT FOR COMPLETE LIST):

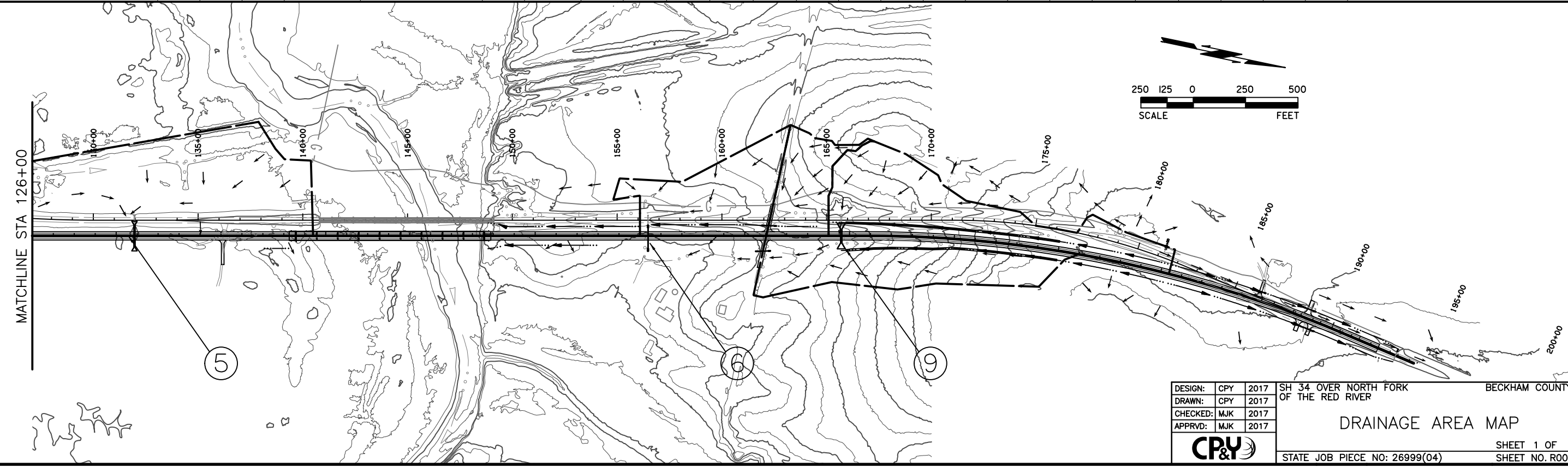
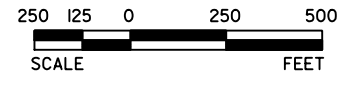
- ALL SPILLS OF FUEL OR POLLUTANTS IN EXCESS OF FIVE GALLONS SHALL BE REPORTED TO ODEQ WITHIN 24 HRS AND REPORTED TO POLLUTION PREVENTION HOTLINE (1-800-522-0206)
- ALL FUELING AND SERVICING OF VEHICLES AND EQUIPMENT SHALL BE DONE OUTSIDE THE ORDINARY HIGH WATER MARK
- THE PERMITTEE SHALL PROVIDE ACCESS TO THE PROPERTY TO ODEQ FOR INSPECTIONS.
- ANY STOCKPILE SHALL BE ABOVE ORDINARY HIGH WATER MARK AND REMOVED FROM LIKELY FLOOD ZONE
- BEST MANAGEMENT PRACTICES SHOULD BE USED TO CONTROL SOIL EROSION AND MAINTAIN COMPLIANCE WITH WATER QUALITY STANDARDS.
- FOR ANY PROJECT THAT INVOLVES BANK STABILIZATION, THE PERMITTEE SHALL CONSIDER INSTALLING BIOENGINEERING PRACTICES IN PLACE OF STRUCTURAL PRACTICES (RIPRAP) TO MINIMIZE IMPACTS TO AQUATIC RESOURCES

	DETAIL	
	REVIEW	
	APPROVED	
ENVIRONMENTAL DIVISION		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	
	JOB/PIECE NO.	SHEET NO.



**DRAINAGE DESIGN RECORD (CROSS DRAINS)**

STRUCTURE NO.	DRAINAGE AREA NUMBER	DESIGN YEAR	CRL STATION	STRUCTURE SIZE AND TYPE	DRAINAGE AREA ACRE	ANTICIPATED LAND USE	C RUNOFF COEFFICIENT	LENGTH OF OVERLAND FLOW		LENGTH OF CHANNEL FLOW		SLOPE OF CHANNEL FLOW FT/FT	T. TIME OF CONC. TOTAL MIN.	INTENSITY OF DESIGN YEAR RAINFALL		WRIGHT-MCLAUGHLIN FACTOR	DISCHARGE OF DESIGN YEAR RAINFALL		STRUCTURE CAPACITY CFS	FLOWLINE ELEV.		OUTLET SLOPE %	VELOCITY FT/SEC	ALLOWABLE HEADWATER FT	HEADWATER FT
								LF	FT/FT	LF	FT/FT			10 IN/HR	50 IN/HR		10 CFS	50 CFS		IN	OUT				
1	A1	50	65+90.00	2-28"x18"x87.0' LF RCPA	3.01	RURAL	0.51	1828	0.001	740	0.002	59.57	-	3.41	1.20	-	5.23	46.49	1692.40	1691.91	0.56%	3.93	1695.72	1692.98	
5	A2	50	130+87.33	5'x5'x92' LF RCB	15.24	RURAL	0.36	783	0.012	1,535	0.020	25.93	-	5.54	1.20	-	30.40	218.49	1680.32	1679.87	0.49%	6.91	1690.23	1682.39	
6	A3	50	155+38.21	24"x126' LF RCP	8.41	RURAL	0.47	570	0.026	900	0.035	16.99	-	6.76	1.20	-	26.73	40.20	1701.95	1696.81	4.08%	15.23	1709.12	1706.11	
9	A4	50	164+60.55	5'x7'x66' LF RCB	7.86	RURAL	0.49	1410	0.021	1,639	0.039	22.88	-	5.90	1.20	-	22.72	391.36	1722.73	1722.40	0.50%	6.03	1732.45	1724.20	



DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017		
CHECKED: MJK 2017		
APPRVD: MJK 2017		

**DRAINAGE AREA MAP**

STATE JOB PIECE NO: 26999(04)

SHEET 1 OF 1  
SHEET NO. R001

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# STORM WATER MANAGEMENT PLAN

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	002	175
REVISIONS					
NO.	DATE	DESCRIPTION			
1	9/27/22	UPDATED C & ADDED DISCHARGE INFO			

## SITE DESCRIPTION

PROJECT LIMITS: PROJECT BEGINS IN SECTION 22 T-8-N, R-22-W AND EXTENDS NORTH 2.375 MILES IN SECTION 10 T-8-N, R-22-W.

PROJECT DESCRIPTION: GRADING, DRAINING, BRIDGE AND SURFACING OF 2.375 MILES OF UNDIVIDED HIGHWAY.

### SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

1. VEGETATIVE STRIPPING
2. UNDERCUT & STOCKPILE EXISTING TOPSOIL
3. INSTALL PERIMETER EROSION CONTROL MEASURES
4. ROADWAY EXCAVATION AND EMBANKMENT
5. BRIDGE CONSTRUCTION
6. CULVERT TRENCHING AND CONSTRUCTION
7. INSTALL TEMP. SEDIMENT FILTERS, SOD DITCHES, & VEGETATIVE MULCH
8. CONST. FINISHED ROADWAY PAVING
9. SPREAD TOPSOIL
10. INSTALL SOLID SLAB SOD

SOIL TYPE: SILTY/SAND

TOTAL AREA OF THE CONSTRUCTION SITE: 93.83 AC

ESTIMATED AREA TO BE DISTURBED: 45.01 AC

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 7.87 AC

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 12.46 AC

POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE:  $\Delta$  0.42

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 35°9'47.44" N AND 99°30'23.60W

### PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS:  $\Delta$  NORTH FORK OF THE RED RIVER

SENSITIVE WATERS OR WATERSHEDS: YES  NO

303(d) IMPAIRED WATERS: YES  NO

IF YES, LIST IMPAIRMENT:  $\Delta$  N/A

LOCATED IN A TMDL: YES  NO

LAKE THUNDERBIRD TMDL: YES  NO

MS4 ENTITY: YES  NO

IF YES, LOCATION:

### 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.

## EROSION AND SEDIMENT CONTROLS

### SOIL STABILIZATION PRACTICES:

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

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 PROTECTION
- TEMPORARY BRUSH SEDIMENT BARRIERS
- SANDBAG BERMS
- TEMPORARY STREAM CROSSINGS
- FLEXAMAT / ARTICULATED CONCRETE BLOCK
- COMPOST FILTER SOCKS
- EROSION CONTROL MATS AND BLANKETS

### OFFSITE VEHICLE TRACKING:

- HAUL ROADS DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- 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 2019 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
  - 221 TEMPORARY SEDIMENT CONTROL

#### IN ADDITION:

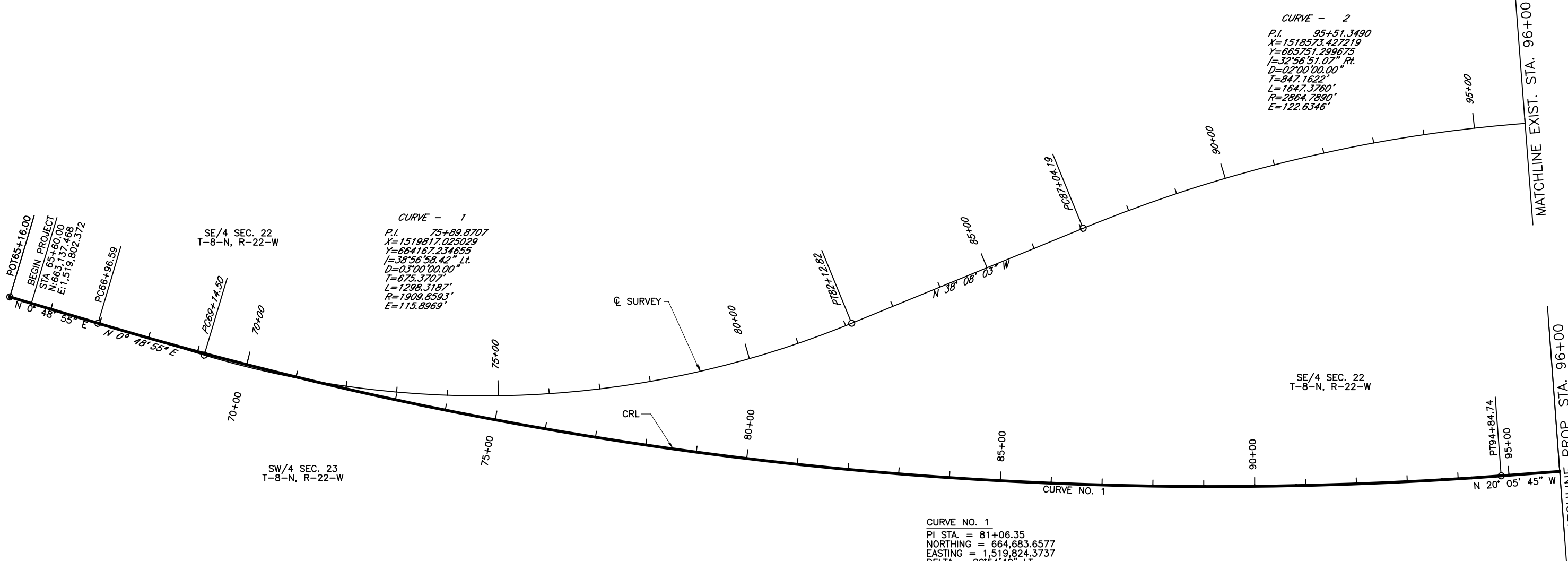
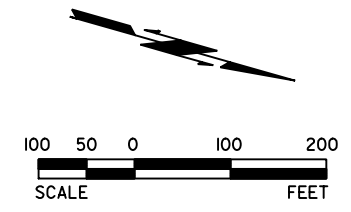
"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, OCTOBER 18, 2022.

ADDITIONAL PERMITS REQUIRED FROM OKLAHOMA WATER RESOURCES BOARD

DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	STORMWATER MANAGEMENT PLAN	
APPRVD: CPY 2017	STATE JOB PIECE NO: 26999(04)	
		SHEET 1 OF 1
		SHEET NO.002

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R003	173



**CURVE - 1**  
 P.I. 75+89.8707  
 X=1519817.025029  
 Y=664167.234655  
 I=38°56'58.42" Lt.  
 D=0°3'00.00"  
 T=675.3707'  
 L=1298.3187'  
 R=1909.8593'  
 E=115.8969'

**CURVE - 2**  
 P.I. 95+51.3490  
 X=1518573.427219  
 Y=665751.299675  
 I=32°56'51.07" Rt.  
 D=02°00'00.00"  
 T=847.1622'  
 L=1647.3760'  
 R=2864.7890'  
 E=122.6346'

**CURVE NO. 1**  
 PI STA. = 81+06.35  
 NORTHING = 664,683.6577  
 EASTING = 1,519,824.3737  
 DELTA = 20°54'40" Lt  
 RADIUS = 7,639.44'  
 D = 0°45'00"  
 TANGENT = 1,409.46'  
 LENGTH = 2,788.15'  
 V = 65 MPH  
 EMAX = 0.08  
 S = 0.026

POT65+16.00  
 BEGIN PROJECT  
 STA 65+60.00  
 N:665,137.468  
 E:1,519,802.372

SE/4 SEC. 22  
 T-8-N, R-22-W

SW/4 SEC. 23  
 T-8-N, R-22-W

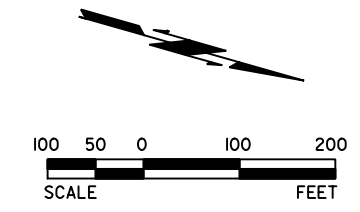
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 T-8-N, R-22-W

SE/4 SEC. 22  
 T-8-N, R-22-W

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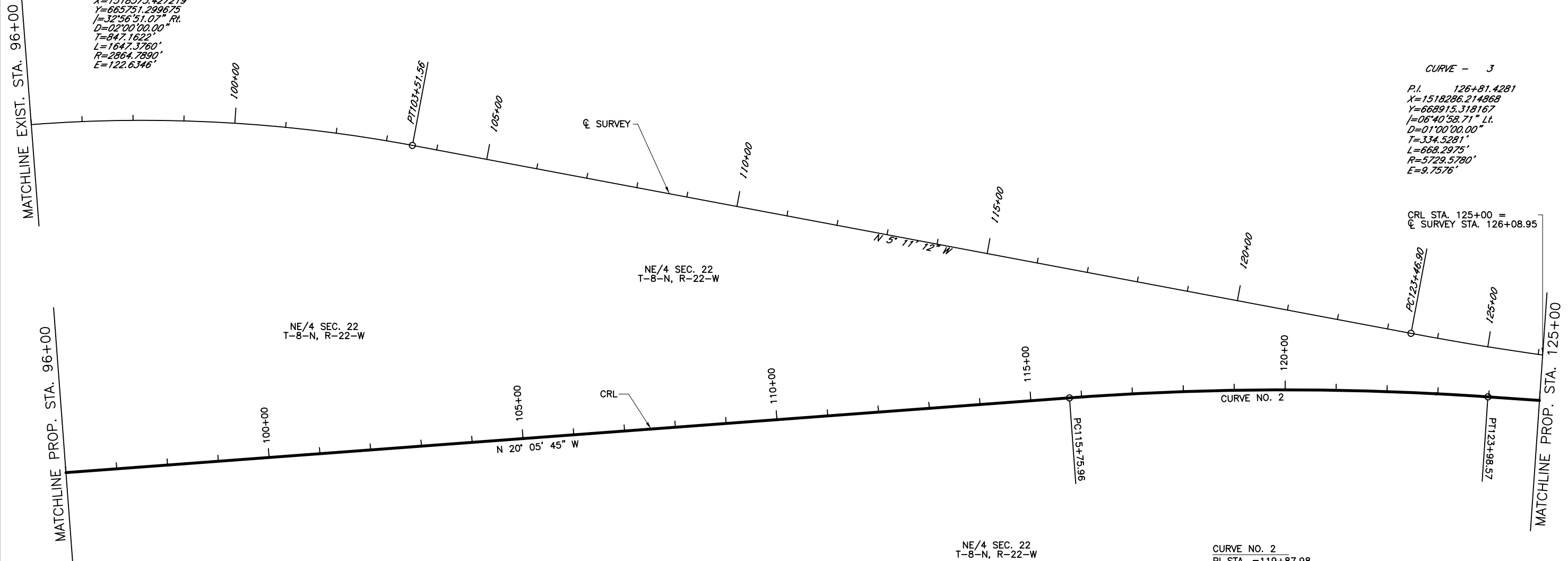
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DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>GEOMETRIC LAYOUT</b>	
APPRVD: CPY 2017		
		SHEET 1 OF 3
STATE JOB PIECE NO: 26999(04)		SHEET NO.R003

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R004	173



**CURVE - 2**  
 P.I. 95+51.3490  
 X=1518573.427219  
 Y=665751.299675  
 I=32°56'51.07" Rt.  
 D=02°00'00.00"  
 T=847.1622'  
 L=1647.3760'  
 R=2864.7890'  
 E=122.6346'

**CURVE - 3**  
 P.I. 126+81.4281  
 X=1518286.214868  
 Y=668915.318167  
 I=06°40'58.71" Lt.  
 D=01°00'00.00"  
 T=334.5281'  
 L=668.2975'  
 R=5729.5780'  
 E=9.7576'



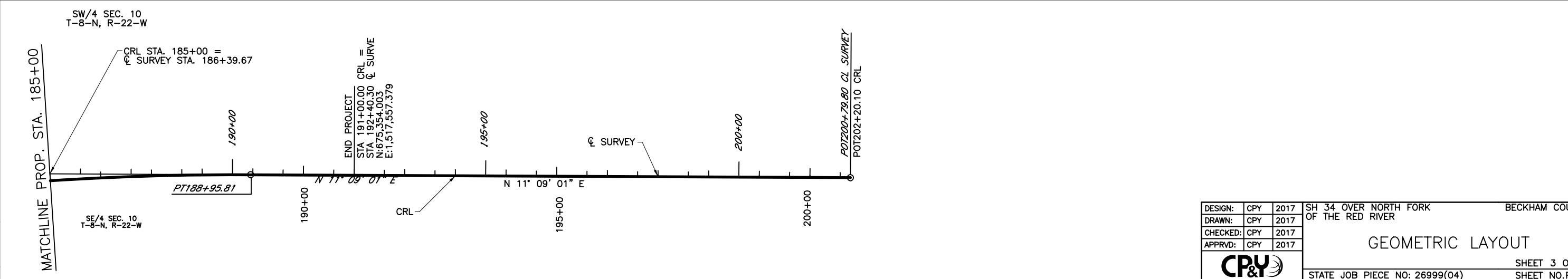
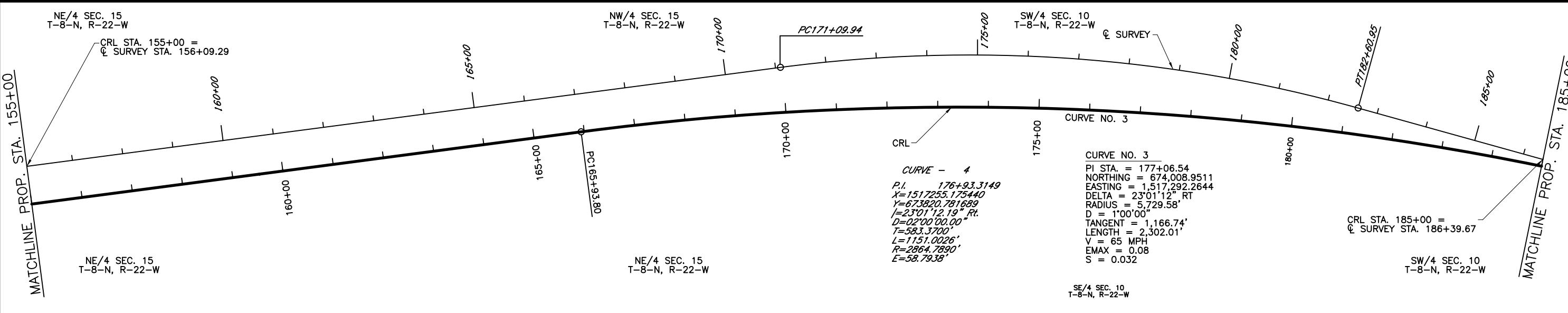
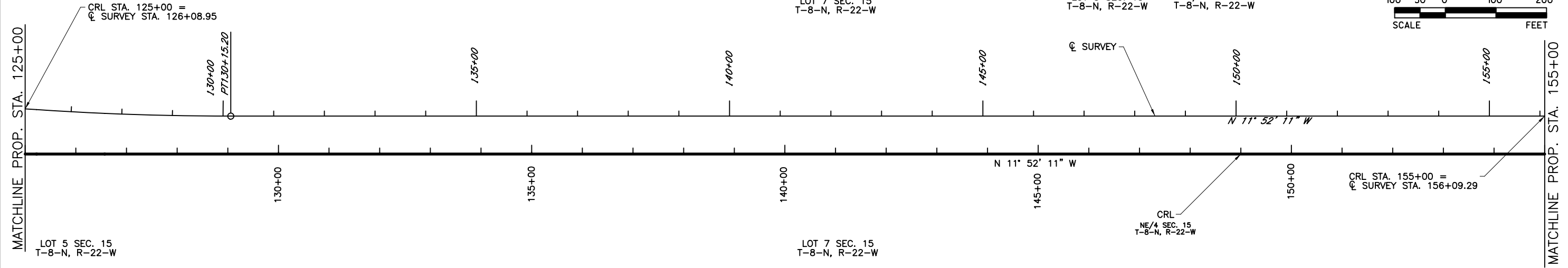
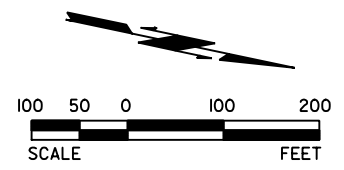
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 EASTING = 1,518,479.9019  
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 RADIUS = 5,729.58'  
 D = 1°00'00"  
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 EMAX = 0.08  
 S = 0.032

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DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>GEOMETRIC LAYOUT</b>	
APPRVD: CPY 2017	STATE JOB PIECE NO: 26999(04)	
		SHEET 2 OF 3 SHEET NO.R004

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R005	173

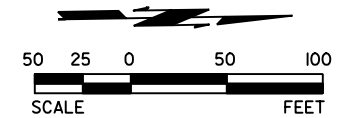
CURVE - 3  
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 Y=668915.318167  
 I=06°40'58.71" Lt.  
 D=01°00'00.00"  
 T=334.5281'  
 L=668.2975'  
 R=5729.5780'  
 E=9.7576'



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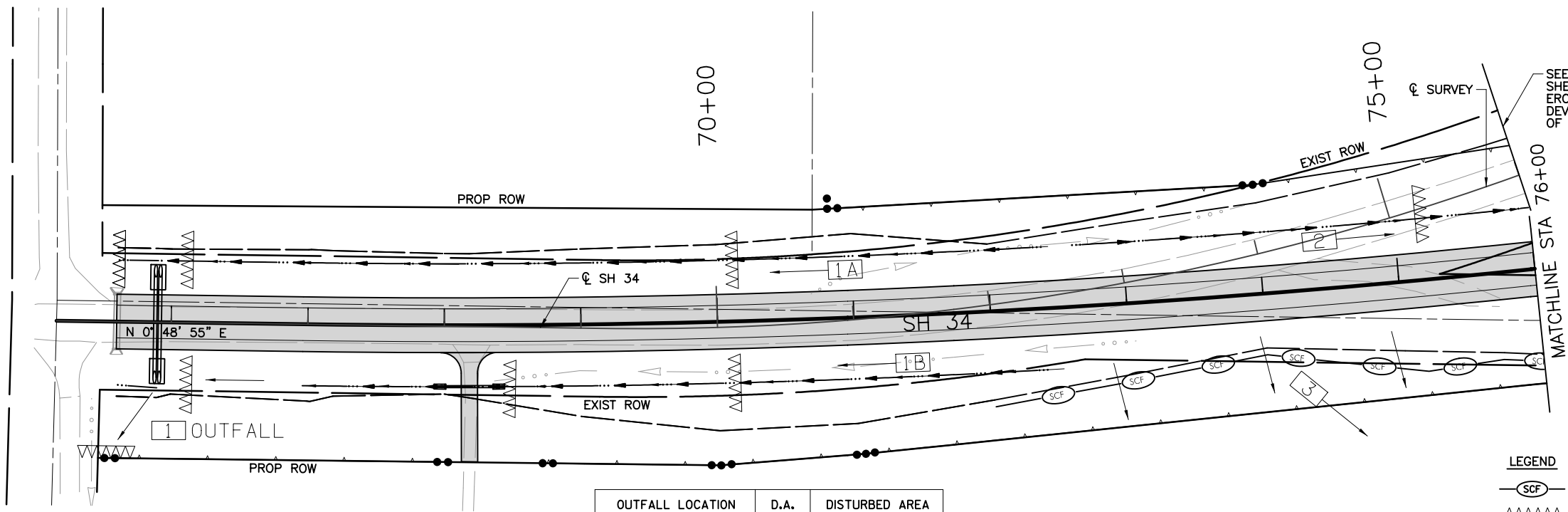
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DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>GEOMETRIC LAYOUT</b>	
APPRVD: CPY 2017	STATE JOB PIECE NO: 26999(04)	
		SHEET 3 OF 3
		SHEET NO. R005





1. ALL EROSION CONTROL MEASURES SHALL BE STAGED IN ACCORDANCE WITH CONSTRUCTION SEQUENCING PHASES.

2. THE CONTRACTORS SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS AND AS REQUIRED BY CONDITIONS OF THE SITE.

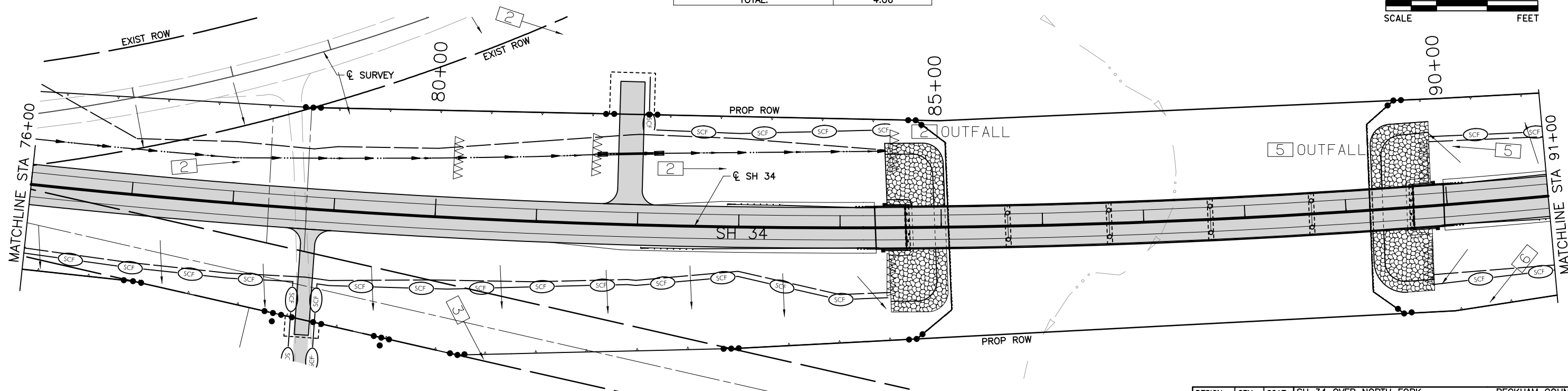
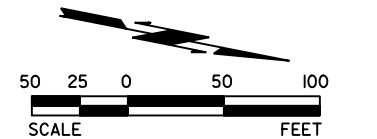


SEE EROSION CONTROL SHEETS 6 & 7 FOR EROSION CONTROL DEVICES DURING REMOVAL OF EXIST. SH 34

OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
65+90.00	LT	1A	0.81
65+00.00	RT	1B	0.95
TOTAL:			1.76

- LEGEND**
- SCF SILT FENCE
  - SILT DIKE
  - TYP I-C SEDIMENT FILTER
  - RFD ROCK FILTER DAM (TYPE 1)

OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
84+50.00	LT	2	4.06
TOTAL:			4.06



OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
SHEET FLOW	RT	3	1.29
TOTAL:			1.29

DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017		
CHECKED: CPY 2017		
APPRVD: CPY 2017		

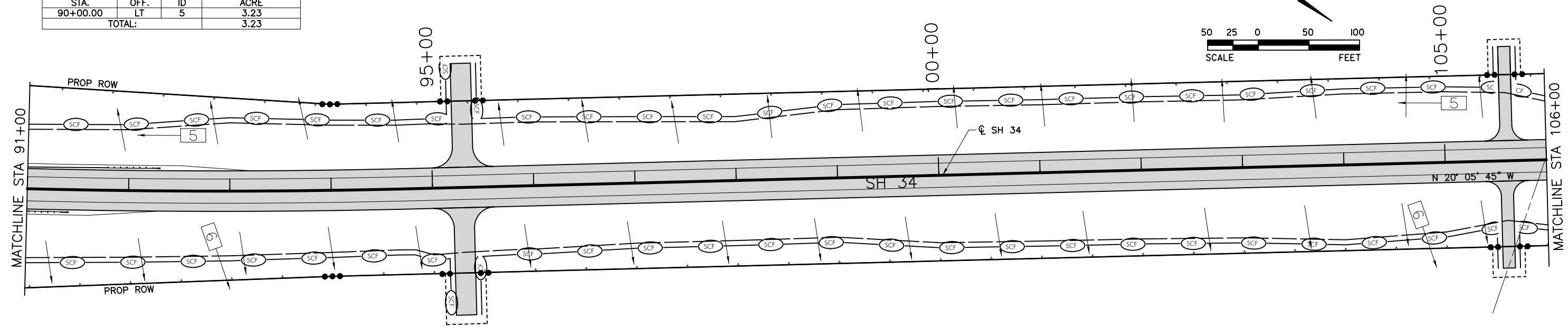
**EROSION CONTROL**

STATE JOB PIECE NO: 26999(04)

SHEET 1 OF 7  
SHEET NO. R006

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OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
90+00.00	LT	5	3.23
TOTAL:			3.23



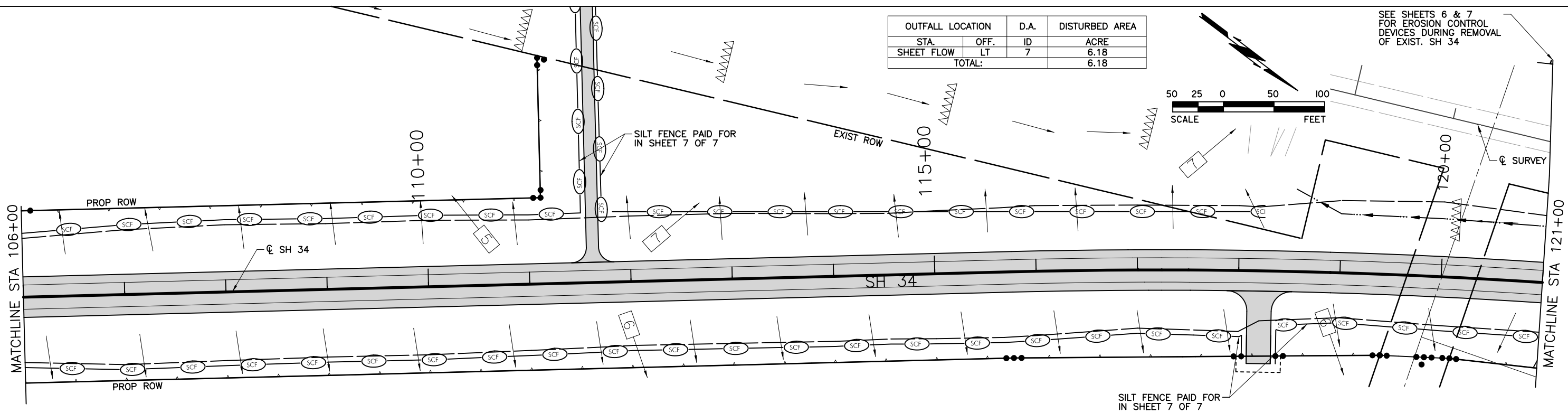
1. ALL EROSION CONTROL MEASURES SHALL BE STAGED IN ACCORDANCE WITH CONSTRUCTION SEQUENCING PHASES.
2. THE CONTRACTORS SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS AND AS REQUIRED BY CONDITIONS OF THE SITE.

OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
SHEET FLOW	RT	6	5.38
TOTAL:			5.38

**LEGEND**

- SILT FENCE
- SILT DIKE
- SEDIMENT FILTER
- ROCK FILTER DAM (TYPE 1)

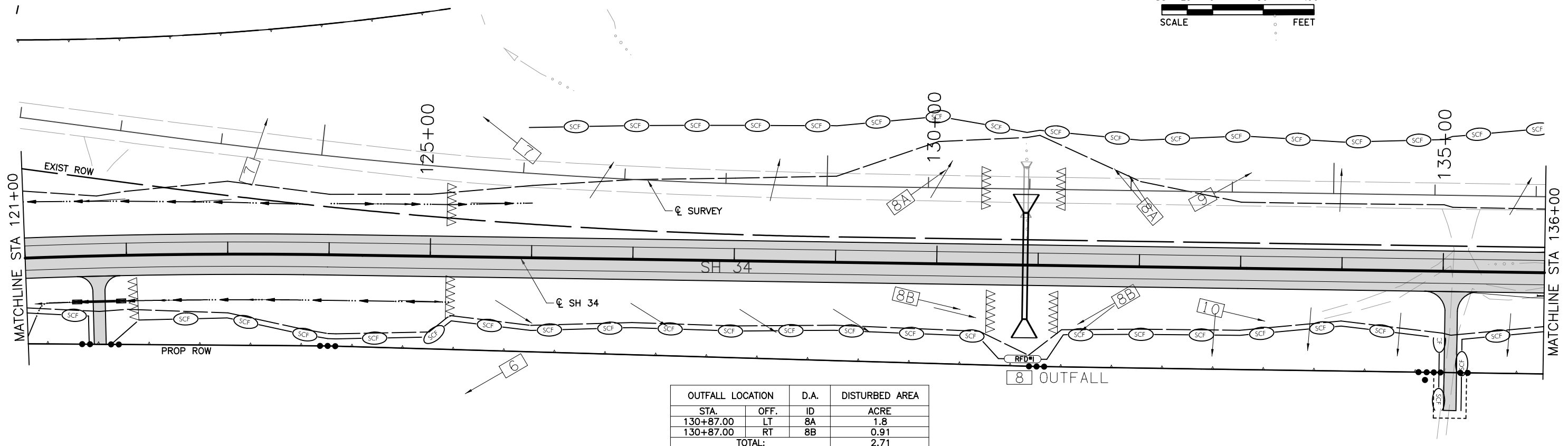
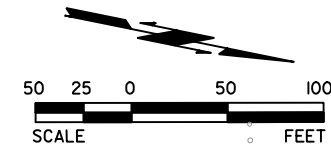
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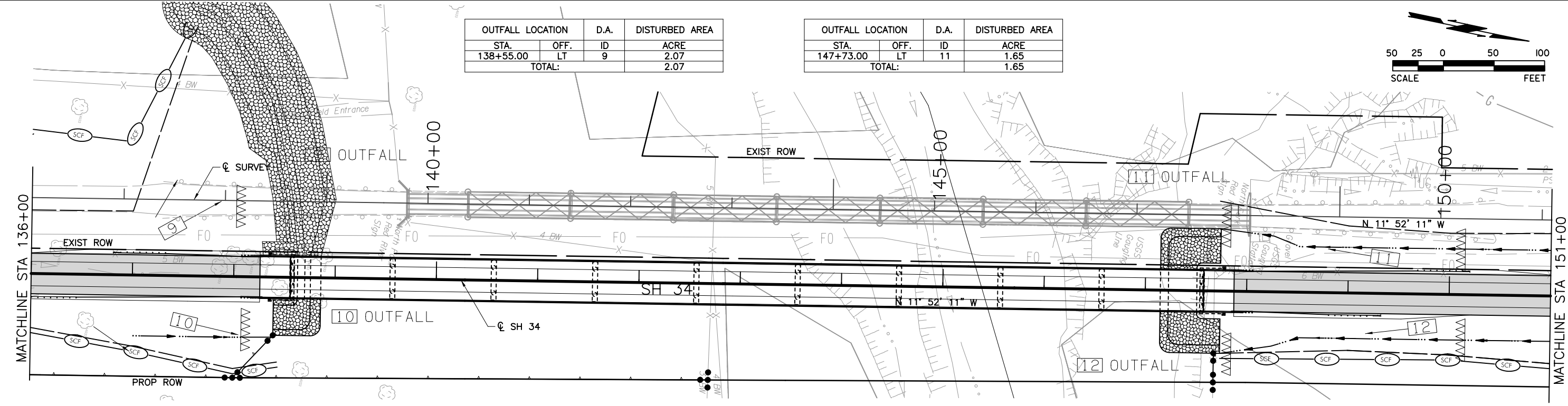
OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
SHEET FLOW	LT	7	6.18
TOTAL:			6.18

SEE SHEETS 6 & 7 FOR EROSION CONTROL DEVICES DURING REMOVAL OF EXIST. SH 34

DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017	<b>EROSION CONTROL</b>	
CHECKED: CPY 2017		
APPRVD: CPY 2017		
		SHEET 2 OF 7 SHEET NO. R007
STATE JOB PIECE NO: 26999(04)		



OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
130+87.00	LT	8A	1.8
130+87.00	RT	8B	0.91
TOTAL:			2.71



OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
138+55.00	LT	9	2.07
TOTAL:			2.07

OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
147+73.00	LT	11	1.65
TOTAL:			1.65

OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
138+55.00	RT	10	0.95
TOTAL:			0.95

OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
147+74.00	RT	12	0.97
TOTAL:			0.97

- LEGEND**
- SILT FENCE
  - SILT DIKE
  - SEDIMENT FILTER
  - ROCK FILTER DAM (TYPE 1)

1. ALL EROSION CONTROL MEASURES SHALL BE STAGED IN ACCORDANCE WITH CONSTRUCTION SEQUENCING PHASES.

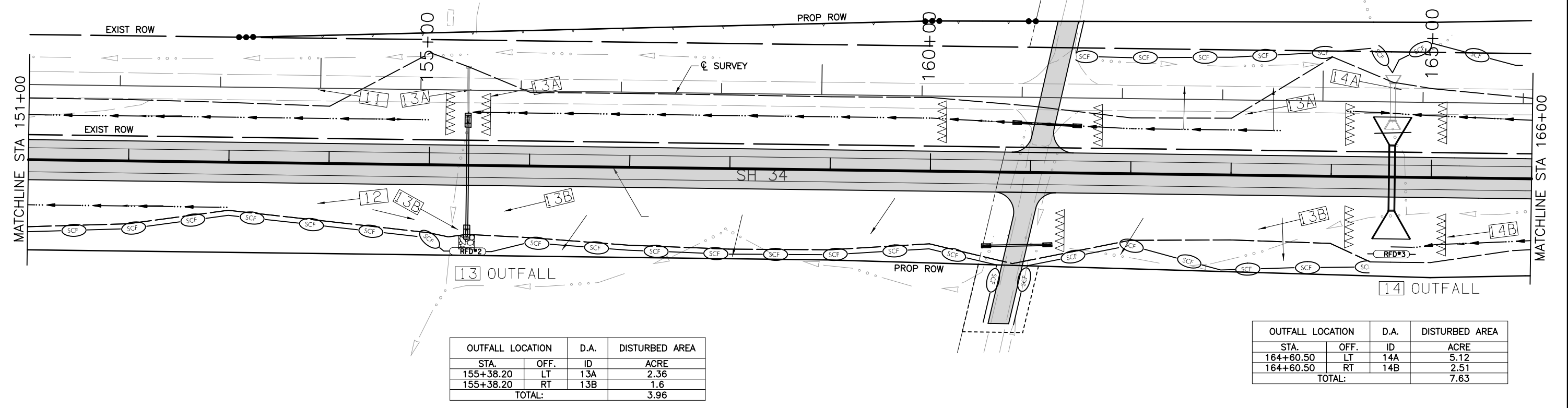
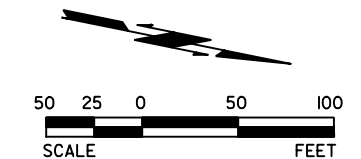
2. THE CONTRACTORS SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS AND AS REQUIRED BY CONDITIONS OF THE SITE.

DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>EROSION CONTROL</b>	
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 3 OF 7 SHEET NO. R008

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1. ALL EROSION CONTROL MEASURES SHALL BE STAGED IN ACCORDANCE WITH CONSTRUCTION SEQUENCING PHASES.

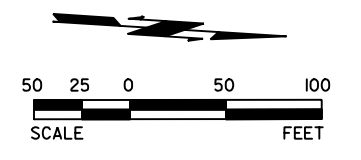
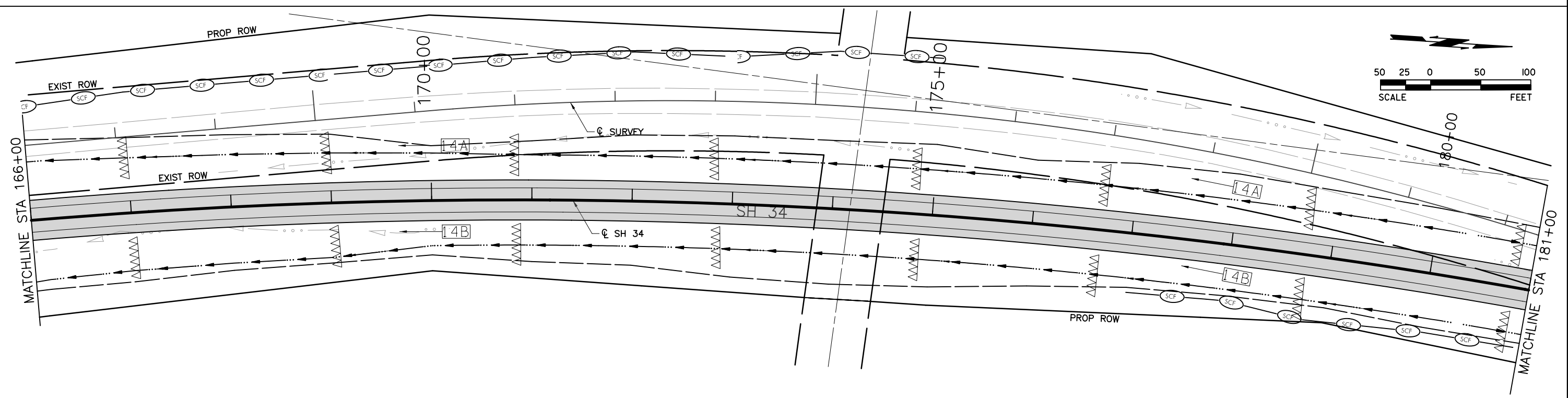
2. THE CONTRACTORS SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS AND AS REQUIRED BY CONDITIONS OF THE SITE.



OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
155+38.20	LT	13A	2.36
155+38.20	RT	13B	1.6
TOTAL:			3.96

OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
164+60.50	LT	14A	5.12
164+60.50	RT	14B	2.51
TOTAL:			7.63

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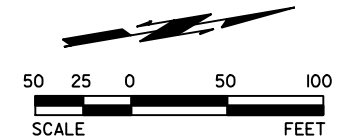
- LEGEND**
- SILT FENCE
  - SILT DIKE
  - SEDIMENT FILTER
  - ROCK FILTER DAM (TYPE 1)

DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>EROSION CONTROL</b>	
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 4 OF 7 SHEET NO. R009

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R010	173

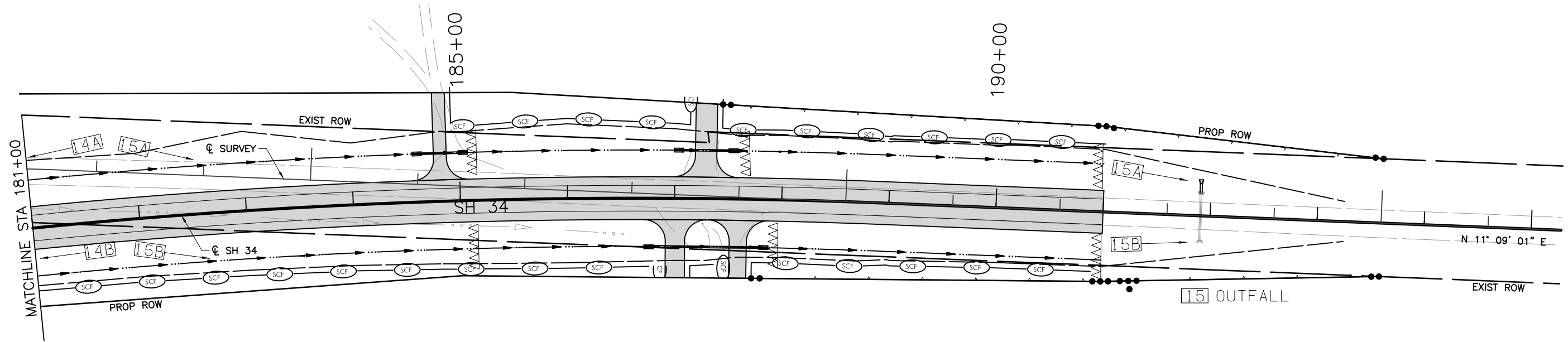
1. ALL EROSION CONTROL MEASURES SHALL BE STAGED IN ACCORDANCE WITH CONSTRUCTION SEQUENCING PHASES.

2. THE CONTRACTORS SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS AND AS REQUIRED BY CONDITIONS OF THE SITE.



**LEGEND**

	SILTS FENCE
	SILTS DIKE
	SEDIMENT FILTER
	ROCK FILTER DAM (TYPE 1)



OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
191+90.70	LT	15A	1.73
191+90.71	RT	15B	1.44
TOTAL:			3.17

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DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017		
CHECKED: CPY 2017		
APPRVD: CPY 2017		
<b>EROSION CONTROL</b>		
		SHEET 5 OF 7 SHEET NO. R010
STATE JOB PIECE NO: 26999(04)		

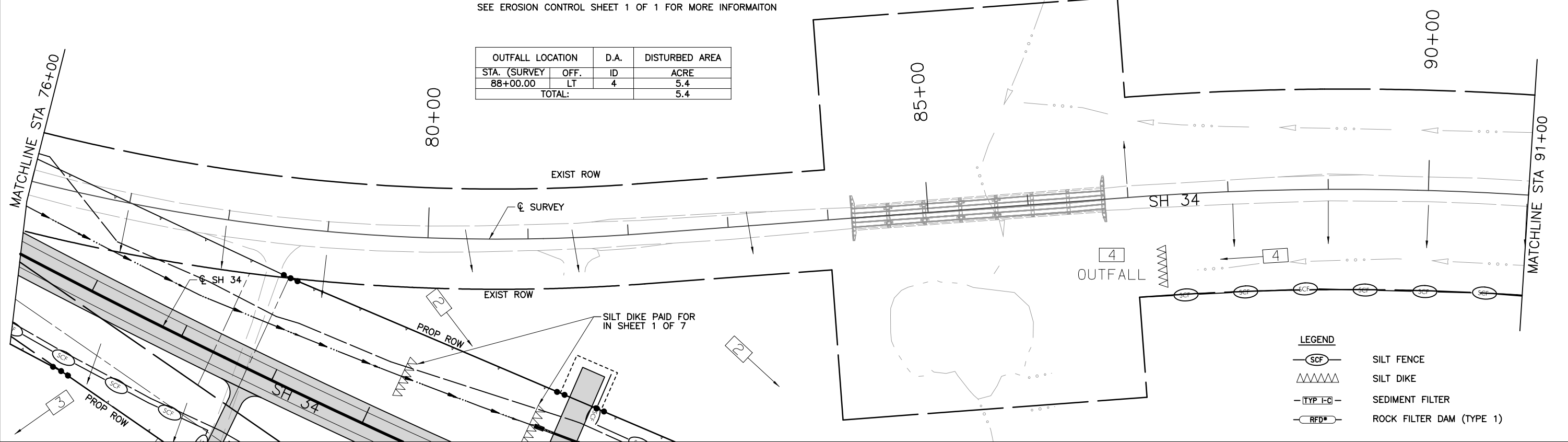
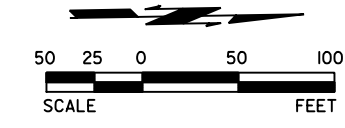
1. ALL EROSION CONTROL MEASURES SHALL BE STAGED IN ACCORDANCE WITH CONSTRUCTION SEQUENCING PHASES.

2. THE CONTRACTORS SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS AND AS REQUIRED BY CONDITIONS OF THE SITE.

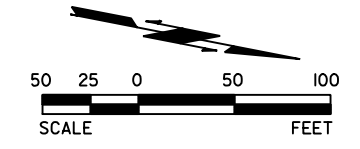
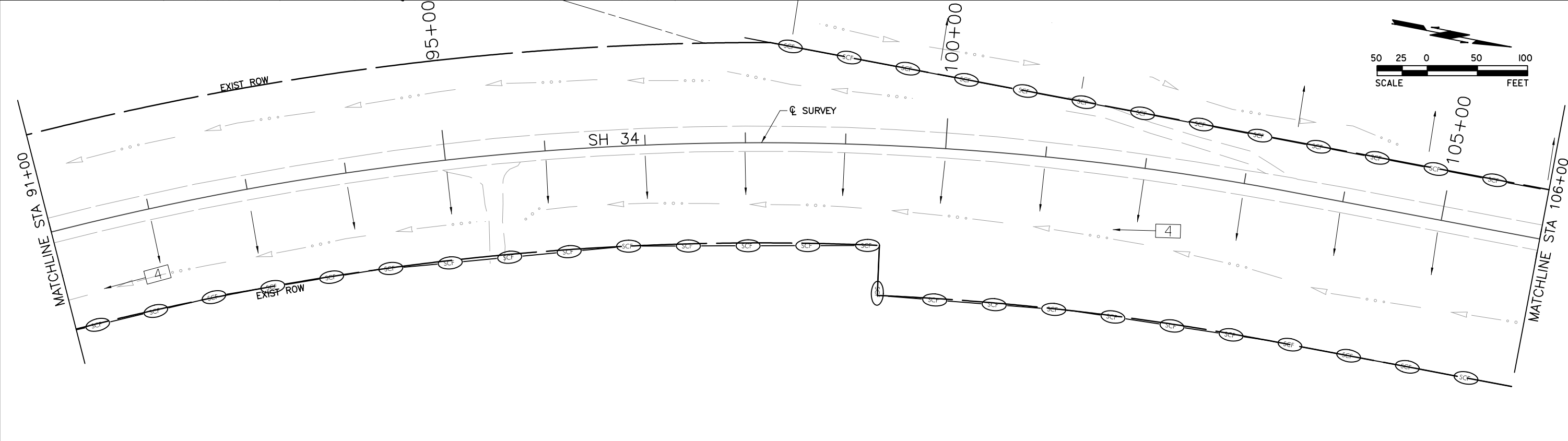
OUTFALL LOCATION		D.A.	DISTURBED AREA
STA.	OFF.	ID	ACRE
84+50.00	LT	2	4.06
TOTAL:			4.06

OUTFALL LOCATION		D.A.	DISTURBED AREA
STA. (SURVEY)	OFF.	ID	ACRE
88+00.00	LT	4	5.4
TOTAL:			5.4

SEE EROSION CONTROL SHEET 1 OF 1 FOR MORE INFORMATION



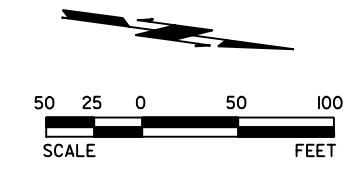
- LEGEND**
- SILT FENCE
  - SILT DIKE
  - SEDIMENT FILTER
  - ROCK FILTER DAM (TYPE 1)



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DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>EROSION CONTROL</b>	
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 6 OF 7 SHEET NO. R011

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R012	173



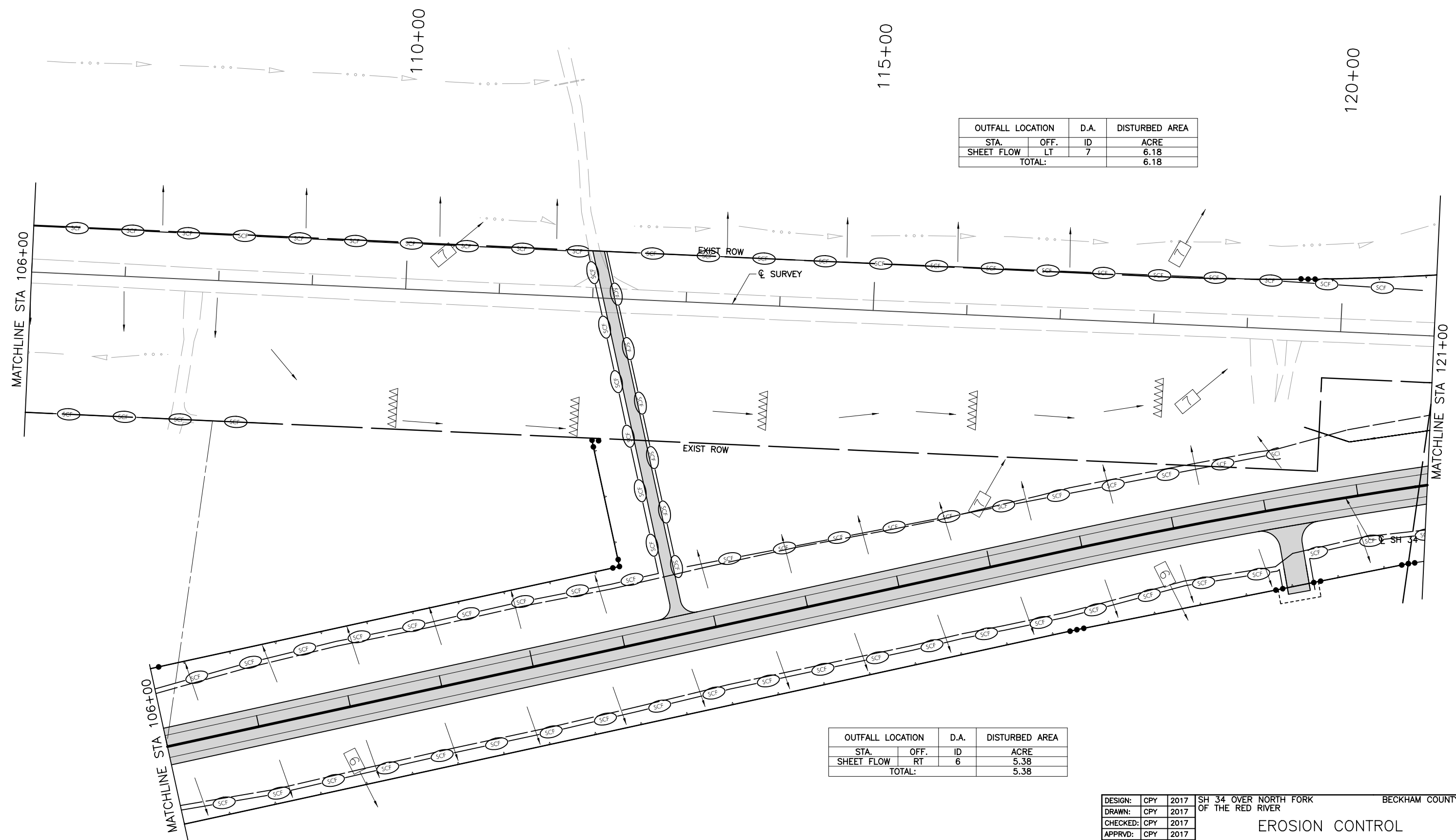
1. ALL EROSION CONTROL MEASURES SHALL BE STAGED IN ACCORDANCE WITH CONSTRUCTION SEQUENCING PHASES.
2. THE CONTRACTORS SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS AND AS REQUIRED BY CONDITIONS OF THE SITE.

OUTFALL LOCATION		D.A.		DISTURBED AREA	
STA.	OFF.	ID	ACRE		
SHEET FLOW	LT	7		6.18	
TOTAL:				6.18	

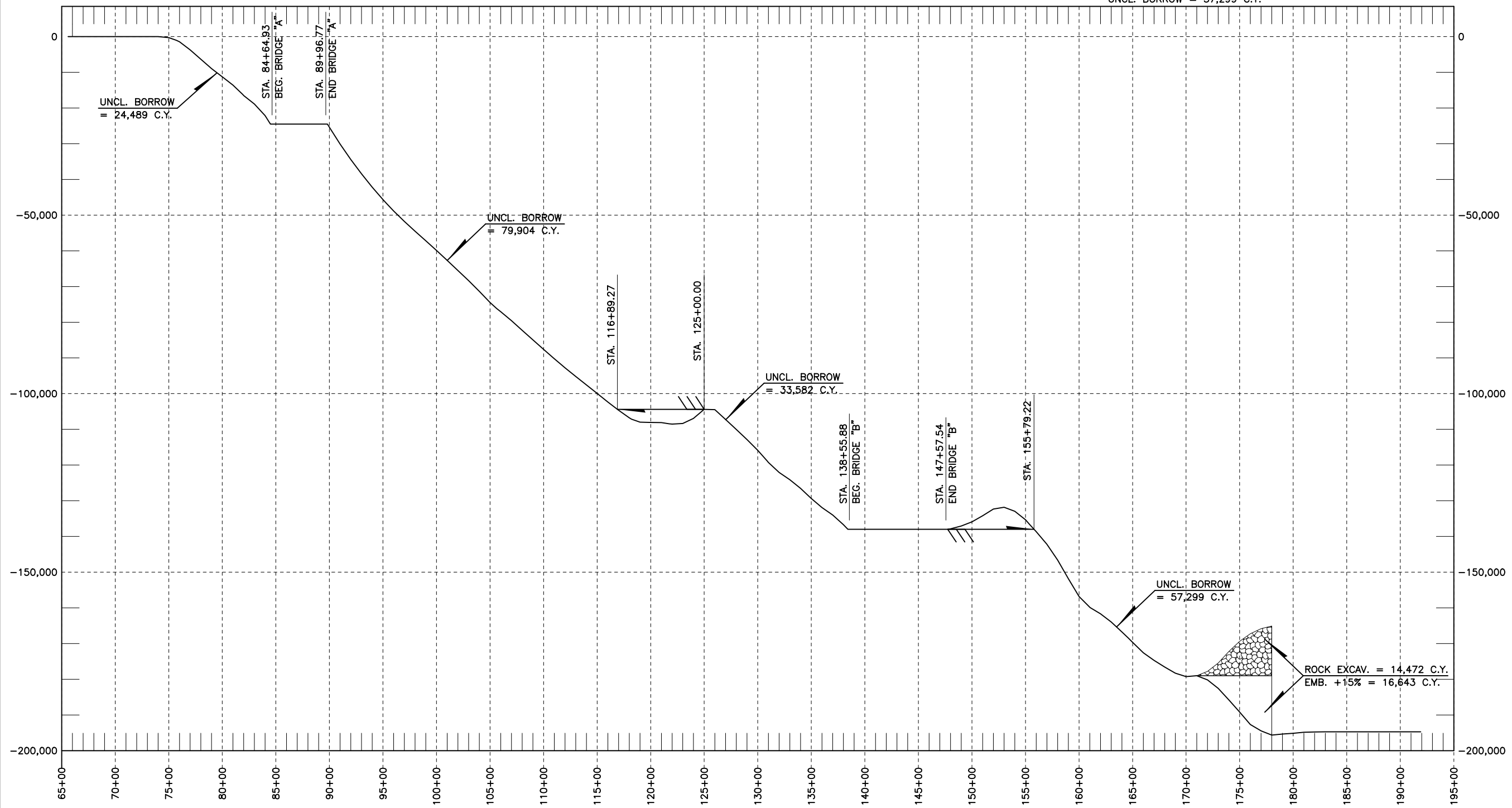
OUTFALL LOCATION		D.A.		DISTURBED AREA	
STA.	OFF.	ID	ACRE		
SHEET FLOW	RT	6		5.38	
TOTAL:				5.38	

DESIGN: CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY	2017		
CHECKED: CPY	2017		
APPRVD: CPY	2017		
<b>EROSION CONTROL</b>			
		STATE JOB PIECE NO: 26999(04)	SHEET 7 OF 7 SHEET NO.R012

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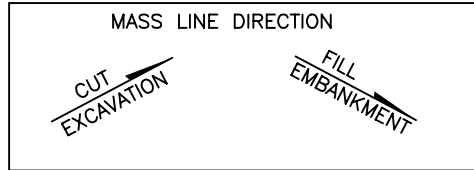


<b>SHEET ESTIMATE 1</b> STA. 65+60 TO STA. 84+64.93 UNCL. EXCAV. = 612 C.Y. EMB. +15% = 25,102 C.Y. UNCL. BORROW = 24,489 C.Y.	<b>SHEET ESTIMATE 2</b> STA. 89+97.66 TO STA. 138+55.88 UNCL. EXCAV. = 6,737 C.Y. EMB. +15% = 120,223 C.Y. UNCL. BORROW = 113,486 C.Y.	<b>SHEET ESTIMATE 3</b> STA. 147+57.54 TO STA. 191+90.97 UNCL. EXCAV. = 8,461 C.Y. ROCK EXCAV. = 14,472 C.Y. EMB. +15% = 65,760 C.Y. UNCL. BORROW = 57,299 C.Y.
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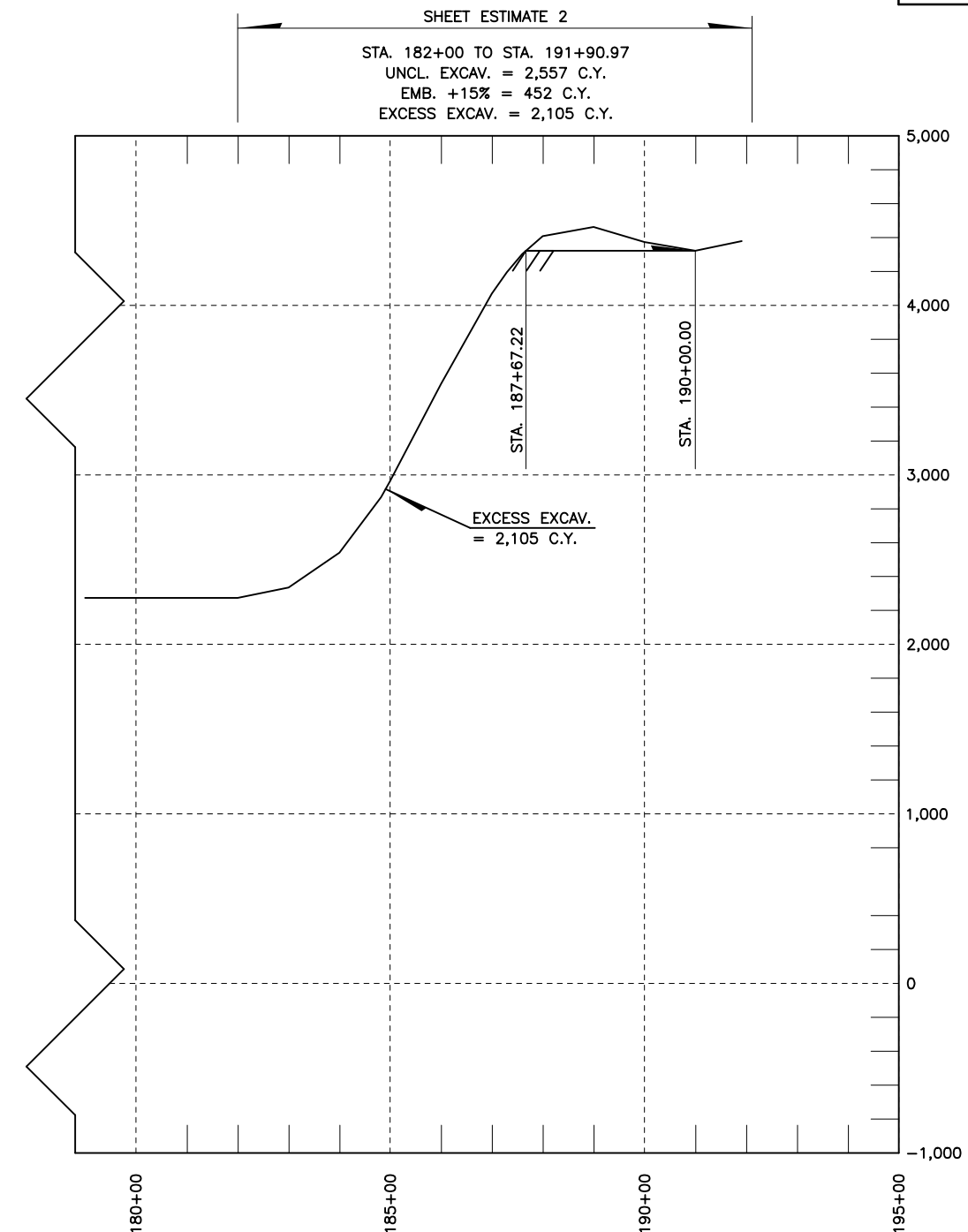
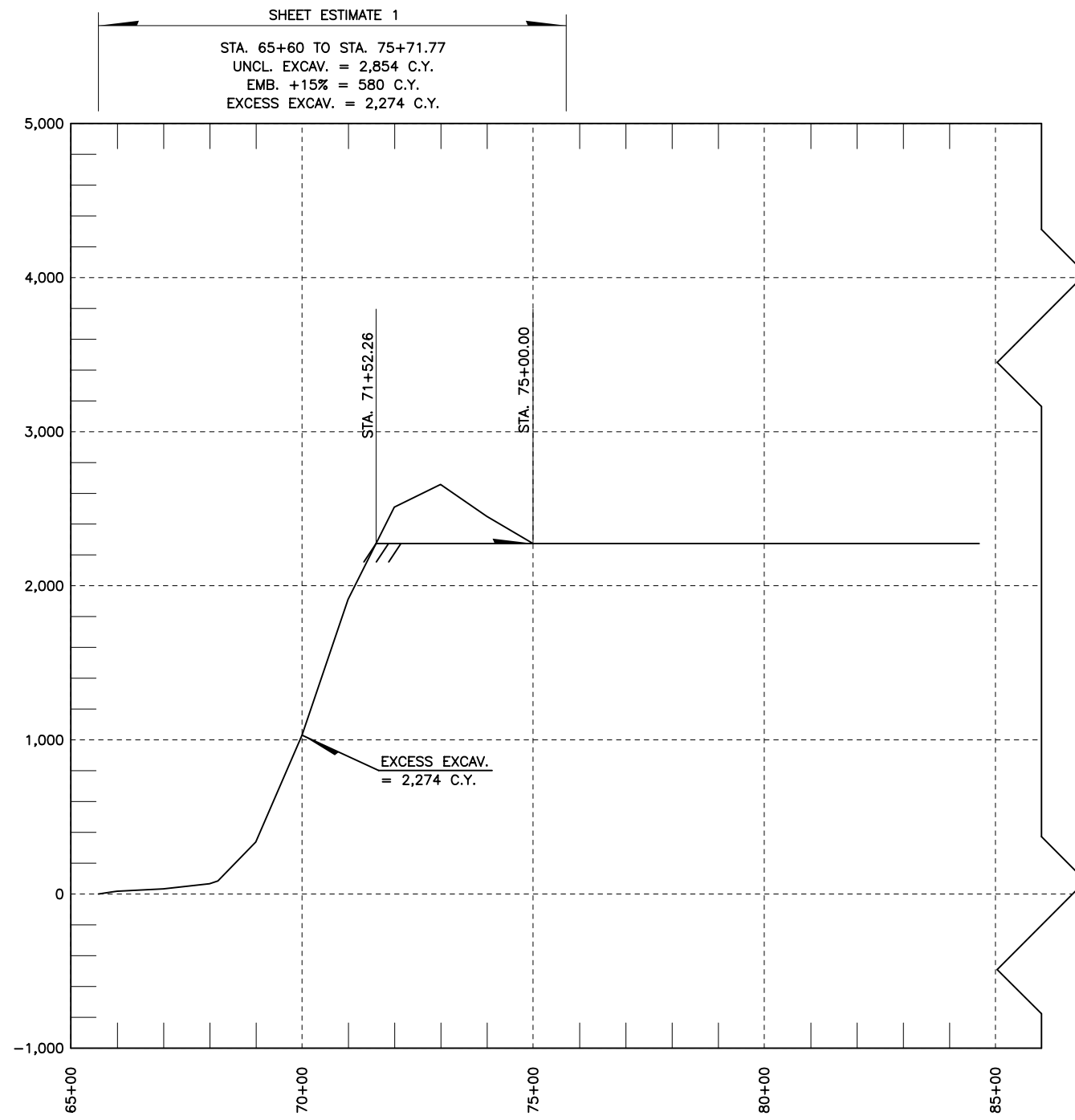
MASS DIAGRAM PROVIDED FOR BIDDING PURPOSES ONLY. ACTUAL BALANCE POINTS TO BE DETERMINED BY CONTRACTOR AND VOLUME OF MATERIAL ENCOUNTERED DURING GRADING OPERATIONS. WHENEVER POSSIBLE, THE CONTRACTOR SHALL SEQUENCE EARTHWORK OPERATIONS IN ORDER TO OBTAIN THE MATERIAL FROM THE CUT SECTION FOR USE AS FILL RATHER THAN OBTAINING UNCLASSIFIED BORROW. MATERIAL DEPICTED AS WASTE SHALL ONLY BE CONSIDERED WASTE ONCE ALL EARTHWORK OPERATIONS HAVE BEEN COMPLETED. THIS MATERIAL SHALL BE USED TO REDUCE THE NEED FOR UNCLASSIFIED BORROW AT ANY LOCATION AND TIME THROUGH THE DURATION OF THE PROJECT.



DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>MASS DIAGRAMS (PHASE 1)</b>	
APPRVD: CPY 2017	STATE JOB PIECE NO: 26999(04)	
<b>CP&amp;Y</b>		SHEET 1 OF 3 SHEET NO.R013

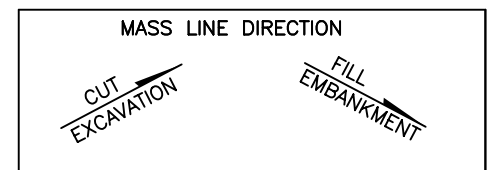


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R014	173



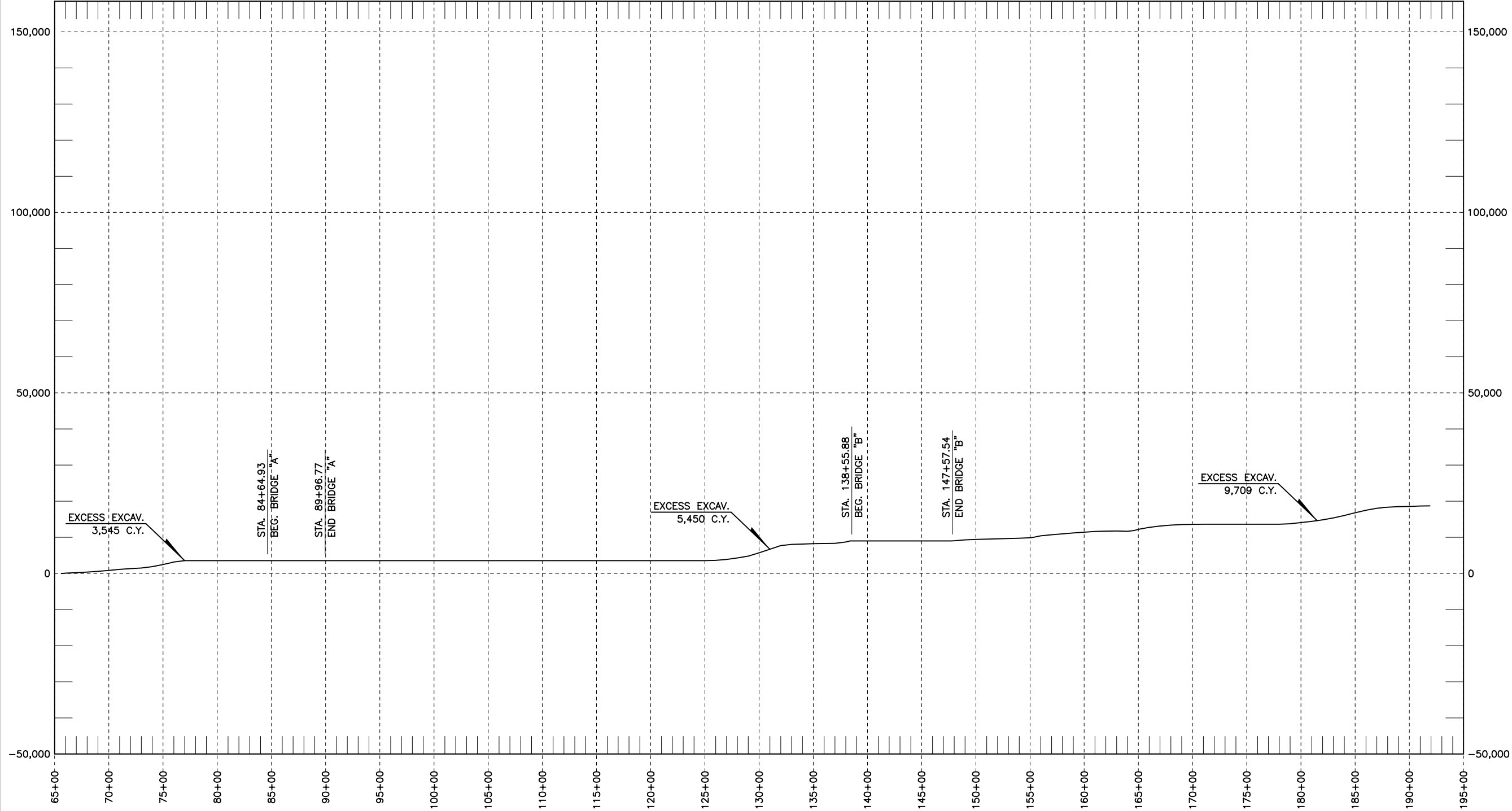
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MASS DIAGRAM PROVIDED FOR BIDDING PURPOSES ONLY. ACTUAL BALANCE POINTS TO BE DETERMINED BY CONTRACTOR AND VOLUME OF MATERIAL ENCOUNTERED DURING GRADING OPERATIONS. WHENEVER POSSIBLE, THE CONTRACTOR SHALL SEQUENCE EARTHWORK OPERATIONS IN ORDER TO OBTAIN THE MATERIAL FROM THE CUT SECTION FOR USE AS FILL RATHER THAN OBTAINING UNCLASSIFIED BORROW. MATERIAL DEPICTED AS WASTE SHALL ONLY BE CONSIDERED WASTE ONCE ALL EARTHWORK OPERATIONS HAVE BEEN COMPLETED. THIS MATERIAL SHALL BE USED TO REDUCE THE NEED FOR UNCLASSIFIED BORROW AT ANY LOCATION AND TIME THROUGH THE DURATION OF THE PROJECT.

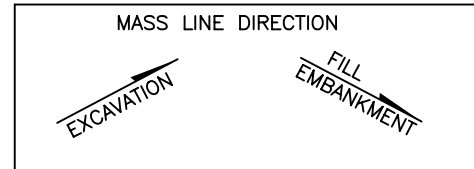


DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	MASS DIAGRAMS (PHASE 2A)	
APPRVD: CPY 2017	STATE JOB PIECE NO: 26999(04)	
		SHEET 2 OF 3 SHEET NO.R014

SHEET ESTIMATE 1	SHEET ESTIMATE 2	SHEET ESTIMATE 3
STA. 65+60 TO STA. 84+64.93 UNCL. EXCAV. = 3,566 C.Y. EMB. +15% = 21 C.Y. EXCESS EXCAV. = 3,545 C.Y.	STA. 89+97.66 TO STA. 138+55.88 UNCL. EXCAV. = 5,618 C.Y. EMB. +15% = 168 C.Y. EXCESS EXCAV. = 5,450 C.Y.	STA. 147+57.54 TO STA. 191+90.97 UNCL. EXCAV. = 10,515 C.Y. EMB. +15% = 806 C.Y. EXCESS EXCAV. = 9,709 C.Y.

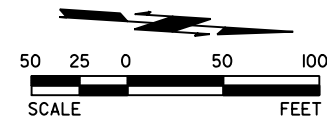


MASS DIAGRAM PROVIDED FOR BIDDING PURPOSES ONLY. ACTUAL BALANCE POINTS TO BE DETERMINED BY CONTRACTOR AND VOLUME OF MATERIAL ENCOUNTERED DURING GRADING OPERATIONS. WHENEVER POSSIBLE, THE CONTRACTOR SHALL SEQUENCE EARTHWORK OPERATIONS IN ORDER TO OBTAIN THE MATERIAL FROM THE CUT SECTION FOR USE AS FILL RATHER THAN OBTAINING UNCLASSIFIED BORROW. MATERIAL DEPICTED AS WASTE SHALL ONLY BE CONSIDERED WASTE ONCE ALL EARTHWORK OPERATIONS HAVE BEEN COMPLETED. THIS MATERIAL SHALL BE USED TO REDUCE THE NEED FOR UNCLASSIFIED BORROW AT ANY LOCATION AND TIME THROUGH THE DURATION OF THE PROJECT.



DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>MASS DIAGRAMS (PHASE 2B)</b>	
APPRVD: CPY 2017		
		SHEET 3 OF 3 SHEET NO. R015
STATE JOB PIECE NO: 26999(04)		

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**LEGEND**

- ASPHALT ROADWAY REMOVAL
- ASPHALT DRIVEWAY REMOVAL
- BRIDGE REMOVAL
- SIGN REMOVAL
- MAILBOX REMOVAL

EXISTING 4'x2' RCB REMOVE EXISTING HEADWALLS & PLUG AND ABANDON 12 CY CLASS "C" CONCRETE

REMOVAL OF SIGN 1 EA

REMOVAL OF TEMP PAVEMENT 270.59 SY

REMOVAL OF ASPHALT PAVEMENT 3066.9 SY

REMOVAL OF FENCING 311.60 LF

REMOVAL OF SIGN 1 EA

EXIST. FENCE TO REMAIN

REMOVAL OF ASPHALT DRIVE 27.5 SY

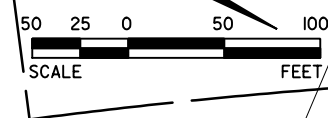
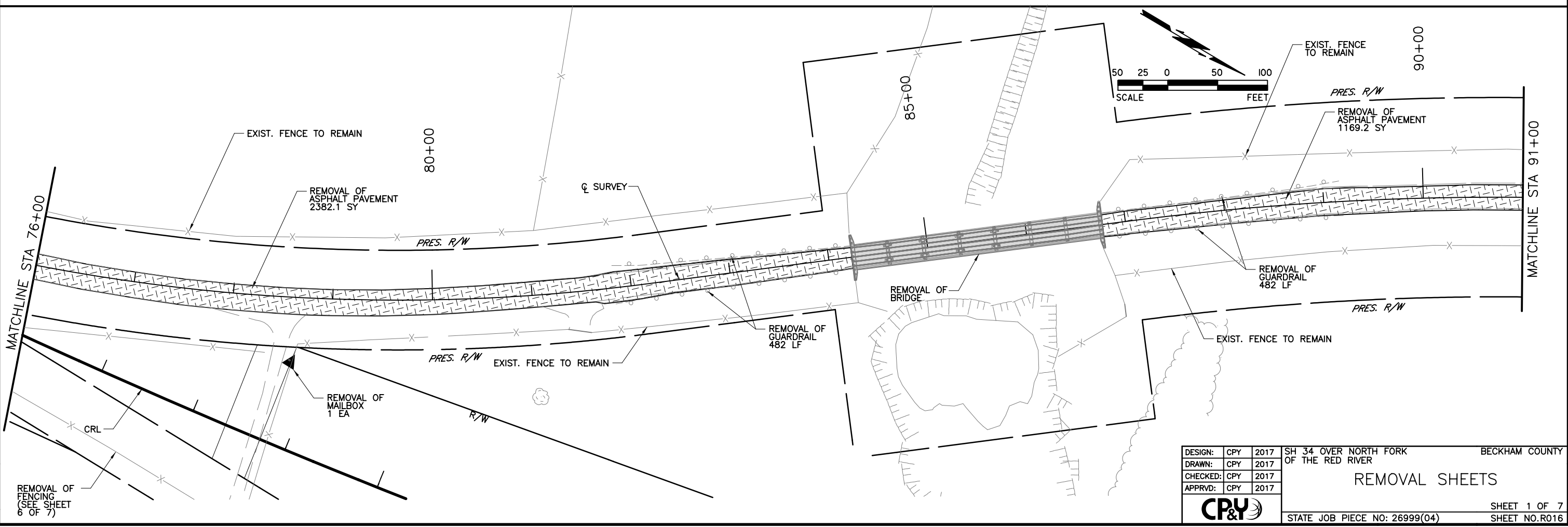
REMOVAL OF FENCING 346.0 LF

REMOVAL OF SIGN 1 EA

REMOVAL OF FENCING 812.9 LF

REMOVAL OF SIGN 1 EA

SEE REMOVAL SHEET (6 OF 7) FOR PROPOSED SH 34 REMOVAL DETAILS

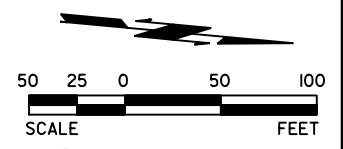
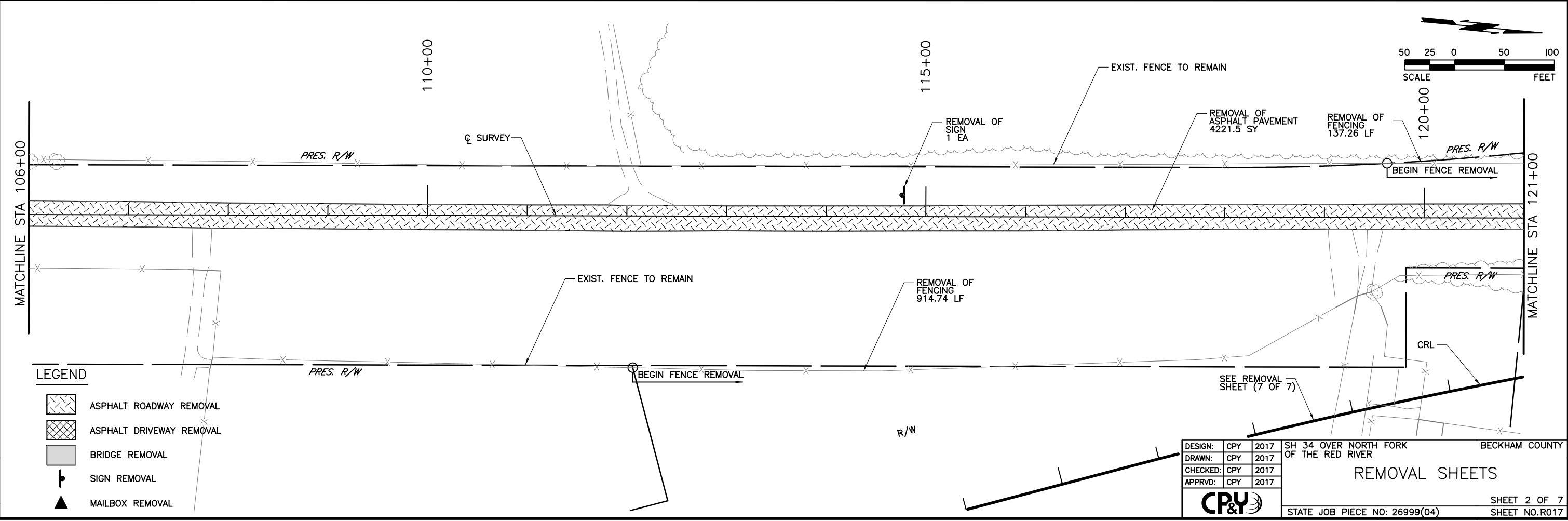
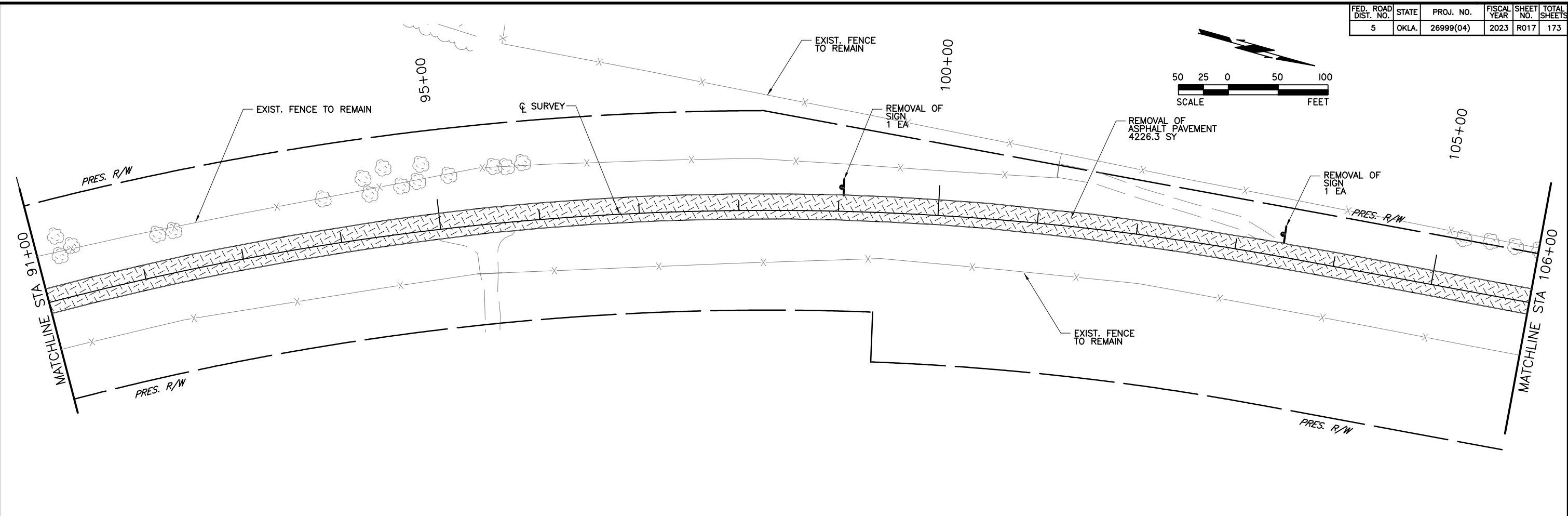
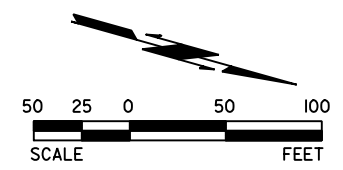


DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017	<b>REMOVAL SHEETS</b>	
CHECKED: CPY 2017		
APPRVD: CPY 2017		
		SHEET 1 OF 7 SHEET NO. R016






STATE JOB PIECE NO: 26999(04)


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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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**LEGEND**

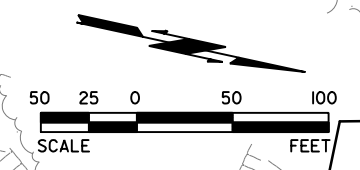
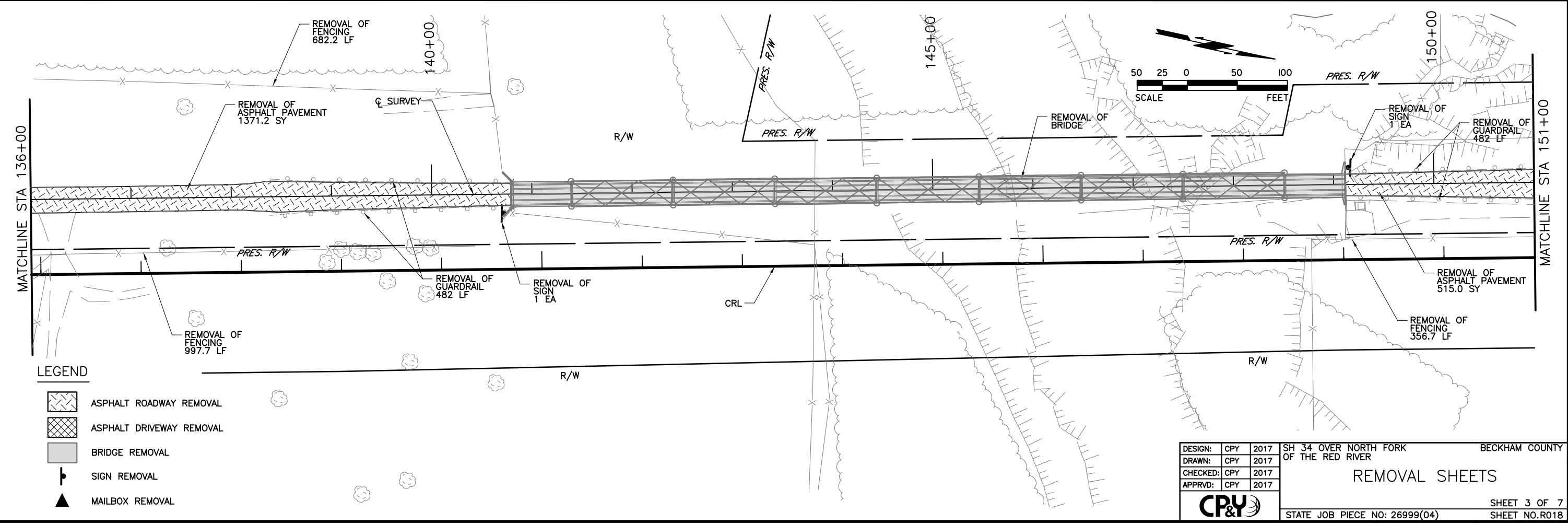
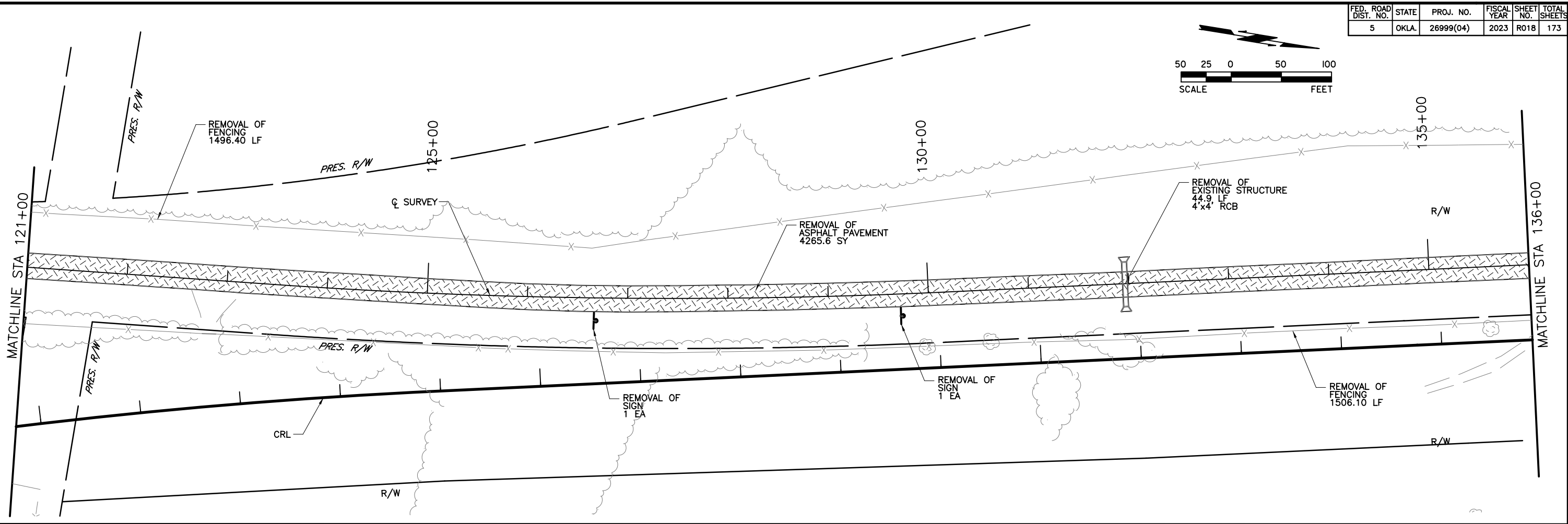
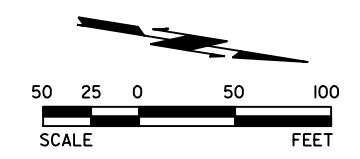
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-  ASPHALT DRIVEWAY REMOVAL
-  BRIDGE REMOVAL
-  SIGN REMOVAL
-  MAILBOX REMOVAL

DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017	<b>REMOVAL SHEETS</b>	
CHECKED: CPY 2017		
APPRVD: CPY 2017		
		SHEET 2 OF 7 SHEET NO. R017

STATE JOB PIECE NO: 26999(04)

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R018	173



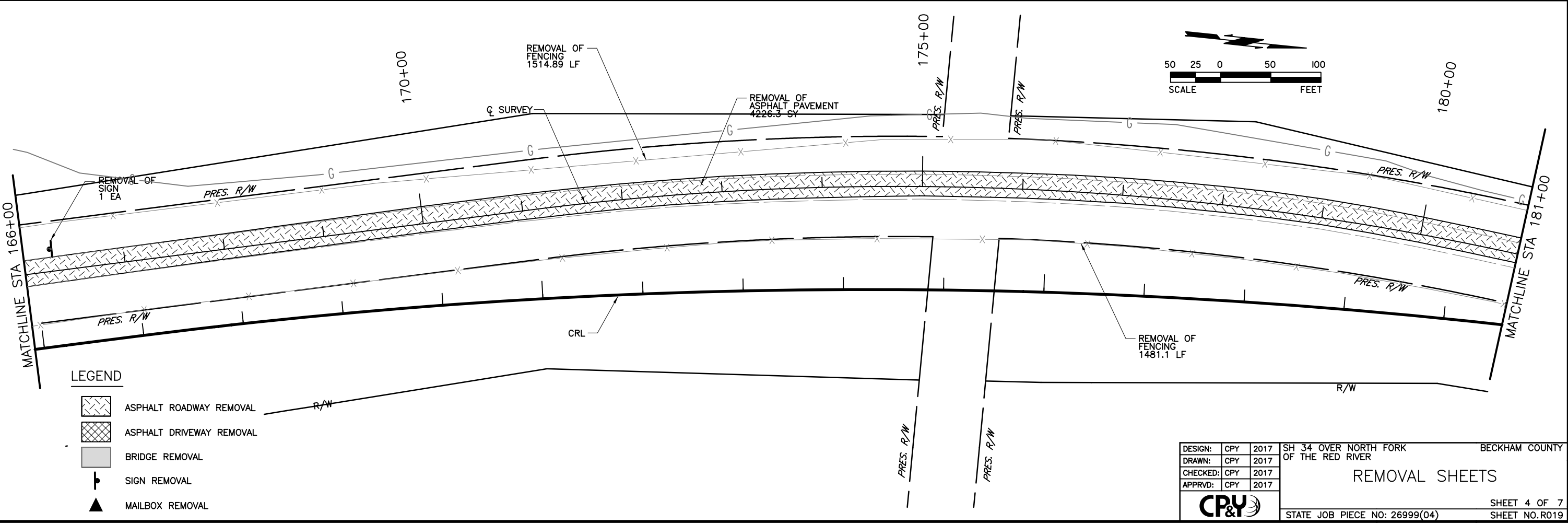
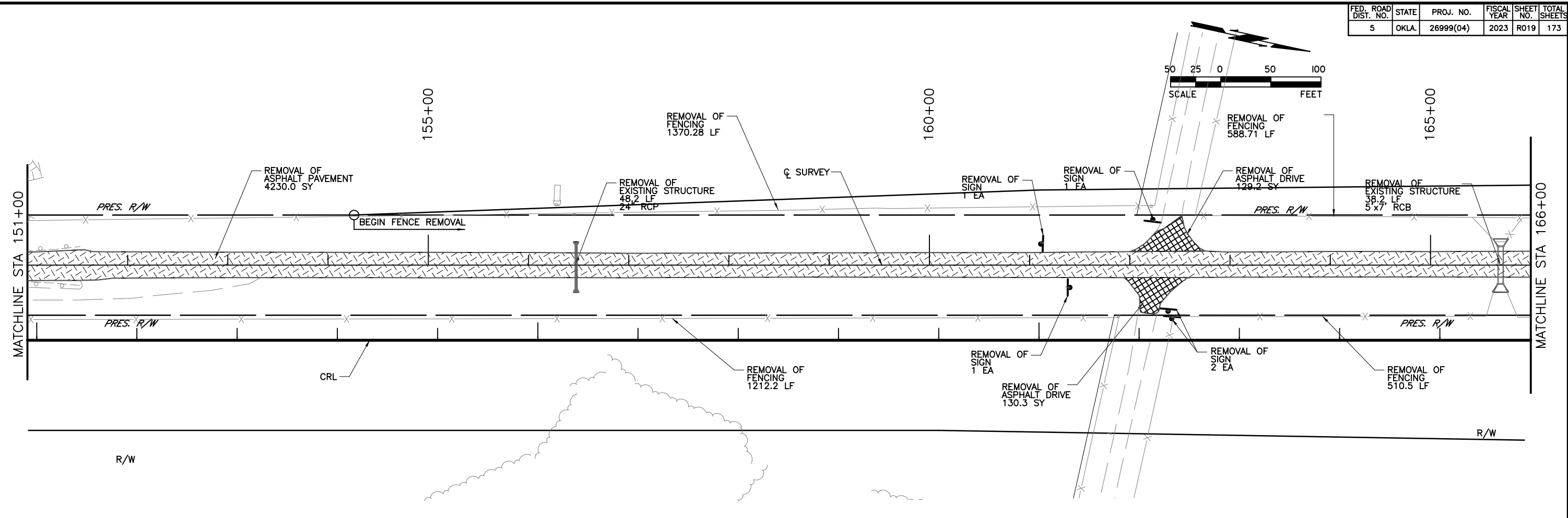
**LEGEND**

	ASPHALT ROADWAY REMOVAL
	ASPHALT DRIVEWAY REMOVAL
	BRIDGE REMOVAL
	SIGN REMOVAL
	MAILBOX REMOVAL

DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017	<b>REMOVAL SHEETS</b>	
CHECKED: CPY 2017		
APPRVD: CPY 2017		
		STATE JOB PIECE NO: 26999(04)
		SHEET 3 OF 7 SHEET NO. R018

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R019	173

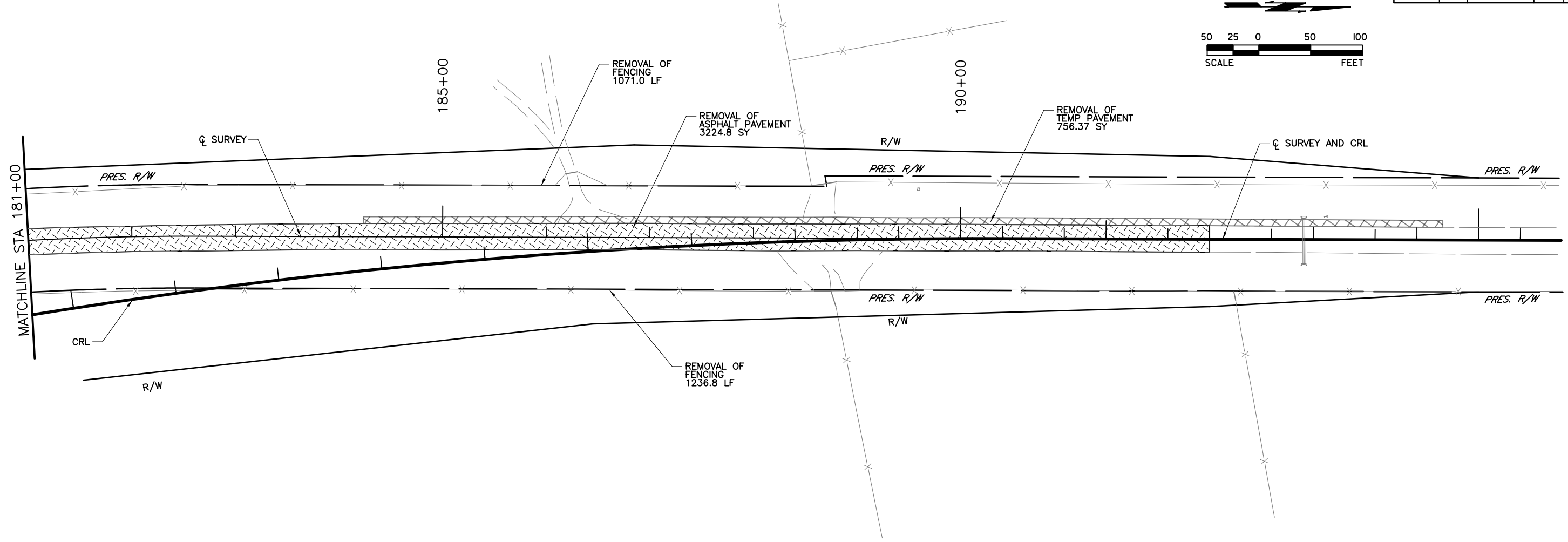
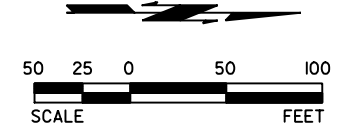


- LEGEND**
- ASPHALT ROADWAY REMOVAL
  - ASPHALT DRIVEWAY REMOVAL
  - BRIDGE REMOVAL
  - SIGN REMOVAL
  - MAILBOX REMOVAL






DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017	<b>REMOVAL SHEETS</b>	
CHECKED: CPY 2017		
APPRVD: CPY 2017		
		STATE JOB PIECE NO: 26999(04) SHEET 4 OF 7 SHEET NO.R019


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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R020	173



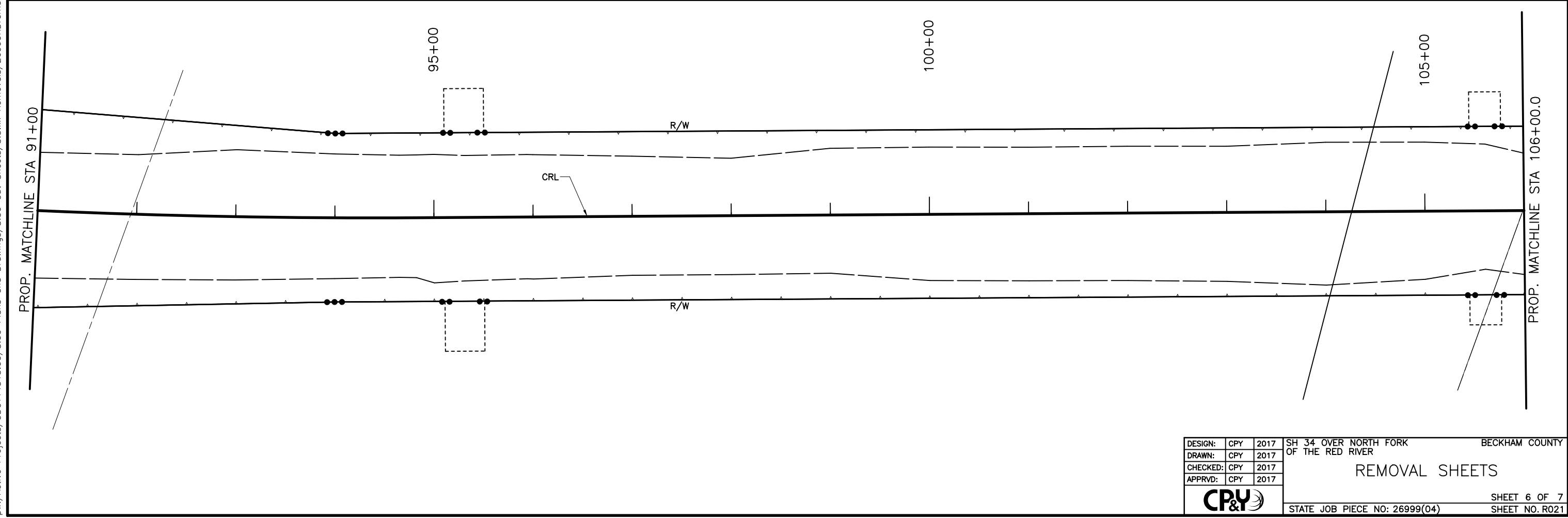
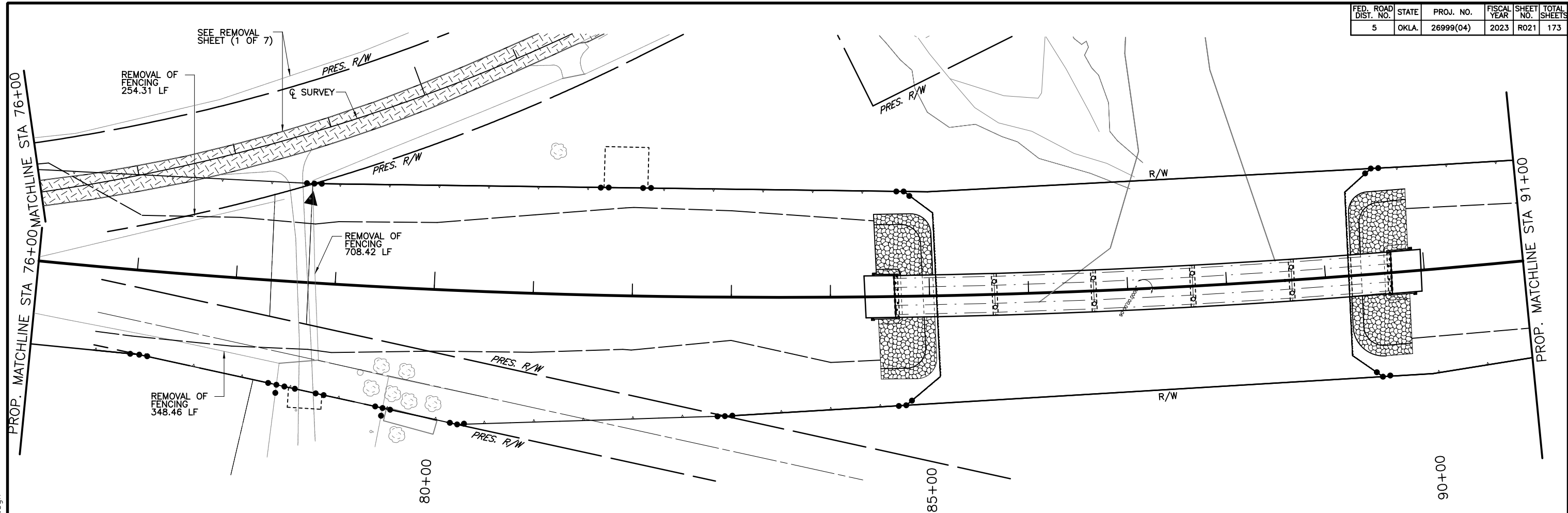
**LEGEND**

-  ASPHALT ROADWAY REMOVAL
-  ASPHALT DRIVEWAY REMOVAL
-  BRIDGE REMOVAL
-  SIGN REMOVAL
-  MAILBOX REMOVAL

DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>REMOVAL SHEETS</b>	
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 5 OF 7 SHEET NO. R020

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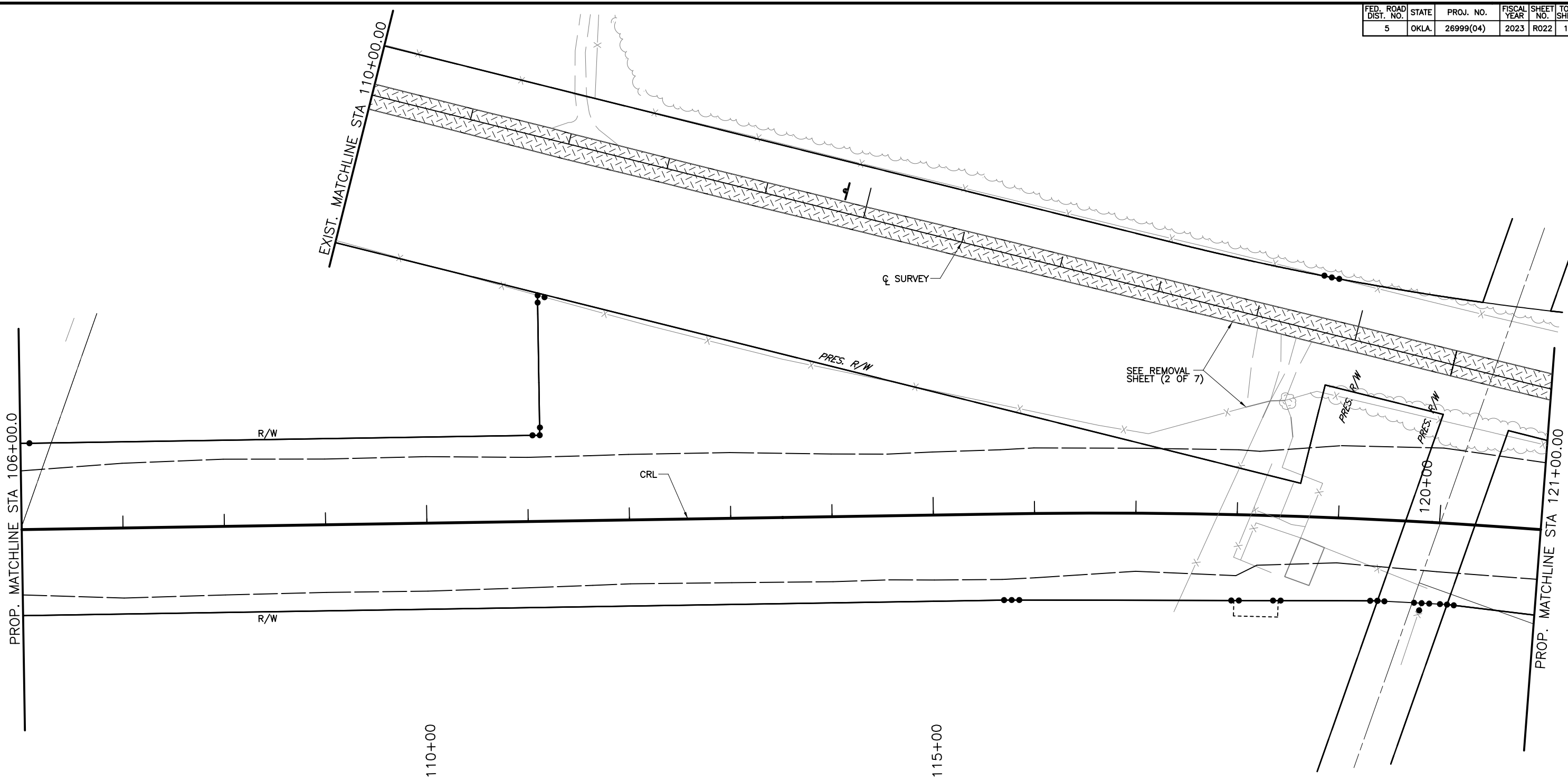


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DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>REMOVAL SHEETS</b>	
APPRVD: CPY 2017		
<b>CP&amp;Y</b>		SHEET 6 OF 7
STATE JOB PIECE NO: 26999(04)		SHEET NO. R021



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R022	173



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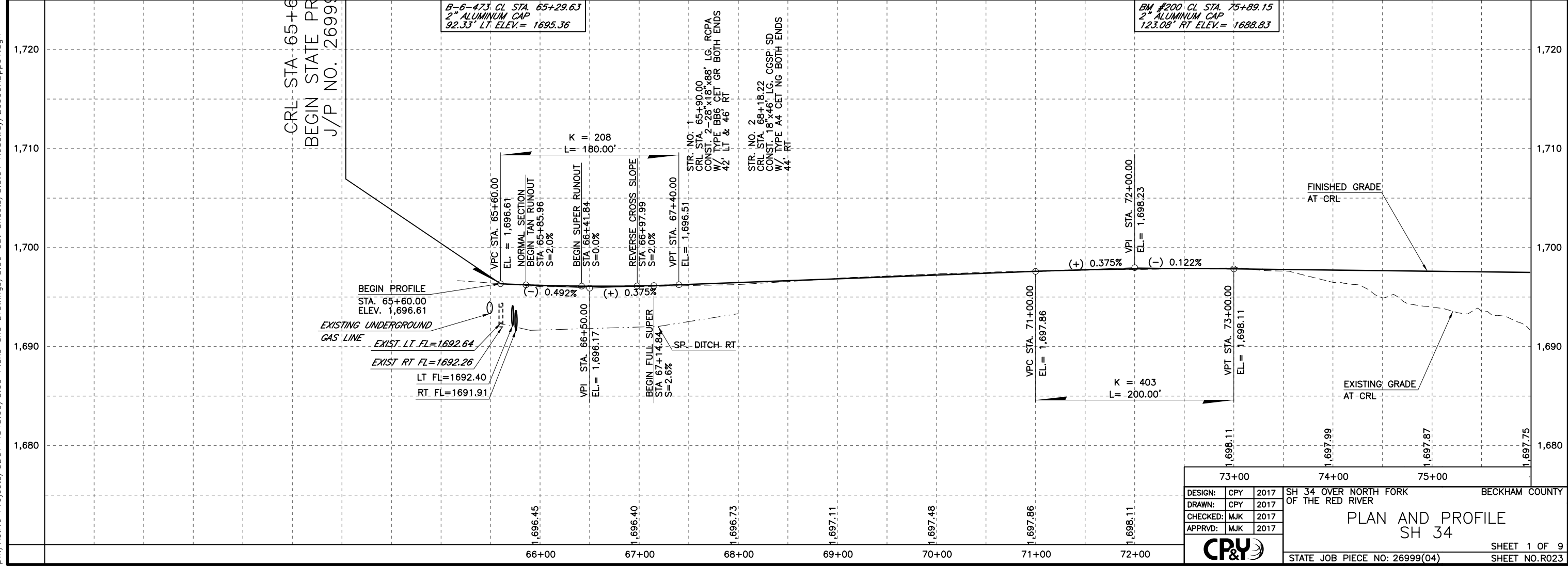
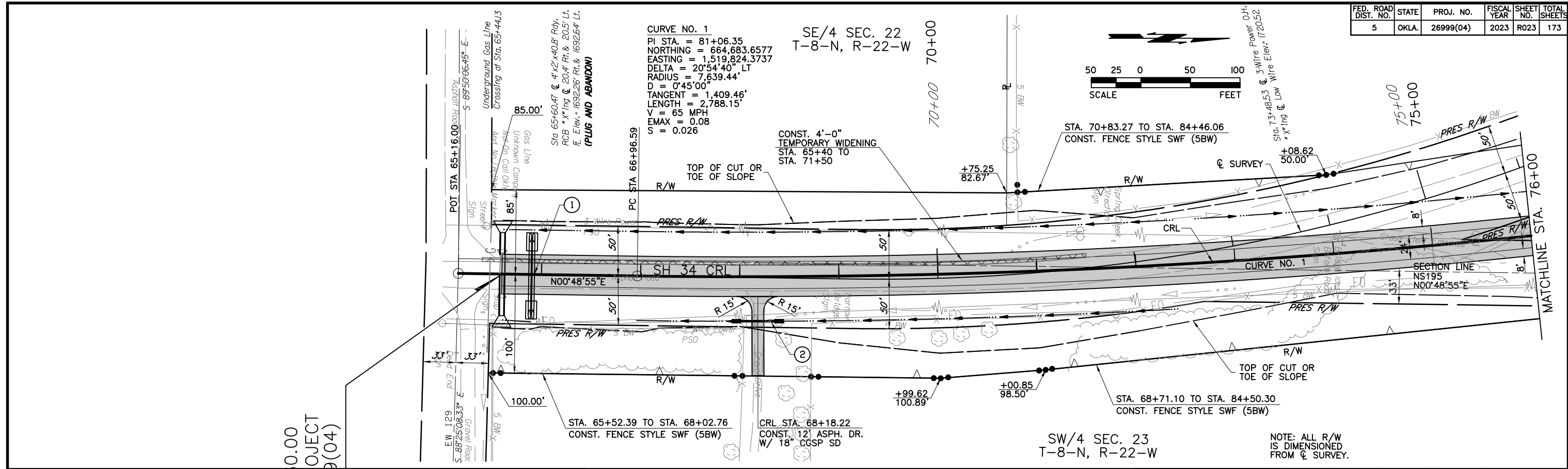
DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	REMOVAL SHEETS	
APPRVD: CPY 2017		

SHEET 7 OF 7  
SHEET NO. R022

STATE JOB PIECE NO: 26999(04)



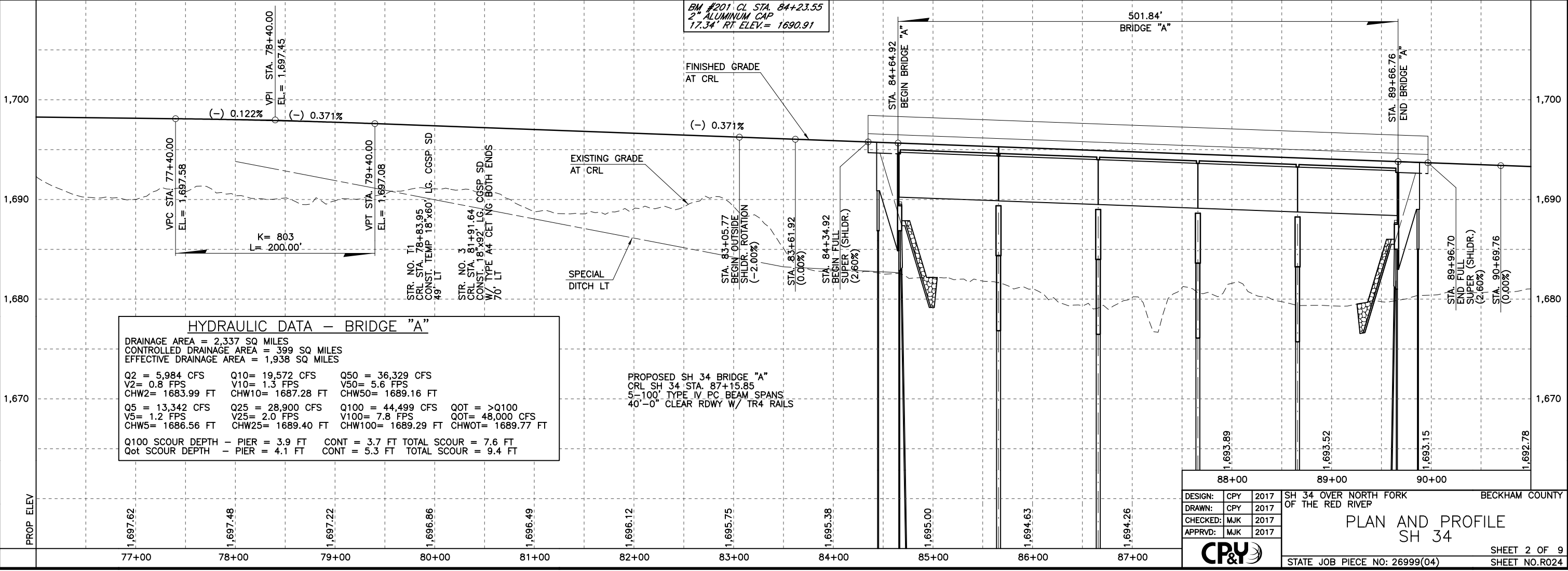
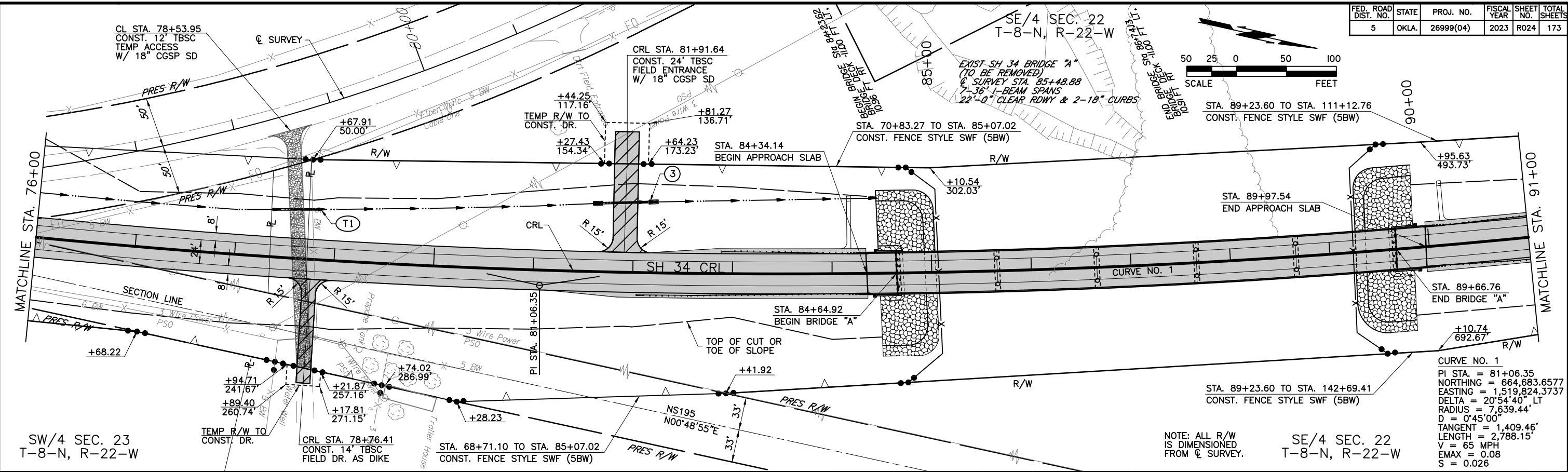
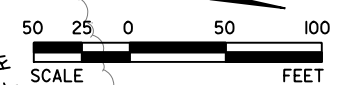
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R023	173



DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER <b>PLAN AND PROFILE</b> SH 34	BECKHAM COUNTY
DRAWN: CPY 2017		
CHECKED: MJK 2017		
APPRVD: MJK 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 1 OF 9 SHEET NO. R023

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CRL STA 65+60.00  
 BEGIN STATE PROJECT  
 J/P NO. 26999(04)

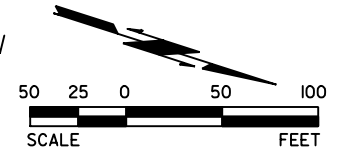


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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R025	173

SE/4 SEC. 22  
T-8-N, R-22-W

NE/4 SEC. 22  
T-8-N, R-22-W



MATCHLINE STA. 91+00

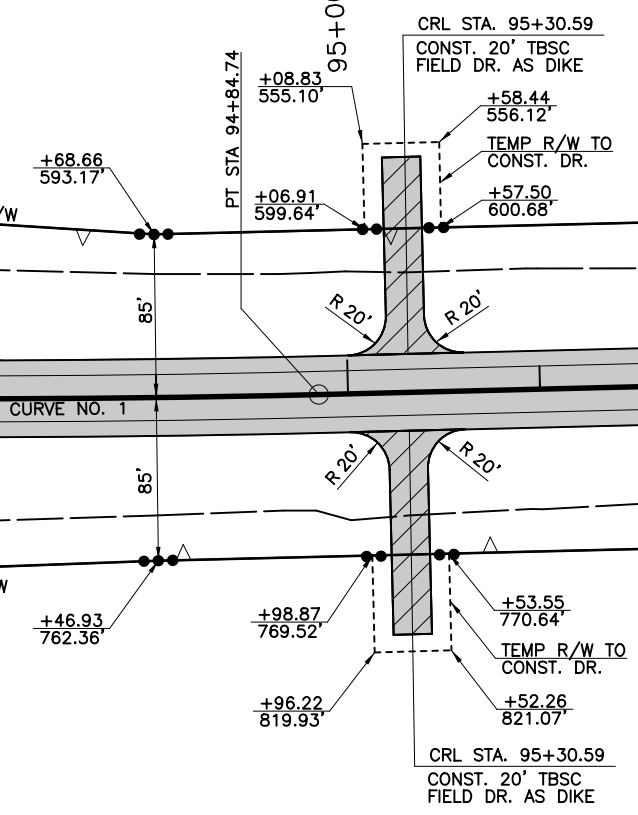
MATCHLINE STA. 106+00

SE/4 SEC. 22  
T-8-N  
R-22-W

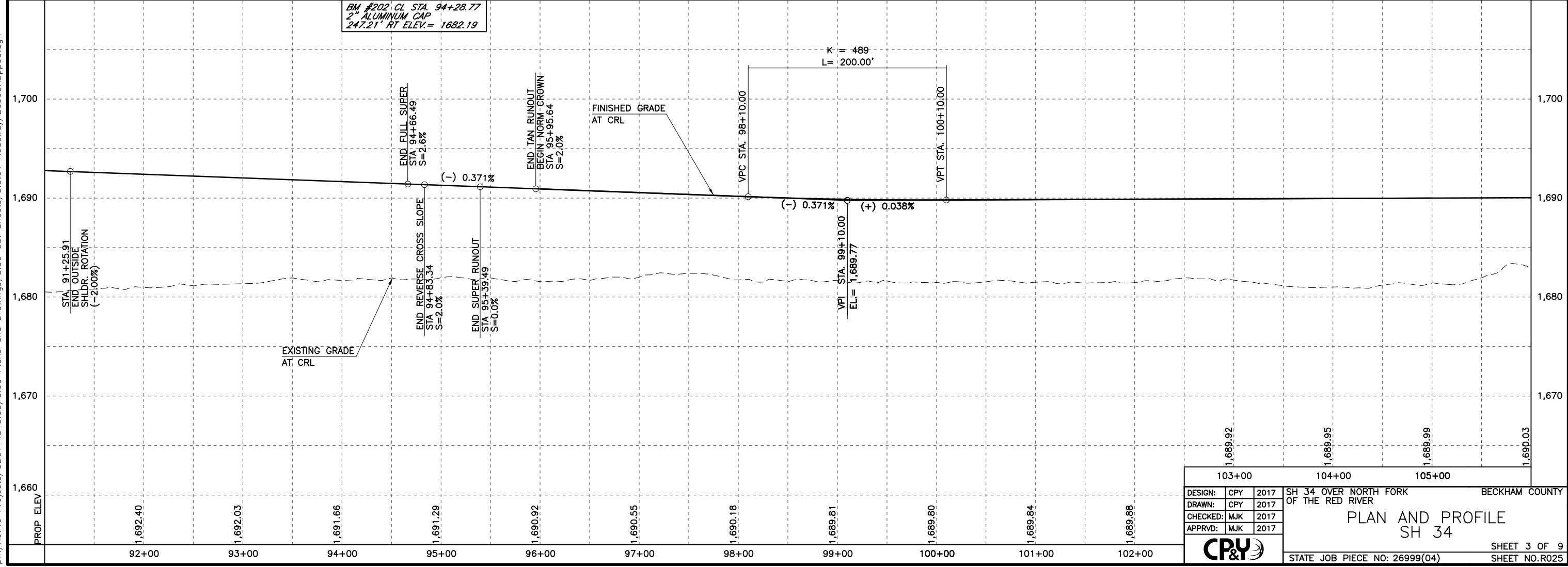
NE/4 SEC. 22  
T-8-N, R-22-W

NOTE: ALL R/W IS DIMENSIONED FROM C SURVEY.

**CURVE NO. 1**  
 PI STA. = 81+06.35  
 NORTHING = 664,683.6577  
 EASTING = 1,519,824.3737  
 DELTA = 20°54'40" LT  
 RADIUS = 7,639.44'  
 D = 0°45'00"  
 TANGENT = 1,409.46'  
 LENGTH = 2,788.15'  
 V = 65 MPH  
 EMAX = 0.08  
 S = 0.026



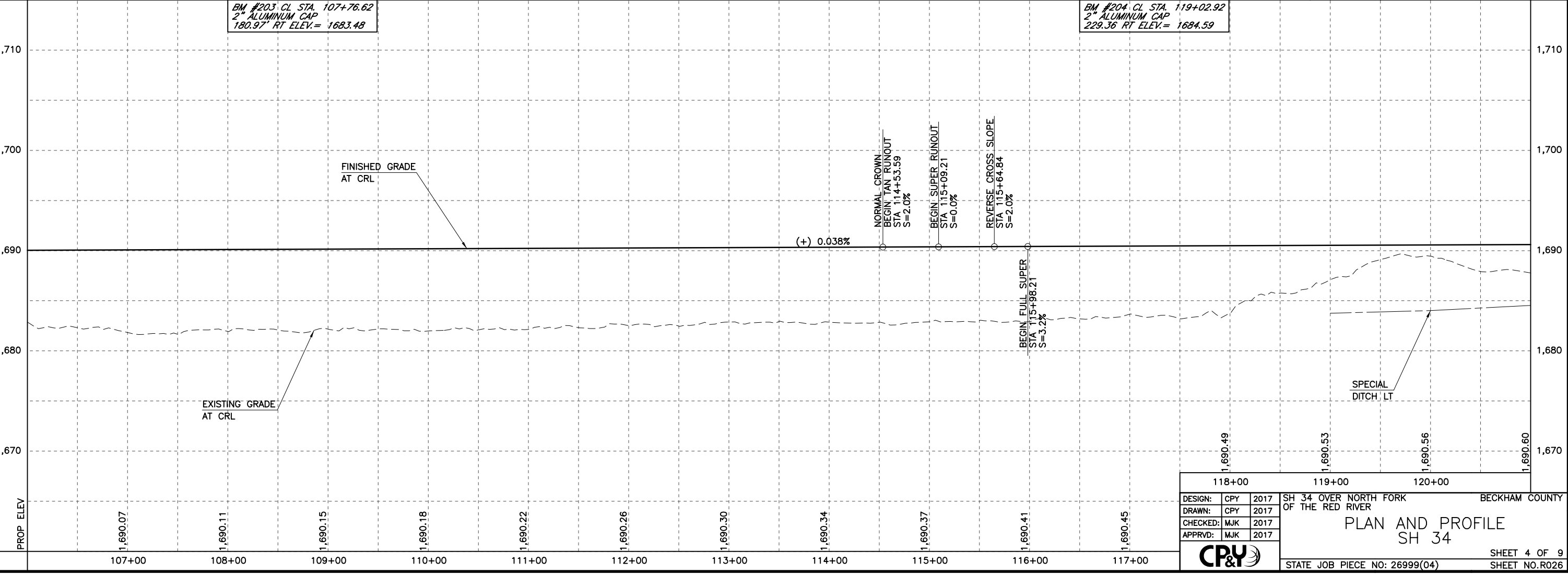
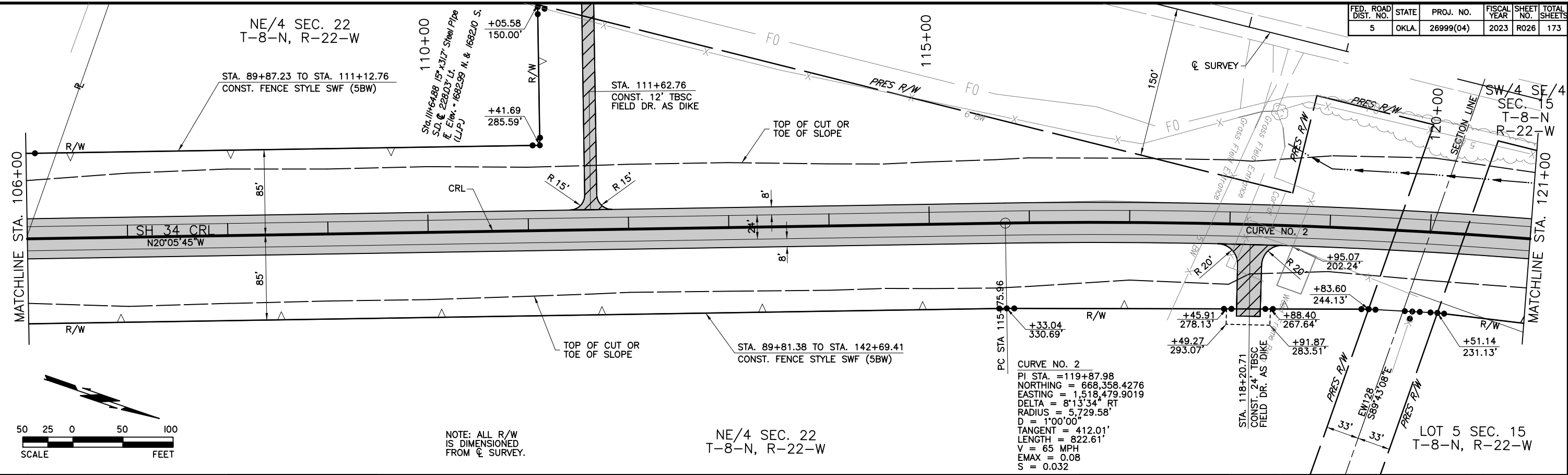
BM #202 CL STA. 94+28.77  
2" ALUMINUM CAP  
247.21' RT ELEV. = 1682.19



DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER <b>PLAN AND PROFILE</b> SH 34	BECKHAM COUNTY
DRAWN:	CPY	2017		
CHECKED:	MJK	2017		
APPRVD:	MJK	2017		
STATE JOB PIECE NO: 26999(04)			SHEET 3 OF 9	SHEET NO. R025

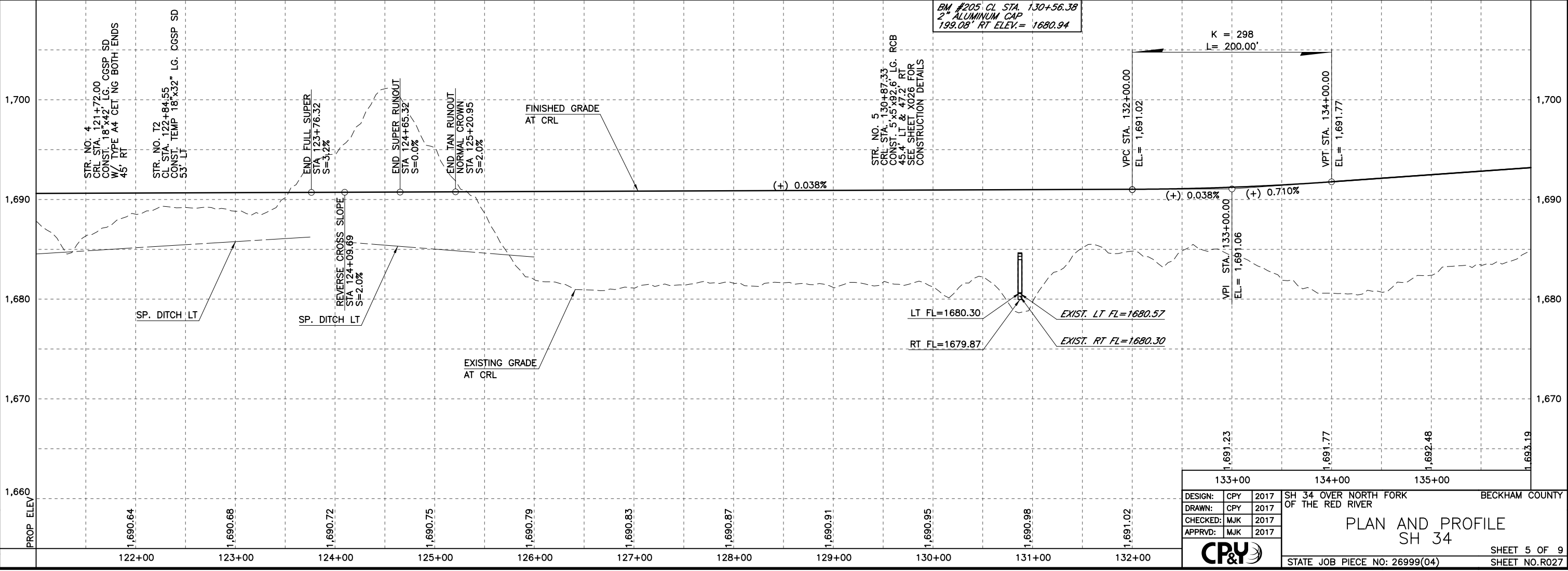
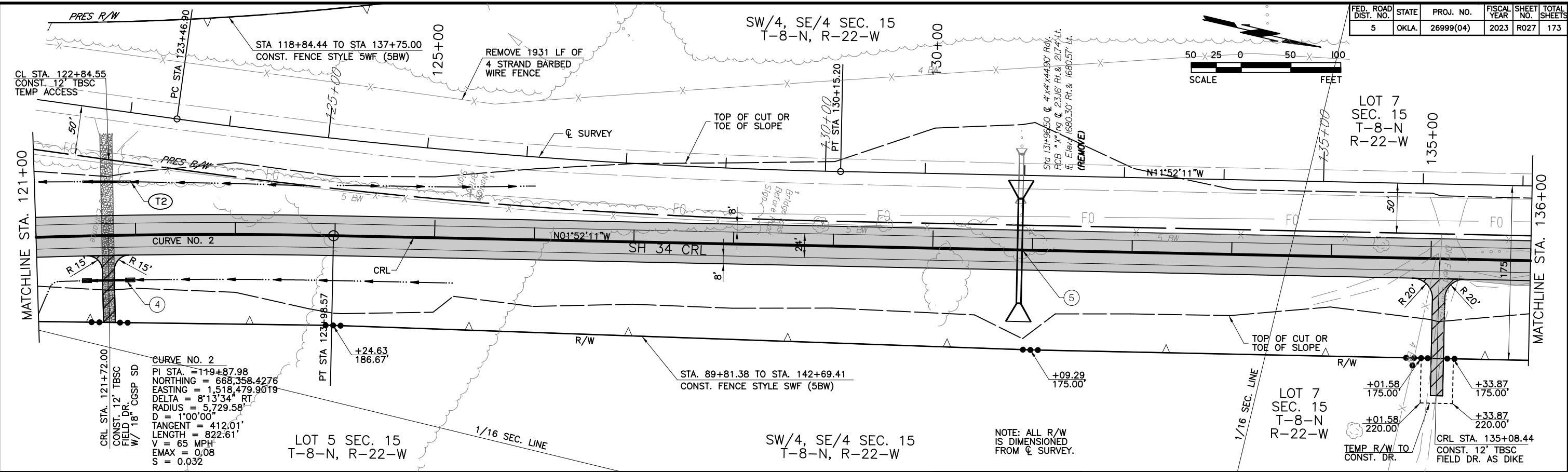
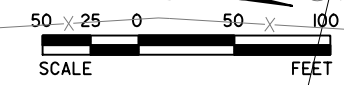
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R026	173



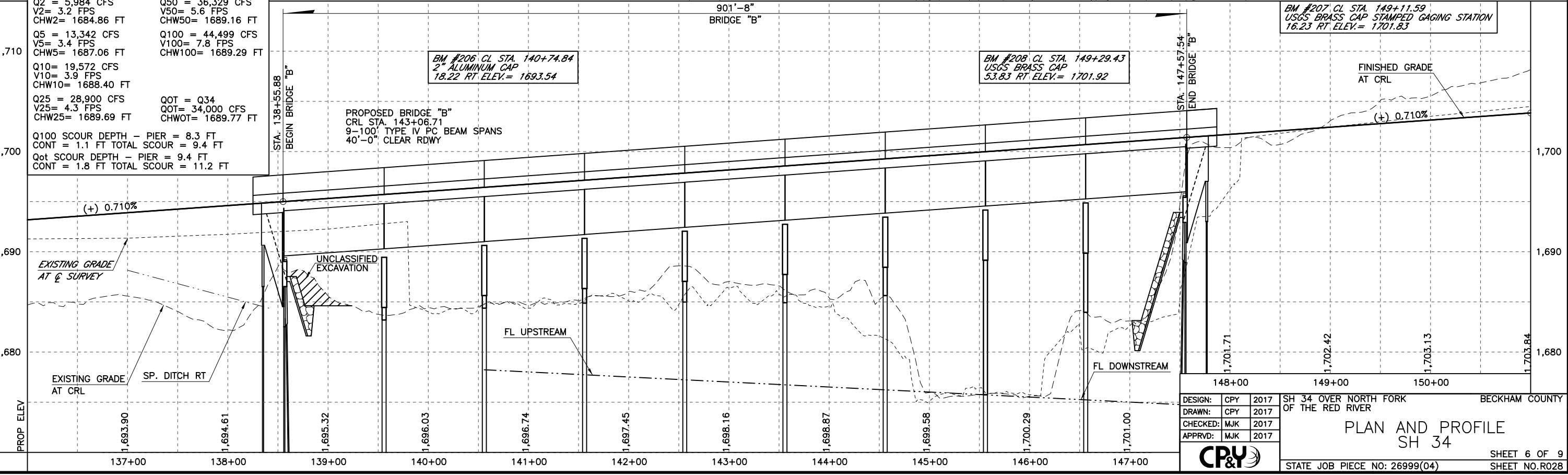
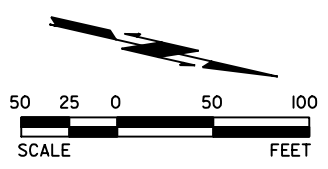
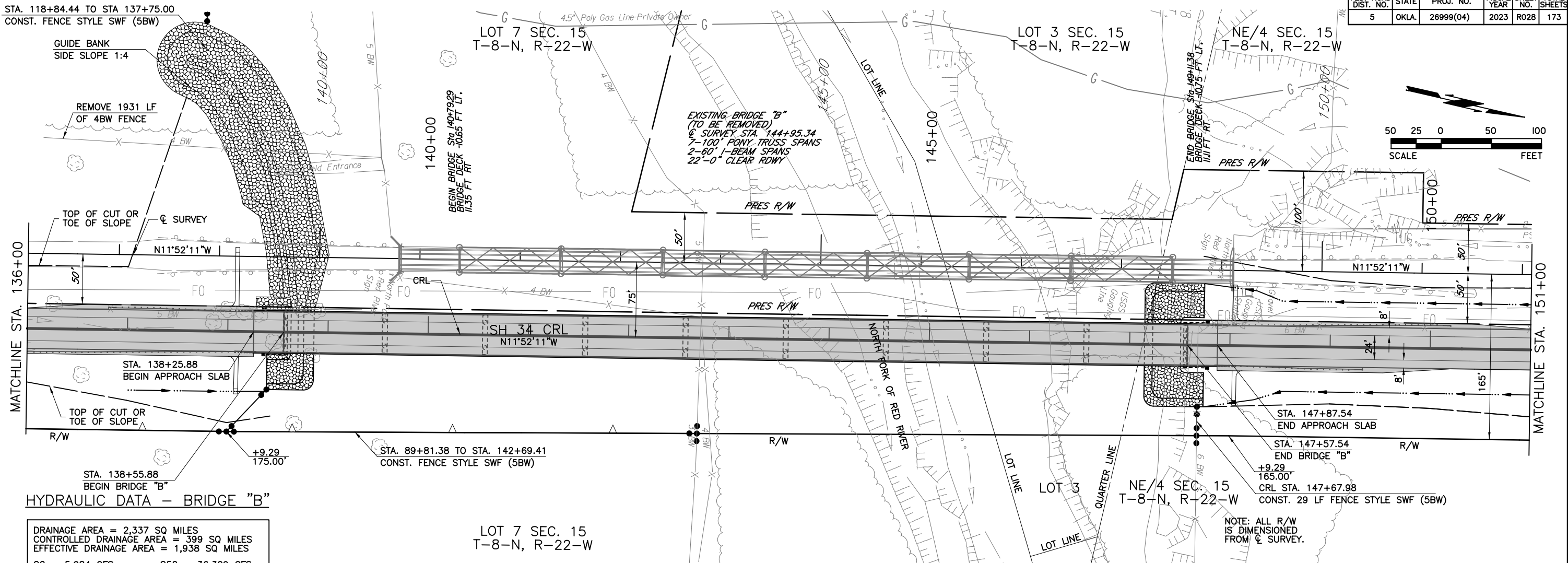
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R027	173



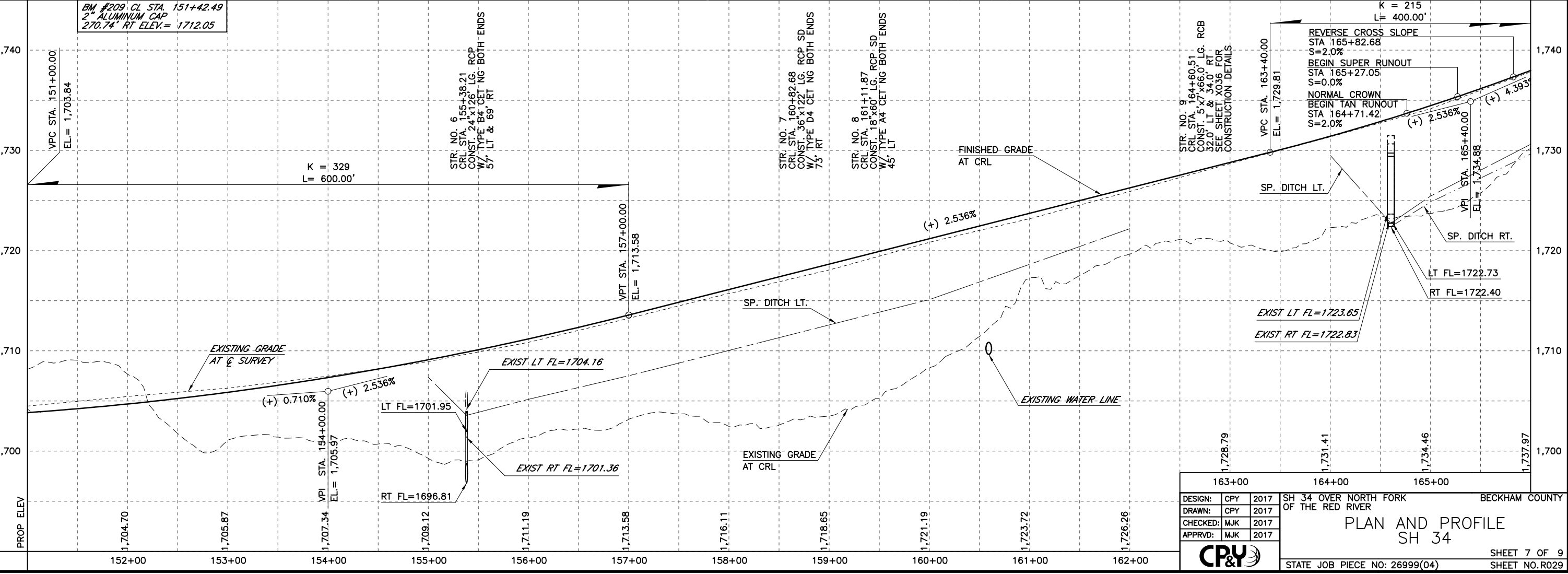
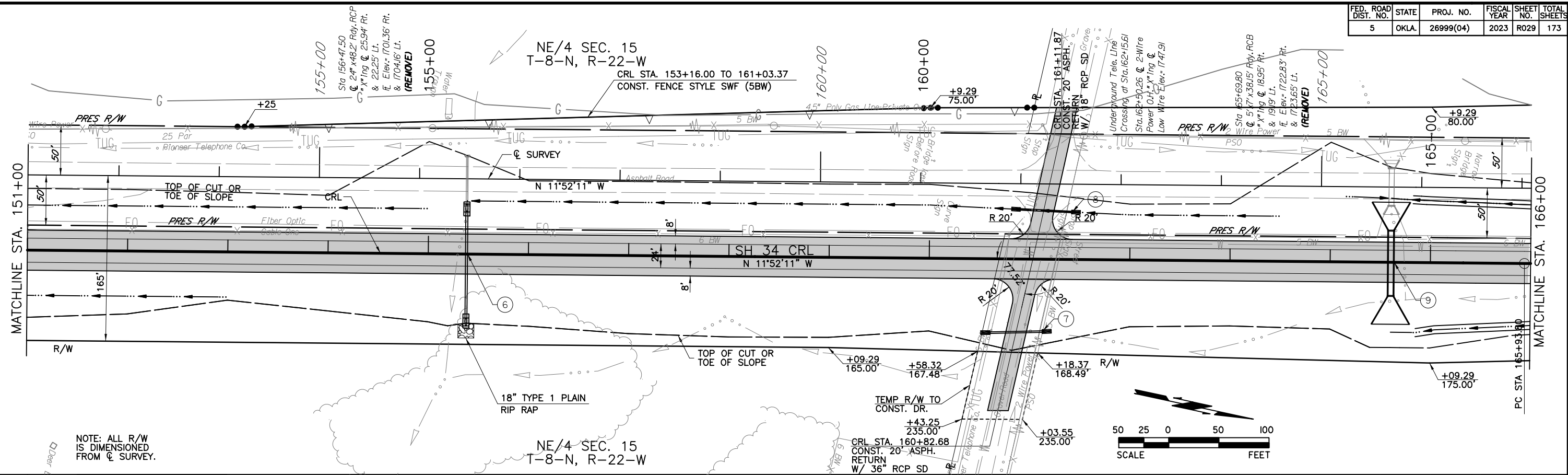
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DRAWN: CPY 2017	PLAN AND PROFILE SH 34	
CHECKED: MJK 2017		
APPRVD: MJK 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 5 OF 9 SHEET NO. R027

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DESIGN:	CPY	2017
DRAWN:	CPY	2017
CHECKED:	MJK	2017
APPRVD:	MJK	2017

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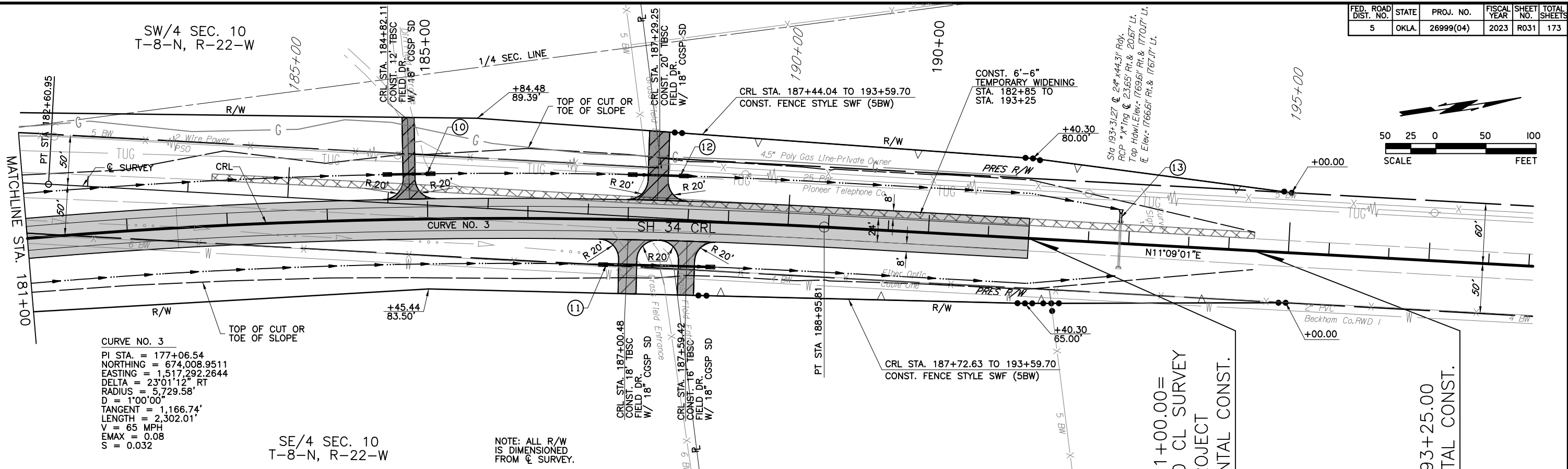
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DRAWN:	CPY	2017		
CHECKED:	MJK	2017		
APPRVD:	MJK	2017		
STATE JOB PIECE NO: 26999(04)			SHEET 7 OF 9 SHEET NO. R029	

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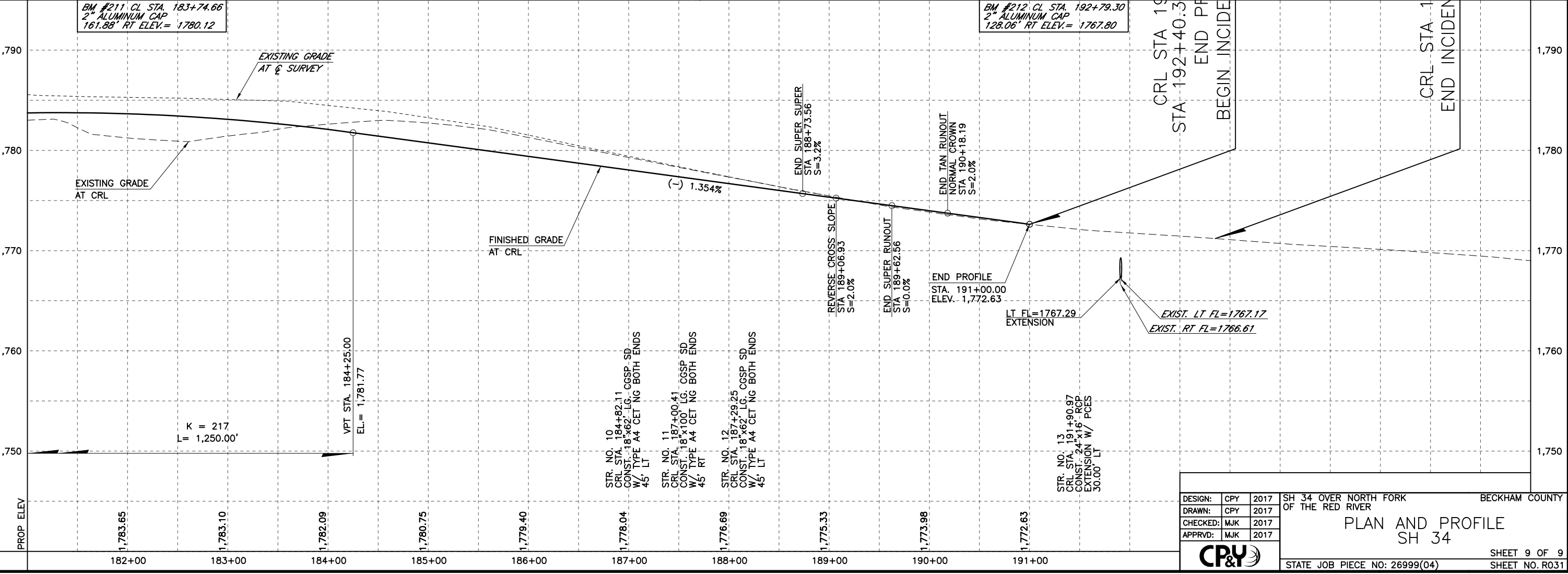
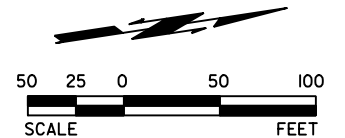
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R031	173



**CURVE NO. 3**  
 PI STA. = 177+06.54  
 NORTHING = 674,008.9511  
 EASTING = 1,517,292.2644  
 DELTA = 23°01'12" RT  
 RADIUS = 5,729.58'  
 D = 1°00'00"  
 TANGENT = 1,166.74'  
 LENGTH = 2,302.01'  
 V = 65 MPH  
 EMAX = 0.08  
 S = 0.032

SE/4 SEC. 10  
 T-8-N, R-22-W

NOTE: ALL R/W IS DIMENSIONED FROM  $\phi$  SURVEY.



CRL STA 191+00.00 =  
 STA 192+40.30 CL SURVEY  
 END PROJECT  
 BEGIN INCIDENTAL CONST.

CRL STA 193+25.00  
 END INCIDENTAL CONST.

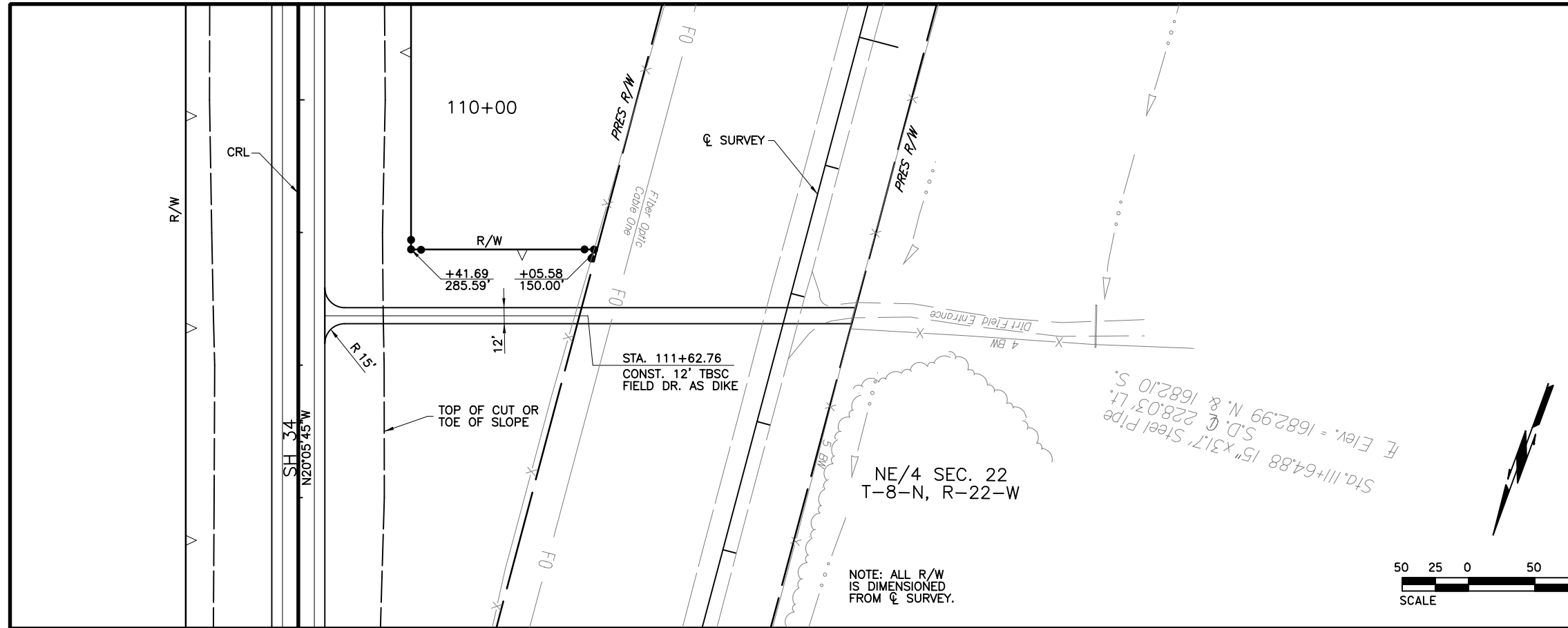
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DRAWN: CPY	2017		
CHECKED: MJK	2017		
APPRVD: MJK	2017		

STATE JOB PIECE NO: 26999(04)

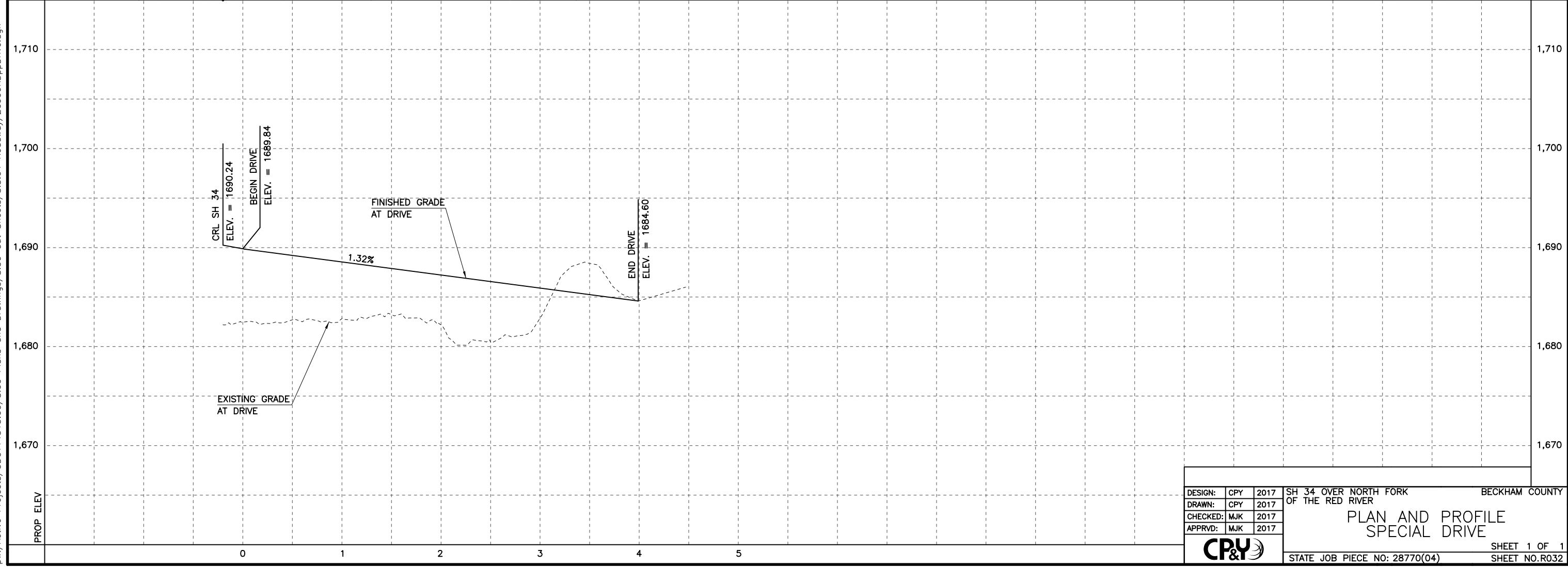
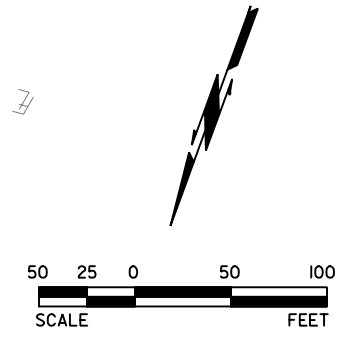


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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	R032	173



Sta. 111+64.88 15" x 31.7" Steel Pipe  
 S.D. @ 228.03' LT.  
 F. Elev. = 1682.99 N. & 1682.10 S.



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DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: MJK 2017	<b>PLAN AND PROFILE SPECIAL DRIVE</b>	
APPRVD: MJK 2017		
		STATE JOB PIECE NO: 28770(04)
		SHEET 1 OF 1 SHEET NO. R032

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA.				
DESCRIPTION			REVISED	DATE	

**STATE OF OKLAHOMA  
DEPARTMENT OF TRANSPORTATION**

**SURVEY OF  
SH 34  
SWO 4654(1)  
J/P NO. 26999(04)**

**BECKHAM COUNTY  
S.H. 34, BRIDGE OVER THE NORTH FORK OF THE RED RIVER,  
3.6 MILES NORTH OF THE GREER COUNTY LINE**

**INDEX OF SURVEY SHEETS**

1	TITLE SHEET & SURVEYORS CERTIFICATION
2-4	HISTORICAL LETTER & WRITTEN REPORT
4	BENCHMARK LIST
5-6	COGO POINTS & ALIGNMENT REPORT
7-11	SURVEY DATA SHEETS
12-15	GEOMETRIC DATA SHEETS

SURVEY BEGAN: NOVEMBER 1, 2011.  
SURVEY COMPLETED: DECEMBER 15, 2011.

K.A. ISAACS, PROFESSIONAL LAND SURVEYOR  
J.L. CARROLL, PROFESSIONAL LAND SURVEYOR  
BEN GENSAMER, LEAD SURVEYOR  
BRIAN GENSAMER, SURVEY CREW CHIEF  
JOHN LADD, SURVEY CREW CHIEF  
MARCUS HEILMAN, SURVEY CREW MEMBER  
L. HORNBACK, SURVEY CREW MEMBER

**EQUIPMENT:**  
TRIMBLE R8 GNSS GPS RTK UNITS  
TRIMBLE TSC2 DATA COLLECTORS  
TRIMBLE S6 ROBOTIC TOTAL STATION  
LEICA AUTOMATIC ELECTRONIC DIGITAL LEVEL  
EAGLE POINT SOFTWARE IN MICROSTATION ENVIRONMENT

STATE OF OKLAHOMA  
DEPARTMENT OF TRANSPORTATION  
SURVEY DIVISION

SWO 4654(1) J/P 26999(05) ; CO. BECKHAM

**HORIZONTAL CONTROL:**  
 Oklahoma Coordinate System of 1927 Zone.  
 Oklahoma Coordinate System of 1983 (1993) SOUTH Zone.  
 Oklahoma Dept. of Transportation Plane Coordinate System of 1927 Zone.  
 Oklahoma Dept. of Transportation Plane Coordinate System of 1983 Zone.  
 Arbitrary Coordinate System

**HORIZONTAL PLANE DATUM DEFINITION:**  
Oklahoma Department of Transportation coordinates were derived by multiplying the Oklahoma Coordinate Systems of 1927 or 1983 by the combined adjustment factor of 1.00010. The ODOT Coordinate System is 2350 feet above sea level.

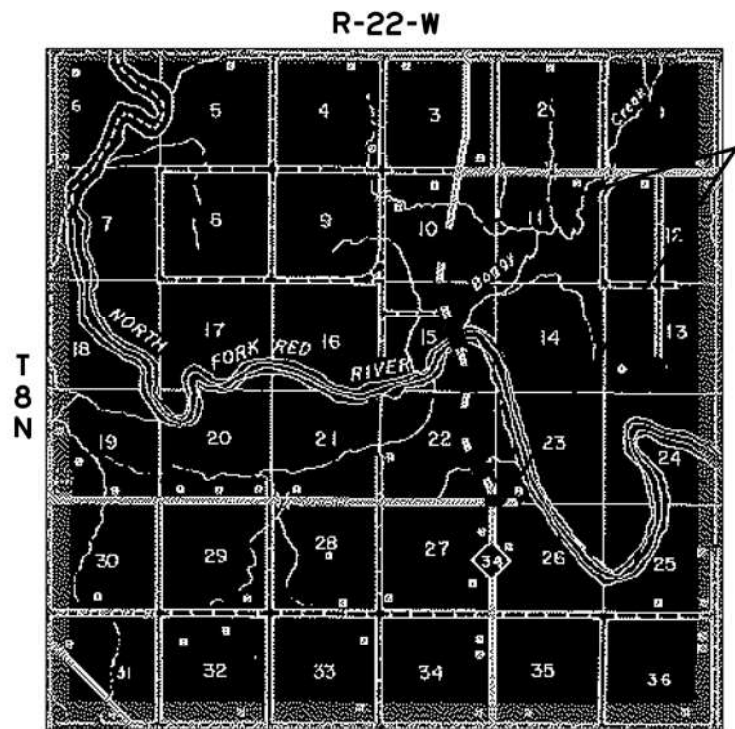
1. Primary Control adjusted to CORS  Order  
Stations Clinton, Wichtamtnok, Sayre, Wellington  
A) Closure before adjustment X ; Y Angles  
Trav. Length No. Angles ; 1:  
B) ; is  Order before adjustment.  
C) Method of Distance Measurement:  
 Electronic  GPS  Triangulation  Chained  
D) Instrument used for angles  
2. Secondary Control adjusted to Primary Control  Order  
Stations B-5-472 AND B-5-473  
A) Closure before adjustment X ; Y Angles  
B) Secondary Control ; is  Order; Tied to CORS  
C) Method of Distance Measurement:  
 Electronic  GPS  Triangulation  Chained  
D) Instrument used for angles Trimble R8 GNSS RTK Receiver

VERTICAL CONTROL IS 1ST order. Level Line taken from B-5-473  
(1ST order and tied to B-5-472 (1ST order.

**ACCURACY DEFINITION:**  
(1) HORIZONTAL: (3rd Order = Class I = 1 : 10,000'  
(3rd Order = Class II = 1 : 5,000'  
(1st Order = 0.017 Ft. x sqrt. of Mi.) (2nd Order = 0.035 Ft. x sqrt. of Mi.)  
(3rd Order = 0.050 Ft. x sqrt. of Mi.)  
( ) NGVD 29 datum  
(X) NAVD 88 datum

**Distribution:**  
Copy w/survey reports \_\_\_\_\_ KENNY A. ISAACS  
Copy in each Alignment \_\_\_\_\_ Professional Land Surveyor  
and level book \_\_\_\_\_  
15-Dec-11  
Date

(FORM SD #20)  
Rev. 11/03



PROJECT EXTENTS

PROJECT LENGTH 13704.0963 Ft. 2.60

BEGINNING STATION : 65+16.0000  
ENDING STATION : 202+20.0963

Utility Companies	Phone Numbers
Telephone Lines:	
Pioneer Telephone Co-op	580-688-9231
Cable One	580-225-3244
Electric Lines:	
PSO/AEP	580-225-6180
Gas Lines:	
Unknown	Unknown
Water Lines:	
Beckham Co. RWD #1	580-393-1153

STATE OF OKLAHOMA  
DEPARTMENT OF TRANSPORTATION

SWO 4654(1) Job/Proc. 26999(04) Engr. Contract No. \_\_\_\_\_

**LAND SURVEYOR'S CERTIFICATION**

I hereby certify that all land and property sub-division distances, angles, corners, and monumentation made or used in conjunction with this survey and depicted or recorded herein or hereon were recovered, established or re-established in substantial conformity with:

- Applicable instructions contained in the U.S. Government Bureau of Land Management publication "Manual of Survey Instruction";
- Its supplement, "Restoration of Lost or Obliterated Corners and Sub-division of Sections";
- "Oklahoma Minimum Standards for the Practice of Land Surveying" as adopted by the State Board of Licensure for Professional Engineers and Land Surveyors; and
- Sound land surveying practices;

including a thorough search, study, analysis and consideration of all existing records and field evidence.

I further certify that all survey measurements depicted exist and that all land survey work was done by me or under my direct supervision.

Dated this 15th day of December, 2011.

Land Surveyor \_\_\_\_\_  
Kenny A. Isaacs  
1213

Oklahoma Licensed Land Surveyor No. 1213  
Certificate of Authorization No. 2352



THIS SURVEY MEETS THE OKLAHOMA MINIMUM STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS ADOPTED BY THE OKLAHOMA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS, MAY 17, 2010.

SPECIFICATIONS FOR SURVEYS FOR PRIMARY AND SECONDARY HIGHWAYS DATED MAY 1, 1999 GOVERN.

SDS 1 of 15

**Electronic File Transfer Disclaimer:**  
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OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION			
PLS	KAI		
DRAWN	BJG		
CHECKED	KAI		
APPROVED	KAI		
CREW	ISAACS	SWO 4654 (1) PROJECT NO. 26999(04)	SHEET NO. S001

**SURVEY DATA SHEET**

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA.				
DESCRIPTION		REVISIONS	DATE		

SWO 4654(1), J/P 26999(04) – S.H. 34 – BECKHAM COUNTY  
OKLAHOMA DEPARTMENT OF TRANSPORTATION  
SURVEY DIVISION

DECEMBER 15<sup>TH</sup>, 2011

TO: MR. LARRY RESER, CHIEF OF SURVEYS

FROM: KENNY A. ISAACS, PROFESSIONAL LAND SURVEYOR

SUBJECT: SWO 4654(1), J/P 26999(04), S.H. 34, BRIDGE OVER THE NORTH FORK OF THE RED RIVER, 3.6 MILES NORTH OF THE GREER COUNTY LINE.

HISTORICAL LETTER AND WRITTEN REPORT

1. SURVEY ASSIGNMENT

The above described survey was assigned to me by Mr. Larry Reser, Chief of Surveys.

2. PURPOSE OF THIS SURVEY

The purpose of this survey was to obtain data to facilitate the design of a new bridge over the North Fork of the Red River along S.H. 34, 3.9 miles north of the Greer County line. Per the special instructions received from ODOT Survey Division Central Office.

3. SURVEY LIMITS

This survey began at E-W 129 Section Line and extends northerly along existing SH 34 centerline to EW-126.5 ¼ Section Line (approximate centerline length = 2.60 miles).

4. ALIGNMENT

The centerline survey for this project is identical to the centerline of present SH 34 as shown on SAP No. 816, Sec. A plans. Reference points as well as major PT's were recovered in the field to facilitate the location of the centerline survey as shown on said SH 34, SAP No. 816, Sec A plans.

5. STATIONING

Stationing for this survey was taken from SAP No. 816, Sec A plans with Sta. 65+16.00 being assigned to EW- 129 Section Line. Stationing increases Northerly along centerline of survey as described above without equation to Sta. 202+20.0963, EW- 126.5 ¼ Section Line which is the end of this survey.

6. HORIZONTAL CONTROL

Horizontal Control for this survey is NAD 83 (1993) Oklahoma State Plane Coordinate system, Lambert Projection, South Zone, derived from COORS Stations OKCL, WMOK and OKSY, utilizing OPUS solutions.

Primary Horizontal control was established on 2 monuments along this survey. They are 2 inch aluminum caps marked B-5-472 and B-5-473.

Secondary Horizontal control was established along the centerline survey and referenced and shown on the survey data sheets of this survey.

The primary control network, the secondary network and section boundaries for this survey are in compliance with NGS Second Order Class 11 standards for Horizontal control. (1 : 20,000).

7. VERTICAL CONTROL

Level datum for this survey is NGS, NAVD 88, taken from monument B-5-473. The value of this elevation was derived by OPUS solution. A complete set of levels was run forward throughout this survey with a Trimble Electronic Level.

The adjusted levels and vertical differences between bench marks are shown in the following file: SWO4654(1).dgn

Accuracy – 3<sup>rd</sup> order or better before adjustment.

8. TOPOGRAPHY

Topography on this survey was obtained by utilizing the Trimble gps rtk system and total station technology with the TC2 data collector for field instruments. Data was also acquired using LIDAR system. Data was collected in the form of a Surface feature library and placed in computer file SWO4654(1)\_BREAKLINES.dgn

9. CROSS SECTION DATA

Cross Section Data on this survey was obtained utilizing Trimble gps rtk system, Robotic Total Station and LIDAR. In the form of a DTM survey and placed in computer file SWO4654(1)\_tm.dgn

10. LAND TIES

Land ties for this survey were established for the following 4 Sections (10, 15, 22 & 23, T-8N, R-22-W, Beckham County, Oklahoma) A search was made for any trace of the original monument and/or accessories. All filed certified corners received from the Oklahoma Department of Libraries were found and noted. The original survey and survey notes were used from the following survey.

ORRIN T. MURRILL

JUNE 1873

A complete detailed account of each corner set or used follows.

B-5-474, SOUTHWEST CORNER OF SECTION 22, T8N, R22W, FOUND #4 REBAR AND CAP PER CCR FILED BY PLS 1333. USED THIS CORNER FOR OUR SURVEY AND FILED NEW CCR.

B-5-475, WEST ONE QUARTER CORNER OF SECTION 22, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-476, NORTHWEST CORNER OF SECTION 22, T8N, R22W, FOUND AND USED ON THIS SURVEY A #4 REBAR AND PLS 1333 CAP (NO CCR FILED FOR THIS CORNER). ALSO FOUND #4 REBAR PER CCR FILED BY PLS 1616 22.3 FT NORTH AND 74.2 FT WEST (DID NOT USE). ALSO FOUND #5 REBAR BY UNKNOWN PARTY 19.4 FT NORTH AND 76.1 FT WEST (DID NOT USE) FILED NEW CCR.

B-5-477, NORTH ONE QUARTER CORNER OF SECTION 22, T8N, R22W, SET #3 REBAR S.P.M FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION. FILED NEW CCR.

B-5-478, NORTHEAST CORNER OF SECTION 22, T8N, R22W, FOUND 2 INCH PIPE WITH #4 REBAR WITH PLS 1616 CAP PER CCR FILED BY PLS 1616. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

PLS	KAI		OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	BJG		
CHECKED	KAI		
APPROVED	KAI		
CREW	ISAACS		
			<b>SURVEY DATA SHEET</b>
			SWO <u>4654</u> (1); PROJECT NO. <u>26999(04)</u> SHEET NO. <u>S002</u>



OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA.				
DESCRIPTION		REVISIONS	DATE		

B-5-479, EAST ONE QUARTER CORNER OF SECTION 22, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-480, SOUTHEAST CORNER OF SECTION 22, T8N, R22W, FOUND MAG NAIL IN PLACE PER CCR FILED BY PLS 1605. USED THIS CORNER FOR OUR SURVEY. ALSO FOUND MAG NAIL PER CCR FILED BY PLS 1333 5.5 FT NORTH AND 15.8 FT EAST. DID NOT USE ON OUR SURVEY. FILED NEW CCR FOR OUR CORNER.

B-5-481, SOUTH ONE QUARTER CORNER OF SECTION 22, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION. FILED NEW CCR.

B-5-482, WEST ONE QUARTER CORNER OF SECTION 15, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-483, NORTHWEST CORNER OF SECTION 15, T8N, R22W, FOUND #4 REBAR AND CAP PER CCR FILED BY PLS 1333. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

B-5-484, NORTH ONE QUARTER CORNER OF SECTION 15, T8N, R22W, SET #3 REBAR AND 2252 CAP S.P.M. FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION. FILED NEW CCR.

B-5-485, NORTHEAST CORNER OF SECTION 15, T8N, R22W, SET #3 REBAR AND CA 2252 CAP D.P.M. FROM CORNERS FOUND 1.0 MILES NORTH, WEST, SOUTH AND EAST. FILED NEW CCR FOR THIS LOCATION.

B-5-486, EAST ONE QUARTER CORNER OF SECTION 15, T8N, R22W, SET #3 REBAR AN CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-487, WEST ONE QUARTER CORNER OF SECTION 10, T8N, R22W, SET #3 REAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-488, NORTHWEST CORNER OF SECTION 10, T8N, R22W, FOUND 60D NAIL IN PLACE THAT MATCHES CCR'S FILED BY PLS 1333 AND 1616. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

B-5-489, NORTH ONE QUARTER CORNER OF SECTION 10, T8N, R22W, FOUND #4 REBAR IN PLACE PER CCR FILED BY PLS 1616. USED CORNER ON OUR SURVEY AND FILED NEW CCR.

B-5-490, NORTHEAST CORNER OF SECTION 10, T8N, R22W, FOUND MAG NAIL IN PLACE PER CCR FILED BY PLS 1130. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

B-5-491, EAST ONE QUARTER CORNER OF SECTION 10, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-492, NORTH ONE QUARTER CORNER OF SECTION 23, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION. FILED NEW CCR.

B-5-493, NORTHEAST CORNER OF SECTION 23, T8N, R22W, SET #3 REBAR AND CA 2252 CAP D.P.M. FROM FOUND 1 INCH PIPE 1.0 MILE NORTH AND REESTABLISHED CORNER 1.0 MILE SOUTH AND FOUND CORNER 1.0 MILE WEST AND REESTABLISHED RANGE LINE 1.0 MILE EAST. FILED NEW CCR.

B-5-494, EAST ONE QUARTER CORNER OF SECTION 23, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-495, SOUTHEAST CORNER OF SECTION 22, T8N, R22W, SET #3 REBAR AND CA 2252 CAP D.P.M. FROM FOUND 1 INCH PIPE 2.0 MILES NORTH AND FOUND #4 REBAR 2.0 MILES SOUTH AND FOUND CCR 1.0 MILE WEST AND REESTABLISHED RANGE LINE 1.0 MILES EAST. FILED NEW CCR.

B-5-496, SOUTH ONE QUARTER CORNER OF SECTION 23, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION. FILED NEW CCR.

#### 11. MEANDER LINES

Since the original survey, due to accretion, the channel on this survey known as the North Fork of the Red River has moved substantially to the north. Therefore, it was necessary to establish the thread of the new channel and apportion the original government lots using proportionate measurement as prescribed in the Manual of Surveying Instructions, Bureau of Land Management.

#### 12. EXISTING RIGHT OF WAY

Existing right of way as shown on this survey was derived from the right of way as shown in relationship to centerline survey on SH 34 SAP No. 816, Sec A plans as well as documents derived from a search of the Beckham County Clerks Office. There is an abandoned railroad grade just to the west of our survey.

#### 13. UTILITIES

All utility companies servicing this survey project were contracted through "CALL OKIE"

All underground utilities were located by the owning company.

Information regarding type, size, ownership, location, depth, etc. is placed in computer file SWO4654(1).DGN

#### 14. POSSIBLE HAZARDOUS WASTE

No possible hazardous waste sites were encountered.

#### 15. DRAINAGE

Drainage areas were taken from USGS Quad maps in project area and field checked for accuracy and placed in computer file SWO 4654(1)\_DRAINAGE.DGN

#### 16. DATE OF SURVEY

This survey began August 15<sup>th</sup> 2011 and was completed December 15<sup>th</sup> 2011.

#### 17. EQUIPMENT USED

Trimble R8 gps rtk unit  
Trimble S6 Robotic Total Stations  
Leica Automatic Electronic Digital Level  
Micro Station vs 8 with Eagle Point Software

#### 18. PERSONELL

KA Isaacs	Prof. Land Surveyor
JL. Carroll	Prof. Land Surveyor
Ben Gensamer	Senior Cadd Tech
Brian Gensamer	survey Crew Chief
John Ladd	Survey Crew Chief
Lee Hornback	Survey Crew Member

PLS	KA I	OKLAHOMA DEPARTMENT OF TRANSPORTATION	
DRAWN	BJG	SURVEY DIVISION	
CHECKED	KA I	<b>SURVEY DATA SHEET</b>	
APPROVED	KA I		
CREW	ISAACS	SWO 4654 (1)	PROJECT NO. 26999(04) SHEET NO. S003





COORDINATE POINT LIST  
SWO4654(1) - J/P 26999(04)  
PAGE 1 OF 3

Pt No.	Northing	Easting	Pt No.	Northing	Easting
B-5-472	673951.917000	1517364.692000	2029	673684.517358	1517283.815730
B-5-473	663103.411000	1519709.611000	2030	674073.028132	1517304.894205
200	664195.183000	1519814.976000	2031	670817.573017	1517886.395413
201	664874.927000	1519283.493000	7600	663054.115816	1522423.725965
202	665804.246000	1518952.029000	7601	663080.500554	1521105.489660
203	667034.666000	1518638.641000	7602	663125.092586	1519852.200511
204	668160.535000	1518585.058000	7603	663134.474357	1517149.461016
205	669323.946000	1518403.757000	7604	663132.353191	1517886.581247
206	670283.424000	1518017.279000	7605	663126.984666	1519752.217311
207	671101.877000	1517843.228000	7606	663481.220864	1519857.410481
208	671127.068000	1517876.354000	7607	663492.543710	1519757.420604
209	672358.807000	1517839.111000	7608	663646.702218	1519753.226870
210	673513.991000	1517154.137000	7609	663846.695498	1519830.036828
211	674473.397000	1517548.808000	7610	664411.719414	1519837.714068
212	675367.508000	1517690.569000	7611	665730.464436	1519855.632462
213	676184.838000	1517771.044000	7612	665731.442573	1519789.639660
2000	663093.472627	1519801.745500	7613	664453.422738	1519772.274618
2001	663491.932287	1519807.415543	7614	664415.340784	1519771.757181
2002	664167.234655	1519817.025029	7615	664106.355927	1519767.558861
2003	664698.457949	1519399.978938	7616	664396.124429	1519650.429892
2004	665084.951125	1519096.555744	7617	664431.268633	1519632.399106
2005	665751.299675	1518573.427219	7618	664729.333294	1519439.307211
2006	666594.993012	1518496.841337	7619	664867.582604	1519360.650665
2007	668582.159862	1518316.457163	7620	664814.812950	1519245.064920
2008	668915.318167	1518286.214868	7621	664722.186914	1519127.080101
2009	669242.693286	1518217.406658	7622	664876.563640	1519323.721466
2010	673249.885516	1517375.167457	7623	664969.189675	1519441.706285
2011	673820.781689	1517255.175440	7624	665208.452506	1519253.868837
2012	674393.139558	1517367.989427	7625	665146.701816	1519175.212291
2013	676315.306050	1517746.856003	7626	664961.449745	1518939.242652
2014	663733.827712	1519795.500196	7627	665023.200435	1519017.899198
2015	665735.541372	1518712.454986	7628	665735.954075	1518603.994496
2016	669376.223357	1518335.150957	7629	665735.126010	1518821.614201
2017	669700.874075	1518121.105270	7630	665987.532251	1518514.543518
2018	671027.297486	1517842.315135	7631	666050.494809	1518496.062338
2019	673684.007962	1517318.114882	7632	666210.519965	1518661.030205
2020	664257.662240	1519659.027006	7633	666222.156624	1518709.857237
2021	667439.956098	1518420.140195	7634	666608.553440	1518646.227129
2022	670304.300199	1517994.276047	7635	667055.410248	1518605.663904
2023	671772.226730	1517685.744524	7636	668043.122980	1518315.182445
2024	672555.120880	1517521.194378	7637	669232.314454	1518498.930658
2025	675363.522003	1517559.255623	7638	668223.274169	1518399.240428
2026	664196.812492	1519901.665108	7639	668343.537034	1518271.140440
2027	665736.024757	1518585.419060	7640	668342.961806	1518388.375837
2028	673605.282392	1517300.469482	7641	668335.758063	1519858.028638

COORDINATE POINT LIST  
SWO4654(1) - J/P 26999(04)  
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Pt No.	Northing	Easting	Pt No.	Northing	Easting
7642	668348.581137	1517247.193003	7686	676305.636897	1517795.912168
7643	668414.557265	1517248.144146	8000	669707.233450	1517261.175050
7644	668409.606307	1518257.183908	8001	669754.121033	1517261.647703
7645	668401.747655	1519858.832078	8002	670345.395432	1517267.609082
7646	668408.152460	1518553.488085	8003	669904.257399	1517319.341400
7647	668408.992010	1518382.381975	8004	669854.082892	1517366.964662
7648	668586.680005	1518366.252427	8005	669775.878481	1517284.570729
7649	668912.370303	1518096.887677	8006	669706.573972	1517350.351281
7650	669252.977670	1518266.337443	8007	669891.938495	1517405.848245
7651	669703.510942	1517764.541605	8008	670077.069631	1517523.657175
7652	669700.495646	1518172.277284	8009	670198.286445	1517429.622313
7653	670418.268559	1517464.300940	8010	670328.319028	1517399.501771
7654	670510.243708	1517425.665914	8011	670551.651826	1517660.389543
7655	670598.053041	1517528.981208	8012	670764.699560	1517791.068814
7656	670590.143217	1517902.020922	8013	670963.808741	1518150.046681
7657	670792.193039	1517840.637349	8014	671024.589558	1518116.334244
7658	670842.952997	1517932.153477	8015	671023.100541	1518267.010076
7659	671026.791526	1517893.513954	8016	671107.045230	1518433.150607
7660	671027.803446	1517791.116316	8017	671146.716187	1518649.136931
7661	671028.309406	1517739.917497	8018	671121.964300	1518771.820199
7662	671262.349118	1517690.726596	8019	671018.318524	1518750.909209
7663	671272.633502	1517739.657480	8020	670128.651913	1518571.415069
7664	672355.811812	1517511.983053	8021	669697.577150	1518566.923425
7665	672354.544726	1517614.444322	8022	668375.153790	1518553.144250
7666	673280.169900	1517424.098342	8023	671096.025519	1518900.386328
7667	673239.601131	1517326.236573	8024	671015.503144	1519035.801629
7668	673392.559467	1517298.325123	8025	671014.958097	1519090.955686
7669	673651.719746	1517269.943251	8026	670891.131527	1519076.787826
7670	673690.080971	1514686.964587	8027	670786.738981	1519420.516659
7671	673650.229920	1517370.257817	8028	670690.873199	1519604.178499
7672	673631.848767	1518607.917117	8029	670421.619243	1519738.618966
7673	673612.438034	1519914.901224	8030	670071.676265	1519843.072978
7674	673678.433685	1519915.690896	8031	670081.776183	1519876.909836
7675	673697.845425	1518608.632263	8032	669962.611489	1519875.627578
7676	673718.291618	1517366.593595	8033	669838.309239	1519912.730390
7677	673756.080955	1514687.455704	8034	669698.481389	1519936.035032
7678	673717.779066	1517266.439135	8035	669687.920850	1519872.671800
7679	674340.720594	1517307.382728	8036	675041.035500	1514694.491750
7680	674402.806721	1517318.933262	8037	675002.801750	1517313.572300
7681	674383.470395	1517417.045591	8038	674983.685025	1518623.101250
7682	674999.518639	1517538.471123	8039	674964.568300	1518932.630200
7683	675001.002274	1517436.839564	8040	672326.264550	1518901.061450
7684	675001.150637	1517426.676408	8041	672342.423925	1518594.481775
7685	676326.909056	1517687.988606	8042	671134.365489	1518581.894241

COORDINATE POINT LIST  
SWO4654(1) - J/P 26999(04)  
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Pt No.	Northing	Easting
8043	672358.583300	1517287.902100
8044	672390.902000	1514674.742750
8045	667050.033000	1519840.559000
8046	665736.309900	1518510.482000
8047	663651.617920	1518044.961923
8048	664377.394075	1521122.250525
9003	678994.902000	1514716.142000
9006	678958.394000	1517350.492000
9007	678921.964000	1519984.752000
9011	673723.080000	1514687.275000
9014	663093.885000	1519786.805000
9016	663109.067000	1514510.880000
9026	668388.749000	1519858.477000
9037	665751.290000	1514573.646000
9047	668394.368000	1514637.146000
9048	673645.436400	1519915.266300
9049	668242.060200	1525119.859400
9050	662948.344300	1525059.824400
9051	676358.991000	1514701.708500
9052	676283.700200	1519950.004100
9053	673684.258200	1517301.285600
9054	671058.724000	1514662.210500
9055	671007.092700	1519886.866600
9056	668381.558500	1517247.811500
9057	668305.404600	1522489.168200
9058	665595.202300	1525089.841900
9059	663021.114700	1522423.314700
9060	665731.317000	1519822.641000
9061	663101.476000	1517148.842500
9062	676321.345300	1517325.879000
9063	671032.908400	1517274.538900
9064	665741.302800	1517198.323000
9065	665663.259500	1522456.241400



Alignment Report  
 Project Name: SWO4654(1)  
 Description: S.H. 34  
 Horizontal Alignment Name: A001  
 Description: Centerline of Survey  
 Style: Centerline  
 Page: 1 of 3

Point	Node ID	Station	Northing-(Y)	Easting-(X)
BOP	2000	85+16.0000	663093.472627	1519801.745500

Direction Distance  
 N00°48'54.93"E 398.5000

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PC	2001	69+14.5000	663491.932287	1519807.415543

Point	Node ID	Station	Northing-(Y)	Easting-(X)
RP	N/A	N/A	663519.106648	1517897.749577

Circular Curve (CCW)  
 Radial In: N89°11'05.07"W  
 D.O.C Arc: 03°00'00.00"  
 D.O.C Chord: 03°00'01.23"  
 Radius: 1909.8593  
 Delta angle: 38°56'58.42"  
 Tangent length: 675.3707  
 Arc length: 1298.3187  
 Chord Direction: N18°39'34.28"W  
 Chord length: 1273.4633  
 External: 115.8969  
 Middle ordinate: 109.2662  
 Radial Out: N51°51'56.51"E

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PI	2002	75+89.8707	664167.234656	1519817.025029

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PT	2003	82+12.8187	664698.457949	1519399.978938

Direction Distance  
 N38°08'03.49"W 491.3681

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PC	2004	87+04.1868	665084.951125	1519096.555744

Point	Node ID	Station	Northing-(Y)	Easting-(X)
RP	N/A	N/A	666853.976109	1521349.899825

Alignment Report  
 Project Name: SWO4654(1)  
 Description: S.H. 34  
 Horizontal Alignment Name: A001  
 Description: Centerline of Survey  
 Style: Centerline  
 Page: 2 of 3

Circular Curve (CW)  
 Radial In: N51°51'56.51"E  
 D.O.C Arc: 02°00'00.00"  
 D.O.C Chord: 02°00'00.37"  
 Radius: 2864.7890  
 Delta angle: 32°56'51.07"  
 Tangent length: 847.1622  
 Arc length: 1647.3760  
 Chord Direction: N21°39'37.96"W  
 Chord length: 1624.7719  
 External: 122.6346  
 Middle ordinate: 117.6004  
 Radial Out: S84°48'47.58"W

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PI	2005	95+51.3490	665751.299675	1518573.427219

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PT	2006	103+51.5628	666594.993012	1518496.841337

Direction Distance  
 N05°11'12.42"W 1995.3372

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PC	2007	123+46.9000	668582.159862	1518316.457163

Point	Node ID	Station	Northing-(Y)	Easting-(X)
RP	N/A	N/A	668064.189669	1512610.340188

Circular Curve (CCW)  
 Radial In: S84°48'47.58"W  
 D.O.C Arc: 01°00'00.00"  
 D.O.C Chord: 01°00'00.05"  
 Radius: 5729.5780  
 Delta angle: 06°40'58.71"  
 Tangent length: 334.5281  
 Arc length: 668.2975  
 Chord Direction: N08°31'41.77"W  
 Chord length: 667.9187  
 External: 9.7576  
 Middle ordinate: 9.7410  
 Radial Out: N78°07'48.87"E

Alignment Report  
 Project Name: SWO4654(1)  
 Description: S.H. 34  
 Horizontal Alignment Name: A001  
 Description: Centerline of Survey  
 Style: Centerline  
 Page: 3 of 3

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PI	2008	126+81.4281	668915.318167	1518286.214868

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PT	2009	130+15.1975	669242.693286	1518217.406558

Direction Distance  
 N11°52'11.13"W 4094.7474

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PC	2010	171+09.9449	673249.885516	1517375.167457

Point	Node ID	Station	Northing-(Y)	Easting-(X)
RP	N/A	N/A	673839.137324	1520178.700643

Circular Curve (CW)  
 Radial In: N78°07'48.87"E  
 D.O.C Arc: 02°00'00.00"  
 D.O.C Chord: 02°00'00.37"  
 Radius: 2864.7890  
 Delta angle: 23°01'12.19"  
 Tangent length: 583.3700  
 Arc length: 1151.0026  
 Chord Direction: N00°21'35.04"W  
 Chord length: 1143.2766  
 External: 58.7938  
 Middle ordinate: 57.6115  
 Radial Out: N78°50'58.94"W

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PI	2011	176+93.3149	673820.781689	1517255.175440

Point	Node ID	Station	Northing-(Y)	Easting-(X)
PT	2012	182+60.9475	674393.139558	1517367.989427

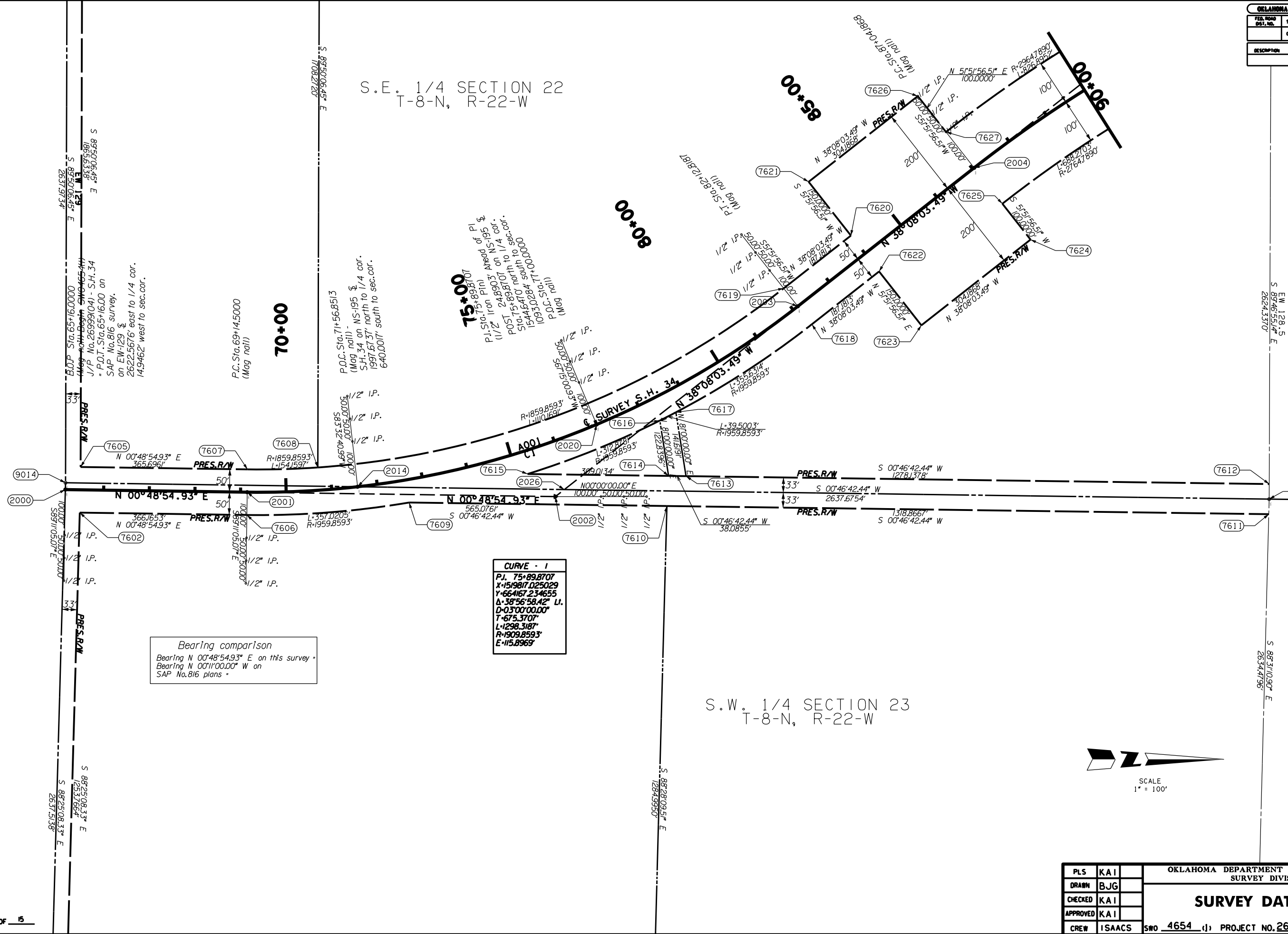
Direction Distance  
 N11°09'01.06"E 1959.1488

Point	Node ID	Station	Northing-(Y)	Easting-(X)
EOP	2013	202+20.0963	676315.306060	1517746.856003

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA.				
DESCRIPTION			REVISIONS	DATE	

S.E. 1/4 SECTION 22  
T-8-N, R-22-W

S.W. 1/4 SECTION 23  
T-8-N, R-22-W



**CURVE - 1**  
 P.I. 75+89.8707  
 X=1519817.025029  
 Y=664167.234655  
 Δ=38°56'58.42" LI.  
 D=03°00'00.00"  
 T=675.3707  
 L=1298.3187  
 R=1909.8593  
 E=115.8969

**Bearing comparison**  
 Bearing N 00°48'54.93" E on this survey -  
 Bearing N 00°11'00.00" W on  
 SAP No.816 plans -



SCALE  
1" = 100'

OKLAHOMA DEPARTMENT OF TRANSPORTATION			
SURVEY DIVISION			
<b>SURVEY DATA SHEET</b>			
PLS	KA I		
DRAWN	BJG		
CHECKED	KA I		
APPROVED	KA I		
CREW	ISAACS	SWO 4654 (J)	PROJECT NO. 26999(04) SHEET NO. S007

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA.				
DESCRIPTION		REVISIONS	DATE		

N.E. 1/4 SECTION 22  
T-8-N, R-22-W

N.E. 1/4 SECTION 22  
T-8-N, R-22-W

00+06

100+00

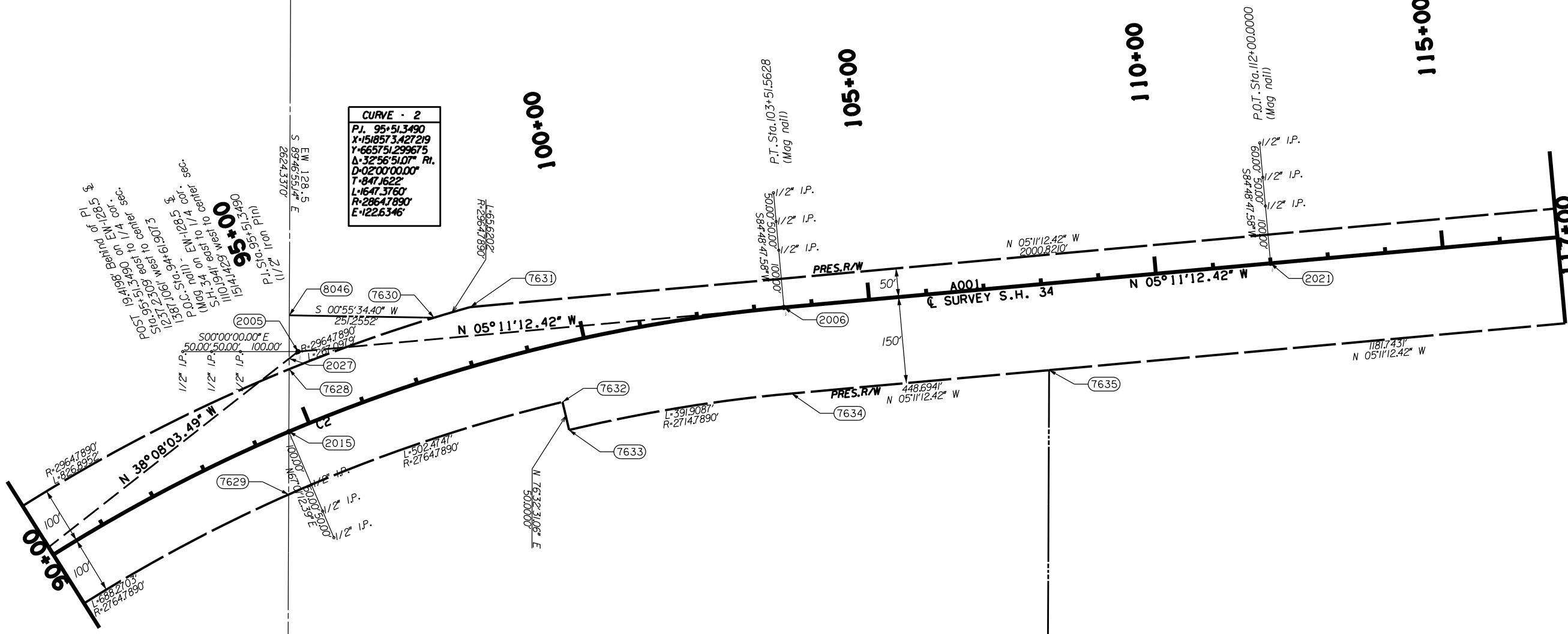
105+00

110+00

115+00

117+00

**CURVE - 2**  
P.I. 95+51.3490  
X+1518573.427219  
Y+665751.299675  
Δ+32°56'51.07" Ri.  
D+02°00'00.00"  
T+847.1622'  
L+1647.3760'  
R+2864.7890'  
E+1226.346'

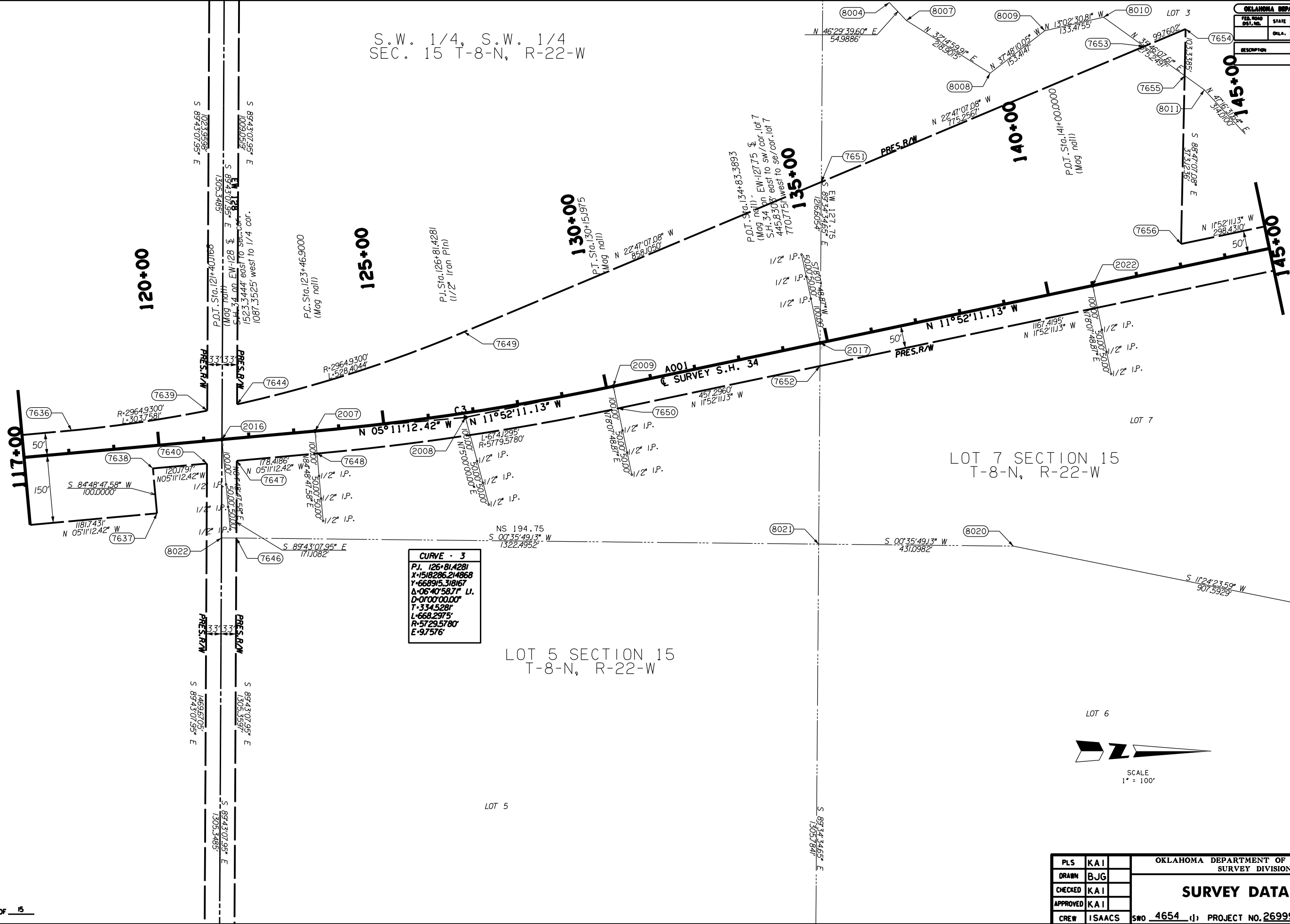


SCALE  
1" = 100'

PLS	KA I	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	BJG	
CHECKED	KA I	
APPROVED	KA I	
CREW	ISAACS	
		<b>SURVEY DATA SHEET</b>
		SWO 4654 (1) PROJECT NO. 26999(04) SHEET NO. S008

S.W. 1/4, S.W. 1/4  
SEC. 15 T-8-N, R-22-W

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA.				
DESCRIPTION		REVISIONS	DATE		



**CURVE - 3**  
 P.I. 126°81.4281  
 X=1518286.214868  
 Y=668915.318167  
 Δ=06°40'58.71" LI  
 D=0°00'00.00"  
 T=334.5281'  
 L=668.2975'  
 R=5729.5780'  
 E=97576'

LOT 5 SECTION 15  
T-8-N, R-22-W

LOT 7 SECTION 15  
T-8-N, R-22-W

LOT 6



SCALE  
1" = 100'

PLS	KA I	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	BJG	
CHECKED	KA I	
APPROVED	KA I	
CREW	ISAACS	
		<b>SURVEY DATA SHEET</b>
		SWO 4654 (J) PROJECT NO. 26999(04) SHEET NO. S009

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA.				
DESCRIPTION		REVISIONS		DATE	

N.W. 1/4 SECTION 15  
T-8-N, R-22-W

LOT 3 SECTION 15  
T-8-N, R-22-W

N.E. 1/4 SECTION 15  
T-8-N, R-22-W

S 00°34'39.9" W  
687.5479'

145+00

150+00

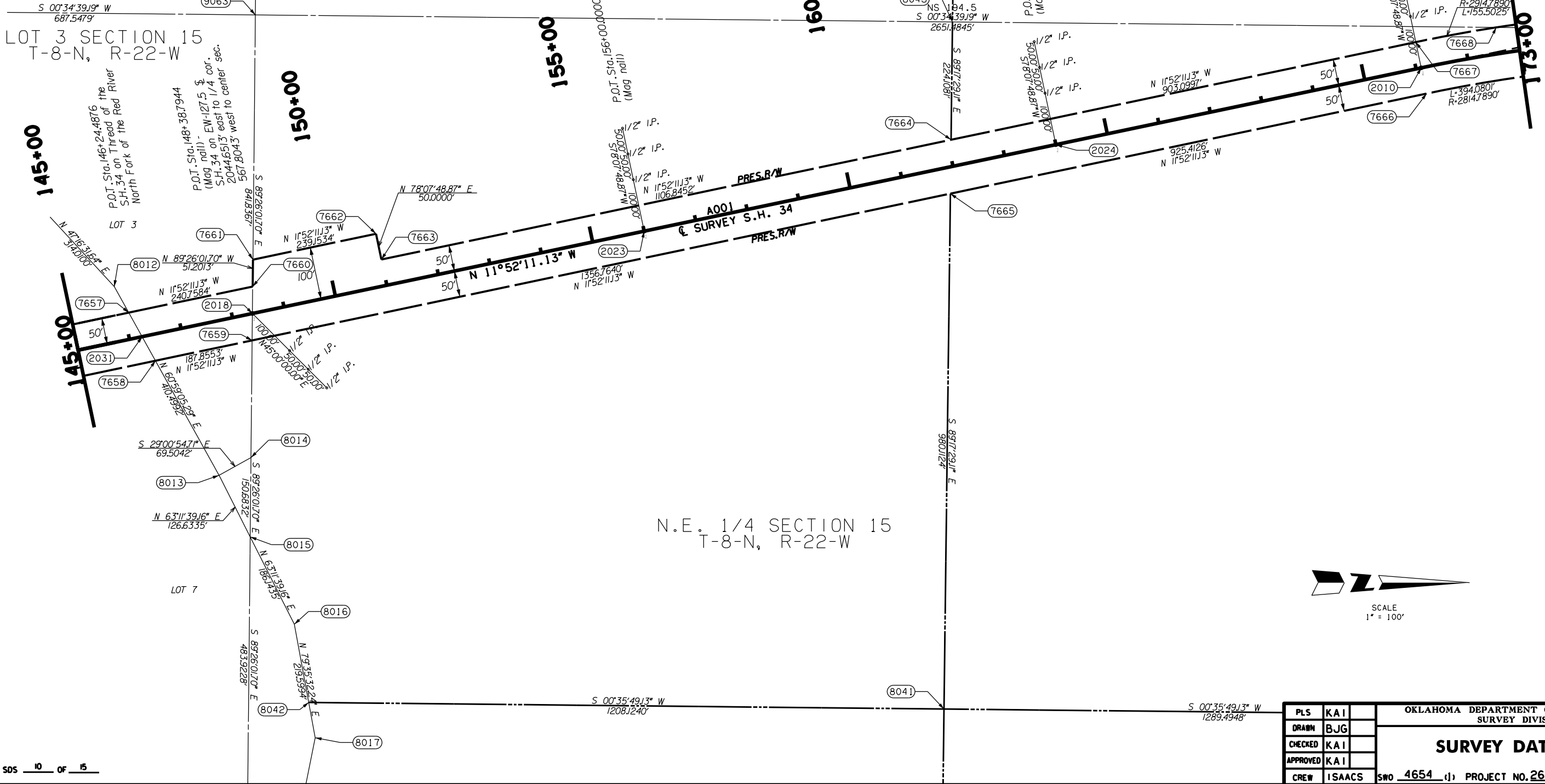
155+00

160+00

165+00

170+00

173+00



SCALE  
1" = 100'

SOS 10 OF 15

PLS	KAI	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	BJG	
CHECKED	KAI	
APPROVED	KAI	
CREW	ISAACS	
		<b>SURVEY DATA SHEET</b>
		SWO 4654 (J) PROJECT NO. 26999(04) SHEET NO. S010

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA.				
DESCRIPTION		REVISIONS	DATE		

S.W. 1/4 SECTION 10  
T-8-N, R-22-W

S.E. 1/4 SECTION 10  
T-8-N, R-22-W

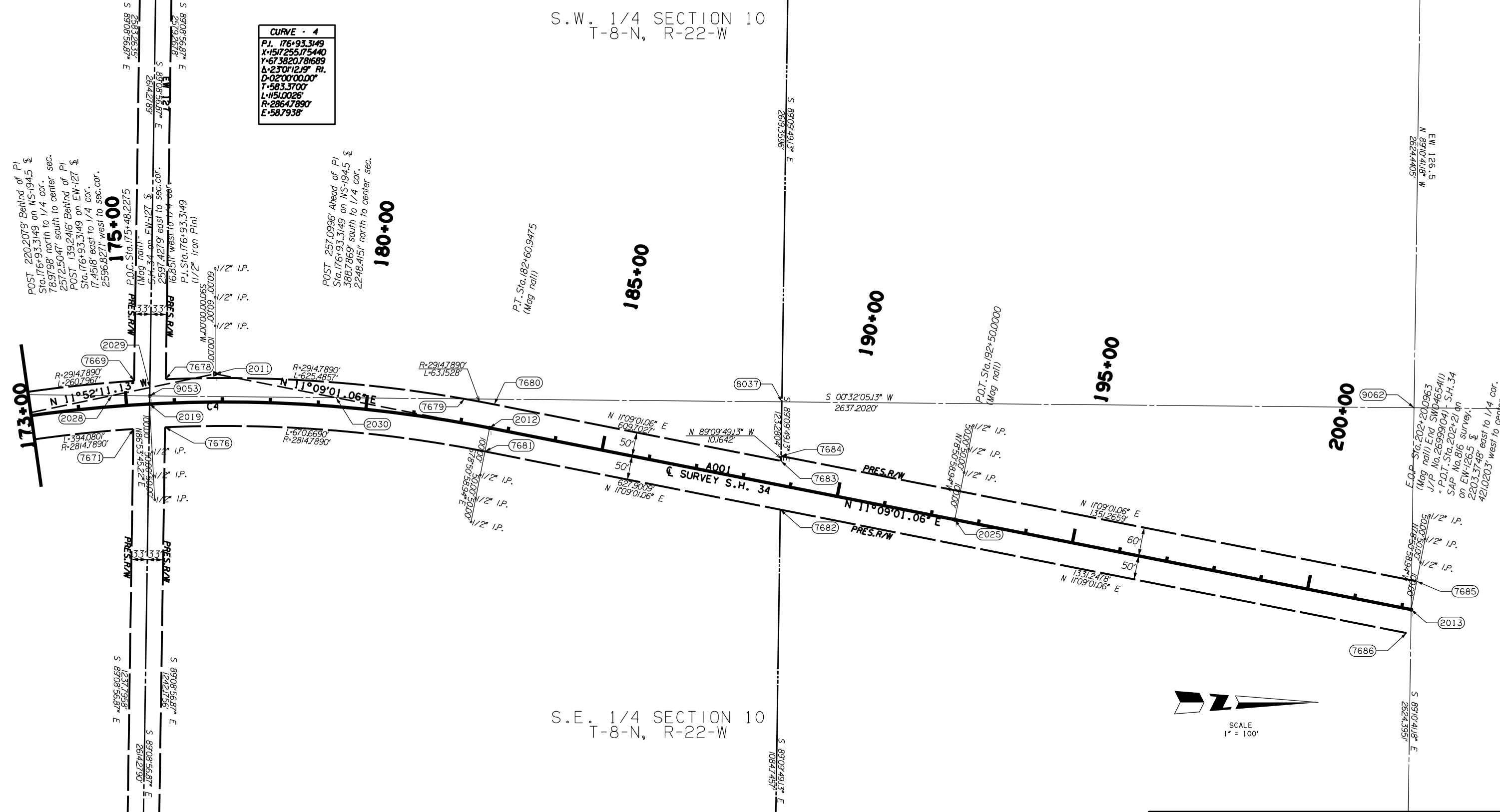
CURVE - 4	
P.I.	176+93.3149
X	1517255.175440
Y	673820.781689
$\Delta$	23°01'21.9" Ri.
D	02°00'00.00"
T	583.3700'
L	115.0026'
R	2864.7890'
E	58.7938'

POST 220.2079 Behind of PI  
Sta. 176+93.3149 on NS-194.5 &  
78.9798' north to 1/4 cor.  
2572.5047' south to center sec.  
POST 139.2416' Behind of PI  
Sta. 176+93.3149 on EW-127 &  
17.4518' east to 1/4 cor.  
2596.8271' west to sec. cor.

POST 257.0996' Ahead of PI  
Sta. 176+93.3149 on NS-194.5 &  
388.7869' south to 1/4 cor.  
2248.4151' north to center sec.

EW 126.5  
N 89°10'41.8" W  
2624.405'

E.O.P. Sta. 202+20.0963  
(Mag. nail) End SW 1/4 4654(1)  
J/P No. 26999(04) S.H. 34  
\* P.O.T. Sta. 202+21 on  
SAP No. 816 survey.  
on EW-126.5 &  
220.3748' east to 1/4 cor.  
4210.203' west to center sec.



SCALE  
1" = 100'

PLS	KAI	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	BJG	
CHECKED	KAI	
APPROVED	KAI	
CREW	ISAACS	
		<b>SURVEY DATA SHEET</b>
		SWO 4654 (1) PROJECT NO. 26999(04) SHEET NO. S011

SD DATE \$S  
505 11 OF 15

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
DESCRIPTION		REVISIONS		DATE	

B-5-478, NORTHWEST CORNER OF SECTION 23, T8N, R22W, FOUND 2 INCH PIPE WITH #4 REBAR WITH PLS 1616 CAP PER CCR FILED BY PLS 1616. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

B-5-479, WEST ONE QUARTER CORNER OF SECTION 23, T8N, R22W, SET #3 REBAR AND CS 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION, FILED NEW CCR.

B-5-480, SOUTHWEST CORNER OF SECTION 23, T8N, R22W, FOUND MAG NAIL IN PLACE PER CCR FILED BY PLS 1605. USED THIS CORNER FOR OUR SURVEY. ALSO FOUND MAG NAIL PER CCR FILED BY PLS 1333 5.5 FT NORTH AND 15.8 FT EAST, DID NOT USE ON OUR SURVEY. FILED NEW CCR FOR OUR CORNER.

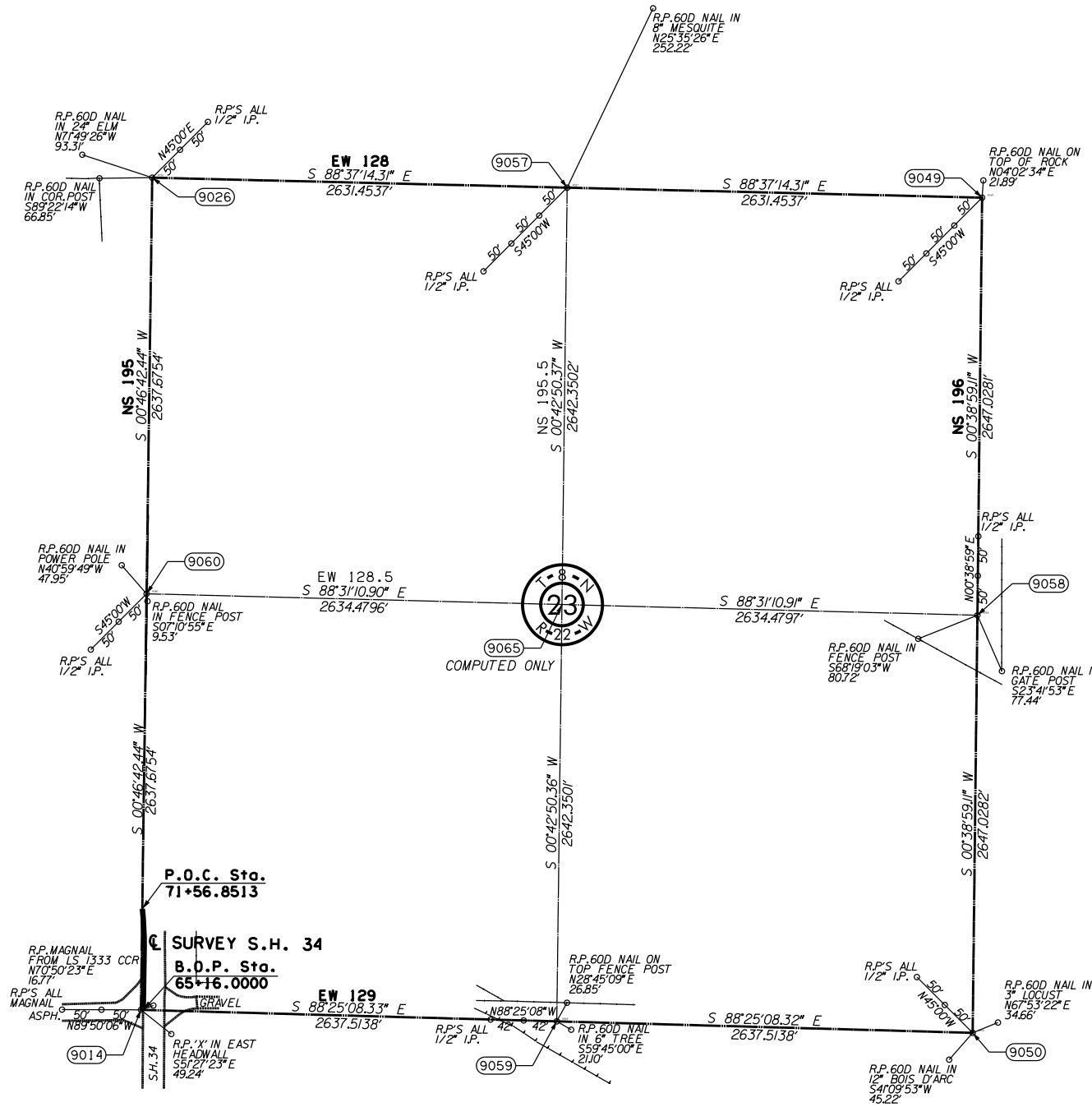
B-5-492, NORTH ONE QUARTER CORNER OF SECTION 23, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION, FILED NEW CCR.

B-5-493, NORTHEAST CORNER OF SECTION 23, T8N, R22W, SET #3 REBAR AND CA 2252 CAP D.P.M. FROM FOUND 1 INCH PIPE 1.0 MILE NORTH AND REESTABLISHED CORNER 1.0 MILE SOUTH AND FOUND CORNER 1.0 MILE WEST AND REESTABLISHED RANGE LINE 1.0 MILE EAST, FILED NEW CCR.

B-5-494, EAST ONE QUARTER CORNER OF SECTION 23, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION, FILED NEW CCR.

B-5-495, SOUTHEAST CORNER OF SECTION 22, T8N, R22W, SET #3 REBAR AND CA 2252 CAP D.P.M. FROM FOUND 1 INCH PIPE 2.0 MILES NORTH AND FOUND #4 REBAR 2.0 MILES SOUTH AND FOUND CCR 1.0 MILE WEST AND REESTABLISHED RANGE LINE 1.0 MILES EAST, FILED NEW CCR.

B-5-496, SOUTH ONE QUARTER CORNER OF SECTION 23, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION, FILED NEW CCR.



SCALE:  
1" = 500'

OKLAHOMA DEPARTMENT OF TRANSPORTATION			
SURVEY DIVISION			
SURVEY DATA SHEET			
PLS	KAI		
DRAWN	BJG		
CHECKED	KAI		
APPROVED	KAI		
CREW	ISAACS	SWO 4654 (1)	STATE JOB NO. 26999104
			SHEET NO. S012

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
DESCRIPTION		REVISIONS		DATE	

B-5-476, NORTHWEST CORNER OF SECTION 22, T8N, R22W FOUND AND USED ON THIS SURVEY A #4 REBAR AND PLS 1333 CAP (NO CCR FILED FOR THIS CORNER). ALSO FOUND #4 REBAR PER CCR FILED BY PLS 1616 22.3 FT NORTH AND 74.2 FT WEST (DID NOT USE). ALSO FOUND #5 REBAR BY UNKNOWN PARTY 19.4 FT NORTH AND 76.1 FT WEST (DID NOT USE). FILED NEW CCR.

B-5-475, WEST ONE QUARTER CORNER OF SECTION 22, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-474, SOUTHWEST CORNER OF SECTION 22, T8N, R22W, FOUND #4 REBAR AND CAP PER CCR FILED BY PLS 1333. USED THIS CORNER FOR OUR SURVEY AND FILED NEW CCR.

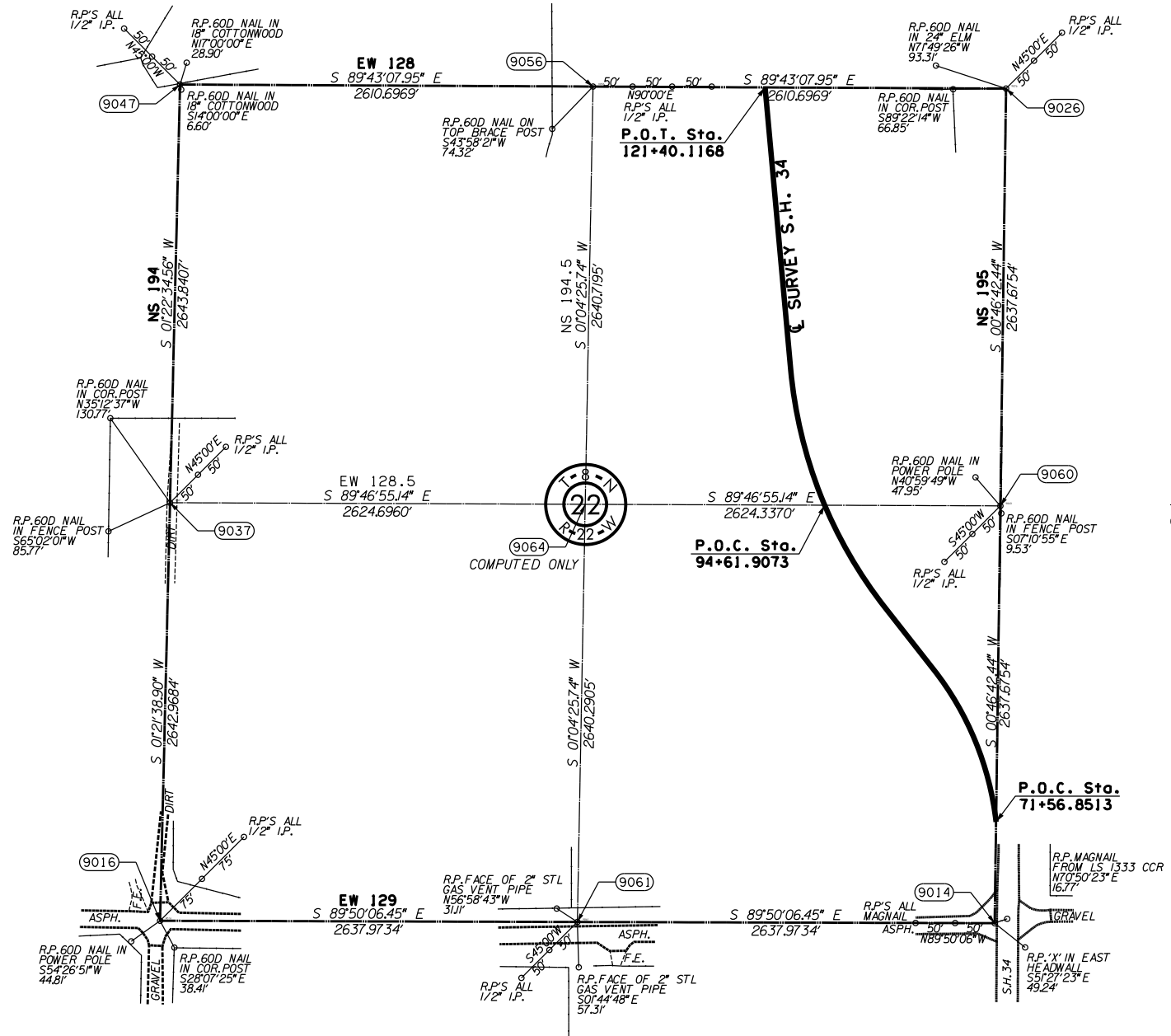
B-5-477, NORTH ONE QUARTER CORNER OF SECTION 22, T8N, R22W, SET #3 REBAR S.P.M FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION. FILED NEW CCR.

B-5-478, NORTHEAST CORNER OF SECTION 22, T8N, R22W, FOUND 2 INCH PIPE WITH #4 REBAR WITH PLS 1616 CAP PER CCR FILED BY PLS 1616. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

B-5-479, EAST ONE QUARTER CORNER OF SECTION 22, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-480, SOUTHEAST CORNER OF SECTION 22, T8N, R22W, FOUND MAG NAIL IN PLACE PER CCR FILED BY PLS 1605. USED THIS CORNER FOR OUR SURVEY. ALSO FOUND MAG NAIL PER CCR FILED BY PLS 1333 5.5 FT NORTH AND 15.8 FT EAST. DID NOT USE ON OUR SURVEY. FILED NEW CCR FOR OUR CORNER.

B-5-481, SOUTH ONE QUARTER CORNER OF SECTION 22, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION. FILED NEW CCR.



SCALE:  
1" = 50'

PLS	KAI	OKLAHOMA DEPARTMENT OF TRANSPORTATION			
DRAWN	BJG	SURVEY DIVISION			
CHECKED	KAI	<b>SURVEY DATA SHEET</b>			
APPROVED	KAI				
CREW	ISAACS	SWO 4654 (1)	STATE JOB NO. 26999(04)	SHEET NO. S013	



NUM.	DIRECTION	DISTANCE
L1	S 00°34'39.19" W	687.5479'
L2	S 00°34'39.19" W	591.3044'
L3	S 00°34'39.19" W	46.8900'
L4	S 89°34'34.65" E	89.1787'
L5	S 43°30'20.40" E	95.5521'
L6	S 06°41'19.19" E	444.1611'
L7	S 43°30'20.40" E	69.1770'
L8	N 46°29'39.60" E	31.6046'
L9	N 46°29'39.60" E	113.5988'
L10	N 46°29'39.60" E	54.9886'
L11	N 32°14'59.91" E	218.9015'
L12	N 37°48'10.05" W	153.4147'
L13	N 13°02'30.81" W	133.4755'
L14	N 35°46'07.61" E	275.2497'
L15	N 47°16'31.64" E	314.0100'
L16	N 60°59'05.29" E	410.4992'
L17	S 89°26'01.70" E	841.8367'
L18	S 29°00'54.71" E	69.5042'
L19	S 89°26'01.70" E	150.6832'
L20	N 63°11'39.16" E	126.6335'
L21	N 63°11'39.16" E	186.1435'
L22	N 79°35'32.24" E	219.5994'
L23	S 78°35'36.41" E	125.1553'
L24	S 89°26'01.70" E	483.9228'
L25	S 11°24'23.59" W	105.7342'
L26	S 11°24'23.59" W	907.5929'
L27	S 00°35'49.13" W	431.0982'
L28	S 78°35'36.41" E	131.1567'
L29	S 59°15'46.43" E	157.5473'
L30	S 89°26'01.70" E	284.9063'
L31	S 89°26'01.70" E	55.1567'
L32	S 30°44'13.57" W	27.7207'
L33	S 59°15'46.43" E	47.6847'
L34	S 59°15'46.43" E	399.9074'
L35	S 44°39'29.81" E	261.3001'
L36	S 36°52'11.63" E	224.0674'
L37	S 16°37'11.16" E	365.1996'
L38	S 89°26'01.70" E	795.9498'
L39	S 00°36'59.40" W	925.3701'
L40	S 73°22'48.84" W	35.3121'
L41	S 16°37'11.16" E	113.8197'
L42	S 00°36'59.40" W	119.1716'
L43	S 16°37'11.16" E	129.7215'
L44	S 09°27'44.36" E	141.7566'
L45	S 00°36'59.40" W	274.7065'
L46	S 80°32'15.64" W	64.2372'

B-5-483, NORTHWEST CORNER OF SECTION 15, T8N, R22W, FOUND #4 REBAR AND CAP PER CCR FILED BY PLS 1333. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

B-5-482, WEST ONE QUARTER CORNER OF SECTION 15, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-476, SOUTHWEST CORNER OF SECTION 15, T8N, R22W, FOUND AND USED ON THIS SURVEY A #4 REBAR AND PLS 1333 CAP (NO CCR FILED FOR THIS CORNER). ALSO FOUND #4 REBAR PER CCR FILED BY PLS 1616 22.3 FT NORTH AND 74.2 FT WEST (DID NOT USE). ALSO FOUND #5 REBAR BY UNKNOWN PARTY 19.4 FT NORTH AND 76.1 FT WEST (DID NOT USE). FILED NEW CCR.

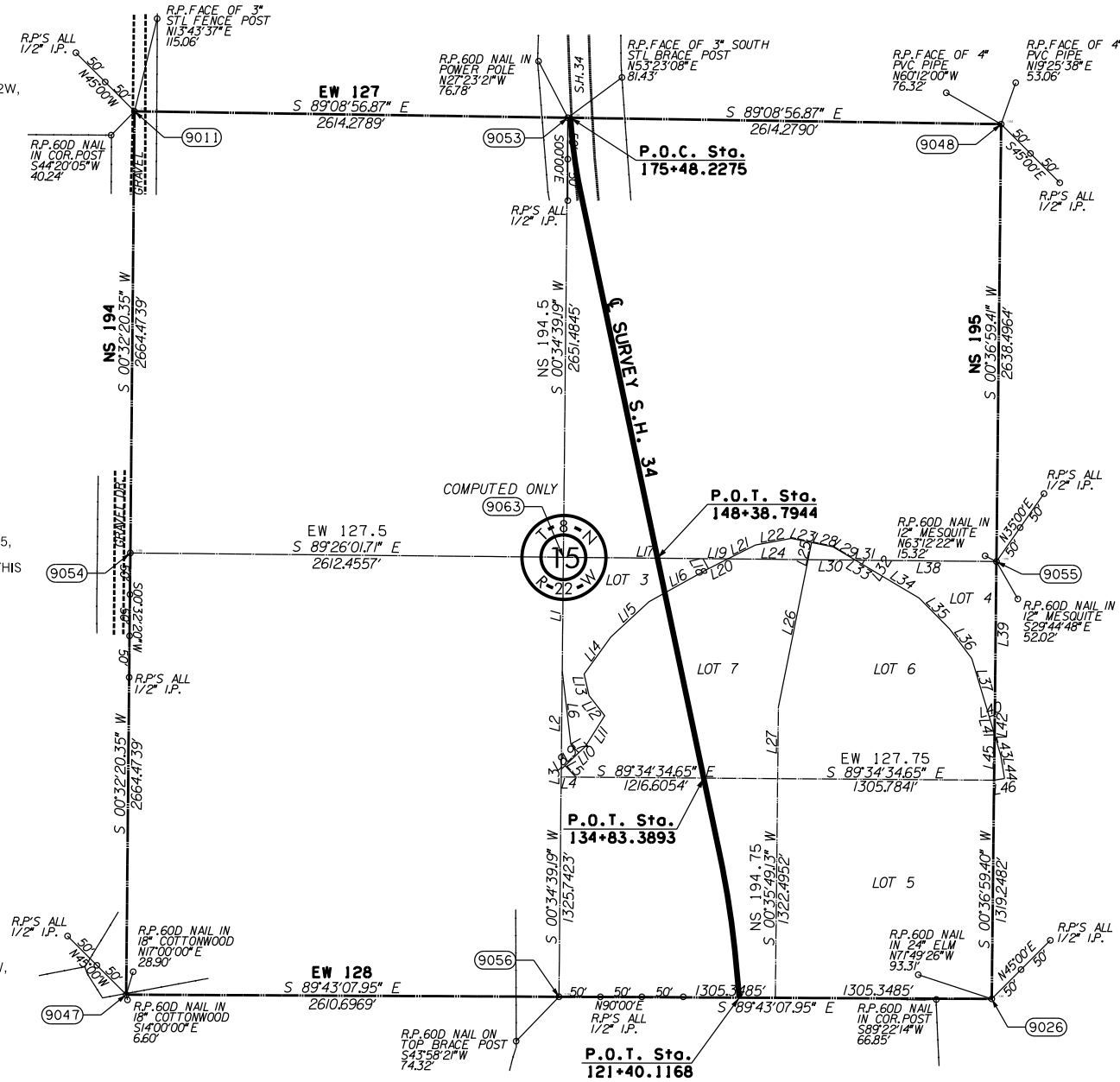
B-5-484, NORTH ONE QUARTER CORNER OF SECTION 15, T8N, R22W, SET #3 REBAR AND 2252 CAP S.P.M. FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION. FILED NEW CCR.

B-5-485, NORTHEAST CORNER OF SECTION 15, T8N, R22W, SET #3 REBAR AND CA 2252 CAP D.P.M. FROM CORNERS FOUND 1.0 MILES NORTH, WEST, SOUTH AND EAST. FILED NEW CCR FOR THIS LOCATION.

B-5-486, EAST ONE QUARTER CORNER OF SECTION 15, T8N, R22W, SET #3 REBAR AN CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-478, SOUTHEAST CORNER OF SECTION 15, T8N, R22W, FOUND 2 INCH PIPE WITH #4 REBAR WITH PLS 1616 CAP PER CCR FILED BY PLS 1616. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

B-5-477, SOUTH ONE QUARTER CORNER OF SECTION 15, T8N, R22W, SET #3 REBAR S.P.M. FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION. FILED NEW CCR.



SCALE:  
1" = 500'

PLS	KAI		OKLAHOMA DEPARTMENT OF TRANSPORTATION		
DRAWN	BJG		SURVEY DIVISION		
CHECKED	KAI		<b>SURVEY DATA SHEET</b>		
APPROVED	KAI				
CREW	ISAACS		SWO 4654(1)	STATE JOB NO. 26999(04)	SHEET NO. S014

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
DESCRIPTION		REVISIONS	DATE		

B-5-489, NORTH ONE QUARTER CORNER OF SECTION 10, T8N, R22W, FOUND #4 REBAR IN PLACE PER CCR FILED BY PLS 1616. USED CORNER ON OUR SURVEY AND FILED NEW CCR.

B-5-488, NORTHWEST CORNER OF SECTION 10, T8N, R22W, FOUND 60D NAIL IN PLACE THAT MATCHES CCR'S FILED BY PLS 1333 AND 1616. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

B-5-490, NORTHEAST CORNER OF SECTION 10, T8N, R22W, FOUND MAG NAIL IN PLACE PER CCR FILED BY PLS 1130. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

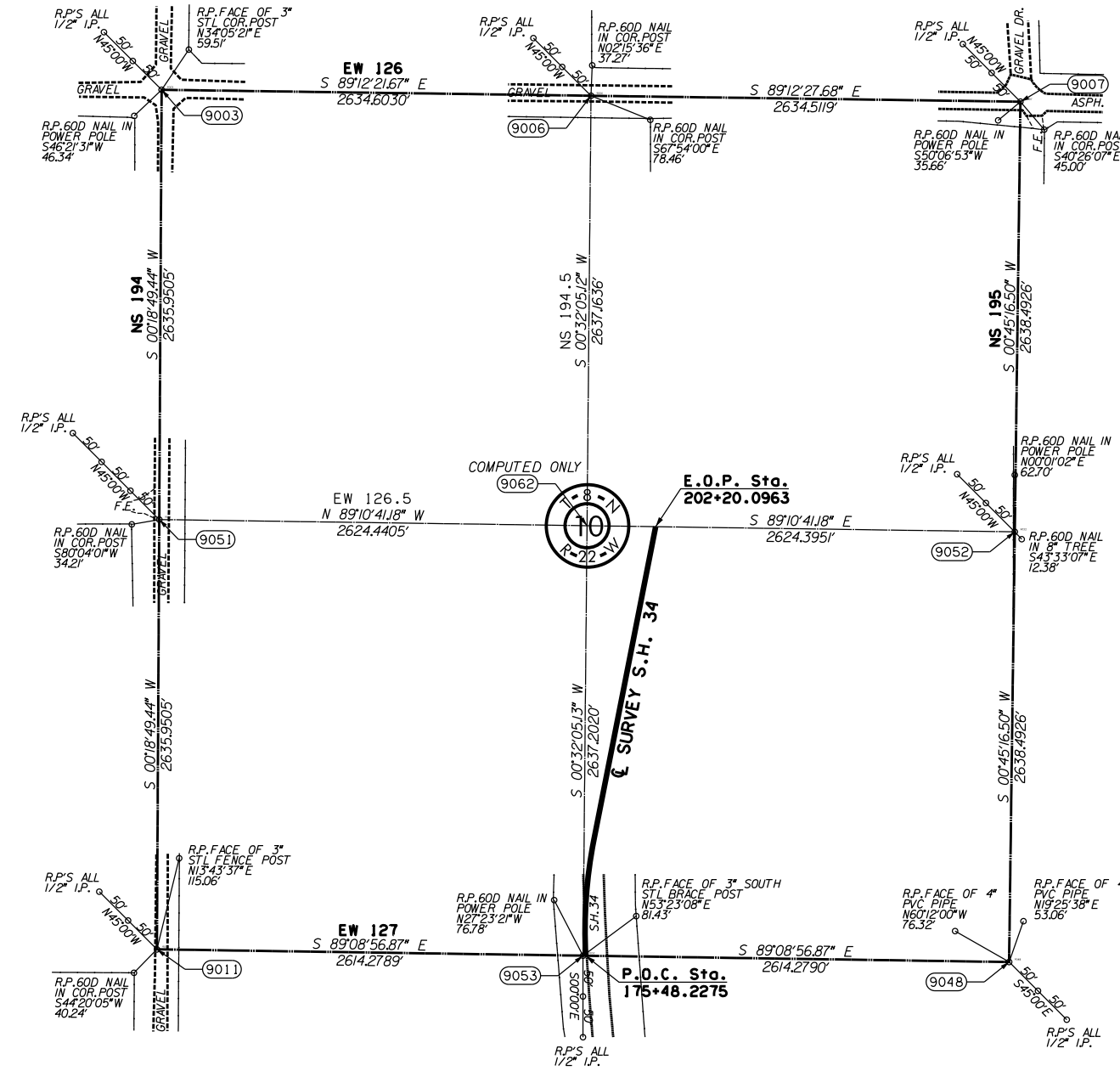
B-5-487, WEST ONE QUARTER CORNER OF SECTION 10, T8N, R22W, SET #3 REAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-491, EAST ONE QUARTER CORNER OF SECTION 10, T8N, R22W, SET #3 REBAR AND CA 2252 CAP S.P.M. FROM CORNERS 0.5 MILES NORTH AND SOUTH OF THIS LOCATION. FILED NEW CCR.

B-5-483, SOUTHWEST CORNER OF SECTION 10, T8N, R22W, FOUND #4 REBAR AND CAP PER CCR FILED BY PLS 1333. USED THIS CORNER ON OUR SURVEY AND FILED NEW CCR.

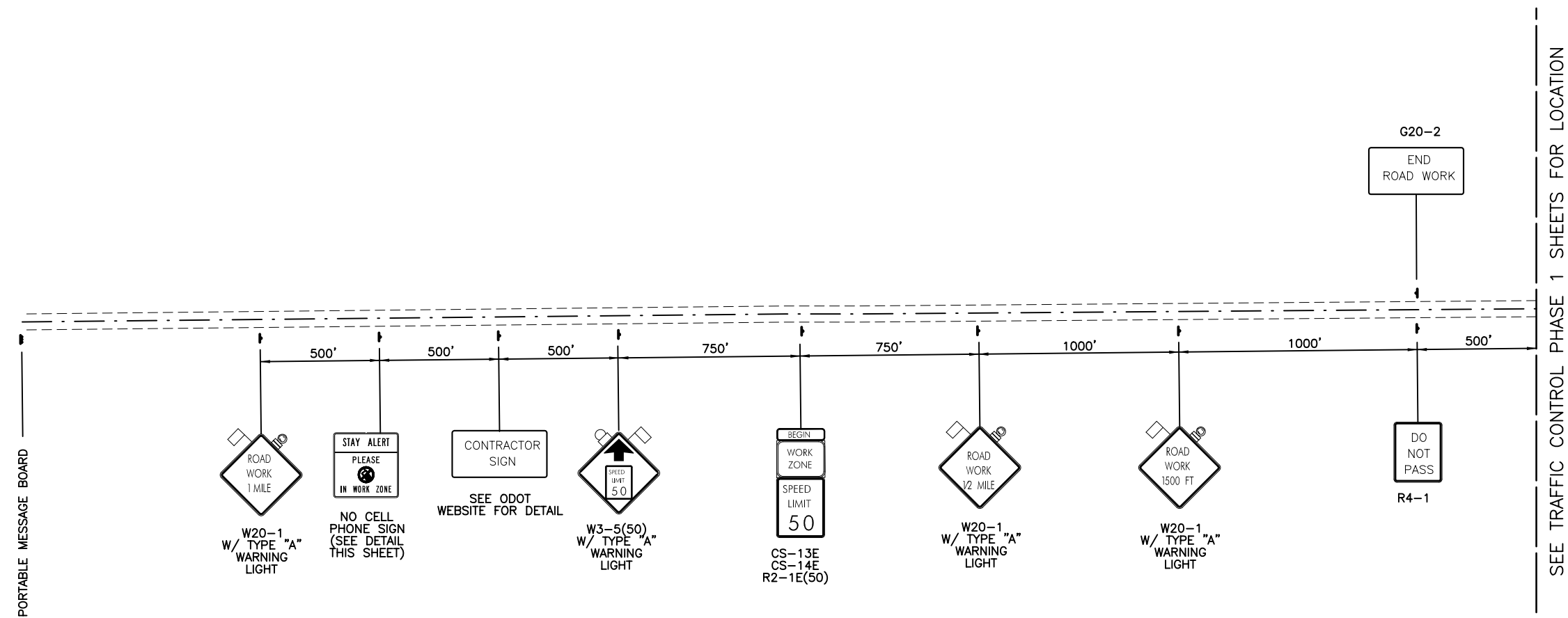
B-5-485, SOUTHEAST CORNER OF SECTION 10, T8N, R22W, SET #3 REBAR AND CA 2252 CAP D.P.M. FROM CORNERS FOUND 1.0 MILES NORTH, WEST, SOUTH AND EAST. FILED NEW CCR FOR THIS LOCATION.

B-5-484, SOUTH ONE QUARTER CORNER OF SECTION 10, T8N, R22W, SET #3 REBAR AND 2252 CAP S.P.M. FROM CORNERS 0.5 MILES EAST AND WEST OF THIS LOCATION. FILED NEW CCR.



SCALE:  
1" = 500'

OKLAHOMA DEPARTMENT OF TRANSPORTATION			
SURVEY DIVISION			
SURVEY DATA SHEET			
PLS	KAI		
DRAWN	BJG		
CHECKED	KAI		
APPROVED	KAI		
CREW	ISAACS	SWO 4654 (1)	STATE JOB NO. 26999104
			SHEET NO. S015



**NO CELL PHONE SIGN**

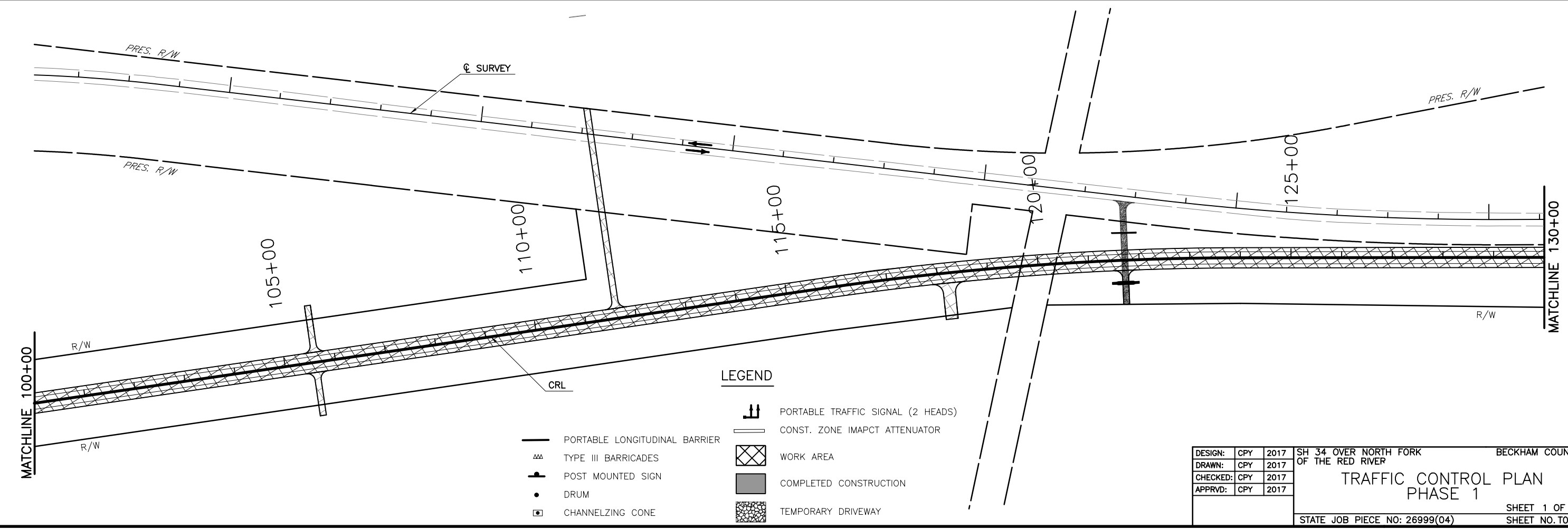
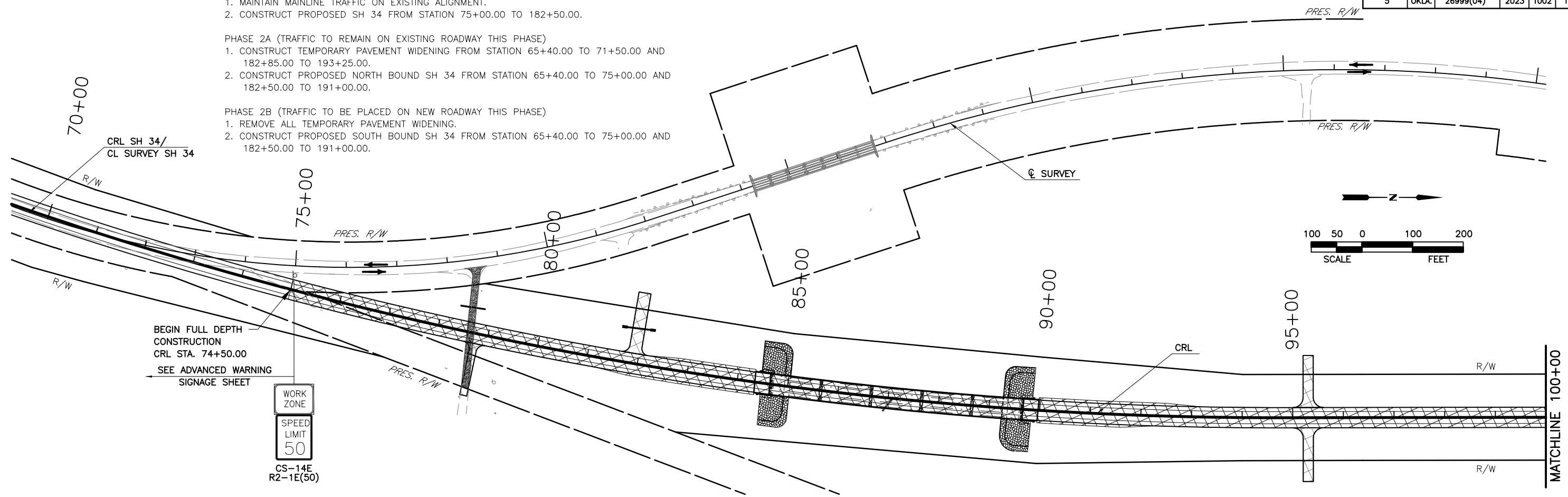
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BACKGROUND - YELLOW REFLECTIVE
- ▲ LEGEND, SYMBOL & BORDER - BLACK NON-REFLECTIVE  
BACKGROUND - ORANGE REFLECTIVE

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 7/29/2022

DESIGN:	CPY	2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN:	CPY	2017	OF THE RED RIVER	
CHECKED:	CPY	2017	<b>ADVANCED WARNING SIGNAGE PHASE 1</b>	
APPRVD:	CPY	2017		
			SHEET 1 OF 1	
			STATE JOB PIECE NO: 26999(04) SHEET NO. T001	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	T002	173

- PHASE 1  
 1. MAINTAIN MAINLINE TRAFFIC ON EXISTING ALIGNMENT.  
 2. CONSTRUCT PROPOSED SH 34 FROM STATION 75+00.00 TO 182+50.00.
- PHASE 2A (TRAFFIC TO REMAIN ON EXISTING ROADWAY THIS PHASE)  
 1. CONSTRUCT TEMPORARY PAVEMENT WIDENING FROM STATION 65+40.00 TO 71+50.00 AND 182+85.00 TO 193+25.00.  
 2. CONSTRUCT PROPOSED NORTH BOUND SH 34 FROM STATION 65+40.00 TO 75+00.00 AND 182+50.00 TO 191+00.00.
- PHASE 2B (TRAFFIC TO BE PLACED ON NEW ROADWAY THIS PHASE)  
 1. REMOVE ALL TEMPORARY PAVEMENT WIDENING.  
 2. CONSTRUCT PROPOSED SOUTH BOUND SH 34 FROM STATION 65+40.00 TO 75+00.00 AND 182+50.00 TO 191+00.00.

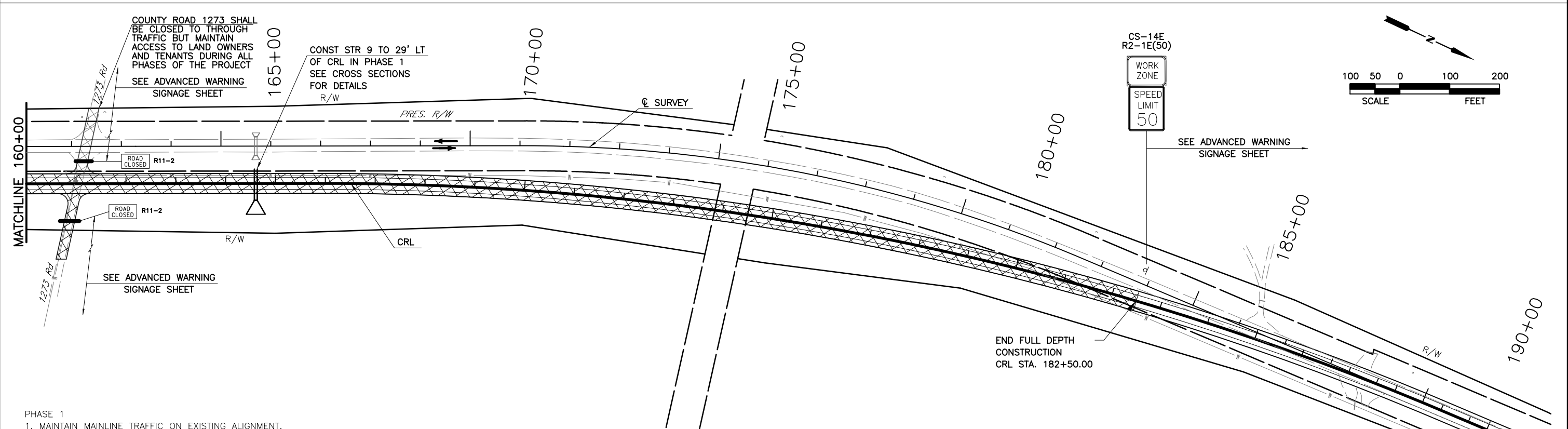
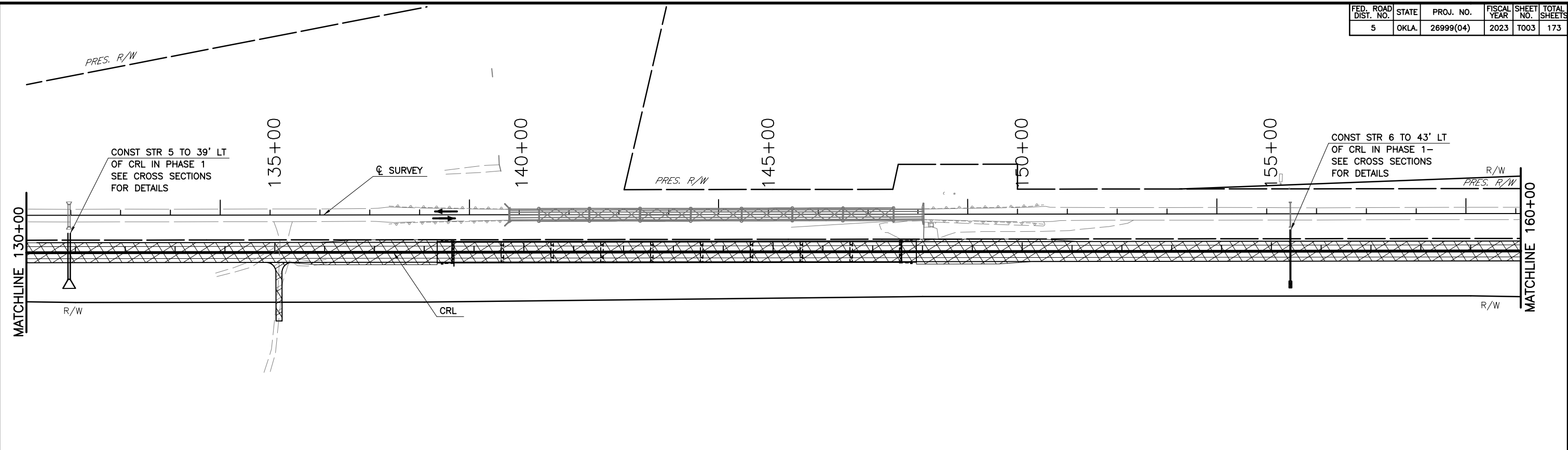


- LEGEND**
- PORTABLE LONGITUDINAL BARRIER
  - TYPE III BARRICADES
  - POST MOUNTED SIGN
  - DRUM
  - CHANNELIZING CONE
  - PORTABLE TRAFFIC SIGNAL (2 HEADS)
  - CONST. ZONE IMPACT ATTENUATOR
  - WORK AREA
  - COMPLETED CONSTRUCTION
  - TEMPORARY DRIVEWAY

DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>TRAFFIC CONTROL PLAN</b>	
APPRVD: CPY 2017	<b>PHASE 1</b>	
	SHEET 1 OF 2	
	STATE JOB PIECE NO: 26999(04) SHEET NO. T002	

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	T003	173



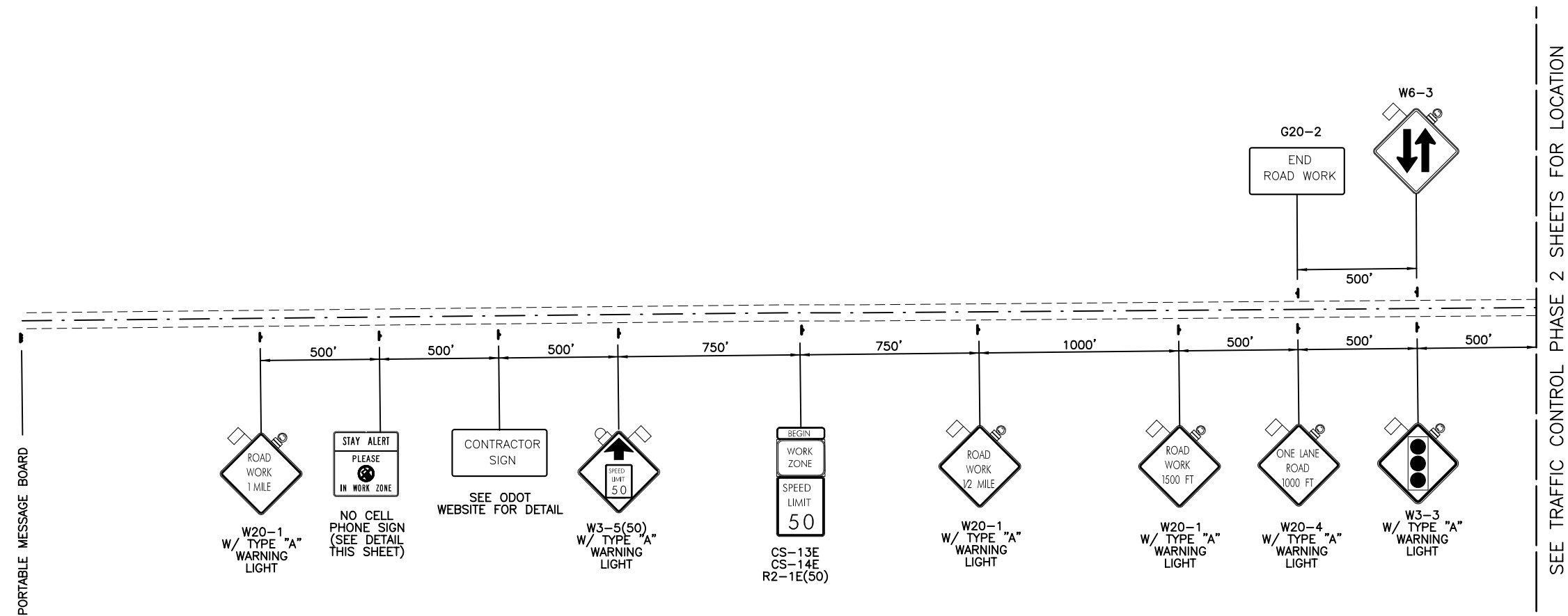
- PHASE 1**
1. MAINTAIN MAINLINE TRAFFIC ON EXISTING ALIGNMENT.
  2. CONSTRUCT PROPOSED SH 34 FROM STATION 75+00.00 TO 182+50.00.
- PHASE 2A (TRAFFIC TO REMAIN ON EXISTING ROADWAY THIS PHASE)**
1. CONSTRUCT TEMPORARY PAVEMENT WIDENING FROM STATION 65+40.00 TO 71+50.00 AND 182+85.00 TO 193+25.00.
  2. CONSTRUCT PROPOSED NORTH BOUND SH 34 FROM STATION 65+40.00 TO 75+00.00 AND 182+50.00 TO 191+00.00.
- PHASE 2B (TRAFFIC TO BE PLACED ON NEW ROADWAY THIS PHASE)**
1. REMOVE ALL TEMPORARY PAVEMENT WIDENING.
  2. CONSTRUCT PROPOSED SOUTH BOUND SH 34 FROM STATION 65+40.00 TO 75+00.00 AND 182+50.00 TO 191+00.00.

**LEGEND**

	PORTABLE LONGITUDINAL BARRIER		PORTABLE TRAFFIC SIGNAL (2 HEADS)
	TYPE III BARRICADES		CONST. ZONE IMPACT ATTENUATOR
	POST MOUNTED SIGN		WORK AREA
	DRUM		COMPLETED CONSTRUCTION
	CHANNELIZING CONE		TEMPORARY DRIVEWAY

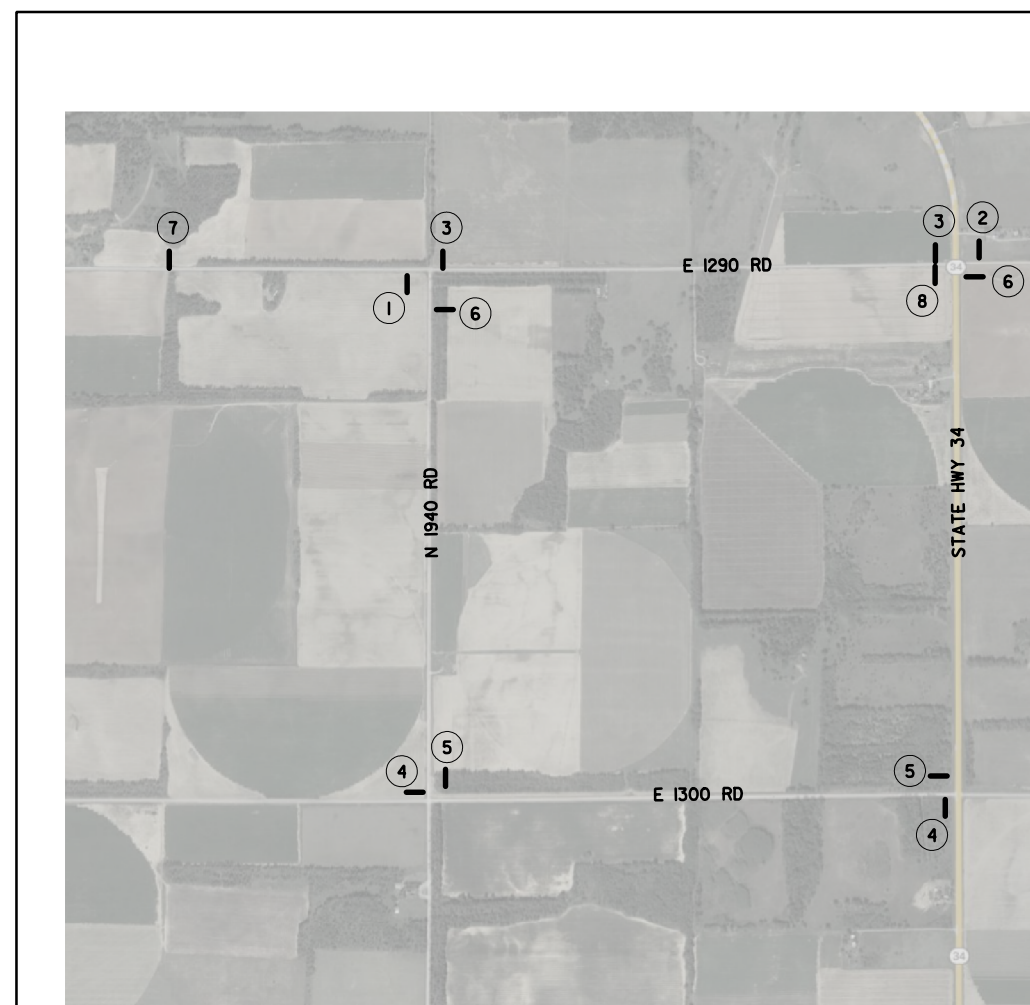
DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017	<b>TRAFFIC CONTROL PLAN PHASE 1</b>	SHEET 2 OF 2 SHEET NO. T003
CHECKED: CPY 2017		
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		

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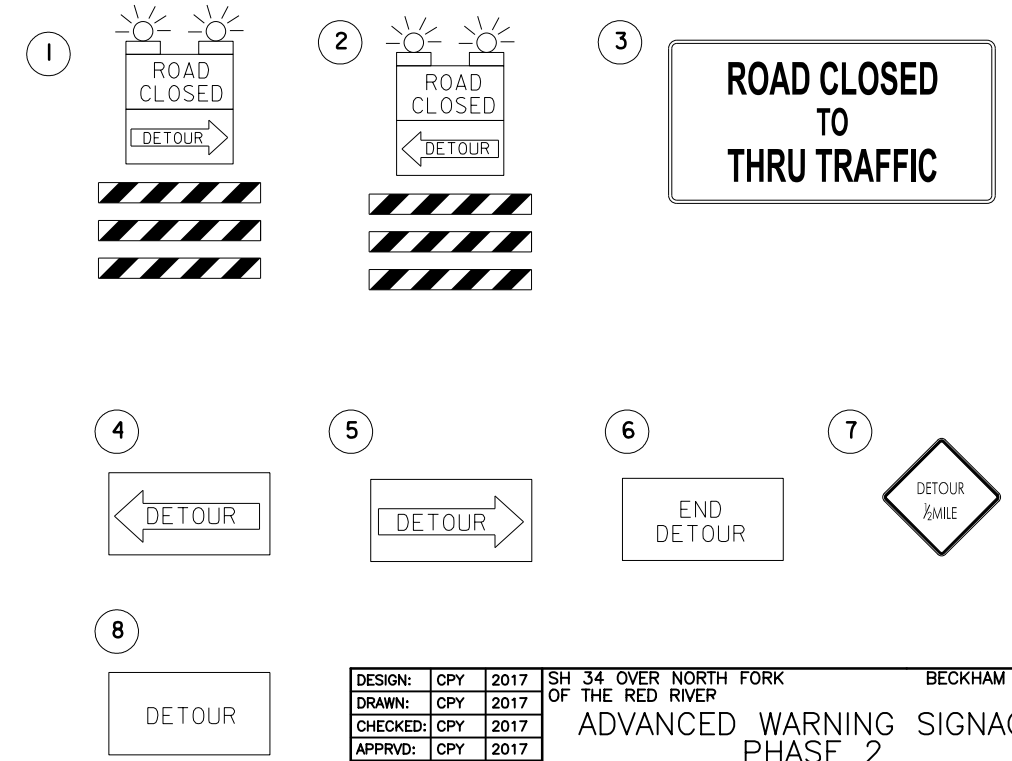


**NO CELL PHONE SIGN**  
48"X48"

- LEGEND, SYMBOL & BORDER - BLACK NON-REFLECTIVE  
BACKGROUND - YELLOW REFLECTIVE
- ▲ LEGEND, SYMBOL & BORDER - BLACK NON-REFLECTIVE  
BACKGROUND - ORANGE REFLECTIVE

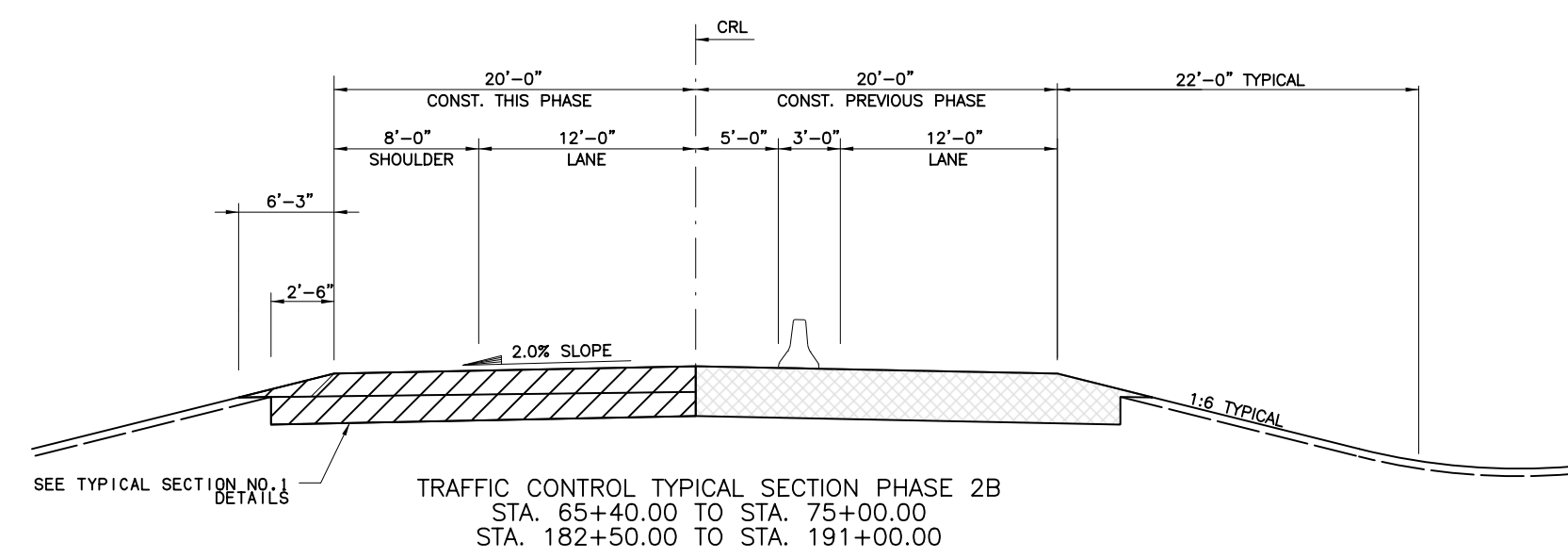
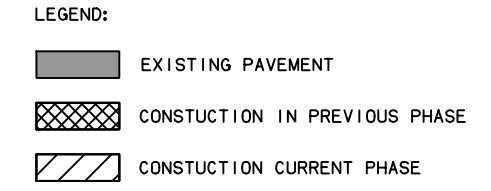
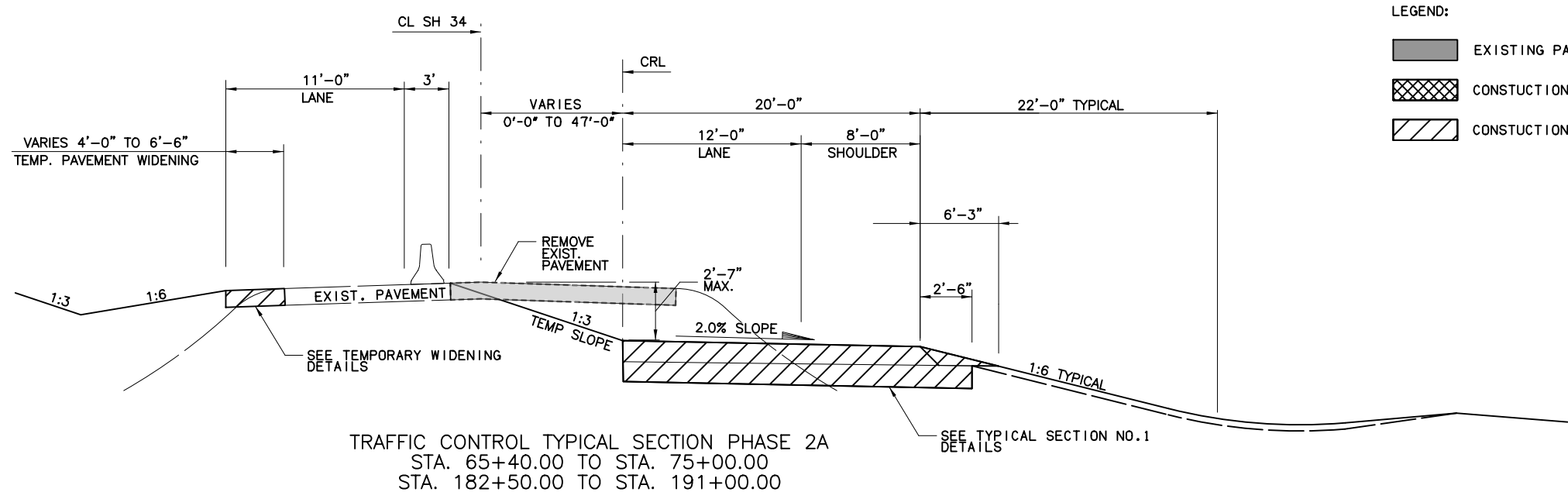


**PHASE 2 DETOUR**  
DETOUR SHOWN IS FOR THE CLOSURE OF THE COUNTY ROAD, 1290 DURING PHASE 2A AND 2B



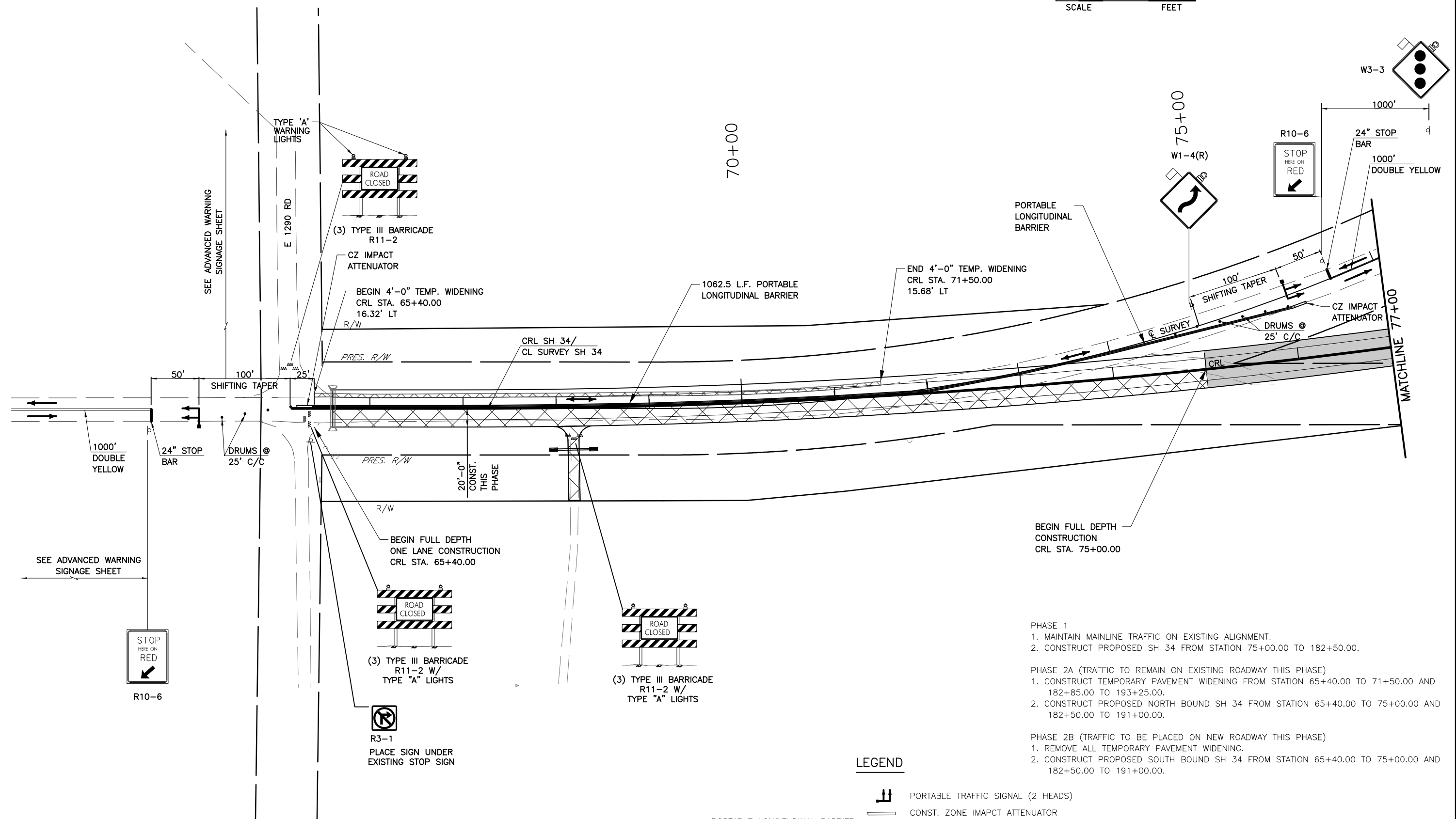
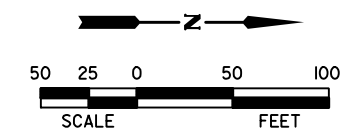
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DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>ADVANCED WARNING SIGNAGE</b>	
APPRVD: CPY 2017	<b>PHASE 2</b>	
	STATE JOB PIECE NO: 26999(04)	SHEET 1 OF 1 SHEET NO. T004

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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
CHECKED:	MJK	2017		
APPRVD:	MJK	2017		
TCP TYPICAL SECTIONS			SHEET 1 OF 1	
STATE JOB PIECE NO: 26999(04)			SHEET NO. T005	



- PHASE 1**
1. MAINTAIN MAINLINE TRAFFIC ON EXISTING ALIGNMENT.
  2. CONSTRUCT PROPOSED SH 34 FROM STATION 75+00.00 TO 182+50.00.
- PHASE 2A (TRAFFIC TO REMAIN ON EXISTING ROADWAY THIS PHASE)**
1. CONSTRUCT TEMPORARY PAVEMENT WIDENING FROM STATION 65+40.00 TO 71+50.00 AND 182+85.00 TO 193+25.00.
  2. CONSTRUCT PROPOSED NORTH BOUND SH 34 FROM STATION 65+40.00 TO 75+00.00 AND 182+50.00 TO 191+00.00.
- PHASE 2B (TRAFFIC TO BE PLACED ON NEW ROADWAY THIS PHASE)**
1. REMOVE ALL TEMPORARY PAVEMENT WIDENING.
  2. CONSTRUCT PROPOSED SOUTH BOUND SH 34 FROM STATION 65+40.00 TO 75+00.00 AND 182+50.00 TO 191+00.00.

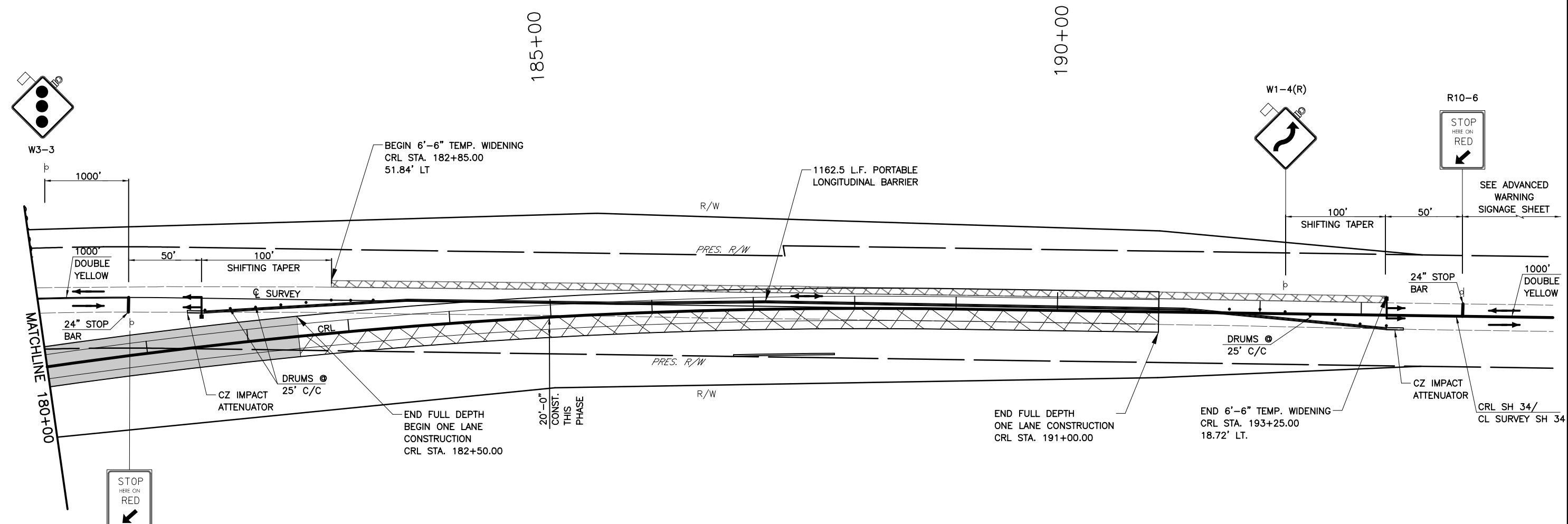
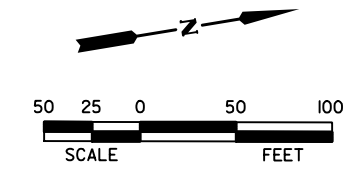
**LEGEND**

- PORTABLE LONGITUDINAL BARRIER
- TYPE III BARRICADES
- POST MOUNTED SIGN
- DRUM
- PORTABLE TRAFFIC SIGNAL (2 HEADS)
- CONST. ZONE IMPACT ATTENUATOR
- WORK AREA
- COMPLETED CONSTRUCTION
- TEMPORARY DRIVEWAY

DESIGN: CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY	2017		
CHECKED: CPY	2017		
APPRVD: CPY	2017		
<b>TRAFFIC CONTROL PLAN PHASE 2A</b>			
		STATE JOB PIECE NO: 26999(04)	
		SHEET 1 OF 2 SHEET NO. T006	

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- PHASE 1**
1. MAINTAIN MAINLINE TRAFFIC ON EXISTING ALIGNMENT.
  2. CONSTRUCT PROPOSED SH 34 FROM STATION 75+00.00 TO 182+50.00.
- PHASE 2A (TRAFFIC TO REMAIN ON EXISTING ROADWAY THIS PHASE)**
1. CONSTRUCT TEMPORARY PAVEMENT WIDENING FROM STATION 65+40.00 TO 71+50.00 AND 182+85.00 TO 193+25.00.
  2. CONSTRUCT PROPOSED NORTH BOUND SH 34 FROM STATION 65+40.00 TO 75+00.00 AND 182+50.00 TO 191+00.00.
- PHASE 2B (TRAFFIC TO BE PLACED ON NEW ROADWAY THIS PHASE)**
1. REMOVE ALL TEMPORARY PAVEMENT WIDENING.
  2. CONSTRUCT PROPOSED SOUTH BOUND SH 34 FROM STATION 65+40.00 TO 75+00.00 AND 182+50.00 TO 191+00.00.

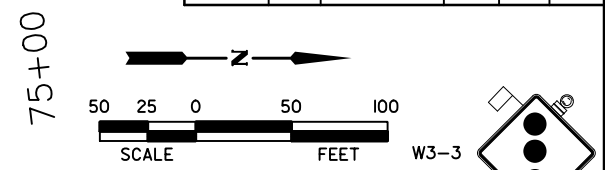
**LEGEND**

- PORTABLE LONGITUDINAL BARRIER
- TYPE III BARRICADES
- POST MOUNTED SIGN
- DRUM
- PORTABLE TRAFFIC SIGNAL (2 HEADS)
- CONST. ZONE IMPACT ATTENUATOR
- WORK AREA
- COMPLETED CONSTRUCTION
- TEMPORARY DRIVEWAY

DESIGN:	CPY	2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN:	CPY	2017	OF THE RED RIVER	
CHECKED:	CPY	2017	<b>TRAFFIC CONTROL PLAN PHASE 2A</b>	
APPRVD:	CPY	2017		
			SHEET 2 OF 2	
			SHEET NO. T007	
STATE JOB PIECE NO: 26999(04)				

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	T008	173



70+00

75+00

MATCH LINE 77+50



(3) TYPE III BARRICADE R11-2



(3) TYPE III BARRICADE R11-2

BEGIN PERMANENT CONSTRUCTION CRL STA. 65+40.00

20'-0" CONST. THIS PHASE

1125 L.F. PORTABLE LONGITUDINAL BARRIER

CRL SH 34 / CL SURVEY SH 34



R10-6

CZ IMPACT ATTENUATOR

100' SHIFTING TAPER

DRUMS @ 25' C/C

24" STOP BAR

1000' DOUBLE YELLOW

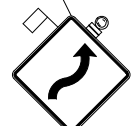
END PERMANENT CONSTRUCTION CRL STA. 75+00.00

SEE ADVANCED WARNING SIGNAGE SHEET

SEE ADVANCED WARNING SIGNAGE SHEET



R10-6



W1-4(R)



R3-1 PLACE SIGN UNDER EXISTING STOP SIGN

- PHASE 1
1. MAINTAIN MAINLINE TRAFFIC ON EXISTING ALIGNMENT.
  2. CONSTRUCT PROPOSED SH 34 FROM STATION 75+00.00 TO 182+50.00.
- PHASE 2A (TRAFFIC TO REMAIN ON EXISTING ROADWAY THIS PHASE)
1. CONSTRUCT TEMPORARY PAVEMENT WIDENING FROM STATION 65+40.00 TO 71+50.00 AND 182+85.00 TO 193+25.00.
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1. REMOVE ALL TEMPORARY PAVEMENT WIDENING.
  2. CONSTRUCT PROPOSED SOUTH BOUND SH 34 FROM STATION 65+40.00 TO 75+00.00 AND 182+50.00 TO 191+00.00.

LEGEND

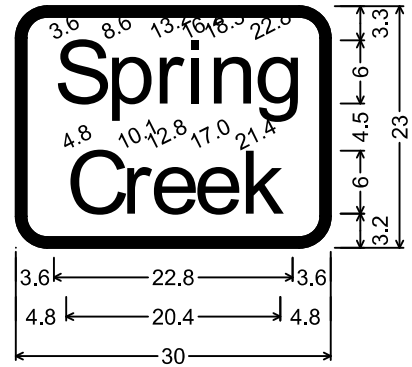
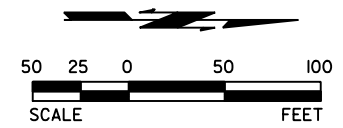
- PORTABLE LONGITUDINAL BARRIER
- TYPE III BARRICADES
- POST MOUNTED SIGN
- DRUM
- PORTABLE TRAFFIC SIGNAL (2 HEADS)
- CONST. ZONE IMPACT ATTENUATOR
- WORK AREA
- COMPLETED CONSTRUCTION
- TEMPORARY DRIVEWAY

DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017	TRAFFIC CONTROL PLAN PHASE 2B	
CHECKED: CPY 2017		
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 1 OF 2 SHEET NO. T008

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	OKLA.	26999(04)	2023	T010	173



SPECIAL SIGN;  
 3.0" Radius, 1.0" Border, White on, Green;  
 "Spring", D 2K;  
 "Creek", D 2K;

STA. 65+40.00  
 MATCH EXISTING EDGE & LANE LINES  
 BEGIN SOLID NORTH BOUND AND  
 DASHED SOUTH BOUND YELLOW STRIPING  
 BEGIN EDGE WHITE STRIPING

E 1290 RD

1  $\phi$  SURVEY STA 68+77  
 REMOVE SIGN  
 (TYPE W5-2)

2120 LF 4" DASHED/SOLID  
 YELLOW STRIPING  
 (PLASTIC)(4" WIDE)

3 STA 71+77  
 REMOVE & RESET SPECIAL SIGN #1  
 (SPRING CREEK DIRECTION SIGN)

5  $\phi$  SURVEY STA 74+08  
 REMOVE SIGN  
 (TYPE W8-13)



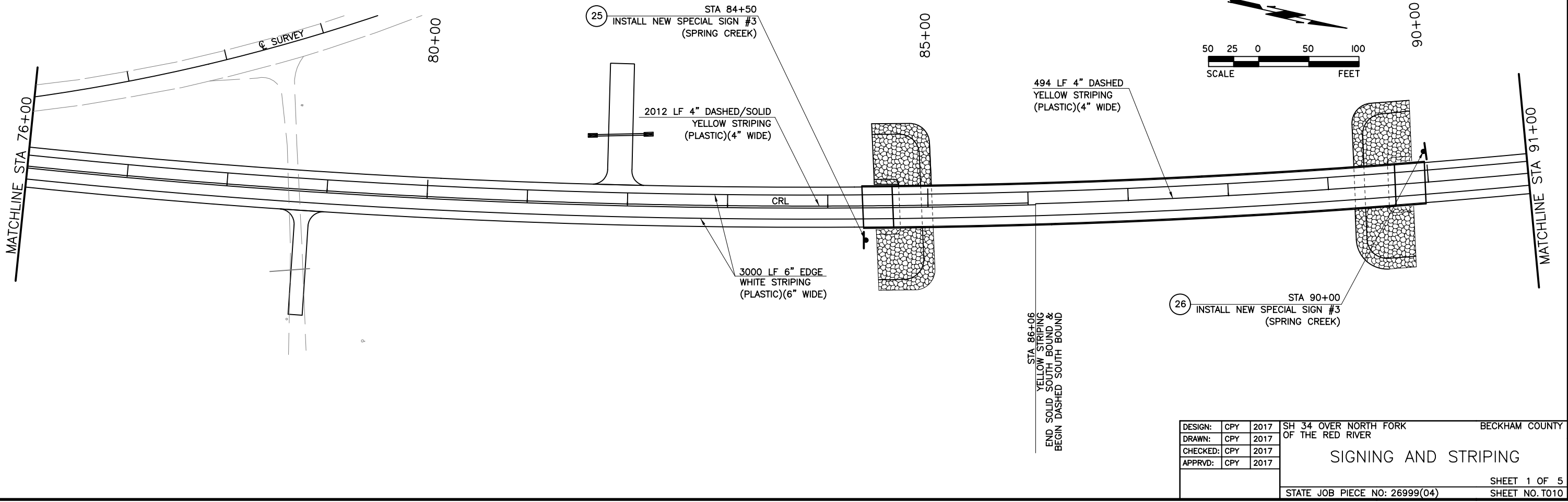
4 STA 74+08  
 INSTALL NEW SIGN  
 (TYPE W8-13)

2 STA 69+00  
 INSTALL NEW SIGN  
 (TYPE R2-1)



2120 LF 6" EDGE  
 WHITE STRIPING  
 (PLASTIC)(6" WIDE)

STA 72+00  
 YELLOW STRIPING  
 END SOLID NORTH BOUND &  
 BEGIN DASHED NORTH BOUND  
 END DASHED SOUTH BOUND &  
 BEGIN SOLID SOUTH BOUND



25 STA 84+50  
 INSTALL NEW SPECIAL SIGN #3  
 (SPRING CREEK)

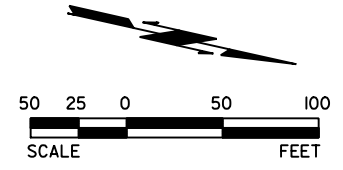
2012 LF 4" DASHED/SOLID  
 YELLOW STRIPING  
 (PLASTIC)(4" WIDE)

494 LF 4" DASHED  
 YELLOW STRIPING  
 (PLASTIC)(4" WIDE)

3000 LF 6" EDGE  
 WHITE STRIPING  
 (PLASTIC)(6" WIDE)

STA 86+06  
 YELLOW STRIPING  
 END SOLID SOUTH BOUND &  
 BEGIN DASHED SOUTH BOUND

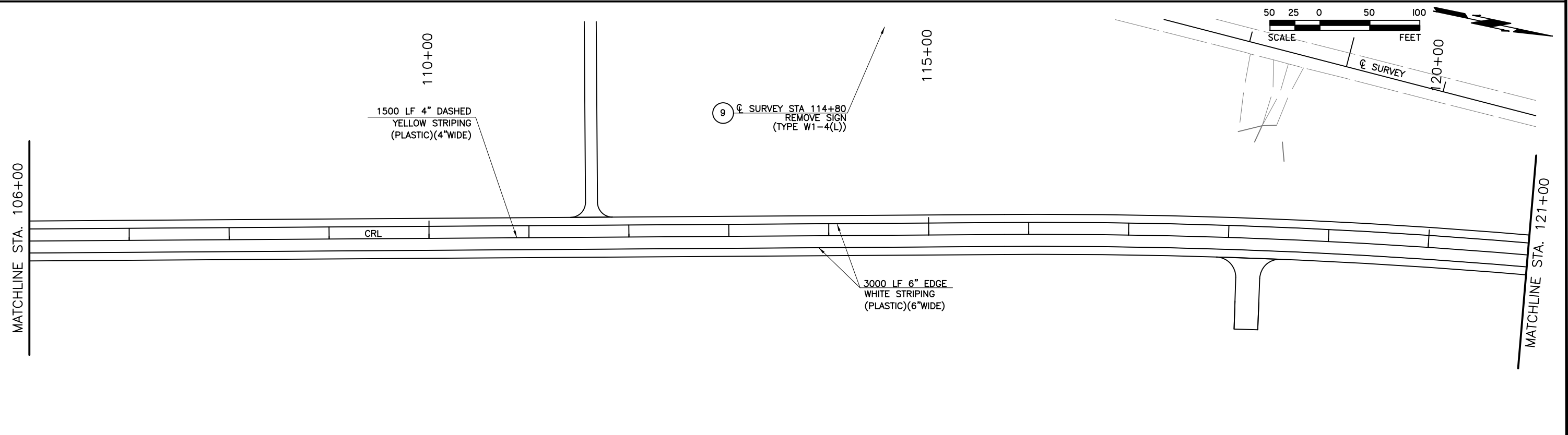
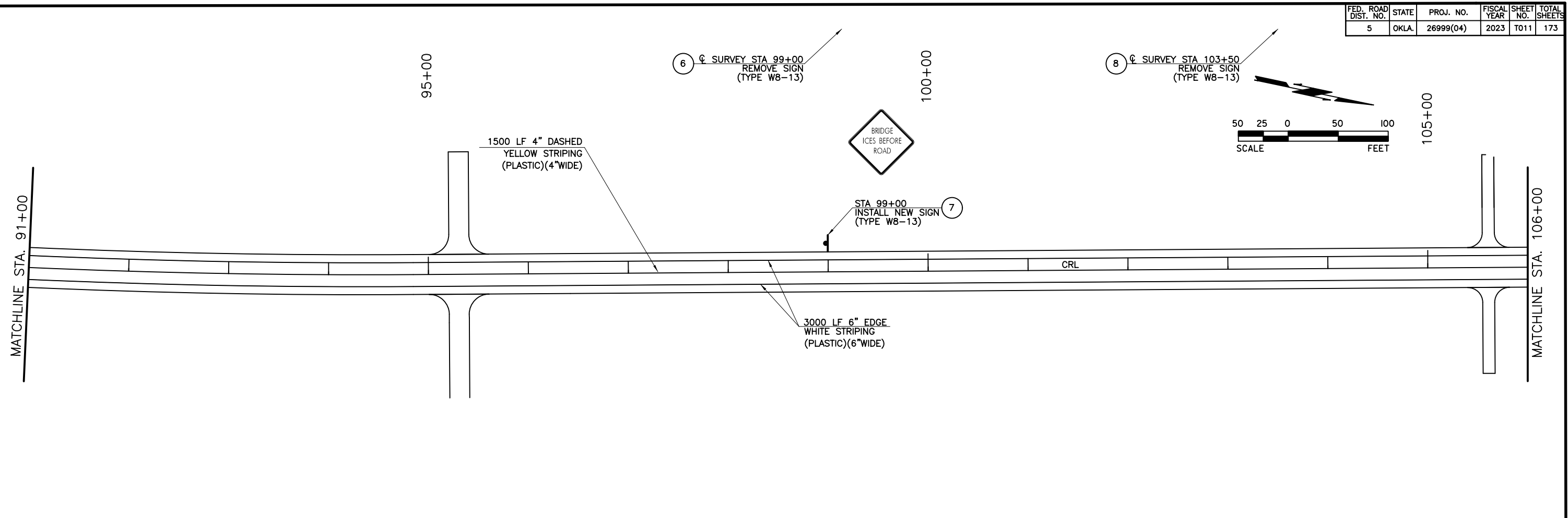
26 STA 90+00  
 INSTALL NEW SPECIAL SIGN #3  
 (SPRING CREEK)



DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	SIGNING AND STRIPING	
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 1 OF 5 SHEET NO. T010

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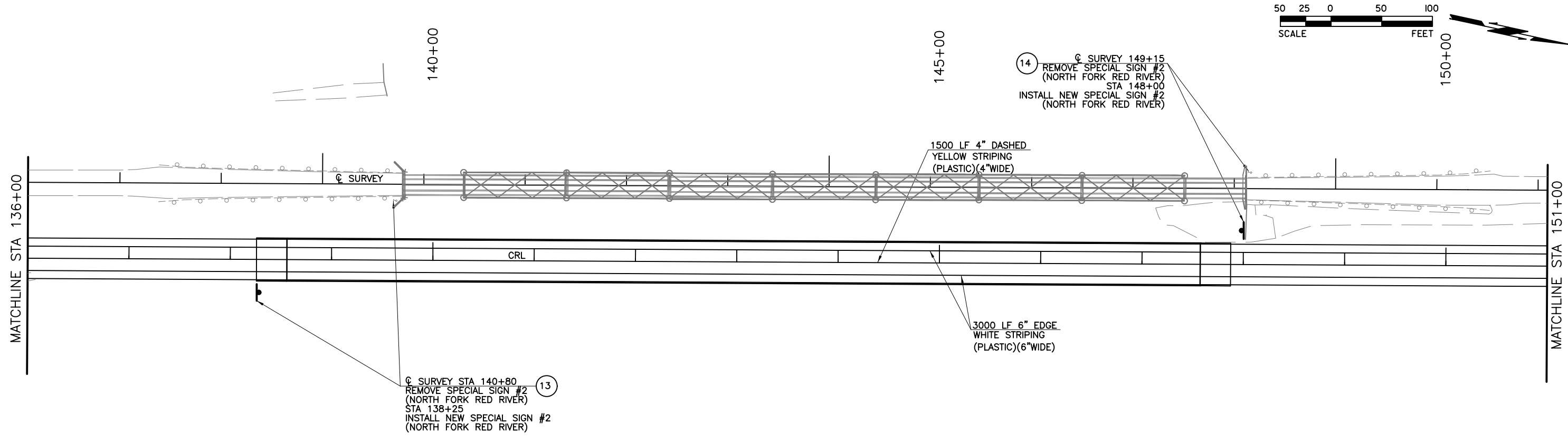
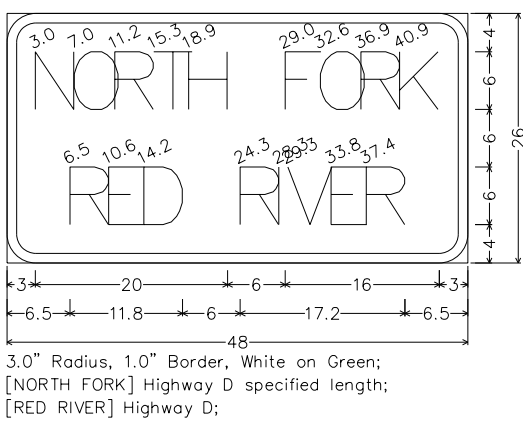
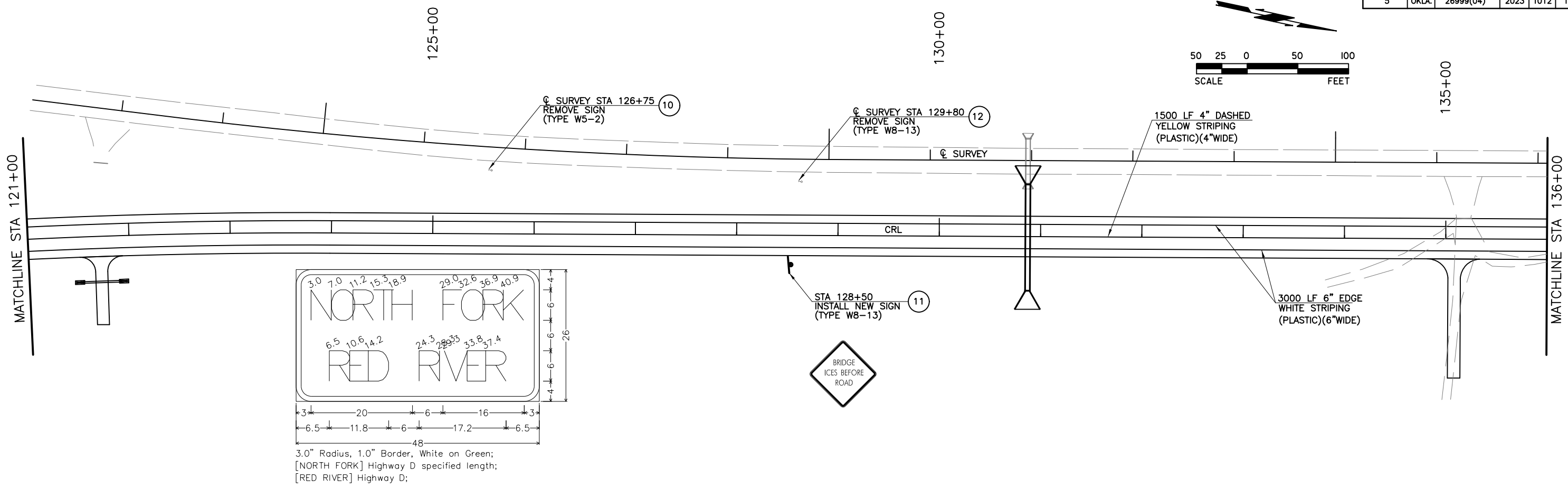
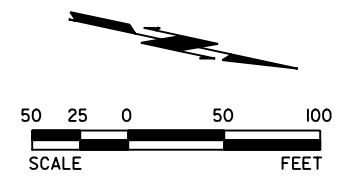
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5	OKLA.	26999(04)	2023	T011	173



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CHECKED:	CPY	2017		
APPRVD:	CPY	2017		

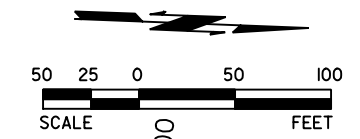
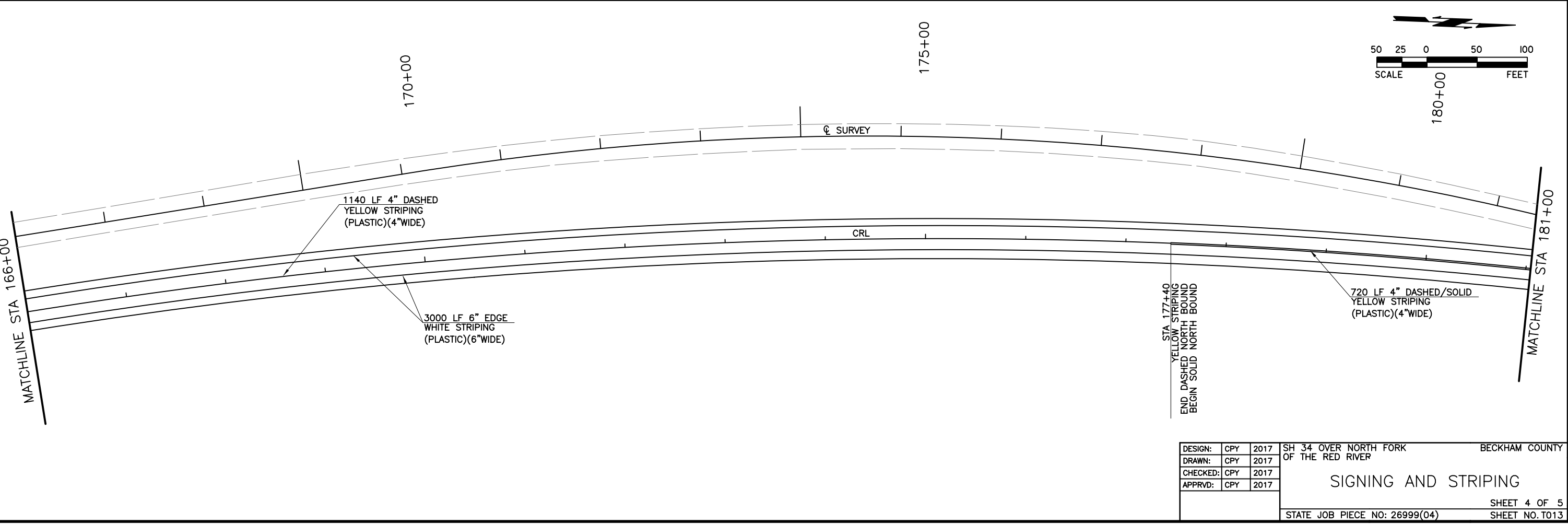
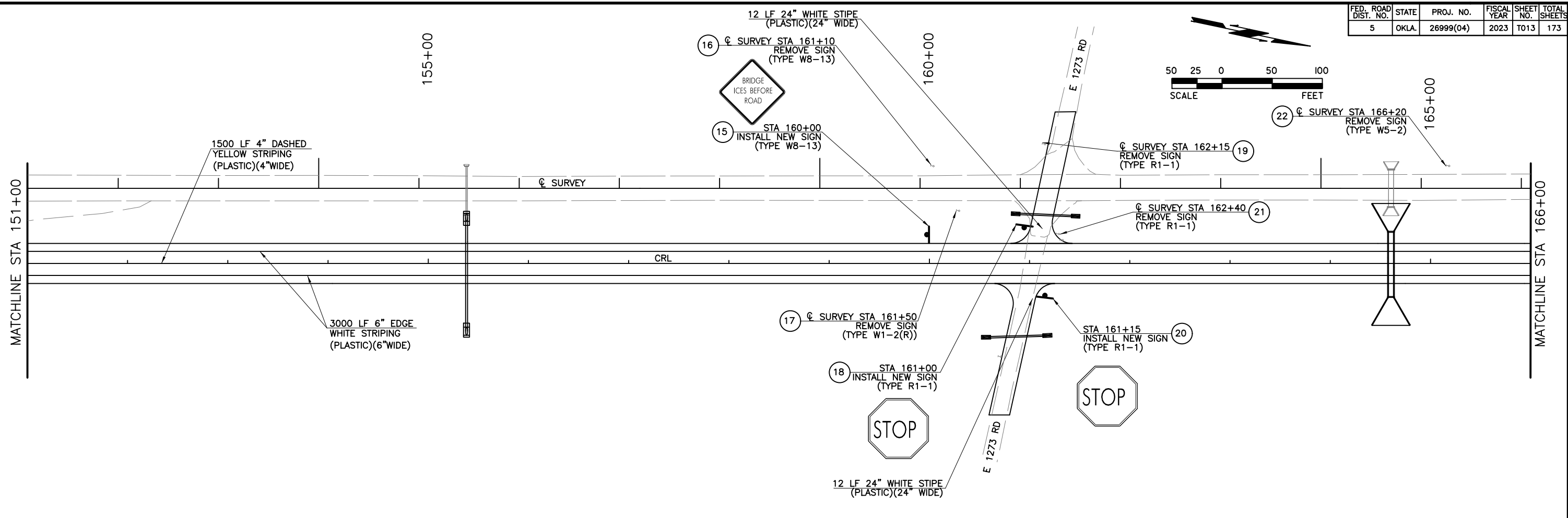
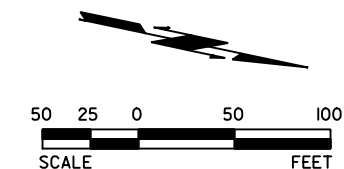
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5	OKLA.	26999(04)	2023	T012	173



DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	SIGNING AND STRIPING	
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 3 OF 5 SHEET NO. T012

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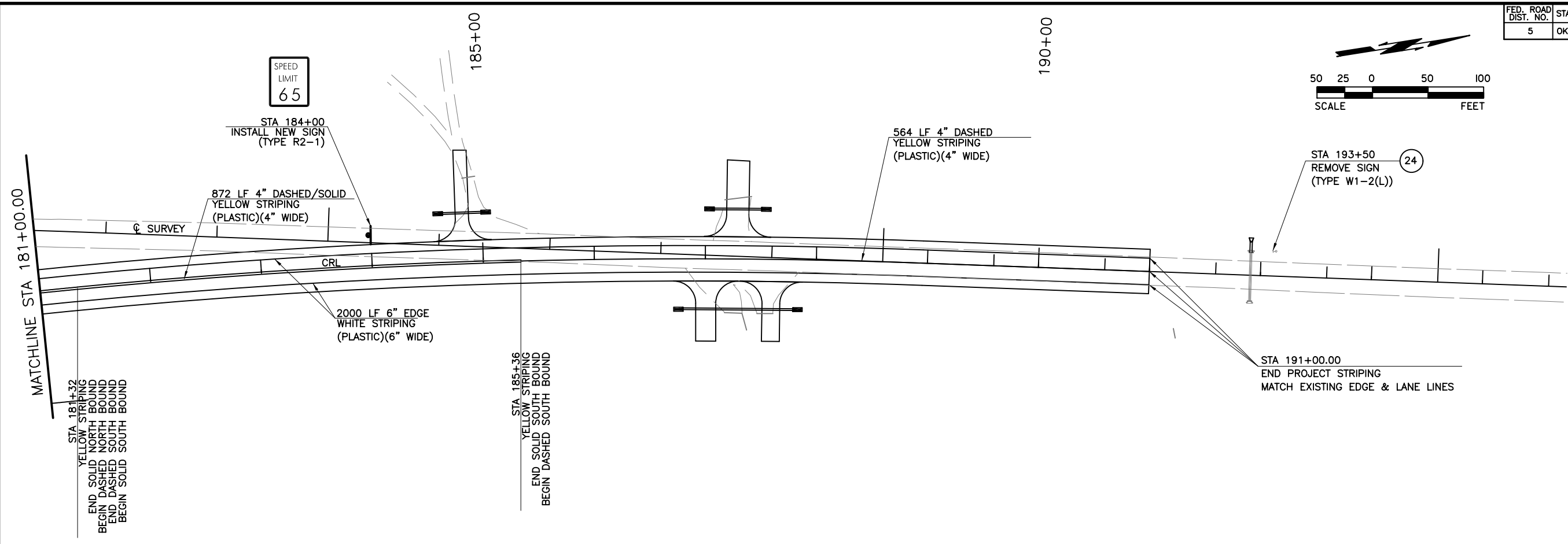
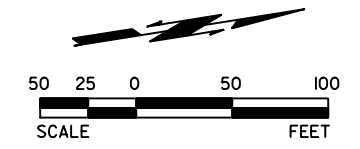
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5	OKLA.	26999(04)	2023	T013	173



DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>SIGNING AND STRIPING</b>	
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		SHEET 4 OF 5 SHEET NO. T013

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5	OKLA.	26999(04)	2023	T014	173

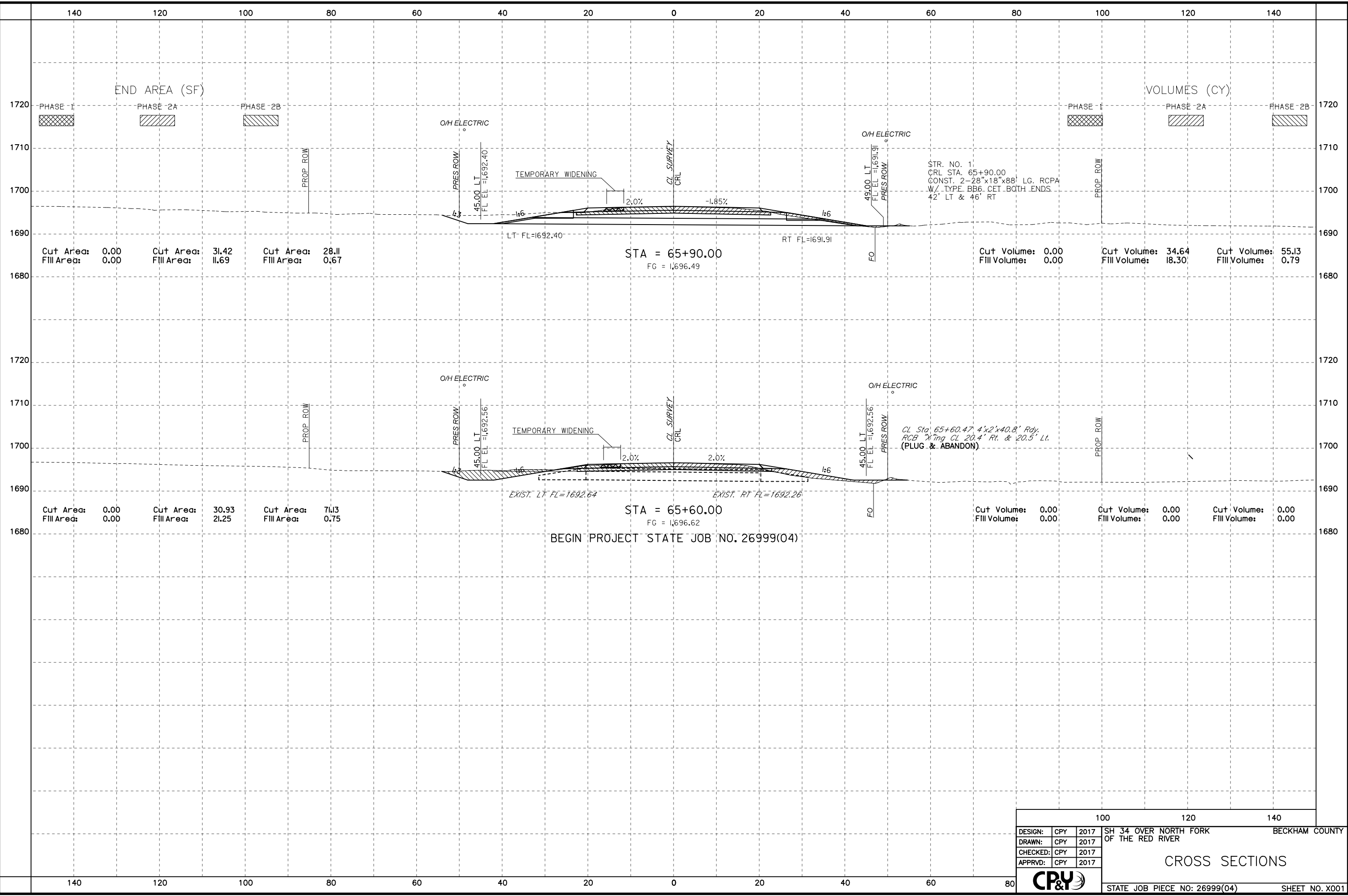


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APPRVD:	CPY	2017		



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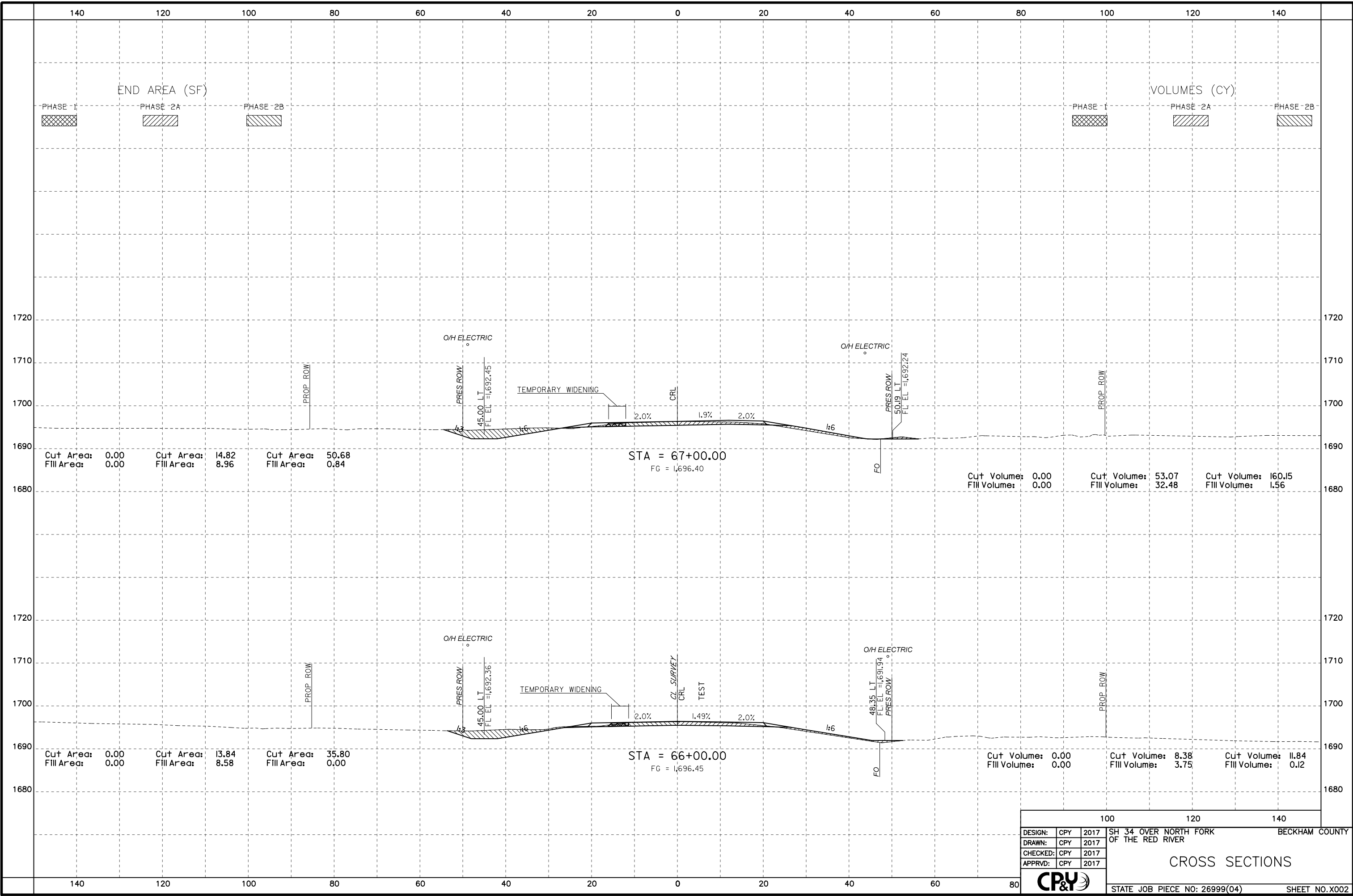
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DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017		
APPRVD: CPY 2017		

**CROSS SECTIONS**

STATE JOB PIECE NO: 26999(04) SHEET NO. X001



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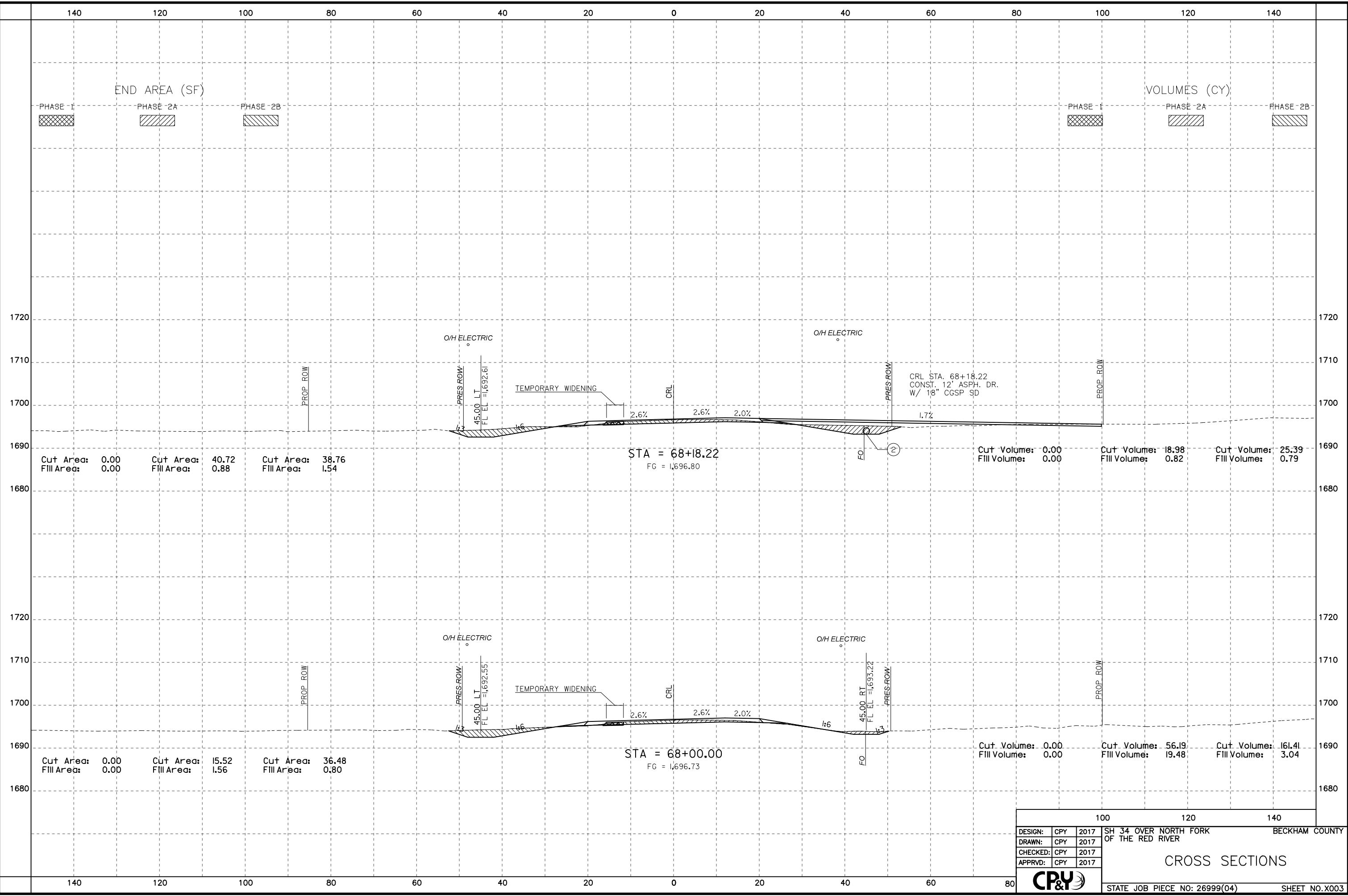


DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		

**CROSS SECTIONS**

STATE JOB PIECE NO: 26999(04) SHEET NO.X002

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END AREA (SF)

PHASE	Cut Area (SF)	Fill Area (SF)
PHASE 1	0.00	0.00
PHASE 2A	40.72	0.88
PHASE 2B	38.76	1.54

Cut Area: 0.00  
Fill Area: 0.00

Cut Area: 40.72  
Fill Area: 0.88

Cut Area: 38.76  
Fill Area: 1.54

STA = 68+18.22  
FG = 1,696.80

Cut Volume: 0.00  
Fill Volume: 0.00

Cut Volume: 18.98  
Fill Volume: 0.82

Cut Volume: 25.39  
Fill Volume: 0.79

Cut Area: 0.00  
Fill Area: 0.00

Cut Area: 15.52  
Fill Area: 1.56

Cut Area: 36.48  
Fill Area: 0.80

STA = 68+00.00  
FG = 1,696.73

Cut Volume: 0.00  
Fill Volume: 0.00

Cut Volume: 56.19  
Fill Volume: 19.48

Cut Volume: 161.41  
Fill Volume: 3.04

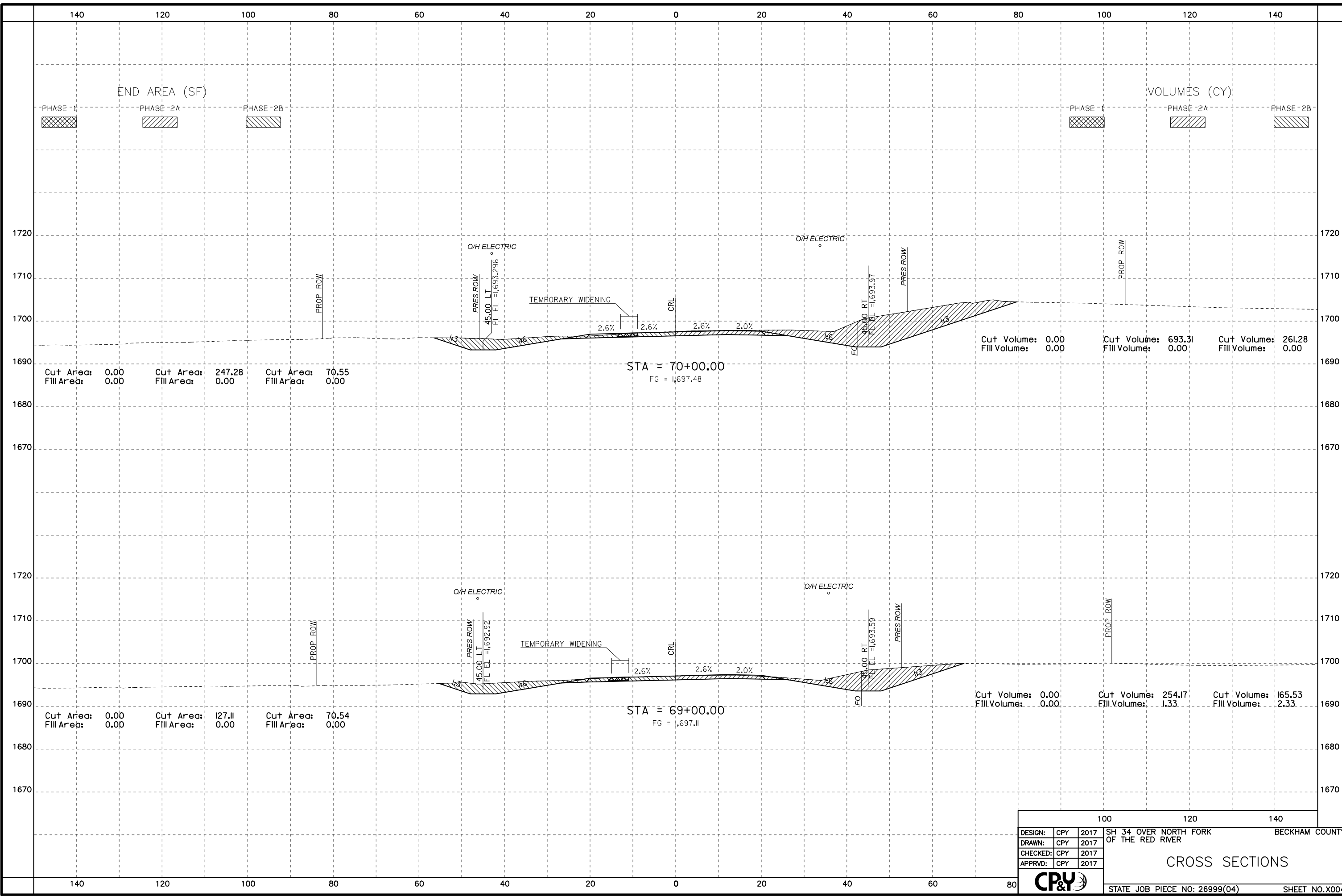
DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		

CROSS SECTIONS

STATE JOB PIECE NO: 26999(04) SHEET NO.X003



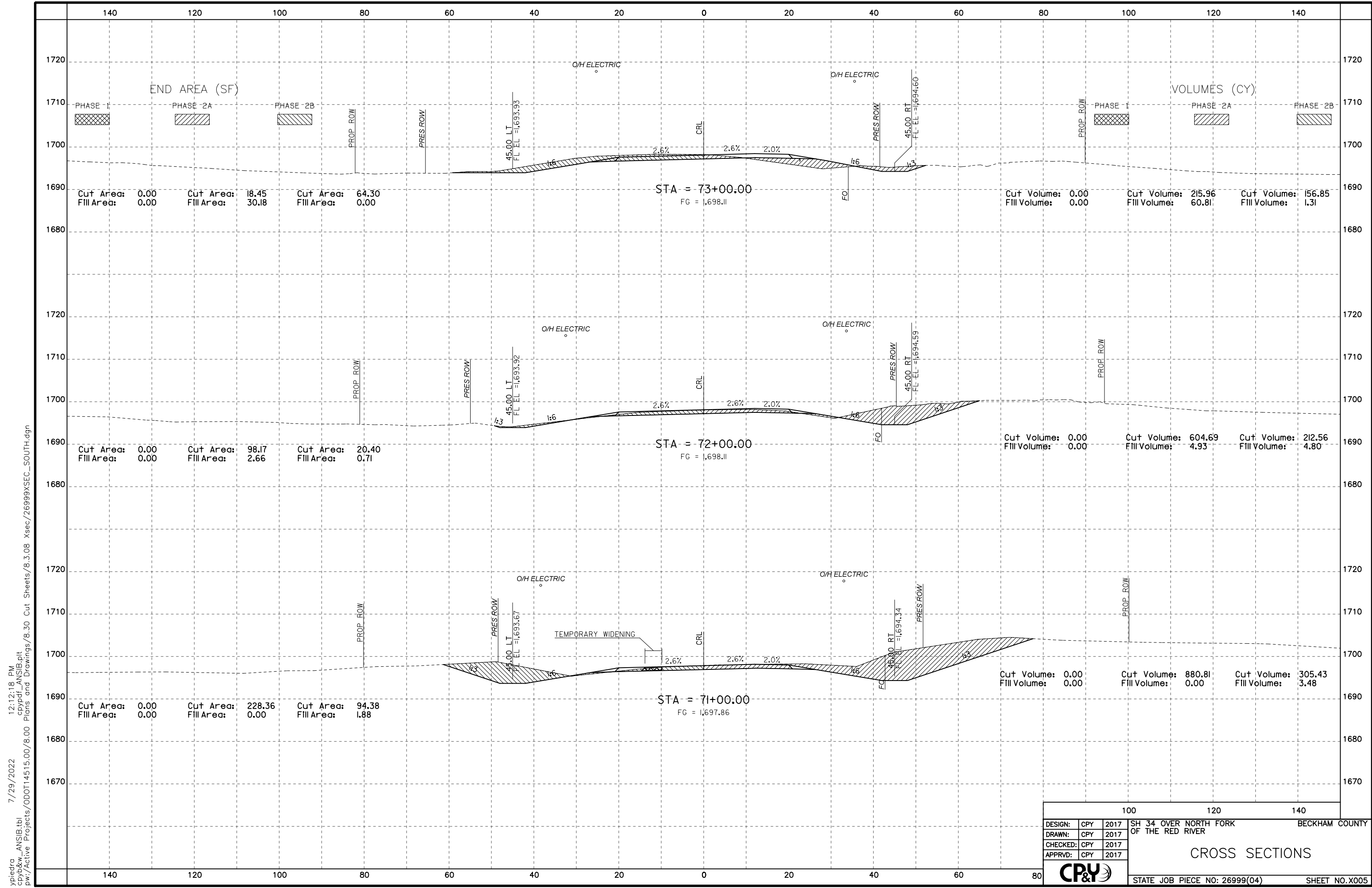
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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
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APPRVD:	CPY	2017		

**CROSS SECTIONS**

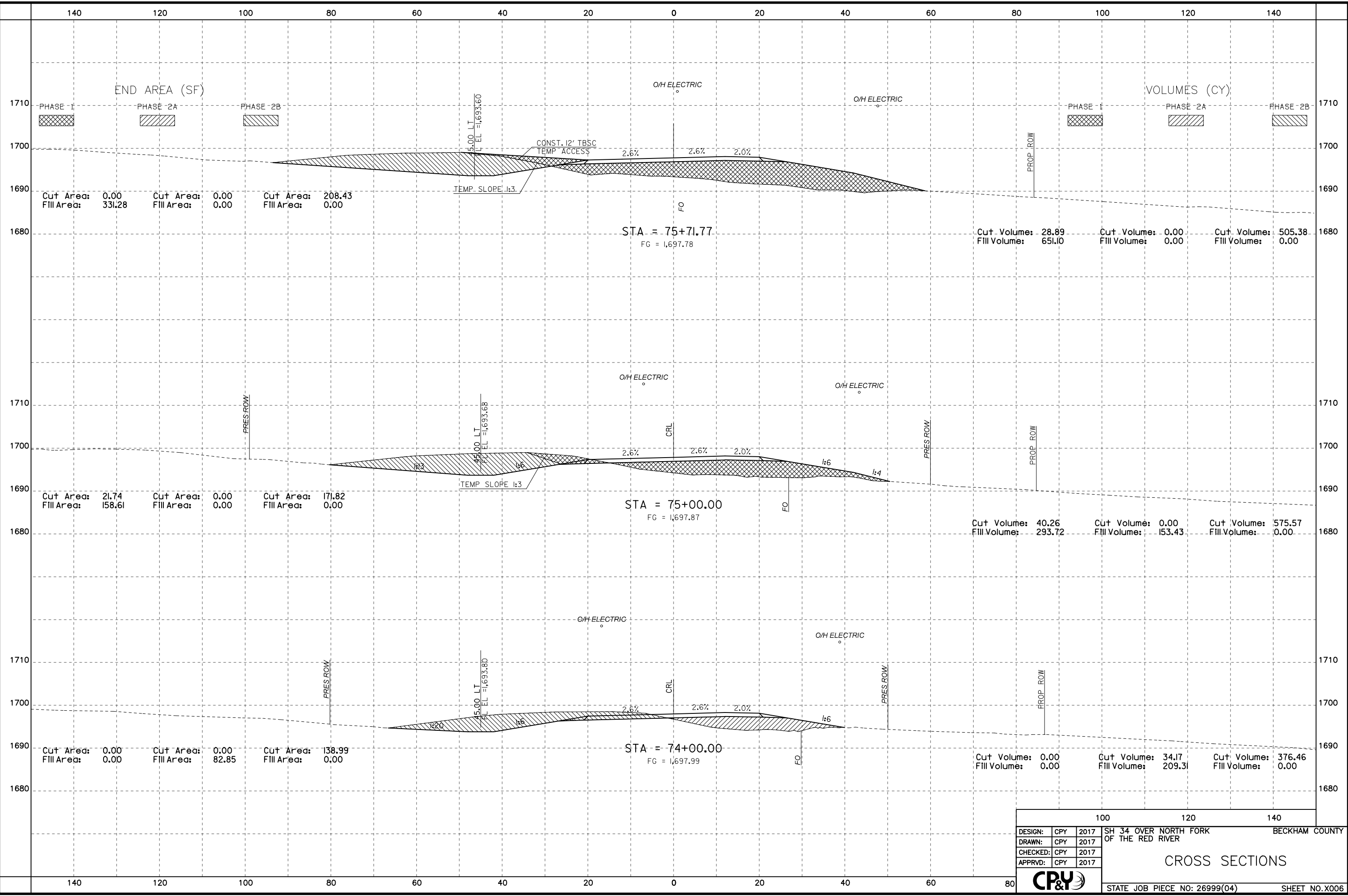
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DRAWN:	CPY	2017		
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APPRVD:	CPY	2017		
<b>CP&amp;Y</b>			<b>CROSS SECTIONS</b>	
			STATE JOB PIECE NO: 26999(04)	SHEET NO.X005

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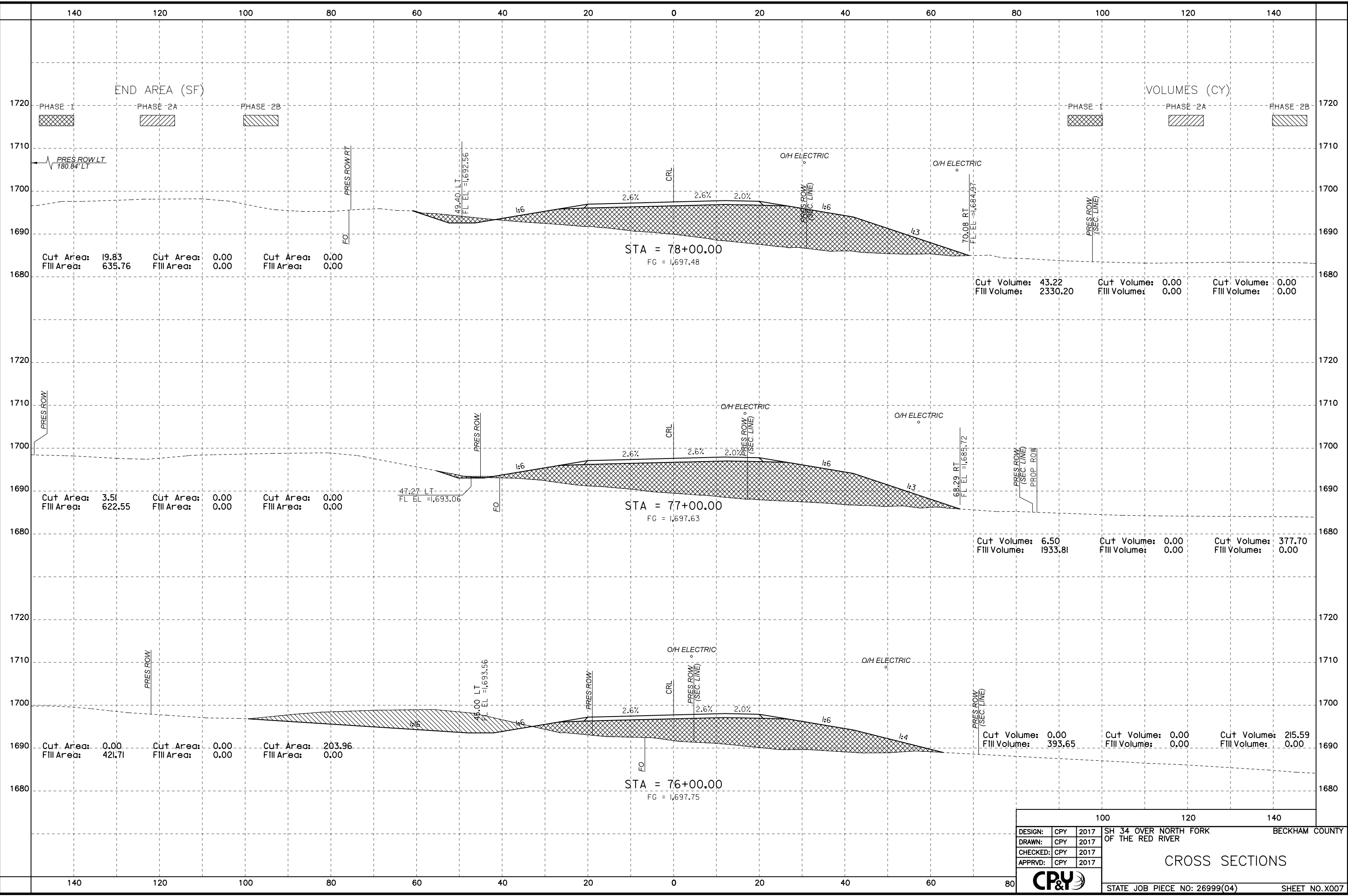


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DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		

**CROSS SECTIONS**

STATE JOB PIECE NO: 26999(04)      SHEET NO.X006

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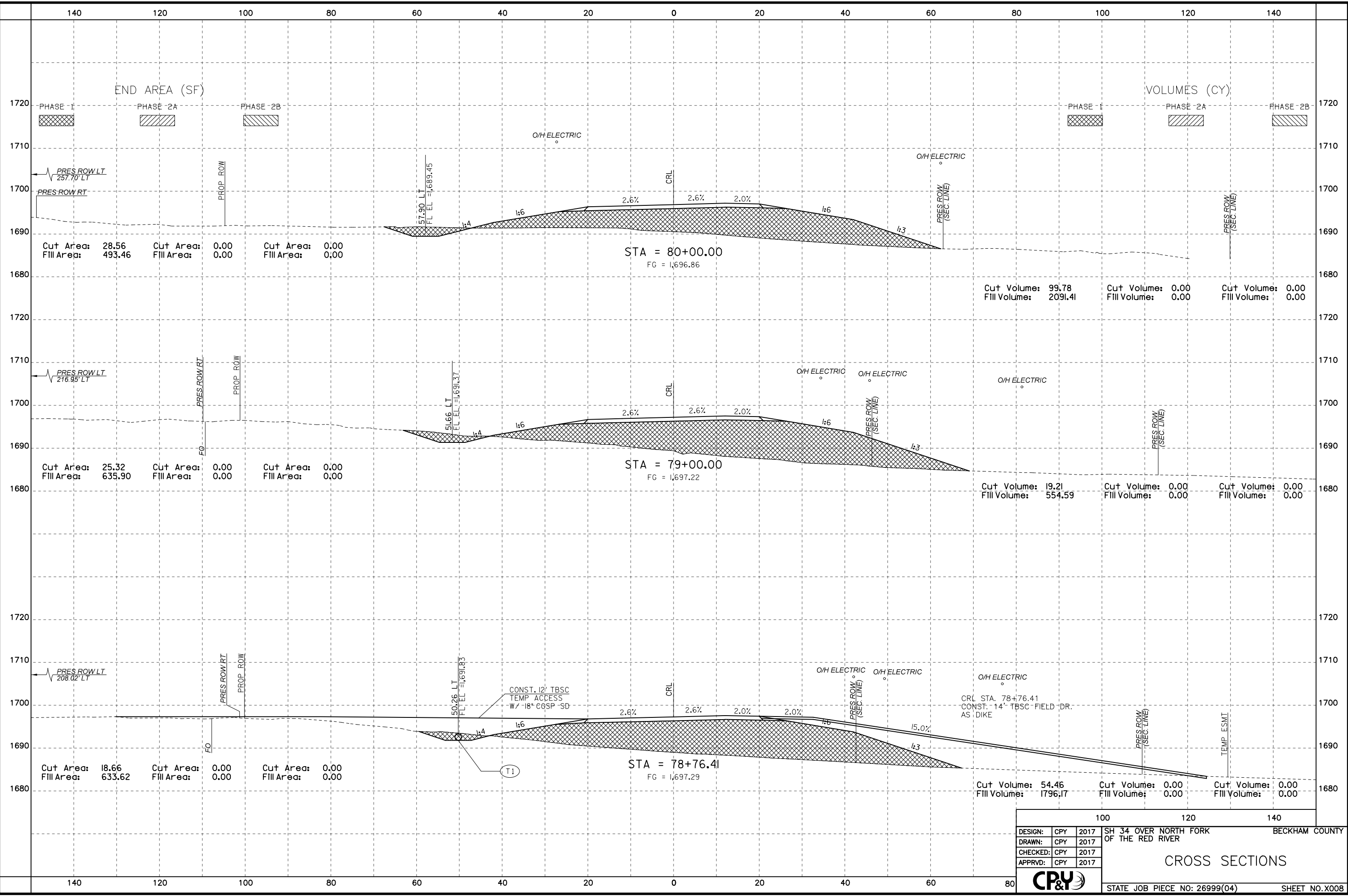


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**CROSS SECTIONS**

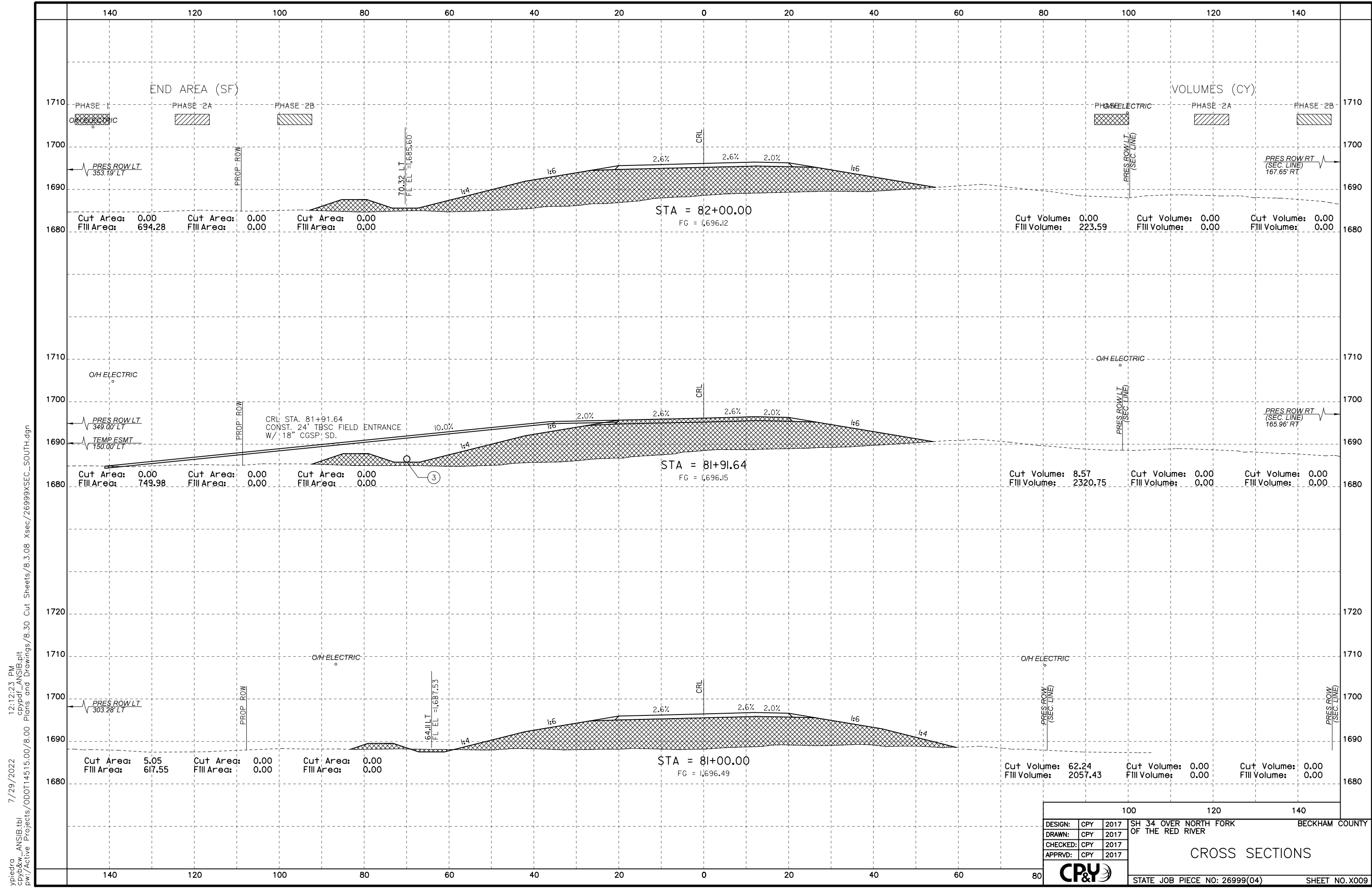
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DRAWN:	CPY	2017		
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<b>CROSS SECTIONS</b>			STATE JOB PIECE NO: 26999(04)	SHEET NO.X008



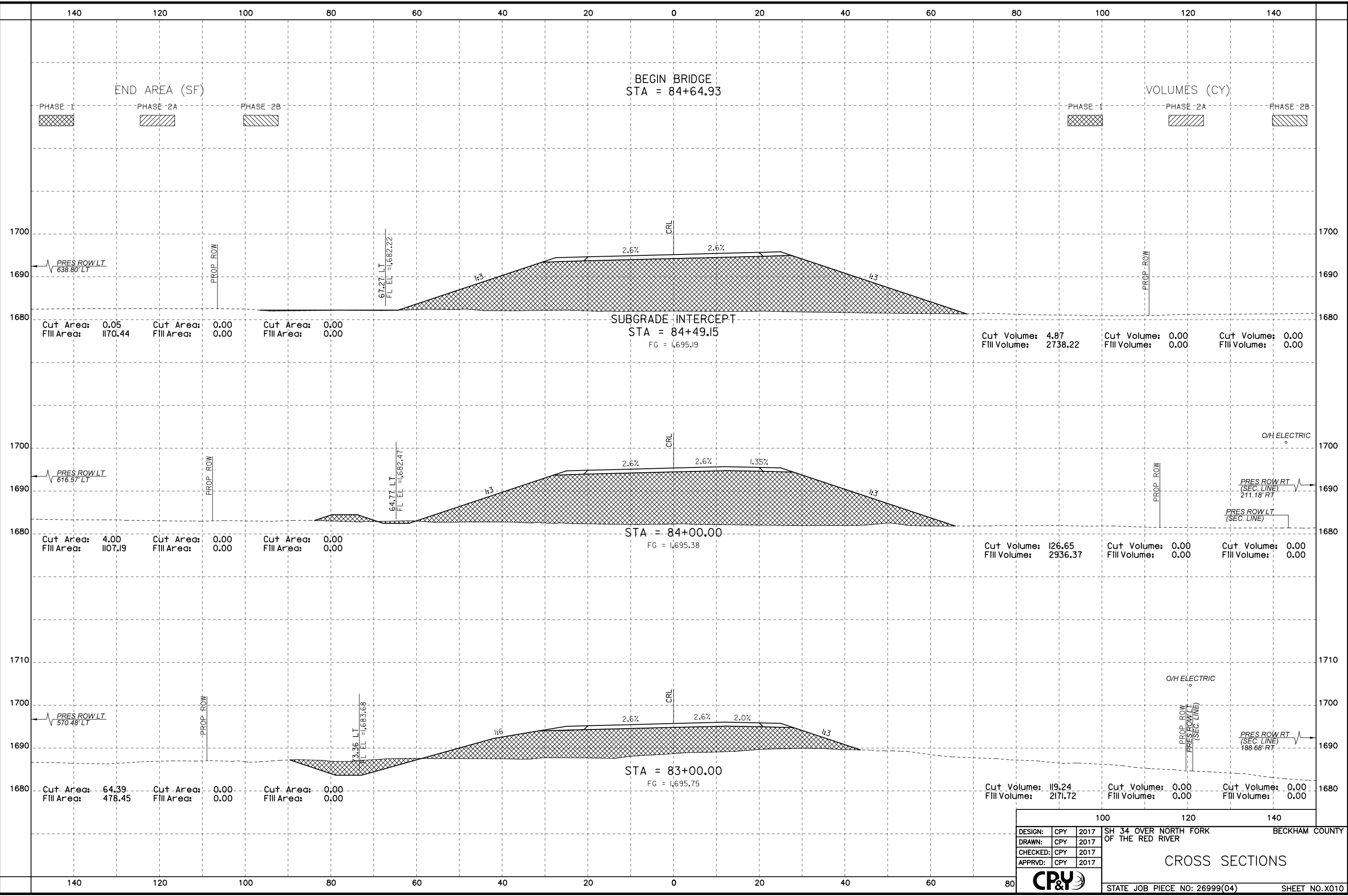


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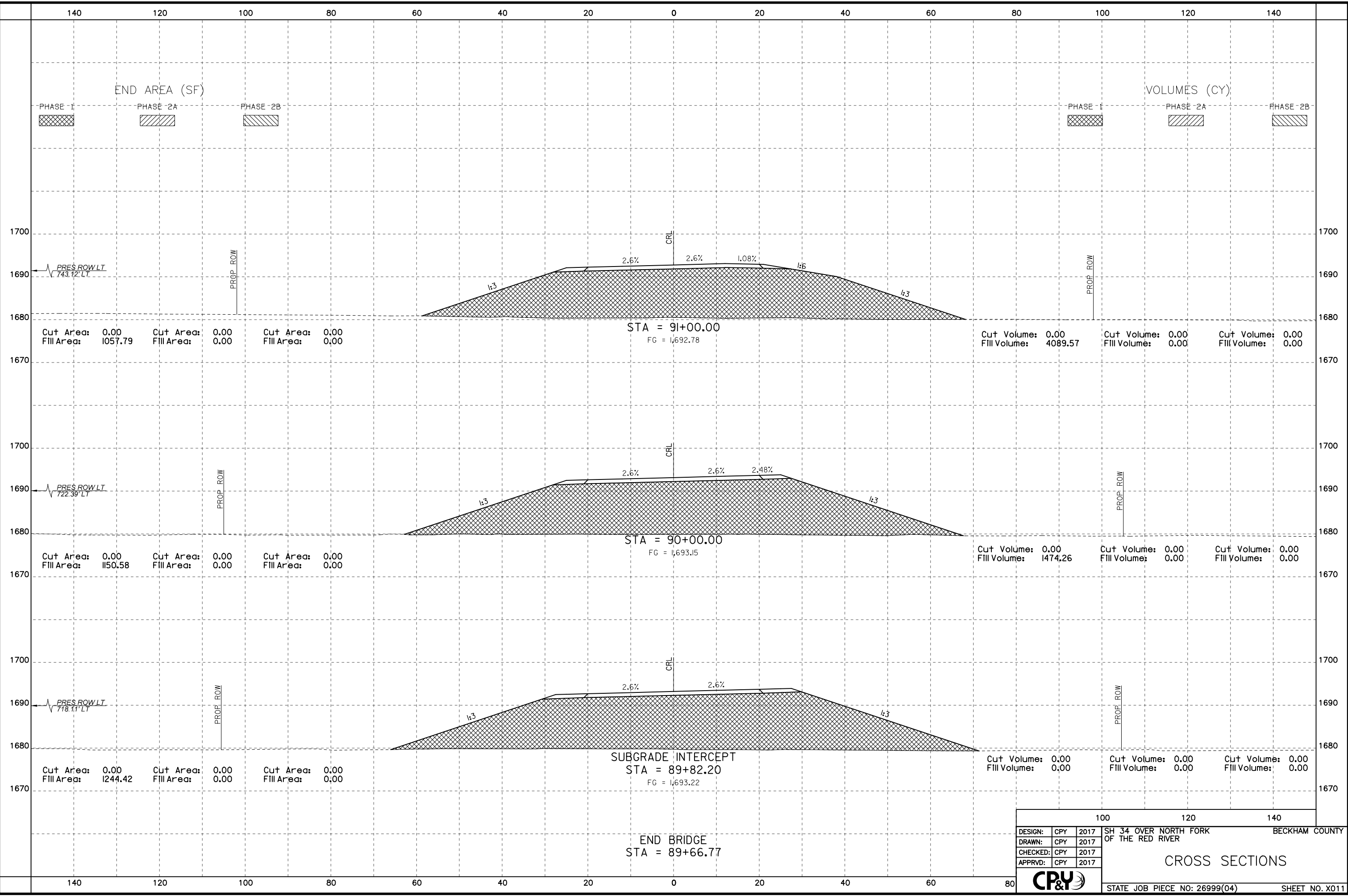
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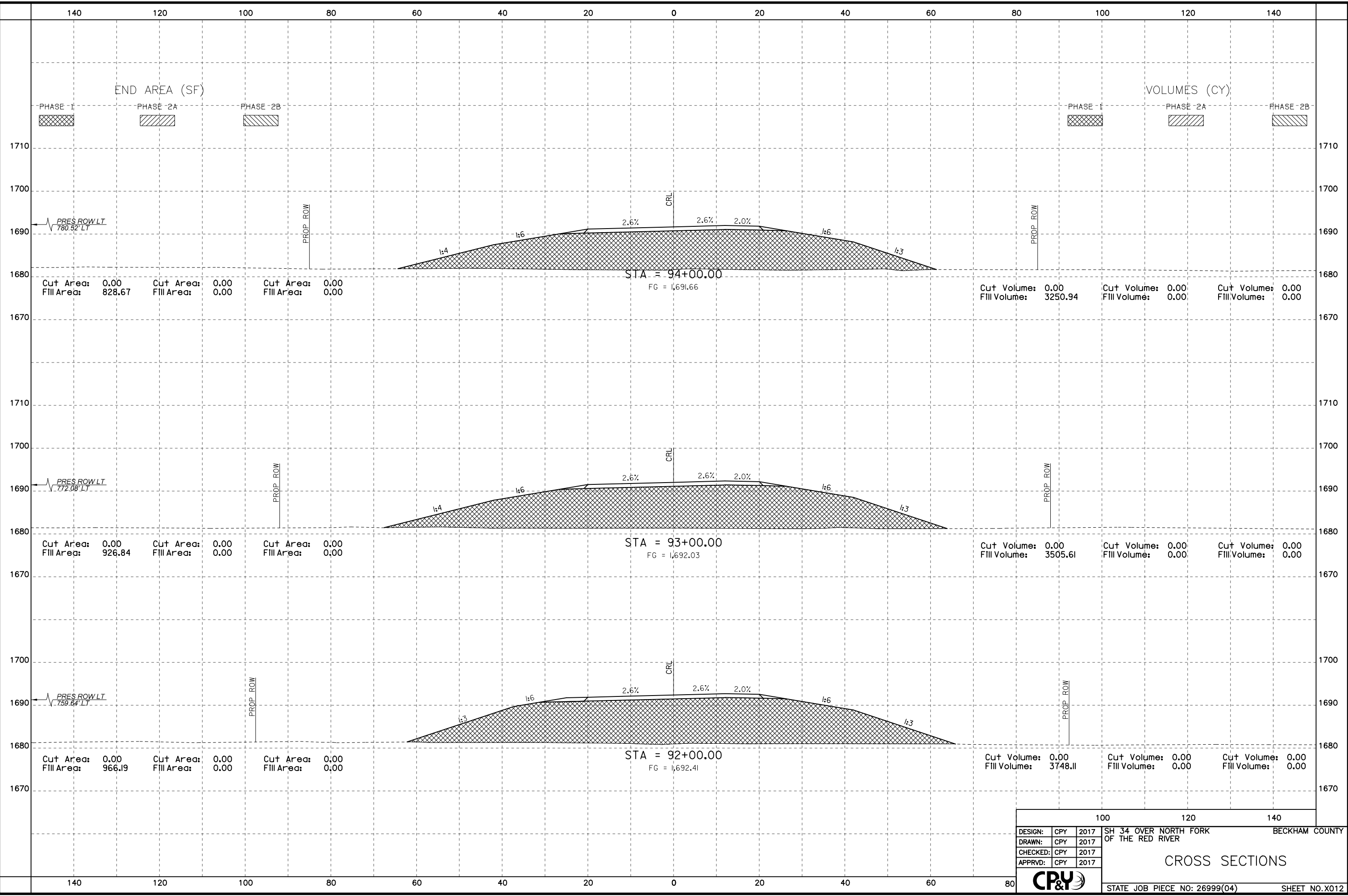
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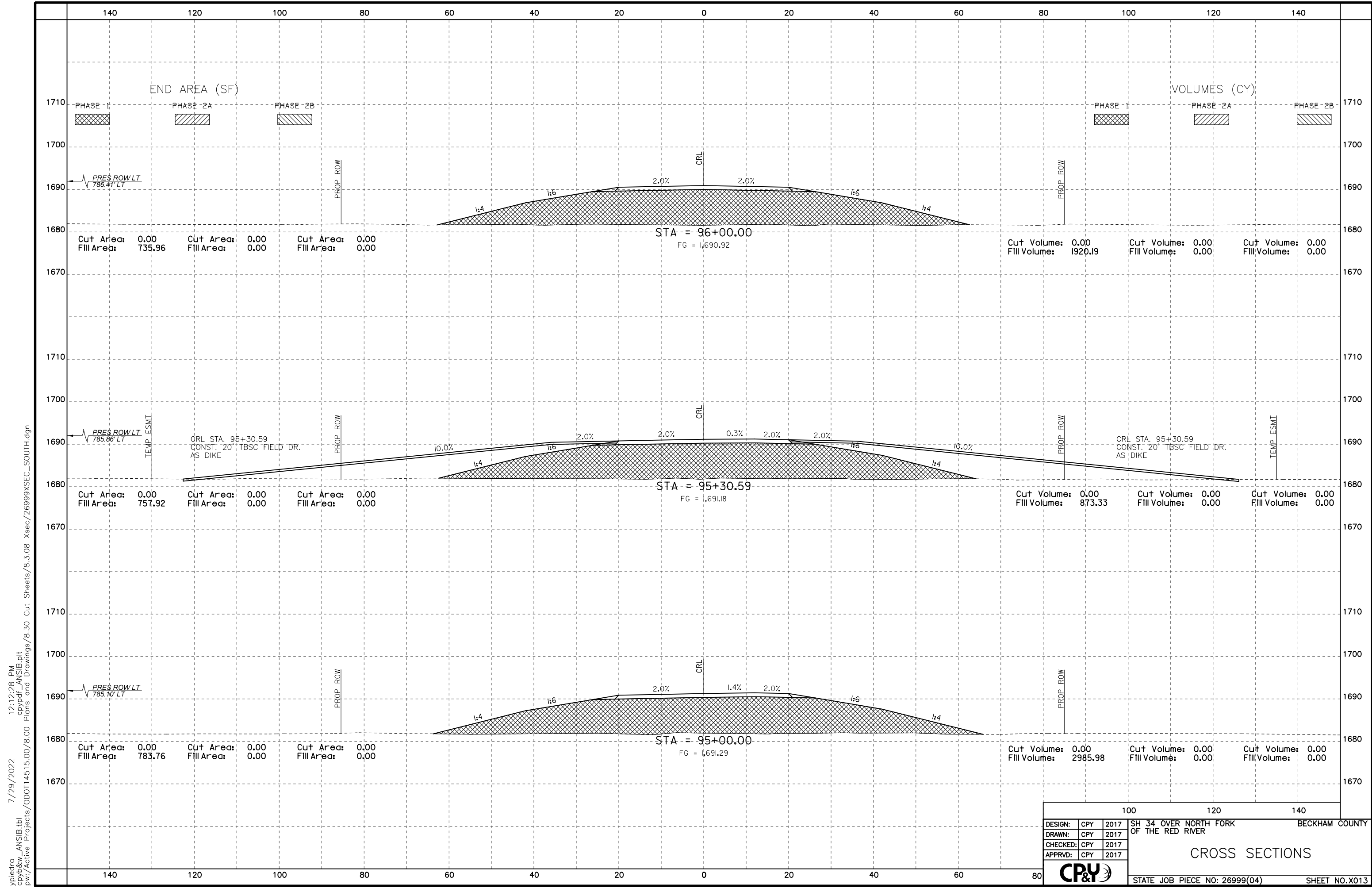
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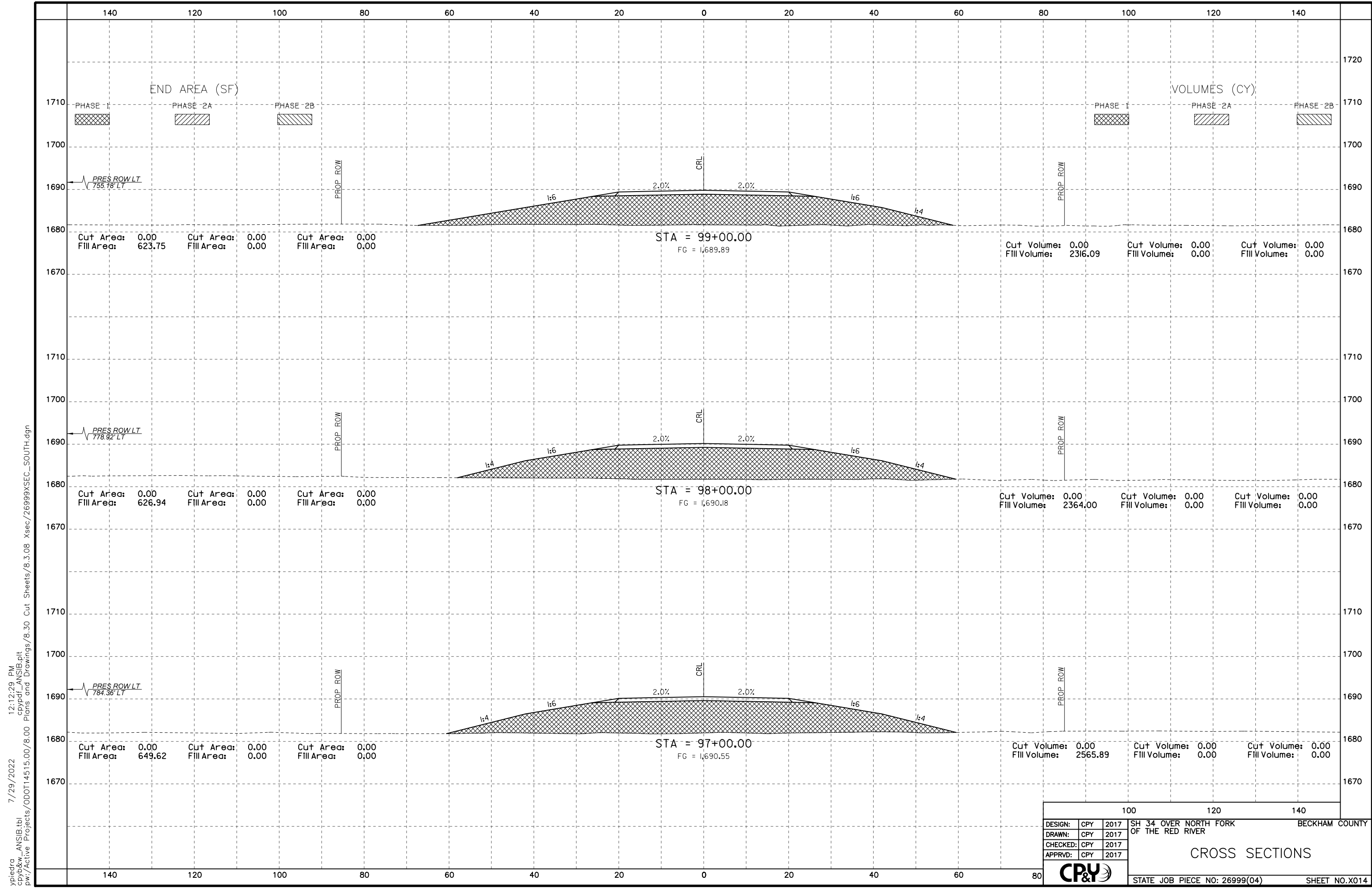
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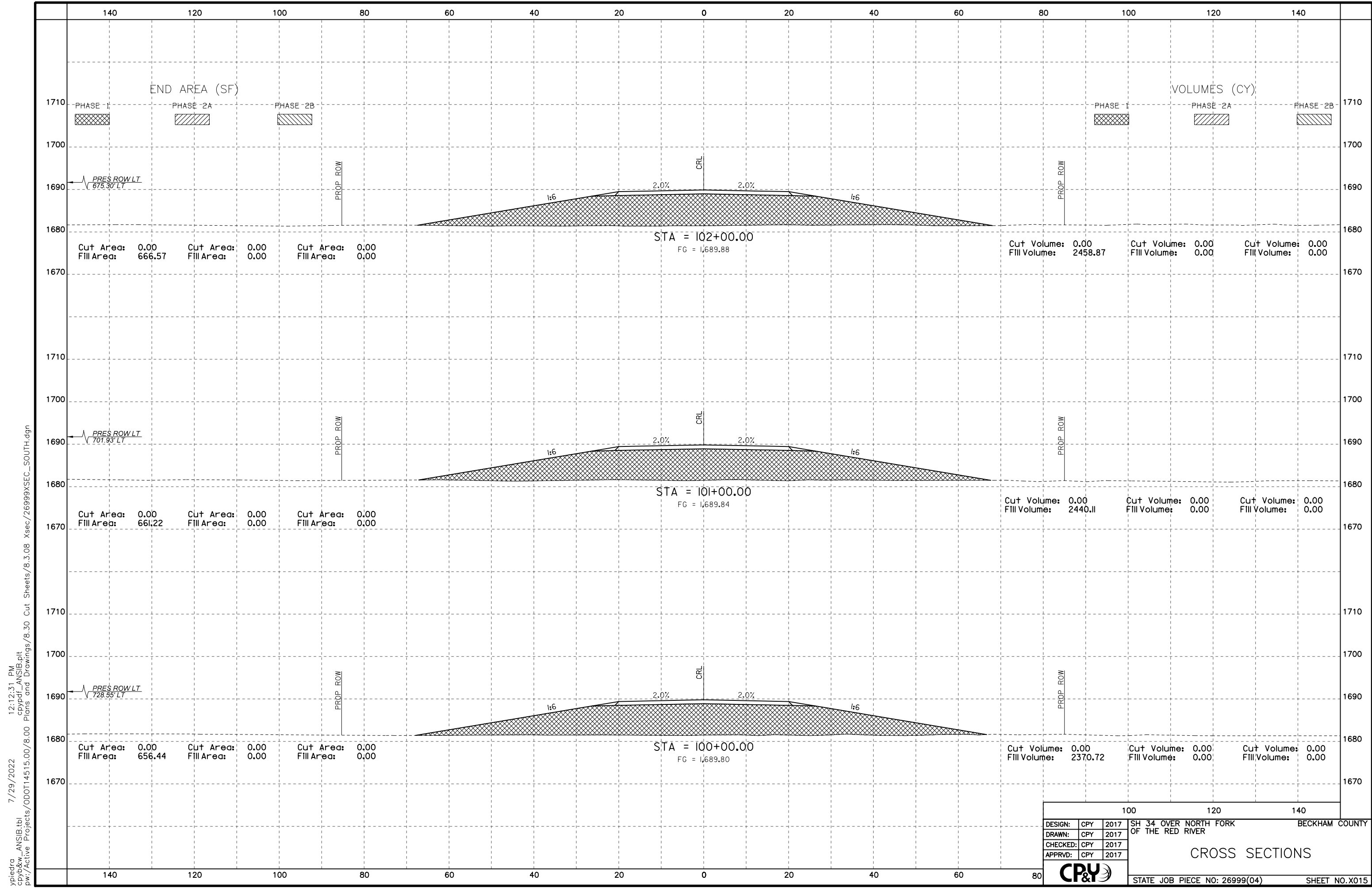




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**CP&Y**



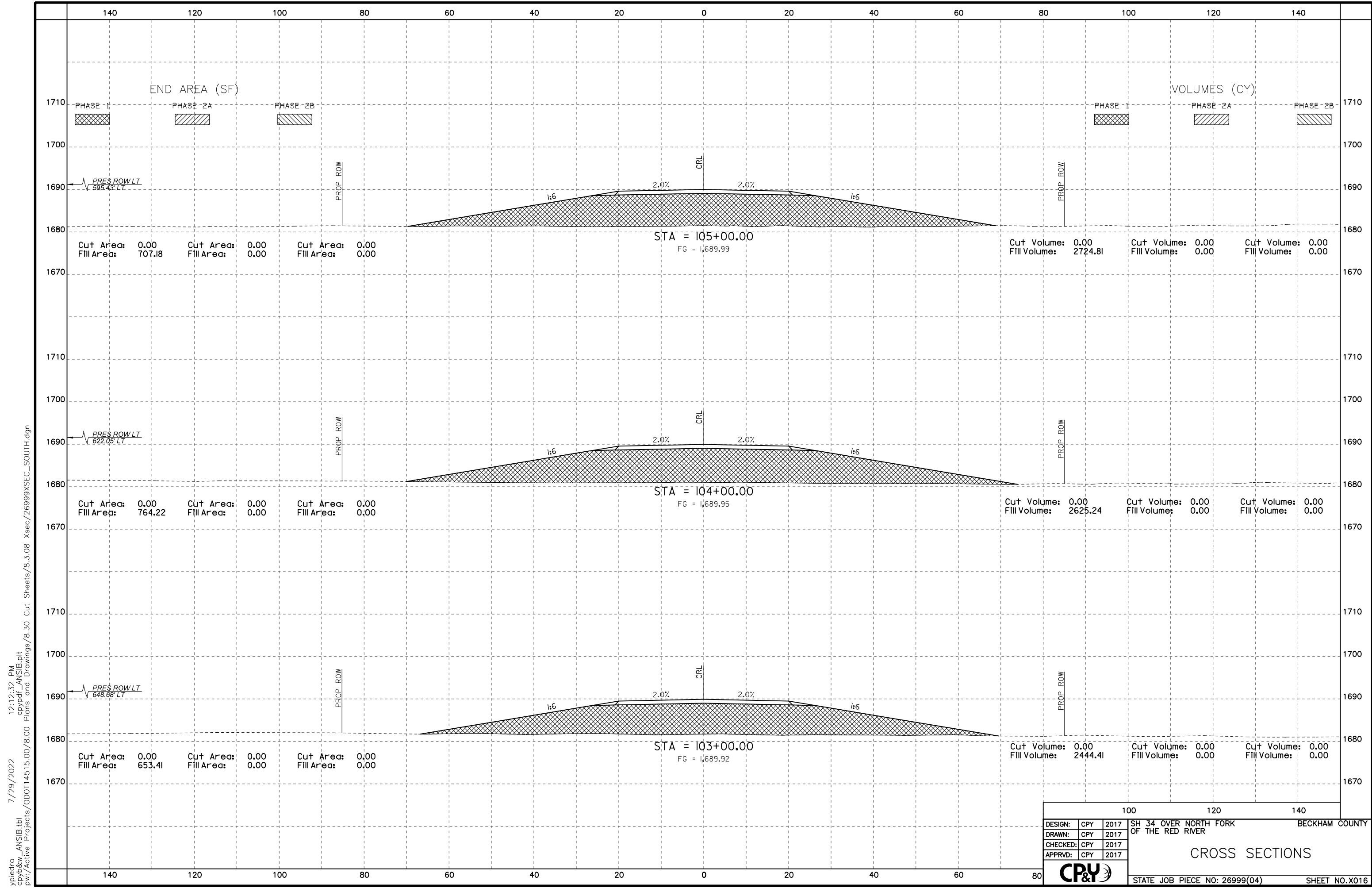
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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER  BECKHAM COUNTY
DRAWN:	CPY	2017	
CHECKED:	CPY	2017	
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CROSS SECTIONS

STATE JOB PIECE NO: 26999(04) SHEET NO.X015





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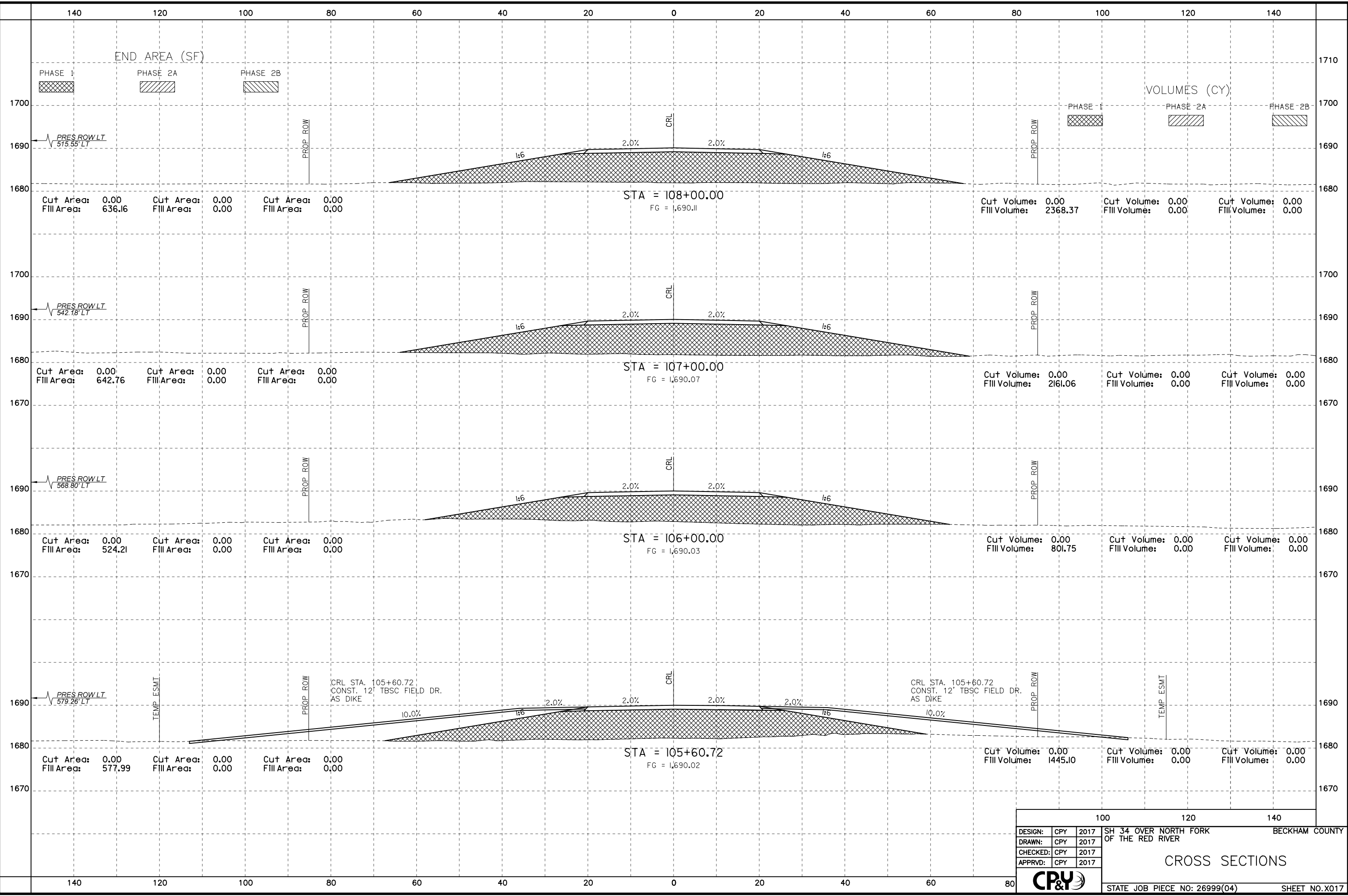
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APPRVD:	CPY	2017		

CROSS SECTIONS

STATE JOB PIECE NO: 26999(04) SHEET NO.X016



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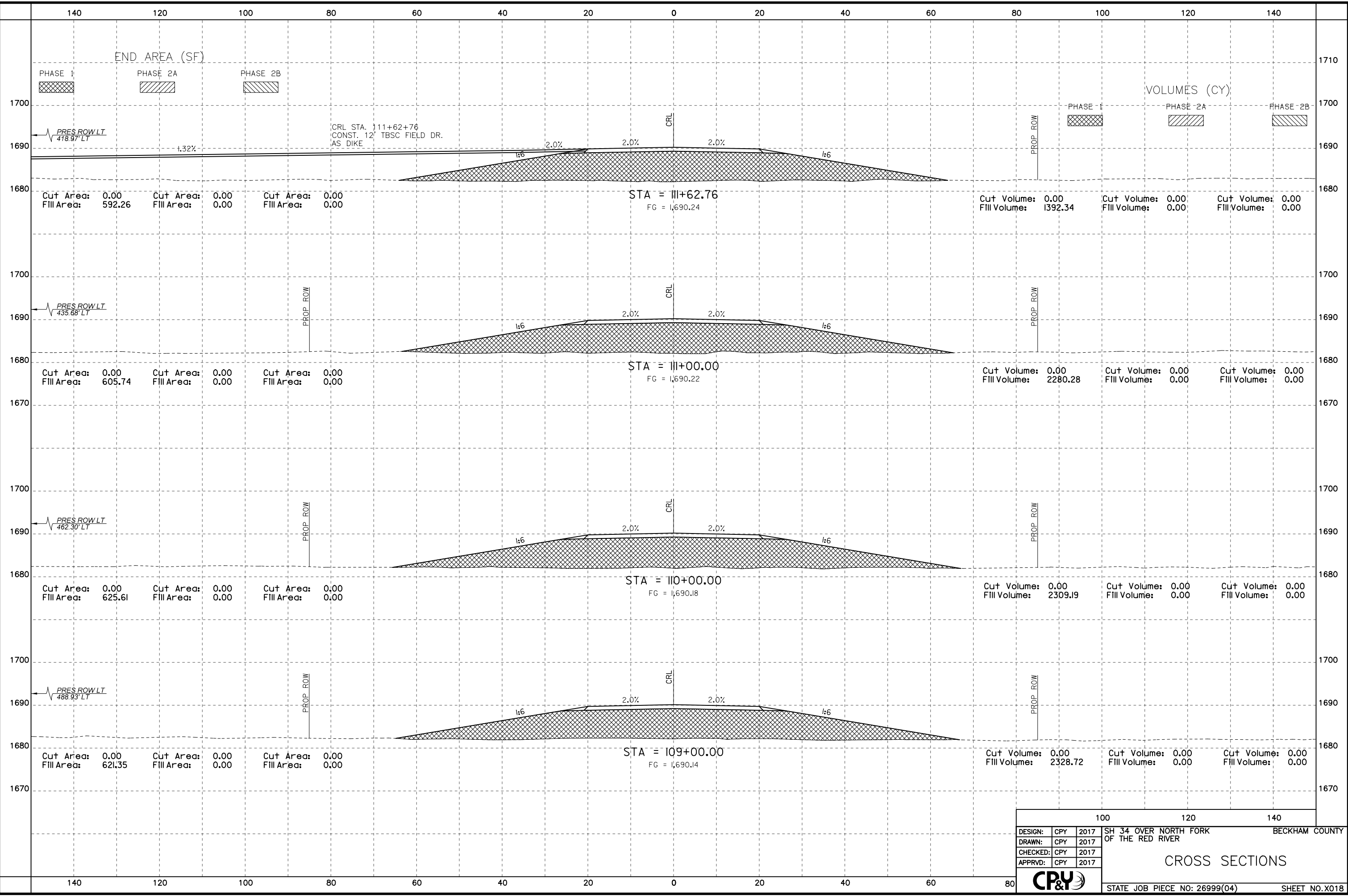
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CROSS SECTIONS

STATE JOB PIECE NO: 26999(04) SHEET NO.X017

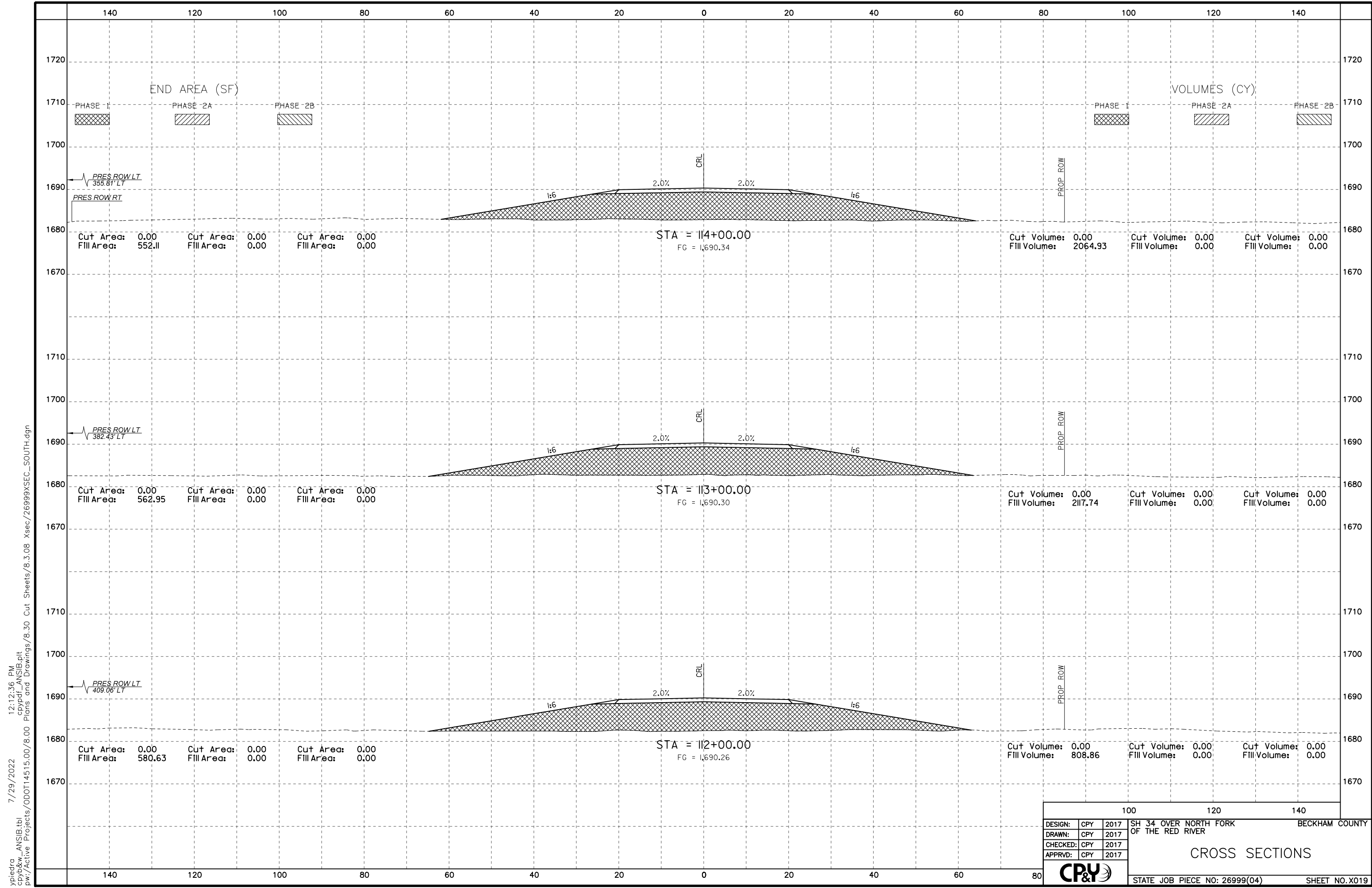


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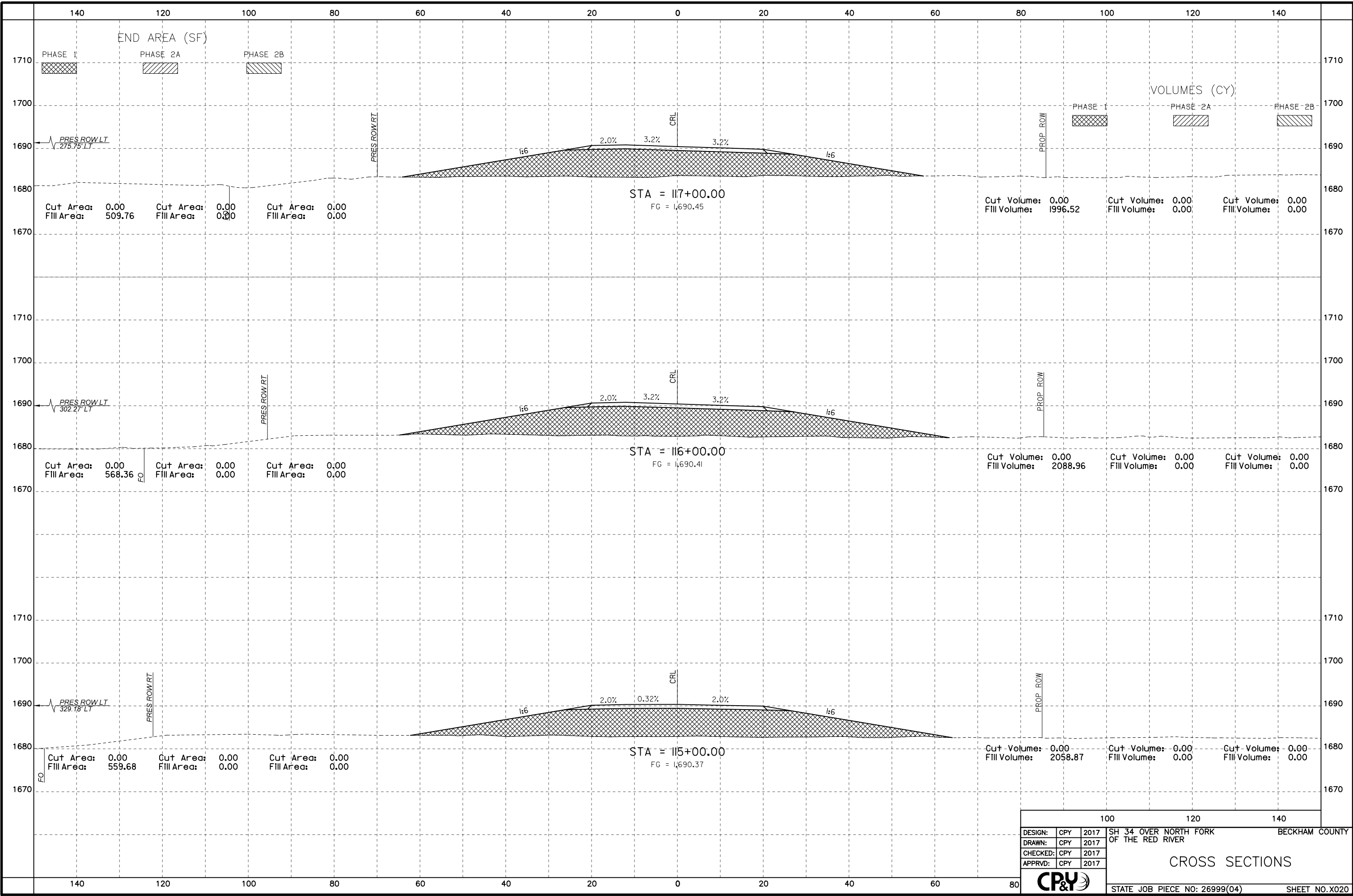


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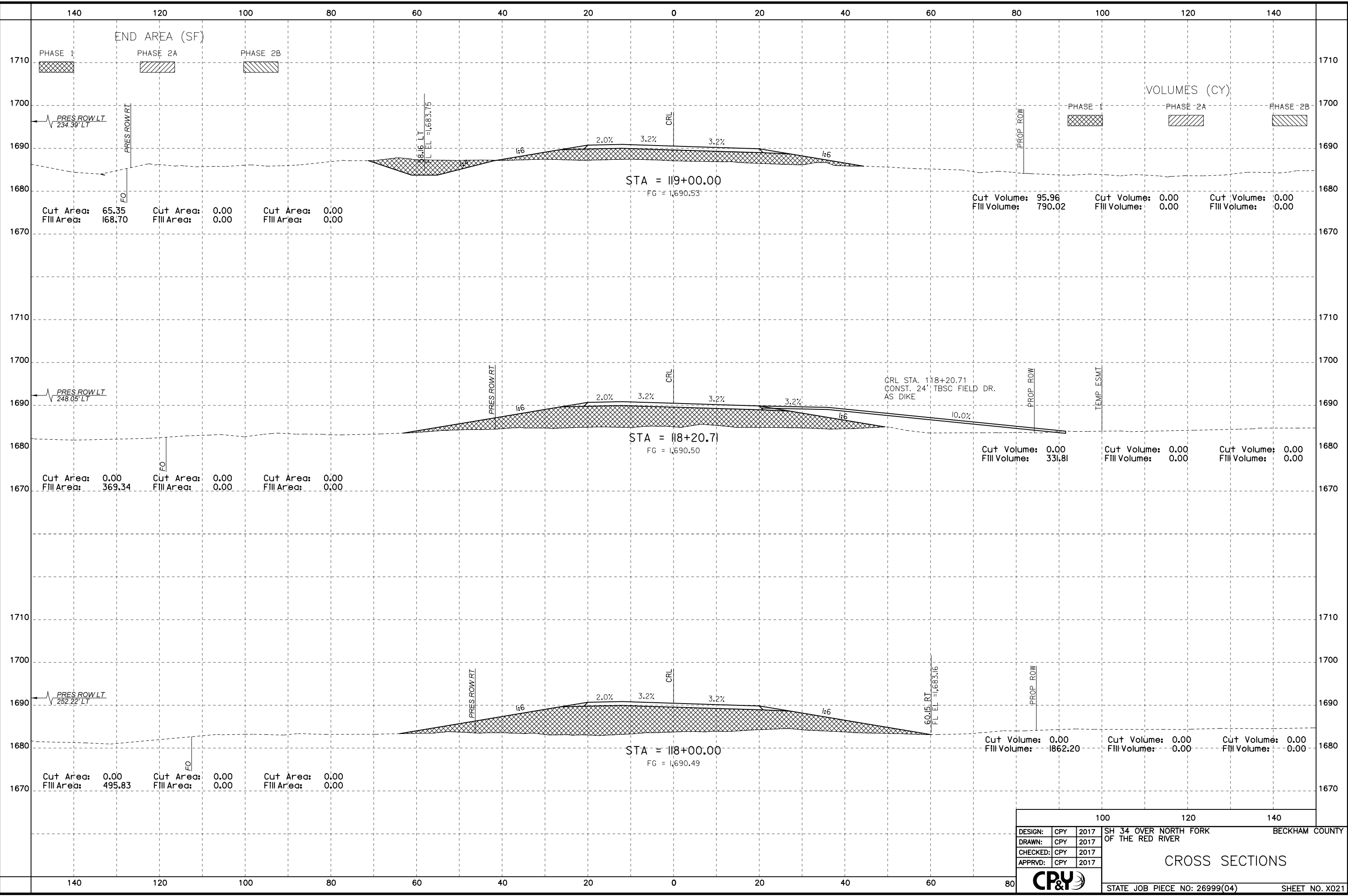


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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
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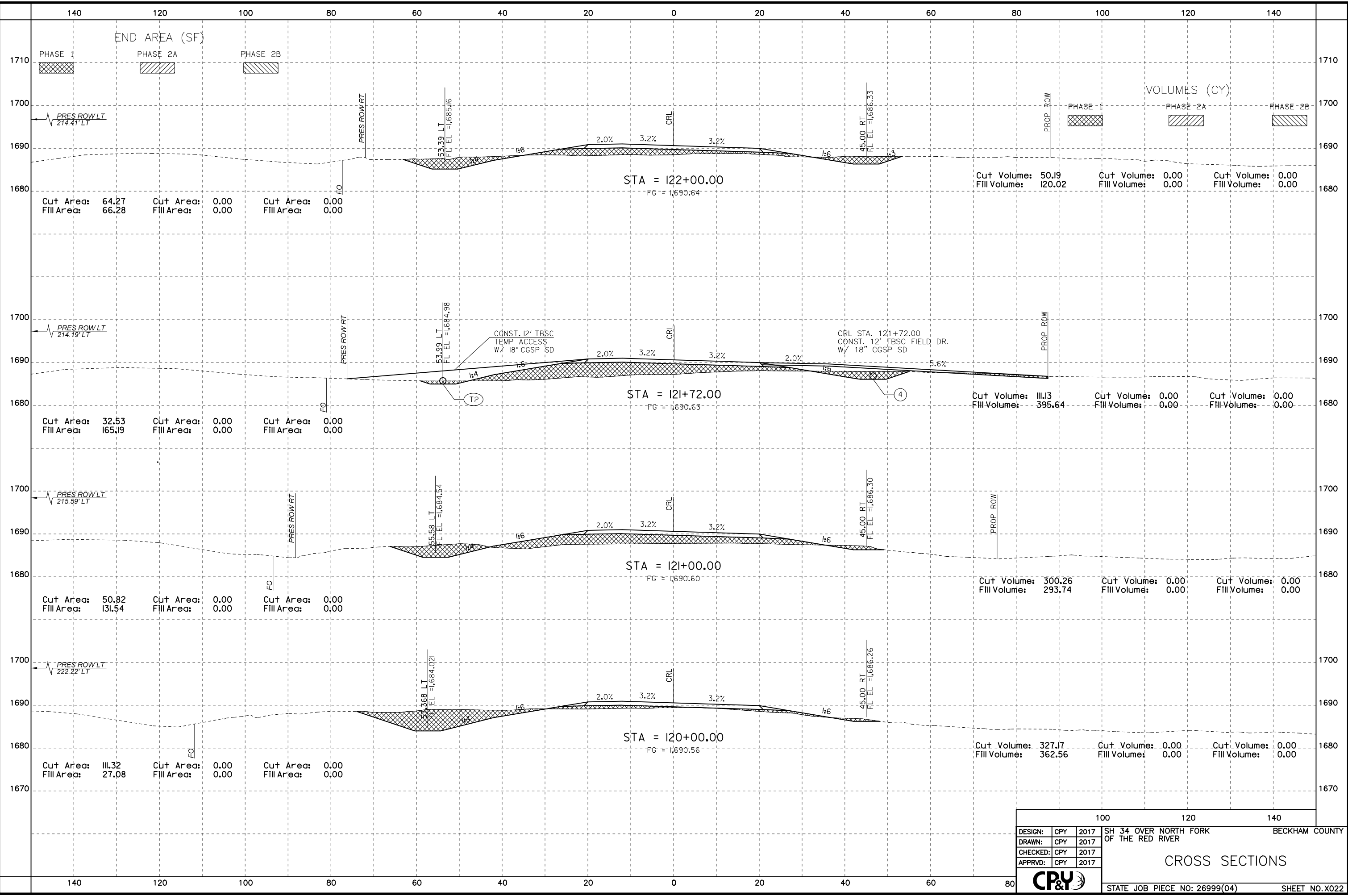
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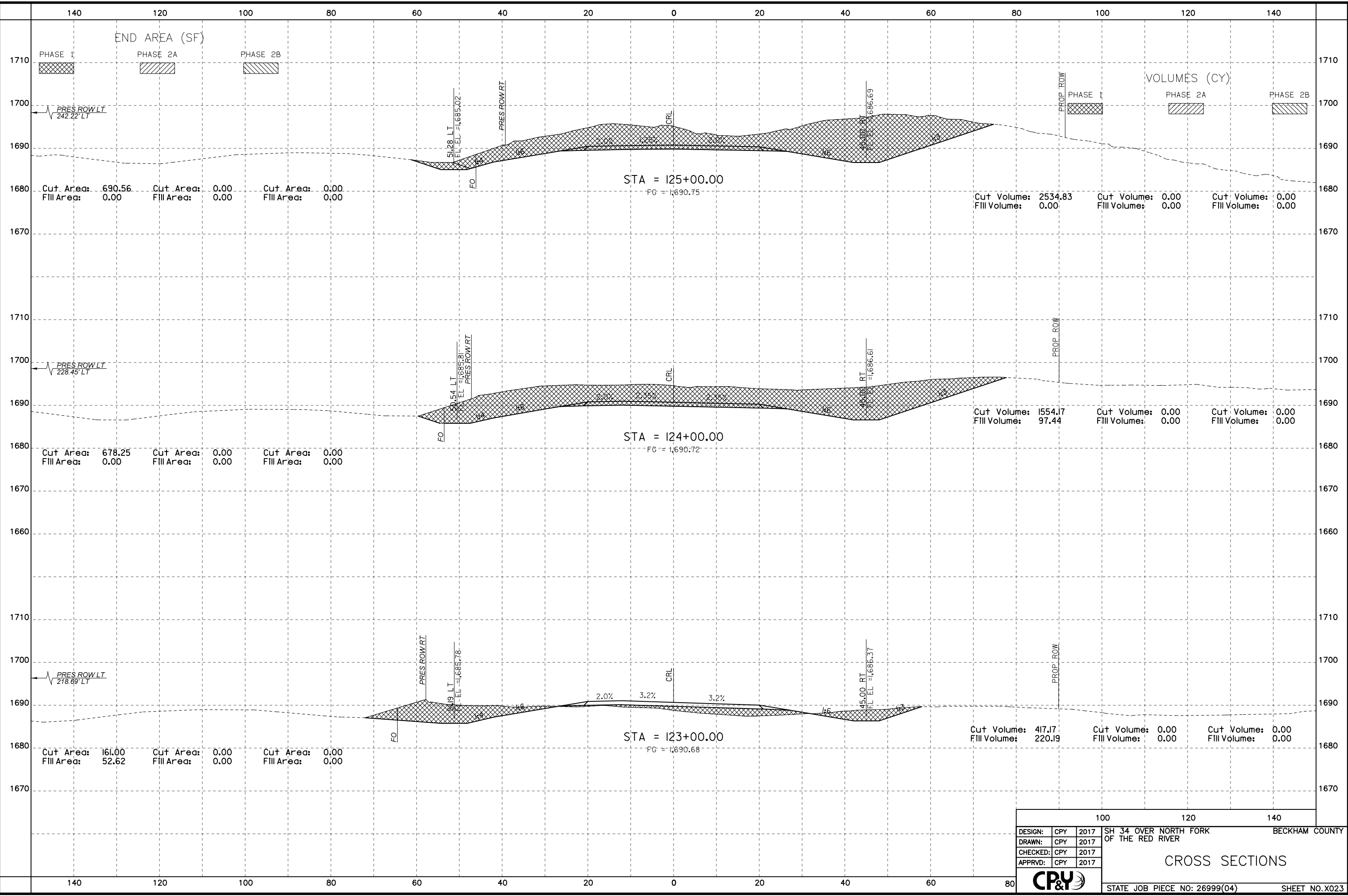
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SHEET NO. X022

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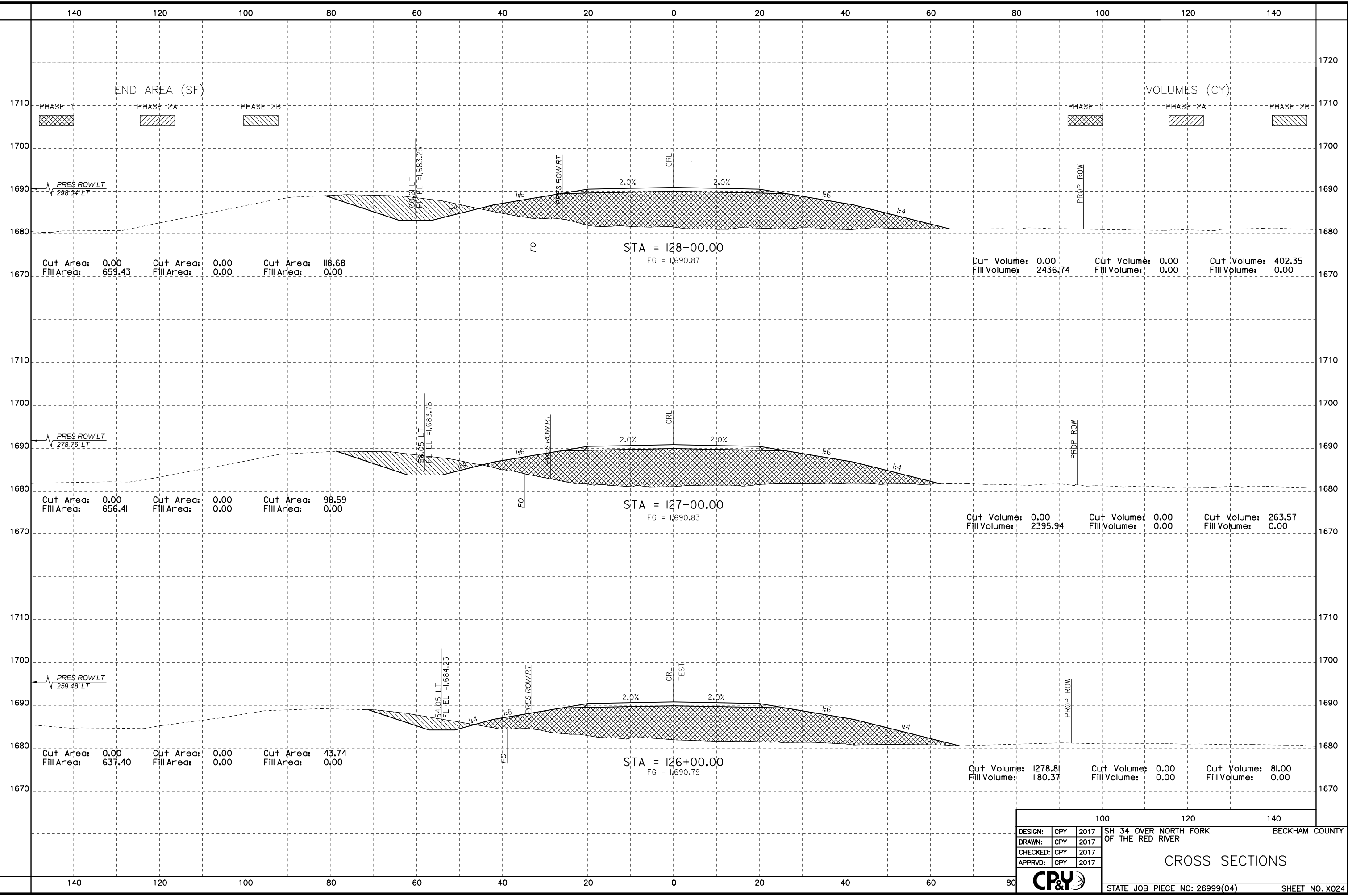


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**CROSS SECTIONS**

STATE JOB PIECE NO: 26999(04)      SHEET NO.X023

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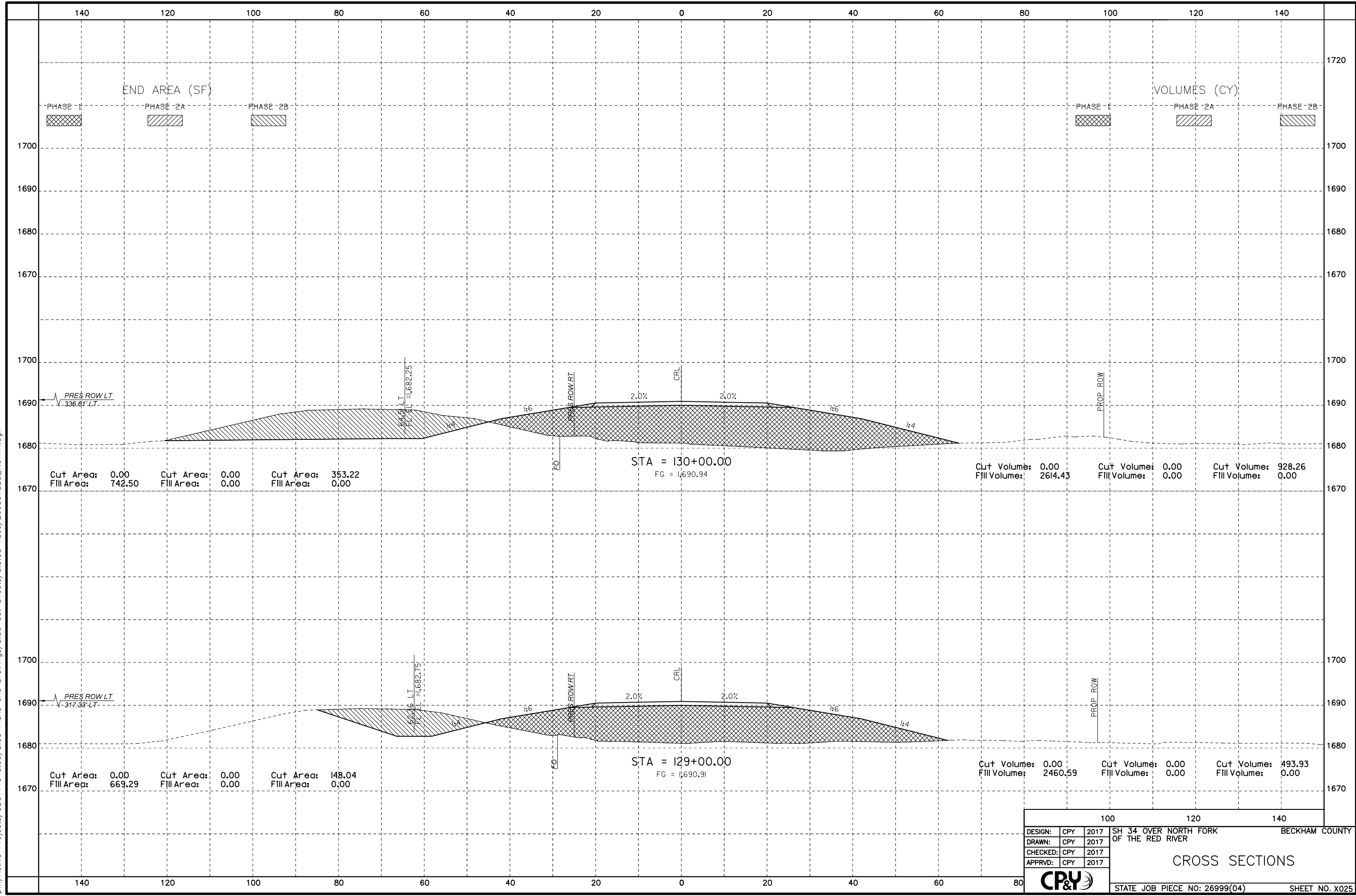


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**CP&Y**



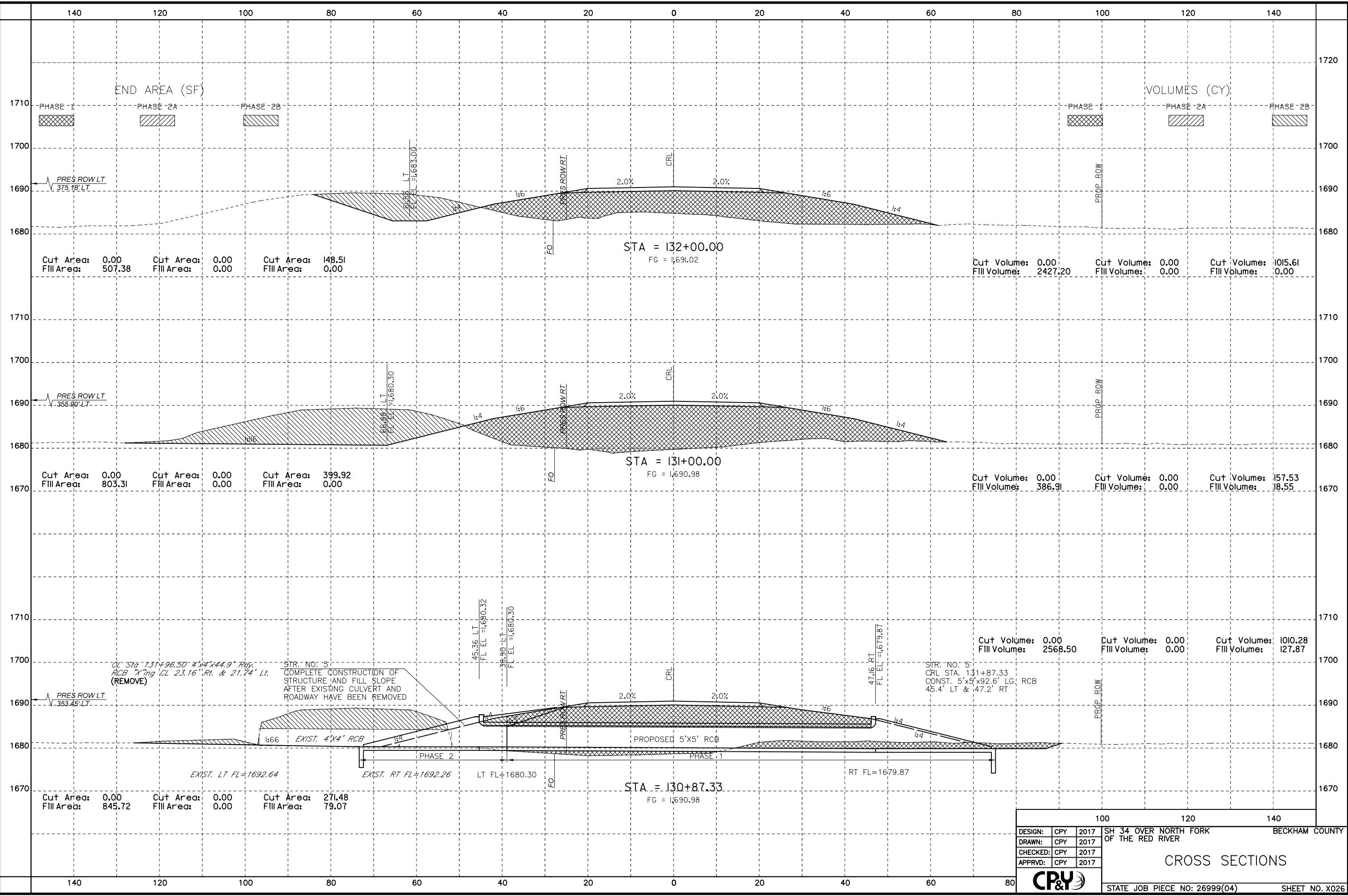
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**CP&Y**

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END AREA (SF)

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Cut Area: 148.51  
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STA = 132+00.00  
FG = 1,691.02

Cut Volume: 0.00  
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Cut Volume: 0.00  
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Cut Volume: 1015.61  
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Cut Area: 0.00  
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Cut Area: 0.00  
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Cut Area: 399.92  
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STA = 131+00.00  
FG = 1,690.98

Cut Volume: 0.00  
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Cut Volume: 0.00  
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Cut Volume: 157.53  
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Cut Area: 271.48  
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STA = 130+87.33  
FG = 1,690.98

Cut Volume: 0.00  
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Cut Volume: 0.00  
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Cut Volume: 1010.28  
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CL STA 131+96.50 4'x4'x44.9' RCB  
RCB "X"ing CL 23.16' Rt. & 21.74' Lt.  
(REMOVE)

STR. NO. 5  
COMPLETE CONSTRUCTION OF  
STRUCTURE AND FILL SLOPE  
AFTER EXISTING CULVERT AND  
ROADWAY HAVE BEEN REMOVED

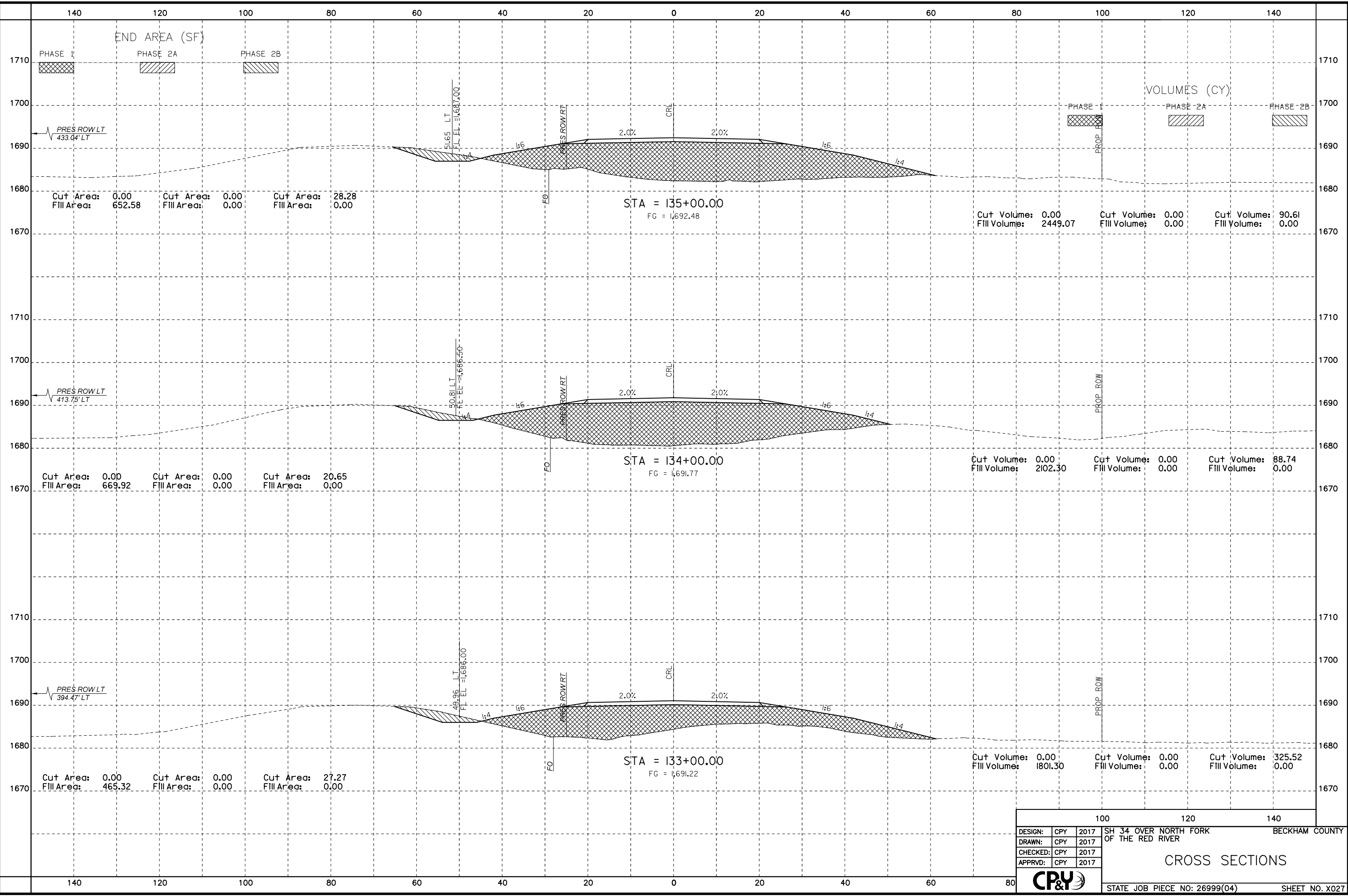
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CRL STA. 131+87.33  
CONST. 5'x5'x92.6' LG. RCB  
45.4' LT & 47.2' RT

DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER BECKHAM COUNTY
DRAWN:	CPY	2017	
CHECKED:	CPY	2017	
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CROSS SECTIONS

STATE JOB PIECE NO: 26999(04) SHEET NO. X026

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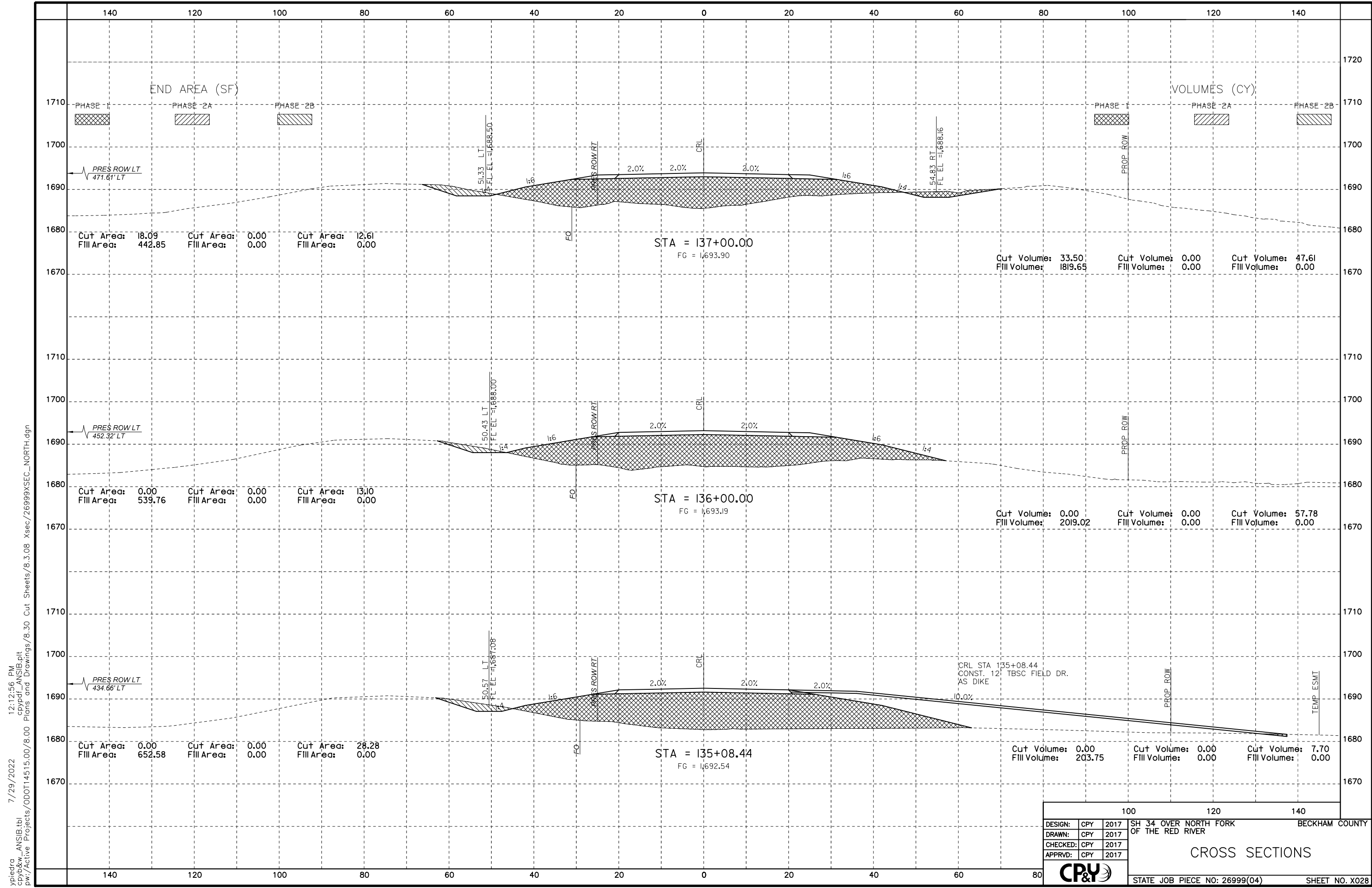


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CHECKED:	CPY	2017		
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CROSS SECTIONS

STATE JOB PIECE NO: 26999(04) SHEET NO. X027



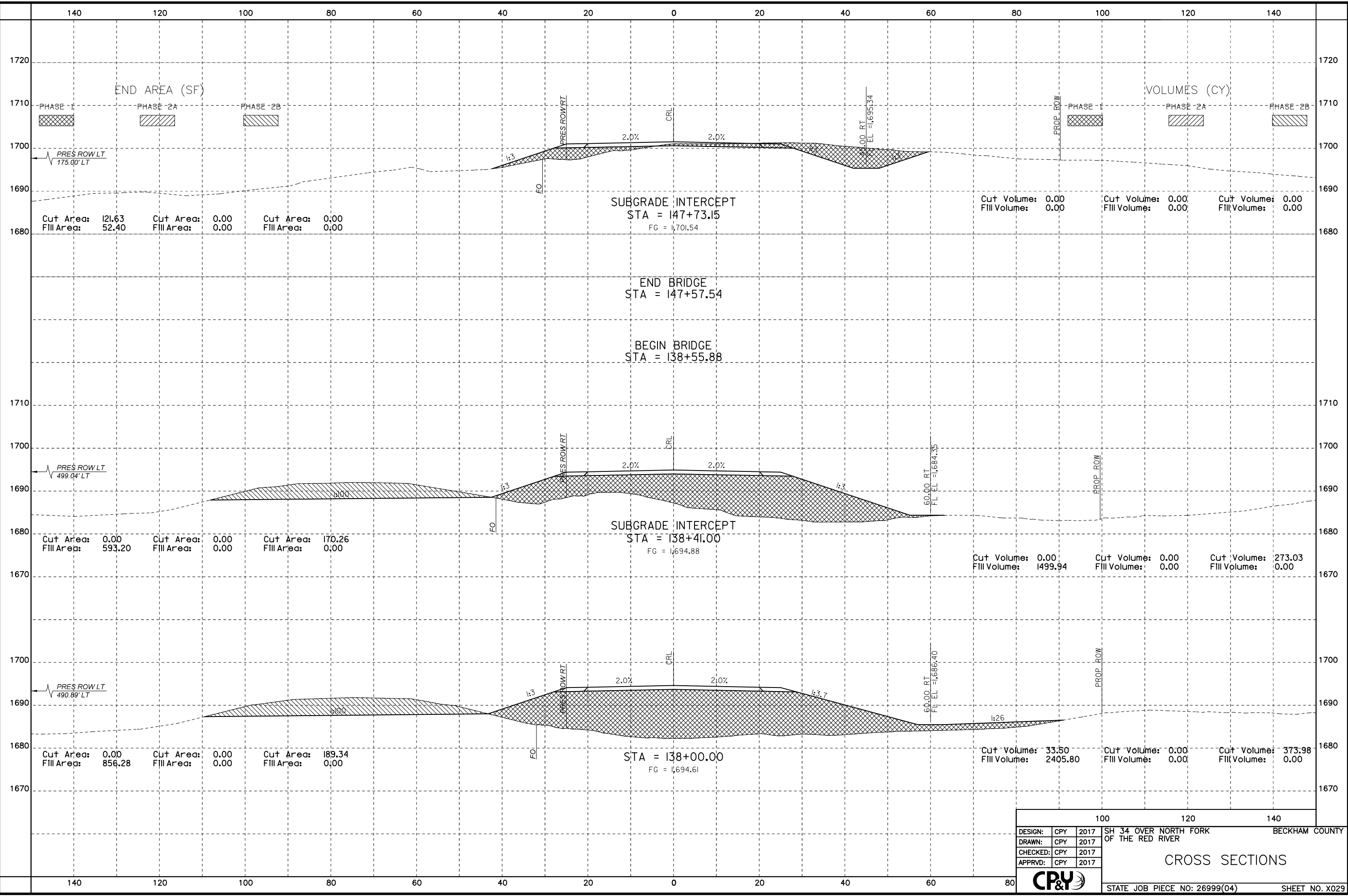


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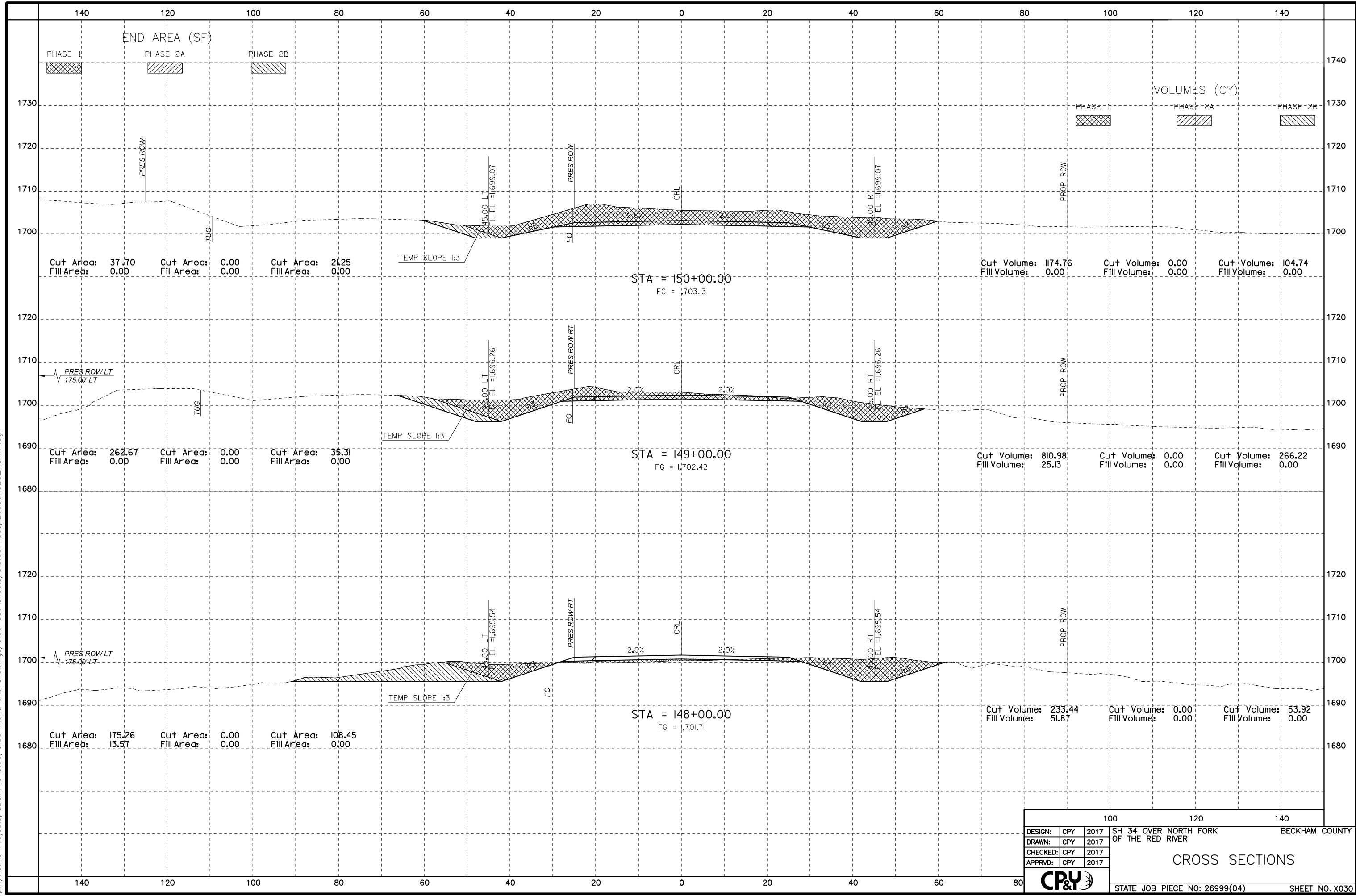
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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER BECKHAM COUNTY <b>CROSS SECTIONS</b> STATE JOB PIECE NO: 26999(04)
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APPRVD:	CPY	2017	

SHEET NO. X029

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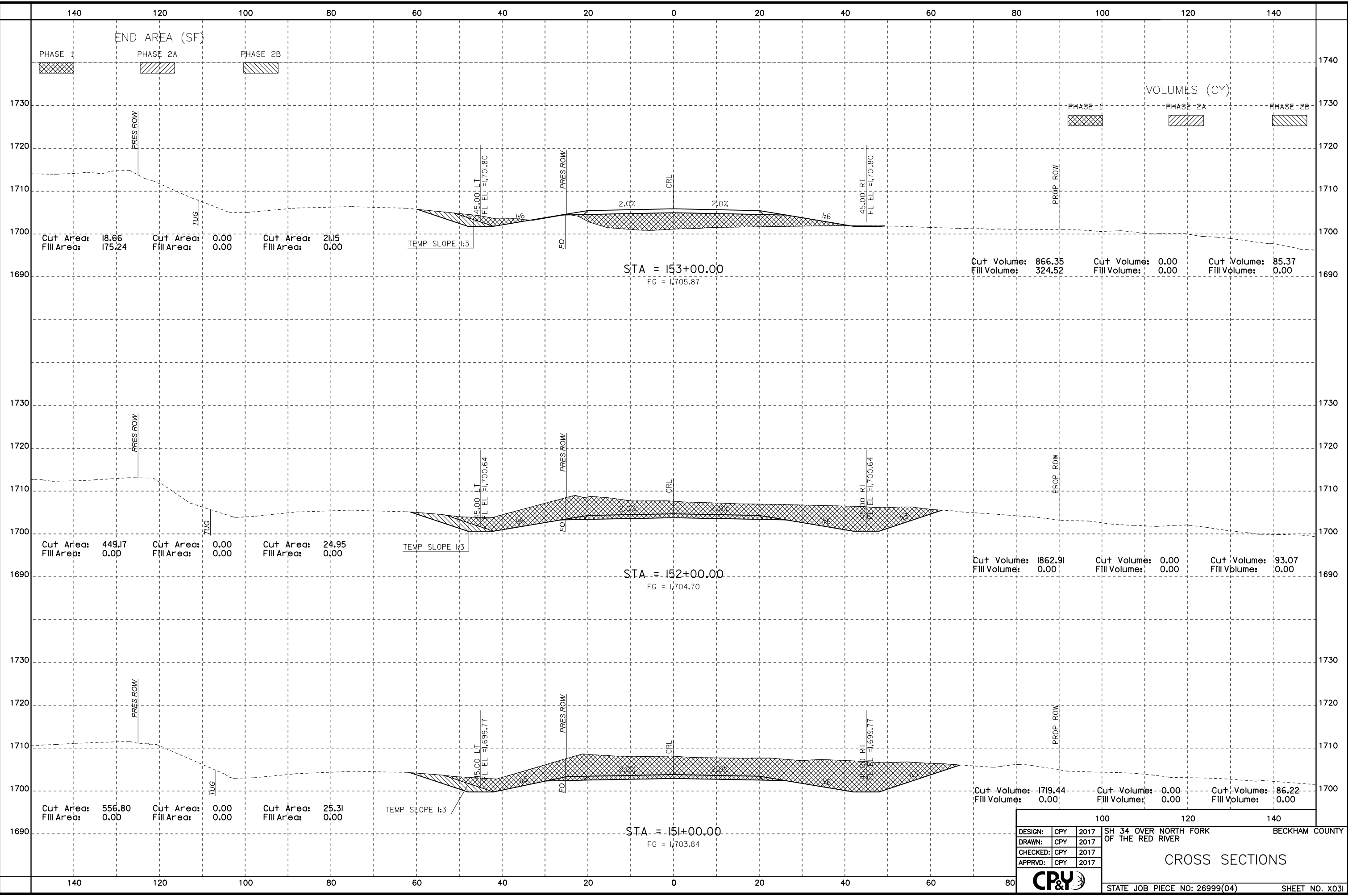
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CHECKED:	CPY	2017	BECKHAM COUNTY
APPRVD:	CPY	2017	

CROSS SECTIONS

STATE JOB PIECE NO: 26999(04)
SHEET NO. X030



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 FG = 1,705.87

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 Fill Volume: 324.52

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Cut Volume: 85.37  
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Cut Area: 24.95  
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STA = 152+00.00  
 FG = 1,704.70

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Cut Area: 0.00  
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Cut Area: 25.31  
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 FG = 1,703.84

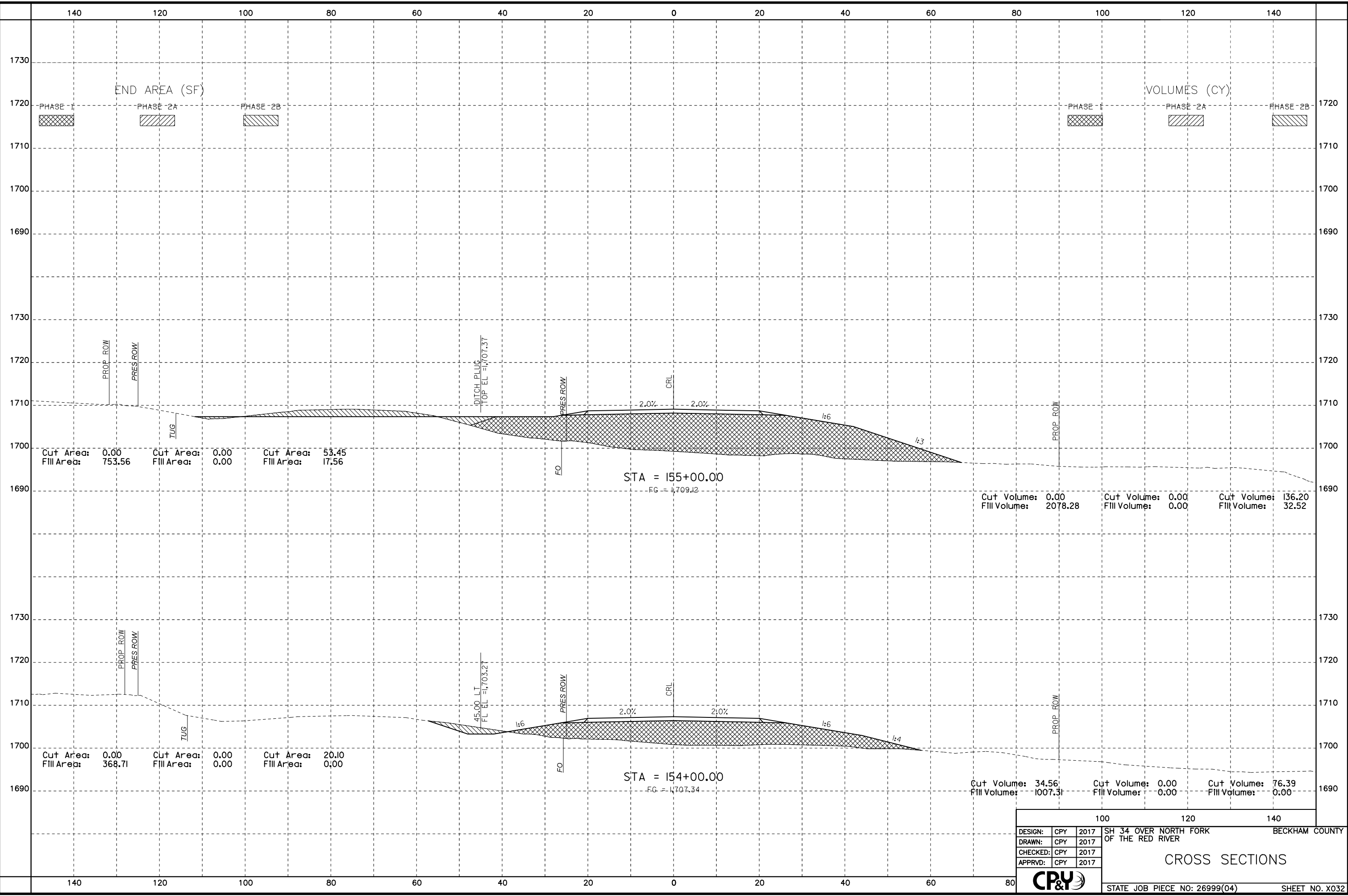
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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		
<b>CROSS SECTIONS</b>				
<b>CP&amp;Y</b>			STATE JOB PIECE NO: 26999(04) SHEET NO. X03I	

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140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

1730 1720 1710 1700 1690 1730 1720 1710 1700 1690 1730 1720 1710 1700 1690 1730 1720 1710 1700 1690 1730 1720 1710 1700 1690

END AREA (SF)

VOLUMES (CY)

PHASE 1 PHASE 2A PHASE 2B

PHASE 1 PHASE 2A PHASE 2B

Cut Area: 0.00  
 Fill Area: 753.56

Cut Area: 0.00  
 Fill Area: 0.00

Cut Area: 53.45  
 Fill Area: 17.56

Cut Volume: 0.00  
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Cut Volume: 0.00  
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Cut Volume: 136.20  
 Fill Volume: 32.52

Cut Area: 0.00  
 Fill Area: 368.71

Cut Area: 0.00  
 Fill Area: 0.00

Cut Area: 20.10  
 Fill Area: 0.00

Cut Volume: 34.56  
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Cut Volume: 0.00  
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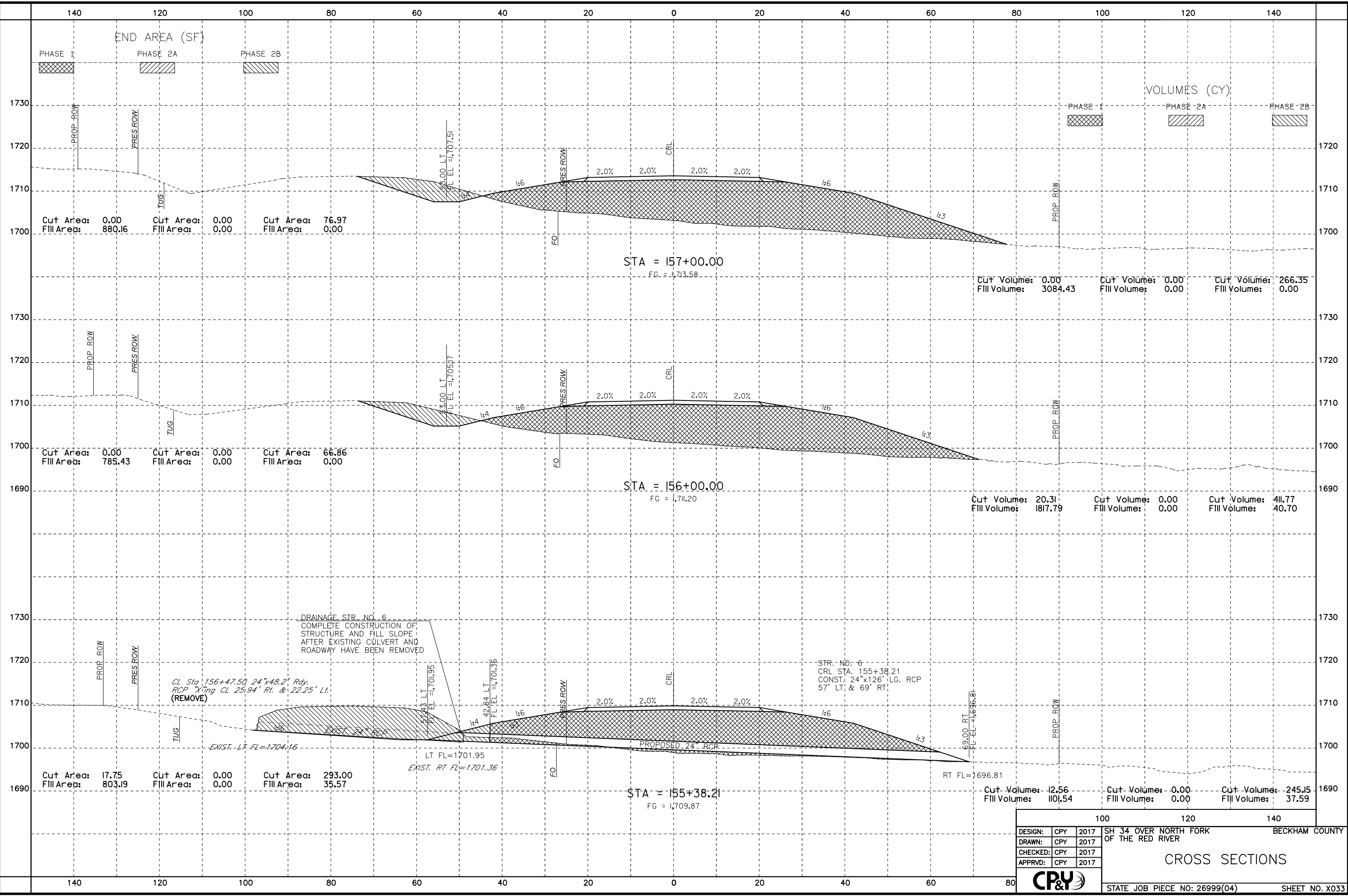
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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		
<b>CROSS SECTIONS</b>			STATE JOB PIECE NO: 26999(04)	SHEET NO. X032





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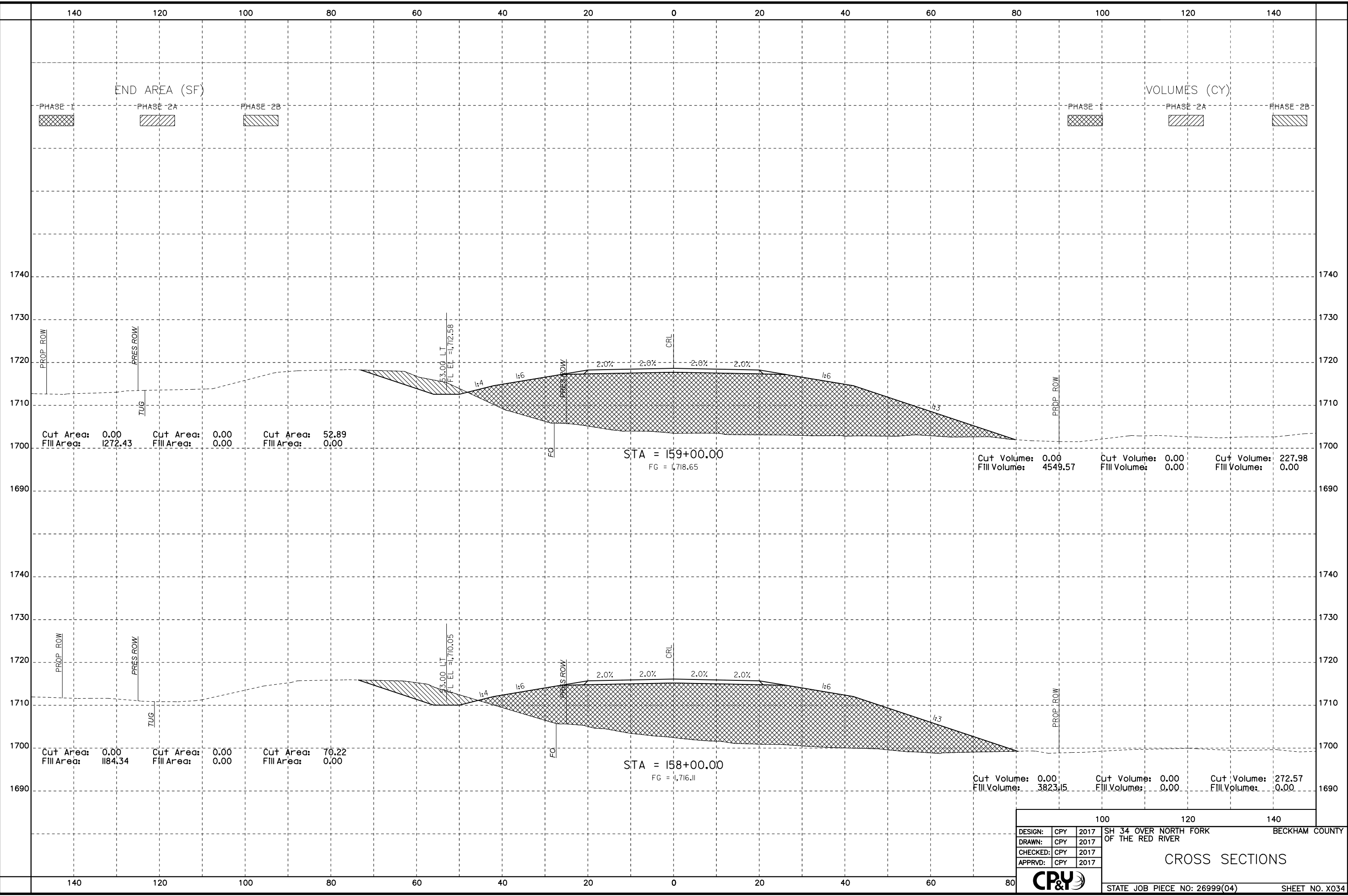


DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER BECKHAM COUNTY
DRAWN:	CPY	2017	
CHECKED:	CPY	2017	
APPRVD:	CPY	2017	

**CROSS SECTIONS**

STATE JOB PIECE NO: 26999(04) SHEET NO. X033

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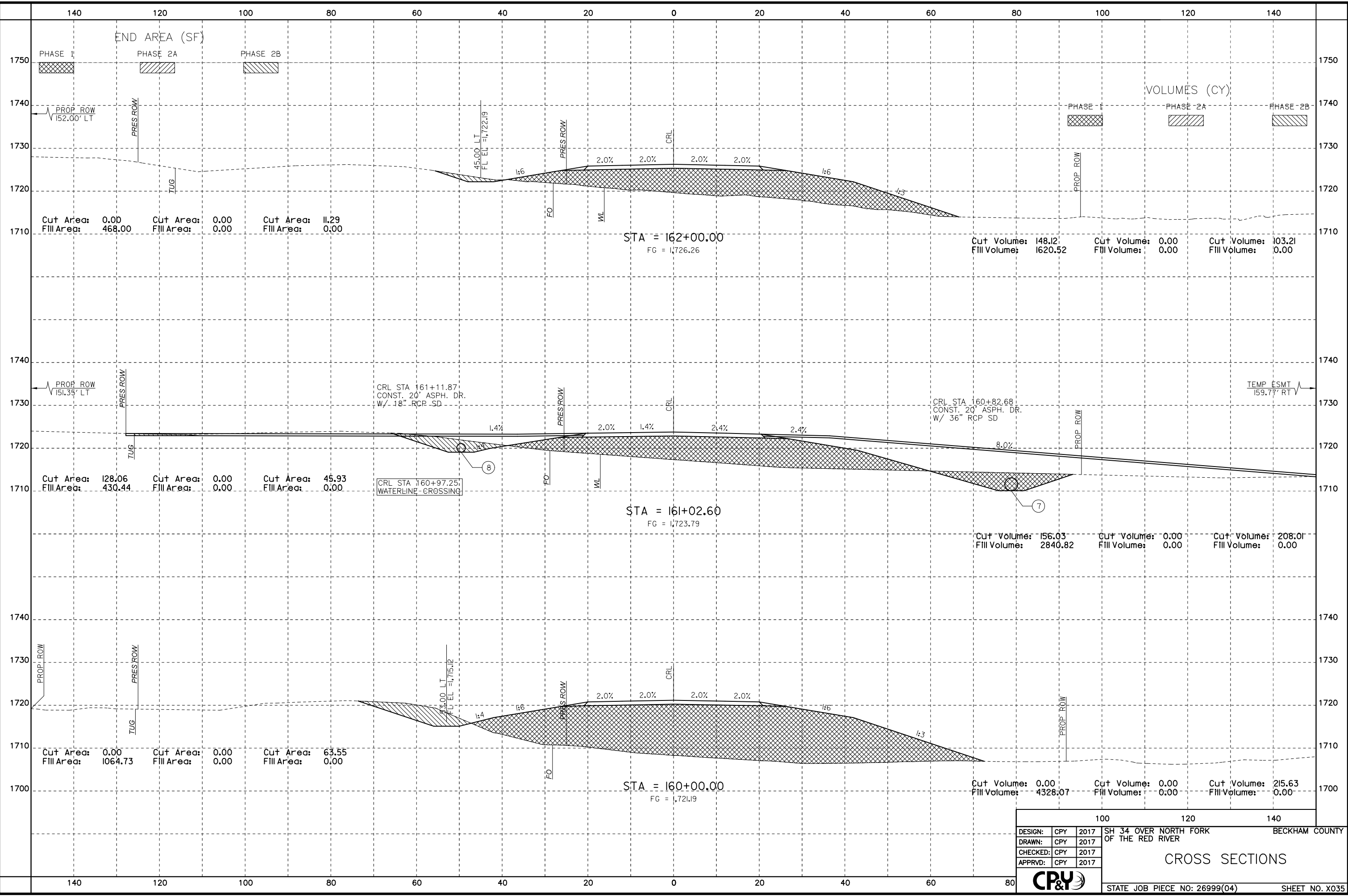


DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		

**CROSS SECTIONS**

STATE JOB PIECE NO: 26999(04) SHEET NO. X034

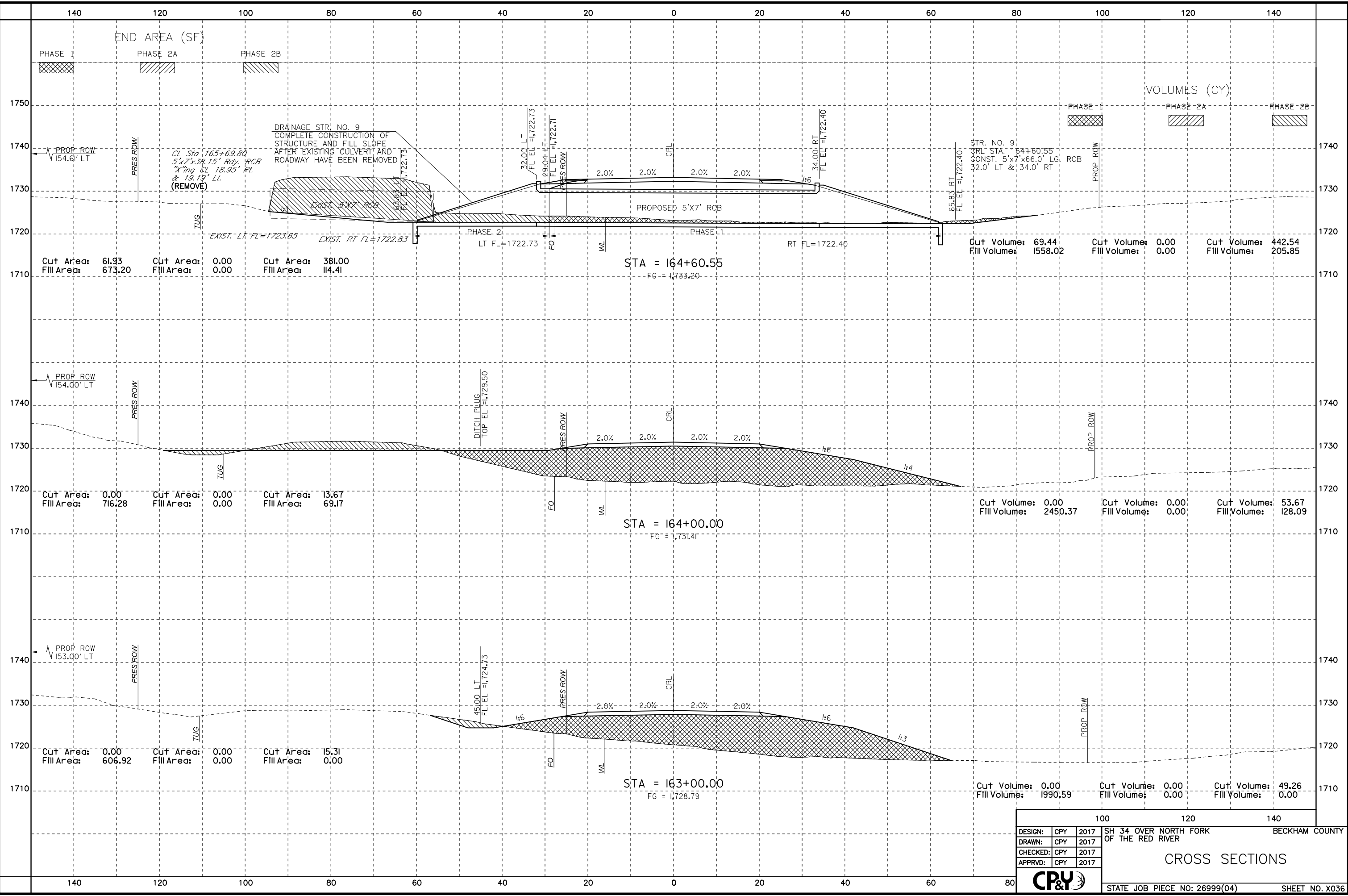
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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER BECKHAM COUNTY <b>CROSS SECTIONS</b> STATE JOB PIECE NO: 26999(04) SHEET NO. X035
DRAWN:	CPY	2017	
CHECKED:	CPY	2017	
APPRVD:	CPY	2017	



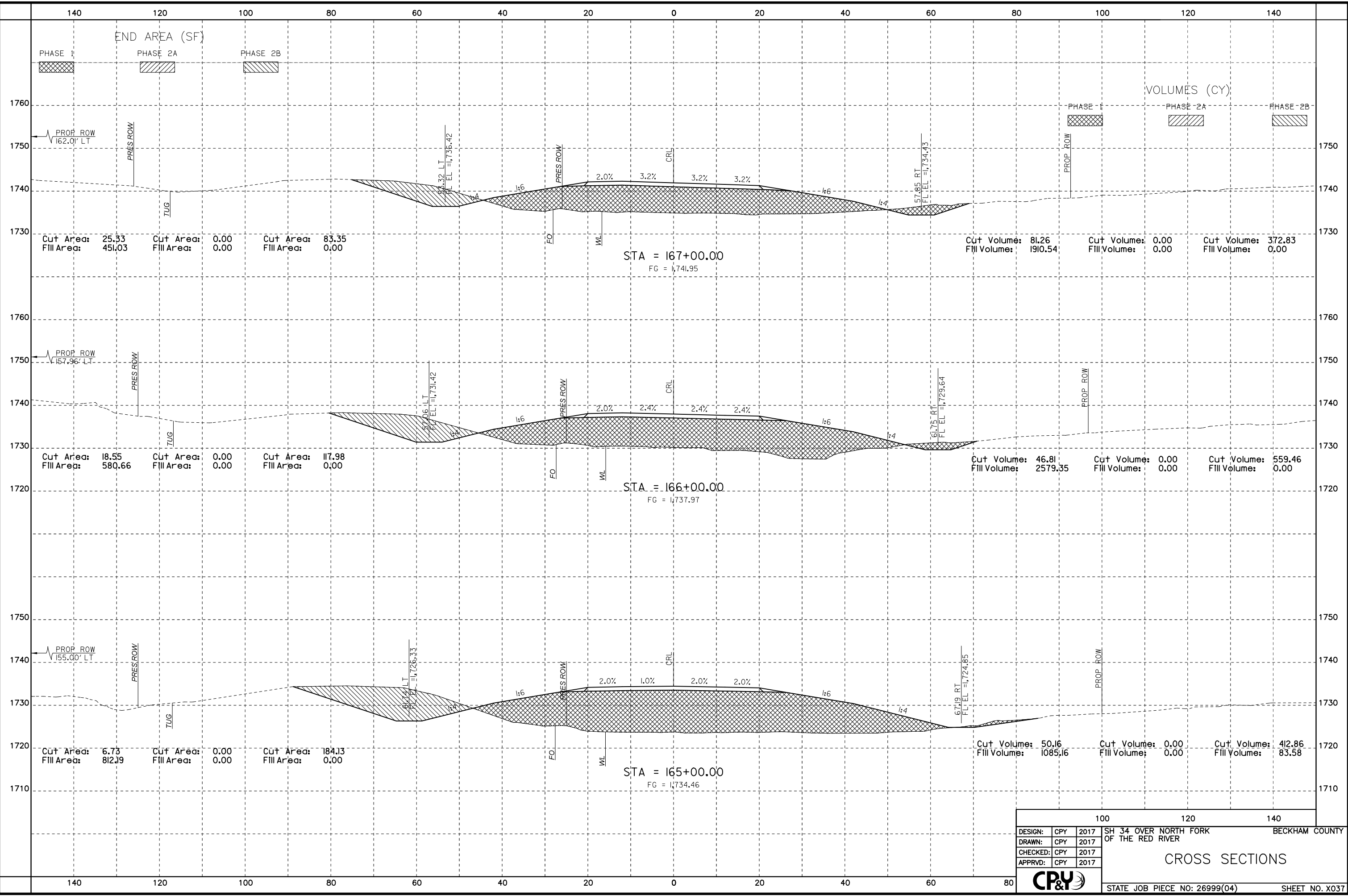
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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER <b>CROSS SECTIONS</b> STATE JOB PIECE NO: 26999(04)	BECKHAM COUNTY SHEET NO. X036
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		



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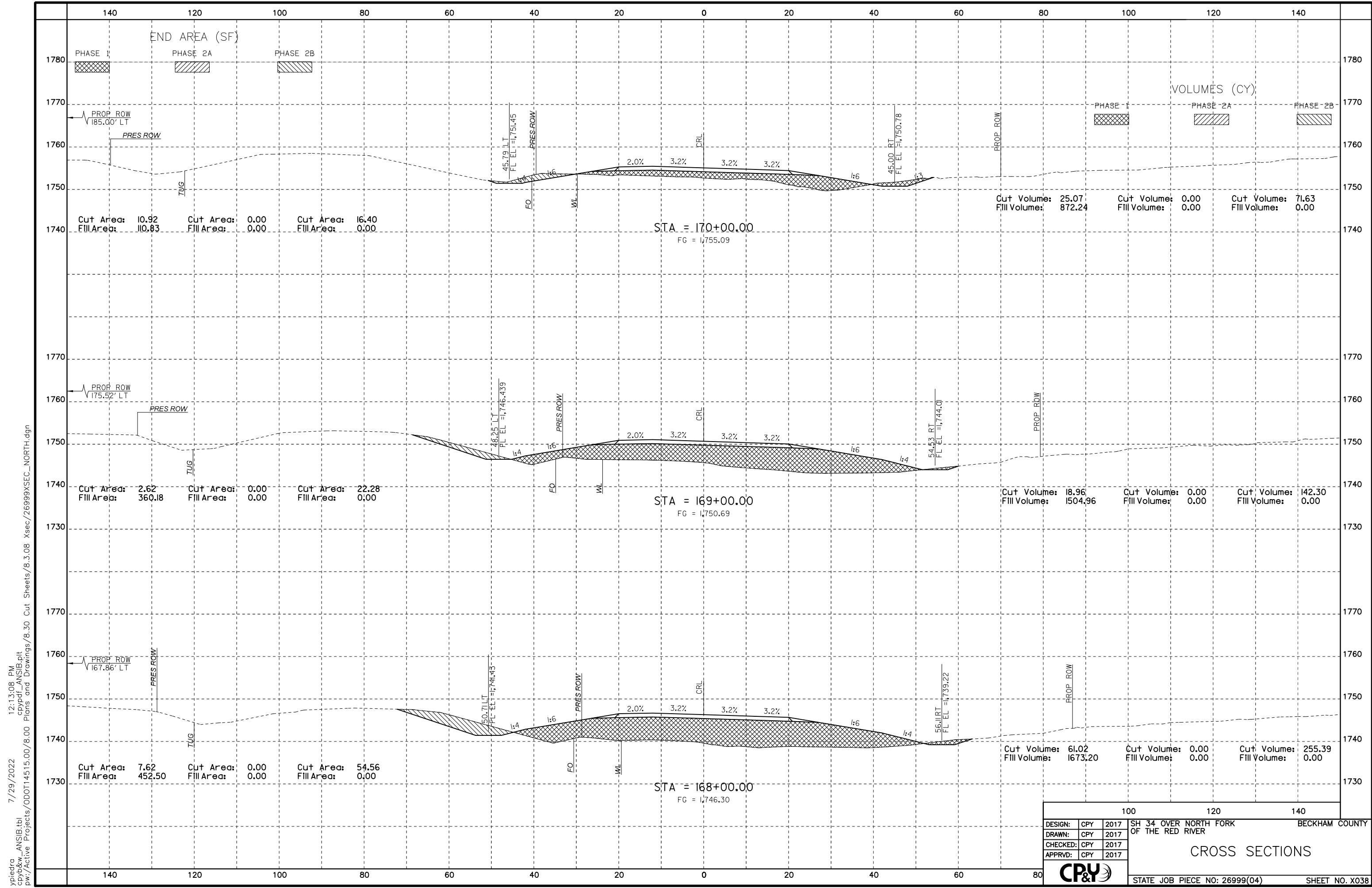


DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER  BECKHAM COUNTY
DRAWN:	CPY	2017	
CHECKED:	CPY	2017	
APPRVD:	CPY	2017	

CROSS SECTIONS

STATE JOB PIECE NO: 26999(04) SHEET NO. X037



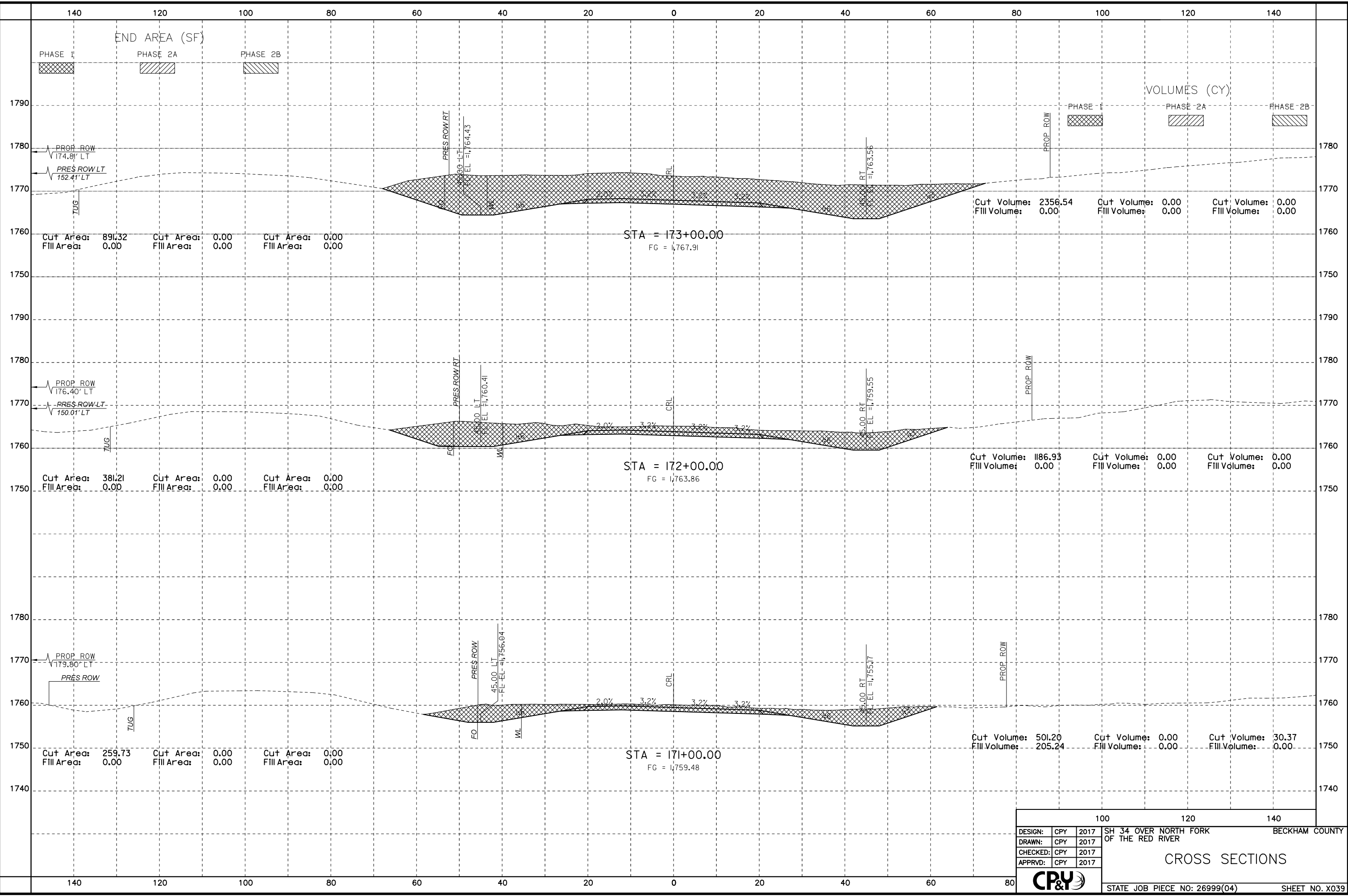


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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER <b>CROSS SECTIONS</b> STATE JOB PIECE NO: 26999(04)	BECKHAM COUNTY SHEET NO. X038
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		

**CP&Y**

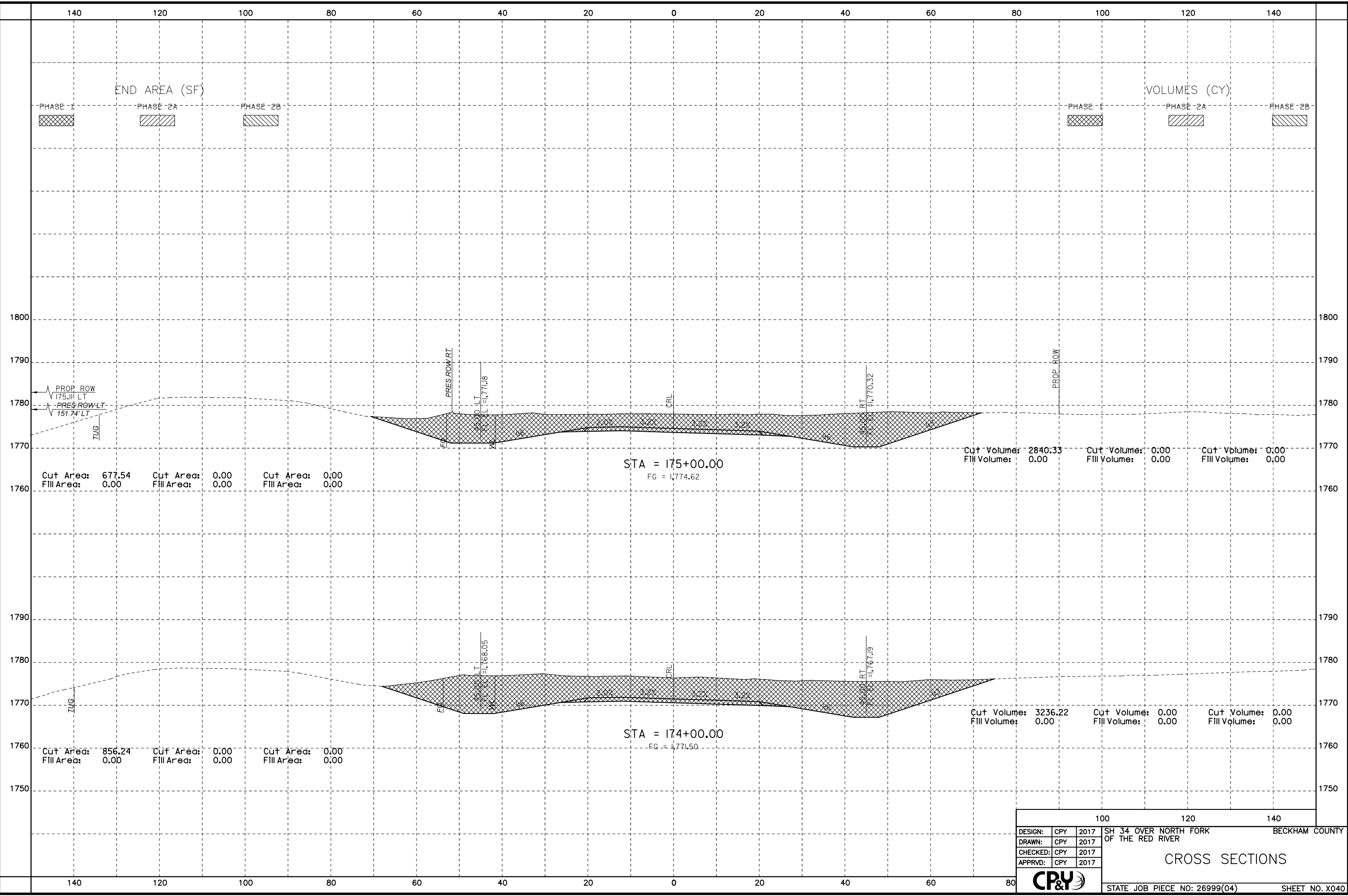
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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		
<b>CROSS SECTIONS</b>			STATE JOB PIECE NO: 26999(04)	SHEET NO. X039



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END AREA (SF)

PHASE 1 PHASE 2A PHASE 2B

VOLUMES (CY)

PHASE 1 PHASE 2A PHASE 2B

PROP ROW  
175.111 LT  
PRES ROW LT  
151.74' LT

PRES ROW RT

PROJ LT  
= 1,771.18

CRL

PROJ RT  
= 1,770.32

PROP ROW

Cut Area: 677.54 Cut Area: 0.00 Cut Area: 0.00  
Fill Area: 0.00 Fill Area: 0.00 Fill Area: 0.00

STA = 175+00.00  
FG = 1,774.62

Cut Volume: 2840.33 Cut Volume: 0.00 Cut Volume: 0.00  
Fill Volume: 0.00 Fill Volume: 0.00 Fill Volume: 0.00

PROP ROW  
177.000 LT  
PRES ROW LT  
151.74' LT

PRES ROW RT

PROJ LT  
= 1,768.05

CRL

PROJ RT  
= 1,767.19

PROP ROW

Cut Area: 856.24 Cut Area: 0.00 Cut Area: 0.00  
Fill Area: 0.00 Fill Area: 0.00 Fill Area: 0.00

STA = 174+00.00  
EG = 1,771.50

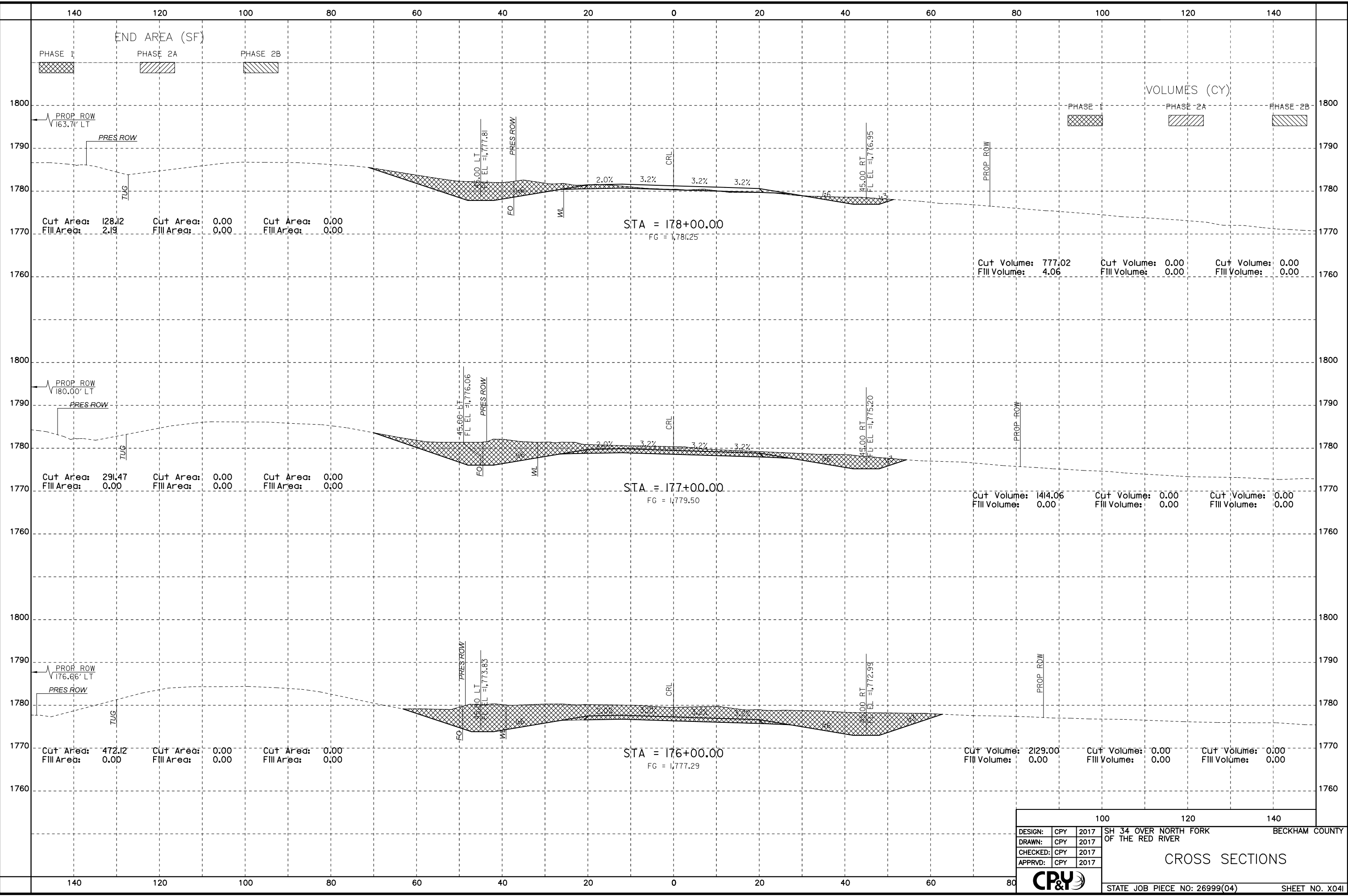
Cut Volume: 3236.22 Cut Volume: 0.00 Cut Volume: 0.00  
Fill Volume: 0.00 Fill Volume: 0.00 Fill Volume: 0.00

DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER BECKHAM COUNTY
DRAWN:	CPY	2017	
CHECKED:	CPY	2017	
APPRVD:	CPY	2017	
CROSS SECTIONS			
STATE JOB PIECE NO: 26999(04)			SHEET NO. X040





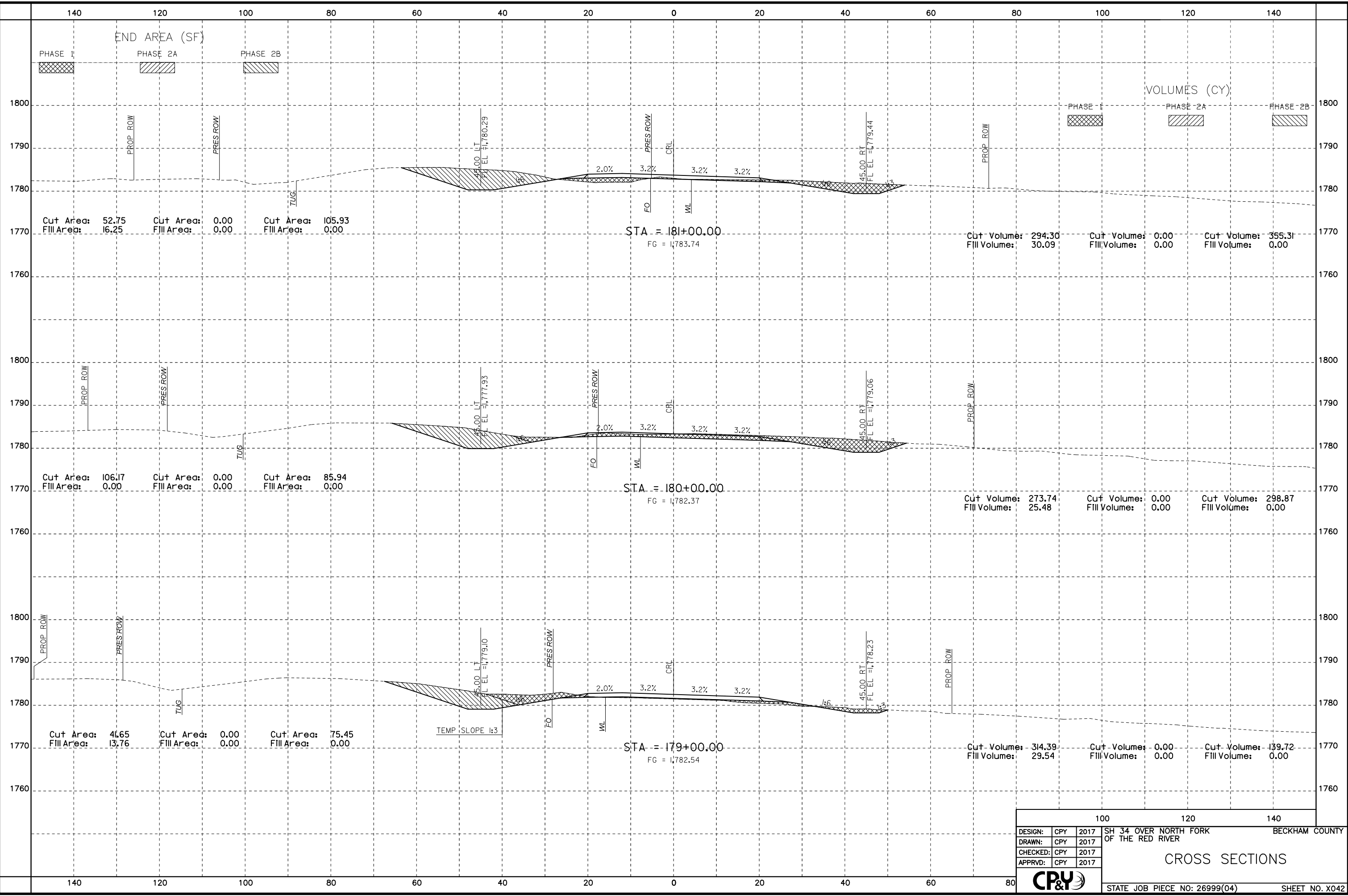
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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER BECKHAM COUNTY <b>CROSS SECTIONS</b> STATE JOB PIECE NO: 26999(04) SHEET NO. X04I
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CHECKED:	CPY	2017	
APPRVD:	CPY	2017	



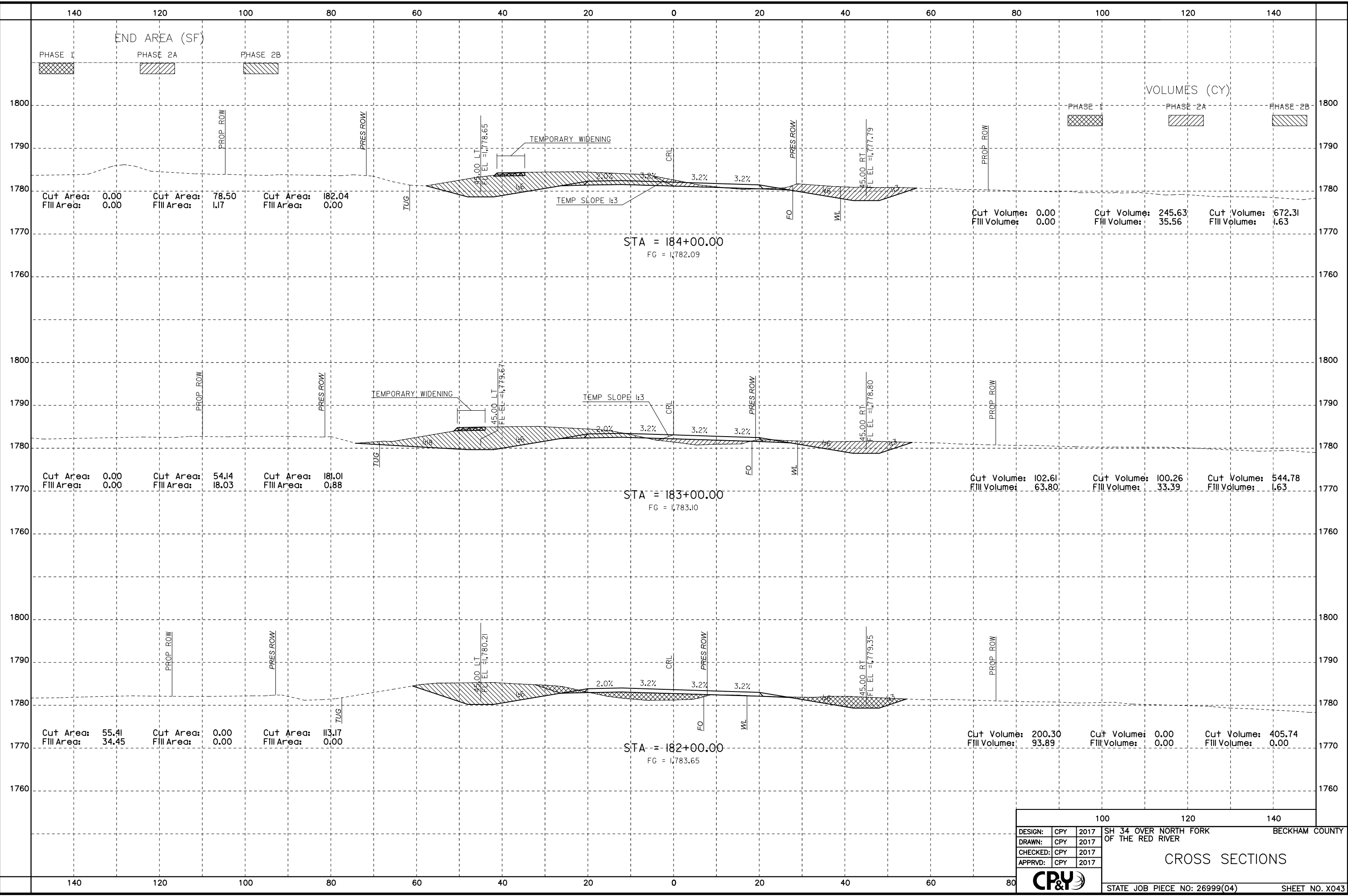
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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER <b>CROSS SECTIONS</b> STATE JOB PIECE NO: 26999(04)	BECKHAM COUNTY SHEET NO. X042
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		



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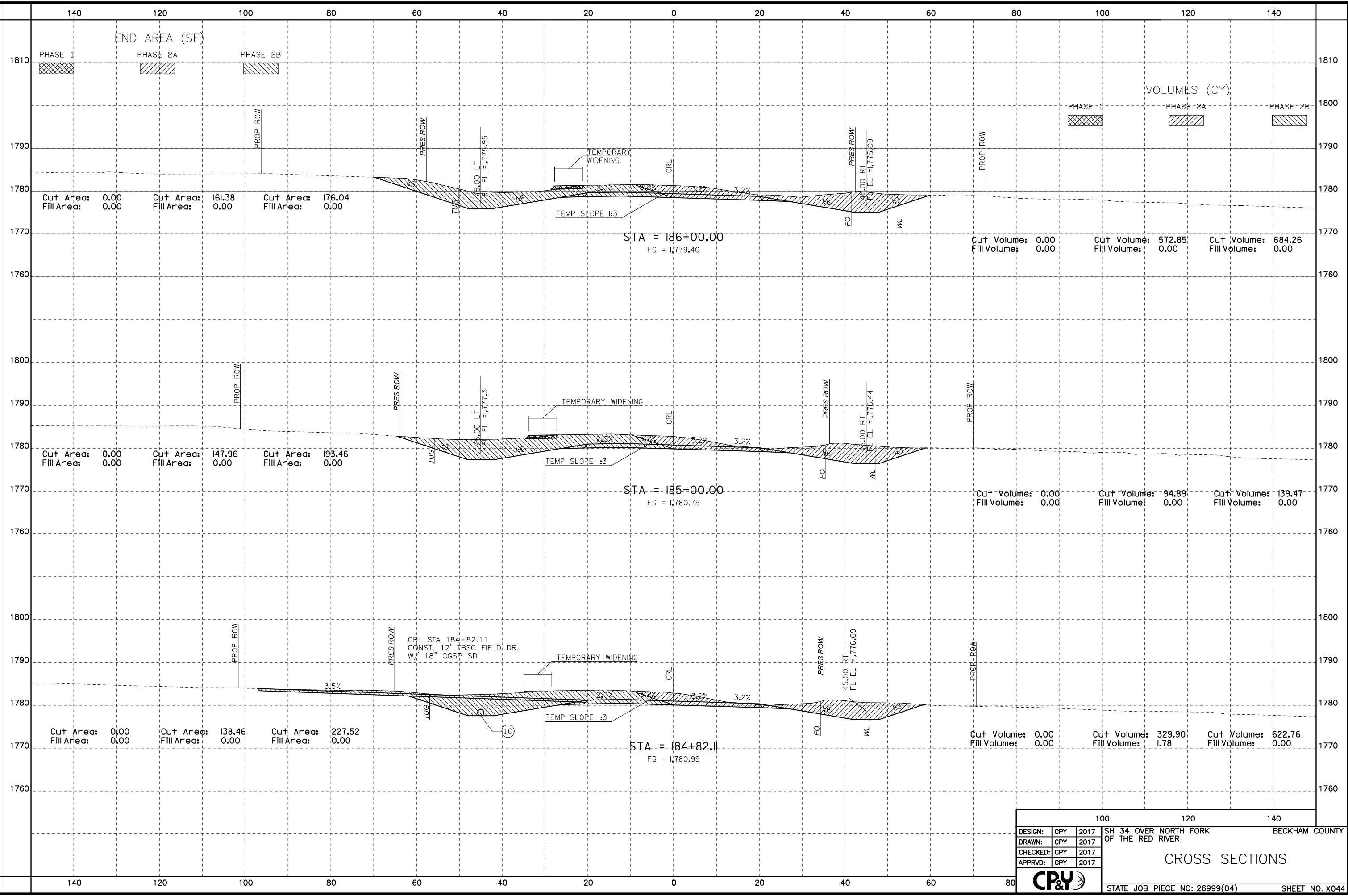


DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		

**CROSS SECTIONS**

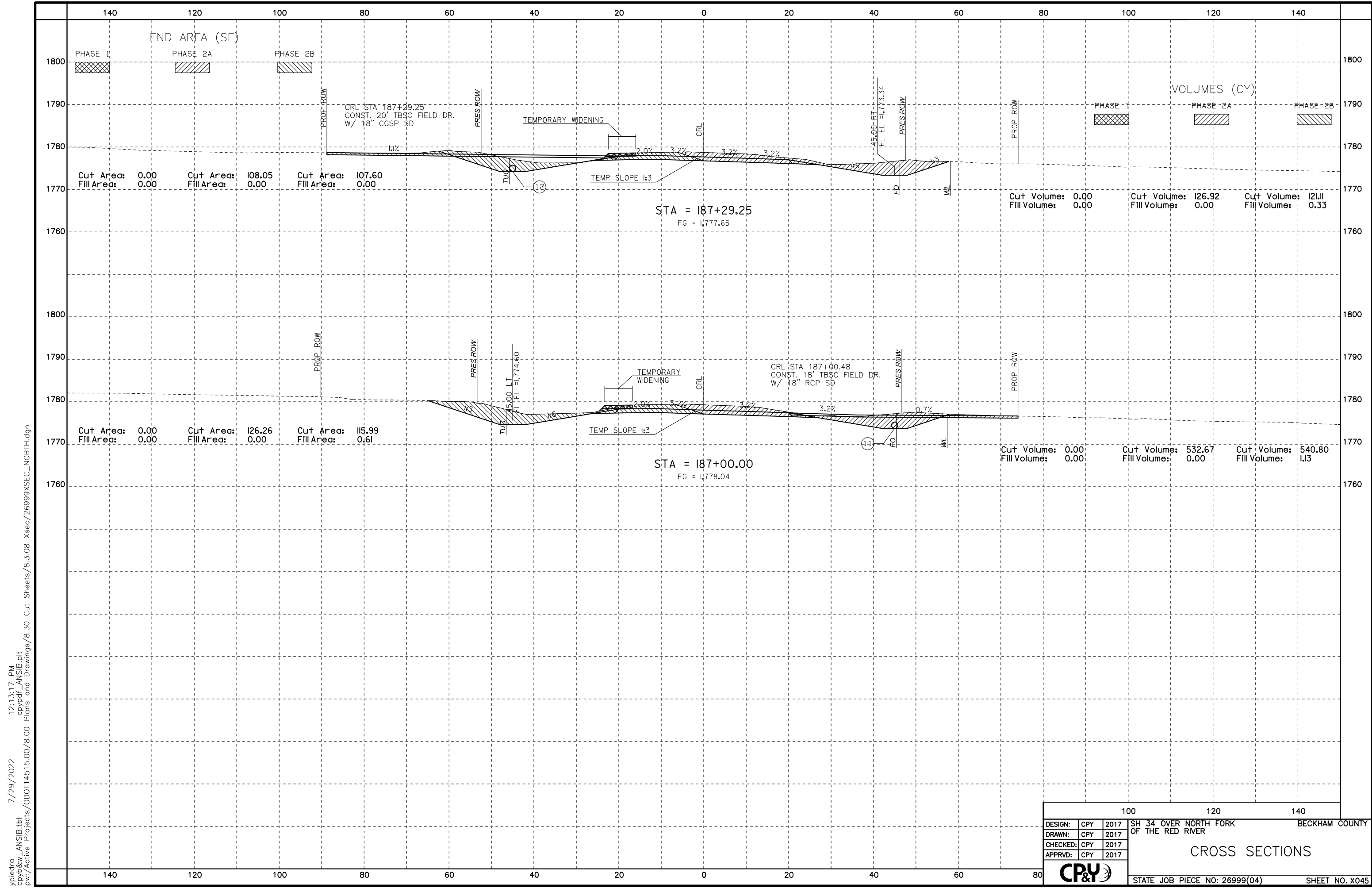
STATE JOB PIECE NO: 26999(04) SHEET NO. X043

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DESIGN:	CPY	2017	SH 34 OVER NORTH FORK OF THE RED RIVER  <b>CROSS SECTIONS</b>  STATE JOB PIECE NO: 26999(04)	BECKHAM COUNTY  SHEET NO. X044
DRAWN:	CPY	2017		
CHECKED:	CPY	2017		
APPRVD:	CPY	2017		



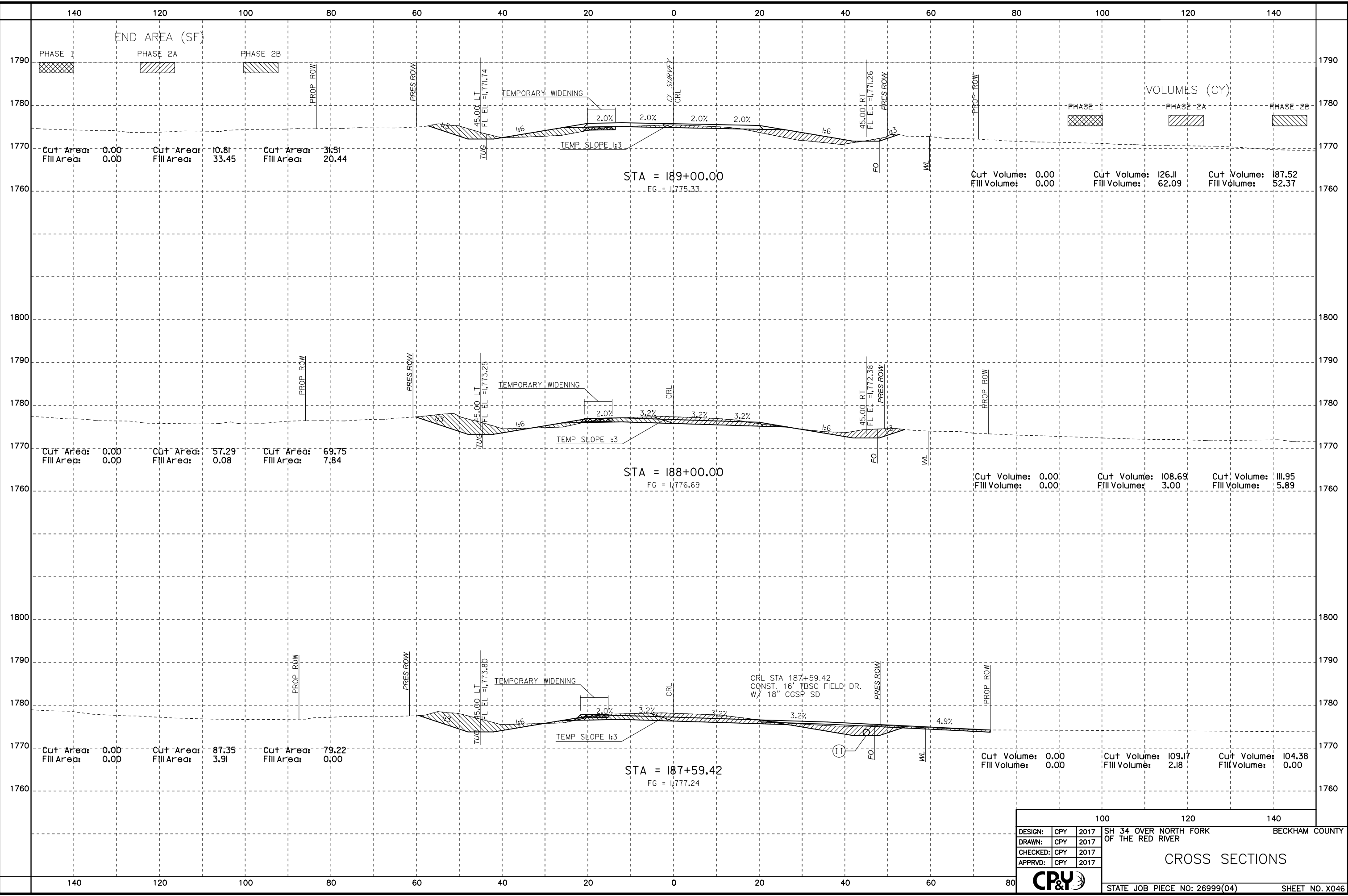


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DESIGN: CPY 2017	SH 34 OVER NORTH FORK	BECKHAM COUNTY
DRAWN: CPY 2017	OF THE RED RIVER	
CHECKED: CPY 2017	<b>CROSS SECTIONS</b> STATE JOB PIECE NO: 26999(04) SHEET NO. X045	
APPRVD: CPY 2017		

**CP&Y**

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END AREA (SF)				VOLUMES (CY)			
PHASE 1	PHASE 2A	PHASE 2B		PHASE 1	PHASE 2A	PHASE 2B	
Cut Area: 0.00	Cut Area: 10.81	Cut Area: 31.51		Cut Volume: 0.00	Cut Volume: 126.11	Cut Volume: 187.52	
Fill Area: 0.00	Fill Area: 33.45	Fill Area: 20.44		Fill Volume: 0.00	Fill Volume: 62.09	Fill Volume: 52.37	

Cut Area: 0.00	Cut Area: 57.29	Cut Area: 69.75		Cut Volume: 0.00	Cut Volume: 108.69	Cut Volume: 111.95	
Fill Area: 0.00	Fill Area: 0.08	Fill Area: 7.84		Fill Volume: 0.00	Fill Volume: 3.00	Fill Volume: 5.89	

Cut Area: 0.00	Cut Area: 87.35	Cut Area: 79.22		Cut Volume: 0.00	Cut Volume: 109.17	Cut Volume: 104.38	
Fill Area: 0.00	Fill Area: 3.91	Fill Area: 0.00		Fill Volume: 0.00	Fill Volume: 2.18	Fill Volume: 0.00	

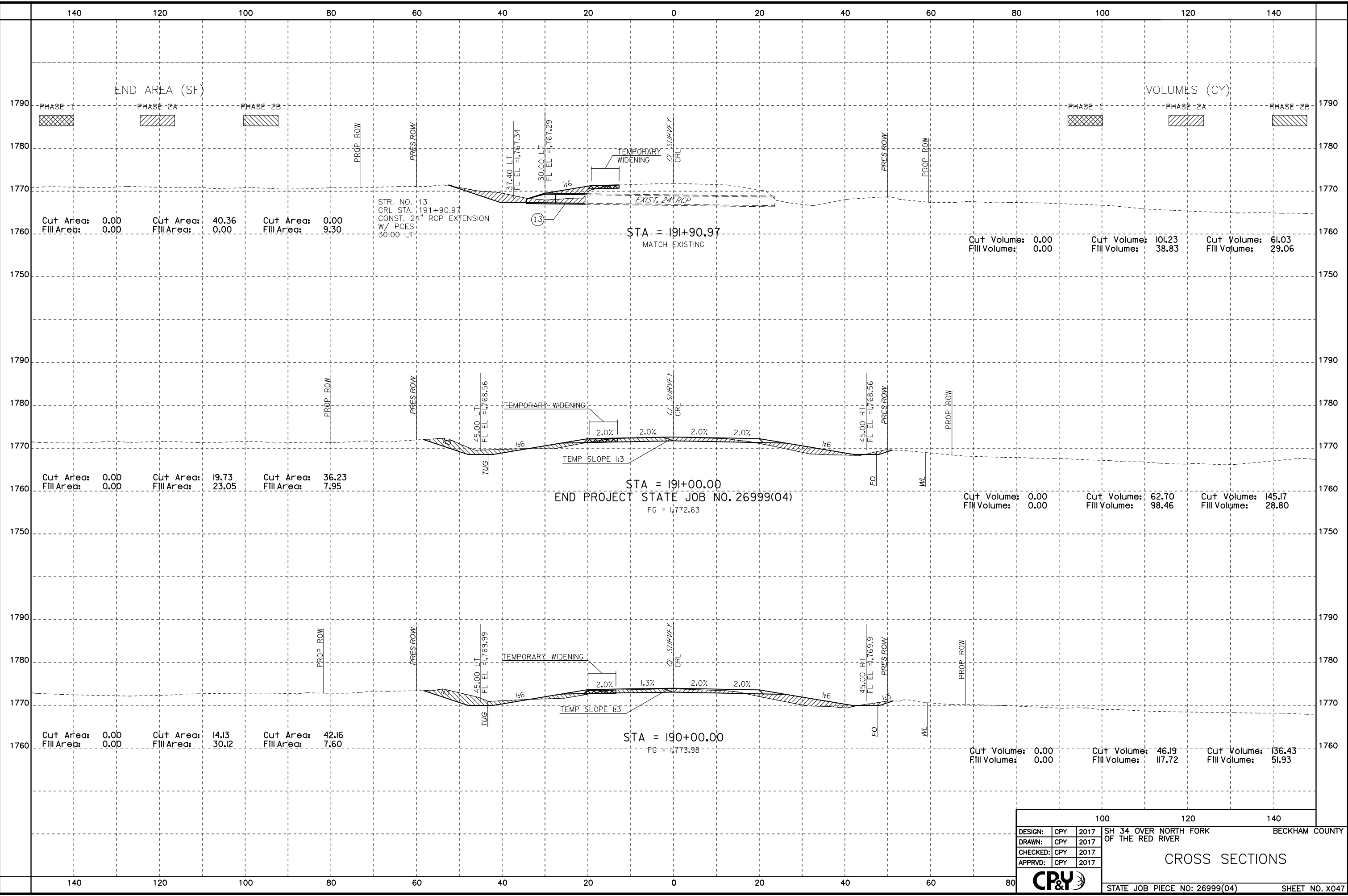
DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017		
CHECKED: CPY 2017		
APPRVD: CPY 2017		

**CROSS SECTIONS**

STATE JOB PIECE NO: 26999(04) SHEET NO. X046



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END AREA (SF)

PHASE 1	PHASE 2A	PHASE 2B
Cut Area: 0.00	Cut Area: 40.36	Cut Area: 0.00
Fill Area: 0.00	Fill Area: 0.00	Fill Area: 9.30

PHASE 1	PHASE 2A	PHASE 2B
Cut Area: 0.00	Cut Area: 19.73	Cut Area: 36.23
Fill Area: 0.00	Fill Area: 23.05	Fill Area: 7.95

PHASE 1	PHASE 2A	PHASE 2B
Cut Area: 0.00	Cut Area: 14.13	Cut Area: 42.16
Fill Area: 0.00	Fill Area: 30.12	Fill Area: 7.60

VOLUMES (CY)

PHASE 1	PHASE 2A	PHASE 2B
Cut Volume: 0.00	Cut Volume: 101.23	Cut Volume: 61.03
Fill Volume: 0.00	Fill Volume: 38.83	Fill Volume: 29.06

PHASE 1	PHASE 2A	PHASE 2B
Cut Volume: 0.00	Cut Volume: 62.70	Cut Volume: 145.17
Fill Volume: 0.00	Fill Volume: 98.46	Fill Volume: 28.80

PHASE 1	PHASE 2A	PHASE 2B
Cut Volume: 0.00	Cut Volume: 46.19	Cut Volume: 136.43
Fill Volume: 0.00	Fill Volume: 117.72	Fill Volume: 51.93

DESIGN: CPY 2017	SH 34 OVER NORTH FORK OF THE RED RIVER	BECKHAM COUNTY
DRAWN: CPY 2017	CROSS SECTIONS	
CHECKED: CPY 2017		
APPRVD: CPY 2017		
STATE JOB PIECE NO: 26999(04)		SHEET NO. X047

