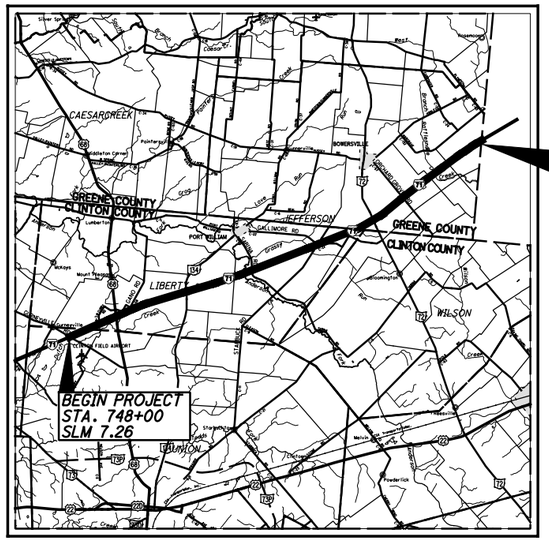


LOCATION MAP

LATITUDE: 39 °32'30" LONGITUDE: 83 °45'55"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE & DIVIDED HIGHWAY

UNDIVIDED STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATION

	CLINTON	GREENE
CURRENT ADT (2012)	43,850	43,090
DESIGN YEAR ADT (2024)	54,260	52,980
DESIGN HOURLY VOLUME (2024)	5430	5300
DIRECTIONAL DISTRIBUTION	0.52	0.52
TRUCKS (24 HOUR B&C)	37%	36%
DESIGN SPEED	70 MPH	70 MPH
LEGAL SPEED	65 MPH	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION:		
RURAL INTERSTATE		
NHS PROJECT	YES	YES

(SEE SCHEMATIC PLAN FOR SIDE ROAD DESIGN DESIGNATIONS)

DESIGN EXCEPTIONS (I-71)

NONE REQUIRED

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:

Palmer PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242
■ WINCHESTER ■ NASHVILLE ■ LOUISVILLE ■
■ CINCINNATI ■ HURRICANE ■

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

CLI/GRE-71-7.26/0.00

CLINTON COUNTY
GREEN COUNTY

UNION TOWNSHIP
LIBERTY TOWNSHIP
JEFFERSON TOWNSHIP

INDEX OF SHEETS:

ENGINEERS SEAL:
SHEETS 1-106
STATE OF OHIO DENNIS C JENNINGS E-50444 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 2/11/10

ENGINEERS SEAL: (STRUCTURES OVER 20')
SHEETS 104-123,140-148 & 167-218
STATE OF OHIO BRONSON J. FUNKE E-61820 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 2/11/10

ENGINEERS SEAL: (STRUCTURES OVER 20')
SHEETS 124-139 & 149-166
STATE OF OHIO JAMES EDWARD PREVOST E-64055 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 2/5/10

STANDARD CONSTRUCTION DRAWINGS

BP-1.1	7/28/00	F-3.1	7/28/00	AS-1-81	7/19/02	MT-98.11	7/17/09	TC-41.20	1/19/01
BP-3.1	10/19/07	F-3.4	7/28/00	BR-1	7/19/02	MT-98.20	7/17/09	TC-42.20	7/16/04
BP-5.1	7/28/00			CPA-1-08	7/18/08	MT-98.22	7/17/09	TC-52.10	1/19/07
BP-9.1	4/15/05	GR-1.1	7/16/04	CPP-2-94	7/19/02	MT-98.28	7/17/09	TC-52.20	1/19/07
		GR-2.1	1/16/04	CS-1-03	4/18/03	MT-99.20	1/16/09	TC-65.10	1/21/05
CB-3.1	7/15/05	GR-3.1	10/16/09	EXJ-4-87	7/19/02	MT-101.60	4/17/09	TC-65.11	1/21/05
		GR-5.1	4/18/03	PCB-91	7/19/02	MT-101.70	1/16/09	TC-72.20	10/16/09
DM-1.1	4/21/06	GR-5.2	1/16/04	SBR-1-99	7/19/02	MT-101.90	1/16/09	TC-73.10	1/19/01
DM-1.2	10/21/05	GR-5.3	1/16/04	VPF-1-90	7/19/02	MT-102.10	7/17/09	TC-82.10	10/16/09
DM-1.4	4/21/06	GR-6.1	4/18/03			MT-105.10	1/16/09		
DM-4.1	7/19/02			MT-35.10	4/20/01				
DM-4.3	4/17/09	HW-2.1	4/21/06	MT-95.30	7/17/09				
DM-4.4	4/17/09	HW-2.2	4/21/06	MT-95.50	4/17/09				
DM-5.1	7/19/02			MT-97.10	4/17/09				
		RM-4.2	10/19/07	MT-97.12	4/17/09				
F-2.1	7/28/00			MT-98.10	7/17/09				

SUPPLEMENTAL SPECIFICATIONS	
800-2010	7/16/10
802	1/15/10
832	5/05/09
848	10/16/09
878	4/18/08
898	7/17/09

SPECIAL PROVISIONS

NWP-14	6/5/09

PROJECT DESCRIPTION

MINOR PAVEMENT REHABILITATION OF 12.51 MILES OF I-71. REPLACEMENT AND WIDENING OF MAINLINE STRUCTURES CLI-71-1212 OVER ANDERSON FORK AND CLI-71-1399 OVER GRASSY RUN. MINOR REHABILITATION OF THE FOLLOWING STRUCTURES; CLI-71-0725, CLI-71-1187, CLI-71-1237, GRE-71-0150, AND GRE-71-0299. DECK REPLACEMENT, APPROACH ROADWAY AND VERTICAL CLEARANCE IMPROVEMENTS FOR STARBUCK ROAD (CLI-71-1421) AND SR 72 (GRE-72-0029). NO WORK ON CLI-134-2012 (SR 134 over IR 71)

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	18.0 ACRES
ESTIMATED CONTRACTOR EARTH DISTRUBED AREA:	2.6 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	20.6 ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2010 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

FOR I-71:

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

FOR OVERHEAD BRIDGES:

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEETS 22-25.

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

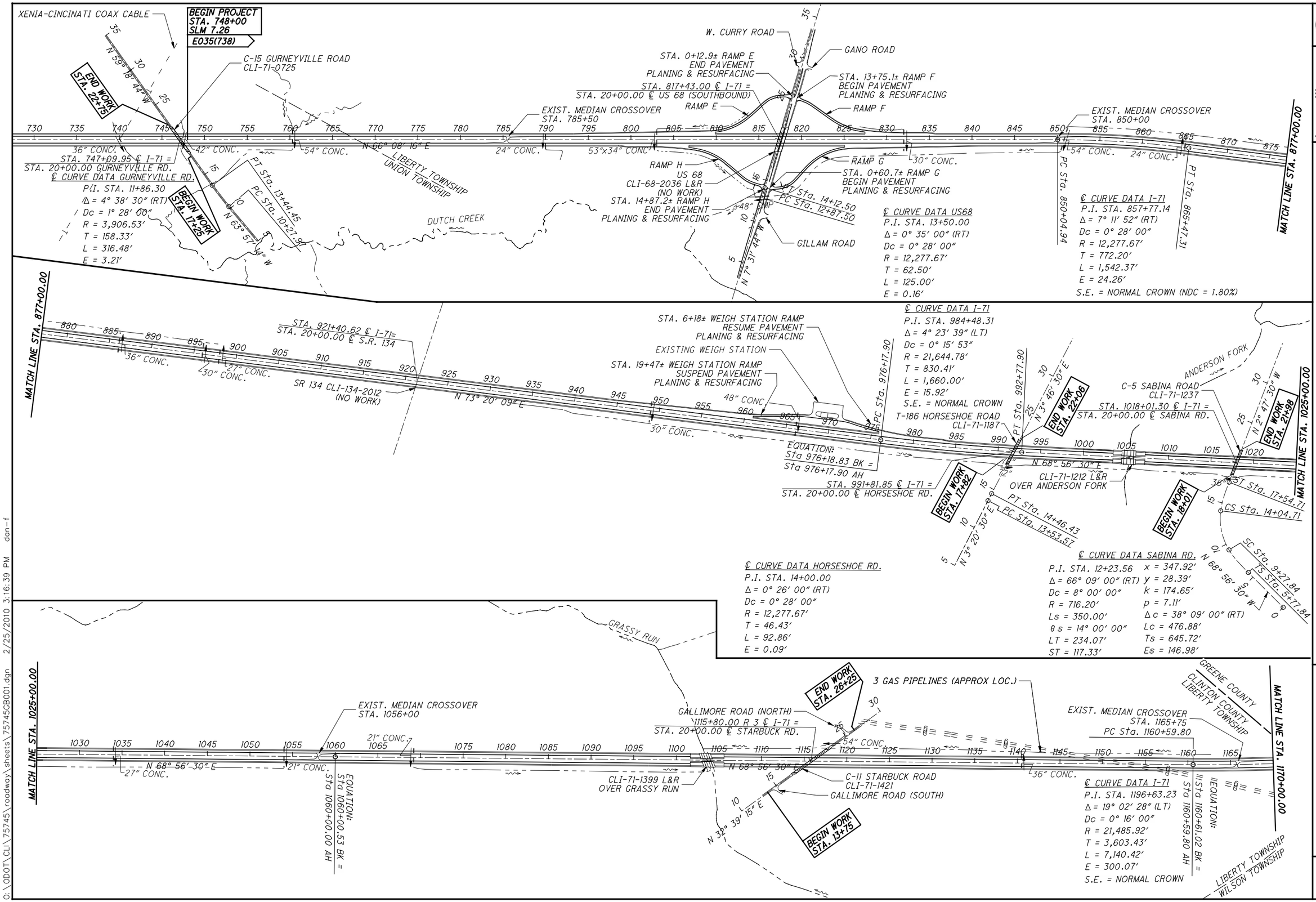
APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E035(738)

PID NO. 75745

CONSTRUCTION PROJECT NO. CLI/GRE-71-7.26/0.00

RAILROAD INVOLVEMENT NONE



SCHEMATIC PLAN

CLI/GRE-
71-7.26/0.00

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218

PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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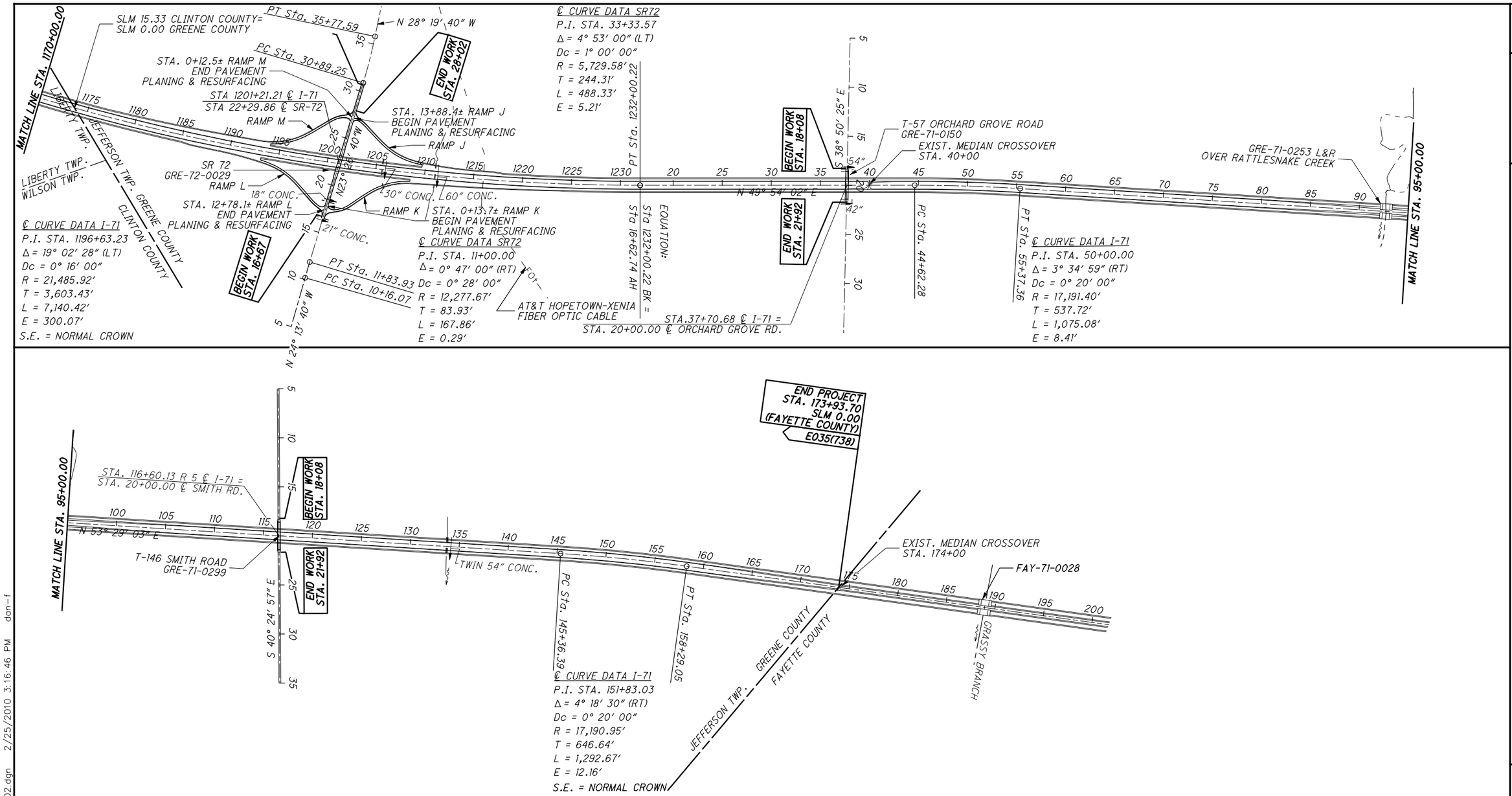

SIDEROAD DESIGN CRITERIA

	GURNEYVILLE RD	SR 134	HORSESHOE RD	SABINA RD	STARBUCK RD	SR 72	ORCHARD GROVE RD	SMITH RD
CURRENT YEAR ADT (2012)	750	950	150	450	650	3030	250	100
DESIGN YEAR ADT (2022)	750	1020	150	450	650	3810	250	100
DESIGN HOURLY VOLUME (2022)	90	133	20	50	72	381	43	14
DIRECTIONAL DISTRIBUTION	0.53	0.7	0.53	0.6	0.7	0.6	0.53	0.55
TRUCKS (24 HOUR B&C)	5%	3%	7%	8%	2%	8%	11%	8%
DESIGN SPEED	55 MPH	55 MPH	55 MPH	55 MPH	55 MPH	55 MPH	55 MPH	55 MPH
LEGAL SPEED	55 MPH	55 MPH	55 MPH	55 MPH	55 MPH	55 MPH	55 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION	RURAL LOCAL	RURAL MAJOR COLLECTOR	RURAL LOCAL	RURAL LOCAL	RURAL LOCAL	RURAL MAJOR COLLECTOR	RURAL LOCAL	RURAL LOCAL
NHS PROJECT	NO	NO	NO	NO	NO	NO	NO	NO
DESIGN EXCEPTIONS	NONE	NONE	NONE	NONE	LANE WIDTH / SSD	NONE	NONE	NONE
SHEET					86-88			
DATE APPROVED					06/03/2009			

SCHEMATIC PLAN

CLI/GRE-
71-7.26/0.00

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CINCINNATI, OH 45242

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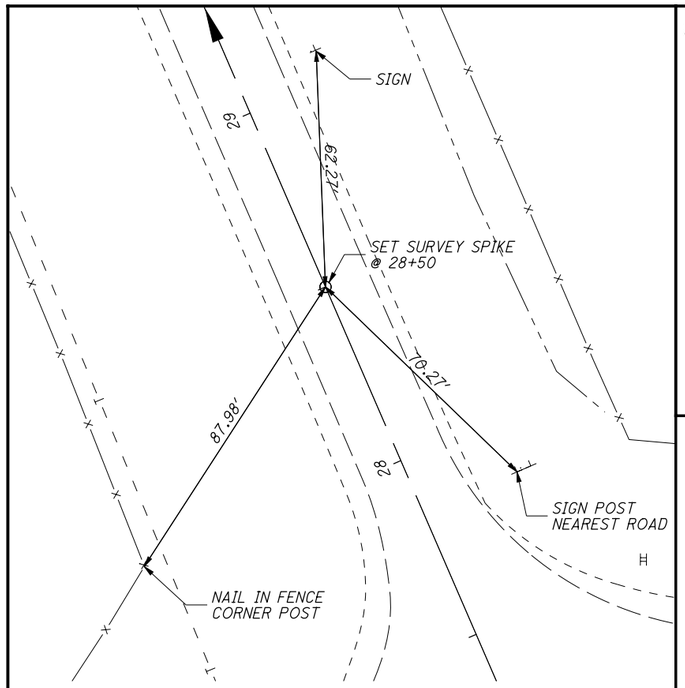
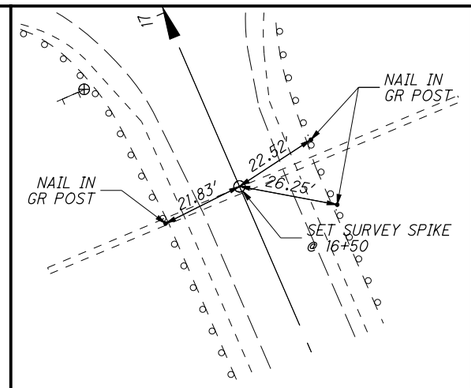
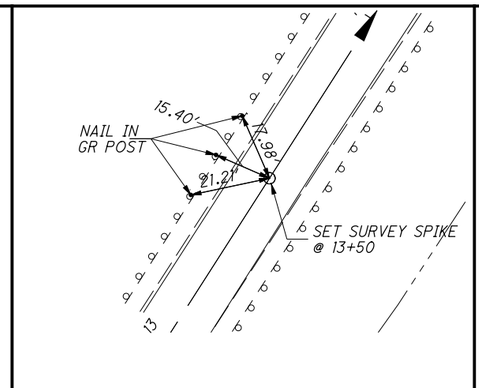


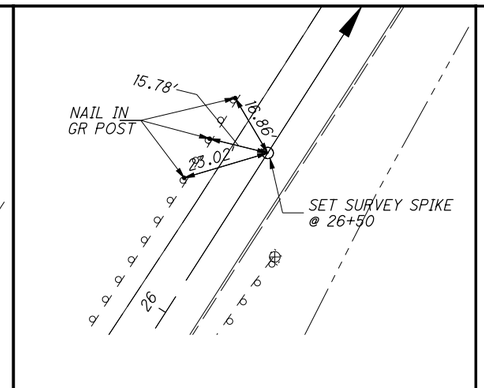
SR 72 - POT STA. 28+50



SR 72 - POT STA. 16+50



STARBUCK - POT STA. 13+50



STARBUCK - POT STA. 26+50

℄ CONTROL I-71			
DESCRIPTION	STATION	OFFSET	MONUMENT
CONC. MONUMENT	809+99.56	0.01 LT	POT 810+00
CONC. MONUMENT	815+00.00	0.05 RT	POT 815+00
CONC. MONUMENT	819+99.96	0.08 LT	POT 820+00
CONC. MONUMENT	825+00.16	0.04 RT	POT 825+00
CONC. MONUMENT	994+99.67	0.04 RT	POT 995+00
CONC. MONUMENT	999+99.88	0.01 LT	POT 1000+00
CONC. MONUMENT	1010+00.00	0.02 RT	POT 1010+00
CONC. MONUMENT	1015+00.13	0.01 RT	POT 1015+00
CONC. MONUMENT	1094+99.93	0.30 LT	POT 1095+00
CONC. MONUMENT	1100+00.08	0.13 LT	POT 1100+00
CONC. MONUMENT	1110+00.04	0.09 RT	POT 1110+00
CONC. MONUMENT	1114+99.98	0.04 LT	POT 1115+00
CONC. MONUMENT	1119+99.97	0.01 RT	POT 1120+00
CONC. MONUMENT	1200+00.51	0.03 RT	

I-71 BENCHMARKS				
NO#	DESCRIPTION	STATION	OFFSET	ELEV
BM1	CHISELED SQUARE IN CATCH BASIN	1000+97.34	20.94 RT	1026.12
BM2	BOLT IN OLD GR ANCHOR	1008+73.66	1.76 RT	1030.41
BM3	BOLT IN GR ANCHOR	1100+61.22	2.70 LT.	1038.81
BM4	BENT BOLT IN OLD GR ANCHOR	1106+66.15	0.65 RT.	1039.90

STARBUCK BENCHMARKS				
NO#	DESCRIPTION	STATION	OFFSET	ELEV
BM7	CHISELED SQUARE IN HEADWALL	6+99.72	14.73 RT	1035.54
BM8	BOLT IN GR ANCHOR	26+27.90	16.38 RT	1047.11

SR72 BENCHMARKS				
NO#	DESCRIPTION	STATION	OFFSET	ELEV
BM9	CHISELED SQUARE IN SIGN FOUNDATION	16+89.84	27.42 LT	1096.48
BM10	OLD POST IN SIGN FOUNDATION	26+98.57	56.79 RT	1097.69

HORIZONTAL SCALE IN FEET
0 10 20 40

CENTERLINE WITNESSES AND BENCHMARKS

CLI/GRE-
71-7.26/0.00

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CINCINNATI, OH 45242

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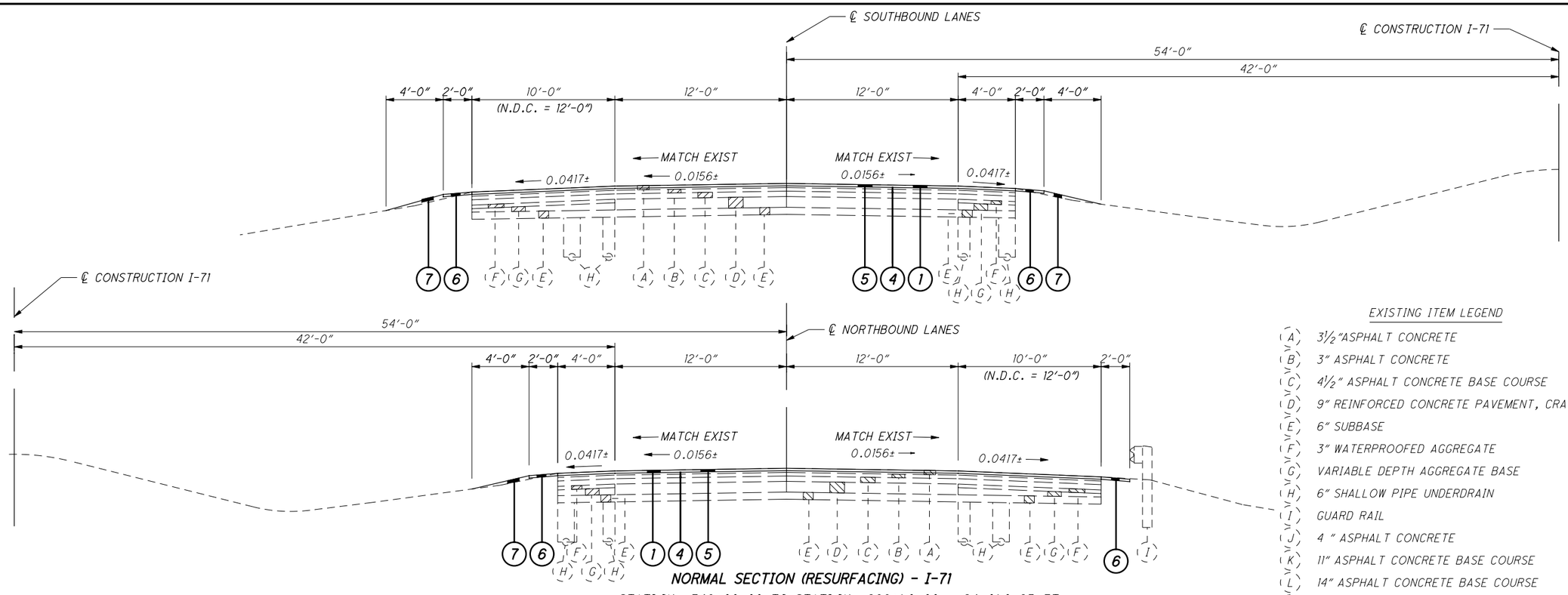

NORMAL SECTION (RESURFACING) - I-71

STATION 748+00.00 TO STATION 988+10.00 = 24,010.93 FT.
(ADD 0.93 FT. FOR EQUATION: STA 976+18.83 BK. = STA 976+17.90 AH.)

STATION 1022+65.00 TO STATION 1086+25.00 = 6,360.53 FT.
(ADD 0.53 FT. FOR EQUATION: STA 1060+00.53 BK. = STA 1060+00.00 AH.)

STATION 1121+00.00 TO STATION 161+30.00 = 25,445.29 FT.
(ADD 1.22 FT. FOR EQUATION: STA 1160+61.02 BK. = STA 1160+59.80 AH.)
(EQUATION: STA 1232+00.22 BK. = STA 16+62.74 AH.)
(STA. 92+13.25 TO STA 93+36.66 DEDUCT 123.41 L.F. FOR BRIDGE GRE-71-0253 L&R)

FOR TYPICAL SECTIONS AT MAINLINE BRIDGES, SEE SHEET 7
BRIDGE CLI-71-1212 L&R AND APPROACHES - STATION 1003+50.00 TO STATION 1007+25.00
BRIDGE CLI-71-1399 L&R AND APPROACHES - STATION 1101+65.00 TO STATION 1105+60.00

FOR TYPICAL SECTIONS OF TEMPORARY PAVEMENT AT MAINLINE BRIDGES SEE SHEET 8
BRIDGE CLI-71-1212 L&R - STATION 984+08.00 TO STATION 1003+50.00 AND STATION 1007+25.00 TO STATION 1026+70.00
BRIDGE CLI-71-1399 L&R -STATION 1082+20.00 TO STATION 1101+65.00 AND STATION 1105+60.00 TO STATION 1125+05.00

FOR TYPICAL SECTIONS FOR STATION 91+75.00 TO STATION 93+75.00 SEE SHEET 6
FOR TYPICAL SECTIONS FOR THE FOLLOWING STATIONS SEE SHEET 6:

SOUTHBOUND:	NORTHBOUND:
STATION 81+25.00 TO STATION 91+75.00	STATION 79+00.00 TO STATION 91+75.00
STATION 93+75.00 TO STATION 106+50.00	STATION 93+75.00 TO STATION 104+25.00

EXISTING ITEM LEGEND

- (A) 3½"ASPHALT CONCRETE
- (B) 3" ASPHALT CONCRETE
- (C) 4½" ASPHALT CONCRETE BASE COURSE
- (D) 9" REINFORCED CONCRETE PAVEMENT, CRACKED AND SEATED
- (E) 6" SUBBASE
- (F) 3" WATERPROOFED AGGREGATE
- (G) VARIABLE DEPTH AGGREGATE BASE
- (H) 6" SHALLOW PIPE UNDERDRAIN
- (I) GUARD RAIL
- (J) 4 " ASPHALT CONCRETE
- (K) 11" ASPHALT CONCRETE BASE COURSE
- (L) 14" ASPHALT CONCRETE BASE COURSE
- (M) 6" AGGREGATE BASE
- (N) 11 ½ " TEMPORARY PAVEMENT
- (O) 6" ASPHALT CONCRETE BASE COURSE
- (P) 16" REINFORCED CONCRETE PAVEMENT

PROPOSED ITEM LEGEND

1. ITEM 442 - 2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
2. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
3. ITEM 442 - 2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
4. ITEM 407 - TACK COAT
5. ITEM 254 - 2 " PAVEMENT PLANING, ASPHALT CONCRETE
6. ITEM 617 - 2 " COMPACTED AGGREGATE, TYPE A
7. ITEM 203 - LINEAR GRADING
8. ITEM 448 - 1 ¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
9. ITEM 448 - 1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
10. ITEM 302 - 14" ASPHALT CONCRETE BASE, PG64-22
11. ITEM 301 - ASPHALT CONCRETE BASE, PG64-22, THICKNESS NOTED
12. ITEM 605 - AGGREGATE DRAINS
13. ITEM 304 - 6" AGGREGATE BASE
14. ITEM 204 - SUBGRADE COMPACTION
15. ITEM 304 - 8" AGGREGATE BASE
16. ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=15")
17. ITEM 606 - GUARDRAIL TYPE 5
18. ITEM 659 - SEEDING AND MULCHING
19. ITEM 609 - CURB TYPE 4C
20. ITEM 605 - 6" BASE PIPE UNDERDRAIN
21. ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
22. ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
23. ITEM 448 - VARIES, 0" MIN. - 5" MAX. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
24. ITEM 254 - 3" PAVEMENT PLANING, ASPHALT CONCRETE
25. ITEM 609 - CURB, TYPE 4A (INCLUDED WITH APPROACH SLAB)

TYPICAL SECTIONS

CLI/GRE-71-7.26/0.00

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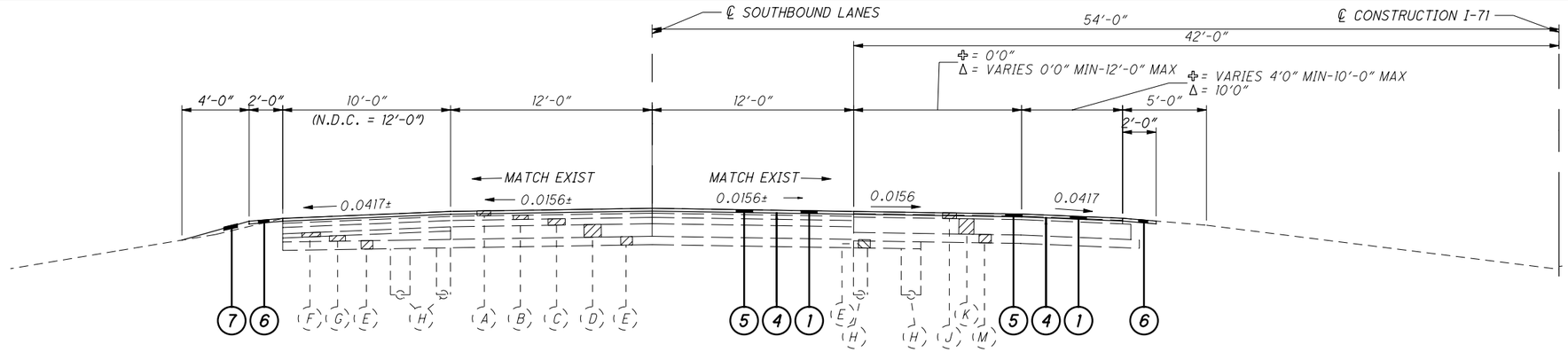
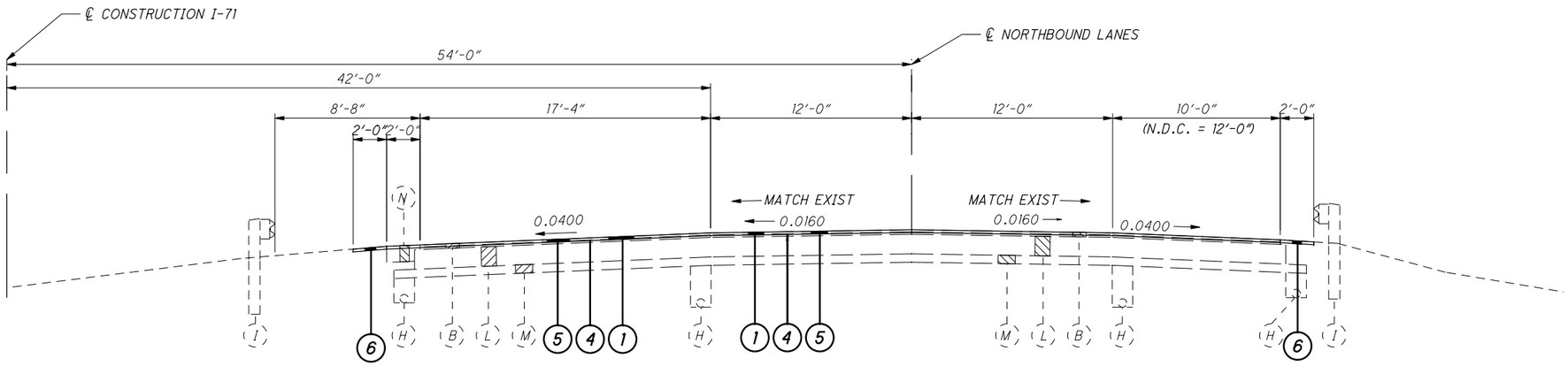
CINCINNATI, OH 45242



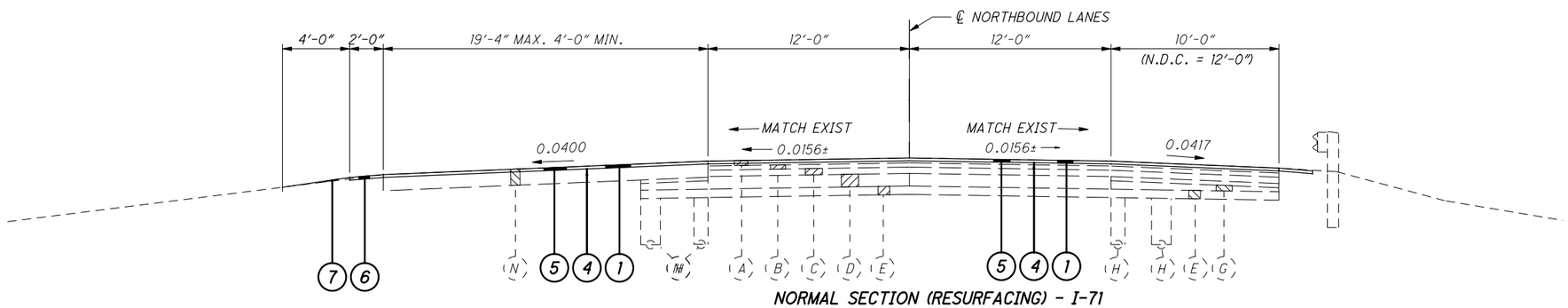
NORMAL SECTION (RESURFACING) - I-71
(SOUTHBOUND SHOWN - NORTHBOUND OPPOSITE HAND)

STATION 161+30.00 TO STATION 173+93.70 = 1263.70 FT.
✣ STATION 161+30.00 TO STATION 165+50.00
Δ STATION 165+50.00 TO STATION 173+93.70



NORMAL SECTION (RESURFACING) - I-71
(NORTHBOUND SHOWN - SOUTHBOUND OPPOSITE HAND)

STATION 91+75.00 TO STATION 93+75.00 = 76.59 FT.
(STA. 92+13.25 TO STA 93+36.66 DEDUCT 123.41 L.F. FOR BRIDGE GRE-71-0253 L&R)



NORMAL SECTION (RESURFACING) - I-71
(NORTHBOUND SHOWN - SOUTHBOUND OPPOSITE HAND)

SOUTHBOUND
STATION 81+25.00 TO STATION 91+75.00 = 1050.00 FT.
STATION 93+75.00 TO STATION 106+50.00 = 1275.00 FT.

NORTHBOUND
STATION 79+00.00 TO STATION 91+75.00 = 1275.00 FT.
STATION 93+75.00 TO STATION 104+25.00 = 1050.00 FT.

FOR LEGEND SEE SHEET 5

TYPICAL SECTIONS

CLI/GRE-
71-7.26/0.00

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ENGINEERING CINCINNATI, OH 45242

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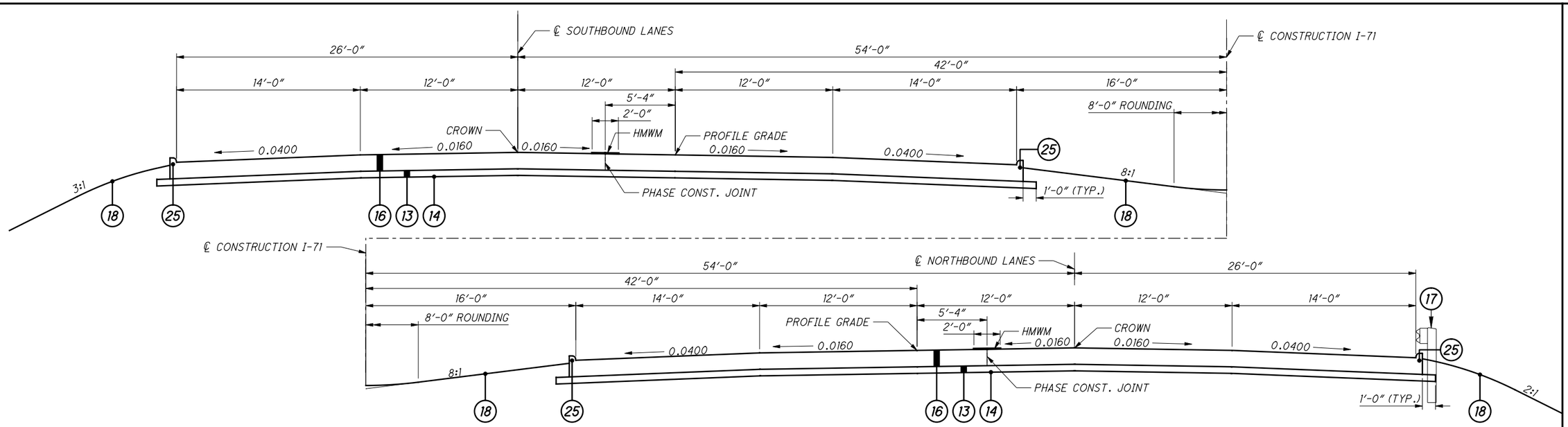


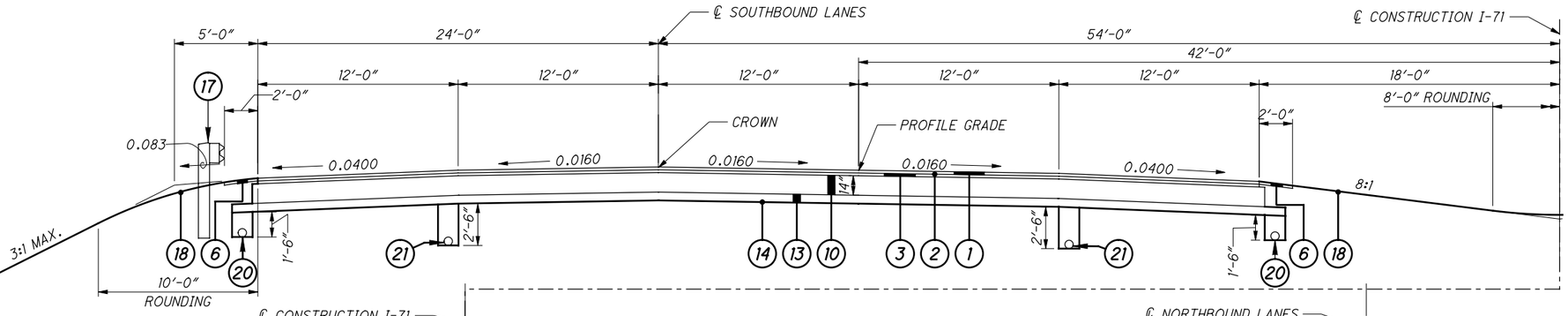
APPROACH SLAB SECTION - I-71

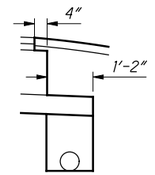
WORK WITH BRIDGE APPROACH DETAIL, SHEET 8

BRIDGE CLI-71-1212 L&R
STATION 1004+53.25 TO STATION 1004+78.25 = 25.00 FT.
STATION 1005+91.75 TO STATION 1006+16.75 = 25.00 FT.

BRIDGE CLI-71-1399 L
STATION 1102+80.27 TO STATION 1103+05.27 = 25.00 FT.
STATION 1103+86.48 TO STATION 1104+11.48 = 25.00 FT.

BRIDGE CLI-71-1399 R
STATION 1103+12.52 TO STATION 1103+37.52 = 25.00 FT.
STATION 1104+18.73 TO STATION 1104+43.73 = 25.00 FT.





EDGE COURSE DETAIL

FOR SIDESLOPE DETAIL, SEE SHEET 8

NORMAL SECTION - I-71

BRIDGE CLI-71-1212 L&R
STATION 1003+50.00 TO STATION 1004+53.25 = 103.25 FT.
STATION 1006+16.75 TO STATION 1007+25.00 = 108.25 FT.

BRIDGE CLI-71-1399 L&R
STATION 1101+65.00 TO STATION 1102+96.40 = 131.40 FT.
STATION 1104+27.61 TO STATION 1105+60.00 = 132.39 FT.

FOR SIDESLOPE DETAIL, SEE SHEET 8

FOR LEGEND SEE SHEET 5

TYPICAL SECTIONS

CLI/GRE-
71-7.26/0.00

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218

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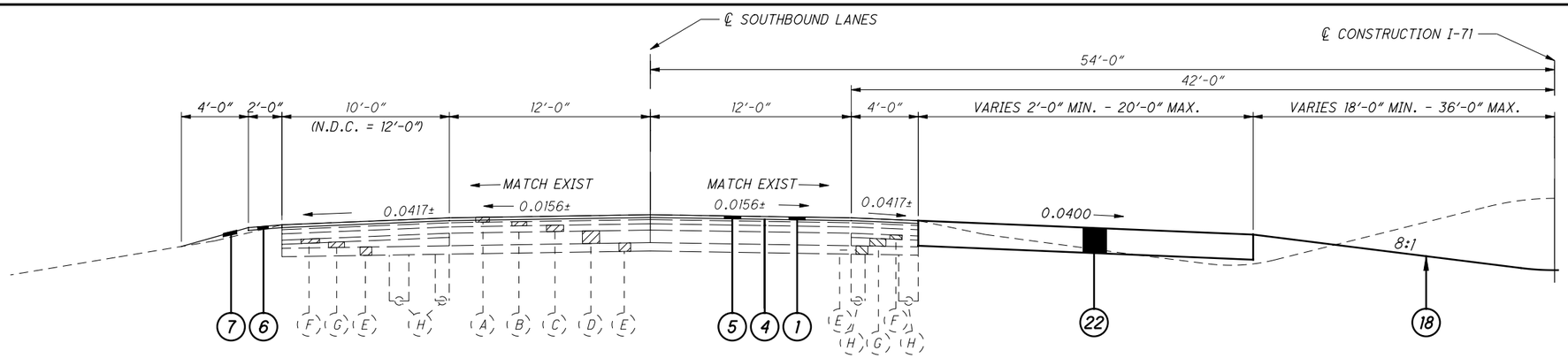
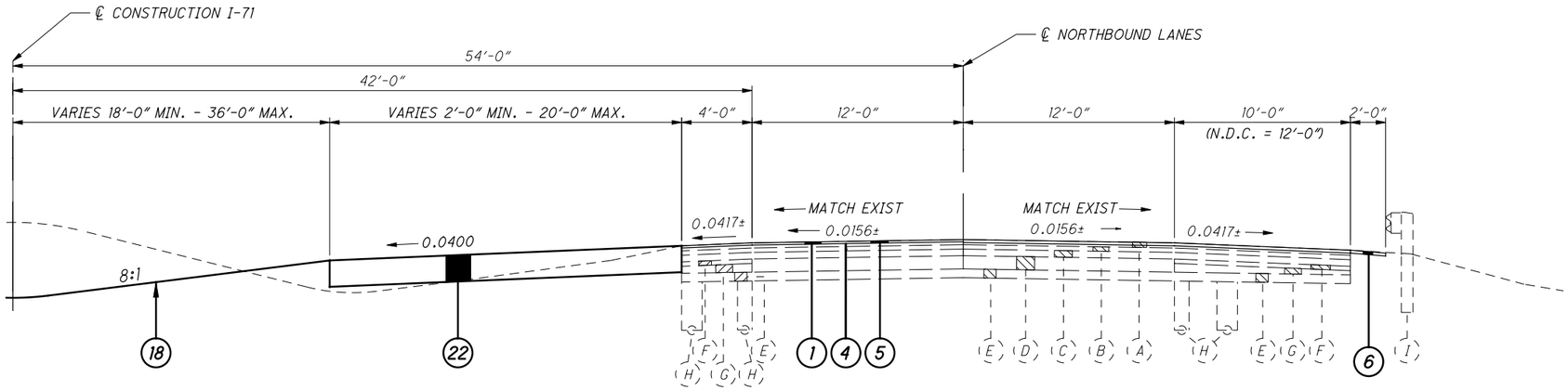
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

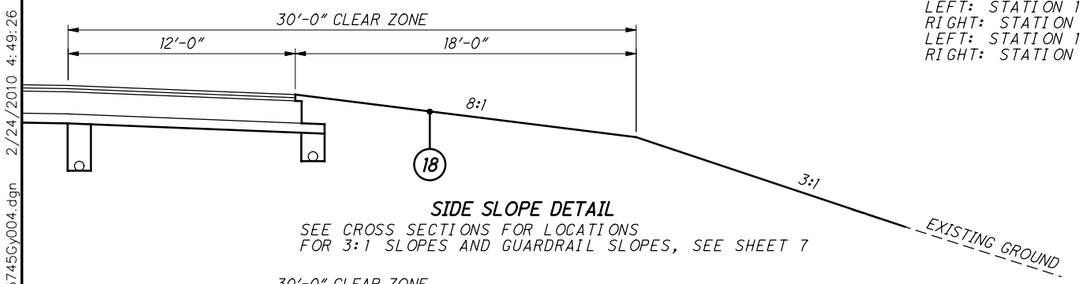




NORMAL SECTION (RESURFACING AND TEMPORARY PAVEMENT) - I-71

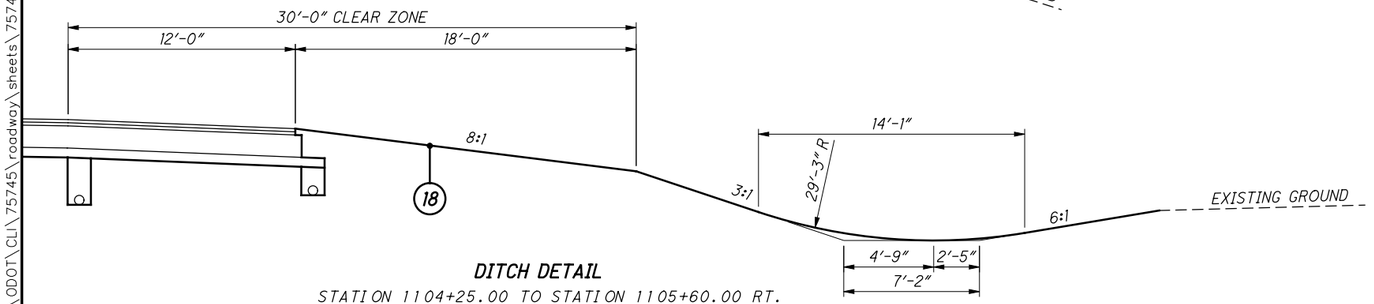
BRIDGE CLI-71-1212 L&R
LEFT: STATION 990+40.00 TO STATION 1003+50.00 = 1310.00 LF
RIGHT: STATION 984+05.00 TO STATION 1003+50.00 = 1945.00 LF
LEFT: STATION 1007+25.00 TO STATION 1026+70.00 = 1945.00 LF
RIGHT: STATION 1007+25.00 TO STATION 1020+35.00 = 1310.00 LF

BRIDGE CLI-71-1399 L&R
LEFT: STATION 1088+55.00 TO STATION 1101+65.00 = 1310.00 LF
RIGHT: STATION 1082+20.00 TO STATION 1101+65.00 = 1945.00 LF
LEFT: STATION 1105+60.00 TO STATION 1125+05.00 = 1945.00 LF
RIGHT: STATION 1105+60.00 TO STATION 1118+70.00 = 1310.00 LF



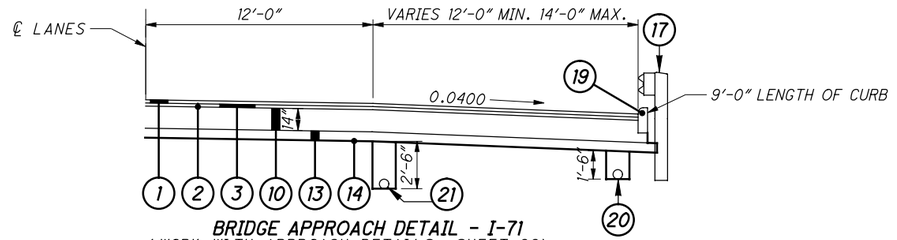
SIDE SLOPE DETAIL

SEE CROSS SECTIONS FOR LOCATIONS
FOR 3:1 SLOPES AND GUARDRAIL SLOPES, SEE SHEET 7



DITCH DETAIL

STATION 1104+25.00 TO STATION 1105+60.00 RT.



BRIDGE APPROACH DETAIL - I-71

(WORK WITH APPROACH DETAILS, SHEET 99)

CLI-71-1212 R
STATION 1004+25.25 TO STATION 1004+53.25 = 28.00 FT. (MEDIAN)
STATION 1004+25.25 TO STATION 1004+53.25 = 28.00 FT. (OUTSIDE)

CLI-71-1212 L
STATION 1004+25.25 TO STATION 1004+53.25 = 28.00 FT. (MEDIAN)
STATION 1004+25.25 TO STATION 1004+53.25 = 28.00 FT. (OUTSIDE)

CLI-71-1399 R
STATION 1102+74.53 TO STATION 1103+02.53 = 28.00 FT. (MEDIAN)
STATION 1102+99.10 TO STATION 1103+27.10 = 28.00 FT. (OUTSIDE)

CLI-71-1399 L
STATION 1103+37.68 TO STATION 1102+65.68 = 28.00 FT. (OUTSIDE)
STATION 1104+62.25 TO STATION 1102+90.25 = 28.00 FT. (MEDIAN)

FOR LEGEND SEE SHEET 5

TYPICAL SECTIONS

CLI/GRE-
71-7.26/0.00

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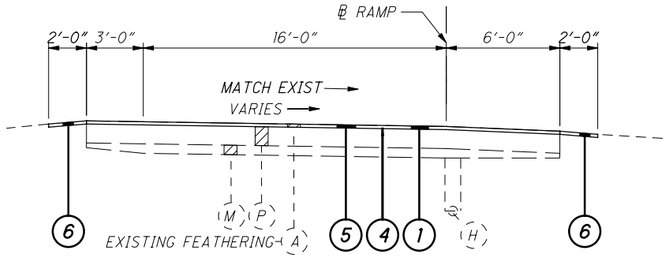
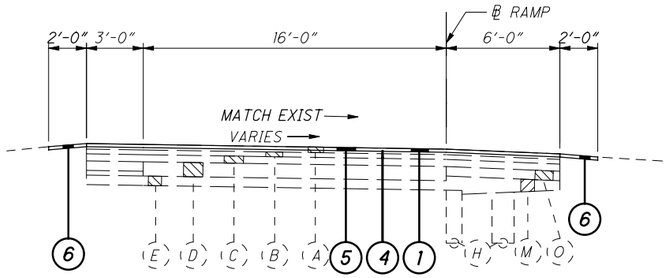


RAMP (RESURFACING) - I-71

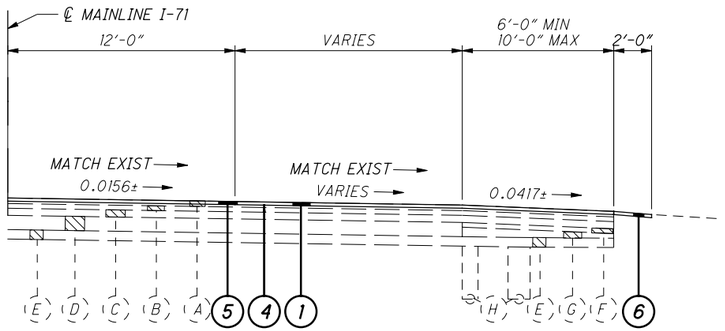
S.B. WEIGH STATION
STATION 5+40.0± TO STATION 6+18.0±
STATION 19+47.0± TO STATION 20+40.0±



RAMP (RESURFACING) - I-71

US 68
RAMP E - STATION 0+12.9± TO STATION 10+42.5±
RAMP F - STATION 4+78.8± TO STATION 13+75.1±
RAMP G - STATION 0+60.7± TO STATION 10+98.5±
RAMP H - STATION 4+76.7± TO STATION 14+87.2±

SR 72
RAMP J - STATION 5+35.5± TO STATION 13+88.4±
RAMP K - STATION 0+13.7± TO STATION 9+25.7±
RAMP L - STATION 4+45.5± TO STATION 12+78.1±
RAMP M - STATION 0+12.5± TO STATION 8+92.9±



RAMP SPEED CHANGE LANES (RESURFACING) - I-71

US 68
RAMP E - STATION 793+25.0± TO STATION 809+86.7±
RAMP F - STATION 827+45.4± TO STATION 835+70.3±
RAMP G - STATION 825+06.2± TO STATION 841+75.0±
RAMP H - STATION 798+54.7± TO STATION 806+80.7±

S.B. WEIGH STATION
STATION 944+09.2± TO STATION 961+00.0±
STATION 975+88.3± TO STATION 984+24.7±

SR 72
RAMP J - STATION 1209+66.6± TO STATION 1218+02.0±
RAMP K - STATION 1208+58.7± TO STATION 1224+71.2±
RAMP L - STATION 1184+95.0± TO STATION 1193+24.4±
RAMP M - STATION 1176+91.2± TO STATION 1193+98.0±

FOR LEGEND SEE SHEET 5

TYPICAL SECTIONS - RAMPS

CLI/GRE-
71-7.26/0.00

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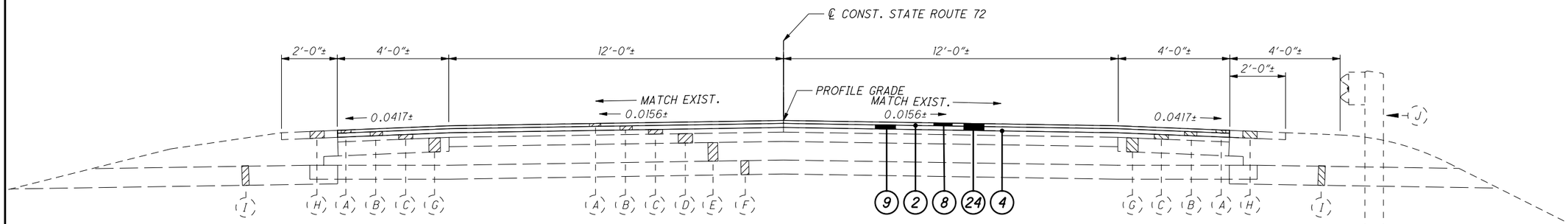
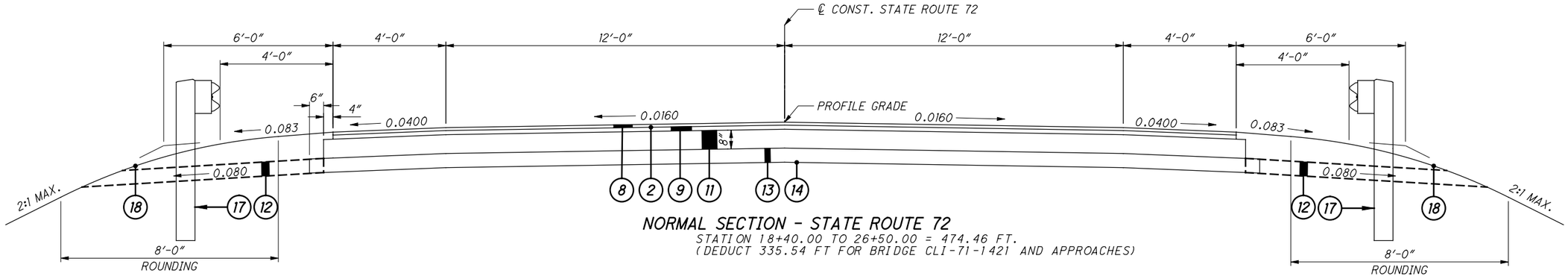
CINCINNATI, OH 45242



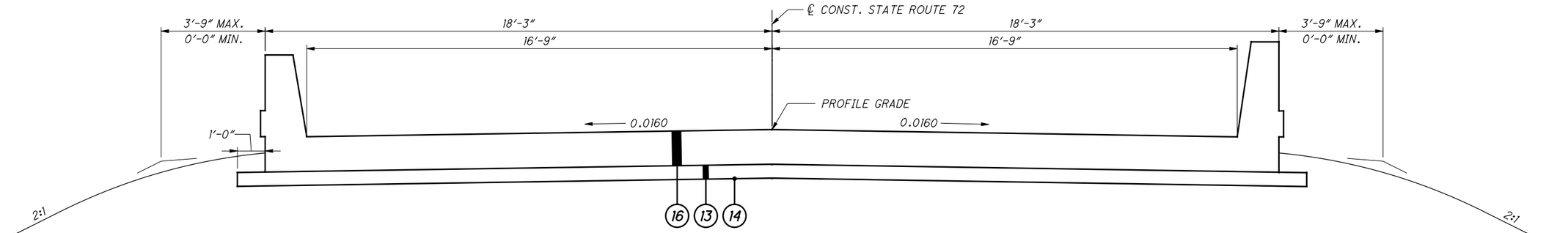
NORMAL SECTION (RESURFACING) - STATE ROUTE 72

STATION 16+67.00 TO 18+40.00 = 173.00 FT.
STATION 26+50.00 TO 28+02.00 = 152.00 FT.



NORMAL SECTION - STATE ROUTE 72

STATION 18+40.00 TO 26+50.00 = 474.46 FT.
(DEDUCT 335.54 FT FOR BRIDGE CLI-71-1421 AND APPROACHES)



APPROACH SLAB SECTION - STATE ROUTE 72

STATION 20+62.09 TO 20+87.09 = 25.00 FT.
STATION 23+72.63 TO 23+97.63 = 25.00 FT.

AGGREGATE DRAIN LOCATIONS

STATION	SIDE	LENGTH	STATION	SIDE	LENGTH
18+50.00	LT	8	24+00.00	RT	8
18+75.00	RT	8	24+25.00	LT	8
19+00.00	LT	8	24+50.00	RT	8
19+25.00	RT	8	24+75.00	LT	8
19+50.00	LT	8	25+00.00	RT	8
19+75.00	RT	8	25+25.00	LT	8
20+00.00	LT	8	25+50.00	RT	8
20+25.00	RT	8	25+75.00	LT	9
20+50.00	LT	8	26+00.00	RT	12
			26+25.00	LT	12
			26+50.00	RT	16
				TOTAL SR-72	177

EXISTING ITEM LEGEND

- (A) 1¼"ASPHALTIC CONCRETE SURFACE COURSE
- (B) 1¾"ASPHALTIC CONCRETE SURFACE COURSE
- (C) 0" MIN. ASPHALT CONCRETE BASE COURSE
- (D) 4"± ASPHALT CONCRETE
- (E) 8" AGGREGATE BASE COURSE
- (F) 4" SUBBASE
- (G) 6" STABILIZED CRUSHED AGGREGATE SHOULDERS
- (H) 3" COMPACTED AGGREGATE
- (I) STONE UNDERDRAIN
- (J) GUARD RAIL

FOR PROPOSED ITEM LEGEND SEE SHEET 5

TYPICAL SECTIONS-SR 72

CLI/GRE-
71-7.26/0.00

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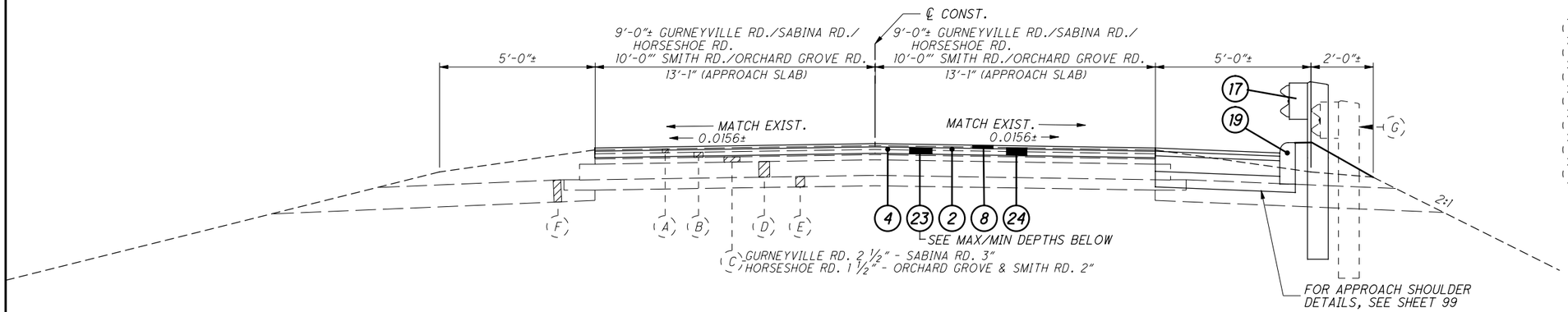

EXISTING ITEM LEGEND

- (A) 1½"ASPHALTIC CONCRETE SURFACE COURSE
- (B) 0" MIN. ASPHALT CONCRETE BASE CORSE
- (C) 2"± ASPHALT CONCRETE
- (D) 6" AGGREGATE BASE COURSE
- (E) 4" SUBBASE
- (F) STONE UNDERDRAIN
- (G) GUARD RAIL

NORMAL SECTION (RESURFACING) - GURNEYVILLE RD./SABINA RD./HORSESHOE RD./SMITH RD./ORCHARD GROVE RD.

GURNEYVILLE RD.
STATION 17+82.24 TO STATION 18+32.24 = 50.00 FT
STATION 21+67.76 TO STATION 22+17.76 = 50.00 FT
(23) 1¾" MIN - 2¼" MAX

HORSESHOE RD.
STATION 17+94.77 TO STATION 18+44.77 = 50.00 FT
STATION 21+55.71 TO STATION 22+05.71 = 50.00 FT
(23) 1¾"

SABINA RD
STATION 18+01.63 TO STATION 18+51.63 = 50.00 FT
STATION 21+48.37 TO STATION 21+98.37 = 50.00 FT
(23) 1¾" MIN - 2½" MAX

ORCHARD GROVE RD.
STATION 18+08.75 TO STATION 18+58.75 = 50.00 FT
STATION 21+41.25 TO STATION 21+91.25 = 50.00 FT
(23) 1¾" MIN - 2¼" MAX

SMITH RD
STATION 18+08.74 TO STATION 18+58.74 = 50.00 FT
STATION 21+41.26 TO STATION 21+91.26 = 50.00 FT
(23) 1¾" MIN - 2¼" MAX

FOR PROPOSED ITEM LEGEND SEE SHEET 5

TYPICAL SECTIONS-GURNEYVILLE RD./HORSESHOE RD./SABINA RD./ORCHARD GROVE RD./SMITH RD.

CLI/GRE-
71-7.26/0.00

11
218

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ENGINEERING CINCINNATI, OH 45242

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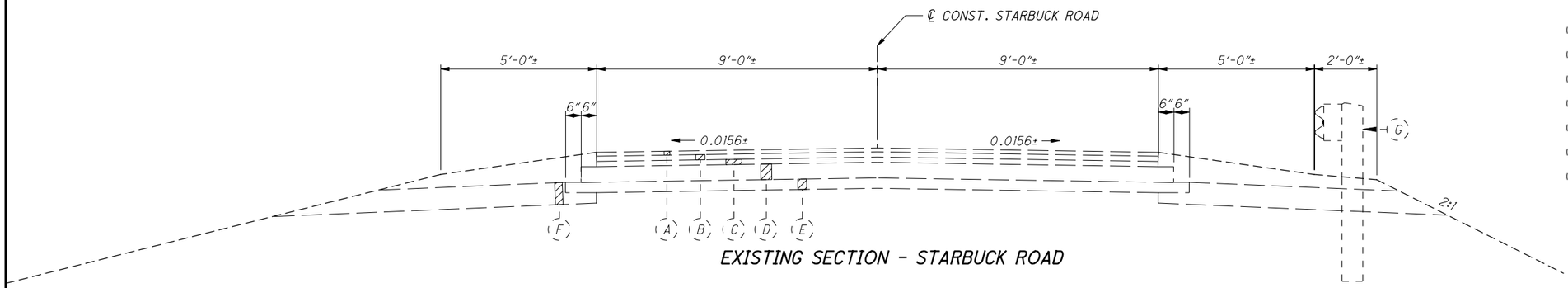
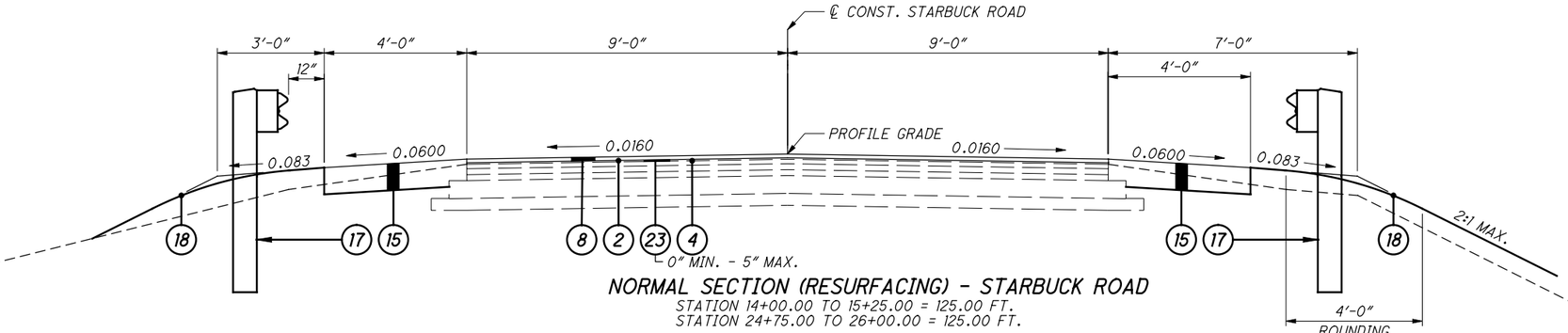
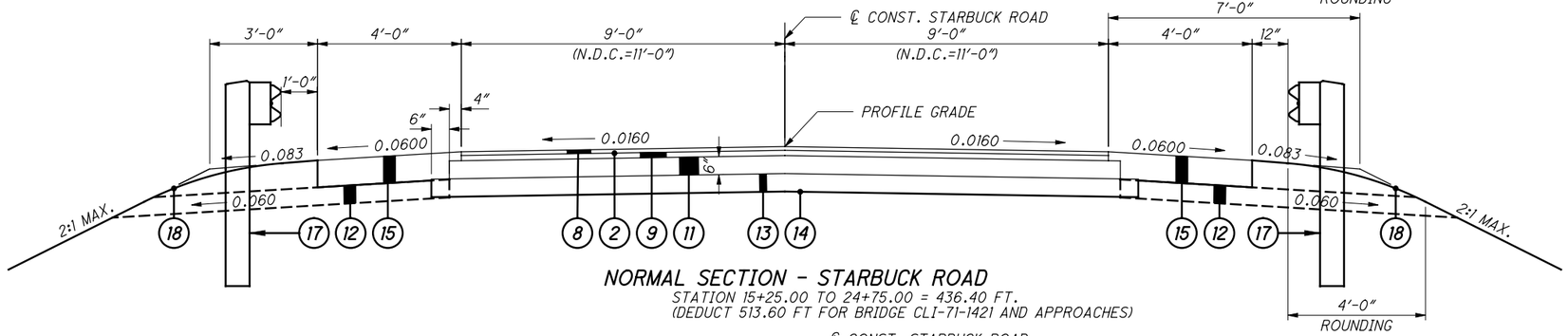


EXISTING SECTION - STARBUCK ROAD



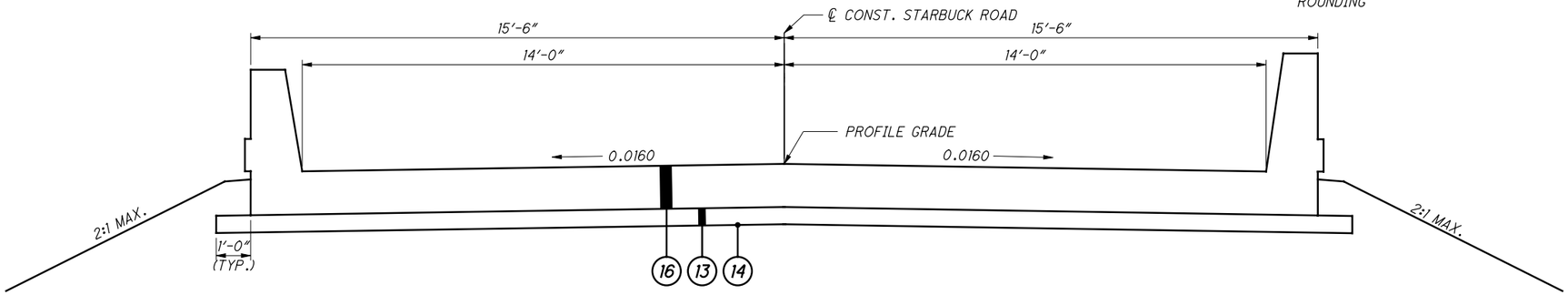
NORMAL SECTION (RESURFACING) - STARBUCK ROAD

STATION 14+00.00 TO 15+25.00 = 125.00 FT.
STATION 24+75.00 TO 26+00.00 = 125.00 FT.



NORMAL SECTION - STARBUCK ROAD

STATION 15+25.00 TO 24+75.00 = 436.40 FT.
(DEDUCT 513.60 FT FOR BRIDGE CLI-71-1421 AND APPROACHES)



APPROACH SLAB SECTION - STARBUCK ROAD

STATION 17+43.20 TO 17+68.20 = 25.00 FT.
STATION 22+31.80 TO 22+56.80 = 25.00 FT.

EXISTING ITEM LEGEND

- (A) 1½" ASPHALTIC CONCRETE SURFACE COURSE
- (B) 0" MIN. ASPHALT CONCRETE BASE CORSE
- (C) 1½"± ASPHALT CONCRETE
- (D) 6" AGGREGATE BASE COURSE
- (E) 4" SUBBASE
- (F) STONE UNDERDRAIN
- (G) GUARD RAIL

AGGREGATE DRAIN LOCATIONS

STATION	SIDE	LENGTH
15+50.00	RT	9
15+75.00	LT	9
16+00.00	RT	9
16+25.00	LT	9
16+50.00	RT	9
16+75.00	LT	9
17+00.00	RT	9
17+25.00	LT	9
17+50.00	RT	9
22+75.00	LT	9
23+00.00	RT	9
23+25.00	LT	9
23+50.00	RT	9
23+75.00	LT	9
24+00.00	RT	9
24+25.00	LT	9
24+50.00	RT	9
TOTAL STARBUCK		153

FOR PROPOSED ITEM LEGEND SEE SHEET 5

TYPICAL SECTIONS-STARBUCK ROAD

CLI/GRE-
71-7.26/0.00

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CINCINNATI, OH 45242

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

ELECTRIC:
DAYTON POWER AND
LIGHT COMPANY
1900 DRYDEN ROAD
DAYTON, OHIO 45439
937-331-4132 (JOHN KENTON)

NATURAL GAS:
DOMINION EAST OHIO GAS
5509 BERGER ROAD
GROVEPORT, OHIO 43125
614-307-7659 (JOHN GOTTFRIED)

PETROLEUM:
TEXAS EASTERN PRODUCTS
PIPELINE COMPANY
651 S. COMMERCE DRIVE, SUITE A
SEYMOUR, INDIANA 47274
812-522-2569 (DWANE STOUT)

TELEPHONE:
AT&T OHIO
3233 WOODMAN DRIVE,
ROOM 225
DAYTON, OHIO 45420
937-296-3555 (MIKE CAMPBELL)

CABLE T.V.:
TIME WARNER CABLE
11252 CORNELL PARK DRIVE
CINCINNATI, OHIO 45242
513-469-5483 (GARY NAPIER)

CABLE T.V.:
TIME WARNER CABLE
3691 TURNER ROAD
DAYTON, OHIO 45415
937-425-8850 (TIM KUSS)

FIBER OPTIC:
AT&T FIBER OPTIC
4435 AICHOLTZ ROAD, SUITE 300
CINCINNATI, OHIO 45245
513-843-6700 (JEFF BALLINGER)

FIBER OPTIC:
ACS GOVERNMENT SOLUTIONS
10860 BADGER ROAD
GALENA, KANSAS 66739
620-783-4282 (ROBERT WELCH)

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

EXISTING PLANS

EXISTING PLANS ENTITLED CLI-1-3.41 (1962); CLI-1-9.10/GRE-1-0.00 (1962); GRE-1-1.08/FAY-1-0.00 (1962); CLI-71-(0.00)(7.35) (1987); CLI/GRE-71-9.06/0.00 (1988); CLI/GRE-71-11.681/0.000 (1998); AND GRE-71-2.49 (2005) MAY BE INSPECTED IN THE ODOT DISTRICT 8 OFFICE IN LEBANON.

ELEVATION DATUM

ALL ELEVATIONS ARE ORTHOMETRIC HEIGHTS USING THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND THE GEOID03 GEOID. HORIZONTAL POSITIONS ARE BASED ON THE OHIO STATE PLANE SOUTH ZONE, A LAMBERT CONFORMAL CONIC MAP PROJECTION, THE NORTH AMERICAN DATUM OF 1983 ADJUSTED TO THE NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NAD 83 (NSRS 2007)), AND THE GRS80 ELLIPSOID.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 6 HOURS.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606 - ANCHOR ASSEMBLY, TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

1. THE SRT-350, GUARDRAIL END TERMINAL AS MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE SRT-350 SYSTEM IS CONSIDERED TO BE 37'-6", INCLUSIVE OF THREE 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS444 SS444M	SLOTTED RAIL TERMINAL POST LAYOUT AND ERECTION DETAILS SRT-350 (12.5, 8 POST)	7/12/99 Rev. 1 7/12/99	8/27/1999
SS425M	SLOTTED RAIL TERMINAL SRT-350 POST LAYOUT AND ERECTION DETAILS (12.5, 9 POST)	6/21/97 Rev. 1	3/6/1998

2. THE FLEAT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).

THE LENGTH OF THE FLEAT-350 IS CONSIDERED TO BE 37'-6", INCLUSIVE OF THREE 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
FLT-M	FLARED ENERGY ABSORBING TERMINAL (FLEAT-350) ASSEMBLY	4/16/1998	7/31/1998
FLT Hinged CRT	FLARED ENERGY ABSORBING TERMINAL (POSTS 1 AND 2 ARE STEEL HINGED)	5/4/2006	5/23/2006
FLT-SP	FLARED ENERGY ABSORBING TERMINAL (A SEVEN POST OPTION USING STANDARD STEEL POSTS)	3/30/2009	3/4/2009

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 36" W X 12" H FOR THE SRT-350 AND 14" W X 20" H FOR THE FLEAT.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

1. THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF TWO 25'-0" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION & SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION & SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS & HBA POSTS 1-4 PLAN, ELEVATION & SECTION	5/22/00	7/31/00
SS330	ET2000 PLUS 50'-0" WITH FOUR FOUNDATION TUBES AND FOUR CRT POSTS	3/28/06	3/29/06
SS373	ET2000 PLUS 50'-0" WITH 7 SYT POSTS AND ONE HBA POST	6/20/09	1/20/09

2. THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF FOUR 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98
SKT Hinged CRT	SEQUENTIAL KINKING TERMINAL (SKT-350) FOUR POSTS ARE STEEL HINGED AND FIVE POSTS ARE CRT	4/30/06	5/23/06
SKT-SP	SEQUENTIAL KINKING TERMINAL (SKT-350) A SEVEN POST OPTION USING STANDARD STEEL POST	3/30/09	3/4/09

(NOTE CONTINUED ON NEXT SHEET)

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GENERAL NOTES

CLI/GRE-71-7.26/0.00

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ITEM 606 - ANCHOR ASSEMBLY, TYPE E (CONTINUED)

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18", OR 12" X 18" IF APPLIED TO A RECTANGULAR ET-2000 "PLUS" EXTRUDER HEAD.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

STORM WATER POLLUTION PREVENTION PLAN

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR STORM WATER POLLUTION PREVENTION AND EROSION CONTROL:

ITEM 832, STORM WATER POLLUTION PREVENTION PLAN, LUMP
ITEM 832, EROSION CONTROL, 125,000 EACH

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH LEAN GROUT, ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT MAY BE REMOVED. THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE CONSTRUCTION LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

603 6" CONDUIT, TYPE E 50 FT.

603 6" CONDUIT, TYPE F 50 FT.

603 8" CONDUIT, TYPE E 50 FT.

603 8" CONDUIT, TYPE F 50 FT.

PROFILE AND ALIGNMENT

PLACE THE PROPOSED PAVEMENT TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. (PREVIOUS CONSTRUCTION PLANS, PROJECT NOs. CLI-1-3.41 (1962); CLI-1-9.10/GRE-1-0.00(1962) AND GRE-1-1.08/FAY-1-0.00 (1962); SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 8 OFFICE). PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY AS SHOWN ON THE TYPICAL SECTIONS

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

MEDIAN AND/OR CURBING ON APPROACH SLABS

WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

ITEM SPECIAL MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION

ALL CONCRETE SHALL BE TESTED. ALL TESTING, INSPECTION AND QUALITY CONTROL FOR CONCRETE, NOT INCLUDED UNDER SUPPLEMENTAL SPECIFICATIONS 888 AND 898, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CONCRETE TESTING CONSULTANT WITH PREVIOUS EXPERIENCE AND FAMILIARITY IN ODOT PROCEDURES, CONCRETE TESTING REQUIREMENTS AND CONCRETE TESTING DOCUMENTATION. AT LEAST 30 DAYS PRIOR TO CONCRETE PLACEMENT, SUBMIT TO THE ENGINEER FOR APPROVAL, THE PROPOSED CONCRETE TESTING CONSULTANT ALONG WITH THE RESUMES OF THE PROPOSED TESTING PERSONNEL.

TESTING CONCRETE FOR STRUCTURES AND PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PERFORMED AS OUTLINED IN SUPPLEMENTAL SPECIFICATIONS 898 AND 888 RESPECTIVELY.

THROUGH THE CONTRACTOR, THE CONSULTANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONCRETE PLACED IS IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ODOT CONSTRUCTION INSPECTION MANUAL OF PROCEDURES FOR CONCRETE. THE CONCRETE CONSULTANT SHALL PROVIDE THE NECESSARY TRAINED TECHNICIAN(S), ALL EQUIPMENT, AND SHALL FURNISH THE PROJECT ENGINEER WITH TWO (2) COPIES OF ALL TEST RESULTS WITHIN 24 HOURS AFTER COMPLETION OF CONCRETE PLACEMENT.

THE TECHNICIAN SHALL BE ACI LEVEL 1 CERTIFIED AND WILL BE REQUIRED TO DEMONSTRATE HIS/HER COMPETENCE AND EXPERIENCE LEVELS TO THE ENGINEER PRIOR TO BEGINNING WORK. THE ENGINEER WILL ORDER THE CONTRACTOR TO REPLACE ANY TECHNICIAN THAT IS NOT VERSED IN THE REQUIRED TESTING PROCEDURE.

THE TECHNICIAN SHALL VERBALLY NOTIFY THE ODOT PROJECT ENGINEER OF ANY FAILING TEST AND SHALL SUBMIT FOLLOW-UP WRITTEN NOTIFICATION TO THE PROJECT ENGINEER OF REMEDIAL ACTION(S) TAKEN. TESTS SHALL BE TAKEN AS SPECIFIED WITHIN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONCRETE MANUAL OR APPROPRIATE SUPPLEMENTAL SPECIFICATION AS LISTED IN THE PROPOSAL GOVERNING THE PROJECT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE IMMEDIATE CORRECTIONS OR ADJUSTMENTS TO THE CONCRETE MIX VIA DIRECT COMMUNICATION WITH THE CONCRETE SUPPLIER'S PLANT PERSONNEL TO MAINTAIN UNINTERRUPTED COMPLIANCE WITH THE SPECIFICATIONS UPON NOTIFICATION OF CONCRETE MIX NON-COMPLIANCE BY THE CONSULTANT TECHNICIAN. THE PROJECT ENGINEER MAY REQUIRE MORE FREQUENT TESTING AS CONDITIONS WARRANT.

UPON COMPLETION OF DAILY CONCRETE PLACEMENT(S), THE CONCRETE CONSULTANT SHALL PROVIDE THE PROJECT ENGINEER WITH DAILY TEST REPORTS, TE-45'S, INSPECTORS DAILY REPORT AND SUPPORTING DOCUMENTATION FOR EACH ITEM OF CONCRETE WORK PERFORMED SEPARATED BY MIX DESIGN. SUBSEQUENTLY, UPON COMPLETION OF AN ENTIRE CONCRETE SPECIFICATION ITEM, THE CONCRETE CONSULTANT SHALL ALSO PROVIDE THE PROJECT ENGINEER WITH TWO (2) COPIES OF AN ADDITIONAL INSPECTION REPORT BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHICH CONTAINS THE TESTING-RESULTS SUMMARY FOR EACH ITEM BY CONTRACT REFERENCE NUMBER AND THE CONSULTANT'S CONCLUSIONS RELATIVE TO SPECIFICATION COMPLIANCE FOR ALL CONCRETE-TESTING WORK.

THE ODOT PROJECT ENGINEER RESERVES THE RIGHT TO MAKE UNANNOUNCED QUALITY-CONTROL TESTS TO VERIFY PROCEDURES USED AND RESULTS BEING OBTAINED BY THE CONTRACTOR.

THE CONCRETE TECHNICIAN SHALL WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHO WILL MONITOR THE CONCRETE TEST RESULTS. THE FINAL INSPECTION REPORTS FOR EACH COMPLETED ITEM SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, CERTIFYING THAT ALL CONCRETE TESTS PROVIDED BY THE CONTRACTOR MET APPLICABLE CONTRACT REQUIREMENTS. A FINAL REPORT ISSUED BY THE CONSULTING FIRM SHALL CONTAIN A CERTIFIED STATEMENT OF COMPLIANCE WITH ODOT SPECIFICATIONS AND ANY OTHER CONCLUSIONS REGARDING THE CONCRETE MATERIALS INCORPORATED INTO THE PROJECT. SUCH STATEMENT SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO. AND, THE CONCRETE CONSULTANT SHALL BE REQUIRED TO ATTEND MONTHLY PROGRESS MEETINGS AS REQUIRED BY THE PROJECT ENGINEER.

ADDITIONALLY, THE CONTRACTOR SHALL BE REQUIRED TO KEEP A POSTED LIST OF BEAM AND CYLINDER IDENTIFICATION NUMBERS FOR THE PURPOSE OF IDENTIFYING THE CORRESPONDING PLACEMENT LOCATION AND CONCRETE SPECIFICATION ITEM.

PAYMENT SHALL BE BID AS LUMP SUM FOR ITEM SPECIAL MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION. THE ITEM WILL BE PAID FOR AS FOLLOWS:

UPON APPROVAL OF CONSULTANT 20%
PROGRESSIVE EQUIVALENT PAYMENTS 50%
UPON SUBMISSION OF FINAL REPORT . . . . . 30%.

PAYMENT FOR TESTING, INSPECTION AND QUALITY CONTROL WILL BE INCLUDED WITH THE APPROPRIATE LUMP-SUM CONCRETE ITEM.

CALCULATED | CHECKED

GENERAL NOTES

CLI/GRE-71-7.26/0.00

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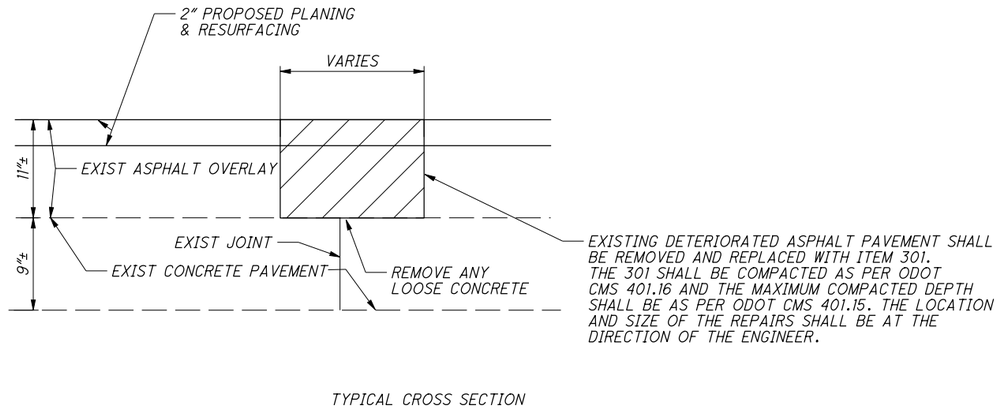
ITEM 601 ROCK CHANNEL PROTECTION, TYPE D, AS PER PLAN

ROCK CHANNEL PROTECTION, TYPE D, AS PER PLAN SHALL BE PLACED ON A FIRM SUBGRADE AND EXCELSIOR MATTING PER 712.11 (TYPE G EROSION CONTROL MATTING) AS SHOWN ON SHEET 99. THE UNIT BID PRICE FOR THIS ITEM SHALL INCLUDE THE EXCELSIOR MATTING.

ITEM 253 PAVEMENT REPAIR

FROM STA. 748+00 TO STA. 844+75 ONLY, AS DIRECTED BY THE ENGINEER



TYPICAL CROSS SECTION

CONSTRUCTION NOTIFICATION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE CLOSURES, OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT 513-932-7651 OR AT THE DISTRICT 8 PIO NOTIFICATION WEBSITE, http://www.dot.state.oh.us/districts/d08/pages/planningpiowebform.aspx THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

DEMOLITION & RENOVATION

THE CONTRACTOR SHALL COMPLETE AN OHIO EPA NOTIFICATION OF DEMOLITION AND RENOVATION FORM AND SUBMIT THIS TO THE OHIO EPA AT LEAST TEN (10) WORKING DAYS BEFORE OPERATIONS BEGIN.

STREAM CHANNEL EXCAVATION

STREAM CHANNEL EXCAVATION WITHIN "WATERS OF THE US" IS SUBJECT TO US ARMY CORPS OF ENGINEERS (USACE)RE-GULATORY JURISDICTION AND WILL REQUIRE AUTHORIZATION BY THE USACE VIA THE WATERWAY PERMITTING PROCESS (404/401). IN ACCORDANCE WITH THE APPLICABLE WATERWAY PER-MITS (404/401) STREAM CHANNEL EXCAVATION CAN NOT EX-CEED THE QUANTITIES AND/OR SURFACE AREA THAT HAS BEEN PERMITTED. THE WATERWAY PERMITS ARE ATTACHED TO THE CONSTRUCTION PLANS AS SPECIAL PROVISIONS AND WILL BE AVAILABLE IN THE PROJECT CONSTRUCTION OFFICE.

TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEANOUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

TEMPORARY CONSTRUCTION FILL

ANY TEMPORARY CONSTRUCTION ACCESS FILL WITHIN "WATERS OF THE US" (EG., STREAMS, WETLANDS) SUBJECT TO US ARMY CORPS OF ENGINEERS (USACE) REGULATORY JURISDICTION WILL REQUIRE AUTHORIZATION BY THE USACE PRIOR TO THE PLACE-MENT OF TEMPORARY FILL VIA THE WATERWAY PERMITTING PROCESS (404/401). ALL TEMPORARY CONSTRUCTION ACCESS FILLS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE APPLI-CABLE WATERWAY PERMITS (404/401) AND SHOULD NOT EXCEED THE QUANTITIES AND/OR SURFACE AREA OF TEMPORARY FILL THAT HAS BEEN PERMITTED. ADDITIONALLY, SOME TEMPORARY CONSTRUCTION ACCESS FILLS MAY ONLY BE ALLOWED IN SPECI-FIC LOCATIONS, PER THE WATERWAY PERMITS(404/401) AND/OR OTHER ENVIRONMENTAL COMMITMENTS, AND SHOULD BE CON-STRUCTED IN ACCORDANCE WITH ANY SUCH LOCATIONAL RE-STRICTIONS TO AVOID ENVIRONMENTALLY SENSITIVE AREAS. THE WATERWAY PERMITS ARE ATTACHED TO THE CONSTRUCTION PLANS AS SPECIAL PROVISIONS AND ARE BE AVAILABLE IN THE PROJECT CONSTRUCTION OFFICE.

PROJECTS IN OR NEAR A DRINKING WATER RESOURCE

THIS PROJECT IS LOCATED IN OR NEAR THE SOURCE OF A PUBLIC DRINKING WATER SUPPLY. IN ORDER TO MINIMIZE THE POTENTIAL TO CONTAMINATE THIS WATER SUPPLY, PROJECT RELATED MAINTENANCE AND REFUELING ACTIVITIES SHALL BE PERFORMED IN AN ENVIRONMENTALLY RESPONSIBLE MANNER. THE CONTRACTOR SHALL IMMEDIATELY TAKE STEPS TO MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR CHEMICALS, THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY. ANY SUCH SPILL OR EVENT SHALL BE REPORTED IMMEDIATELY TO WILMINGTON CITY PUBLIC WATER SYSTEM AT 937-382-3614. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT THE OHIO EPA DIVISION OF DRINKING AND GROUND WATERS SOUTHWEST DISTRICT OFFICE AT 937-285-6357, OR THE OHIO EPA'S 24-HOUR EMERGENCY CONTACT NUMBER AT 1-800-282-9378 FOR CLEAN UP OF THE SPILL.

NWP-14 COMPLIANCE CERTIFICATION REQUIREMENT

UPON COMPLETION OF ALL ACTIVITIES IMPACTING WATERS OF THE U.S. AS DEFINED BY THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE), THE PROJECT ENGINEER SHALL COMPLETE THE COMPLIANCE CERTIFICATION INCLUDED IN THE NWP-14 SPECIAL PROVISIONS PACKAGE. THIS COMPLIANCE CERTIFICATION SHALL BE SUBMITTED TO THE USACE HUNTINGTON DISTRICT, COLUMBUS OFFICE. A COPY OF THE SIGNED COMPLIANCE CERTIFICATION SHALL ALSO BE SENT, ADDRESSED TO MIKE PETTEGREW OF THE ODOT OFFICE OF ENVIRONMENTAL SERVICES, WATERWAY PERMITS UNIT.

NWP-14 RE-EVALUATION REQUIREMENT

THE NWP-14, APPROVED BY THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE) ON 6/5/2009, WILL EXPIRE ON 3/18/2012. IF ACTIVITIES IMPACTING WATERS OF THE U.S. AS DEFINED BY THE USACE, HAVE NOT BEEN COMPLETED BY 3/18/2013 OR ONE YEAR FROM THE PERMIT EXPIRATION DATE, THE NWP-14 WILL NEED TO BE RE-EVALUATED BY THE USACE. IF THIS BECOMES NECESSARY, THE PROJECT ENGINEER SHALL NOTIFY THE ODOT DISTRICT 8 ENVIRONMENTAL COORDINATOR (DEC) OF THIS NECESSARY RE-EVALUATION. THE DEC WILL COORDINATE THE RE-EVALUATION OF THE NWP-14 WITH THE ODOT OFFICE OF ENVIRONMENTAL SERVICES, WATERWAY PERMITS UNIT (OES-WPU), WHO WILL, IN TURN, COORDINATE THE REQUIRED RE-EVALUATION WITH THE USACE. NO WORK ACTIVITIES IMPACTING WATERS OF THE U.S. SHALL OCCUR AFTER 3/18/2013, UNLESS THE NWP-14 HAS BEEN SUCCESSFULLY RE-EVALUATED BY THE USACE.

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GENERAL NOTES

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71-7.26/0.00

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ITEM 614, MAINTAINING TRAFFIC

MAINLINE BRIDGES (CLI-71-1212 L/R & CLI-71-1399 L/R)

PRE-PHASE 1:
CLOSE OUTSIDE SHOULDERS TO CONSTRUCT PAVEMENT FOR M.O.T. AT BOTH STRUCTURES FOR USE IN PHASE 1. MILL AND FILL RUMBLE STRIPS PER RUMBLE STRIP NOTE ON SHEET 18.

PHASE 1:
SHIFT TRAFFIC TO OUTSIDE SHOULDER AT BOTH CLI-71-1212 AND CLI-71-1399. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PHASE DETAILS, SHEETS 18-30, AND STANDARD DRAWING MT-102.10.

REMOVE AND CONSTRUCT THE INSIDE (MEDIAN) PORTIONS OF THE STRUCTURES. CONSTRUCT THE PAVEMENT FOR MAINTAINING TRAFFIC FOR USE IN PHASE 2, USING ADDITIONAL LANE CLOSURES AS REQUIRED DURING THE TIMES ALLOWED BY THE PERMITTED LANE CLOSURE TIMES PLAN NOTE.

PHASE 2:
SHIFT TRAFFIC TO THE MEDIAN SIDE, ONTO THE PAVEMENT FOR M.O.T. AND THE PORTIONS OF THE BRIDGES CONSTRUCTED IN PHASE 1 AT BOTH CLI-71-1212 AND CLI-71-1399. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PHASE DETAILS, SHEETS 31-35, AND STANDARD DRAWING MT-102.10.

REMOVE AND CONSTRUCT THE OUTSIDE PORTIONS OF THE STRUCTURES AND THE REMAINDER OF THE PERMANENT PAVEMENT.

PHASE 3:
REMOVE THE TEMPORARY PAVEMENT FOR M.O.T. AND RESTORE THE MEDIAN AT BOTH CLI-71-1212 AND CLI-71-1399. THIS SHALL BE DONE DURING THE APPROPRIATE MAINLINE RESURFACING PHASE AND DURING THE TIMES ALLOWED BY THE PERMITTED LANE CLOSURE TIMES PLAN NOTE.

MAINLINE RESURFACING

LANE CLOSURES ON I-71 SHALL BE PER THE "PERMITTED LANE CLOSURE TIMES" NOTE, THIS SHEET

PHASE A:

CONSTRUCT THE RESURFACING IN THE RIGHT LANE AND RAMP MERGE LANES BY MILLING AND REPAVING. THIS WORK IS TO BE DONE OVERNIGHT FROM 7 PM TO 6 AM. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH STANDARD DRAWINGS MT-95.30, MT-95.50, MT-98.10, MT-98.11, MT-98.20, MT-98.22, AND MT-98.28. LENGTH OF WORK ZONE SHALL BE THE LENGTH THAT CAN BE CONSTRUCTED DURING THE NIGHTTIME PERIOD.

PHASE B:

CONSTRUCT THE RESURFACING IN THE LEFT (MEDIAN) LANE AND SHOULDER BY MILLING AND REPAVING. THIS WORK IS TO BE DONE OVERNIGHT FROM 7 PM TO 6 AM. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH STANDARD DRAWINGS MT-95.30 AND MT-95.50. LENGTH OF WORK ZONE SHALL BE THE LENGTH THAT CAN BE CONSTRUCTED DURING THE NIGHTTIME PERIOD.

OVERHEAD BRIDGE WORK:

LANE CLOSURES ON I-71 SHALL BE PER THE "PERMITTED LANE CLOSURE TIMES" NOTE, THIS SHEET. SHOULDER CLOSURES SHALL BE PERMITTED AT ALL TIMES.

THE FOLLOWING SHALL NOT BE CLOSED CONCURRENTLY
HORSESHOE RD. AND SABINA RD.
SABINA RD. AND STARBUCK RD.
SR 72 AND ORCHARD GROVE RD.
SMITH RD. AND ORCHARD GROVE RD.

GURNEYVILLE ROAD (CLI-71-0725)

GURNEYVILLE ROAD SHALL BE CLOSED AND DETOURED AS SHOWN ON SHEET 22. DETOUR SIGNAGE TO BE ERECTED AND MAINTAINED BY THE CONTRACTOR.

HORSESHOE ROAD (CLI-71-1187)

HORSESHOE ROAD SHALL BE CLOSED AND DETOURED AS SHOWN ON SHEET 22. DETOUR SIGNAGE TO BE ERECTED AND MAINTAINED BY THE CONTRACTOR.

SABINA ROAD (CLI-71-1237)

SABINA ROAD SHALL BE CLOSED AND DETOURED AS SHOWN ON SHEET 22. DETOUR SIGNAGE TO BE ERECTED AND MAINTAINED BY THE CONTRACTOR.

STARBUCK ROAD (CLI-71-1421)

STARBUCK ROAD SHALL BE CLOSED AND DETOURED AS SHOWN ON SHEET 23. DETOUR SIGNAGE TO BE ERECTED AND MAINTAINED BY THE CONTRACTOR.

SR 72 (GRE-72-0029)

SR 72 SHALL BE CLOSED AND DETOURED AS SHOWN ON SHEET 24. DETOUR SIGNAGE TO BE ERECTED AND MAINTAINED BY THE CONTRACTOR.

ORCHARD GROVE ROAD (GRE-71-0150)

ORCHARD GROVE ROAD SHALL BE CLOSED AND DETOURED AS SHOWN ON SHEET 25. DETOUR SIGNAGE TO BE ERECTED AND MAINTAINED BY THE CONTRACTOR.

SMITH ROAD (GRE-71-0299)

SMITH ROAD SHALL BE CLOSED AND DETOURED AS SHOWN ON SHEET 25. DETOUR SIGNAGE TO BE ERECTED AND MAINTAINED BY THE CONTRACTOR.

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN, ON I-71, DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH (6:00 AM OR 12:00N) MONDAY
MONDAY	12:00N FRIDAY THROUGH (6:00 AM OR 12:00N) TUESDAY
TUESDAY	12:00N MONDAY THROUGH (6:00 AM OR 12:00N) WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH (6:00 AM OR 12:00N) THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH (6:00 AM OR 12:00N) FRIDAY
THURSDAY (THANKSGIVING ONLY)	12:00N WEDNESDAY THROUGH (6:00 AM OR 12:00N) MONDAY
FRIDAY	12:00N THURSDAY THROUGH (6:00 AM OR 12:00N) MONDAY
SATURDAY	12:00N FRIDAY THROUGH (6:00 AM OR 12:00N) MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $ 50 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

ITEM 614, MAINTAINING TRAFFIC (LANE CLOSURE/REDUCTION REQUIRED)

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

ITEM 614, MAINTAINING TRAFFIC (ESTIMATED QUANTITIES)

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	100 CU. YD.

PERMITTED LANE CLOSURE TIMES

SHORT TERM LANE CLOSURES ARE THOSE WHICH ARE PERMITTED BY THE "PERMITTED LANE CLOSURE" NOTE. THESE TIMES SHALL NOT BE REVISED WITHOUT PRIOR APPROVAL FROM THE DISTRICT 8 WORK ZONE TRAFFIC CONTROL ENGINEER. SHORT TERM LANE CLOSURES SHALL ONLY BE IMPLEMENTED WHEN WORK IS BEING CONTINUOSLY PERFORMED IN THE LANE. THE CLOSURE SHALL BE REMOVED AS SOON AS POSSIBLE AFTER WORK HAS STOPPED.

PERMITTED LANE CLOSURES SHALL ONLY BE ALLOWED DURING THE TIMES SPECIFIED IN THE "DISTRICT 8, PERMITTED LANE CLOSURE TIMES" WHICH IS LOCATED ON THE ODOT WEBSITE:

http://plcm.dot.state.oh.us//plcm/plcm_web.jsp

THE LATEST REVISION, 14 DAYS PRIOR TO THE BID, SHALL BE IN EFFECT FOR THIS PROJECT. NO LANE OR SHOULDER CLOSURE SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED.

LANE VALUE CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISINCENTIVE $ PER TIME UNIT
ALL I-71 LANES/RAMPS OPEN TO TRAFFIC	6AM - 7PM	15 MINUTE PERIOD	750

WINDOW CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	CALENDAR DAYS TO COMPLETE
ALL WORK WILL BE COMPLETED ON SR72	50
ALL WORK WILL BE COMPLETED ON STARBUCK RD.	50
ALL WORK WILL BE COMPLETED ON GURNEYVILLE RD.	30
ALL WORK WILL BE COMPLETED ON HORSHOE RD., SABINA RD., ORCHARD GROVE RD. AND SMITH RD.	21

ITEM 614, MAINTAINING TRAFFIC

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 3 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

CLI/GRE-71-7.26/0.00

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS ON I-71

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS EQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING.

SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 1000 HOURS THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

614, WORK ZONE EDGE LINE, CLASS I - 9.54 MILES
614, WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I - 0.22 MILE
614, WORK ZONE LANE LINE, CLASS I, AS PER PLAN (SOLID) - 1.47 MILES
614, WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I, AS PER PLAN (SOLID) - 0.11 MILE
614, WORK ZONE CHANNELIZING LINE, CLASS I - 19,840 FEET

ITEM 614, REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 25 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 500 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF 130 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND 130 EACH OF ITEM 614 OBJECT MARKER, 1-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

EARTHWORK FOR MAINTAINING TRAFFIC

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY:

EXCAVATION FOR MAINTAINING TRAFFIC 11,406 CU. YD.
EMBANKMENT FOR MAINTAINING TRAFFIC 3169 CU. YD.

WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

ITEM 615- ROAD FOR MAINTAINING TRAFFIC, AS PER PLAN

THE PAVEMENT FOR MAINTAINING TRAFFIC SHALL BE LEFT IN PLACE,THEREFORE THIS ITEM SHALL NOT INCLUDE THE PROVISIONS SET FORTH IN CMS SECTION 615.08.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC (SECTION 642-2).

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 102 M. GAL

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ONE OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE QUADGUARD CZ, (24 INCHES WIDE SIX-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

   THE LENGTH OF THE SIX-BAY QUADGUARD CZ IS 20'-9". INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
QSCZCVR-T4	QuadGuard CZ System for Construction Zones	5/13/99 Rev. J	8/27/1999
35-40-10	QuadGuard System Concrete Pad, CZ, QG	11/19/97 Rev. D	8/27/1999
35-40-16	QuadGuard System Backup Assembly, CZ, QG	7/30/99 Rev. F	8/27/1999
35405Iz	QuadGuard CZ System Nose Assembly, CZ, QG, 24, 30, 36	5/17/1999	8/27/1999
35-40-18	Transition Assembly, 4 Offset, QG	6/25/99 Rev. F	8/27/1999
35400260	QuadGuard System PCMB Anchor Assembly	11/19/97 Rev. C	8/27/1999

2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

   THE TRACC IS 21'-0" LONG AND 2'-7" WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS450	Crash-cushion Attenuating Terminal Plan, Elevation & Sections	3/12/99 Rev. 1	8/27/1999
SS455	TRACC Transition to W-beam Median Barrier Plan, Elevation & Sections	2/18/1999	8/27/1999
SS461	TRACC Transition to Concrete Safety Shape Barrier Plan, Elevation & Sections	6/30/99 Rev. 1	8/27/1999
SS462	TRACC Transition to Concrete Barrier Single Slope Plan, Elevation & Sections	6/30/1999	8/27/1999

(NOTE CONTINUED ON SHEET 18)

PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

CLI/GRE-71-7.26/0.00

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL) (CONTINUED FROM PREVIOUS SHEET)

3. THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR, DISTRIBUTED BY ROAD SYSTEMS INC., SALES SUPPORT, 2183 ELM TRACE, AUSTINTOWN, OH 44515, (TELEPHONE 330-799-9291)

THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT (24' LONG AND 35" WIDE). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIEDIN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
A040416	Universal TAU-II Parts List	4/22/2004	10/16/2004
A040420	Universal TAU-II Foundation, Flush Mount Backstop	4/28/2004	10/16/2004
A040105	Universal TAU-II Foundation, PCB Backstop (Referenced on A04020)	1/7/2004	10/16/2004
B040239	Application, Flush Mount Backstop (Typical for parallel 60 mph unit)	4/21/2004	10/16/2004

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THE APPROVED LIST OF PORTABLE CHANGEABLE MESSAGE SIGNS CAN BE FOUND ON THE ODOT WEBSITE BY CLICKING ON THE SERVICES MENU, THEN CLICKING ON MATERIALS MANAGEMENT. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FT. AND 475 FT., RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET 26 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE YELLOW RETROREFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 240 DAYS

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO CMS 614 OR CMS 621 AS SPECIFIED HEREIN.

RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621.

RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCT. 15th THROUGH APRIL 1st.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO CMS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER CMS 621.08.

RESURFACING OF THE TRANSITION AREAS SHALL BE PERFORMED AT THE TIME THAT THE SURFACE COURSE IS BEING APPLIED TO THE ENTIRE PROJECT. PRIOR TO APPLICATION OF THE SURFACE COURSE ON THE PROJECT, THE SURFACE COURSE OF THE EXISTING PAVEMENT WITHIN THE TRANSITION AREA SHALL BE REMOVED TO A DEPTH EQUIVALENT TO THE DEPTH OF THE PROPOSED SURFACE COURSE, AS DETERMINED BY THE ENGINEER.

PAYMENT FOR RESURFACING WITHIN THE TRANSITION AREA SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THE WORK REQUIRED, AS PROVIDED FOR IN THE PLANS.

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKERS ON CONCRETE SURFACES

RAISED PAVEMENT MARKERS IN WORK ZONES, INSTALLED ON TO CONCRETE SURFACES, SHALL BE ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS. WZRPMS ARE INTENDED FOR USE ONLY DURING THE NON-SNOW-PLOWING SEASON. WZRPMS SHALL NOT BE PROVIDED DURING THE SNOW-PLOWING SEASON.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCT. 15th THROUGH APRIL 1st.

WHERE A TEMPORARY ALIGNMENT WILL REMAIN IN USE THROUGH THE WINTER, THE WZRPMS SHALL BE REMOVED PRIOR TO THE BEGINNING OF THE SNOW-PLOWING SEASON AND REPLACED APPROXIMATELY APRIL 1, OR AS OTHERWISE DETERMINED BY THE ENGINEER.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS.

AN ESTIMATED QUANTITY OF 4104 EACH OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

CONCRETE BARRIER DELINEATION

OBJECT MARKERS SHALL BE INSTALLED ON ALL PERMANENT CONCRETE BARRIER, LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. OBJECT MARKER SPACING SHALL BE 50 FEET.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING OBJECT MARKERS.

AN ESTIMATED QUANTITY OF 130 EACH OF ITEM 614 OBJECT MARKER, 1-WAY HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

GUARDRAIL DELINEATION

OBJECT MARKERS SHALL BE INSTALLED ON ALL GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKER SPACING SHALL BE APPROXIMATELY 50 FEET.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING OBJECT MARKERS.

AN ESTIMATED QUANTITY OF 18 EACH OF ITEM 614 OBJECT MARKERS, 1-WAY HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

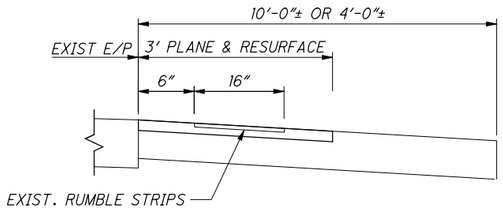
TEMPORARY PAVEMENT WEDGE

TEMPORARY PAVEMENT WEDGES SHALL BE PROVIDED AT ALL TIMES WHERE TRAFFIC IS REQUIRED TO TRAVEL FROM OR ONTO A PAVEMENT SURFACE OF A DIFFERENT ELEVATION. THE MINIMUM SLOPE OF THE TEMPORARY PAVEMENT WEDGE SHALL BE 3:1 ALONG LONGITUDINAL JOINTS AND 120:1 AT TRANSVERSE JOINTS. THESE WEDGES SHALL BE REMOVED PRIOR TO PLACING THE SPECIFIED PAVEMENT COURSE. PAYMENT FOR ALL WORK, MATERIALS, ETC. ASSOCIATED WITH THIS ITEM SHALL BE PAID FOR UNDER ITEM 614 MAINTAINING TRAFFIC LUMP SUM.

RUMBLE STRIP REMOVAL

PRIOR TO SHIFTING TRAFFIC ONTO THE EXISTING OUTSIDE SHOULDER FOR MAINLINE BRIDGES (CLI-71-1212 L/R & CLI-71-1399 L/R) PHASE 1, REMOVE THE EXISTING RUBMLE STRIPS BY PLANING AND RESURFACING PER THE DETAIL BELOW. THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK:

ITEM 254 1½" PAVEMENT PLANING, ASPHALT CONCRETE 8200 SQUARE YARDS
ITEM 442 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446) 342 CUBIC YARDS



DETAIL - RUMBLE STRIP REMOVAL

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

CLI/GRE-71-7.26/0.00

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CINCINNATI, OH 45242

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CONCRETE BARRIER DELINEATION AS PER PLAN

INCREASED DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL CONCRETE BARRIER, PERMANENT OR TEMPORARY, LOCATED WITHIN 5 FEET (1.5 METERS) OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS:

ALONG TAPERS AND TRANSITION AREAS
ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES

THE INCREASED DELINEATION SHALL CONSIST OF EITHER LINEAR DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

THE LINEAR DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE PROVIDED AT THE RATE OF ONE PER SECTION OF PORTABLE CONCRETE BARRIER, OR ONE PANEL EVERY 10 FEET (3 METERS) ON PERMANENT BARRIER, SPACED EVENLY ALONG THE LENGTH OF THE RUN. THE PANELS SHALL BE MOUNTED SUCH THAT THE TOPS OF THE PANELS ARE 26 INCHES (660 MILLIMETERS) FROM THE BASE OF THE CONCRETE BARRIER.

TRIPLE STACKED BARRIER REFLECTORS SHALL CONSIST OF THREE BARRIER REFLECTORS STACKED VERTICALLY IN THEIR ATTACHMENT TO CONCRETE BARRIER. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TOP OF THE MIDDLE BARRIER REFLECTOR SHALL BE LOCATED 26 IN (660 MM) ABOVE THE PAVEMENT. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING LINEAR DELINEATION.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE PLANS:

614 LINEAR DELINEATION 800 FOOT

ALONG RUNS OF CONCRETE BARRIER WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN BEING DELINEATED, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL PANELS OR STACKS OF BARRIER REFLECTORS.

WORK ZONE LANE LINE, CLASS I, AS PER PLAN
WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I, AS PER PLAN

WORK ZONE LANE LINE SHALL BE A SOLID LINE, 4" IN WIDTH

WORK ZONE GUARDRAIL CONSTRUCTION

THE GUARDRAIL SHALL BE TYPE 5 AS SPECIFIED IN ACCORDANCE WITH ITEM 606, EXCEPT THAT USED MATERIAL IN GOOD CONDITION WILL BE PERMITTED.

LOCATIONS AND QUANTITIES ARE SUMMARIZED IN THE TABLE ON SHEET 21

PAYMENT FOR ALL MATERIALS, INCLUDING BRIDGE TERMINAL AND END TERMINAL ASSEMBLIES, REMOVAL AND RESTORATION SHALL BE MADE UNDER ITEM SPECIAL - WORK ZONE GUARDRAIL

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CALCULATED | CHECKED

TRAFFIC GENERAL NOTES

MAINTENANCE OF

CLI/GRE-
71-7.26/0.00

SHEET NO.	PHASE	LOCATION		REMARKS	614														622	
					WORK ZONE EDGE LINE, CLASS I (W)	WORK ZONE EDGE LINE, CLASS I (Y)	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I (W)	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I (Y)		WORK ZONE LANE LINE, CLASS I (W) AS PER PLAN (SOLID)	WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I, AS PER PLAN (SOLID) (W)	WORK ZONE CHANNELIZING LINE, CLASS I		LINEAR DELINEATION	OBJECT MARKER, ONE WAY	BARRIER REFLECTOR, TYPE B	WORK ZONE IMPACT ATTENUATOR			PORTABLE CONCRETE BARRIER, 32"	PORTABLE CONCRETE BRIDGE MOUNTED BARRIER, 32"
		FROM	TO		MILE	MILE	MILE	MILE		MILE	MILE	FEET		FEET	EACH	EACH	EACH			FEET	FEET
PHASE 1-1212 NB																					
27	1	987+20.00	997+05.00	CHANNELIZING LINE								985								
27-28	1	1007+35.00	1014+20.00	CHANNELIZING LINE								685								
27	1	997+05.00	1007+35.00	LANE LINE						0.195										
27-28	1	990+20.00	1014+20.00	EDGE LINE	0.455	0.455														
27	1	1000+95.50	1007+35.00	32" PCB										100	14	14	1			470	170
PHASE 1-1212 SB																					
27	1	996+55.00	1003+40.00	CHANNELIZING LINE								685								
28	1	1013+70.00	1023+55.00	CHANNELIZING LINE								985								
27-28	1	1003+40.00	1013+70.00	LANE LINE						0.195										
27-28	1	996+55.00	1020+55.00	EDGE LINE	0.455	0.455														
27	1	1003+40.00	1009+79.70	32" PCB										100	14	14	1			470	170
PHASE 1-1399 NB																					
29	1	1085+30.00	1095+15.00	CHANNELIZING LINE								985								
30	1	1105+70.00	1112+55.00	CHANNELIZING LINE								685								
29-30	1	1095+15.00	1105+70.00	LANE LINE						0.200										
29-30	1	1088+30.00	1112+55.00	EDGE LINE (W)	0.459	0.459														
29	1	1099+10.30	1105+70.00	32" PCB										100	15	15	1			520	140
PHASE 1-1399 SB																					
29	1	1094+70.00	1101+55.00	CHANNELIZING LINE								685								
29	1	1112+10.00	1121+95.00	CHANNELIZING LINE								985								
29-30	1	1101+55.00	1112+10.00	LANE LINE						0.200										
29-30	1	1094+70.00	1118+95.00	EDGE LINE (W)	0.459	0.459														
29	1	1101+55.00	1108+14.70	32" PCB										100	15	15	1			520	140
PHASE 2-1212 NB																					
31-32	2	979+10.00	997+05.00	CHANNELIZING LINE								1795								
32-33	2	1007+35.00	1022+30.00	CHANNELIZING LINE								1495								
32-33	2	997+05.00	1007+35.00	LANE LINE						0.164	0.031									
32-33	2	982+10.00	1022+30.00	EDGE LINE	0.730	0.730	0.031	0.031												
32	2	999+25.60	1007+35.00	32" PCB										100	18	18	1			640	170
PHASE 2-1212 SB																					
32	2	988+45.00	1003+40.00	CHANNELIZING LINE								1495								
33	2	1013+70.00	1031+65.00	CHANNELIZING LINE								1795								
32-33	2	1003+40.00	1013+70.00	LANE LINE						0.164	0.031									
32-33	2	988+45.00	1028+65.00	EDGE LINE	0.730	0.730	0.031	0.031												
32	2	1003+40.00	1011+49.50	32" PCB										100	18	18	1			640	170
PHASE 2-1399 NB																					
34	2	1077+25.00	1095+20.00	CHANNELIZING LINE								1795								
34-35	2	1105+70.00	1120+65.00	CHANNELIZING LINE								1495								
34	2	1095+20.00	1105+70.00	LANE LINE						0.174	0.025									
34-35	2	1080+25.00	1120+65.00	EDGE LINE	0.740	0.740	0.025	0.025												
34-35	2	1097+40.60	1105+70.00	32" PCB										100	18	18	1			690	140
PHASE 2-1399 SB																					
34	2	1086+60.00	1101+55.00	CHANNELIZING LINE								1495								
35	2	1112+05.00	1130+00.00	CHANNELIZING LINE								1795								
34-35	2	1101+55.00	1112+05.00	LANE LINE						0.174	0.025									
34-35	2	1086+60.00	1127+00.00	EDGE LINE	0.740	0.740	0.025	0.025												
34-35	2	1101+55.00	1109+84.40	32" PCB										100	18	18	1			690	140
TOTALS CARRIED TO GENERAL SUMMARY					9.54		0.22			1.47	0.11	19840		800	130	130	8			4640	1240

CALCULATED SW
CHECKED DPF

MAINTENANCE OF TRAFFIC SUBSUMMARY

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71-7.26/0.00

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ITEM 614 - WORK ZONE RAISED PAVEMENT MARKERS

PHASE	LOCATION		REMARKS	SPACING	614	
					WZRPM, W	WZRPM, Y
	FROM	TO			EACH	EACH
1	987+20.00	1000+05.00	1212 NB TAPER	20	130	65
1	1004+35.00	1017+20.00	1212 NB TAPER	20	130	65
1	993+55.00	1006+40.00	1212 SB TAPER	20	130	65
1	1010+70.00	1023+55.00	1212 SB TAPER	20	130	65
1	1085+30.00	1098+15.00	1399 NB TAPER	20	130	65
1	1102+70.00	1115+55.00	1399 NB TAPER	20	130	65
1	1091+70.00	1104+55.00	1399 SB TAPER	20	130	65
1	1109+10.00	1121+95.00	1399 SB TAPER	20	130	65
2	979+10.00	1000+05.00	1212 NB TAPER	20	212	106
2	1004+35.00	1025+30.00	1212 NB TAPER	20	212	106
2	985+45.00	1006+40.00	1212 SB TAPER	20	212	106
2	1010+70.00	1031+65.00	1212 SB TAPER	20	212	106
2	1077+25.00	1098+20.00	1399 NB TAPER	20	212	106
2	1102+70.00	1123+65.00	1399 NB TAPER	20	212	106
2	1083+60.00	1104+55.00	1399 SB TAPER	20	212	106
2	1109+05.00	1130+00.00	1399 SB TAPER	20	212	106
TOTAL CARRIED TO GENERAL SUMMARY					4104	

ITEM 614 - WORK ZONE GUARDRAIL

LOCATION	LENGTH OF NEED	END TERMINAL ASSEMBLY TYPE B-98	END TERMINAL ASSEMBLY TYPE T	SPECIAL	FOR INFO. ONLY		614	
				WORK ZONE GUARDRAIL TYPE 5	END TERMINAL ASSEMBLY, TYPE B-98	END TERMINAL ASSEMBLY, TYPE T	OBJECT MARKER, ONE WAY	BARRIER REFLECTOR, TYPE B
				FEET	EACH	EACH	EACH	EACH
PHASE 2 CLI-71-1212								
NB - HORSEHOE ROAD BRIDGE PIERS	187.50	989+65.00	992+15.00	200.00	1	1	6	6
SB - SABINA ROAD BRIDGE PIERS	175.00	1020+24.50	1017+74.50	200.00	1	1	6	6
PHASE 2 CLI-71-1399								
SB - STARBUCK ROAD BRIDGE PIERS	175.00	1117+90.50	1115+45.50	195.00	1	1	6	6
TOTALS CARRIED TO GENERAL SUMMARY				595.00			18	18

CALCULATED | CHECKED

OFFICE OF TRAFFIC GENERAL SUBSUMMARY

MAINTENANCE

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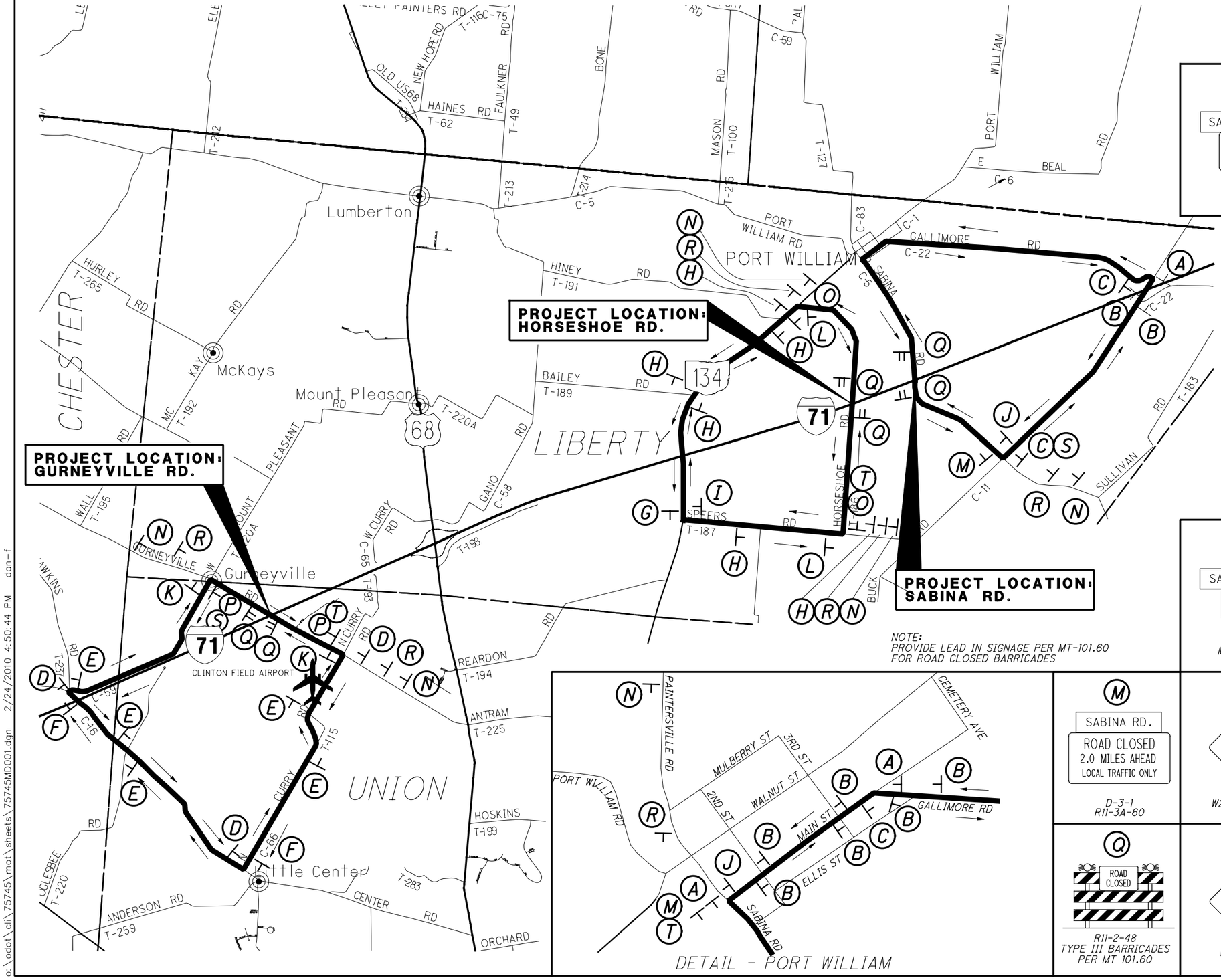
DETOUR FOR GURNEYVILLE, HORSESHOE, AND SABINA



NOTE:
PROVIDE LEAD IN SIGNAGE PER MT-101.60
FOR ROAD CLOSED BARRICADES

DETAIL - PORT WILLIAM

(A) SABINA RD. DETOUR ← D-3-1 M4-9-L	(B) SABINA RD. DETOUR ↑ D-3-1 SPECIAL	(C) SABINA RD. DETOUR → D-3-1 M4-9-R
(D) GURNEYVILLE RD. DETOUR ← D-3-1 M4-9-L	(E) GURNEYVILLE RD. DETOUR ↑ D-3-1 SPECIAL	(F) GURNEYVILLE RD. DETOUR → D-3-1 M4-9-R
(G) HORSESHOE RD. DETOUR ← D-3-1 M4-9-L	(H) HORSESHOE RD. DETOUR ↑ D-3-1 SPECIAL	(I) HORSESHOE RD. DETOUR → D-3-1 M4-9-R
(J) SABINA RD. END DETOUR D-3-1 M4-8A-24	(K) GURNEYVILLE RD. END DETOUR D-3-1 M4-8A-24	(L) HORSESHOE RD. END DETOUR D-3-1 M4-8A-24
(M) SABINA RD. ROAD CLOSED 2.0 MILES AHEAD LOCAL TRAFFIC ONLY D-3-1 R11-3A-60	(N) ROAD CLOSED AHEAD W20-3-48	(O) HORSESHOE RD. ROAD CLOSED 2.0 MILES AHEAD LOCAL TRAFFIC ONLY D-3-1 R11-3A-60
(P) GURNEYVILLE RD. ROAD CLOSED 1.0 MILE AHEAD LOCAL TRAFFIC ONLY D-3-1 R11-3A-60		
(Q) ROAD CLOSED R11-2-48 TYPE III BARRICADES PER MT 101.60	(R) DETOUR AHEAD W20-2-36	(S) DETOUR M4-10R-48
(T) DETOUR M4-10L-48		

HORIZONTAL SCALE IN FEET
0 2500 5000 10000

CALCULATED CML
CHECKED DPF

DETOUR MAP
GURNEYVILLE, HORSESHOE, AND SABINA ROADS

CLI/GRE-
71-7.26/0.00

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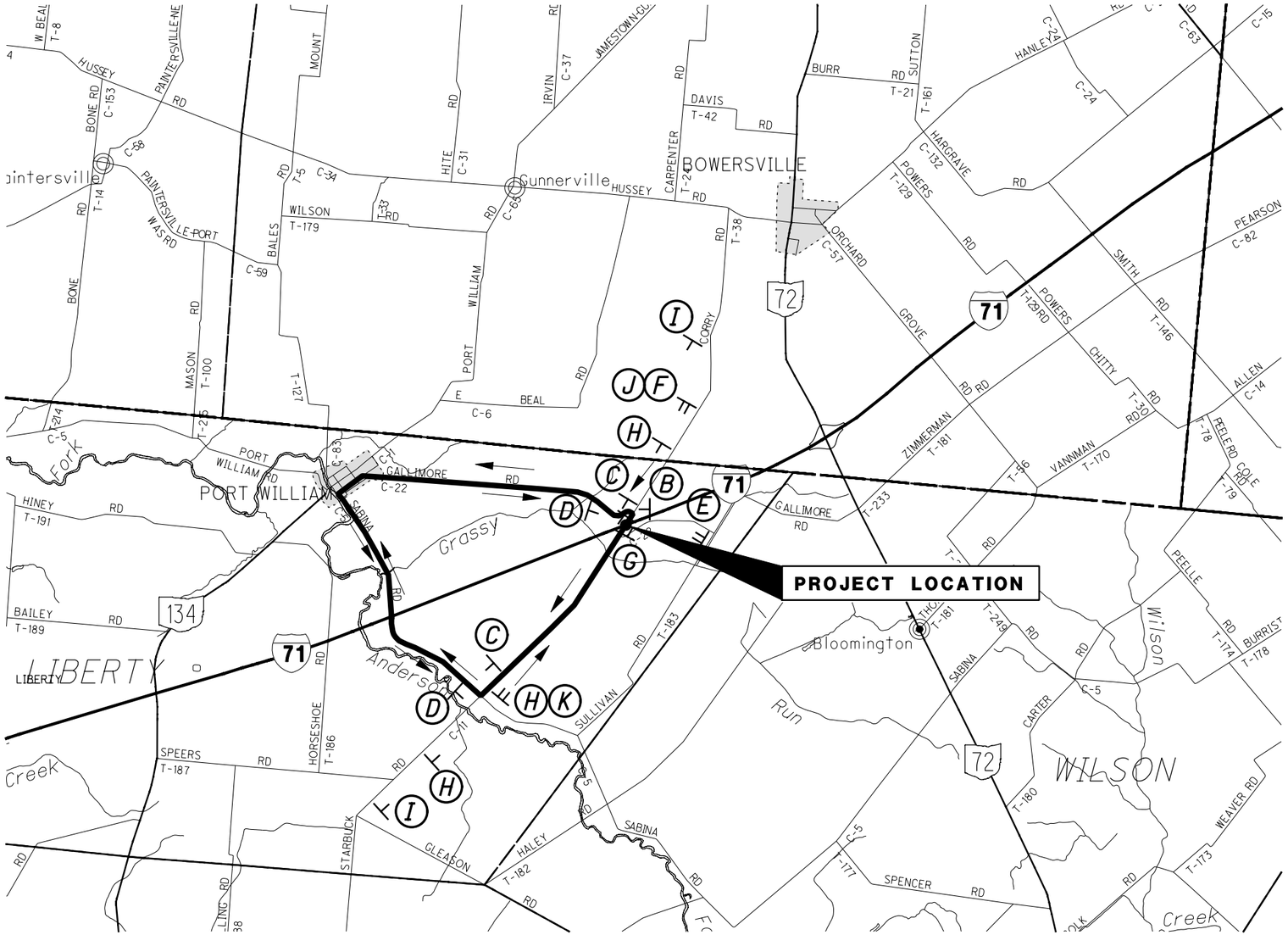
STARBUCK DETOUR



NOTE:
PROVIDE LEAD IN SIGNAGE PER MT-101.60
FOR ROAD CLOSED BARRICADES

A

STARBUCK RD.
DETOUR

D-3-1
SPECIAL

B

STARBUCK RD.
DETOUR

D-3-1
M4-9-L

C

STARBUCK RD.
DETOUR

D-3-1
M4-9-R

D

END DETOUR
STARBUCK RD.

M4-8A-24
D-3-1

E

STARBUCK RD.
ROAD CLOSED
0.25 MILES AHEAD
LOCAL TRAFFIC ONLY

D-3-1
R11-3A-60

F

STARBUCK RD.
ROAD CLOSED
1.0 MILES AHEAD
LOCAL TRAFFIC ONLY

D-3-1
R11-3A-60

G

ROAD CLOSED

R11-2-48
TYPE III BARRICADES

H

DETOUR AHEAD

W20-2-36

I

ROAD CLOSED AHEAD

W20-3-48

J

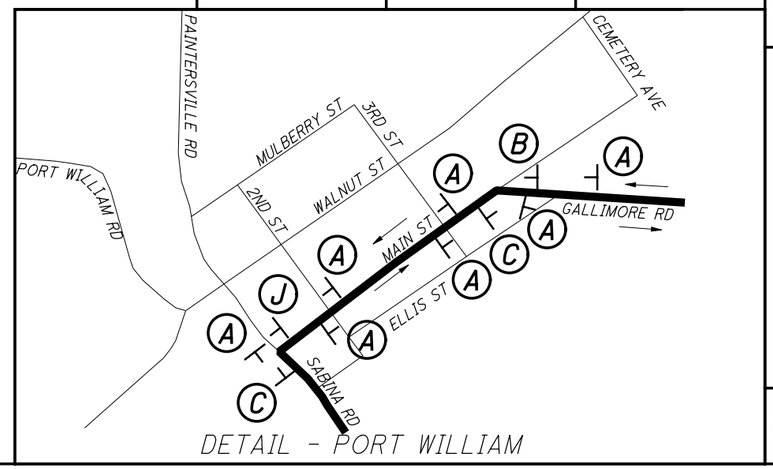
DETOUR

M4-10R-48

K

DETOUR

M4-10L-48



DETAIL - PORT WILLIAM

HORIZONTAL SCALE IN FEET
0 1250 2500 5000

CALCULATED CML
CHECKED DPF

DETOUR MAP
STARBUCK ROAD (CLI-71-1421)

CLI/GRE-
71-7.26/0.00

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CINCINNATI, OH 45242

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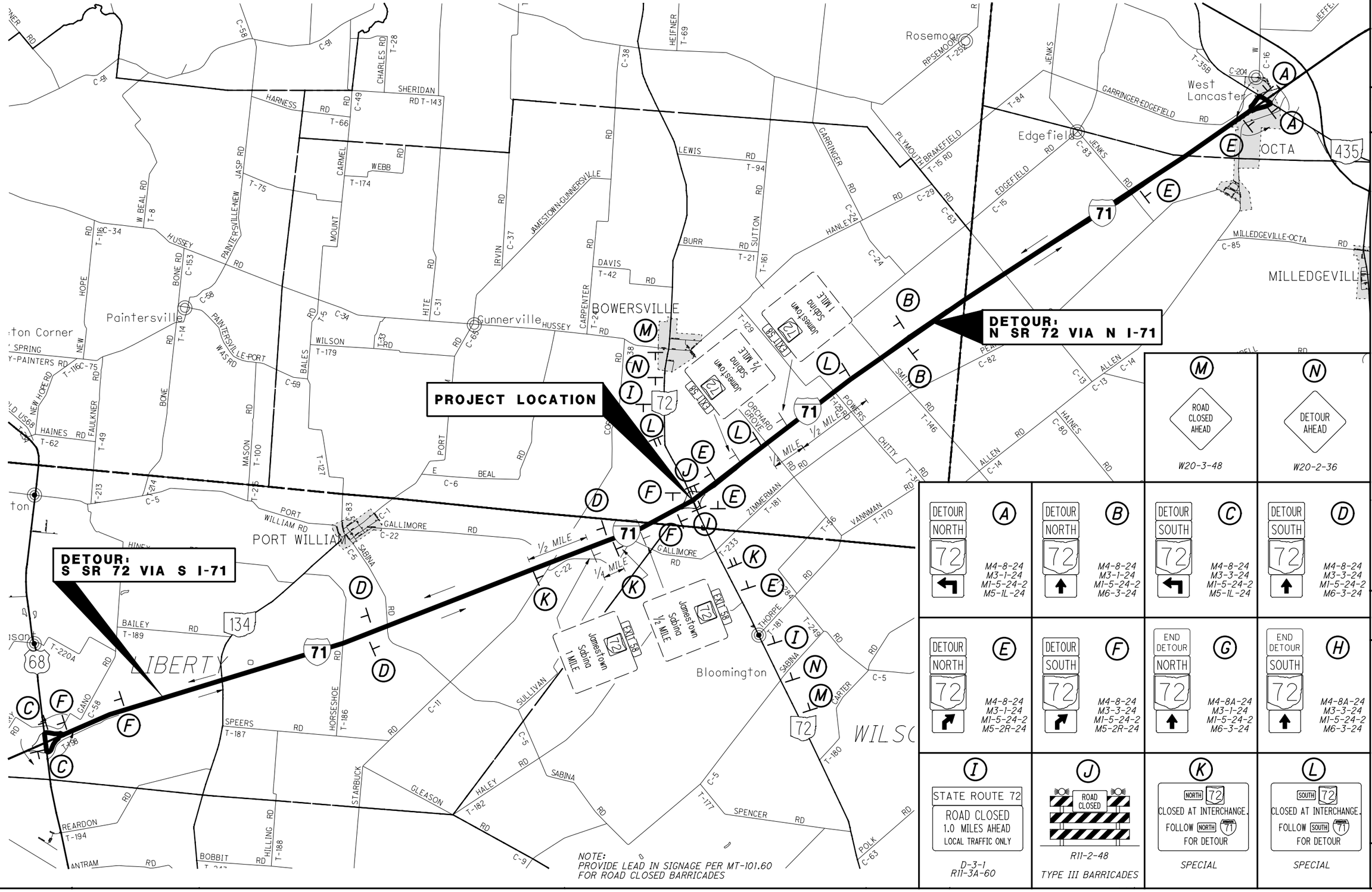
SR 72 DETOUR



DETOUR NORTH 72 (A)	DETOUR NORTH 72 (B)	DETOUR SOUTH 72 (C)	DETOUR SOUTH 72 (D)
M4-8-24 M3-1-24 M1-5-24-2 M5-1L-24	M4-8-24 M3-1-24 M1-5-24-2 M6-3-24	M4-8-24 M3-3-24 M1-5-24-2 M5-1L-24	M4-8-24 M3-3-24 M1-5-24-2 M6-3-24
DETOUR NORTH 72 (E)	DETOUR SOUTH 72 (F)	END DETOUR NORTH 72 (G)	END DETOUR SOUTH 72 (H)
M4-8-24 M3-1-24 M1-5-24-2 M5-2R-24	M4-8-24 M3-3-24 M1-5-24-2 M5-2R-24	M4-8A-24 M3-1-24 M1-5-24-2 M6-3-24	M4-8A-24 M3-3-24 M1-5-24-2 M6-3-24
(I) STATE ROUTE 72 ROAD CLOSED 1.0 MILES AHEAD LOCAL TRAFFIC ONLY — D-3-1 R11-3A-60	(J) ROAD CLOSED — R11-2-48 TYPE III BARRICADES	(K) NORTH 72 CLOSED AT INTERCHANGE. FOLLOW NORTH 71 FOR DETOUR — SPECIAL	(L) SOUTH 72 CLOSED AT INTERCHANGE. FOLLOW SOUTH 71 FOR DETOUR — SPECIAL

(M) ROAD CLOSED AHEAD — W20-3-48

(N) DETOUR AHEAD — W20-2-36

HORIZONTAL SCALE IN FEET: 0, 1250, 2500, 5000

CALCULATED CML

CHECKED DPF

DETOUR MAP
STATE ROUTE 72 (GRE-72-0029)

CLI/GRE-71-7.26/0.00

24/218

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ENGINEERING CINCINNATI, OH 45242
11300 CORNELL PARK DR

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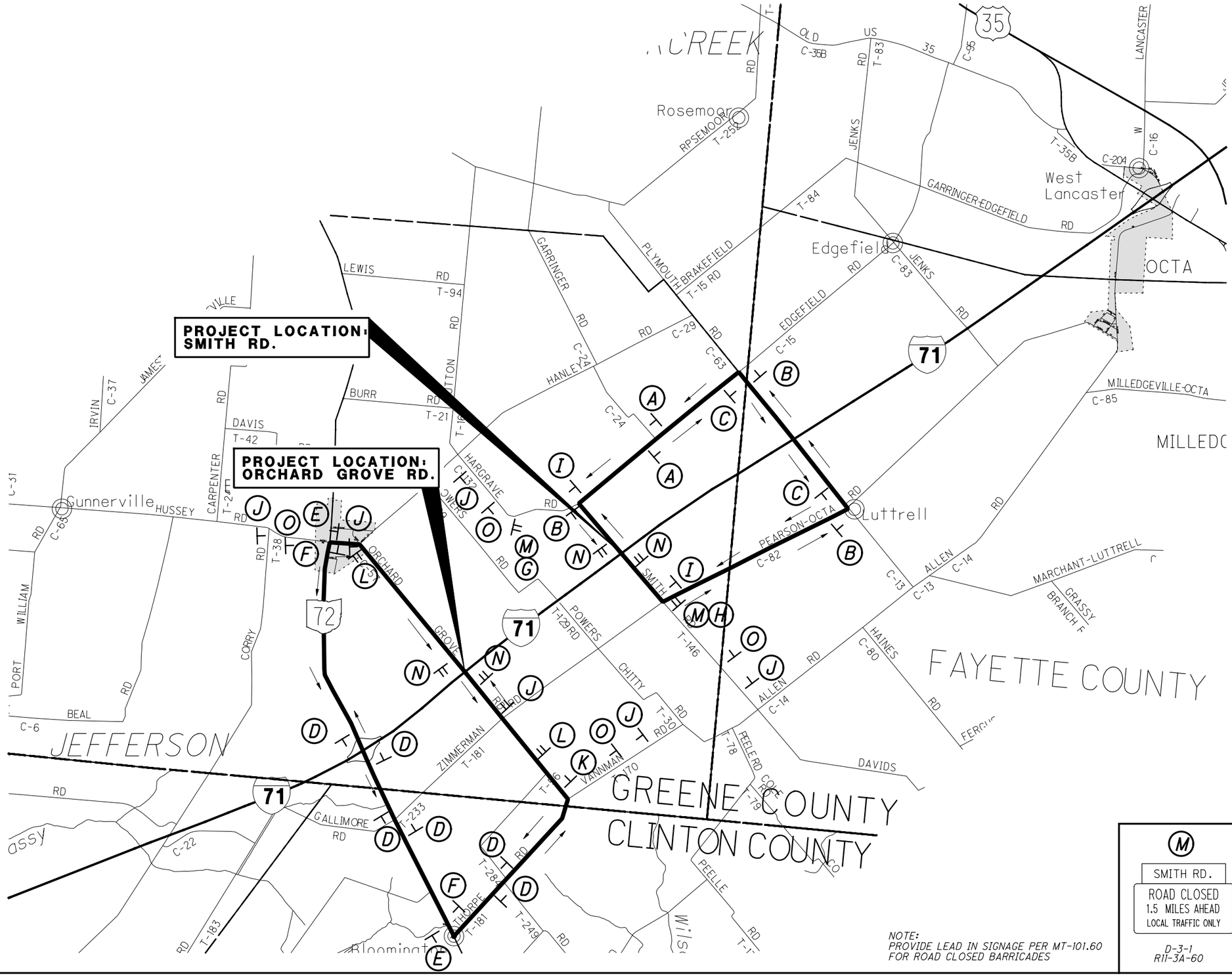
DETOUR FOR ORCHARD GROVE AND SMITH



NOTE:
PROVIDE LEAD IN SIGNAGE PER MT-101.60
FOR ROAD CLOSED BARRICADES

A SMITH RD. DETOUR — D-3-1 SPECIAL	**B** SMITH RD. DETOUR — M5-1-L M4-9-L
C SMITH RD. DETOUR — M5-1-R M4-9-R	**D** ORCHARD GROVE RD. DETOUR — D-3-1 SPECIAL
E ORCHARD GROVE RD. DETOUR — M5-1-L M4-9-L	**F** ORCHARD GROVE RD. DETOUR — M5-1-R M4-9-R
G DETOUR — M4-10L-48	**H** DETOUR — M4-10R-48
I SMITH RD. END DETOUR — D-3-1 M4-8A-24	**J** ROAD CLOSED AHEAD — W20-3-48
K ORCHARD GROVE RD. END DETOUR — D-3-1 M4-8A-24	**L** ORCHARD GROVE RD. ROAD CLOSED 2.0 MILES AHEAD LOCAL TRAFFIC ONLY — D-3-1 R11-3A-60
M SMITH RD. ROAD CLOSED 1.5 MILES AHEAD LOCAL TRAFFIC ONLY — D-3-1 R11-3A-60	**N** ROAD CLOSED — R11-2-48 TYPE III BARRICADES PER MT-101.60
O DETOUR AHEAD — W20-2-36	

N

HORIZONTAL SCALE IN FEET
0 2500 5000 10000

CALCULATED CML
CHECKED DPF

DETOUR MAP
ORCHARD GROVE ROAD AND SMITH ROAD

CLI/GRE-
71-7.26/0.00

25
218

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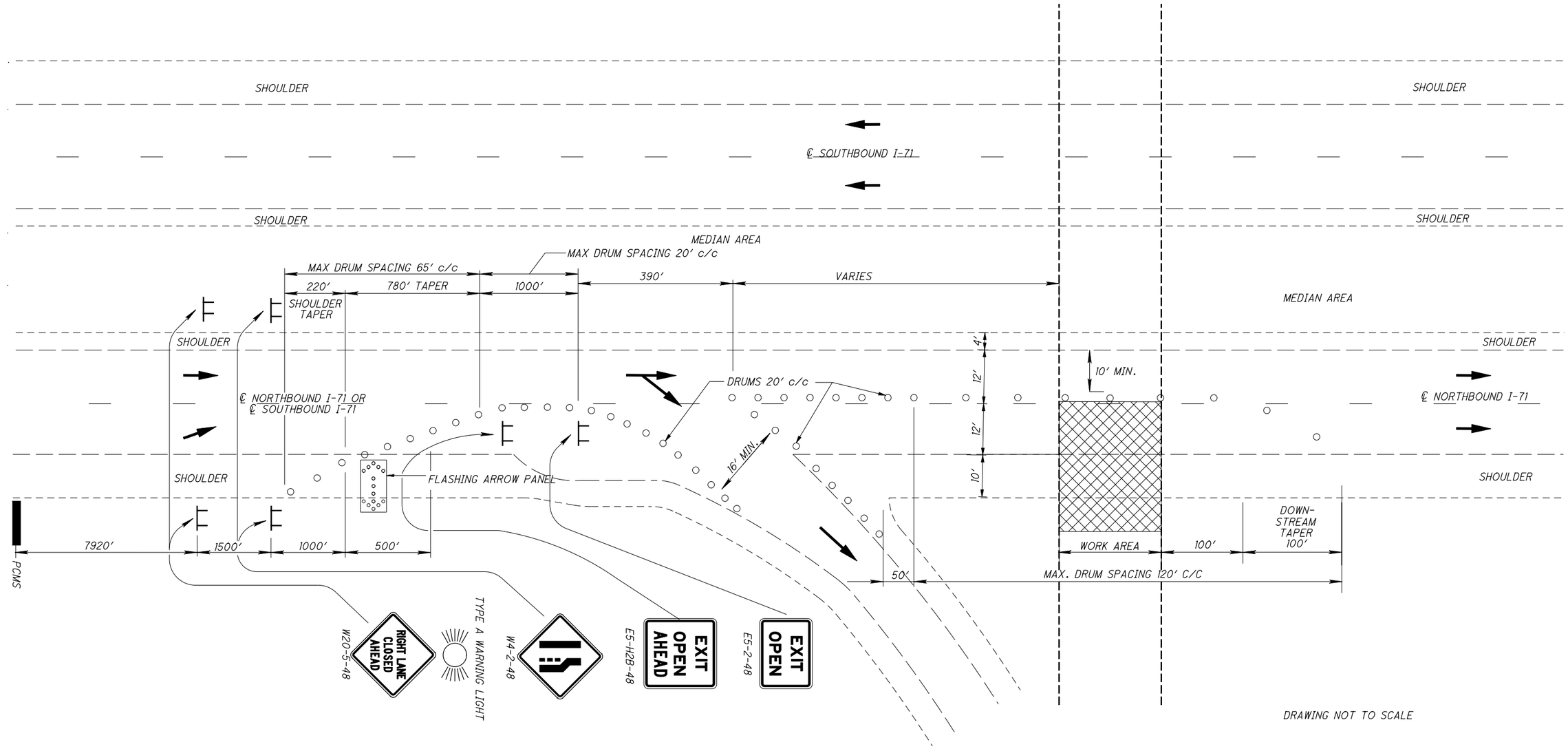
o:\odot\cli\75745\mot\sheets\75745MD0004.dgn 2/24/2010 4:51:02 PM dan-f

MAINTENANCE OF TRAFFIC PLAN
RIGHT LANE CLOSURE I-71/SR 72

CALCULATED | CHECKED



LEGEND

DRUMS ○ ○ ○ ○ ○ ○ ○

DIRECTION OF TRAVEL →

NOTES:
1) SEE I-71 NOTE SHEET 16 FOR DURATION AND RESTRICTIONS ON LANE CLOSURES
2) SEE SCD MT-95.30 AND MT-98.20 FOR MORE DETAILS.
3) COVER SIGNS WHEN LANE CLOSURE IS INACTIVE

CLI/GRE-
71-7.26/0.00

26
218

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SECTION A-A

LEGEND

- WORK ZONE
- ITEM 615: PAVEMENT FOR M.O.T. CONSTRUCTION

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED: DPF
CHECKED:

MAINTENANCE OF TRAFFIC I-71 - PHASE 1
STA. 982+50.00 - STA. 1008+30.00

CLI/GRE-71-7.26/0.00

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LEGEND

WORK ZONE

ITEM 615: PAVEMENT FOR M.O.T. CONSTRUCTION

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DPF
CHECKED

MAINTENANCE OF TRAFFIC I-71 PHASE 1
STA. 1008+30.00 - 1062+40.00

CLI/GRE-71-7.26/0.00

28
218

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SECTION A-A

LEGEND

- WORK ZONE
- ITEM 615: PAVEMENT FOR M.O.T. CONSTRUCTION

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DPF
CHECKED

MAINTENANCE OF TRAFFIC I-71 - PHASE 1
STA. 1049+45.00 - STA. 1105+30.00

CLI/GRE-71-7.26/0.00

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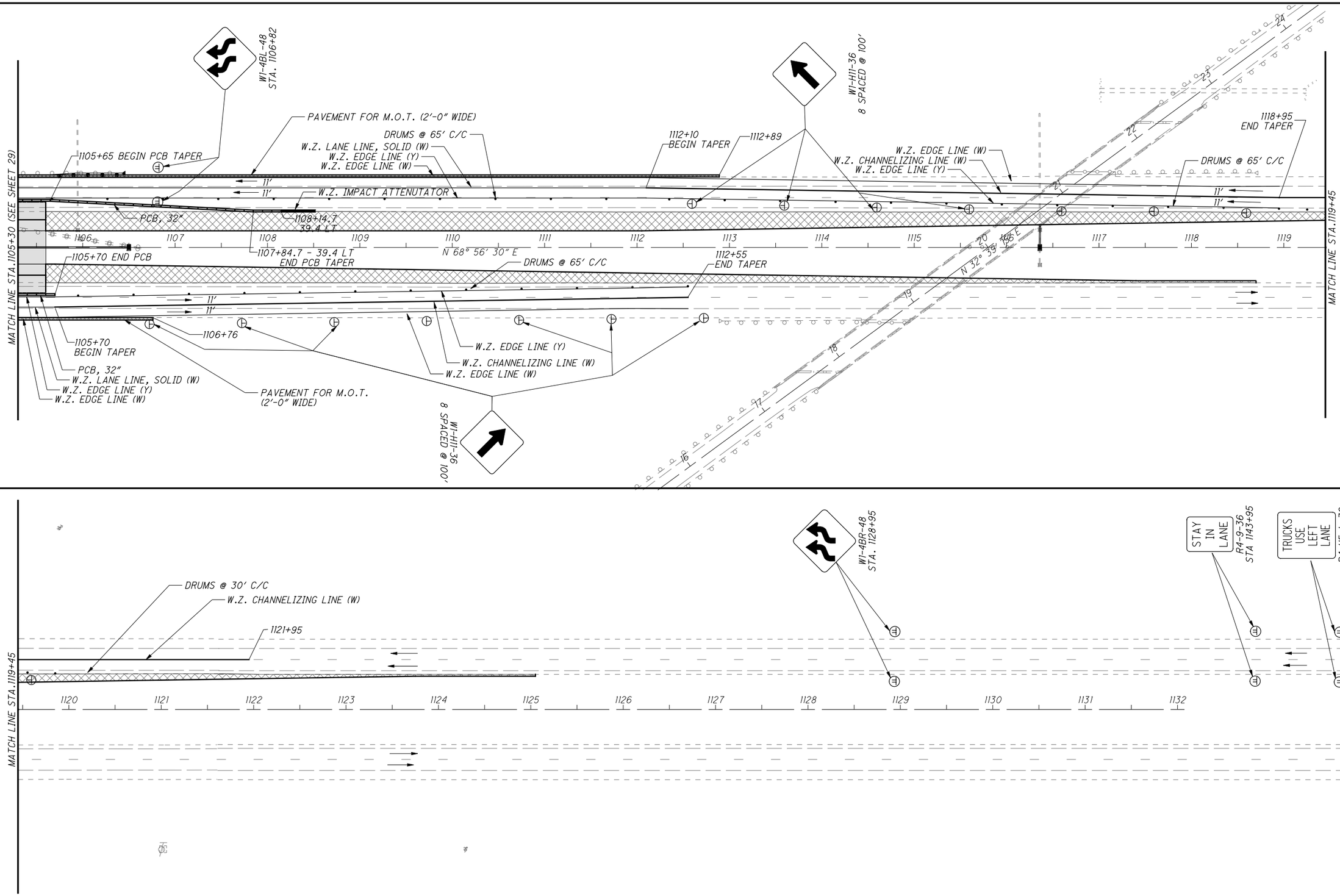

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DPF CHECKED

MAINTENANCE OF TRAFFIC I-71 - PHASE 1
STA. 1105+30.00 - STA. 1157+80.00

CLI/GRE-
71-7.26/0.00

30
218

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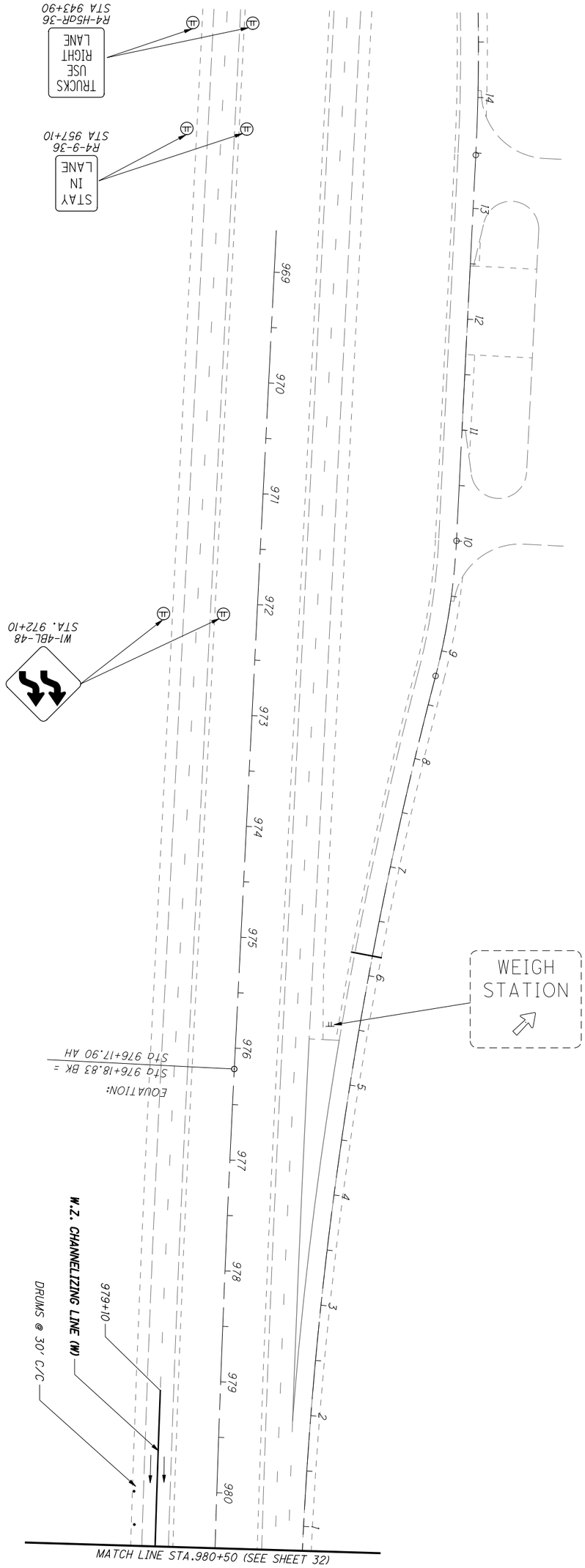
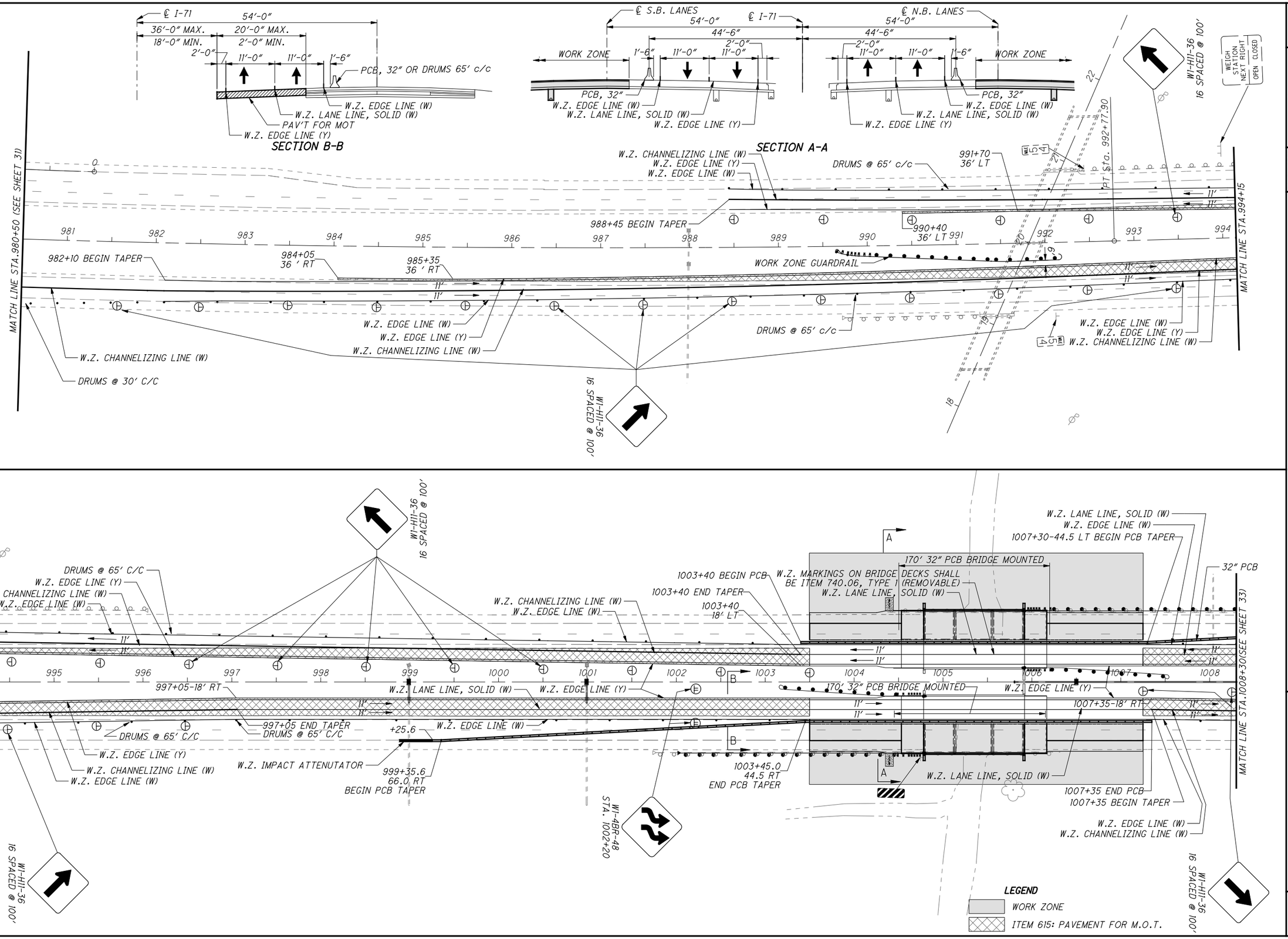

TRUCKS USE RIGHT LANE
R4-H5aR-36
STA 943+90
STAY IN LANE
R4-9-36
STA 957+10
W1-4aL-48
STA. 972+10
WEIGH STATION
STA 976+18.83 BK =
STA 976+17.90 AH
EQUATION:
W.Z. CHANNELIZING LINE (W)
979+10
DRUMS @ 30' C/C
MATCH LINE STA.980+50 (SEE SHEET 32)



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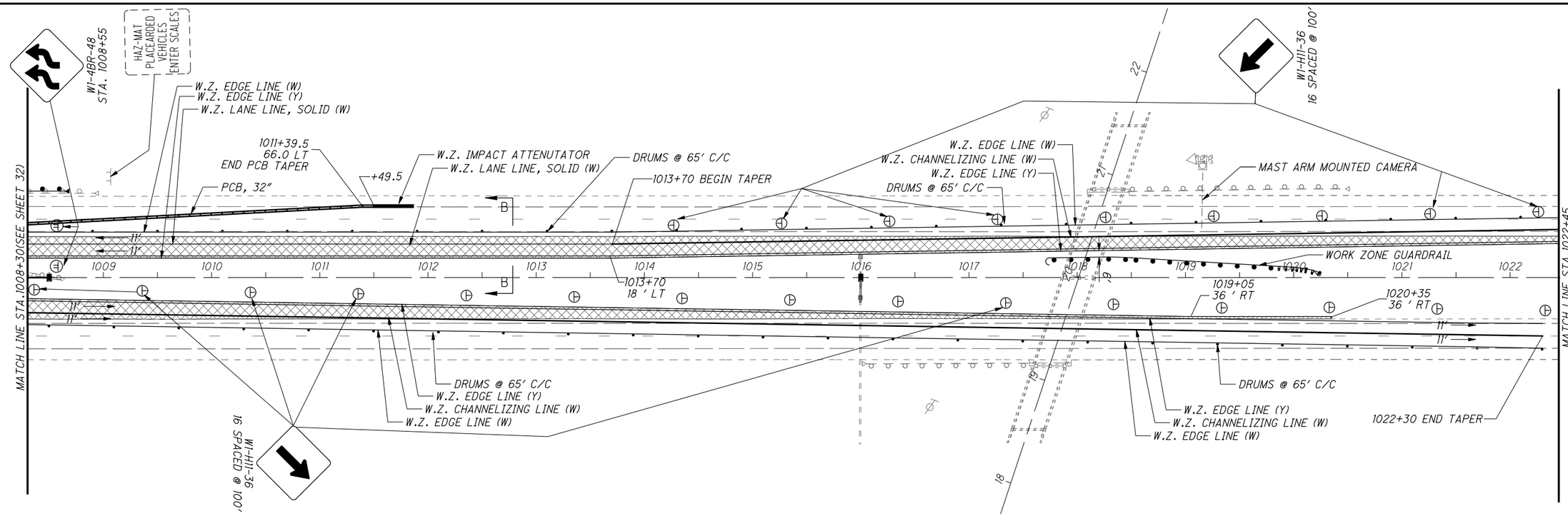
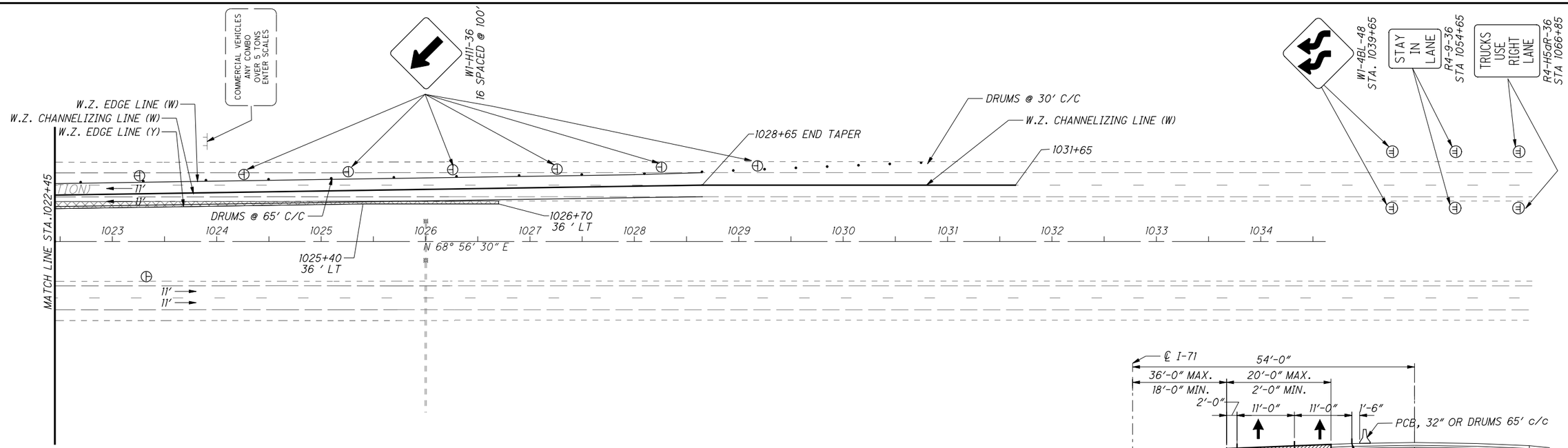
MAINTENANCE OF TRAFFIC I-71 - PHASE 2
STA. 980+50.00 - STA. 1008+30.00

CLI/GRE-
71-7.26/0.00





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CINCINNATI, OH 45242

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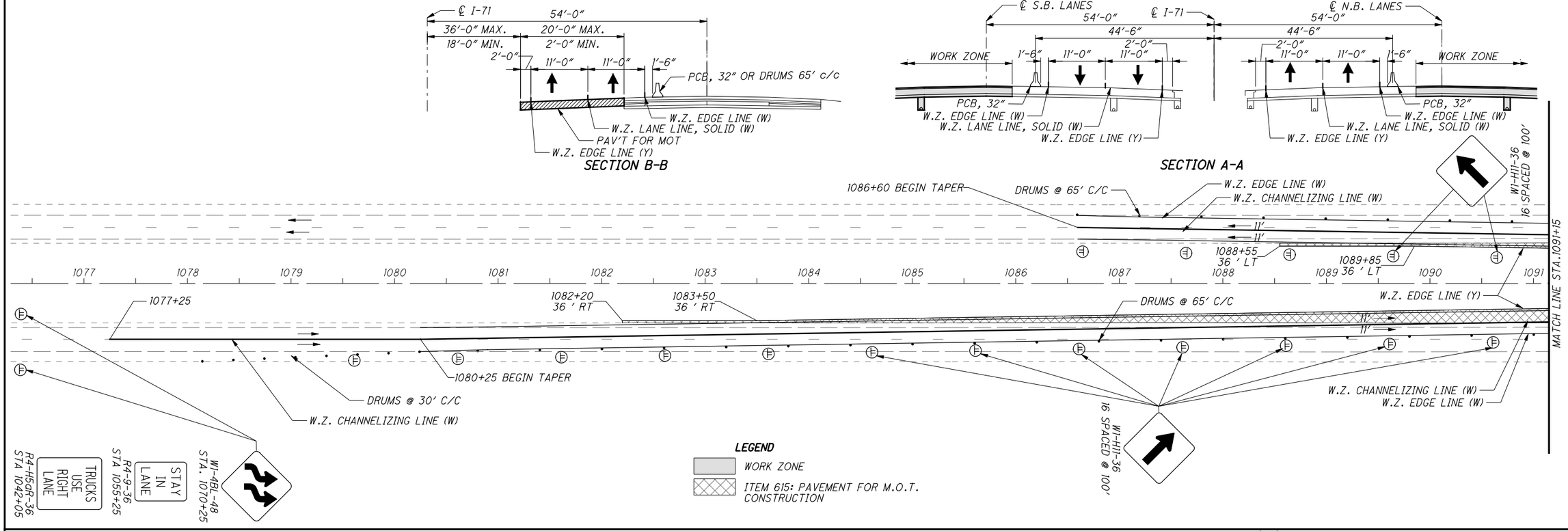
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DPF
CHECKED

MAINTENANCE OF TRAFFIC I-71 PHASE 2
STA. 1008+30.00 - STA. 1067+50.00

CLI/GRE-71-7.26/0.00

33
218



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DPF CHECKED

MAINTENANCE OF TRAFFIC I-71 - PHASE 2
STA. 1041+40.00 - STA. 1105+30.00

CLI/GRE-71-7.26/0.00

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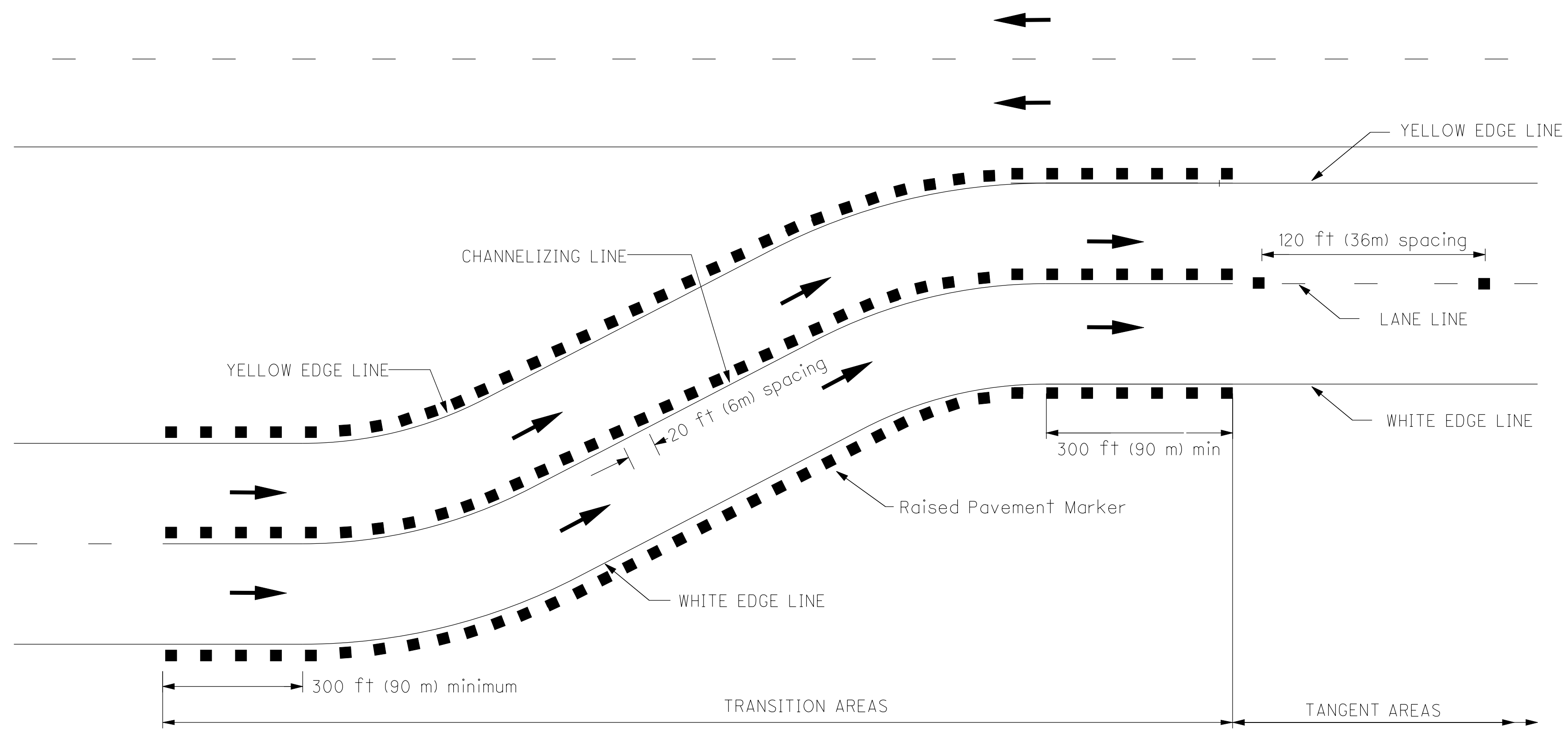
HORIZONTAL SCALE IN FEET
0 25 50 100

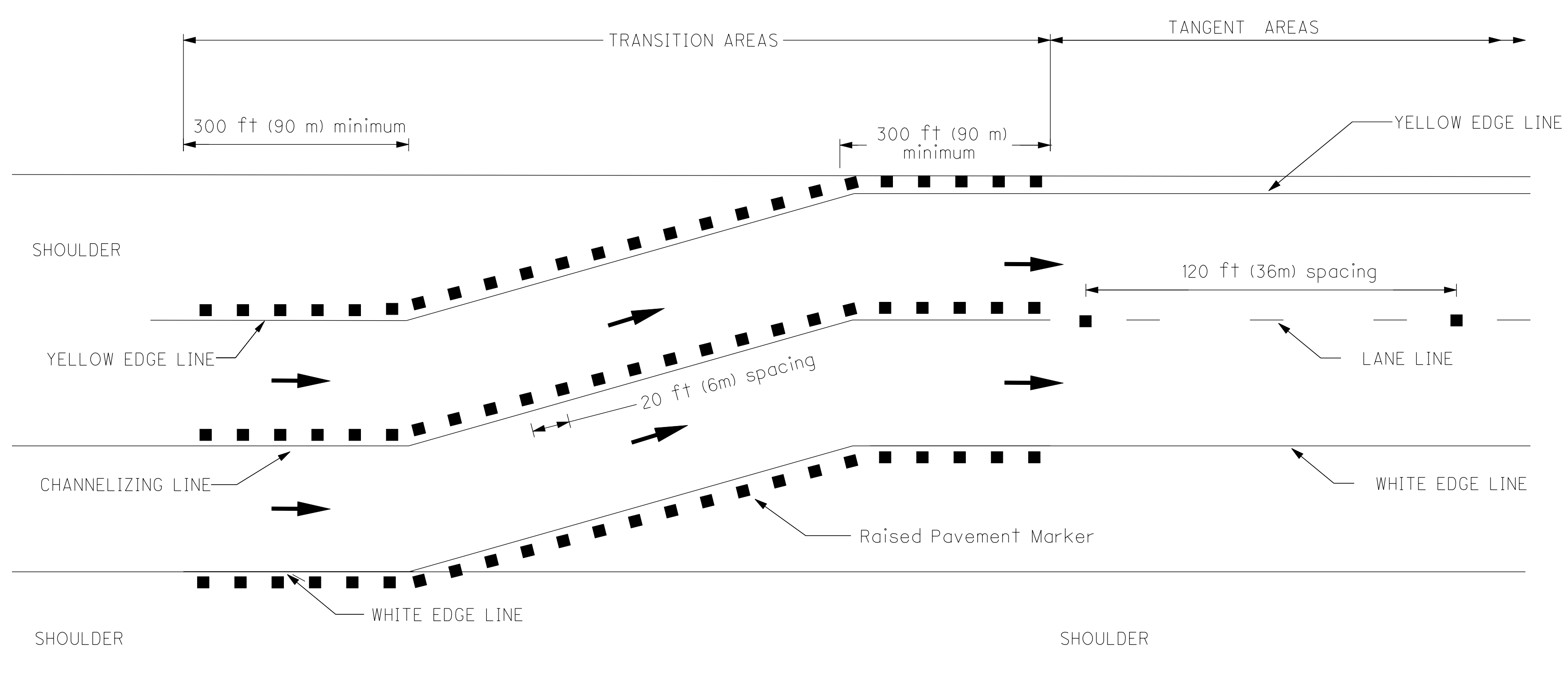
CALCULATED DPF
CHECKED

MAINTENANCE OF TRAFFIC I-71 - PHASE 2
STA. 1105+30.00 - STA. 1165+85.00

CLI/GRE-71-7.26/0.00



WORK ZONE DELINEATION FOR CROSSOVERS



WORK ZONE DELINEATION FOR LANE SHIFTS

LEGEND

■ RPM

→ DIRECTION OF TRAVEL

NOTES

1. This drawing presents delineation procedures for freeways and expressways on asphalt surfaces. Procedures are provided for transition areas and for tangent areas. The procedures for transition areas apply to crossovers and to lane shifts of 4 feet (1.2 m) or greater. Delineation of transition areas for shifts of less than 4 feet (1.2 m)shall be as per the tangent area delineation.

2. Raised Pavement Markers shall meet the following seasonal specifications:

   a) Raised Pavement Markers in place during the normal construction season may be either 621 Raised Pavement Markers or 614 Work Zone Raised Pavement Markers (WZRPMs). The normal construction season with regard to use of WZRPMs shall be the period from April 1 through October 15.

   b) At locations where it is intended that Raised Pavement Markers will winter over, 621 Raised Pavement Markers shall be provided.

   c) At locations where it is intended that work will continue beyond October 15 but will be completed prior to the beginning of snow-plowing season, 614 WZRPMs may remain in place until such time. Snow-plowing season shall be as specified in the plans. If snow-plowing season is not specified in the plans, it shall be assumed that snow-plowing season runs from October 16 through March 31. If project delays, not the fault of ODOT, cause work to extend into the snow-plowing season, the contractor shall be responsible for replacing WZRPMs with 621 Raised Pavement Markers, as determined by the Engineer, at the contrator's expense.

3. All material furnished shall be listed on the Department's Prequalified Lists.

4. The geometrics of the crossover shall be as shown in the plans. Additional details are provided in Standard Construction Drawing MT-95.70.

5. See Standard Construction Drawings MT-102.10 and MT-102.20 for more details concerning lane shifts.

6. Spacing of raised pavement markers (RPMs) shall be at 20 feet (6 m) center-to-center for all long-line marking within transition areas. Within tangent areas RPMs shall be provided only along the lane lines, spaced at 120 foot (36 m) center-to-center.

7. The RPMs shall be 1-way, facing oncoming traffic, and shall be white or yellow to match the color of the associated line marking.

8. Along the edge lines, the RPMs shall be offset a maximum of 4 inches (100 mm) to the outside of the lines. Along the channelizing lines, the RPMs shall be offset to the left of the lines by no more than 1 inch (25 mm). Along the lane lines the RPMs shall be centered between dashes.

9. The RPMs shall be removed when they are no longer appropriate.

10. Holes resulting from removal of 621 RPMs shall be filledas per 202.10. If removal of the 621 RPMs does not take place immediately after the highlighted alignment becomes invalid, the reflectors within the 621 RPMs shall be removed.

11. Following removal of 621 RPMs resurfacing of the transition shall be performed. The resurfacing shall be performed at the time the surface course is being applied. In preparation for resurfacing, the existing pavement shall be removed to a depth necessary to match the level of the intermediate course of the proposed pavement.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 7/20/07 | CHECKED

PID NUMBER 209930

PLAN INSERT SHEET

WORK ZONE DELINEATION ON ASPHALT SURFACES

CLI/GRE-71-7.26/0.00

1/1

Palmer PALMER ENGINEERING 11300 CORNELL PARK DR CINCINNATI, OH 45242

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
10	12	13	14	18	39	40	41				OFFICE CALCS								
																		ROADWAY	
														201	11000	LUMP		CLEARING AND GRUBBING	
					245	238								202	35100	483	FT	PIPE REMOVED, 24" AND UNDER	
					1772	2680	1668							202	38000	6119	FT	GUARDRAIL REMOVED	
					2	4	8							202	42010	14	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
					2	2								202	42210	4	EACH	ANCHOR ASSEMBLY REMOVED, BARRIER DESIGN	
					4	8								202	47000	12	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
					9	9								202	58100	18	EACH	CATCH BASIN REMOVED	
					102	119								SPECIAL	20270000	221	FT	FILL AND PLUG EXISTING CONDUIT	14
					326	332	222							202	75000	880	FT	FENCE REMOVED	
							18419							203	10000	18419	CU YD	EXCAVATION	
							15887							203	20000	15887	CU YD	EMBANKMENT	
											11539			204	10000	11539	SQ YD	SUBGRADE COMPACTION	
		6												204	45000	6	HOUR	PROOF ROLLING	
					1400.00	1275.00	1343.75							606	13000	4018.75	FT	GUARDRAIL, TYPE 5	
					4									606	26000	4	EACH	ANCHOR ASSEMBLY, TYPE B	
					4	2	1							606	26100	7	EACH	ANCHOR ASSEMBLY, TYPE E	
					8	8	4							606	35000	20	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
					224	234	222							607	15000	680	FT	FENCE, TYPE 47	
														SPECIAL	69098400	LUMP		CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION	14
														SPECIAL	87825000	LUMP		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
																		EROSION CONTROL	
					60	60	150							601	34301	270	CU YD	ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER, AS PER PLAN	15
							2							659	00100	2	EACH	SOIL ANALYSIS TEST	
							3058							659	00300	3058	CU YD	TOPSOIL	
							27554							659	10000	27554	SQ YD	SEEDING AND MULCHING	
							1378							659	14000	1378	SQ YD	REPAIR SEEDING AND MULCHING	
							1378							659	15000	1378	SQ YD	INTER-SEEDING	
							3.84							659	20000	3.84	TON	COMMERCIAL FERTILIZER	
							5.69							659	31000	5.69	ACRE	LIME	
							153							659	35000	153	M GAL	WATER	
					85	98	554							660	20000	737	SQ YD	SODDING, REINFORCED	
					850	288								670	00700	1138	SQ YD	DITCH EROSION PROTECTION	
			LUMP											832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
			125000											832	30000	125000	EACH	EROSION CONTROL	
																		DRAINAGE	
							10.8							601	21050	11	SQ YD	TIED CONCRETE BLOCK MAT, TYPE 1	
							0.93							602	20000	0.9	CU YD	CONCRETE MASONRY	
							550							603	00900	550	FT	6" CONDUIT, TYPE B	
			50											603	01400	50	FT	6" CONDUIT, TYPE E	
			50				304							603	01500	354	FT	6" CONDUIT, TYPE F	
			50											603	02500	50	FT	8" CONDUIT, TYPE E	
			50											603	02600	50	FT	8" CONDUIT, TYPE F	
					316									603	06100	316	FT	15" CONDUIT, TYPE C	
					412									603	07600	412	FT	18" CONDUIT, TYPE C	
					11									604	01200	11	EACH	CATCH BASIN, NO. 4	
							6							604	36600	6	EACH	PRECAST REINFORCED CONCRETE OUTLET	
							1845							605	11100	1845	FT	6" SHALLOW PIPE UNDERDRAINS	
							1845							605	14000	1845	FT	6" BASE PIPE UNDERDRAINS	
177	153													605	31100	330	FT	AGGREGATE DRAINS	
																		PAVEMENT	
											1290			253	01000	1290	SQ YD	PAVEMENT REPAIR	
				8200							591312			254	01000	599512	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
											88365			254	01600	88365	SQ YD	PATCHING PLANED SURFACE	
											3115			301	46000	3115	CU YD	ASPHALT CONCRETE BASE, PG64-22	
											2079			304	20000	2079	CU YD	AGGREGATE BASE	
											44422			407	10000	44422	GALLON	TACK COAT	
											630			407	14000	630	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
				342							33081			442	10000	33423	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
											355			442	10100	355	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)	
											508			448	46050	508	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
											217			448	47020	217	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG 64-22	

CALCULATED CML
CHECKED DPF

GENERAL SUMMARY (1 OF 2)

CLI/GRE-
71-7.26/0.00

37
218

PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
16	17	18	20	21	39	40	41	100	101		OFFICE CALCS								
																		PAVEMENT (CONTINUED)	
					36	244	520							609	24510	800	FT	CURB, TYPE 4-C	
											3233			617	10100	3233	CU YD	COMPACTED AGGREGATE	
											48			618	40600	48	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	
																		TRAFFIC CONTROL	
								1302						621	00100	1302	EACH	RPM	
									90					626	00100	90	EACH	BARRIER REFLECTOR	
									131					630	03100	131.0	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
									19					630	08520	19.0	FT	STREET NAME SIGN SUPPORT, NO. 3 POST	
								2						630	08600	2	EACH	SIGN POST REFLECTOR	
									4					630	84900	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
									13					630	85100	13	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
									17					630	86002	17	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
									2					632	26500	2	EACH	DETECTOR LOOP	
									2					632	27200	2	EACH	LOOP DETECTOR TIE IN	
									40					632	65202	40	FT	LOOP DETECTOR LEAD-IN CABLE, INTEGRAL MESSENGER WIRE TYPE, NO. 14 AWG	
								51.73	0.75					644	00100	52.48	MILE	EDGE LINE	
								24.68						644	00200	24.68	MILE	LANE LINE	
									0.30					644	00300	0.30	MILE	CENTER LINE	
								5,688						644	00400	5688	FT	CHANNELIZING LINE	
								175						644	00500	175	FT	STOP LINE	
								0.32	0.89					645	00110	1.21	MILE	EDGE LINE, TYPE A3	
								0.16						645	00210	0.16	MILE	LANE LINE, TYPE A3	
									0.33					645	00310	0.33	MILE	CENTER LINE, TYPE A3	
																		STRUCTURES (20' AND OVER)	
																		FOR STRUCTURE CLI-71-0725 GENERAL SUMMARY	109
																		FOR STRUCTURE CLI-71-1187 GENERAL SUMMARY	117
																		FOR STRUCTURE CLI-71-1212 L/R GENERAL SUMMARY	126
																		FOR STRUCTURE CLI-71-1237 GENERAL SUMMARY	142
																		FOR STRUCTURE CLI-71-1399 L/R GENERAL SUMMARY	151
																		FOR STRUCTURE CLI-71-1421 GENERAL SUMMARY	170
																		FOR STRUCTURE GRE-72-0029 GENERAL SUMMARY	186
																		FOR STRUCTURE GRE-71-0150 GENERAL SUMMARY	201
																		FOR STRUCTURE GRE-71-0253 L/R GENERAL SUMMARY	208
																		FOR STRUCTURE GRE-71-0299 GENERAL SUMMARY	212
																		MAINTENANCE OF TRAFFIC	
	1000													614	11100	1000	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR, FOR ASSISTANCE	
				595										SPECIAL	61412200	595	FT	WORK ZONE GUARDRAIL, TYPE 5	19
			8											614	12336	8	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
														614	12420	LUMP		DETOUR SIGNING	
	25													614	12500	25	EACH	REPLACEMENT SIGN	
	500													614	12600	500	EACH	REPLACEMENT DRUM	
				4104										614	12801	4104	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	18
100														614	13000	100	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
			130	18										614	13100	148	EACH	BARRIER REFLECTOR	
			800											SPECIAL	61413170	800	FT	LINEAR DELINEATION	19
			130	18										614	13350	148	EACH	OBJECT MARKER, ONE WAY	
		48												614	18401	240	DAYS	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	18
			1.47											614	20001	1.47	MILE	WORK ZONE LANE LINE, CLASS I, AS PER PLAN	19
			0.11											614	20201	0.11	MILE	WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I, AS PER PLAN	19
			9.54											614	22000	9.54	MILE	WORK ZONE EDGE LINE, CLASS I	
			0.22											614	22200	0.22	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
			19840											614	23000	19840	FT	WORK ZONE CHANNELIZING LINE, CLASS I	
														615	10001	LUMP		ROADS FOR MAINTAINING TRAFFIC, AS PER PLAN	17
											18520			615	20000	18520	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
	102													616	10000	102	M. GAL	WATER	
			4640											622	40020	4640	FT	PORTABLE CONCRETE BARRIER, 32"	
			1240											622	40040	1240	FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
														614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16020	18	MONTH	FIELD OFFICE, TYPE C	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED CML
CHECKED DPF

GENERAL SUMMARY (2 OF 2)

CLI/GRE-71-7.26/0.00

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ENGINEERING CINCINNATI, OH 45242

ESTIMATED QUANTITIES

CALCULATED CML
CHECKED DPF

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	LENGTH	202 CATCH BASIN REMOVED EACH	202 PIPE REMOVED, 24" AND UNDER FT	202 FILL & PLUG EXISTING CONDUIT FT	202 FENCE REMOVED FT	202 GUARDRAIL REMOVED FT	202 ANCHOR ASSEMBLY REMOVED, TYPE E-98 EACH	202 ANCHOR ASSEMBLY REMOVED, BARRIER DESIGN EACH	202 BRIDGE TERMINAL ASSEMBLY REMOVED EACH	602 CONCRETE MASONRY CY	603 18" TYPE C FT	603 15" TYPE C FT	604 CB-4 EACH	606 GUARDRAIL TYPE 5 FT	606 BTA, TYPE 1 EACH	606 ANCHOR ASSEMBLY, TYPE E EACH	606 ANCHOR ASSEMBLY, TYPE B EACH	607 FENCE, TYPE 47 FT	609 CURB, TYPE 4-C FT	659 SODDING REINFORCED SY	670 DITCH EROSION PROTECTION SY	601 ROCK CHANNEL PROTECTION, TYPE D WITH FILTER FABRIC CY
		CLI-71-1212																								
GR1	46	1002+05.35	1004+80.4	RT	275.00													225.00	1	1						
GR2	46	1003+17.85	1004+80.4	RT	162.50													125.00	1		1					
GR3	46	1005+89.65	1007+52.2	LT	162.50													125.00	1		1					
GR4	46	1005+89.65	1008+65.7	LT	276.00													225.00	1	1						
D1	45	998+50.00	998+99.0	MED																					85	
D2	45	998+99.00	-	MED											23		1									
D3	46	1000+99.00	-	MED												23	1									
D4	46	1004+39.66	-	RT																				22		7.5
D5	46	1004+39.61	-	MED																						15.0
D6	46	1004+39.6	-	LT																				17		7.5
D7	46	1006+50.00	-	MED										0.27		70	1									
D8	46	1008+50.00	-	MED												200	1									
D9	46	1008+50.00	100+90.00	MED																					85	
D10	47	1015+50.00	1016+50.00	MED																					170	
D11	47	1016+00.00														23	1									
F1	46	1004+80.72	-	RT					31													31				
F2	46	1004+79.61	-	LT					67													67				
F3	46	1005+92.25	-	RT					29													29				
F4	46	1005+92.3	-	LT					59													59				
F13	46	1104+75.00	-	MED					70													19				
F14	46	1105+90.00	-	MED					70													19				
P1	46	1004+44.25	1004+53.3	RT	9.00																		9			
P2	46	1004+44.25	1004+53.3	MED	9.00																		9			
P3	46	1004+44.25	1004+53.3	MED	9.00																		9			
P4	46	1004+44.25	1004+53.3	LT	9.00																		9			
R1	45	998+99.2	-	RT/LT		2	42																			
R2	46	1000+99.5	-	RT/LT		2	42																			
R3	46	1001+73.6	1006+31.9	RT	458.32					458	1		1													
R4	46	1002+04.1	1006+31.6	RT	427.48					427		1	1													
R5	46	1004+35.6	-	MED		1	59																			
R6	46	1004+37.1	1008+64.9	LT	427.85					428		1	1													
R7	46	1004+37.5	1008+95.5	LT	458.00					458	1		1													
R8	46	1005+77.4	1006+32.7	MED		1	60																			
R9	46	1008+04.1	-	LT		1		102																		
R10	47	1015+99.7	-	MED		2	42																			
		CLI-71-1399																								
GR5	63	1100+79.20	1103+54.20	RT	275.00													225.00	1	1						
GR6	63	1101+67.13	1103+29.63	RT	162.50													125.00	1		1					
GR7	63	1103+69.80	1106+44.80	LT	275.00													225.00	1	1						
GR8	63	1103+94.36	1105+56.86	LT	162.50													125.00	1		1					
D12	62	1091+50.00	1092+50.00	MED																					170	
D13	62	1092+00.00	-	MED											23		1									
D14	62	1093+50.00	1094+50.00	MED																					170	
D15	62	1093+99.69	-	MED											23		1									
D16	63	1102+52.18	-	LT																				22		7.5
D17	63	1102+75.00		MED										0.33	60		1									
D18	63	1102+76.75	-	LT																						7.5
D19	63	1102+89.04	-	RT																						7.5
D20	63	1103+13.61	-	RT																				24		7.5
D21	63	1104+50.00	-	MED										0.33	60		1									
D22	63	1106+50.00	1107+00.00	MED	50.00																				85	
D23	63	1106+50.00	-	MED											200		1									
D24	64	1116+36.00	-	MED											23		1									
D25	64	1116+36.00	1116+86.00	MED																					85	
TOTALS CARRIED TO GENERAL SUMMARY						9	245	102	326	1772	2	2	4	1	412	316	11	1400.00	8	4	4	224	36	85	850	60

CLI/GRE-71-7.26/0.00

PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	LENGTH	202 CATCH BASIN REMOVED EACH	202 PIPE REMOVED, 24" AND UNDER FT	202 FILL & PLUG EXISTING CONDUIT FT	202 FENCE REMOVED FT	202 GUARDRAIL REMOVED FT	202 ANCHOR ASSEMBLY, TYPE E EACH	202 ANCHOR ASSEMBLY, TYPE B EACH	202 BRIDGE TERMINAL ASSEMBLY REMOVED EACH	606 GUARDRAIL TYPE 5 FT	606 BTA, TYPE 1 EACH	606	606	607 FENCE, TYPE 47 FT	609 CURB, TYPE 4-C FT	659 SODDING REINFORCED SY	670 DITCH EROSION PROTECTION SY	601 ROCK CHANNEL PROTECTION, TYPE D WITH FILTER FABRIC CY		
		CLI-71-1399 (CONT.)																						
F5	63	1102+88.09	-	LT					68									68						
F6	63	1103+54.74	-	RT					35									35						
F7	63	1103+66.64	-	LT					23									23						
F8	63	1104+36.45	-	RT					65									65						
F15	63	1103+25.00	-	LT/RT					70									21						
F16	63	1103+95.00	-	LT/RT					70									21						
P5	63	1102+56.68	1102+65.7	LT	9.00														9.00					
P6	63	1102+81.25	1102+90.3	LT	9.00														9.00					
P7	63	1102+93.53	1103+02.5	RT	9.00														9.00					
P8	63	1103+18.10	1103+27.1	RT	9.00														9.00					
R11	62	1092+00.1	-	RT/LT		2	42																	
R12	62	1093+99.7	-	RT/LT		2	42																	
R13	63	1100+47.0	1104+74.0	RT	427.03					427	1		1											
R14	63	1100+61.6	1104+56.7	RT	395.10					395		1	1											
R15	63	1102+50.4	1106+45.9	LT	395.46					395	1		1											
R16	63	1102+67.9	1106+63.4	LT	395.51					396		1	1											
R17	63	1102+77.5	1103+28.4	LT		1	56																	
R18	63	1103+97.4	1104+47.8	RT		1	56																	
R19	63	1105+94.7	-	LT		1		119.0																
R20	64	1116+36.0	-	MED		2	42																	
		SR 72																						
GR18	78	18+23.50	20+79.69	RT	256.19									256.25	1									
GR19	78	18+18.40	20+74.40	LT	256.00									256.25	1									
GR20	79	23+80.04	26+67.54	RT	287.50						1			237.50	1									
GR21	79	23+85.32	26+35.32	LT	250.00						1			200.00	1									
D34	78	18+65.00	20+00.0	RT																	113			
D35	78	21+42.9	-	LT																19		7.5		
D36	78	21+48.19	-	RT																18		7.5		
D37	79	23+19.00	23+89.0	LT																	76			
D38	79	24+11.54	-	LT																23		7.5		
D39	79	24+16.82	-	RT																38		7.5		
P9	78	20+46.30	20+72.3	LT	26.00														26					
P10	78	20+51.59	20+77.6	RT	26.00														26					
P11	79	23+82.14	24+08.1	LT	26.00														26					
P12	79	23+87.42	24+13.4	RT	26.00														26					
R30	78	18+23.5	20+79.7	RT	256.19					256			1											
R31	78	18+18.4	20+74.4	LT	256.00					256			1											
R32	79	23+80.0	26+56.8	RT	276.80					277	1		1											
R33	79	23+85.3	26+62.8	LT	277.52					278	1		1											
		GURNEYVILLE																						
GR9	85	17+25.38	18+06.6	RT	81.25									81.25	1									
GR10	85	17+47.00	18+28.3	LT	81.25									81.25	1									
GR11	85	21+71.75	22+53.0	RT	81.25									81.25	1									
GR12	85	21+93.37	22+74.6	LT	81.25									81.25	1									
D26	85	17+75.12	-	RT																	16	7.5		
D27	85	17+96.75	-	LT																	39	7.5		
D28	85	22+03.25	-	RT																	23	7.5		
D29	85	22+24.87	-	LT																	21	7.5		
P13	85	17+78.60	18+04.60	RT	26.00														26					
P14	85	18+00.20	18+26.20	LT	26.00														26					
P15	85	21+72.70	21+98.70	RT	26.00														26					
P16	85	21+94.40	22+20.40	LT	26.00														26					
TOTALS CARRIED TO GENERAL SUMMARY						9	238	119	332	2680	6	2	8	1275.00	8			234	244	98	288	60		

CALCULATED CML
CHECKED DPF

ESTIMATED QUANTITIES

CLI/GRE-
71-7.26/0.00

PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	LENGTH	202 GUARDRAIL REMOVED	202 ANCHOR ASSEMBLY REMOVED, TYPE E-98	202 BRIDGE TERMINAL ASSEMBLY REMOVED	202 FENCE REMOVED	606 GUARDRAIL TYPE 5	606 BTA, TYPE 1	606 ANCHOR ASSEMBLY, TYPE E	607 FENCE, TYPE 47	609 CURB, TYPE 4-C	659 SODDING REINFORCED	601 ROCK CHANNEL PROTECTION, TYPE D WITH FILTER FABRIC	603 6" CONDUIT TYPE B	603 6" CONDUIT TYPE F	604 PRECAST REINFORCED CONCRETE OUTLET	601 TIED CONCRETE BLOCK MAT	605 6" SHALLOW PIPE UNDERDRAIN	605 6" BASE PIPE UNDERDRAIN
		FT	EACH	EACH	FT	FT	EACH	EACH	FT	FT	SY	CY	FT	FT	EACH	SY	FT	FT
		GURNEYVILLE (CONT.)																				
R21	85	17+25.4	18+06.6	RT	81.25	81.25		1														
R22	85	17+47.0	18+28.3	LT	81.25	81.25		1														
R23	85	21+71.8	22+53.0	RT	81.25	81.25		1														
R24	85	21+93.4	22+74.6	LT	81.25	81.25		1														
		STARBUCK																				
GR13	86	13+87.00	20+51.10	RT						100.00												
GR14	86	13+94.95	17+26.20	LT						331.25	1											
GR15	86	20+85.80	17+63.77	RT						306.25	1											
GR16	87-88	22+36.23	19+34.80	LT						306.25	1											
GR17	87-88	22+73.80	26+23.80	RT						300.00	1	1										
D30	86	16+93.20	-	LT											36	7.5						
D31	86	17+30.77	-	RT											35	7.5						
D32	87	22+67.23	-	LT											52	7.5						
D33	88	23+06.80	-	RT											31	7.5						
F9	86	16+65.17	17+52.40	LT					100				99									
F10	86-87	17+93.25	18+06.75	RT					19				19									
F11	87	21+63.40	22+07.74	LT					46				47									
F12	87	22+49.88	22+82.65	RT					57				57									
P17	86	16+98.10	17+24.10	LT	26.00									26								
P18	86	17+35.67	17+61.67	RT	26.00									26								
P19	87	22+38.33	22+64.33	LT	26.00									26								
P20	87	22+75.90	23+01.90	RT	26.00									26								
R25	86	13+87.0	20+51.1	RT		100																
R26	86	13+95.0	17+26.2	LT		331		1														
R27	86	20+85.8	17+63.8	RT		306		1														
R28	87-88	22+36.2	19+34.8	LT		306		1														
R29	87-88	22+73.8	26+23.8	RT		300	1	1														
-	HRSHOE	FWD	REAR											104	100	30.0						
-	SABINA	FWD	REAR											104	100	30.0						
-	SMITH	FWD	REAR											104	100	30.0						
-	ORCH GR	FWD	REAR											104	100	30.0						
		CLI-71-1212																				
UD1	46	1003+50.00	1004+53.00	LT	103.00												60	23	1	1.8	206	206
UD2	46	1003+50.00	1004+53.00	RT	103.00												60	29	1	1.8	206	206
UD3	46	1006+17.00	1007+25.00	LT	108.00												60	23	1	1.8	216	216
UD4	46	1006+17.00	1007+25.00	RT	108.00												60	29	1	1.8	216	216
		CLI-71-1399																				
UD5	63	1101+65.00	1102+80.00	LT	115.00												115	60			230	230
UD6	63	1101+65.00	1103+12.00	RT	147.00												147	60			294	294
UD7	63	1104+58.00	1105+60.00	RT	102.00												12	23	1	1.8	102	102
UD8	63	1104+50.00	1105+60.00	MED	110.00												12	17			110	110
UD9	63	1104+50.00	1105+60.00	MED	110.00												12	17			110	110
UD10	63	1104+05.00	1105+60.00	LT	155.00												12	23	1	1.8	155	155
SEE SHEET 99 FOR UNDERDRAIN BENDS AND BRANCHES INFORMATION																						
TOTALS CARRIED TO GENERAL SUMMARY						1668	1	8	222	1343.75	4	1	222	520	554	150	550	304	6	11	1845	1845

SHEET	STATION FROM	STATION TO	203 EXCAVATION	203 EMBANKMENT	659 SEEDING
	EARTHWORK				
48	986+50.0	989+00.0	0	0	0
49	989+50.0	992+00.0	0	0	0
50	992+50.0	995+00.0	0	0	0
51	995+50.0	998+00.0	0	0	0
52	998+50.00	1001+00.00	633	165	1917
53	1001+50.00	1004+00.00	902	406	3065
54	1004+53.35	1007+00.00	1288	486	2017
55	1007+25.00	1009+50.00	487	190	1688
56	1010+00.00	1012+50.00	0	0	0
57	1013+00.00	1015+50.00	0	0	0
58	1016+00.00	1018+50.00	148	0	236
59	1019+00.00	1021+50.00	0	0	0
60	1022+00.00	1025+50.00	0	0	0
61	1026+00.00	1026+00.00	0	0	0
65	1085+50.00	1088+00.00	0	0	0
66	1088+50.00	1091+00.00	0	0	0
67	1091+50.00	1094+00.00	320	0	341
68	1094+50.00	1097+00.00	108	0	125
69	1097+50.00	1100+00.00	0	0	0
70	1100+50.00	1102+97.53	1348	532	2925
71	1103+00.0	1105+00.0	762	362	1378
72	1105+60.00	1108+00.00	794	425	1961
73	1108+50.00	1111+00.00	0	0	0
74	1111+50.00	1114+00.00	0	0	0
75	1114+50.00	1117+00.00	188	0	248
76	1117+50.0	1120+00.00	0	0	0
77	1120+50.0	1121+50.0	0	0	0
80	17+50.00	19+00.00	524	443	473
81	19+50.00	20+62.09	2204	2393	1883
82	20+87.09	23+97.63	296	308	255
83	24+00.00	25+50.00	971	1065	1183
84	26+00.00	27+50.00	188	23	437
89	13+50.0	19+50.0	169	214	394
90	15+00.0	16+00.0	1363	1586	1213
91	16+50.0	17+24.1	2114	2355	1591
92	17+61.9	22+38.1	528	604	399
97	20+50.00	21+25.00	2	17	204
98	18+25.00	19+50.00	5	6	101
TOTALS			18419	15887	27554

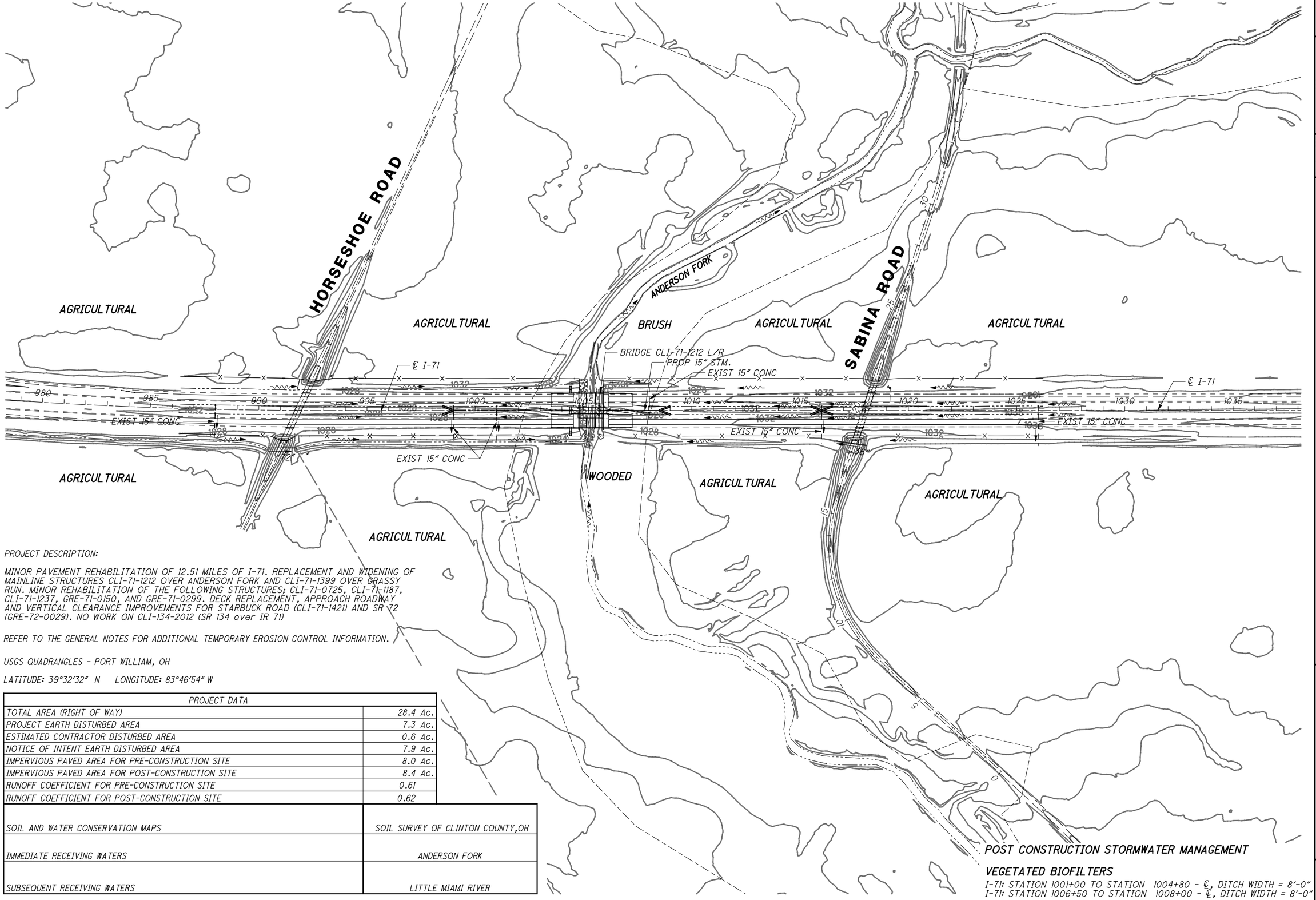
TOTALS CARRIED TO GENERAL SUMMARY		
203 - EXCAVATION	18419	CU. YD.
203 - EMBANKMENT	15887	CU. YD.
659 - SEEDING	27554	SQ. YD.
659 - REPAIR SEEDING AND MULCHING	1378	SQ. YD.
659 - INTER-SEEDING	1378	SQ. YD.
659 - TOPSOIL	3058	CU. YD.
659 - SOIL TEST	2	EACH
659 - FERTILIZER	3.84	TON
659 - LIME	5.69	ACRE
659 - WATER	153	M GAL

CALCULATED CML
CHECKED DPF

ESTIMATED QUANTITIES

CLI/GRE-71-7.26/0.00

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242



PROJECT DESCRIPTION:

MINOR PAVEMENT REHABILITATION OF 12.51 MILES OF I-71. REPLACEMENT AND WIDENING OF MAINLINE STRUCTURES CLI-71-1212 OVER ANDERSON FORK AND CLI-71-1399 OVER GRASSY RUN. MINOR REHABILITATION OF THE FOLLOWING STRUCTURES; CLI-71-0725, CLI-71-1187, CLI-71-1237, GRE-71-0150, AND GRE-71-0299. DECK REPLACEMENT, APPROACH ROADWAY AND VERTICAL CLEARANCE IMPROVEMENTS FOR STARBUCK ROAD (CLI-71-1421) AND SR 72 (GRE-72-0029). NO WORK ON CLI-134-2012 (SR 134 over IR 71)

REFER TO THE GENERAL NOTES FOR ADDITIONAL TEMPORARY EROSION CONTROL INFORMATION.

USGS QUADRANGLES - PORT WILLIAM, OH

LATITUDE: 39°32'32" N LONGITUDE: 83°46'54" W

PROJECT DATA	
TOTAL AREA (RIGHT OF WAY)	28.4 Ac.
PROJECT EARTH DISTURBED AREA	7.3 Ac.
ESTIMATED CONTRACTOR DISTURBED AREA	0.6 Ac.
NOTICE OF INTENT EARTH DISTURBED AREA	7.9 Ac.
IMPERVIOUS PAVED AREA FOR PRE-CONSTRUCTION SITE	8.0 Ac.
IMPERVIOUS PAVED AREA FOR POST-CONSTRUCTION SITE	8.4 Ac.
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.61
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.62
SOIL AND WATER CONSERVATION MAPS	SOIL SURVEY OF CLINTON COUNTY,OH
IMMEDIATE RECEIVING WATERS	ANDERSON FORK
SUBSEQUENT RECEIVING WATERS	LITTLE MIAMI RIVER

POST CONSTRUCTION STORMWATER MANAGEMENT

VEGETATED BIOFILTERS

I-71: STATION 1001+00 TO STATION 1004+80 - ℄, DITCH WIDTH = 8'-0"
I-71: STATION 1006+50 TO STATION 1008+00 - ℄, DITCH WIDTH = 8'-0"

HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED DPF
CHECKED

PROJECT SITE PLAN
CLI-71-1212 L/R

CLI/GRE-
71-7.26/0.00

PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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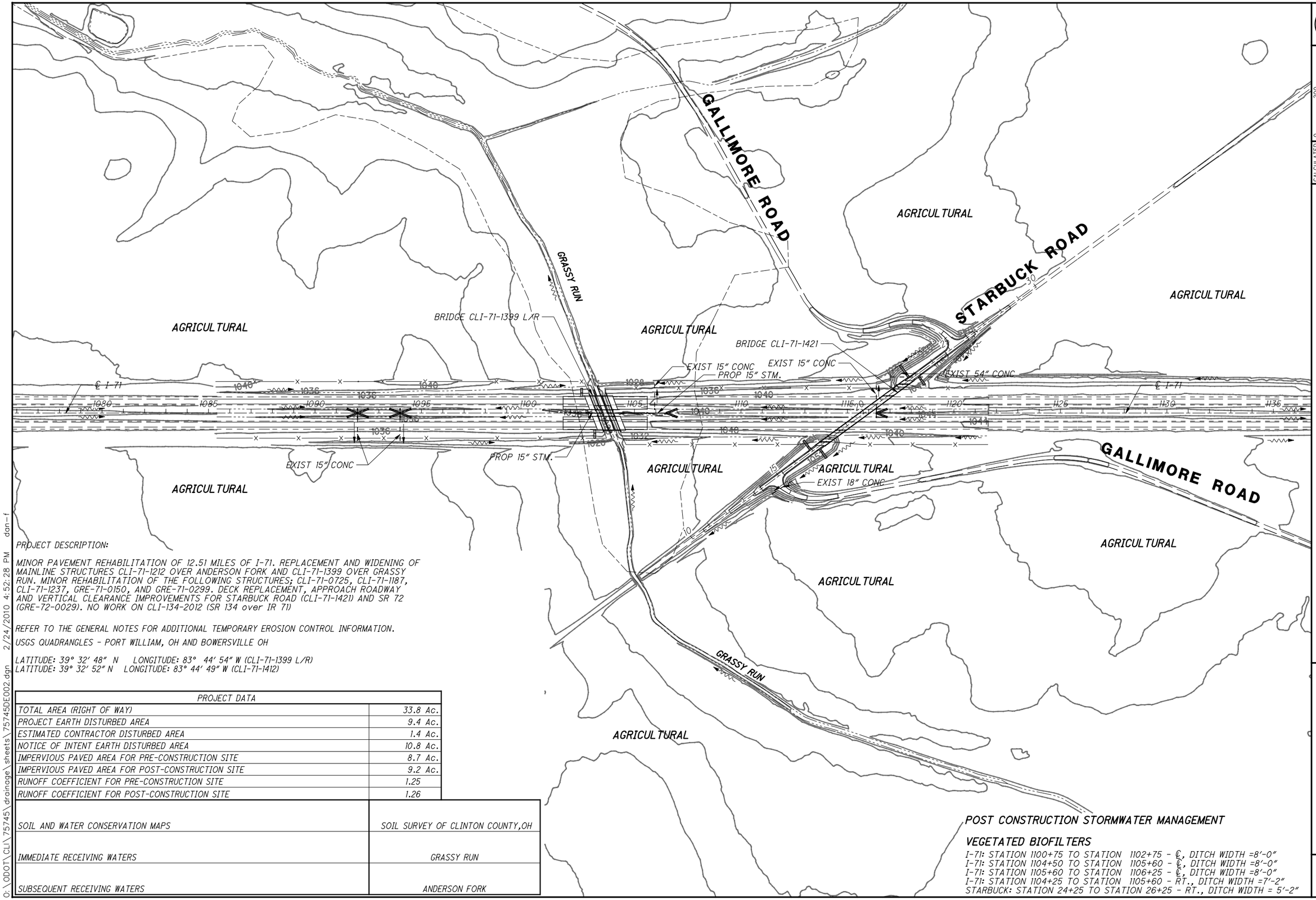

PROJECT DESCRIPTION:

MINOR PAVEMENT REHABILITATION OF 12.51 MILES OF I-71. REPLACEMENT AND WIDENING OF MAINLINE STRUCTURES CLI-71-1212 OVER ANDERSON FORK AND CLI-71-1399 OVER GRASSY RUN. MINOR REHABILITATION OF THE FOLLOWING STRUCTURES; CLI-71-0725, CLI-71-1187, CLI-71-1237, GRE-71-0150, AND GRE-71-0299. DECK REPLACEMENT, APPROACH ROADWAY AND VERTICAL CLEARANCE IMPROVEMENTS FOR STARBUCK ROAD (CLI-71-1421) AND SR 72 (GRE-72-0029). NO WORK ON CLI-134-2012 (SR 134 over IR 71)

REFER TO THE GENERAL NOTES FOR ADDITIONAL TEMPORARY EROSION CONTROL INFORMATION.

USGS QUADRANGLES - PORT WILLIAM, OH AND BOWERSVILLE OH

LATITUDE: 39° 32' 48" N LONGITUDE: 83° 44' 54" W (CLI-71-1399 L/R)
LATITUDE: 39° 32' 52" N LONGITUDE: 83° 44' 49" W (CLI-71-1412)

PROJECT DATA	
TOTAL AREA (RIGHT OF WAY)	33.8 Ac.
PROJECT EARTH DISTURBED AREA	9.4 Ac.
ESTIMATED CONTRACTOR DISTURBED AREA	1.4 Ac.
NOTICE OF INTENT EARTH DISTURBED AREA	10.8 Ac.
IMPERVIOUS PAVED AREA FOR PRE-CONSTRUCTION SITE	8.7 Ac.
IMPERVIOUS PAVED AREA FOR POST-CONSTRUCTION SITE	9.2 Ac.
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	1.25
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	1.26

SOIL AND WATER CONSERVATION MAPS	SOIL SURVEY OF CLINTON COUNTY,OH
IMMEDIATE RECEIVING WATERS	GRASSY RUN
SUBSEQUENT RECEIVING WATERS	ANDERSON FORK

POST CONSTRUCTION STORMWATER MANAGEMENT

VEGETATED BIOFILTERS

I-71: STATION 1100+75 TO STATION 1102+75 - ℄, DITCH WIDTH =8'-0"
I-71: STATION 1104+50 TO STATION 1105+60 - ℄, DITCH WIDTH =8'-0"
I-71: STATION 1105+60 TO STATION 1106+25 - ℄, DITCH WIDTH =8'-0"
I-71: STATION 1104+25 TO STATION 1105+60 - RT., DITCH WIDTH =7'-2"
STARBUCK: STATION 24+25 TO STATION 26+25 - RT., DITCH WIDTH = 5'-2"

N

0 100 200 400 HORIZONTAL SCALE IN FEET

CALCULATED DPF CHECKED

PROJECT SITE PLAN
CLI-71-1399 L/R & STARBUCK ROAD

CLI/GRE-
71-7.26/0.00

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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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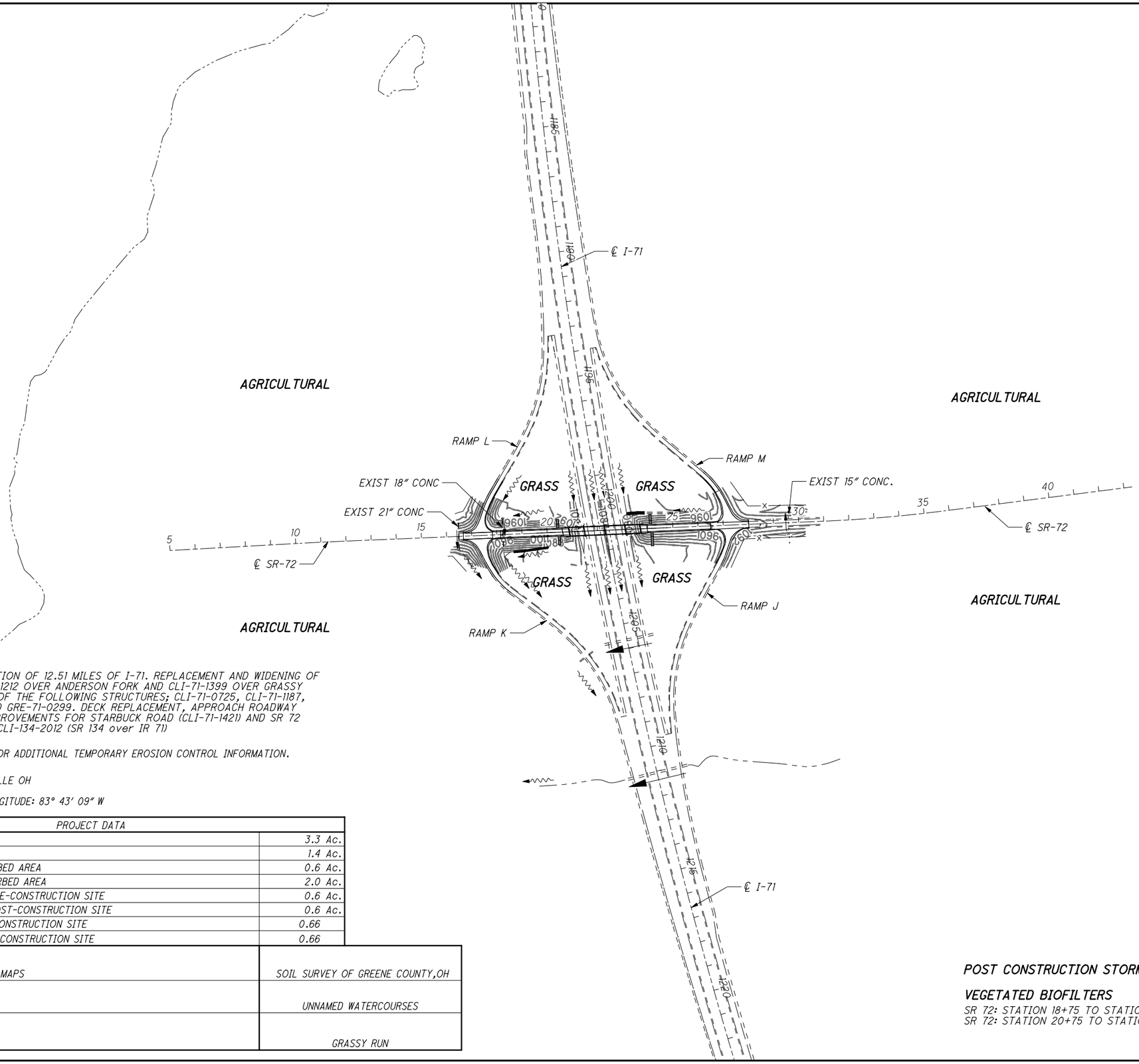

PROJECT DESCRIPTION:

MINOR PAVEMENT REHABILITATION OF 12.51 MILES OF I-71. REPLACEMENT AND WIDENING OF MAINLINE STRUCTURES CLI-71-1212 OVER ANDERSON FORK AND CLI-71-1399 OVER GRASSY RUN. MINOR REHABILITATION OF THE FOLLOWING STRUCTURES; CLI-71-0725, CLI-71-1187, CLI-71-1237, GRE-71-0150, AND GRE-71-0299. DECK REPLACEMENT, APPROACH ROADWAY AND VERTICAL CLEARANCE IMPROVEMENTS FOR STARBUCK ROAD (CLI-71-1421) AND SR 72 (GRE-72-0029). NO WORK ON CLI-134-2012 (SR 134 over IR 71)

REFER TO THE GENERAL NOTES FOR ADDITIONAL TEMPORARY EROSION CONTROL INFORMATION.

USGS QUADRANGLES - BOWERSVILLE OH

LATITUDE: 39° 33' 27" N LONGITUDE: 83° 43' 09" W

PROJECT DATA	
TOTAL AREA (RIGHT OF WAY)	3.3 Ac.
PROJECT EARTH DISTURBED AREA	1.4 Ac.
ESTIMATED CONTRACTOR DISTURBED AREA	0.6 Ac.
NOTICE OF INTENT EARTH DISTURBED AREA	2.0 Ac.
IMPERVIOUS PAVED AREA FOR PRE-CONSTRUCTION SITE	0.6 Ac.
IMPERVIOUS PAVED AREA FOR POST-CONSTRUCTION SITE	0.6 Ac.
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.66
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.66

SOIL AND WATER CONSERVATION MAPS	SOIL SURVEY OF GREENE COUNTY,OH
IMMEDIATE RECEIVING WATERS	UNNAMED WATERCOURSES
SUBSEQUENT RECEIVING WATERS	GRASSY RUN

POST CONSTRUCTION STORMWATER MANAGEMENT

VEGETATED BIOFILTERS

SR 72: STATION 18+75 TO STATION 20+00 - RT, DITCH WIDTH = 3'-6"
SR 72: STATION 20+75 TO STATION 24+50 - LT., DITCH WIDTH = 5'-9"

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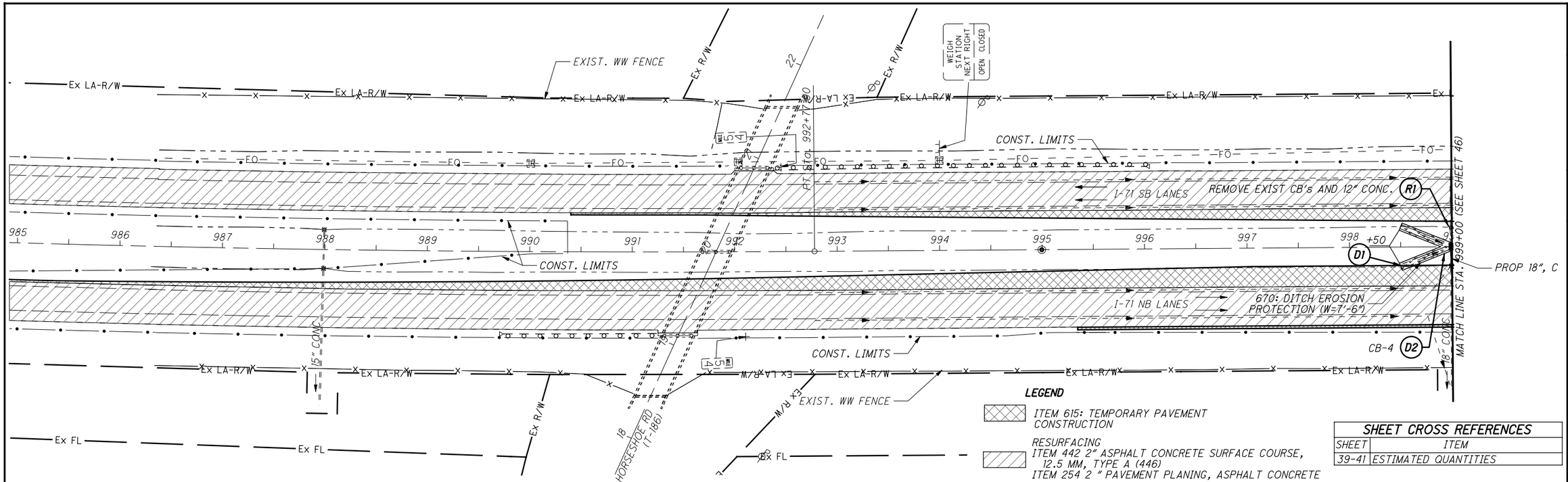
CINCINNATI, OH 45242

0 100 200 400
HORIZONTAL SCALE IN FEET

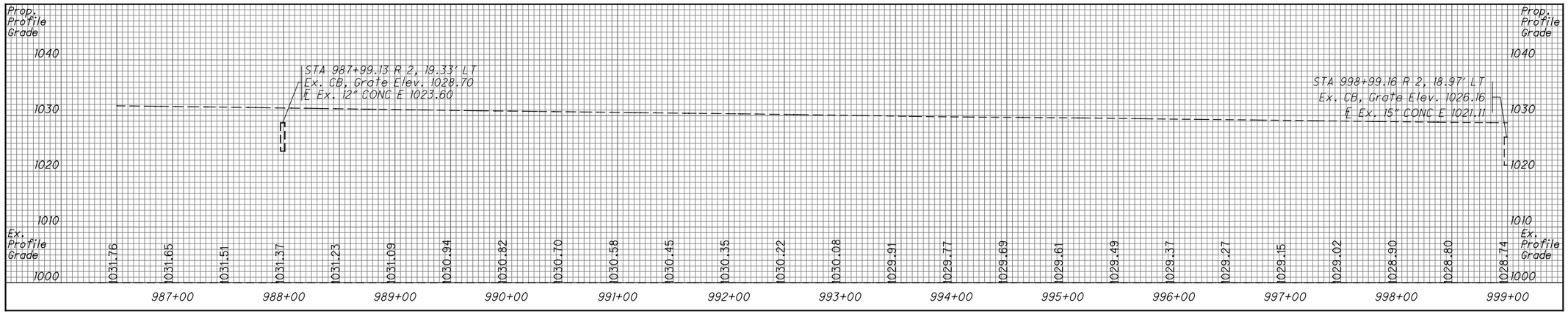
CALCULATED DPF
CHECKED

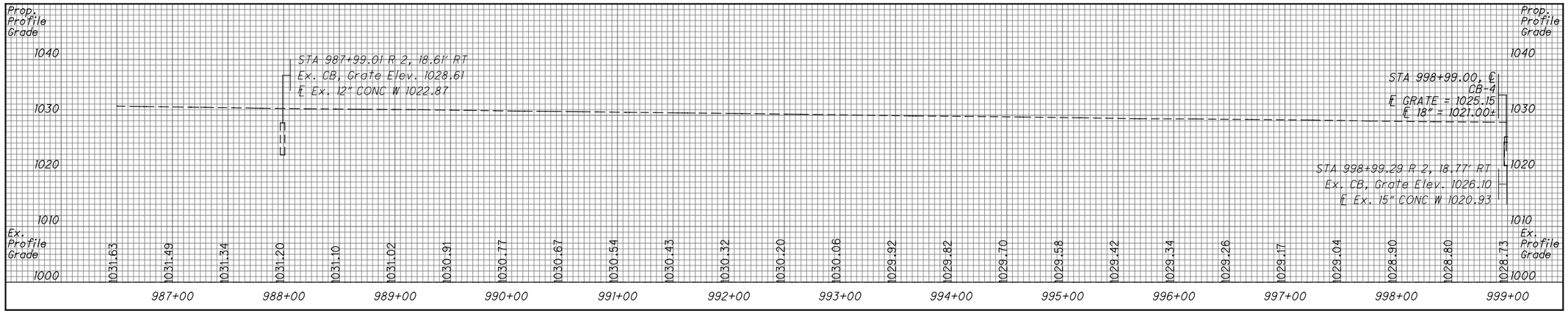
PROJECT SITE PLAN SR 72

CLI/GRE-71-7.26/0.00



SHEET CROSS REFERENCES	
SHEET	ITEM
39-41	ESTIMATED QUANTITIES





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CINCINNATI, OH 45242

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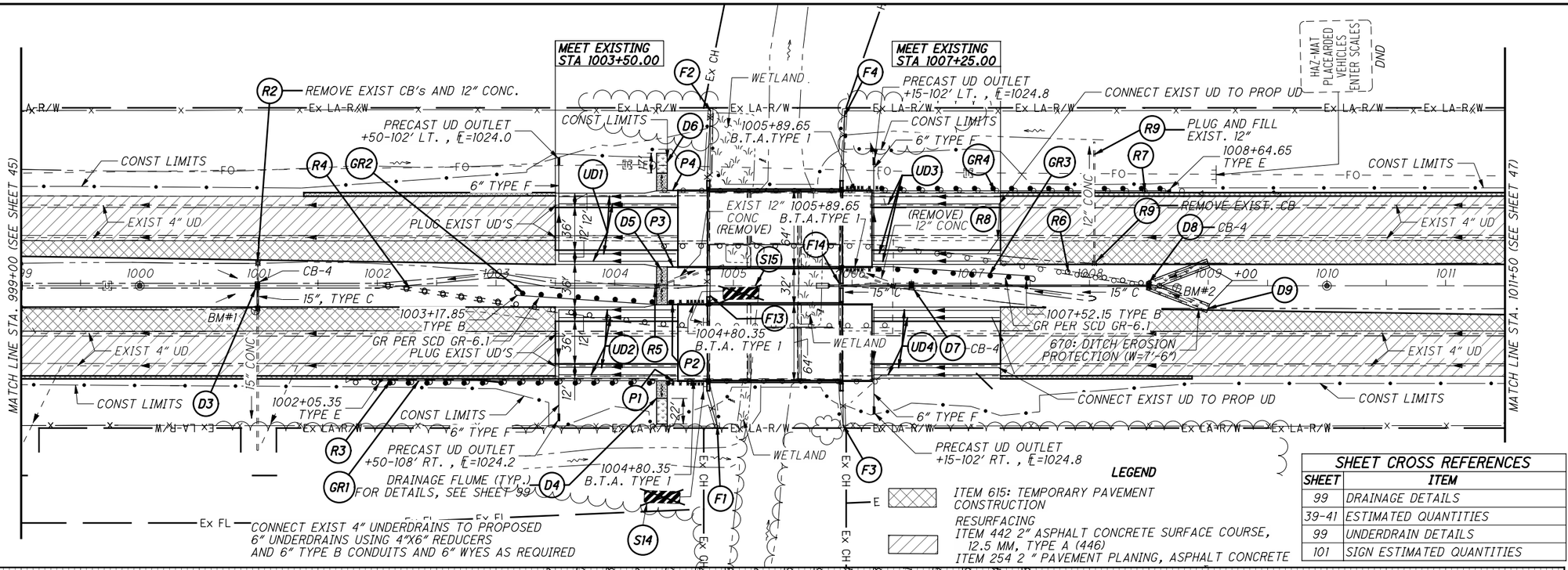
HORIZONTAL SCALE IN FEET
0 25 50 100

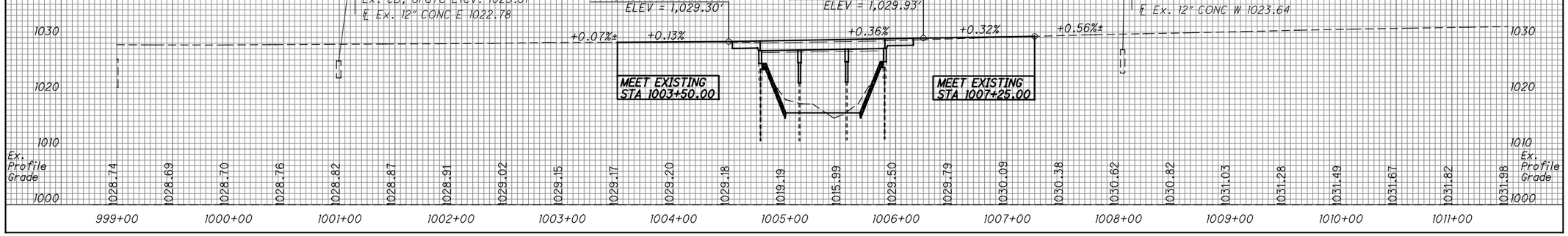
CALCULATED DPF
CHECKED

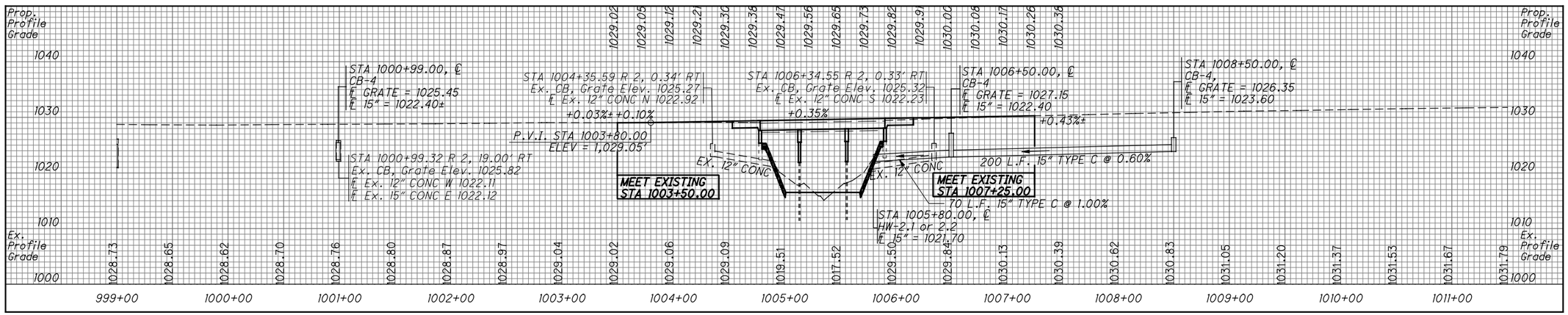
PLAN AND PROFILE
I-71 STA. 986+50 TO STA. 999+00

CLI/GRE-
71-7.26/0.00



SHEET CROSS REFERENCES	
SHEET	ITEM
99	DRAINAGE DETAILS
39-41	ESTIMATED QUANTITIES
99	UNDERDRAIN DETAILS
101	SIGN ESTIMATED QUANTITIES





HORIZONTAL SCALE IN FEET

CALCULATED DPF CHECKED

PLAN AND PROFILE
I-71 STA. 999+00 TO STA. 1011+50

CLI/GRE-
71-7.26/0.00

46
218

Palmer ENGINEERING
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CINCINNATI, OH 45242

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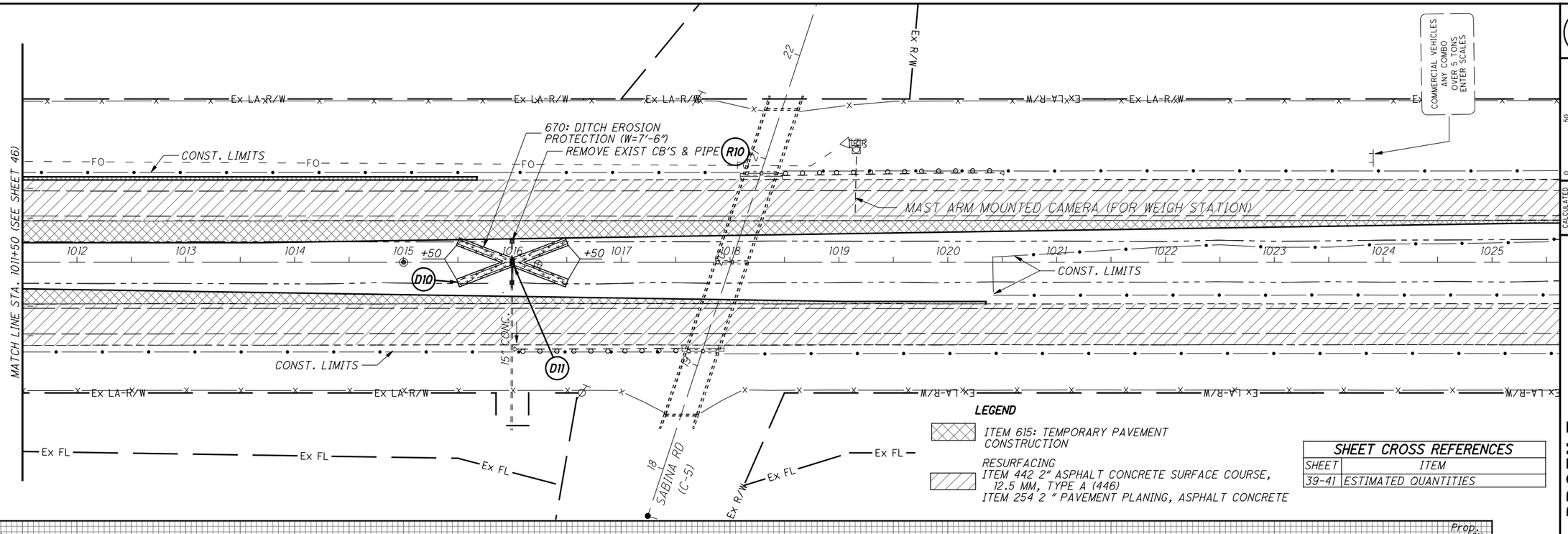

LEGEND

▩ ITEM 615: TEMPORARY PAVEMENT CONSTRUCTION

▨ RESURFACING
ITEM 442 2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
ITEM 254 2 " PAVEMENT PLANING, ASPHALT CONCRETE

SHEET CROSS REFERENCES	
SHEET	ITEM
39-41	ESTIMATED QUANTITIES

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DPF
CHECKED

PLAN AND PROFILE
I-71 STA. 1011+50 TO STA.1024+00

CLI/GRE-
71-7.26/0.00

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ENGINEERING CINCINNATI, OH 45242
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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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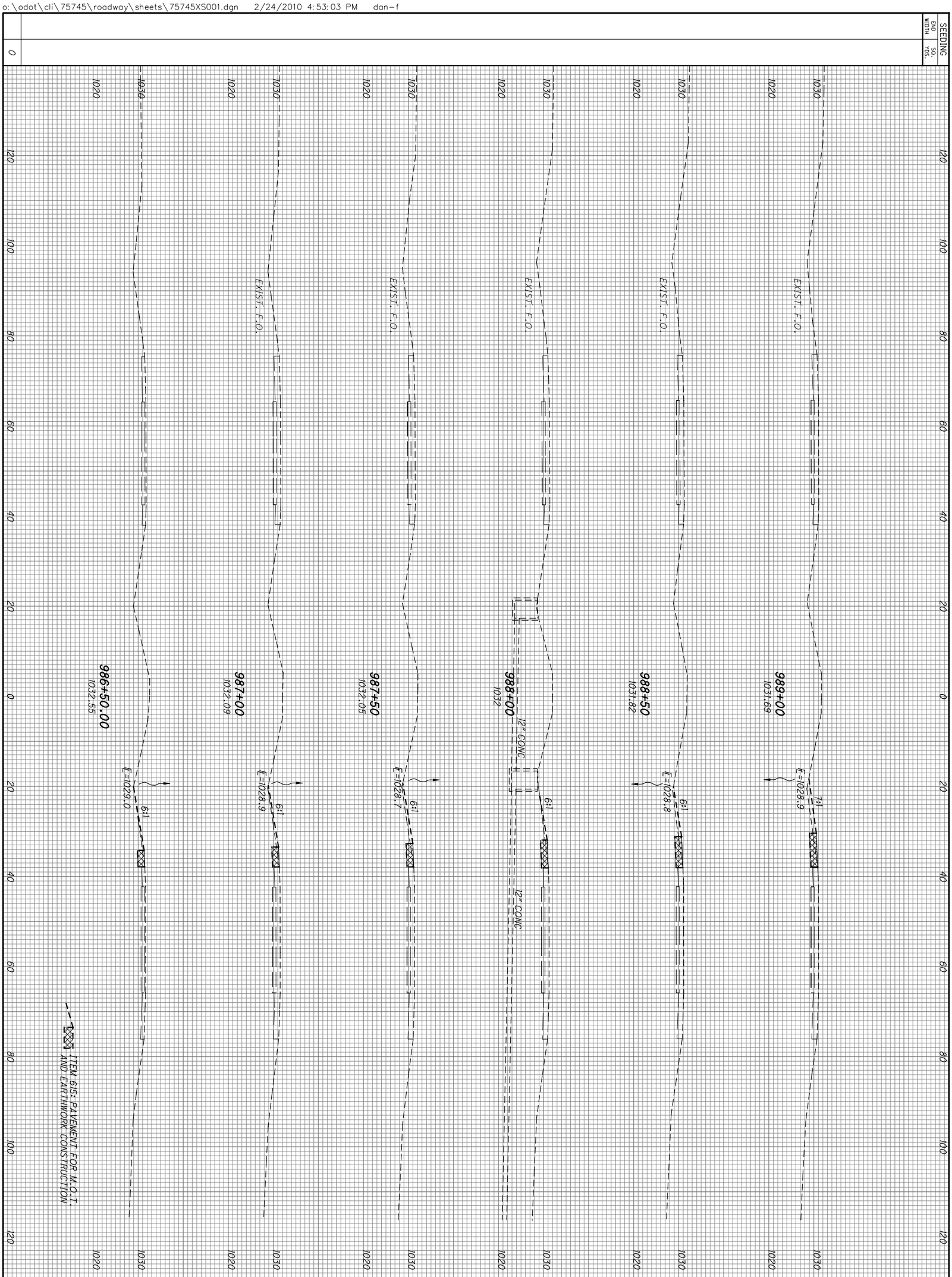

48 / 218	CLI/GRE-71-7.26/0.00	CROSS SECTIONS STA. 986+50.00 TO STA. 989+00.00
		CALCULATED
		CHECKED

SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL		

120 100 80 60 40 20 0 20 40 60 80 100 120

1030
1020

EXIST. F.O.

6:1 4:1 6:1

℄=1028.2

992+00
1030.79

℄=1028.3

991+50
1030.84

℄=1028.4

991+00
1031.24

℄=1028.6

990+50
1031.52

℄=1028.7

990+00
1031.62

℄=1028.9

989+50
1031.53

ITEM 615: PAVEMENT FOR M.O.T. AND EARTHWORK CONSTRUCTION

0		0	0

CROSS SECTIONS
STA. 989+50.00 TO STA. 992+00.00

CLI/GRE-
71-7.26/0.00

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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SEEDING	
END WIDTH	SQ. YDS.
0	

END AREA	
CUT	FILL
0	0

VOLUME	
CUT	FILL
0	0

CALCULATED

CHECKED

CROSS SECTIONS

STA. 992+50.00 TO STA. 995+00.00

CLI/GRE-
71-7.26/0.00

50
218

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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SEEDING	
END WIDTH	SQ. YDS.
0	

END AREA	
CUT	FILL
0	0

VOLUME	
CUT	FILL
0	0

CALCULATED

CHECKED

120 100 80 60 40 20 0 20 40 60 80 100 120

1030
1020

EXIST. F.O.

4:1 12:1

℄=1026.2

998+00
1029.97

EXIST. F.O.

4:1 12:1

℄=1026.3

997+50
1030

EXIST. F.O.

4:1 12:1

℄=1026.4

997+00
1030.03

EXIST. F.O.

10:1 12:1

℄=1026.5

996+50
1030.22

EXIST. F.O.

12:1 12:1

℄=1026.7

996+00
1030.34

EXIST. F.O.

12:1 12:1

℄=1026.8

995+50
1030.54

ITEM 615: PAVEMENT FOR M.O.T. AND EARTHWORK CONSTRUCTION

CROSS SECTIONS
STA. 995+50.00 TO STA. 998+00.00

CLI/GRE-
71-7.26/0.00

51
218

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
106	524	61	38	119	64
82	459	67	31	122	48
83	459	65	21	135	36
83	352	81	18	166	17
44	123	98	0	91	0
0	0	0	0	0	0
	1917			633	165

CALCULATED

CHECKED

CROSS SECTIONS

STA. 998+50.00 TO STA. 1001+00.00

CLI/GRE-71-7.26/0.00

52
218

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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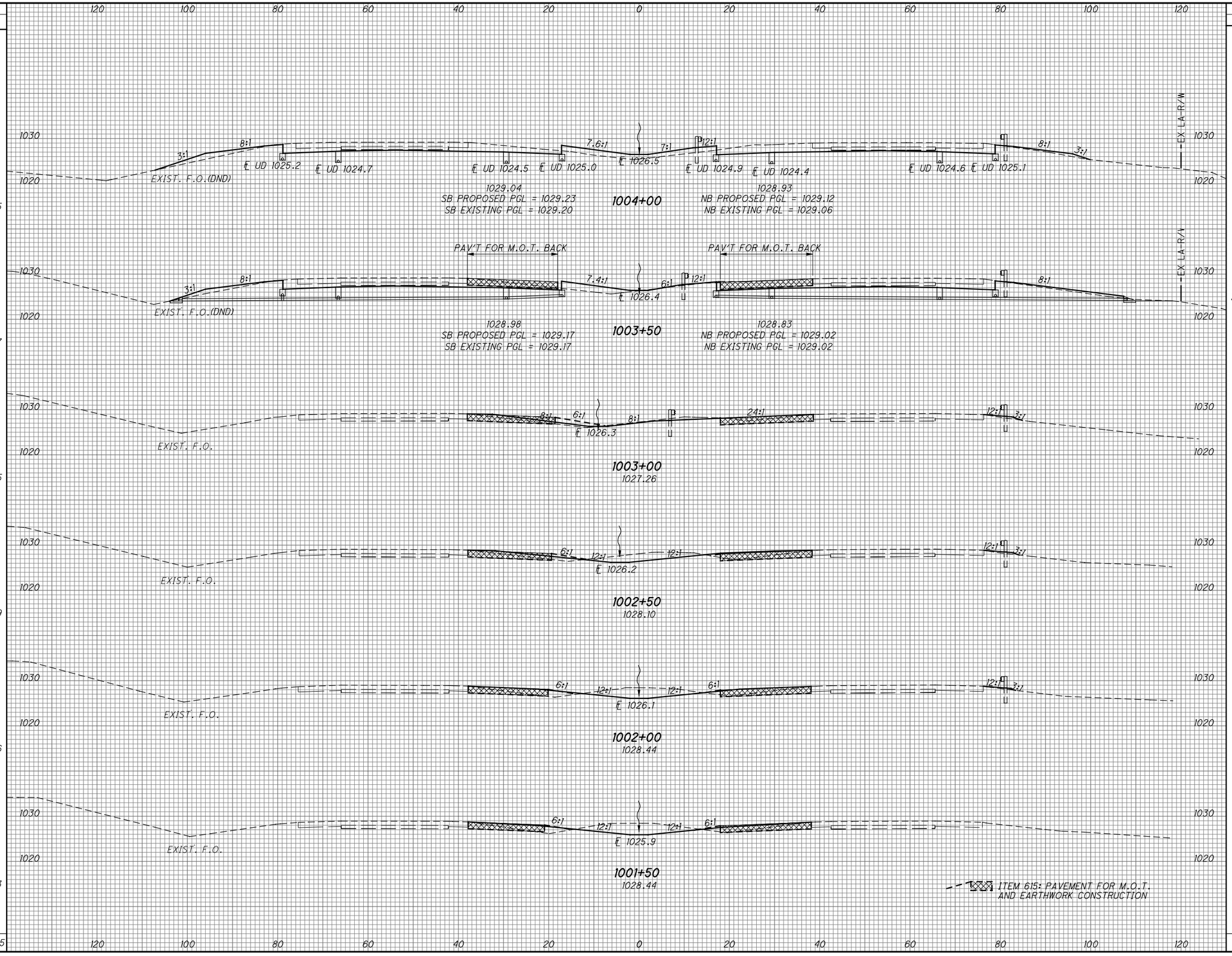
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
94	535	221	59	413	93
98	527	225	41	216	57
91	505	8	21	35	52
90	499	30	35	64	68
89	476	39	38	77	68
82	523	44	35	97	68
	3065			902	406



CALCULATED

CHECKED

CROSS SECTIONS

STA. 1001+50.00 TO STA. 1004+00.00

CLI/GRE-
71-7.26/0.00

53
218

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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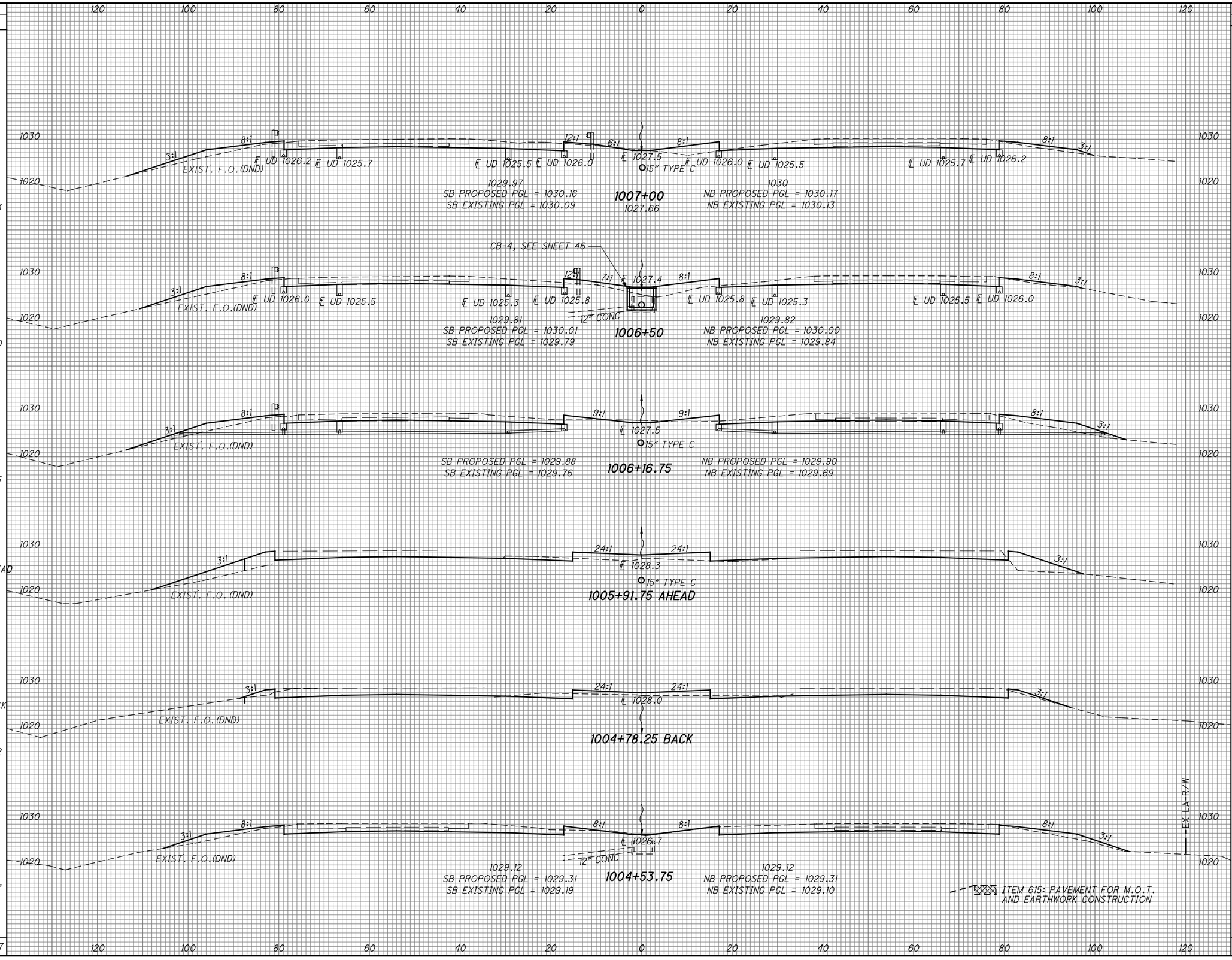
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
101	543	205	63	366	133
95	390	190	81	242	102
109	275	188	79	103	113
90	AHEAD	34	164	AHEAD	
0				0	0
66	BACK	98	36	BACK	
232				145	37
101	577	216	43	432	101
	2017			1288	486



CALCULATED

CHECKED

CROSS SECTIONS STA. 1004+53.35 TO STA. 1007+00.00

CLI/GRE-
71-7.26/0.00

54
218

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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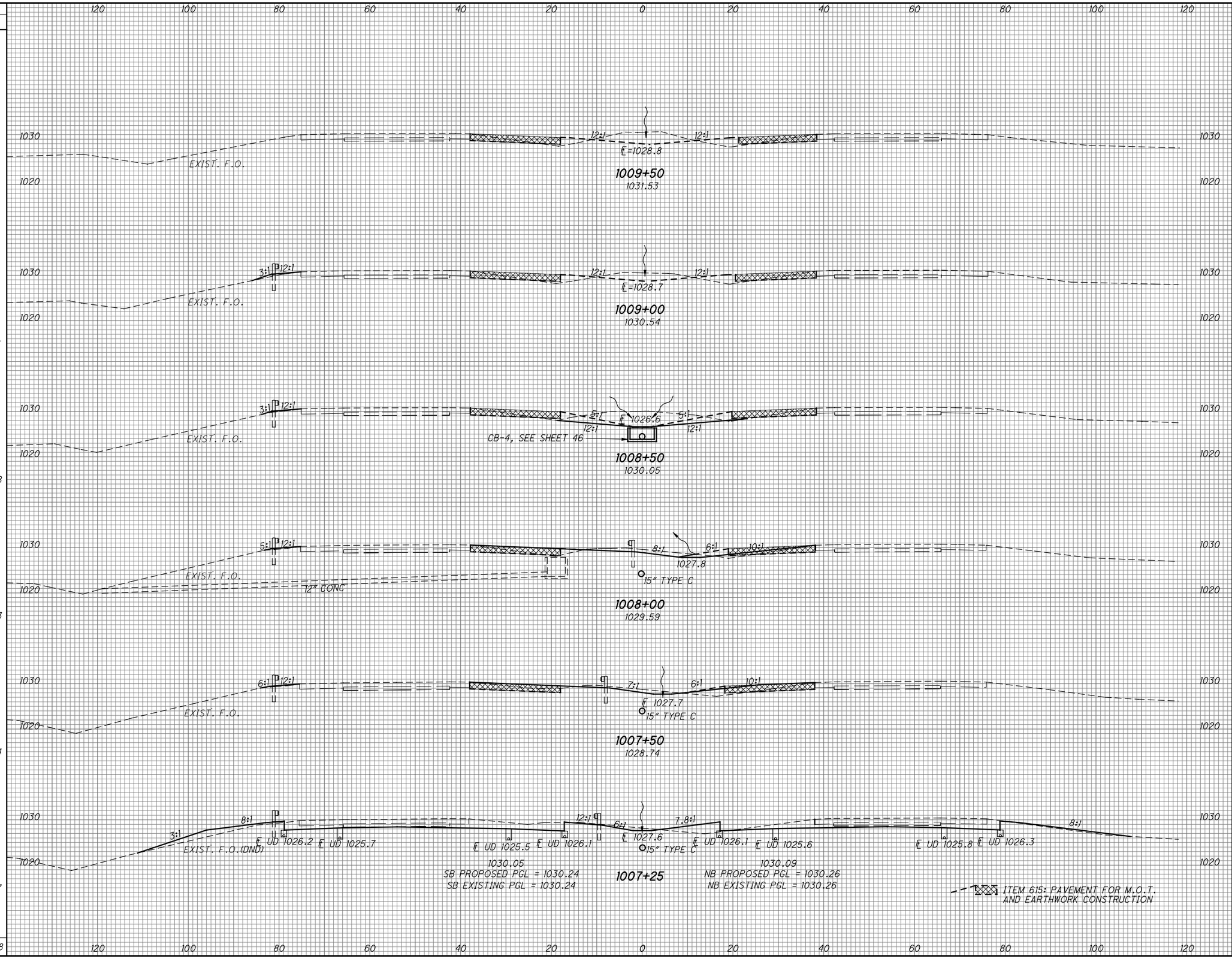
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
21	216	0	0	72	2
57	408	78	2	89	31
90	503	18	32	27	66
91	274	11	39	105	40
106	287	215	48	194	51
	1688			487	190



CALCULATED

CHECKED

CROSS SECTIONS

STA. 1007+25.00 TO STA. 1009+50.00

CLI/GRE-
71-7.26/0.00

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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SEEDING	
END WIDTH	SQ. YDS.
0	

END AREA	
CUT	FILL
0	0

VOLUME	
CUT	FILL
0	0

CALCULATED

CHECKED

CROSS SECTIONS
STA. 1010+00.00 TO STA. 1012+50.00

CLI/GRE-
71-7.26/0.00

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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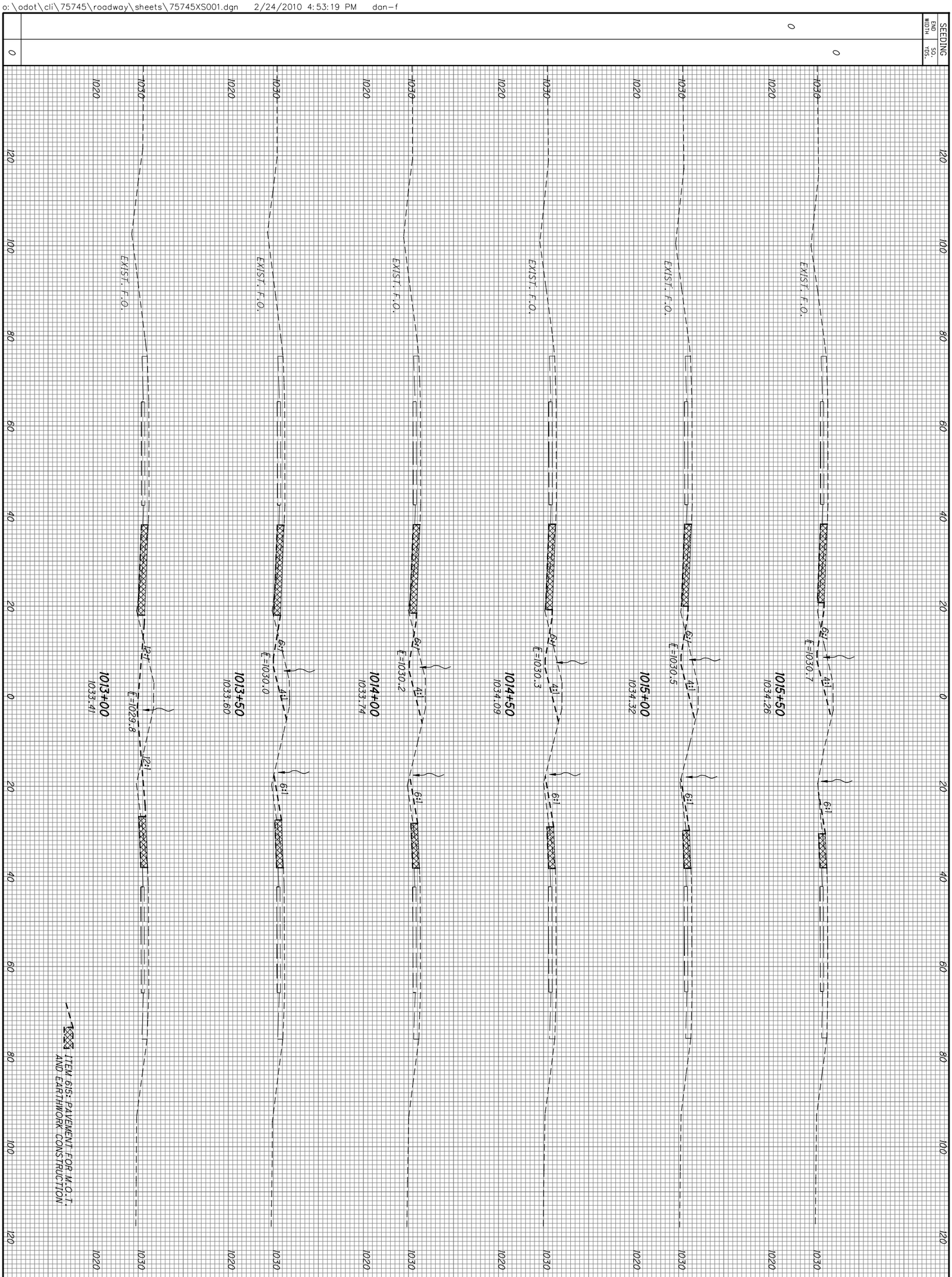

57
218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS
STA. 1013+00.00 TO STA. 1015+50.00

CALCULATED

CHECKED

PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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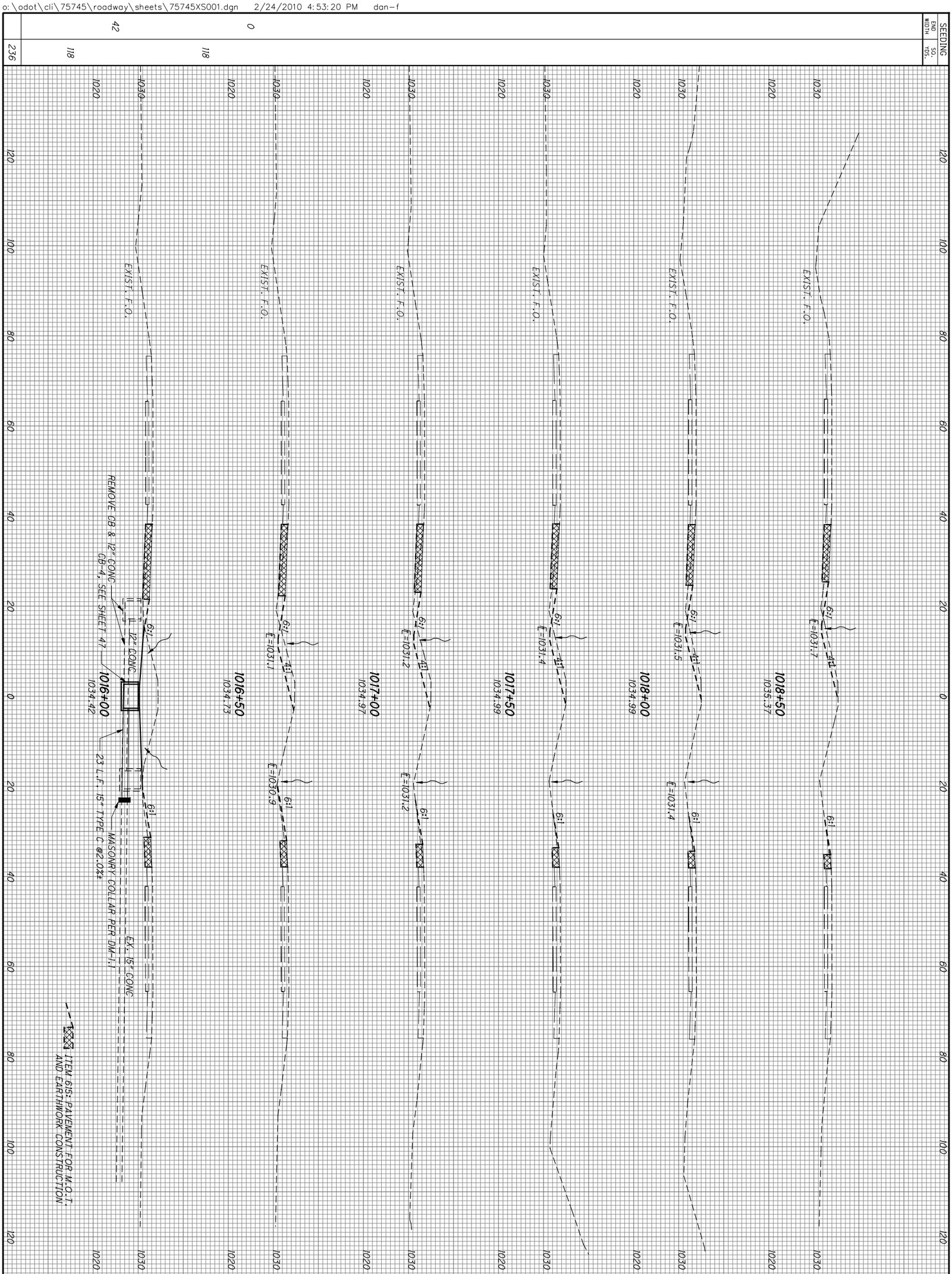

58
218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS
STA. 1016+00.00 TO STA. 1018+50.00

CALCULATED

CHECKED

PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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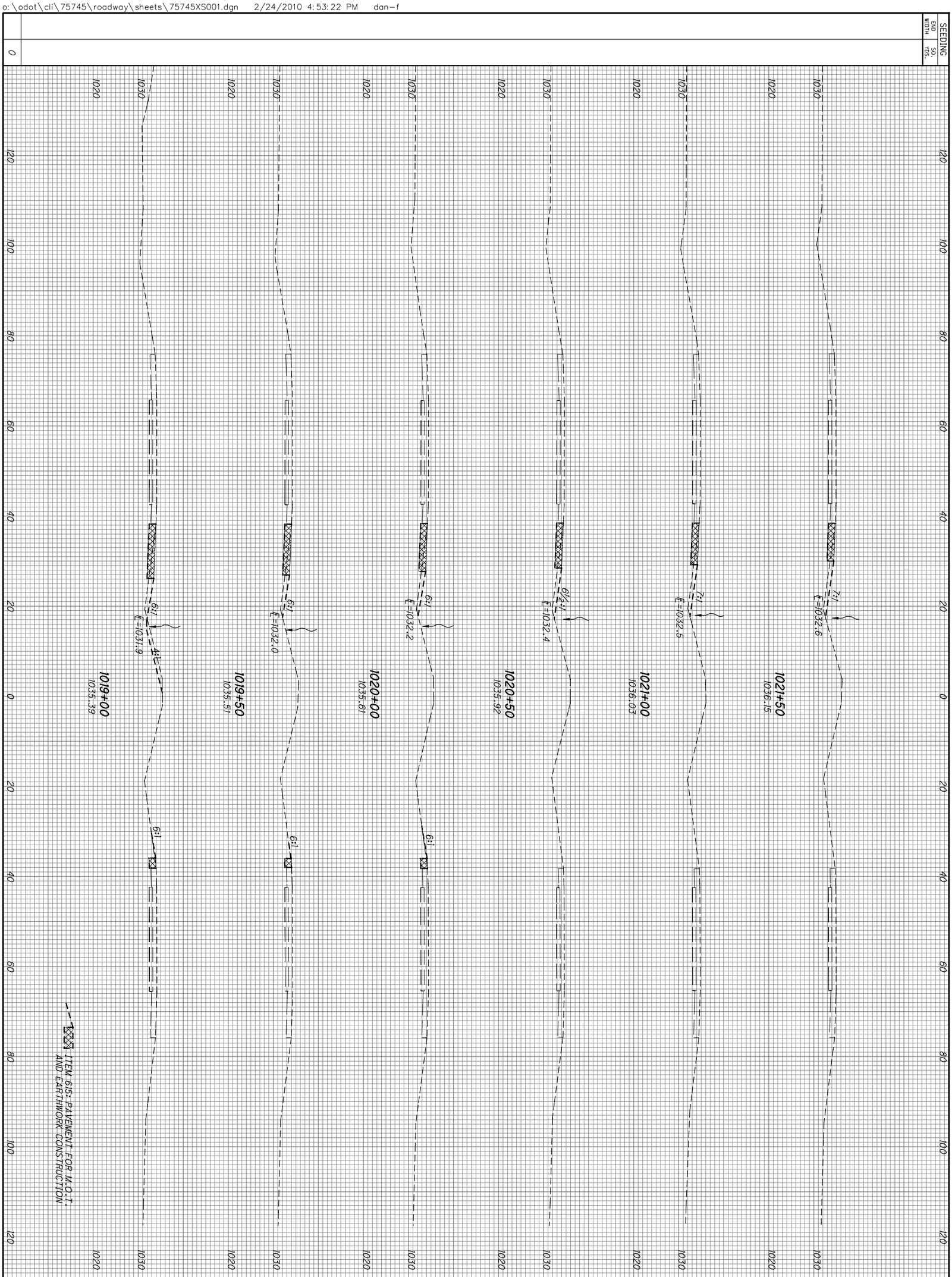

59 / 218	CLI/GRE-71-7.26/0.00	CROSS SECTIONS STA. 1019+00.00 TO STA. 1021+50.00
		CALCULATED
		CHECKED

SEEDING	
END WIDTH	SQ. YDS.
	0

END AREA	
CUT	FILL

VOLUME	
CUT	FILL
0	0

CALCULATED

CHECKED

120 100 80 60 40 20 0 20 40 60 80 100 120

1040 1030

6:1 ℄=1033.6

1025+50.00
1037.63

6:1 ℄=1033.3

1025+00.00
1037.54

6½:1 ℄=1033.2

1024+50.00
1037.14

7:1 ℄=1033.1

1024+00
1036.94

7½:1 ℄=1033.0

1023+50
1036.60

7½:1 ℄=1032.9

1023+00
1036.43

7:1 ℄=1032.8

1022+50
1036.19

7:1 ℄=1032.7

1022+00
1036.30

ITEM 615: PAVEMENT FOR M.O.T. AND EARTHWORK CONSTRUCTION

CROSS SECTIONS
STA. 1022+00.00 TO STA. 1025+50.00

CLI/GRE-
71-7.26/0.00

60
218

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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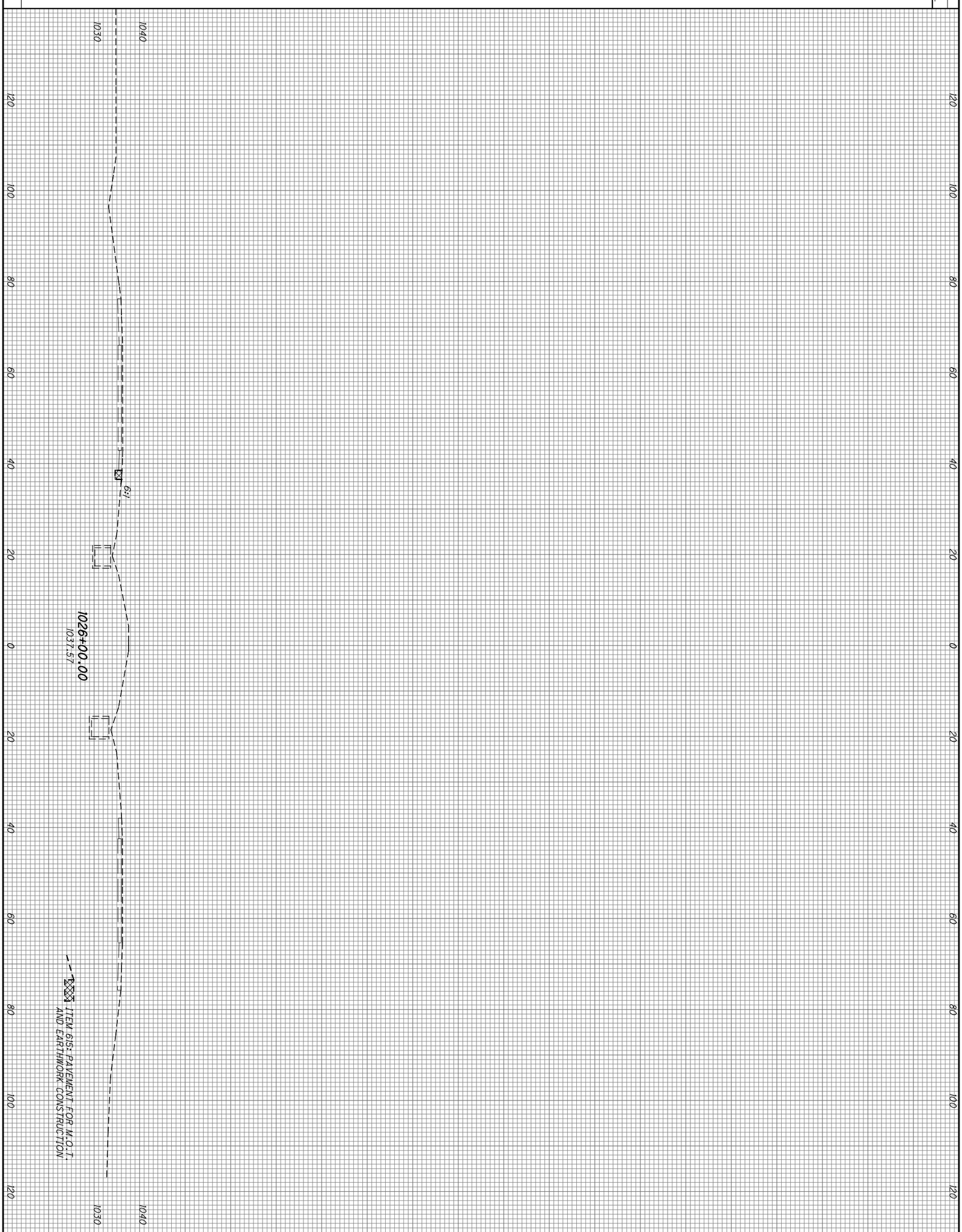
SEEDING
END WIDTH
SQ. YDS.



END AREA
CUT
FILL

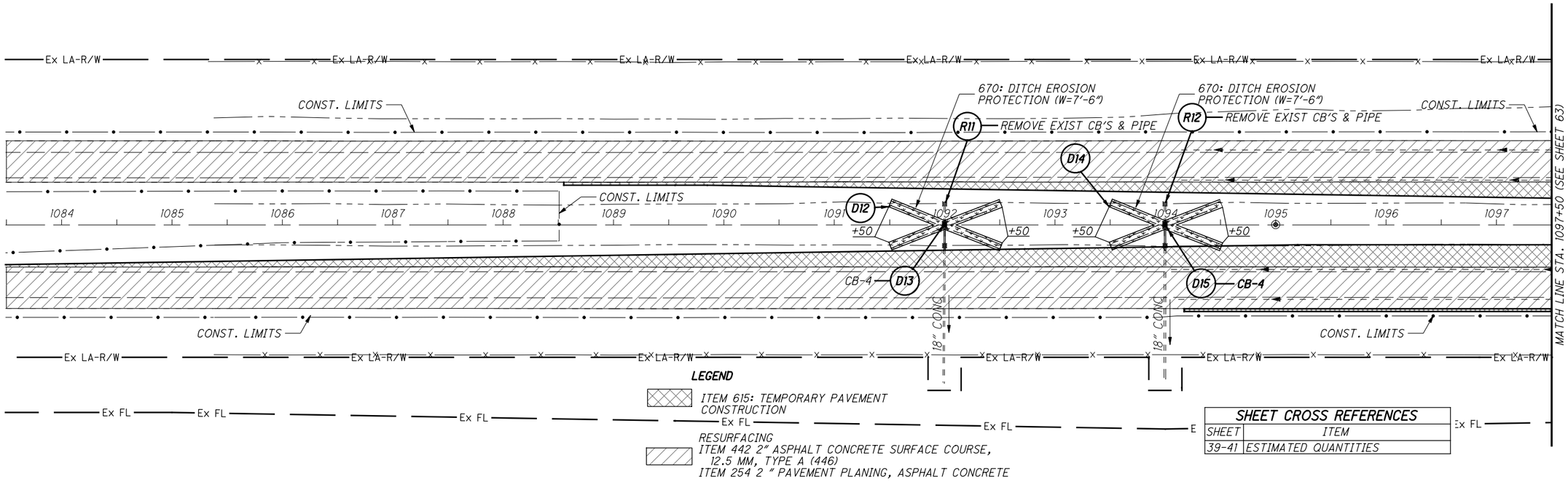
VOLUME
CUT
FILL

61
218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS
STA. 1026+00.00 TO STA. 1026+00.00

CALCULATED
CHECKED



SHEET CROSS REFERENCES	
SHEET	ITEM
39-41	ESTIMATED QUANTITIES

Palmer ENGINEERING
PALMER ENGINEERING
11500 CORNELL PARK DR
CINCINNATI, OH 45242

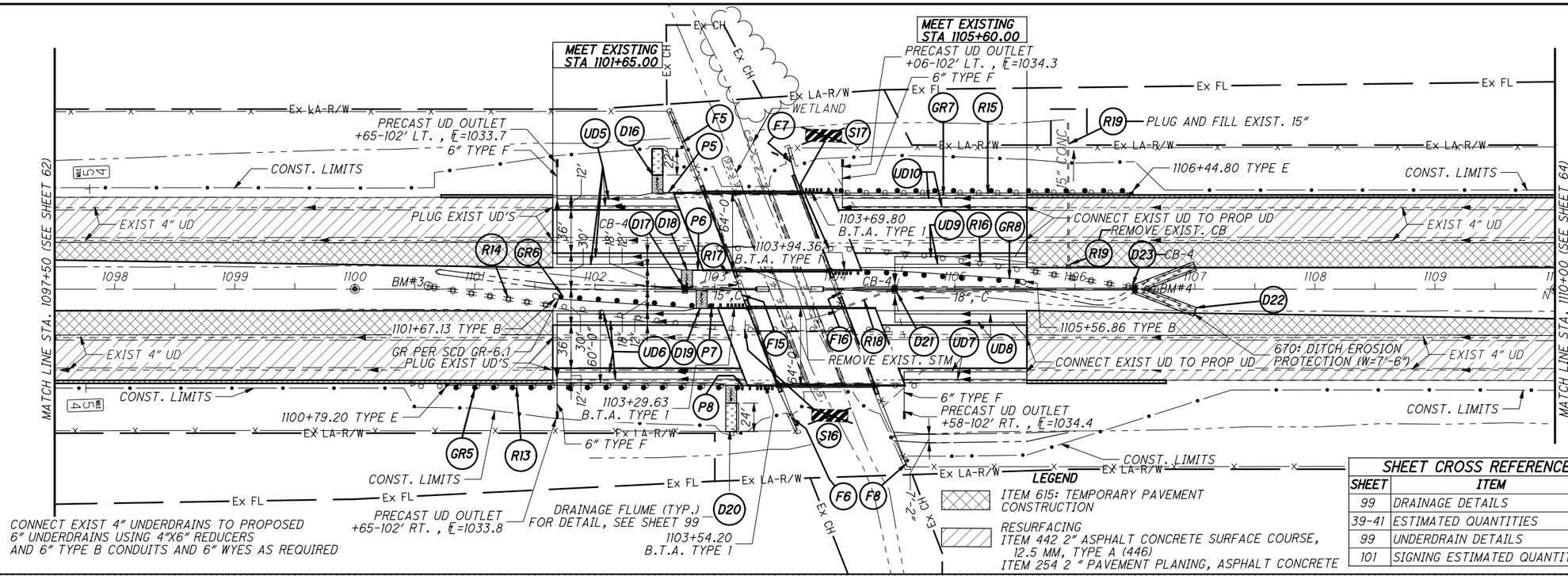
O:\ODOT\CLI\75745\roadway\sheets\75745GP004.dgn 2/25/2010 3:06:35 PM don-f

HORIZONTAL SCALE IN FEET
0 25 50 100

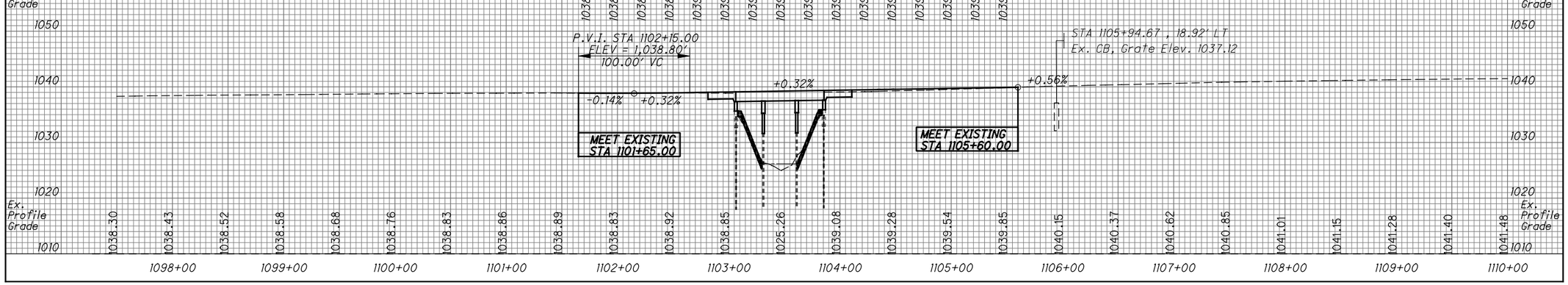
CALCULATED DPF CHECKED

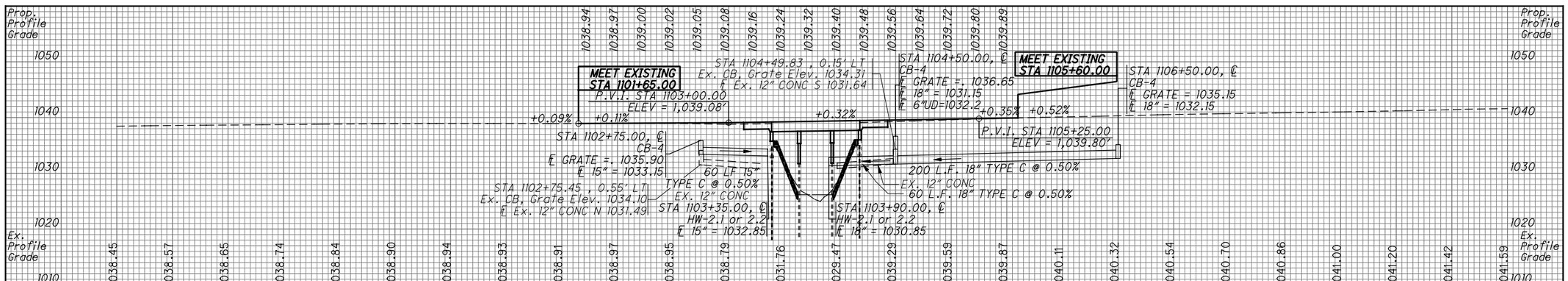
PLAN AND PROFILE
I-71 STA. 1085+00 TO STA. 1097+50

CLI/GRE-
71-7.26/0.00



SHEET CROSS REFERENCES	
SHEET	ITEM
99	DRAINAGE DETAILS
39-41	ESTIMATED QUANTITIES
99	UNDERDRAIN DETAILS
101	SIGNING ESTIMATED QUANTITIES





HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DPF CHECKED

PLAN AND PROFILE
I-71 STA. 1097+50 TO STA. 1100+00

CLI/GRE-
71-7.26/0.00

63
218

Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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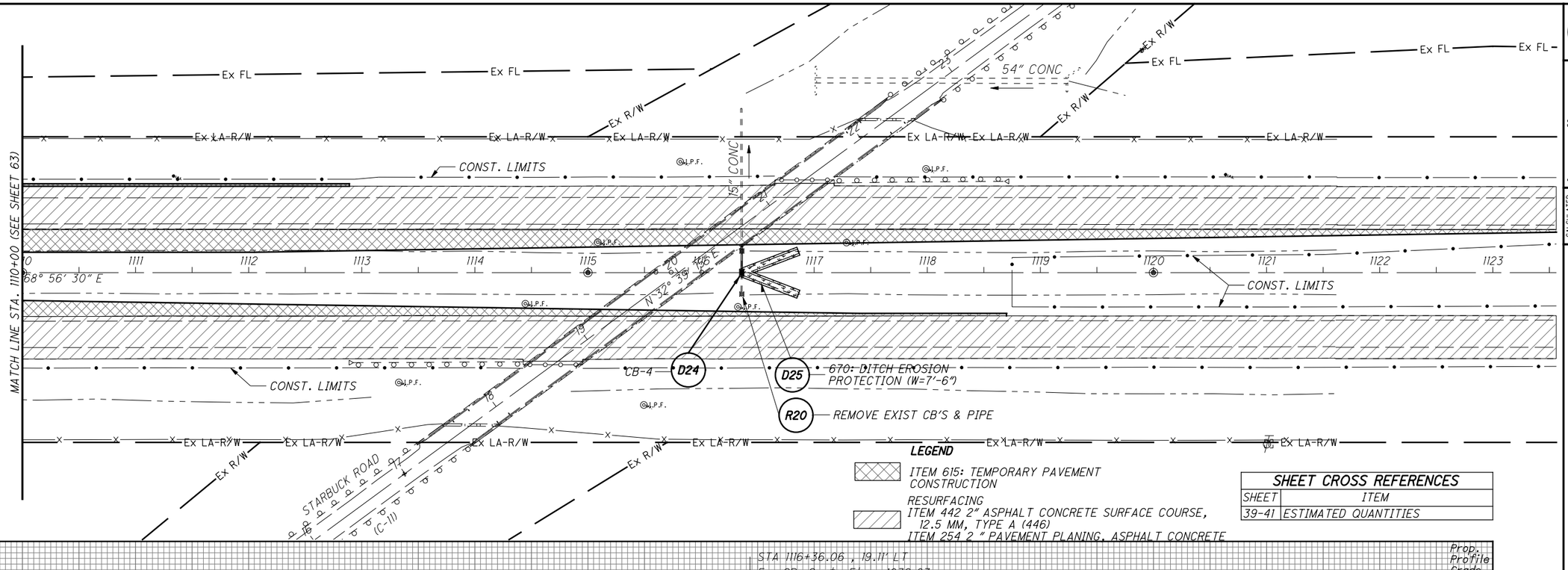

SHEET CROSS REFERENCES	
SHEET	ITEM
39-41	ESTIMATED QUANTITIES

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED DPF CHECKED

PLAN AND PROFILE
I-71 STA. 1110+00 TO STA. 1222+50

CLI/GRE-
71-7.26/0.00

64
218

Palmer ENGINEERING
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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL		

0		0	0

CROSS SECTIONS
STA. 1085+50.00 TO STA. 1088+00.00

CLI/GRE-
71-7.26/0.00

65
218

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11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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SEEDING	
END WIDTH	SQ. YDS.
0	

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	0

CALCULATED

CHECKED

CROSS SECTIONS
STA. 1088+50.00 TO STA. 1091+00.00

CLI/GRE-
71-7.26/0.00

66
218

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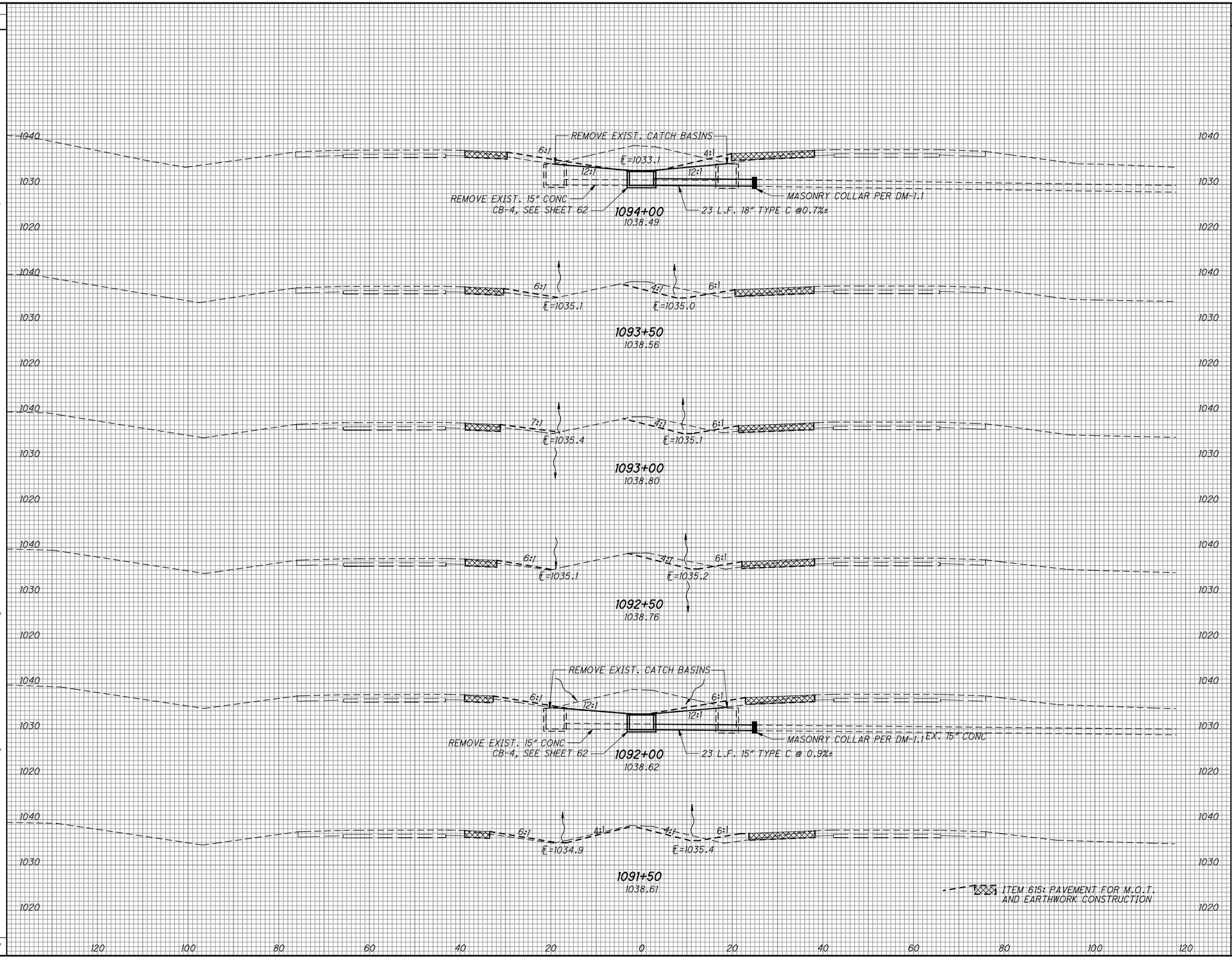
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
45	125	117	0	108	0
0	0	0	0	0	0
0	108	0	0	106	0
39	108	114	0	106	0
0	0	0	0	0	0
341				320	0



CALCULATED

CHECKED

CROSS SECTIONS

STA. 1091+50.00 TO STA. 1094+00.00

CLI/GRE-
71-7.26/0.00

67
218

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SEEDING	
END WIDTH	SQ. YDS.
0	125
	125

END AREA	
CUT	FILL

VOLUME	
CUT	FILL
108	0
108	0

CALCULATED

CHECKED

CROSS SECTIONS
STA. 1094+50.00 TO STA. 1097+00.00

1097+00
1039.19
℄ =1035.6

1096+50
1039.06
℄ =1035.5

1096+00
1038.92
℄ =1035.4

1095+50
1038.85
℄ =1035.3

1095+00
1038.86
℄ =1035.1

1094+50
1038.70
℄ =1035.0

1040 / 1030 / 1020 — 12:1 — 12:1

120 100 80 60 40 20 0 20 40 60 80 100 120

ITEM 615: PAVEMENT FOR M.O.T. AND EARTHWORK CONSTRUCTION

CLI/GRE-
71-7.26/0.00

68
218

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CINCINNATI, OH 45242

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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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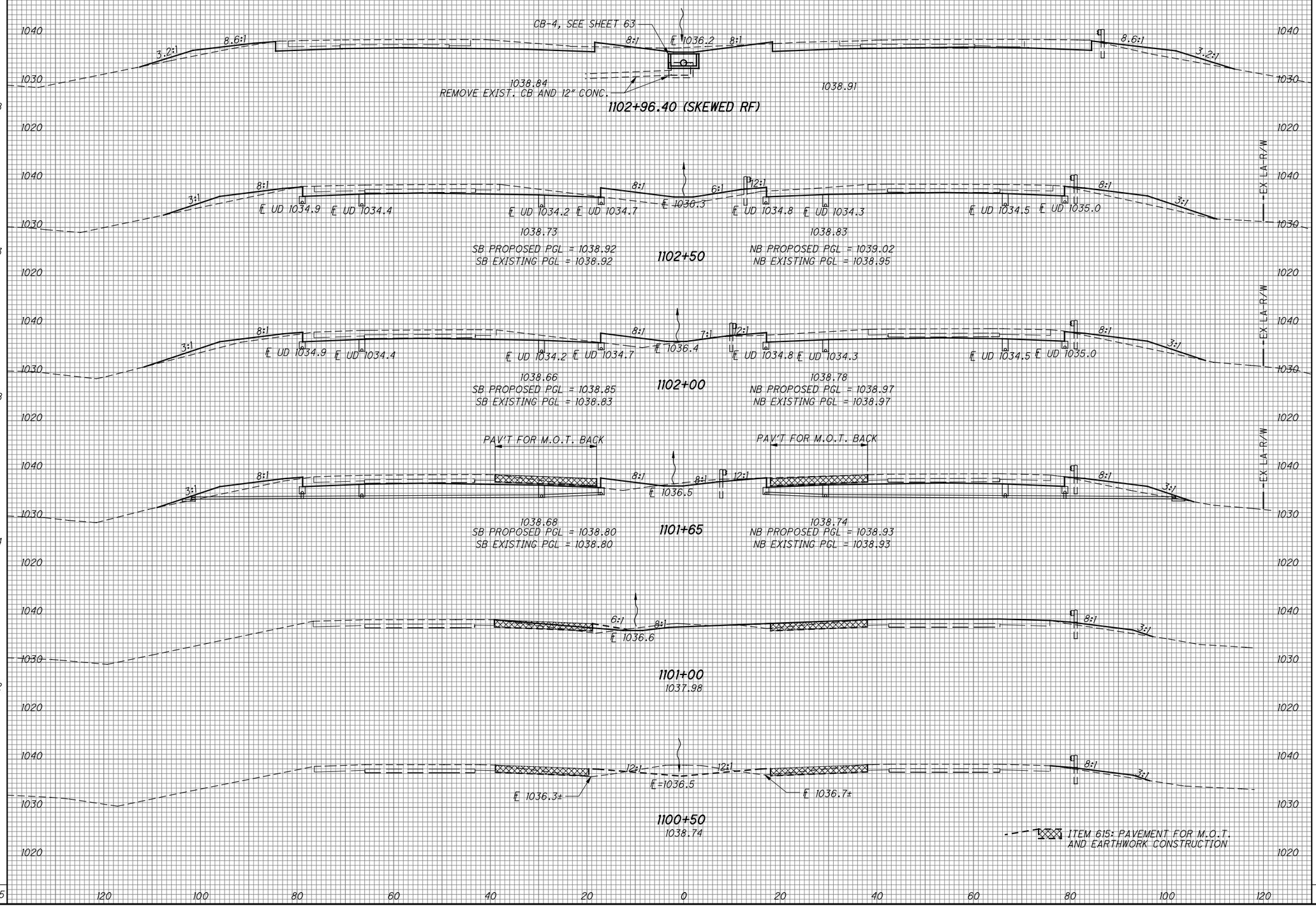
69 / 218	**CLI/GRE-71-7.26/0.00**	**CROSS SECTIONS** **STA. 1097+50.00 TO STA. 1100+00.00**

CALCULATED

CHECKED

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
105	558	235	46	387	129
106	593	205	100	386	156
108	408	212	69	283	86
102	884	225	63	283	120
143	482	10	37	9	41
31	0	0	7	0	0
	2925			1348	532



CALCULATED | CHECKED

CROSS SECTIONS
STA. 1100+50.00 TO STA. 1102+97.53

CLI/GRE-
71-7.26/0.00

70
218

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ENGINEERING 11300 CORNELL PARK DR CINCINNATI, OH 45242

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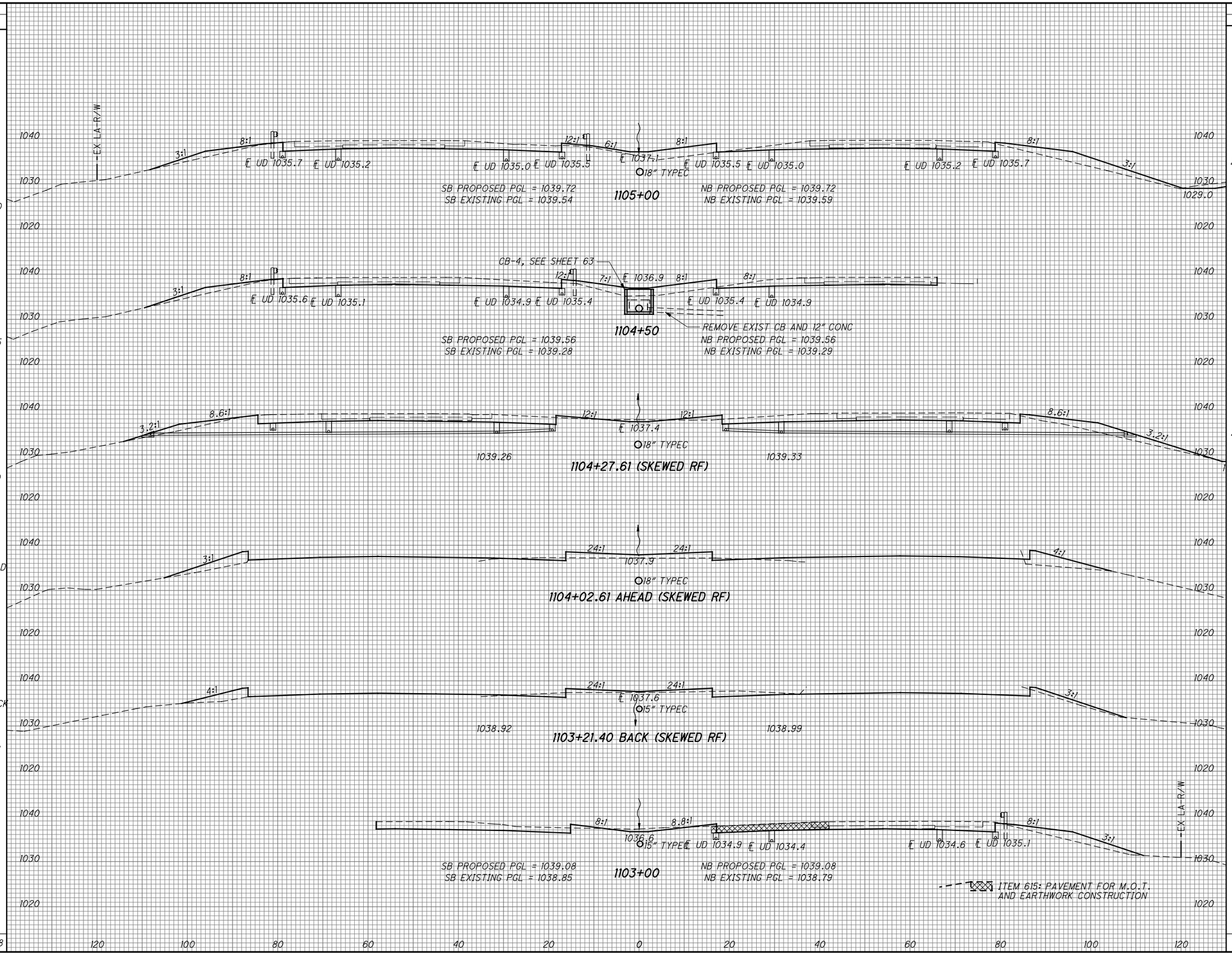
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
131	570	207	113	347	171
75	275	168	72	172	63
139	310	233	76	111	77
84 AHEAD	0	7	31	0	0
84 BACK	198	97	72	113	47
75	25	175	40	19	4
	1378			762	362



CALCULATED

CHECKED

CROSS SECTIONS

STA. 1103+00.00 TO STA. 1105+00.00

CLI/GRE-
71-7.26/0.00

71
218

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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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SEEDING		END AREA		VOLUME			
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	CALCULATED	CHECKED
0		0	0				
	193			63	15		
70		68	16				
	433			86	55		
86		25	43				
	475			177	111		
127		214	107				
	860			468	244		
	1961			794	425		

CROSS SECTIONS
STA. 1105+60.00 TO STA. 1108+00.00

CLI/GRE-
71-7.26/0.00

72
218

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ENGINEERING CINCINNATI, OH 45242

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SEEDING	
END WIDTH	SQ. YDS.
	0

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	0

CALCULATED

CHECKED

CROSS SECTIONS

STA. 1108+50.00 TO STA. 1111+00.00

CLI/GRE-
71-7.26/0.00

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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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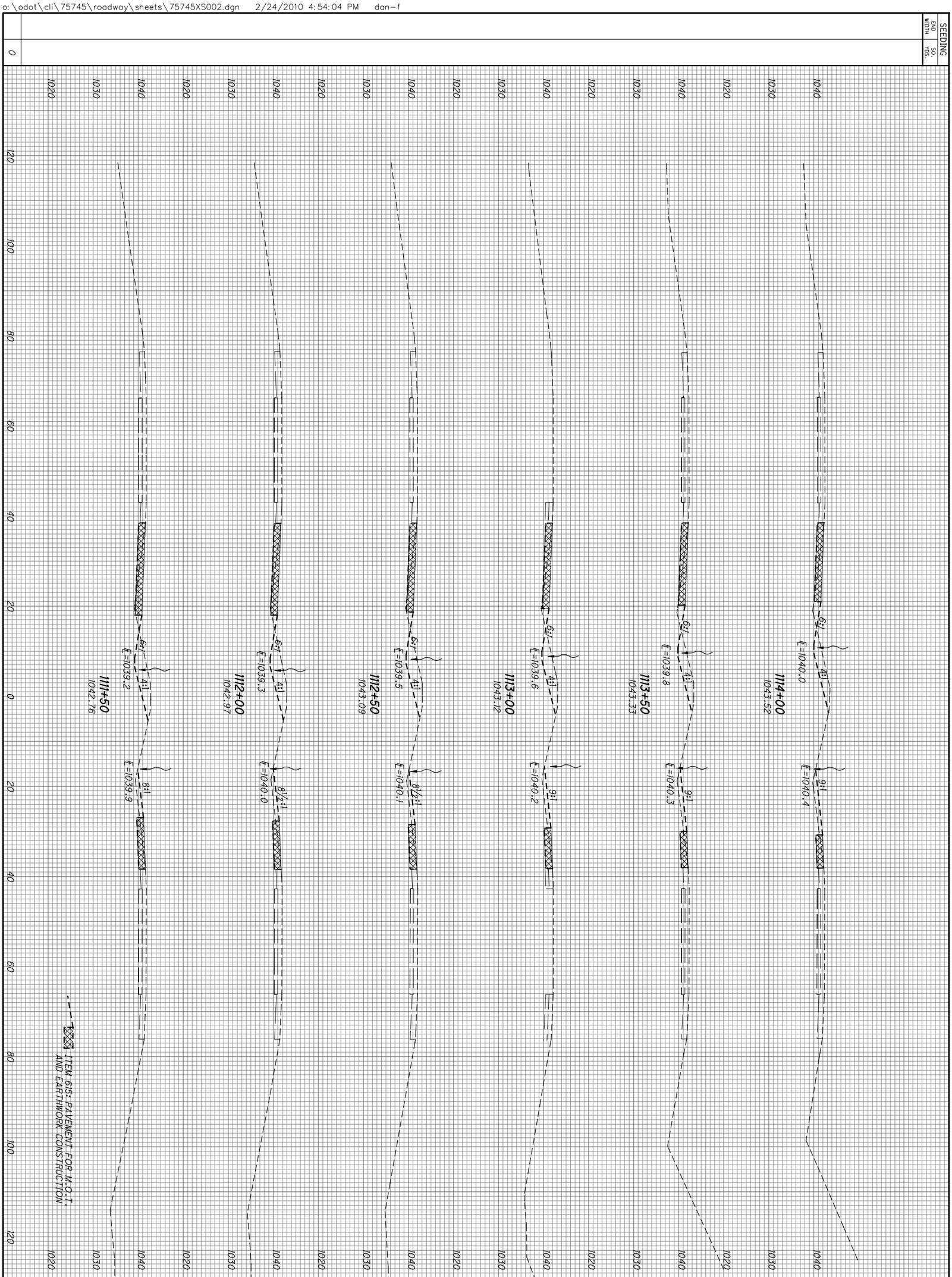


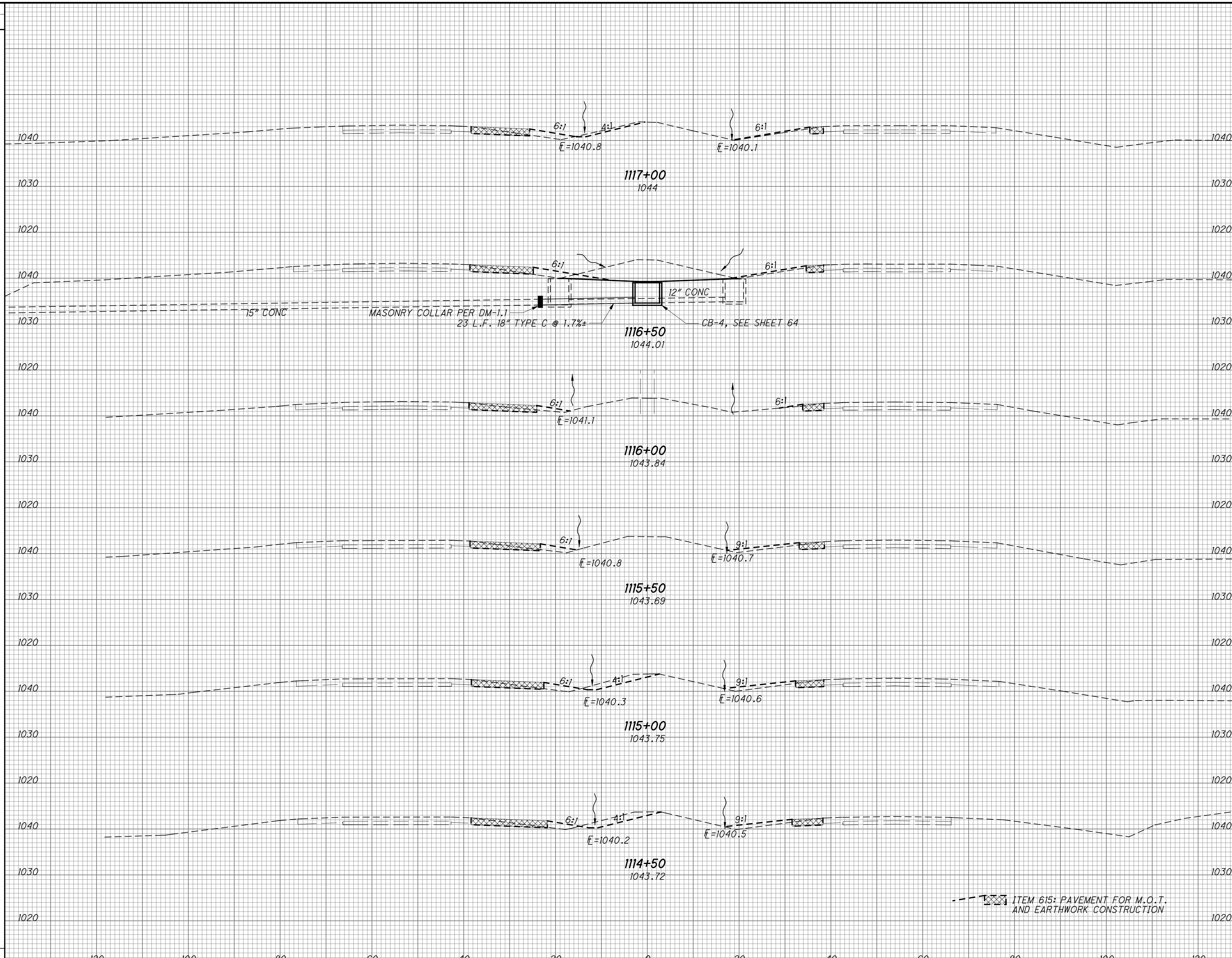
74
218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS
STA. 1111+50.00 TO STA. 1114+00.00

CALCULATED

CHECKED



Station	Seeding End Width	Seeding Sq. Yds.	End Area Cut	End Area Fill	Volume Cut	Volume Fill
1117+00	0		0	0		
		124			94	0
1116+50	45		101	0		
		124			94	0
1116+00	0		0	0		
		0			0	0
Total		248			188	0

CALCULATED | CHECKED

CROSS SECTIONS
STA. 1114+50.00 TO STA. 1117+00.00

CLI/GRE-71-7.26/0.00

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PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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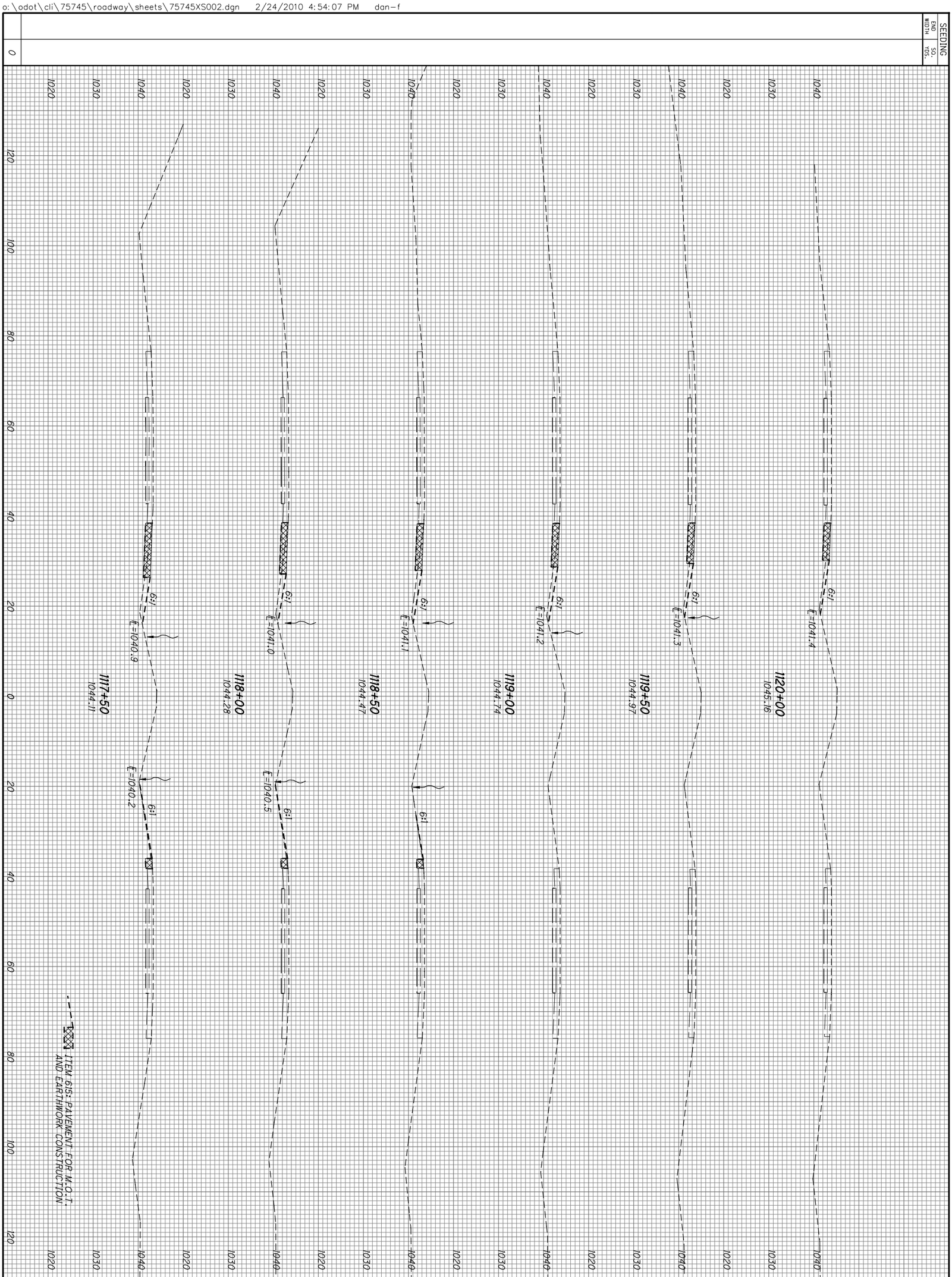

76 / 218	**CLI/GRE-71-7.26/0.00**	**CROSS SECTIONS** **STA. 1117+50.00 TO STA. 1120+00.00**

CALCULATED

CHECKED

PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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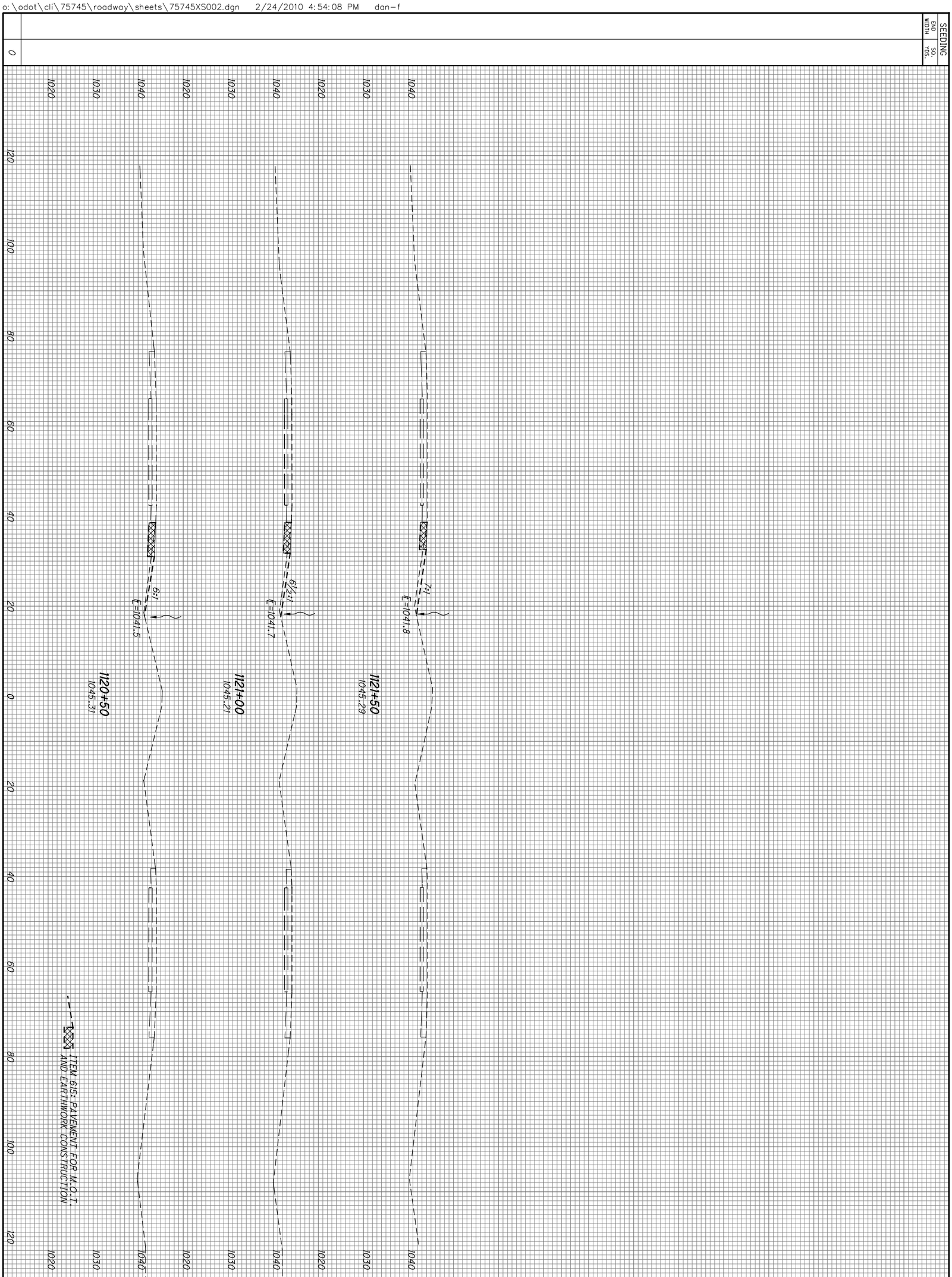

77 / 218	**CLI/ GRE- 71-7.26/ 0.00**	**CROSS SECTIONS STA. 1120+50.00 TO STA. 1121+50.00**
		CALCULATED
		CHECKED

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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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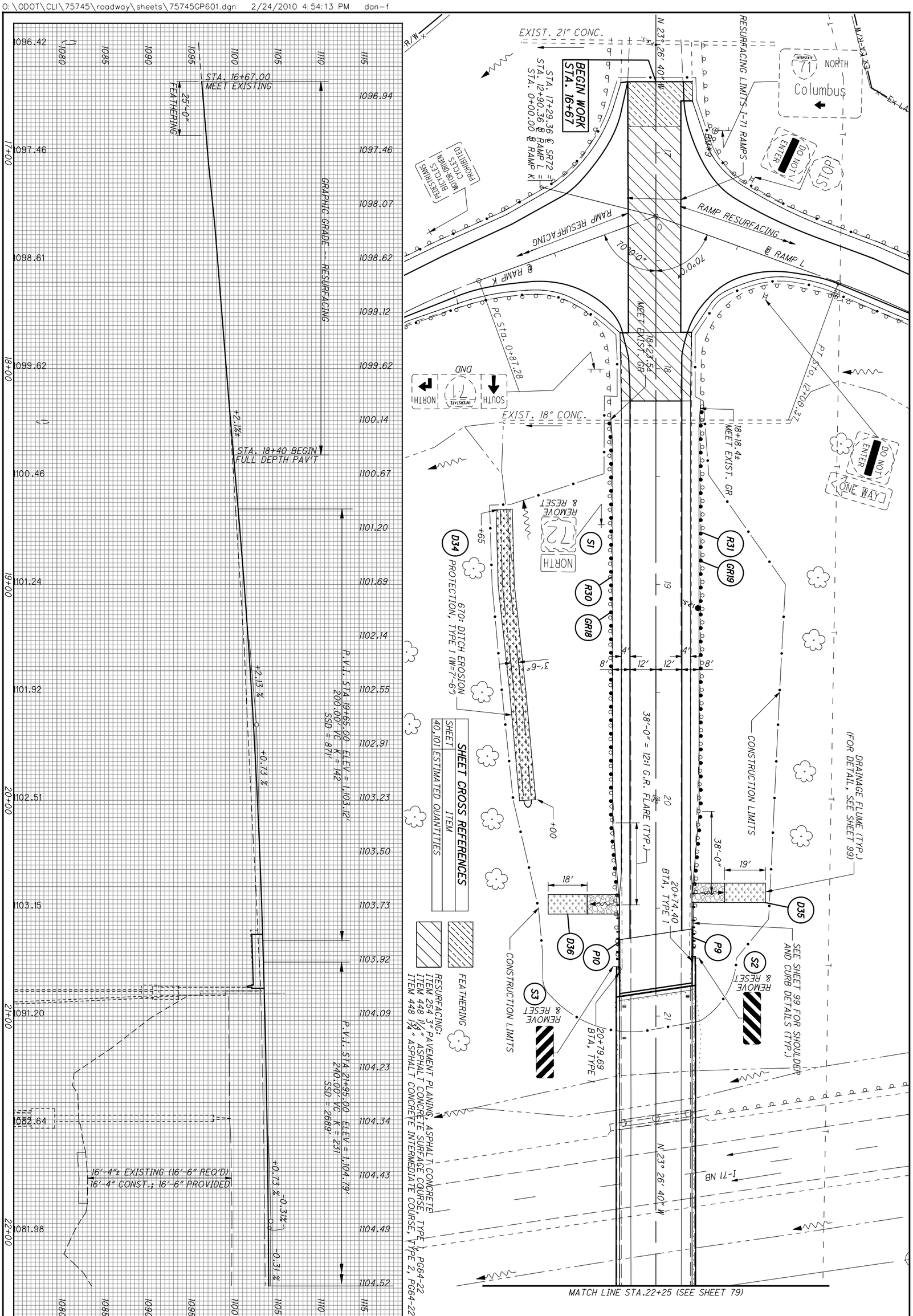
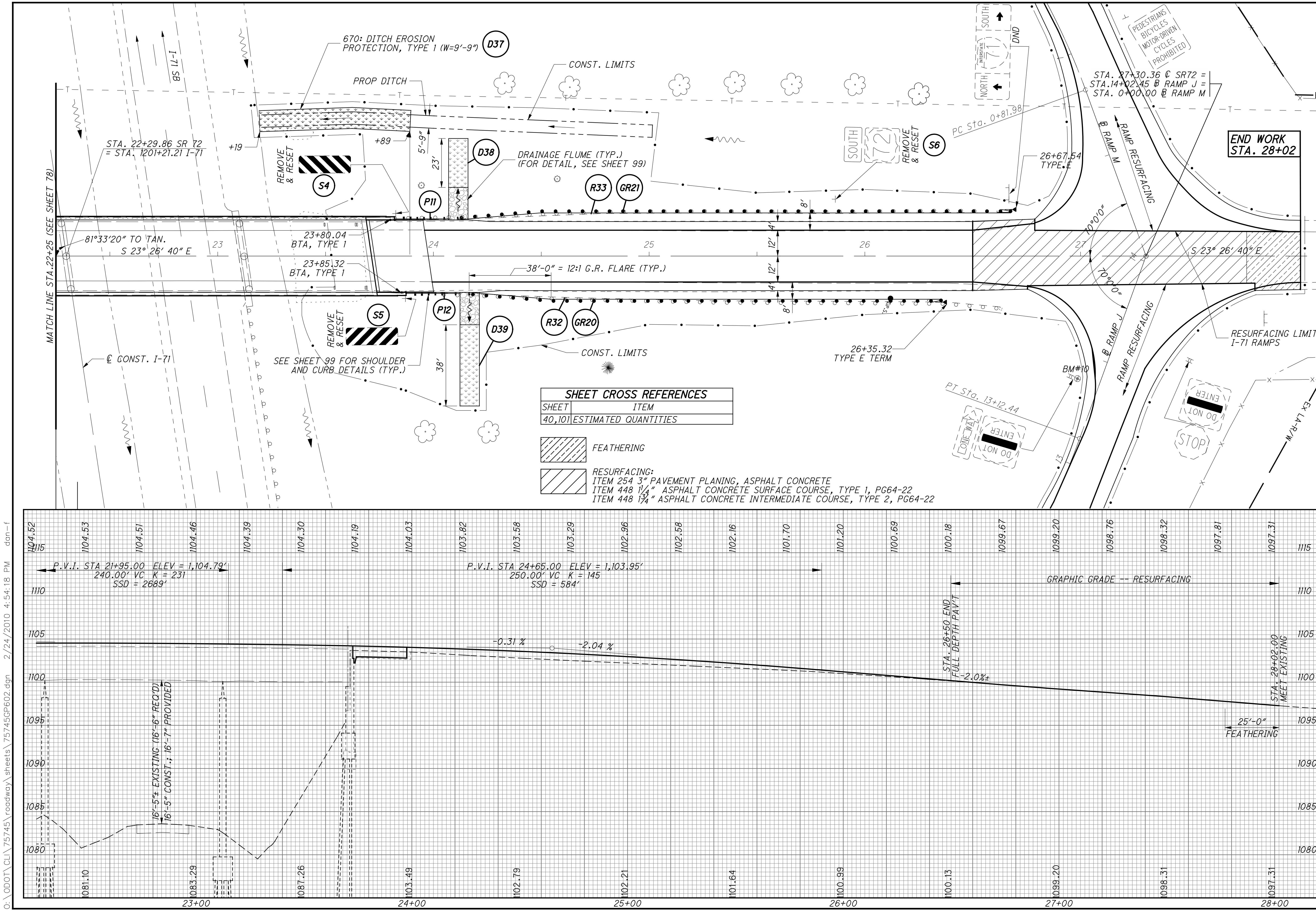


78 / 218	CLI/GRE-71-7.26/0.00	PLAN AND PROFILE STATE ROUTE 72 STA.16+50 to STA.22+00	CALCULATED DPF CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET



670: DITCH EROSION PROTECTION, TYPE 1 (W=9'-9") D37
CONST. LIMITS
PROP DITCH
I-71 SB
STA. 22+29.86 SR 72 = STA. 1201+21.21 I-71
+19
+89
5'-9"
23'
REMOVE & RESET S4
D38
DRAINAGE FLUME (TYP.) (FOR DETAIL, SEE SHEET 99)
R33
GR21
P11
SOUTH 72
REMOVE & RESET S6
PC Sta. 0+81.98
STA. 27+30.36 ℄ SR72 = STA. 14+02.45 ℄ RAMP J = STA. 0+00.00 ℄ RAMP M
26+67.54 TYPE E
END WORK STA. 28+02
℄ RAMP M
RAMP RESURFACING
PEDESTRIANS BICYCLES MOTOR-DRIVEN CYCLES PROHIBITED
NORTH INTERSTATE 71 SOUTH
DND
MATCH LINE STA. 22+25 (SEE SHEET 78)
81°33'20" TO TAN.
S 23° 26' 40" E
23+80.04 BTA, TYPE 1
23+85.32 BTA, TYPE 1
38'-0" = 12:1 G.R. FLARE (TYP.)
8'
4'
12'
12'
4'
8'
70°0'0"
70°0'0"
REMOVE & RESET S5
P12
D39
R32
GR20
℄ CONST. I-71
SEE SHEET 99 FOR SHOULDER AND CURB DETAILS (TYP.)
38'
CONST. LIMITS
26+35.32 TYPE E TERM
℄ RAMP J
RAMP RESURFACING
RESURFACING LIMITS I-71 RAMPS
BM#10
PI Sta. 13+12.44
ONE WAY
DO NOT ENTER
STOP
EX LA-R/W
P.V.I. STA 21+95.00 ELEV = 1,104.79'
240.00' VC K = 231
SSD = 2689'
P.V.I. STA 24+65.00 ELEV = 1,103.95'
250.00' VC K = 145
SSD = 584'
GRAPHIC GRADE -- RESURFACING
-0.31 %
-2.04 %
STA. 26+50 END FULL DEPTH PAV'T
-2.0%±
STA. 28+02.00 MEET EXISTING
25'-0" FEATHERING
16'-5"± EXISTING (16'-6" REQ'D)
16'-5" CONST.; 16'-7" PROVIDED
1104.52
1104.53
1104.51
1104.46
1104.39
1104.30
1104.19
1104.03
1103.82
1103.58
1103.29
1102.96
1102.58
1102.16
1101.70
1101.20
1100.69
1100.18
1099.67
1099.20
1098.76
1098.32
1097.81
1097.31
1081.10
1083.29
1087.26
1103.49
1102.79
1102.21
1101.64
1100.99
1100.13
1099.20
1098.31
1097.31
23+00
24+00
25+00
26+00
27+00
28+00
1115
1110
1105
1100
1095
1090
1085
1080

SHEET CROSS REFERENCES	
SHEET	ITEM
40,101	ESTIMATED QUANTITIES

FEATHERING

RESURFACING:
ITEM 254 3" PAVEMENT PLANING, ASPHALT CONCRETE
ITEM 448 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
ITEM 448 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22

HORIZONTAL SCALE IN FEET 0 20 40

CALCULATED CHECKED

PLAN AND PROFILE STATE ROUTE 72 STA. 22+00 TO STA. 28+00

CLI/GRE-71-7.26/0.00

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PALMER ENGINEERING 11300 CORNELL PARK DR CINCINNATI, OH 45242

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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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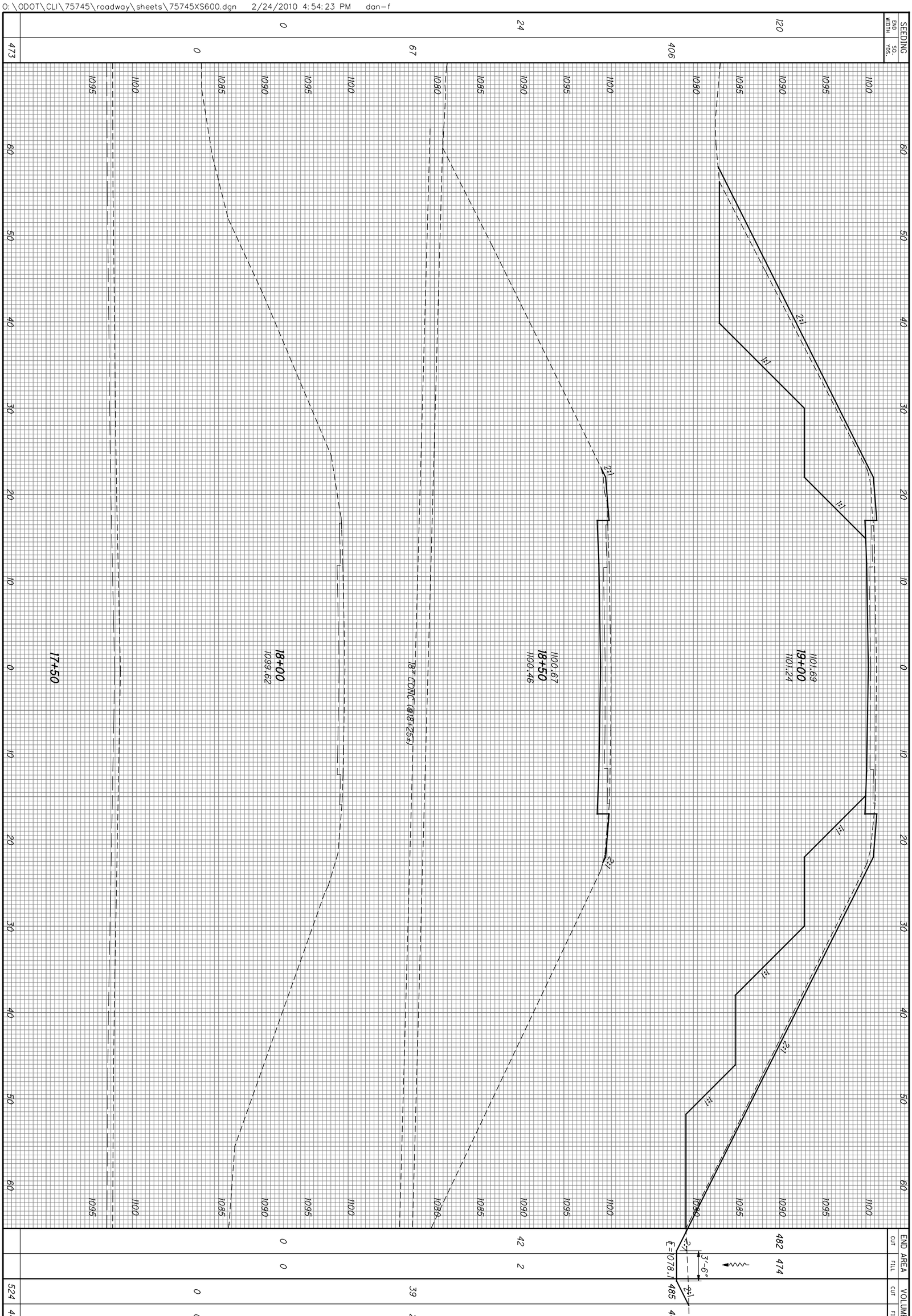

80
218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS

SR 72 STA. 17+50.00 TO STA. 19+00.00

CALCULATED

CHECKED

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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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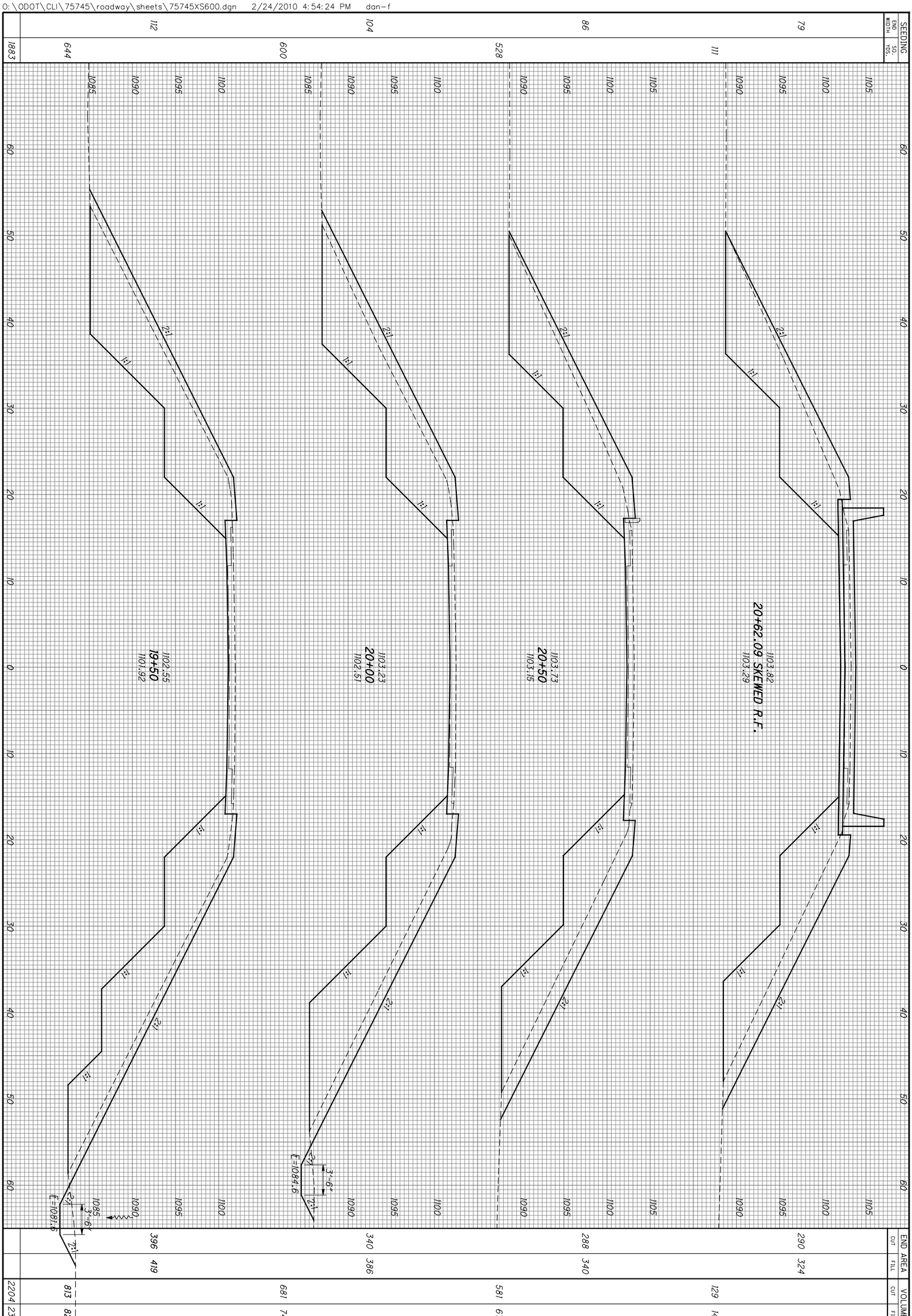

81 / 218	**CLI/GRE-71-7.26/0.00**	**CROSS SECTIONS** **SR 72 STA. 19+50.00 TO STA. 20+62.09**

CALCULATED

CHECKED

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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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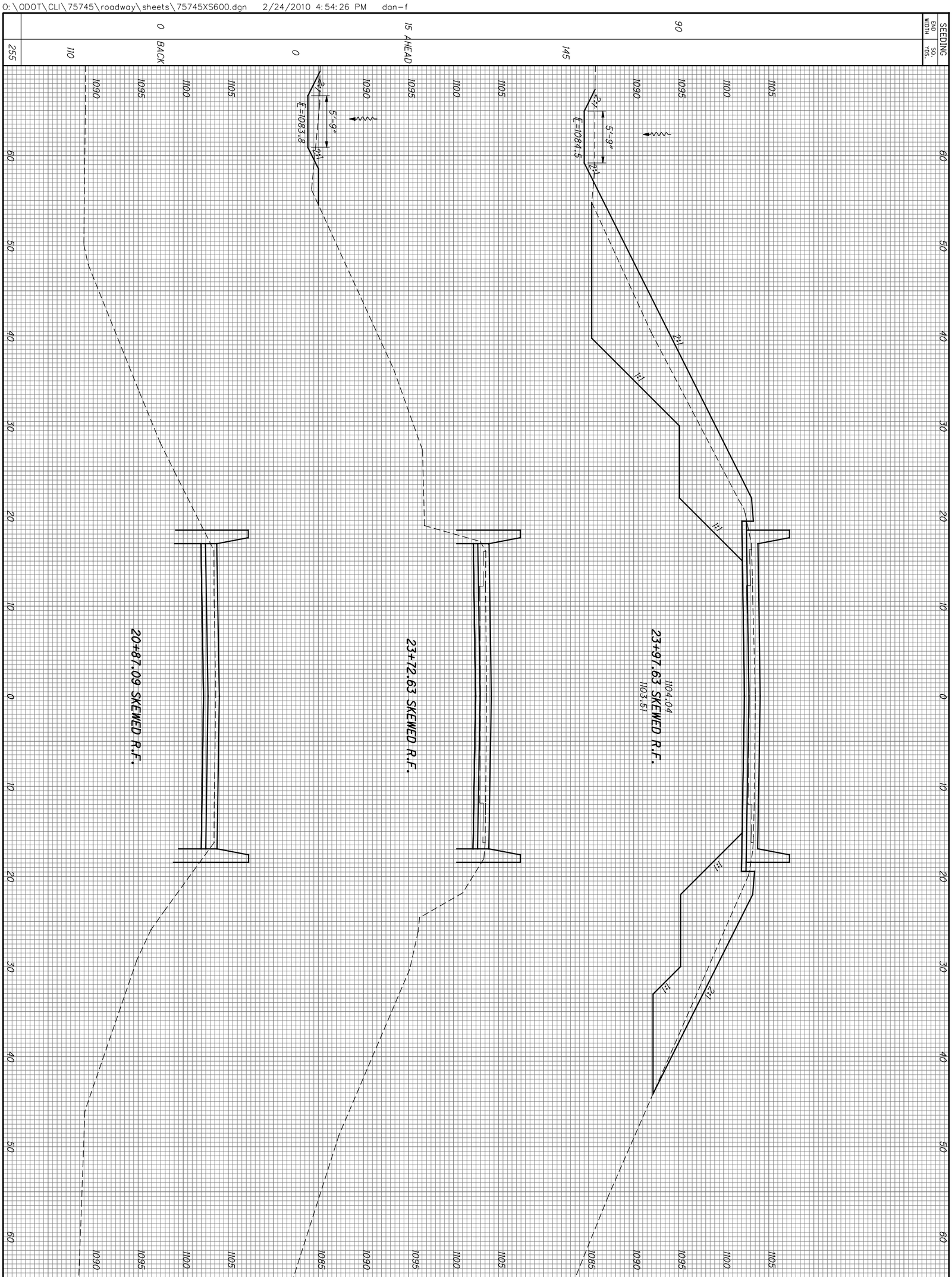

82
218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS

SR 72 STA. 20+87.09 TO STA. 23+97.63

CALCULATED

CHECKED

PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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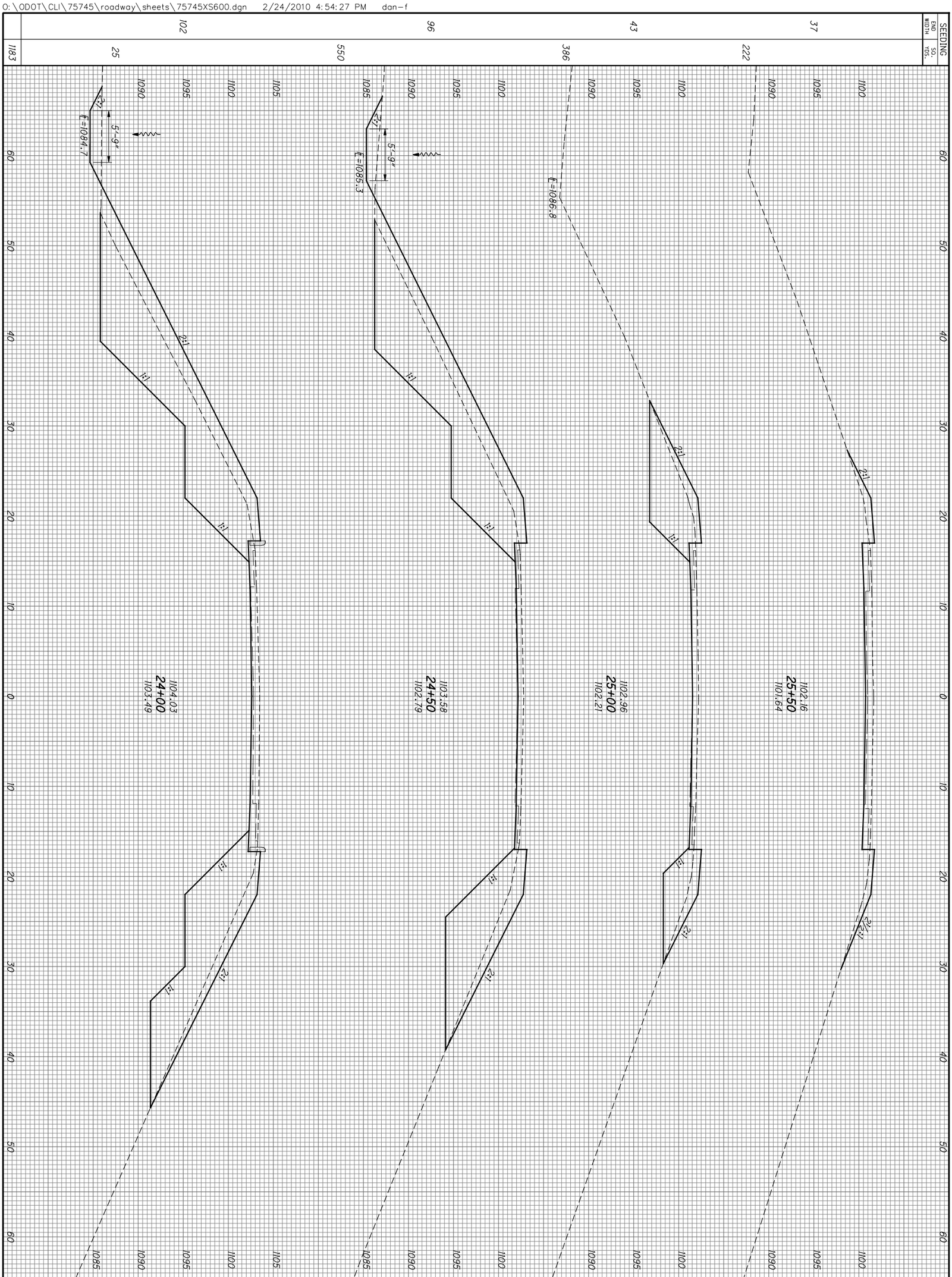

END AREA CUT / FILL
VOLUME CUT / FILL

83
218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS

SR 72 STA. 24+00.00 TO STA. 25+50.00

CALCULATED

CHECKED

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11300 CORNELL PARK DR
CINCINNATI, OH 45242

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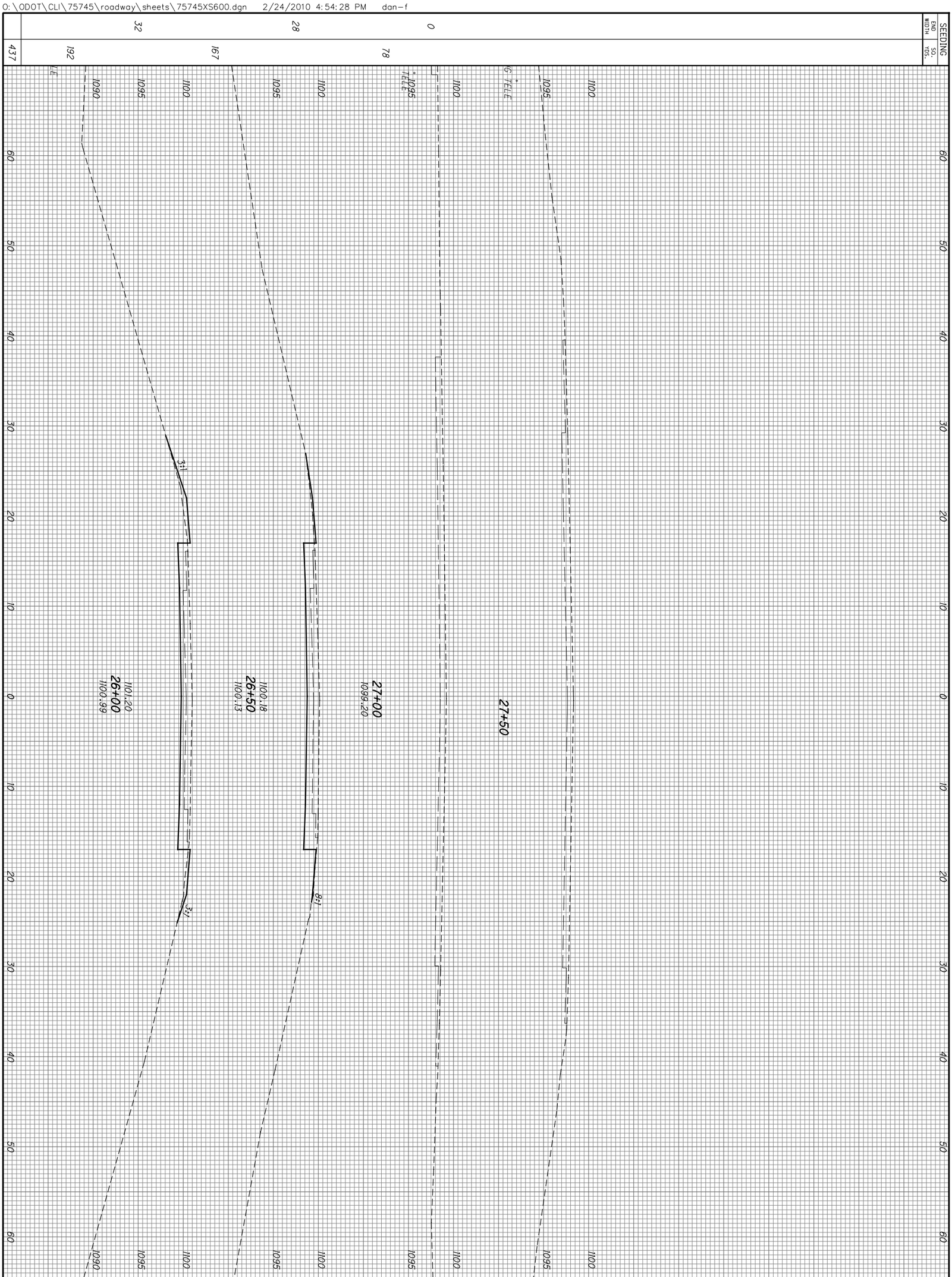

CLI/GRE-71-7.26/0.00

CROSS SECTIONS
SR 72 STA. 26+00.00 TO STA. 27+50.00

CALCULATED

CHECKED

Ex R/W — Ex R/W — Ex R/W — Ex R/W

CONST LIMITS

BEGIN WORK STA. 17+25

D27

39'

81.25' (TYP.)

GR10 GUARDRAIL, TYPE 5 (CONNECT TO EXISTING)

R22

P14

EX L-A-R/W

SMALL TREES

BTA, TYPE 1

I-71 NB

9'-0"

9'-0"

15

16

N 59° 18' 44" W

17

18

19

14'-0"

14'-0"

13'-1"

13'-1"

EXIST 24" CULVERT

MATCH LINE STA. 20+00

GR9 GUARDRAIL, TYPE 5 (CONNECT TO EXISTING)

R21

P13

BTA, TYPE 1

16'

D26

748

746

I-71 SB

MATCH LINE STA. 20+00

Ex R/W — Ex R/W — Ex R/W

FOR DRAINAGE FLUME AND SHOULDER DETAILS, SEE SHEET 99

D29

SMALL TREES

GUARDRAIL, TYPE 5 (CONNECT TO EXISTING) GR12

BTA, TYPE 1

P16

R24

9'-0"

13'-1"

13'-1"

23

24

N 59° 18' 44" W

25

14'-0"

14'-0"

STA. 747+09.95 ℄ I-71 =
STA. 20+00.00 GURNEYVILLE RD.

BTA, TYPE 1

P15

R23

9'-0"

END WORK STA. 22+75

D28

23'

GUARDRAIL, TYPE 5 (CONNECT TO EXISTING) GR11

SMALL TREES

CONST LIMITS

Ex R/W — Ex R/W — Ex R/W

WEDGING/RESURFACING
ITEM 448 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
ITEM 448 1¾" MIN-2¼" MAX. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22

FULL DEPTH SHOULDER

SHEET CROSS REFERENCES	
SHEET	ITEM
40-41	ESTIMATED QUANTITIES

HORIZONTAL SCALE IN FEET
0 10 20 50

CALCULATED | CHECKED

PLAN - GURNEYVILLE ROAD

CLI/GRE-71-7.26/0.00

85
218

PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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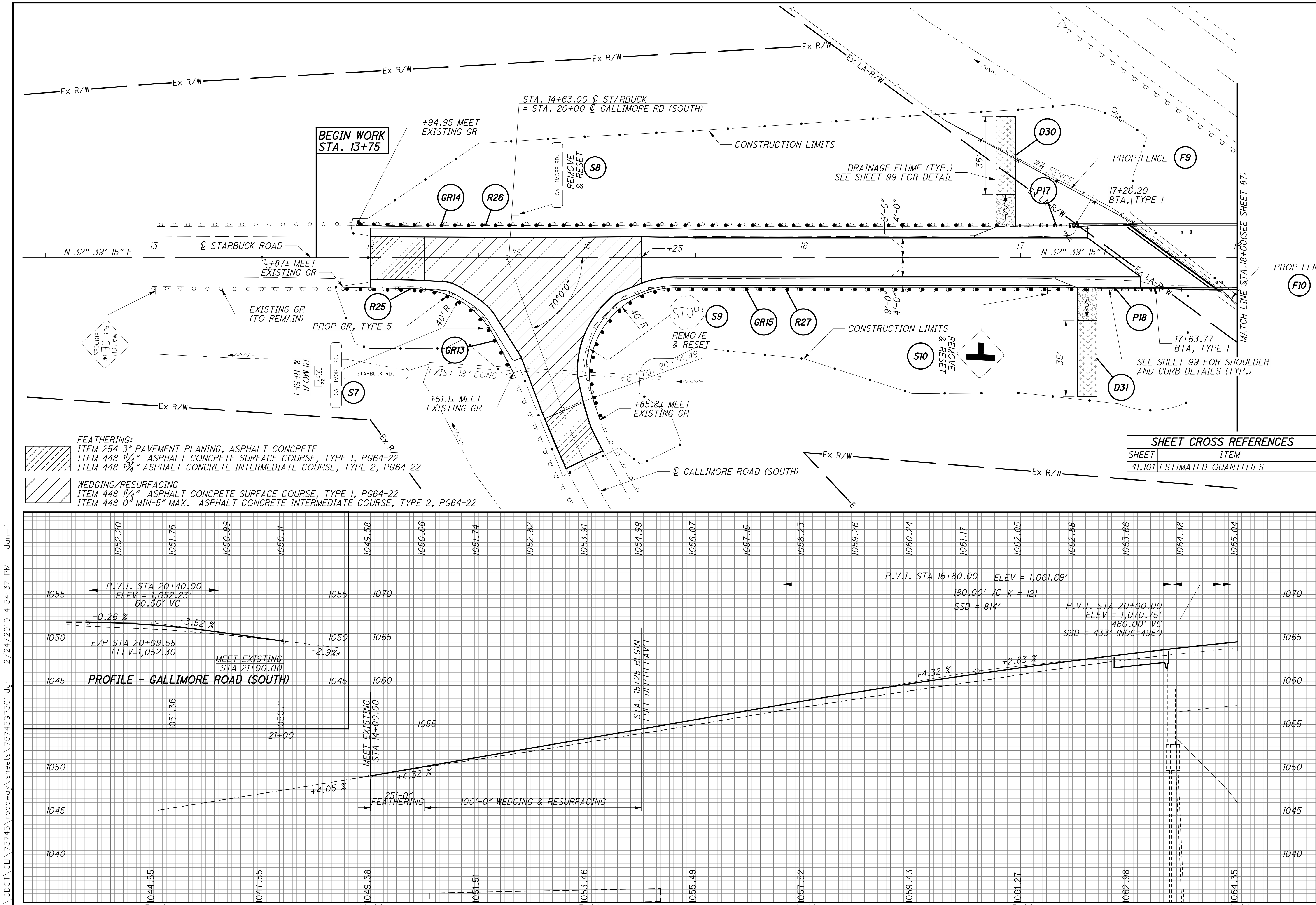
Ex R/W
BEGIN WORK STA. 13+75
+94.95 MEET EXISTING GR
STA. 14+63.00 ℄ STARBUCK = STA. 20+00 ℄ GALLIMORE RD (SOUTH)
CONSTRUCTION LIMITS
REMOVE & RESET S8
GR14
R26
D30
PROP FENCE F9
DRAINAGE FLUME (TYP.) SEE SHEET 99 FOR DETAIL
36'
P17
17+26.20 BTA, TYPE 1
WW FENCE
Ex LA-R/W
N 32° 39' 15" E
℄ STARBUCK ROAD
+87± MEET EXISTING GR
+25
9'-0"
4'-0"
70°0'0"
MATCH LINE STA.18+00(SEE SHEET 87)
PROP FENCE F10
EXISTING GR (TO REMAIN)
R25
PROP GR, TYPE 5
40' R
GR13
WATCH FOR ICE ON BRIDGES
REMOVE & RESET S7
GALLIMORE RD.
STARBUCK RD.
EXIST 18" CONC
+51.1± MEET EXISTING GR
STOP
S9
REMOVE & RESET
GR15
R27
CONSTRUCTION LIMITS
PG Sta. 20+74.49
+85.8± MEET EXISTING GR
S10
REMOVE & RESET
35'
D31
P18
17+63.77 BTA, TYPE 1
SEE SHEET 99 FOR SHOULDER AND CURB DETAILS (TYP.)
℄ GALLIMORE ROAD (SOUTH)
PROFILE - GALLIMORE ROAD (SOUTH)
P.V.I. STA 20+40.00 ELEV = 1,052.23' 60.00' VC
-0.26 %
-3.52 %
E/P STA 20+09.58 ELEV=1,052.30
MEET EXISTING STA 21+00.00
-2.9%±
1052.20 1051.76 1050.99 1050.11
1051.36 1050.11
21+00
P.V.I. STA 16+80.00 ELEV = 1,061.69'
180.00' VC K = 121
SSD = 814'
P.V.I. STA 20+00.00 ELEV = 1,070.75' 460.00' VC SSD = 433' (NDC=495')
+4.32 %
+2.83 %
STA. 15+25 BEGIN FULL DEPTH PAVT
MEET EXISTING STA 14+00.00
+4.05 %
25'-0" FEATHERING
100'-0" WEDGING & RESURFACING
1049.58 1050.66 1051.74 1052.82 1053.91 1054.99 1056.07 1057.15 1058.23 1059.26 1060.24 1061.17 1062.05 1062.88 1063.66 1064.38 1065.04
1044.55 1047.55 1049.58 1051.51 1053.46 1055.49 1057.52 1059.43 1061.27 1062.98 1064.35
13+00 14+00 15+00 16+00 17+00 18+00
1040 1045 1050 1055 1060 1065 1070
HORIZONTAL SCALE IN FEET 0 10 20 40

FEATHERING:
ITEM 254 3" PAVEMENT PLANING, ASPHALT CONCRETE
ITEM 448 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
ITEM 448 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22

WEDGING/RESURFACING
ITEM 448 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
ITEM 448 0" MIN-5" MAX. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22

SHEET CROSS REFERENCES

SHEET	ITEM
41,101	ESTIMATED QUANTITIES

CALCULATED DPF CHECKED

PLAN AND PROFILE
STARBUCK ROAD STA. 13+00 TO STA. 18+00

CLI/GRE-71-7.26/0.00

Palmer ENGINEERING PALMER ENGINEERING 11300 CORNELL PARK DR CINCINNATI, OH 45242
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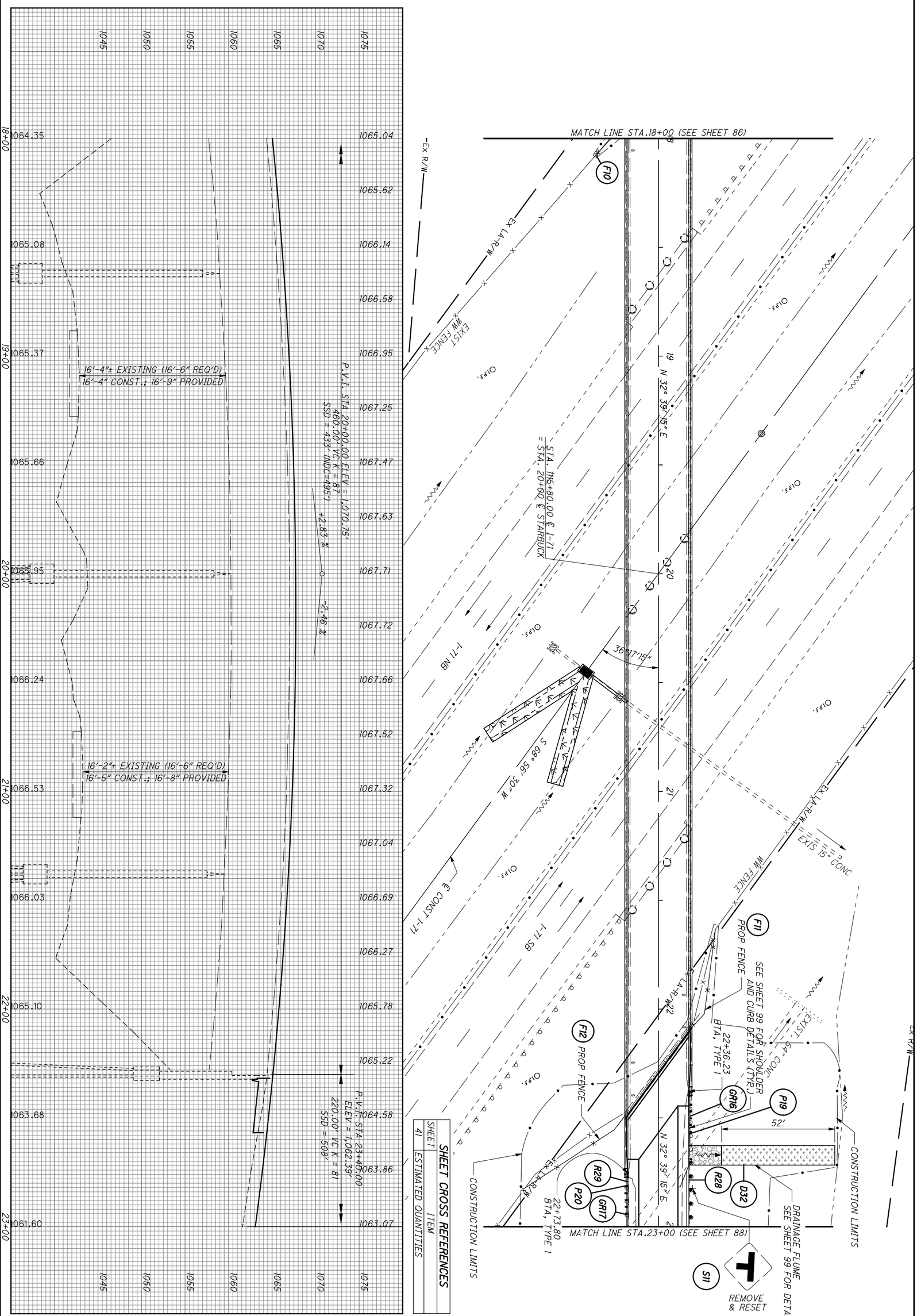


SHEET GROSS REFERENCES	
ITEM	SHEET
ESTIMATED QUANTITIES	41

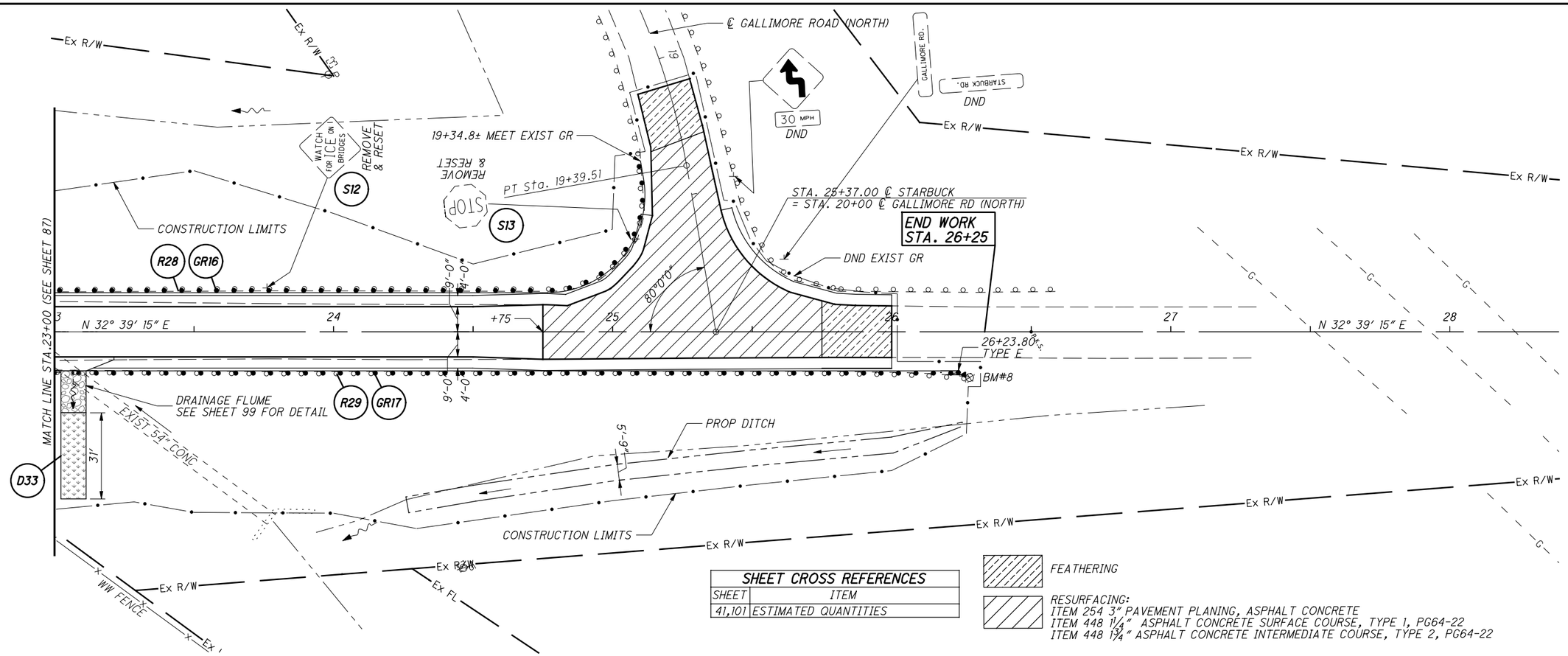
87
218

CLI/GRE-71-7.26/0.00

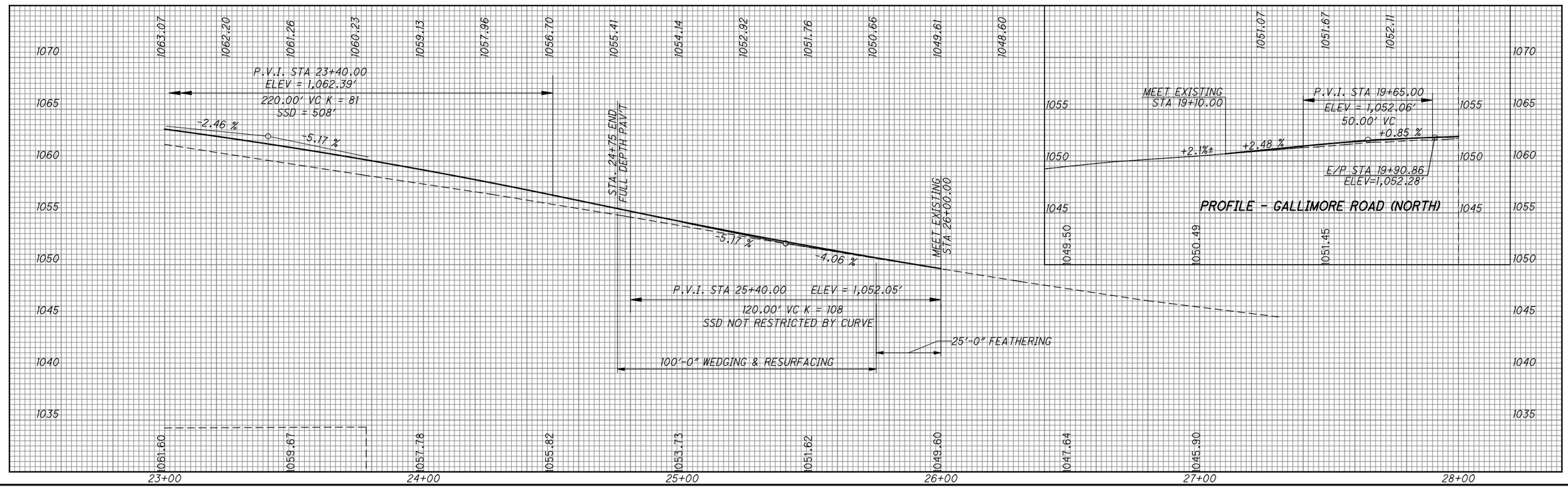
PLAN AND PROFILE
STARBUCK ROAD STA. 18+00 TO STA. 23+00

CALCULATED DPF
CHECKED

HORIZONTAL SCALE IN FEET
0 10 20 40



SHEET CROSS REFERENCES	
SHEET	ITEM
41,101	ESTIMATED QUANTITIES



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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DPF CHECKED

PLAN AND PROFILE
STARBUCK ROAD STA. 23+00 TO STA. 28+00

CLI/GRE-
71-7.26/0.00

88
218

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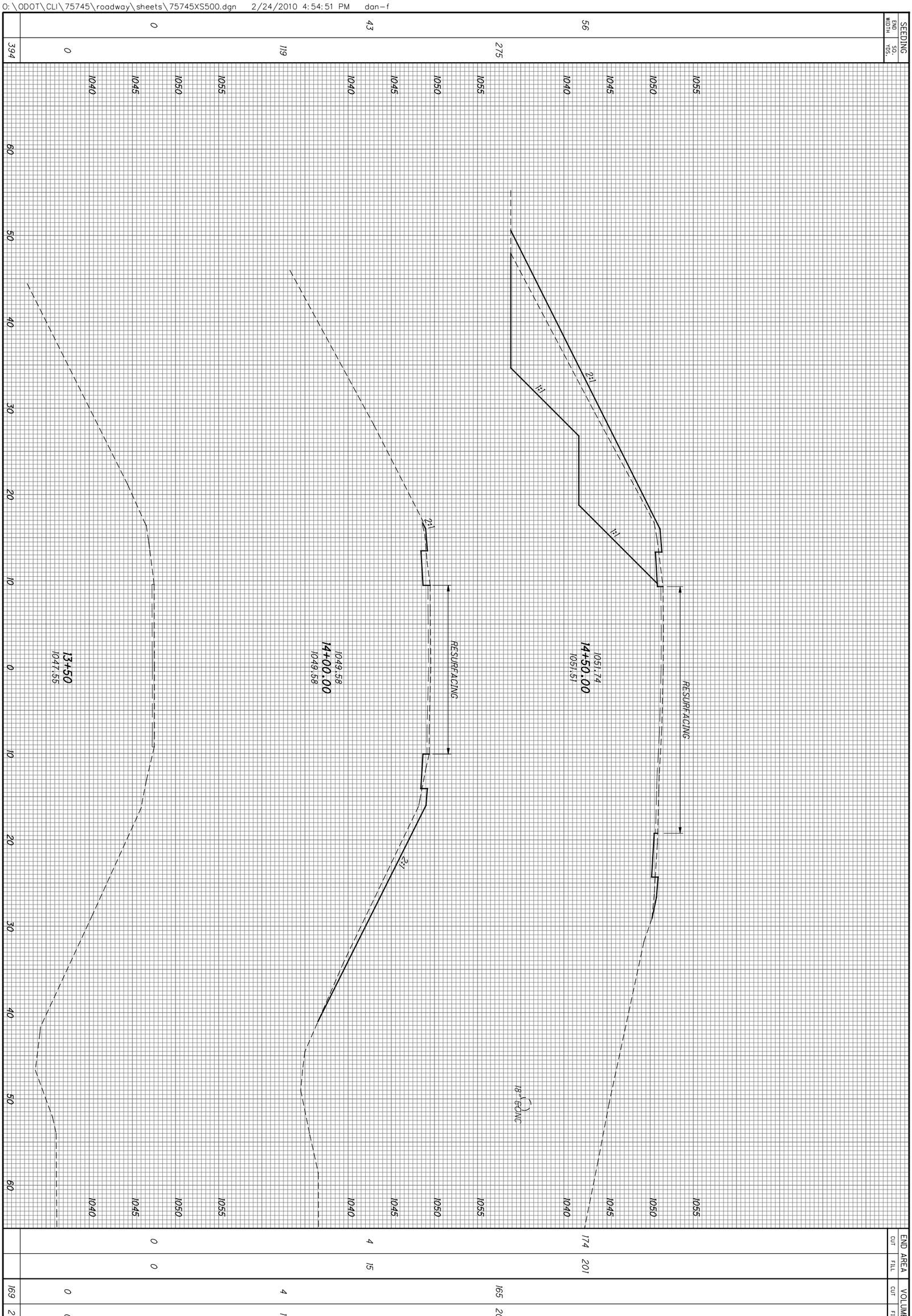

89
218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS

STARBUCK RD. STA. 13+50.00 TO STA. 19+50.00

CALCULATED

CHECKED

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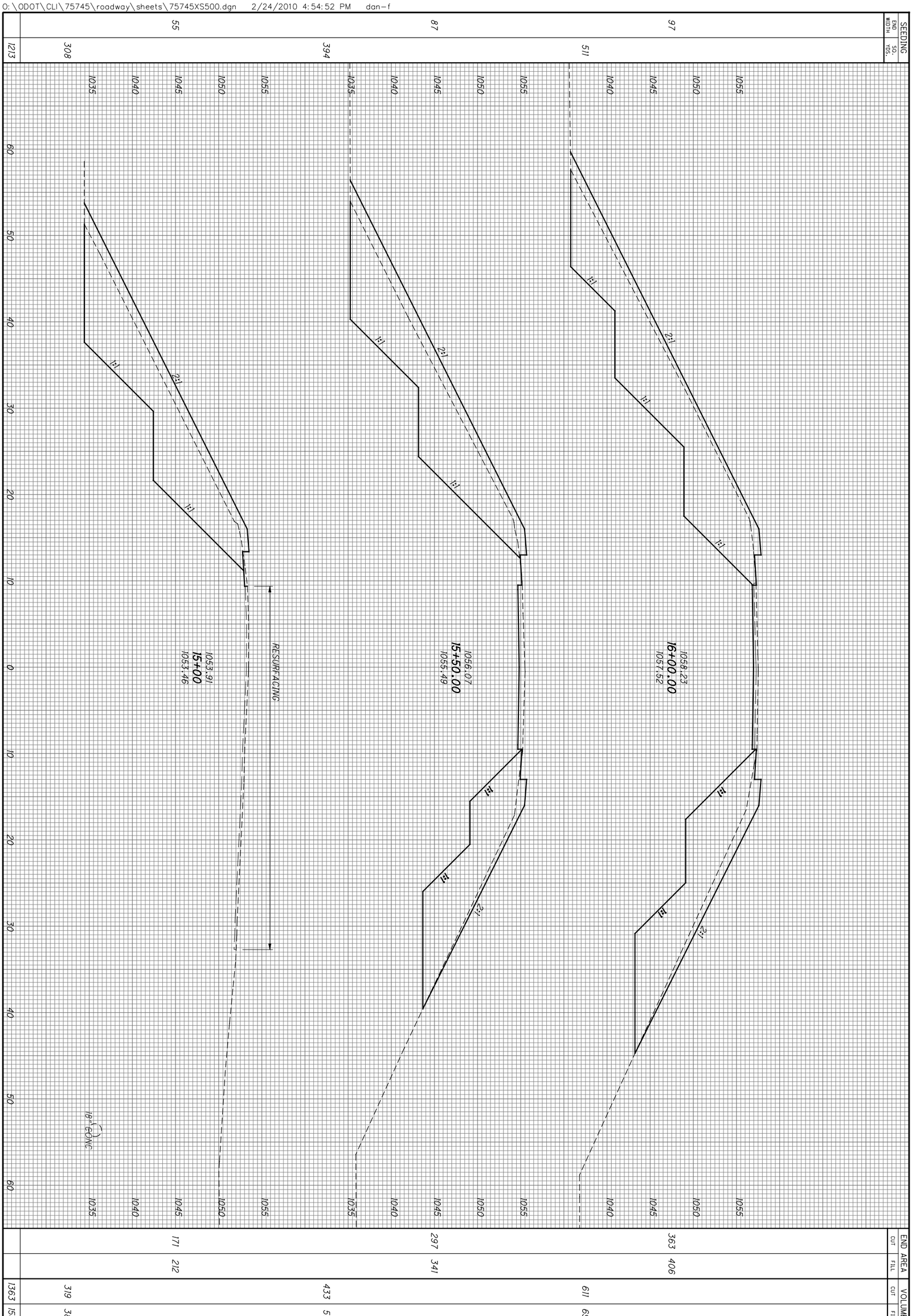

90 / 218	**CLI/GRE-71-7.26/0.00**	**CROSS SECTIONS** **STARBUCK RD. STA. 15+00.00 TO STA. 16+00.00**

CALCULATED

CHECKED

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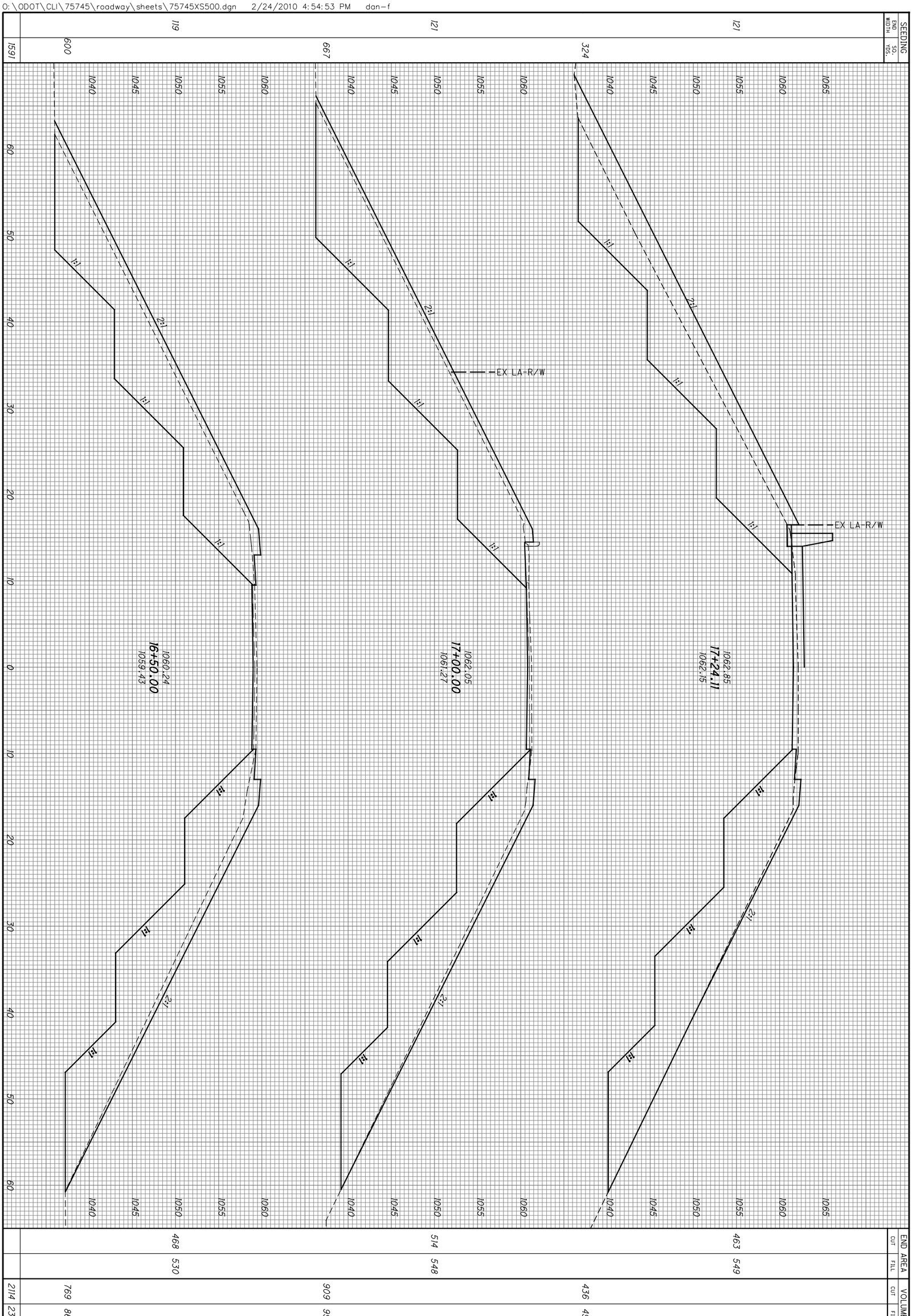

91 / 218	CLI/GRE-71-7.26/0.00	CROSS SECTIONS STARBUCK RD. STA. 16+50.00 TO STA. 17+24.11

CALCULATED

CHECKED

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11300 CORNELL PARK DR
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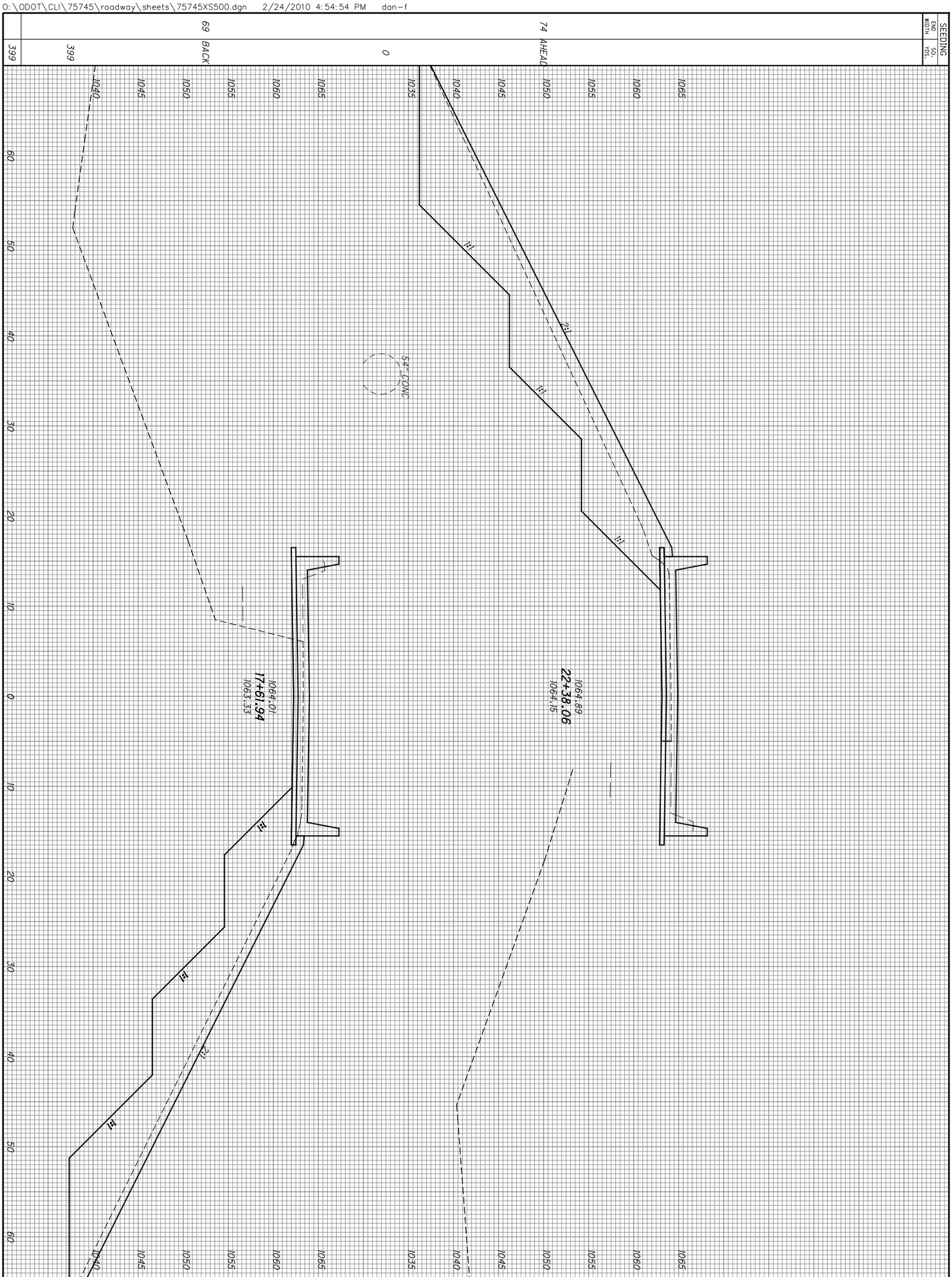

92/218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS

STARBUCK RD. STA. 17+61.94 TO STA. 22+38.06

CALCULATED

CHECKED

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11300 CORNELL PARK DR
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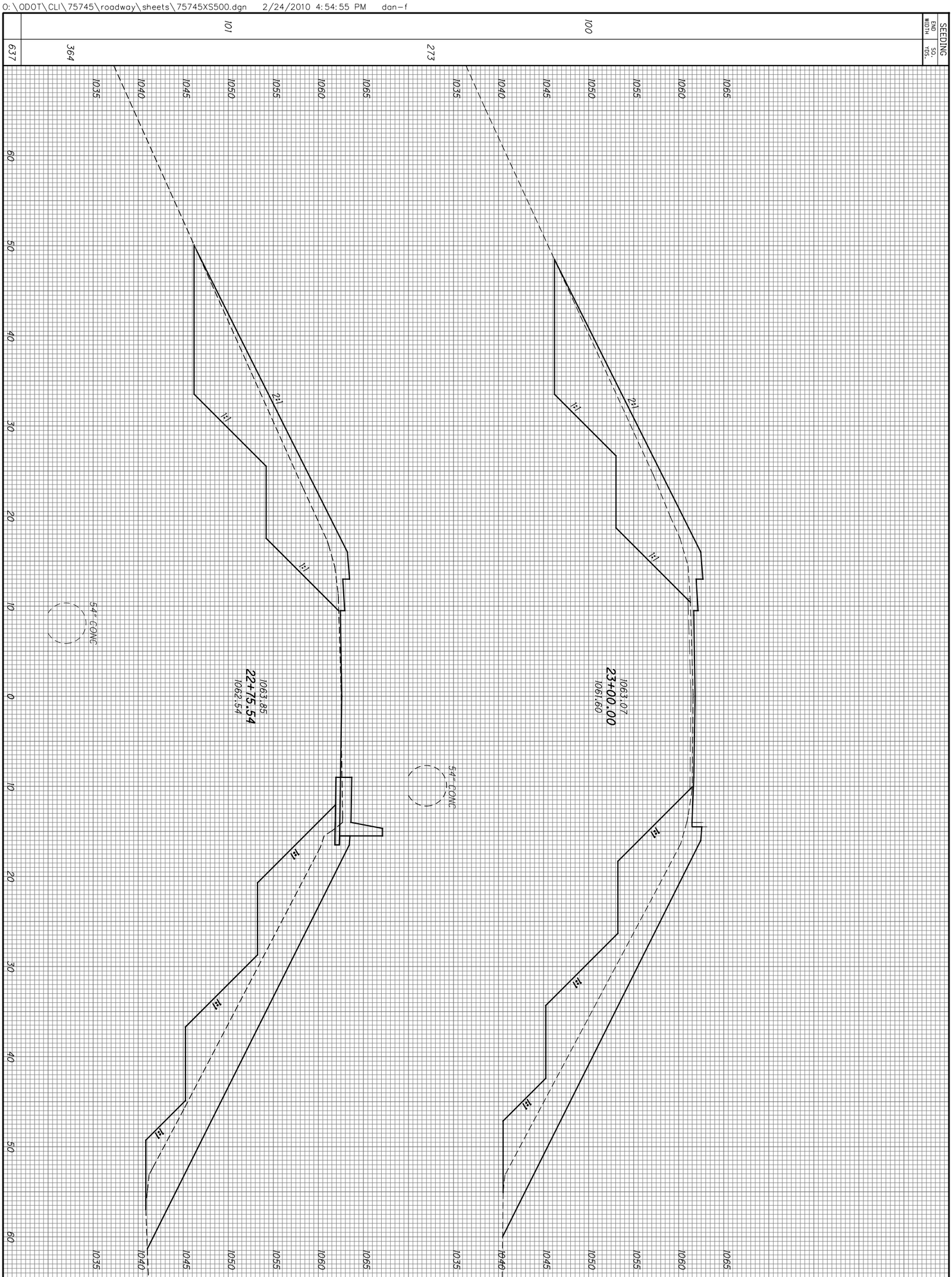

93 / 218	CLI/GRE-71-7.26/0.00	CROSS SECTIONS STARBUCK RD. STA. 22+75.54 TO STA. 23+00.00

CALCULATED

CHECKED

PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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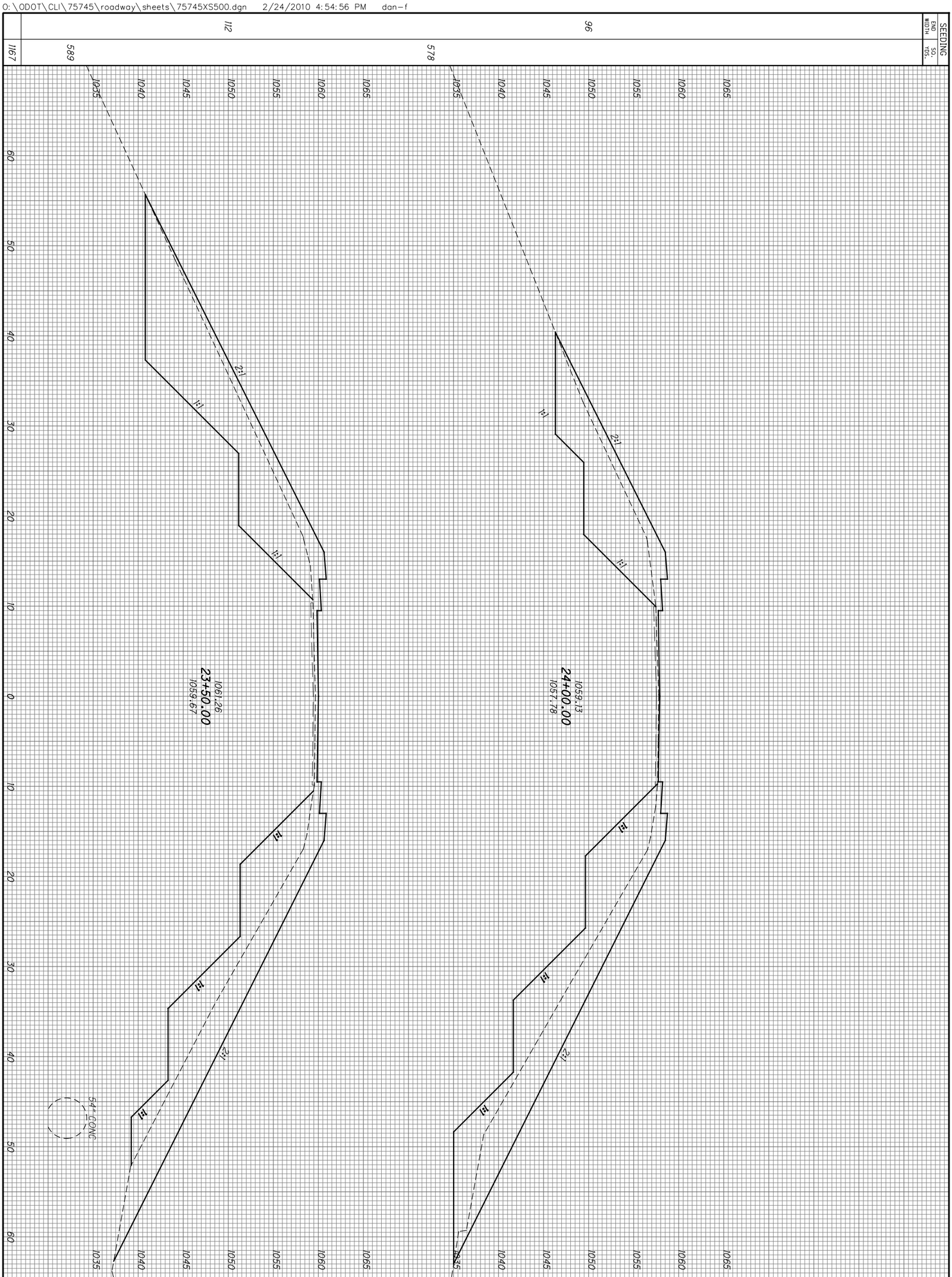

94 / 218	CLI/GRE-71-7.26/0.00	CROSS SECTIONS STARBUCK RD. STA. 23+50.00 TO STA. 24+00.00

CALCULATED

CHECKED

PALMER ENGINEERING
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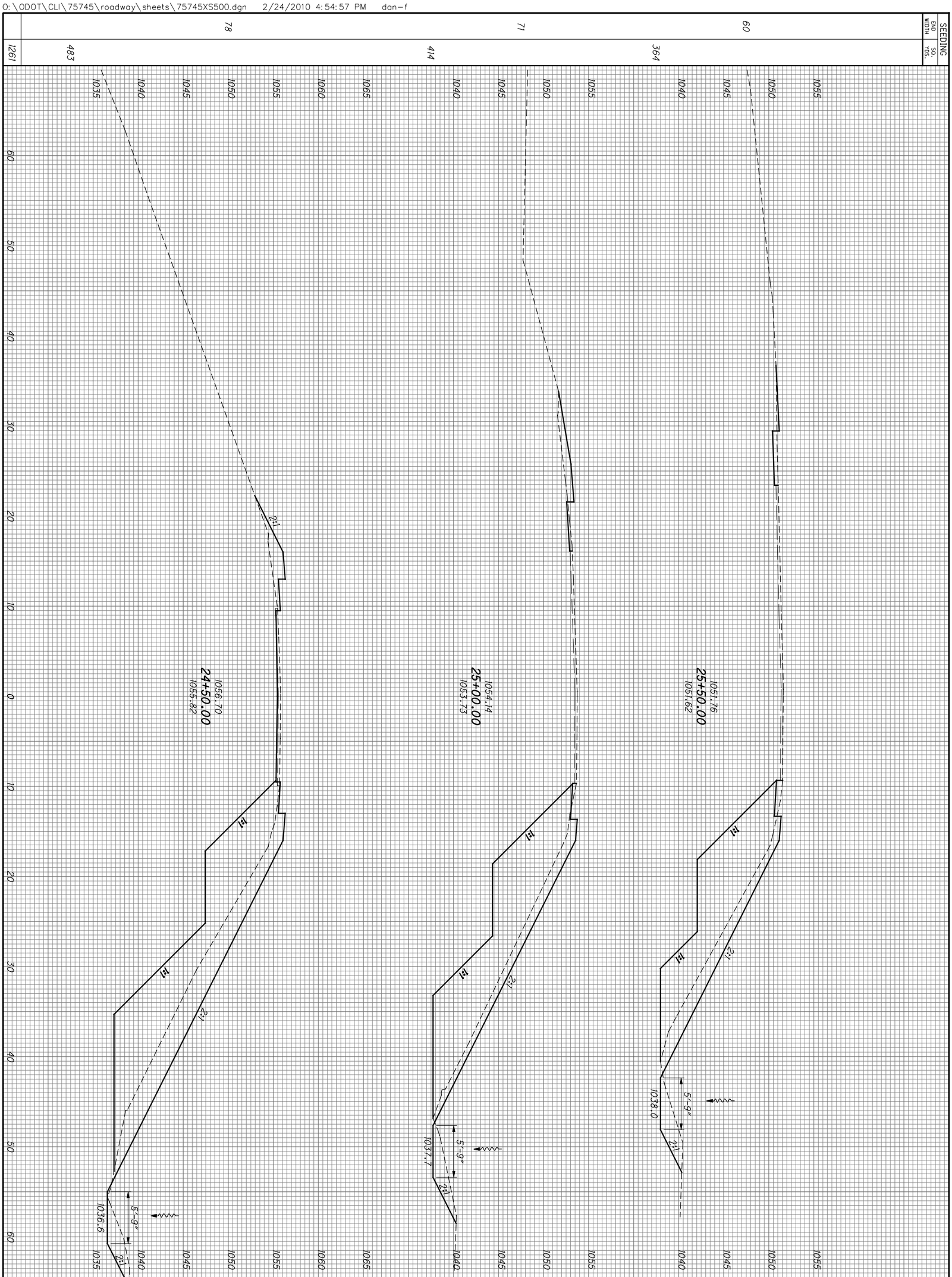

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
78	483	173	243	401	605
71	414	160	183	308	394
60	364	129	145	268	304
1261				977	1303

95/218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS

STARBUCK RD. STA. 24+50.00 TO STA. 25+50.00

CALCULATED

CHECKED

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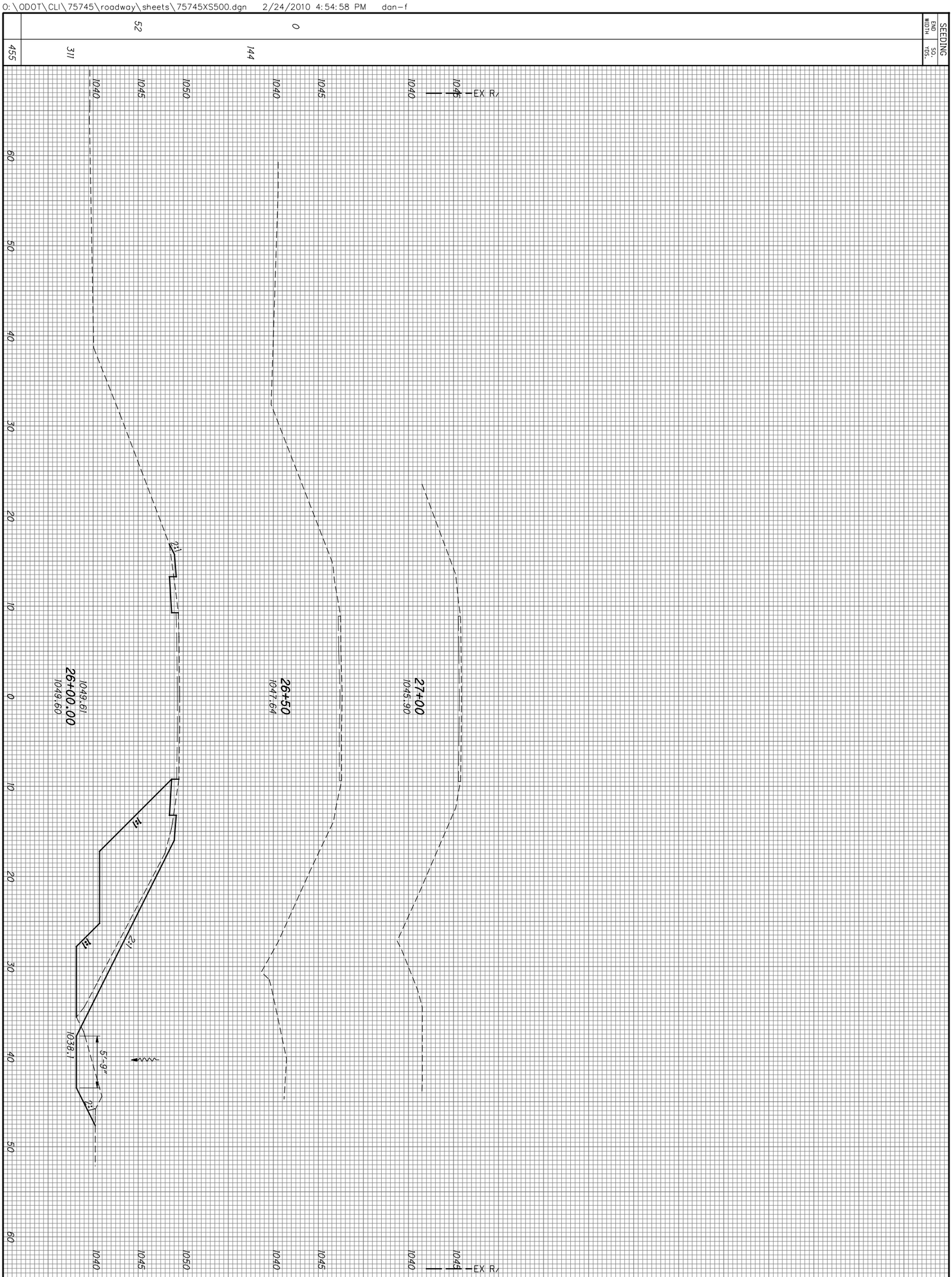

96 / 218	CLI/GRE-71-7.26/0.00	CROSS SECTIONS STARBUCK RD. STA. 26+00.00 TO STA. 27+00.00

CALCULATED

CHECKED

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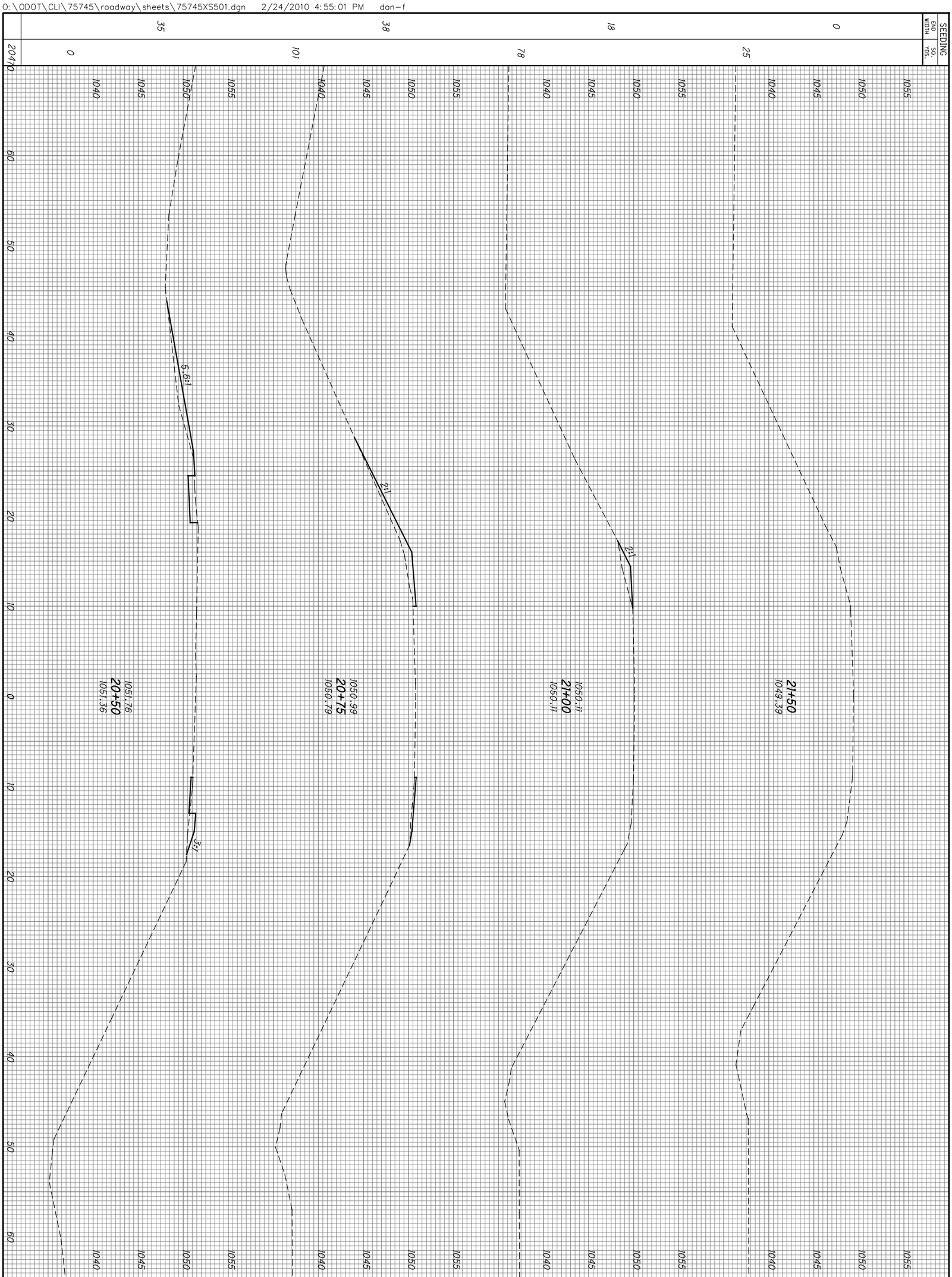

END AREA	
CUT	FILL
4	9
0	10
0	4
0	0

VOLUME	
CUT	FILL
2	17
0	0
2	9
0	6
0	2

97
218

CLI/GRE-71-7.26/0.00

CROSS SECTIONS

GALLIMORE RD. STA. 20+50.00 TO STA. 21+25.00

CALCULATED

CHECKED

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11300 CORNELL PARK DR
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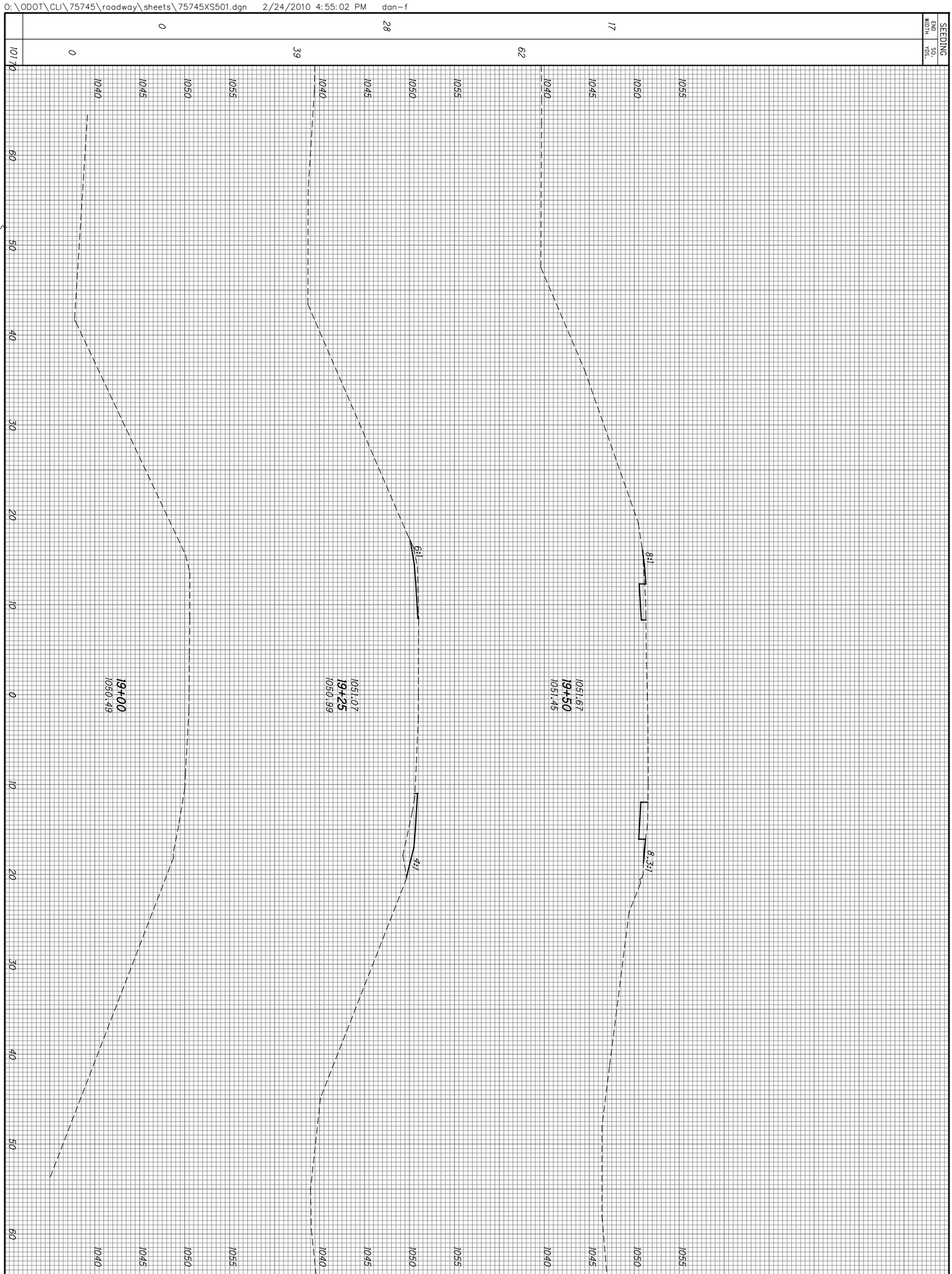
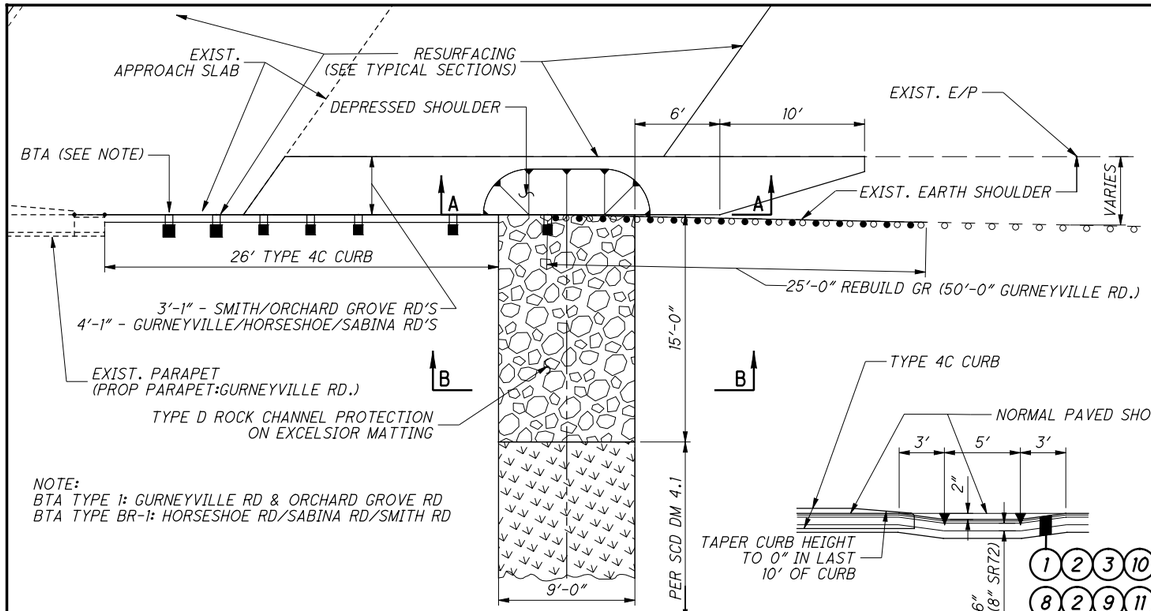
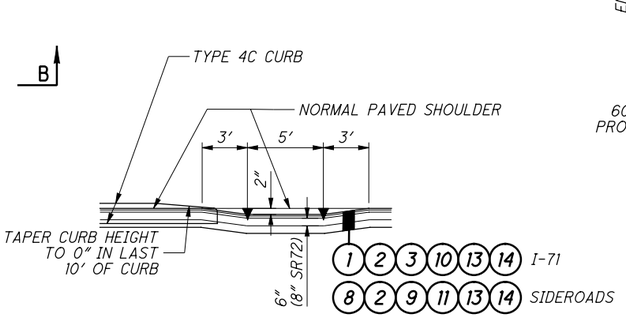


98 / 218	CLI/GRE-71-7.26/0.00
CROSS SECTIONS	GALLIMORE RD. STA. 18+25.00 TO STA. 19+50.00
CALCULATED	
CHECKED	

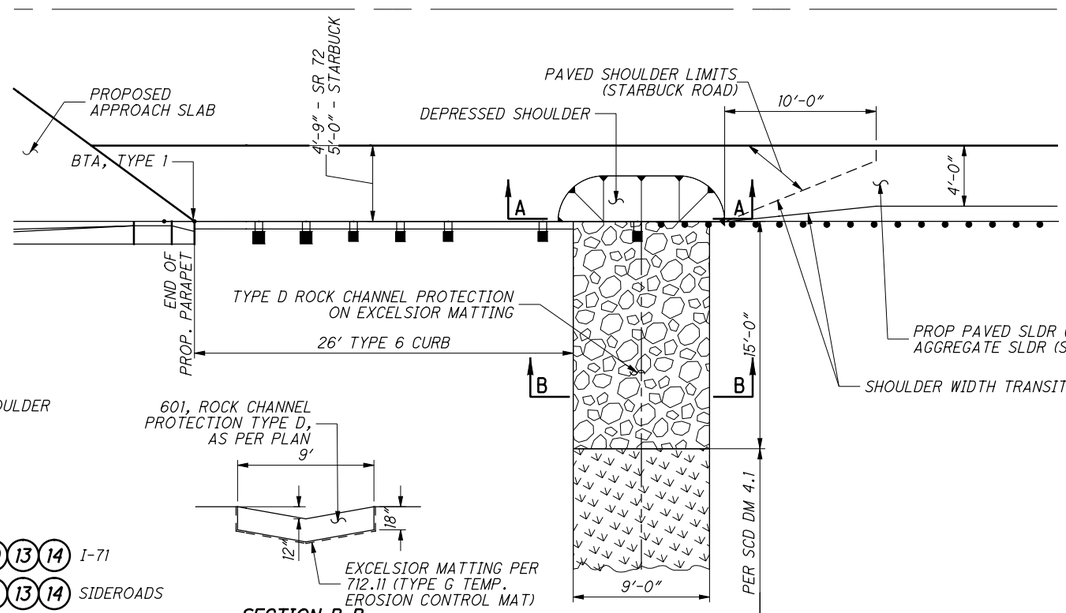


NOTE:
BTA TYPE 1: GURNEYVILLE RD & ORCHARD GROVE RD
BTA TYPE BR-1: HORSESHOE RD/SABINA RD/SMITH RD

APPROACH DETAILS - GURNEYVILLE/HORSESHOE SABINA/ORCHARD GROVE/SMITH RDS



SECTION A-A



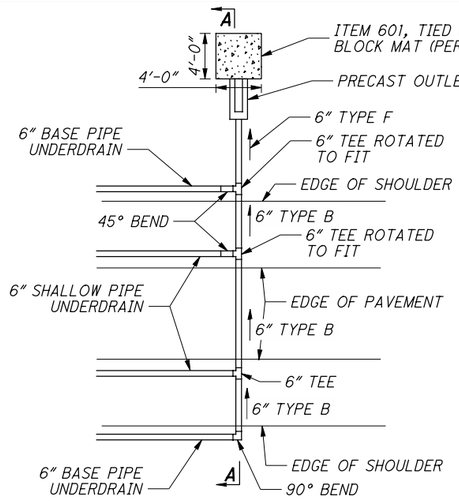
SECTION B-B

APPROACH DETAILS - STARBUCK RD/SR 72

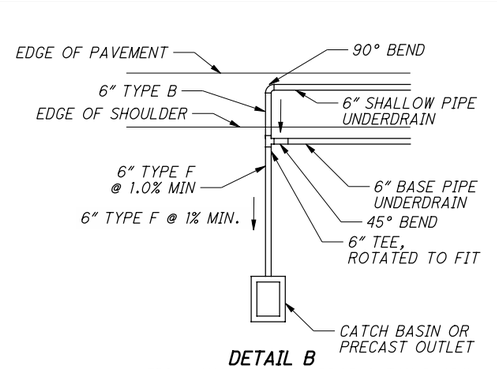
FOR ITEM LEGEND SEE SHEET 5

CLI-71-1212 R & CLI-71-1212 L - REAR APPROACH
CLI-71-1399 R & CLI-71-1399 L - REAR APPROACH

APPROACH DETAILS - MAINLINE BRIDGES

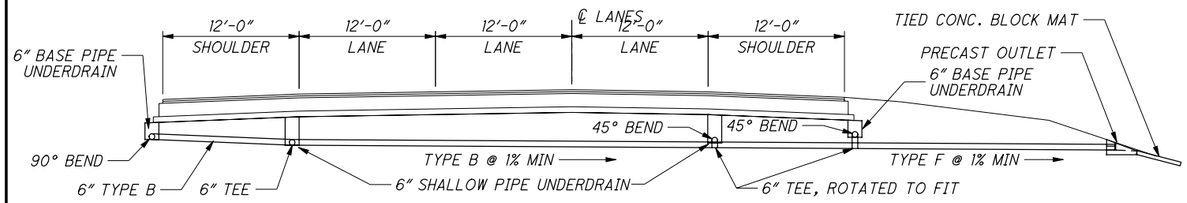


DETAIL A
STA. 1003+50 - LT./RT.
STA. 1006+15 - LT./RT.
STA. 1101+65 - LT./RT.



DETAIL B
MEDIAN SHOULDER (TO PROP CATCH BASIN):
STA. 1104+50 - LT./RT.

OUTSIDE SHOULDER (TO PRECAST OUTLET):
STA. 1104+05 - LT.
STA. 1104+58 - RT.



SECTION A-A

UNDERDRAIN DETAILS

DRAINAGE/BRIDGE APPROACH DETAILS UNDERDRAIN DETAILS

CALCULATED | CHECKED

CLI/GRE-71-7.26/0.00

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CINCINNATI, OH 45242

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SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	LENGTH	STATION EQUATION ADJUSTMENT	644 EDGE LINE (W)	644 EDGE LINE (Y)	644 LANE LINE (W)	645 A3 EDGE LINE (W)	645 A3 EDGE LINE (Y)	645 A3 LANE LINE (W)	644 CHANNELIZING LINE (W)		644 STOP LINE (W)			SPACING	621 - RPM Y/Y	621 - RPM W/R	621 - RPM W	
							MILE	MILE	MILE	MILE	MILE	MILE	FEET		FEET			EACH	EACH	EACH	EACH	
102-105		748+00.00	1232+00.22	NB	48400.22	2.68			9.11			0.06						120			403	
105		16+62.74	173+94.00	NB	15731.26				2.96			0.02						120			131	
102		801+65.00	803+75.00	NB	210.00				0.04													
102		831+19.00	835+00.00	NB	381.00				0.07													
104		1188+18.00	1190+40.00	NB	222.00				0.04													
104		1214+15.00	1218+00.00	NB	385.00				0.07													
102-105		748+00.00	1232+00.22	SB	48400.22	2.68			9.11			0.06						120			403	
105		16+62.74	173+94.00	SB	15731.26				2.96			0.02						120			131	
102		800+00.00	803+81.00	SB	381.00				0.07													
102		830+50.00	832+60.00	SB	210.00				0.04													
103		950+00.00	954+65.00	SB	465.00				0.09													
103		979+44.00	981+35.00	SB	191.00				0.04													
104		1185+00.00	1187+47.00	SB	247.00				0.05													
104		1213+09.00	1215+09.00	SB	200.00				0.04													
102-105		748+00.00	1232+00.22	NB	48400.22	2.68		9.11			0.06											
105		16+62.74	173+94.00	NB	15731.26			2.96			0.02											
102-105		748+00.00	1232+00.22	SB	48400.22	2.68		9.11			0.06											
105		16+62.74	173+94.00	SB	15731.26			2.96			0.02											
102		748+00.00	806+77.00	NB	5877.00		1.11															
102		803+75.00	806+81.00	NB	306.00								612					40		15		
102		806+81.00	831+19.00	NB	2438.00		0.46															
102		825+06.00	831+19.00	NB	613.00								613					40		15		
102-104		825+06.00	1193+24.00	NB	36818.00	2.68	6.92			0.06												
104		1190+40.00	1193+24.00	NB	284.00								568					40		14		
104		1193+24.00	1214+15.00	NB	2091.00		0.40															
104		1208+59.00	1232+00.22	NB	2341.22		0.44															
105		16+62.74	173+94.00	NB	15731.26		2.96			0.02												
102		748+00.00	809+86.00	SB	6186.00		1.17															
102		803+81.00	809+86.00	SB	605.00								605					40		15		
102		803+81.00	827+45.00	SB	2364.00		0.45															
102		827+45.00	830+50.00	SB	305.00								610					40		15		
102-105		827+45.00	961+00.00	SB	13355.00		2.53															
103		954+65.00	961+00.00	SB	635.00								635					40		16		
103		954+65.00	975+88.00	SB	2123.00		0.40															
103		975+88.00	979+44.00	SB	356.00	0.93							712					40		18		
103-104		975+88.00	1193+98.00	SB	21810.00	2.68	4.07			0.06												
104		1187+47.00	1193+98.00	SB	651.00								651					40		16		
104		1187+47.00	1209+67.00	SB	2220.00		0.42															
104		1209+67.00	1213+08.00	SB	341.00								682					40		17		
104		1209+67.00	1232+00.22	SB	2233.22		0.42															
105		16+62.74	173+94.00	SB	15731.26		2.96			0.02												
102		+12.90	10+42.00	RAMP E	1029.10		0.19	0.19							40			80	13			
102		4+79.00	13+75.10	RAMP F	896.10		0.17	0.17										80	11			
102		+60.70	10+98.50	RAMP G	1037.80		0.20	0.20										80	13			
102		4+76.70	14+87.20	RAMP H	1010.50		0.19	0.19							45			80	13			
103		5+40.00	6+20.00	W. STA	80.00		0.02	0.02														
103		19+47.00	20+40.00	W. STA	93.00		0.02	0.02														
104		5+35.50	13+88.40	RAMP J	852.90		0.16	0.16							55			80	11			
104		+13.70	9+25.50	RAMP K	911.80		0.17	0.17										80	11			
104		4+45.50	12+78.10	RAMP L	832.60		0.16	0.16							35			80	10			
104		+12.50	8+92.90	RAMP M	880.40		0.17	0.17										80	11			
TOTALS CARRIED TO GENERAL SUMMARY							51.73		24.68	0.32		0.16	5688		175				1302			

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CALCULATED DPF
CHECKED CML

QUANTITIES - PAVEMENT MARKING

ESTIMATED QUANTITIES

CLI/GRE-
71-7.26/0.00

PAVEMENT MARKING - SIDEROADS

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	LENGTH	LOCATION	644 EDGE LINE (W)	644 EDGE LINE (Y)	644 CENTER LINE, DOUBLE SOLID (Y)	645 A3 EDGE LINE (W)	645 A3 EDGE LINE (Y)	645 A3 CENTER LINE, DOUBLE SOLID (Y)
							MILE	MILE	MILE	MILE	MILE	MILE
104		17+83.00	26+79.00	RT/LT	896.00	SR72	0.21		0.11	0.13		0.06
105		14+00.00	26+00.00	RT/LT	1200.00	STARBUCK	0.26		0.13	0.19		0.10
105		20+00.00	21+00.00	RT/LT	100.00	GALLIMORE	0.04					
105		19+10.00	20+00.00	RT/LT	90.00	GALLIMORE	0.03					
105		17+80.00	22+20.00	RT/LT	440.00	GURNEYVILLE	0.04		0.02	0.13		0.06
105		17+90.00	22+10.00	RT/LT	420.00	HORSESHOE	0.04			0.12		
105		18+00.00	22+00.00	RT/LT	400.00	SABINA	0.04		0.02	0.11		0.06
105		18+05.00	21+95.00	RT/LT	390.00	ORCHARD	0.04		0.02	0.11		0.05
105		18+05.00	21+95.00	RT/LT	390.00	SMITH	0.04			0.11		
TOTALS CARRIED TO GENERAL SUMMARY							0.75		0.30	0.89		0.33

US68 LOOP DETECTOR

SHEET NO.	LOCATION	STATION	SIDE	632 DETECTOR LOOP	632 LOOP DETECTOR LEAD-IN CABLE, INTEGRAL MESSENGER WIRE TYPE, NO.14AWG,	632 DETECTOR LOOP TIE-IN
				EA	FT	EA
106	6x20 & 6x30 LOOPS US 68 OFF RAMP		RT	2	40	2
TOTALS CARRIED TO GENERAL SUMMARY				2	40	2

BARRIER REFLECTORS

SHEET NO.	STATION FROM	STATION TO	SIDE	LENGTH	SPACING	626 BARRIER REFLECTOR, TYPE A	626 BARRIER REFLECTOR, TYPE B
						EACH	EACH
	CLI-71-1212						
46	1002+05.35	1005+91.75	NB-RT	386	100	3	2
46	1003+17.85	1005+91.75	NB-MED	274	100	2	2
46	1004+78.25	1007+52.15	SB-MED	274	100	2	2
46	1004+78.25	1008+64.65	SB-LT	386	100	3	2
	CLI-71-1399						
63	1100+79.20	1104+33.90	NB-RT	355	100	4	1
63	1101+67.13	1104+08.78	NB-MED	242	100	2	1
63	1103+15.80	1105+56.86	SB-MED	241	100	2	1
63	1102+90.10	1106+44.80	SB-LT	355	100	4	1
	SR 72						
104	18+23.50	26+35.32	RT	812	100	5	4
104	18+18.40	26+67.54	LT	849	100	5	4
	STARBUCK						
105	13+87.00	26+23.80	RT	1237	100	7	6
105	13+94.95	25+37.00	LT	1142	100	6	6
	GURNEYVILLE ROAD						
105	17+25.00	22+53.00	RT	528	100	2	4
105	17+47.00	22+75.00	LT	528	100	2	4
TOTALS CARRIED TO GENERAL SUMMARY						90	

SIGNING

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)		630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 STREET NAME SIGN SUPPORT, NO. 3 POST	630 SIGN, FLAT SHEET	630 SIGN POST REFLECTOR	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
								FT	FT	SQ FT	EACH	EA	EA	EA	
78	S1	SR72	18+72.00	RT				15.0				1		1	
78	S2	SR72	20+73.00	LT				10.5				1		1	
78	S3	SR72	20+77.00	RT				10.5				1		1	
79	S4	SR72	21+82.00	LT				10.5				1		1	
79	S5	SR72	23+87.00	RT				10.5				1		1	
79	S6	SR72	25+86.00	LT				15.0				1		1	
86	S7	STARBUCK	14+52.00	RT					9.5			1		1	
86	S8	STARBUCK	14+67.00	LT					9.5			1		1	
86	S9	STARBUCK	15+05.00	RT				11.5			1	1		1	
86	S10	STARBUCK	17+12.00	RT				12.0				1		1	
87	S11	STARBUCK	22+82.00	LT				12.0				1		1	
88	S12	STARBUCK	23+76.00	LT				12.0				1		1	
88	S13	STARBUCK	25+05.00	LT				11.5			1	1		1	
46	S14	I-71	14+75.00	RT									1	1	
46	S15	I-71	14+75.00	RT									1	1	
63	S16	I-71	1103+25.00	RT									1	1	
63	S17	I-71	1103+95.00	LT									1	1	
TOTALS CARRIED TO GENERAL SUMMARY								131.0	19.0		2	13	4	17	

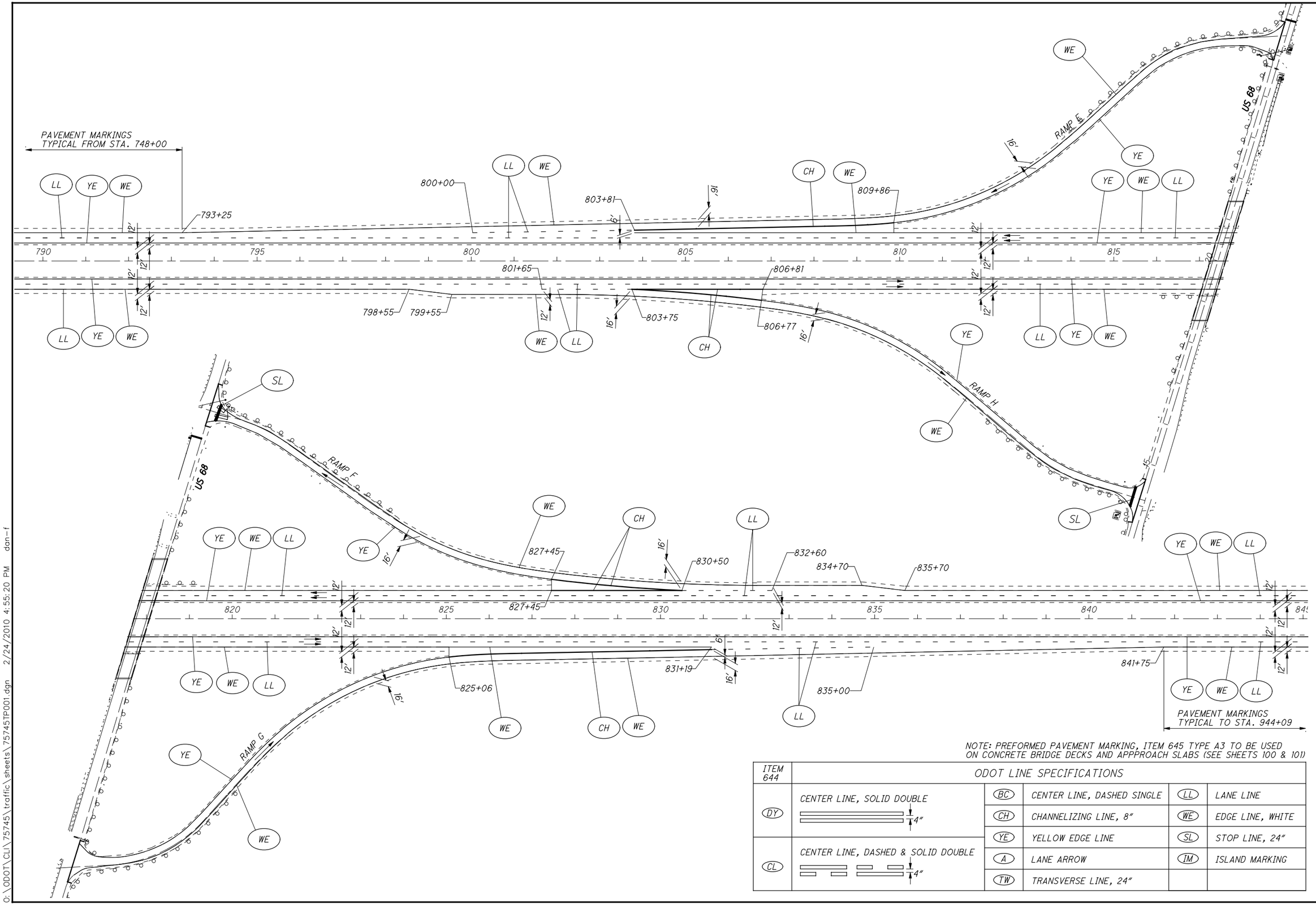
CALCULATED DPF CHECKED CML

ESTIMATED QUANTITIES - SIGNING/SIGNAL

CLI/GRE-
71-7.26/0.00

101
218

PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242



NOTE: PREFORMED PAVEMENT MARKING, ITEM 645 TYPE A3 TO BE USED ON CONCRETE BRIDGE DECKS AND APPPROACH SLABS (SEE SHEETS 100 & 101)

ITEM 644	ODOT LINE SPECIFICATIONS				
DY	CENTER LINE, SOLID DOUBLE 4"	BC	CENTER LINE, DASHED SINGLE	LL	LANE LINE
		CH	CHANNELIZING LINE, 8"	WE	EDGE LINE, WHITE
CL	CENTER LINE, DASHED & SOLID DOUBLE 4"	YE	YELLOW EDGE LINE	SL	STOP LINE, 24"
		A	LANE ARROW	IM	ISLAND MARKING
		TW	TRANSVERSE LINE, 24"		

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED | CHECKED

PAVEMENT MARKING
US 68 INTERCHANGE

CLI/GRE-
71-7.26/0.00

102
218

PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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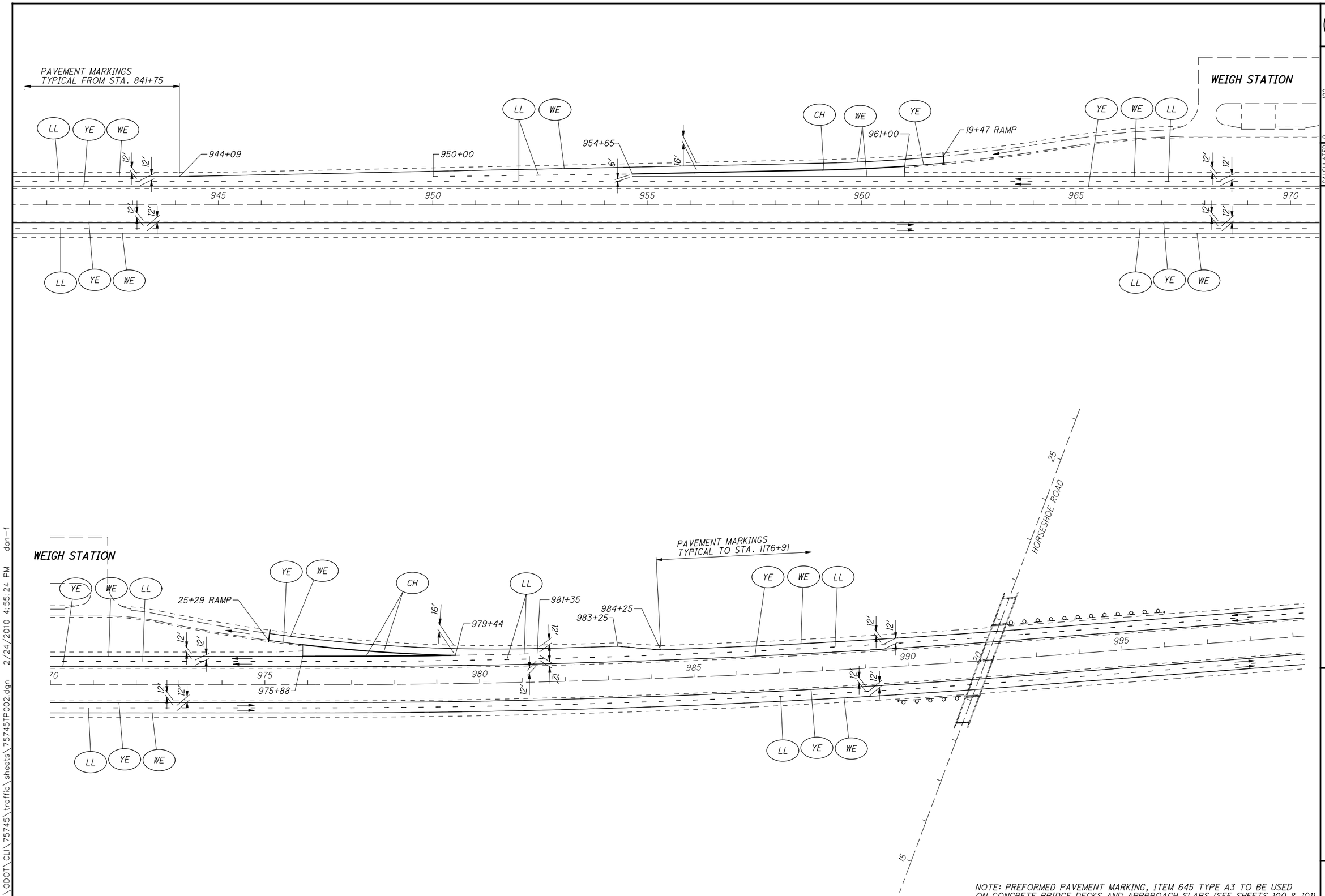

NOTE: PREFORMED PAVEMENT MARKING, ITEM 645 TYPE A3 TO BE USED ON CONCRETE BRIDGE DECKS AND APPPROACH SLABS (SEE SHEETS 100 & 101)

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED | CHECKED

PAVEMENT MARKING S.B. WEIGH STATION

CLI/GRE-
71-7.26/0.00

103
218

PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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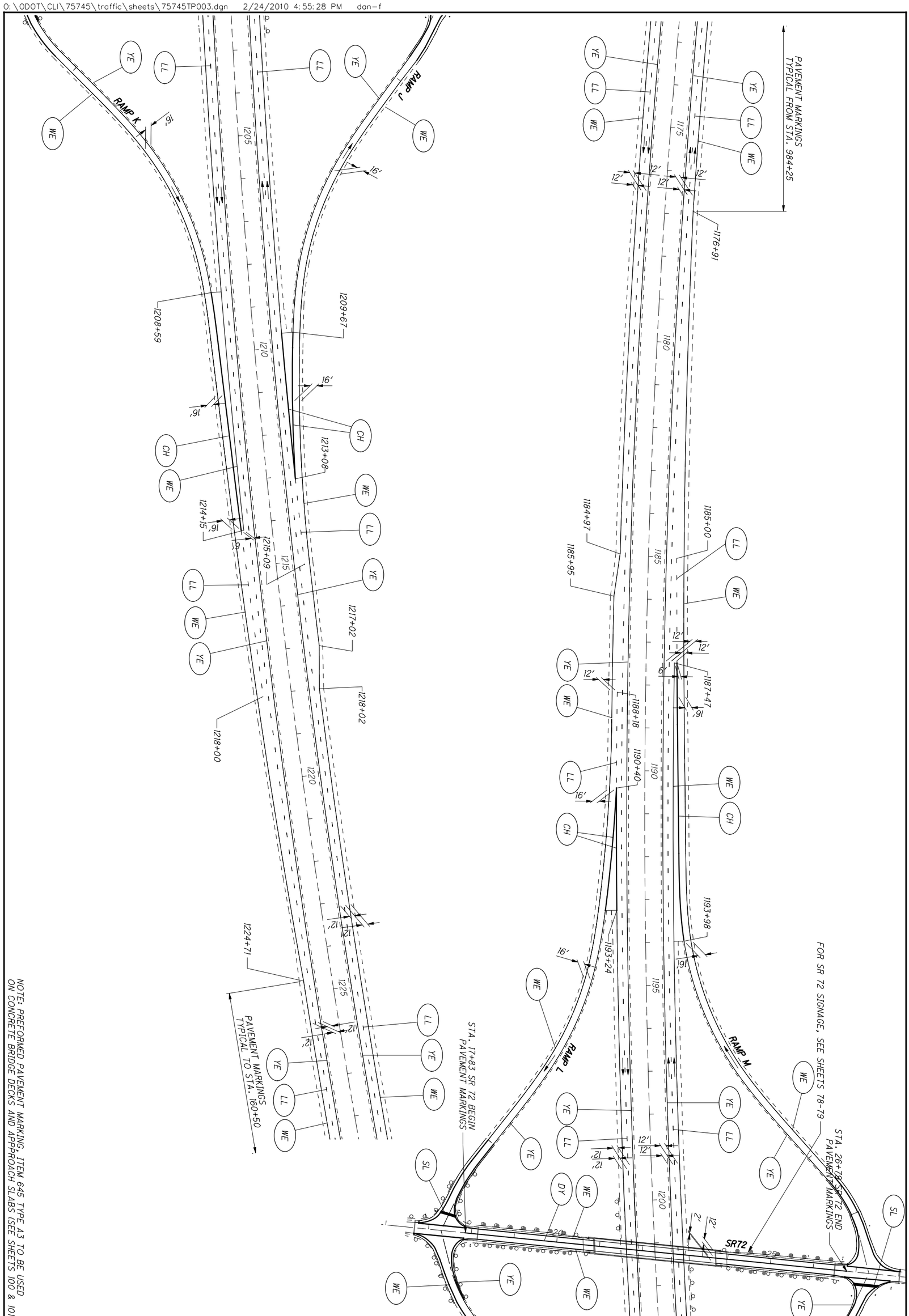


NOTE: PREFORMED PAVEMENT MARKING, ITEM 645 TYPE A3 TO BE USED ON CONCRETE BRIDGE DECKS AND APPPROACH SLABS (SEE SHEETS 100 & 101)

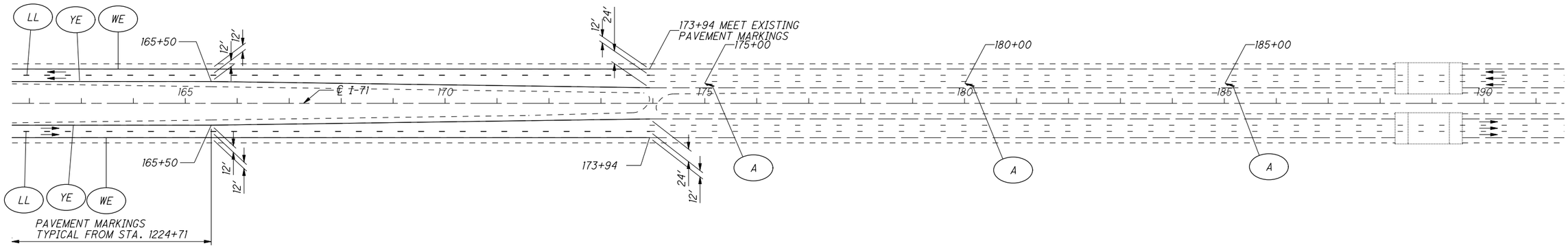
104
218

CLI/GRE-71-7.26/0.00

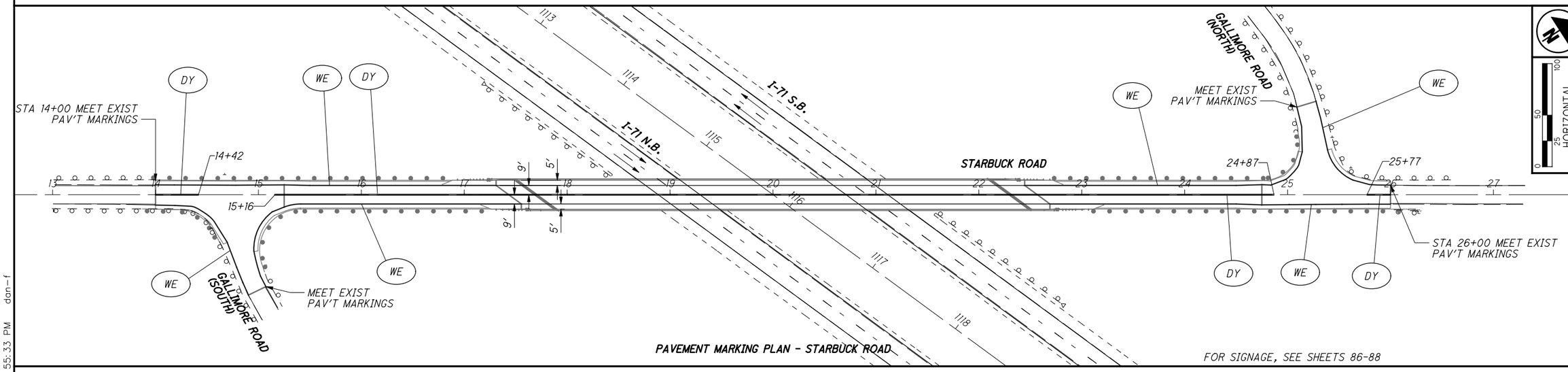
PAVEMENT MARKING SR 72 INTERCHANGE

CALCULATED
CHECKED

0 50 100 200
HORIZONTAL SCALE IN FEET

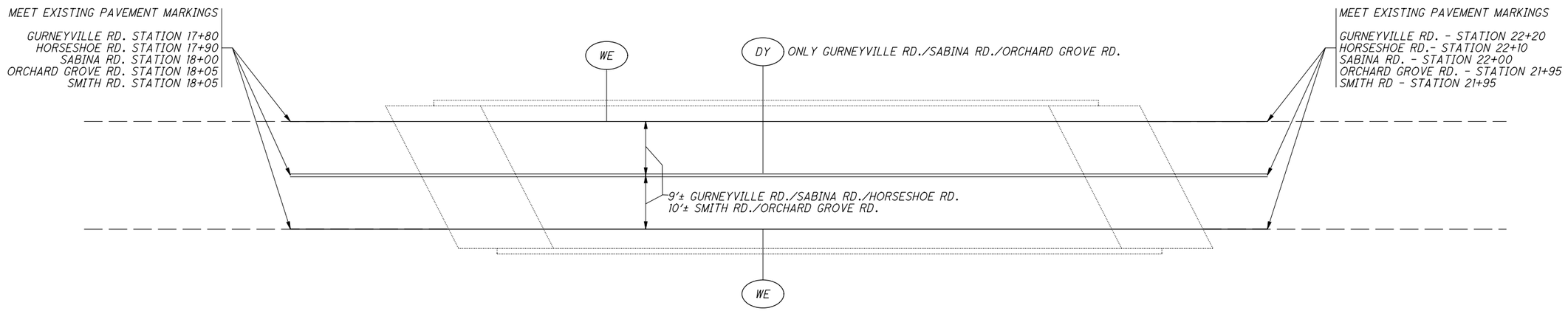


PAVEMENT MARKING PLAN - END PROJECT



PAVEMENT MARKING PLAN - STARBUCK ROAD

FOR SIGNAGE, SEE SHEETS 86-88



PAVEMENT MARKING DETAIL - GURNEYVILLE RD./SABINA RD./HORSESHOE RD./SMITH RD./ORCHARD GROVE RD.
NOT TO SCALE

NOTE: PREFORMED PAVEMENT MARKING, ITEM 645 TYPE A3 TO BE USED ON CONCRETE BRIDGE DECKS AND APPPROACH SLABS (SEE SHEETS 100 & 101)

HORIZONTAL SCALE IN FEET
0 50 100 200

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED | CHECKED

PAVEMENT MARKING

CLI/GRE-71-7.26/0.00

105
218

PALMER ENGINEERING
11300 CORNELL PARK DR
ENGINEERING CINCINNATI, OH 45242

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LOOP DETECTOR REPLACEMENT DETAIL - S.B. US68 OFF RAMP
1"=20'

TRAFFIC CONTROL DETAILS

CALCULATED | CHECKED

0 10 20 40
HORIZONTAL SCALE IN FEET

CLI/GRE-
71-7.26/0.00

106
218

Palmer ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

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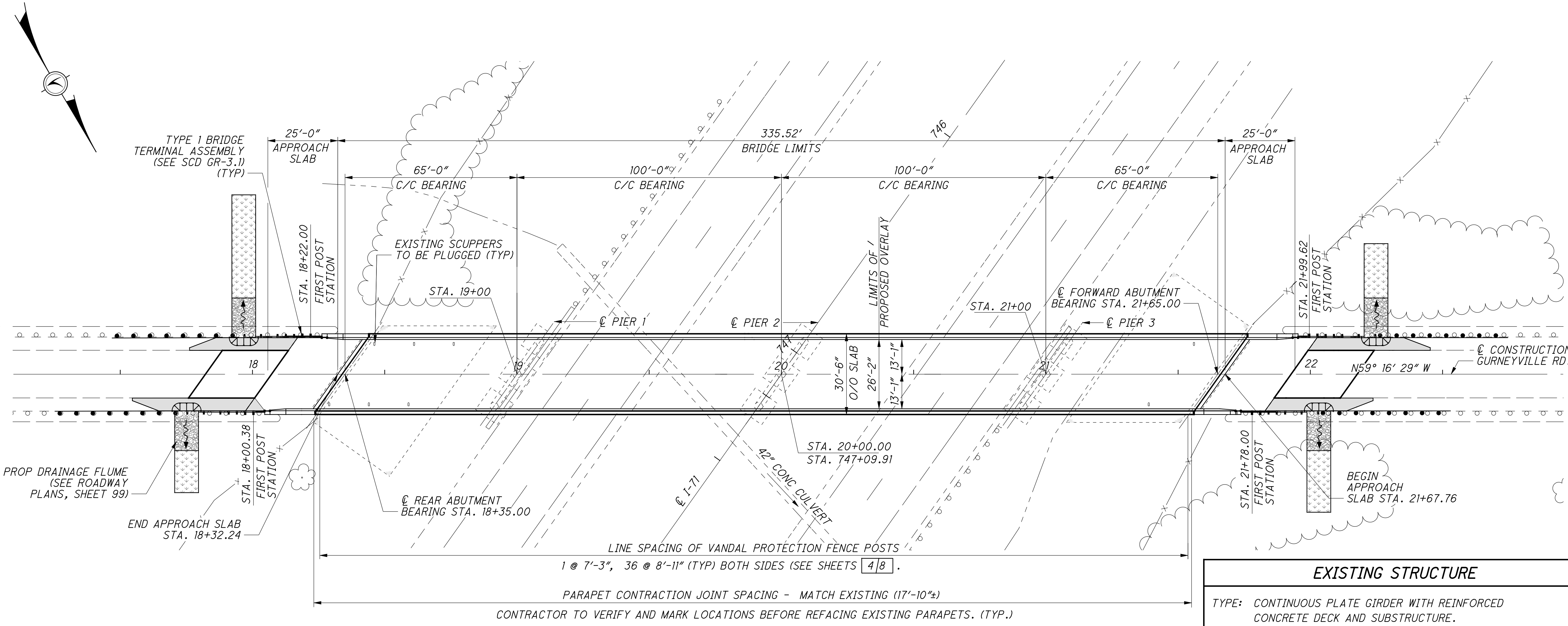


GENERAL PLAN

PROPOSED SHOULDER PAVING (SEE ROADWAY PLANS, SHEET 103)

PROPOSED WORK

1.) REMOVE THE EXISTING 2½"± DECK OVERLAY AND 1" OF THE EXISTING DECK, USING HYDRODEMOLITION, AND REPLACE WITH A 3½" MICROSILICA MODIFIED CONCRETE OVERLAY. PLUG EXISTING SCUPPERS WITH OVERLAY MATERIAL.

2.) REPLACE PREVIOUSLY MODIFIED SLIDING PLATE JOINTS WITH STRIP SEAL EXPANSION JOINTS. (SEE SHEET 7/8)

3.) RETROFIT BRIDGE RAILING TO JERSEY SHAPED PARAPETS AND UPGRADE BRIDGE TERMINAL ASSEMBLIES. (SEE SHEET 4/8 AND 5/8)

4.) RE-USE VANDAL PROTECTION FENCE WITH NEW HARDWARE. (SEE SHEET 6/8)

5.) RE-GRADE AND REPAIR EROSION AROUND WINGWALLS. PROVIDE 15' DRAINAGE FLUME COMPRISED OF TYPE D ROCK ON EXCELSIOR MATTING TO DIRECT BRIDGE RUNOFF DOWN SLOPE. (SEE ROADWAY PLANS, SHEET 99)

6.) REMOVE LOOSE SEALER ON ABUTMENTS, PIERS AND SALVAGED PORTIONS OF BRIDGE PARAPETS WITH SANDBLASTING. SEAL SUPERSTRUCTURE, SUBSTRUCTURE AND PARAPETS WITH EPOXY URETHANE, LIGHT NEUTRAL, FEDERAL COLOR NO. 17778

7.) PROPOSED WORK WILL BE DONE UNDER A CLOSURE OF GURNEYVILLE ROAD. SEE MAINTENANCE OF TRAFFIC SHEETS FOR CLOSURE DETAILS AND DURATION.

EXISTING STRUCTURE

TYPE: CONTINUOUS PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 65'-100'-100'-65'

ROADWAY: 24'-0" F/F SAFETY CURB (2'-3")

LOADING: CF130 (57)

SKEW: 35° 27' 0" L.F.

APPROACH SLABS: 25'

ALIGNMENT: TANGENT

STRUCTURAL FILE NUMBER: 1401653

DATE BUILT: 1964

DISPOSITION: TO BE REHABILITATED

WEARING SURFACE: 2½"± SUPERPLASTICIZED DENSE CONC. OVERLAY

REHABILITATED IN 1985, 1998 AND 2003

PROPOSED STRUCTURE

TYPE: CONTINUOUS PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 65'-100'-100'-65'

ROADWAY: 26'-2" TOE/TOE PARAPET

LOADING: CF-130 (57)

SKEW: 35° 27' 0" L.F.

APPROACH SLABS: TO REMAIN

ALIGNMENT: TANGENT

CROWN: .0156 FT/FT

COORDINATES: LATITUDE 39° 30' 40"
LONGITUDE 83° 52' 07"

WEARING SURFACE: 3½" MICROSILICA CONCRETE OVERLAY

DESIGN AGENCY: PALMER ENGINEERING, 1530 CORNELL PARK DR, CINCINNATI, OH 45242

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
JPR	MLJ	SDW		BJF	1/09

STRUCTURE FILE NUMBER 1401653

GENERAL PLAN
BRIDGE NO. CLI-71-0725
C15 (GURNEYVILLE ROAD) OVER I71

CLI/GRE-71-7.26/0.00
PID No. 75745

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-4-87 DATED/REVISED 7-19-02
VPF-1-90 DATED/REVISED 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

848 DATED 10-16-09

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION , AND THE ODOT 2004 BRIDGE DESIGN MANUAL.

DESIGN LOADING

HS20, CASE I AND ALTERNATE MILITARY LOADING

DESIGN STRESSES

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL - ASTM A709 , GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD:
3½" MICRO-SILICA MODIFIED CONCRETE OVERLAY

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH [25 MM] DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

EXISTING STRUCTURE VERIFICATION:
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN:
THIS WORK CONSISTS OF REHABILITATING THE EXISTING SLIDING PLATE JOINT TO AN ELASTOMERIC STRIP SEAL TYPE JOINT. IT ALSO INCLUDES THE HORIZONTAL EXTENSION OF THE EXPANSION JOINT INTO THE REFACED PARAPET. PAYMENT FOR THE DESCRIBED LABOR AND MATERIALS INCLUDING CONCRETE REMOVAL AND PATCHING, ANGLES, PLATES, BARS, SHEAR STUDS AND WELDING WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:
PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING. A CONTINGENCY QUANTITY OF 50 SQ FT IS INCLUDED IN THE SUMMARY TO BE USED AT THE DIRECTION OF THE ENGINEER.

ITEM 517 - RAILING FACED, AS PER PLAN
DESCRIPTION: THIS WORK CONSISTS OF FACING CURB STYLE PARAPETS, USING CAST IN PLACE CONCRETE, TO OBTAIN THE DEFLECTOR SHAPE AS SHOWN IN THE PLANS.

REMOVAL: CAREFULLY REMOVE THE EXISTING ALUMINUM RAILING, POSTS, CURB PLATES, EXISTING CONCRETE CURB AND BULB ANGLE GUTTER. REMOVE ALL LOOSE OR UNSOUND CONCRETE. REMOVE SOUND CONCRETE, AS NECESSARY OR AS SHOWN IN THE PLANS, TO OBTAIN A MINIMUM 4 INCH THICKNESS OF NEW CONCRETE.

DOWEL HOLES AND REINFORCING STEEL: DRILL DOWEL HOLES WHERE SHOWN IN THE PLANS. INSTALL REINFORCING STEEL ACCORDING TO ITEM 510 USING EPOXY GROUT, 705.20. PRIOR TO DRILLING DOWEL HOLES, LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER). IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE EXISTING BAR. THE DEPARTMENT WILL PAY FOR ALL REINFORCING STEEL, DOWEL HOLES AND GROUTING WITH ITEM 517.

SURFACE PREPARATION: THOROUGHLY CLEAN THE PARAPET SURFACE IN CONTACT WITH THE REFACING WITH DETERGENT TO REMOVE SURFACE CONTAMINANTS. AFTER DETERGENT CLEANING AND WITHIN 24 HOURS OF PLACING CONCRETE, BLAST CLEAN AND AIR BROOM OR POWER SWEEP ALL SURFACES IN CONTACT WITH THE REFACING TO REMOVE ALL SPALLS, LAITANCE, CURING COMPOUNDS, CONCRETE SEALERS AND OTHER CONTAMINANTS DETRIMENTAL TO THE ACHIEVEMENT OF AN ADEQUATE BOND. ACCEPTABLE BLAST CLEANING METHODS ARE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN WATER, ABRASIVE BLASTING WITH CONTAINMENT OR VACUUM ABRASIVE BLASTING. USE HAND TOOLS AS NECESSARY TO REMOVE SCALE FROM ANY EXPOSED REINFORCING STEEL.

MATERIALS: CONCRETE SHALL BE CLASS S WITH A COMPRESSIVE STRENGTH OF 4500 PSI. FURNISH REINFORCING STEEL ACCORDING TO 709.00, GRADE 60, WITH A MINIMUM YIELD STRENGTH OF 60,000 PSI.

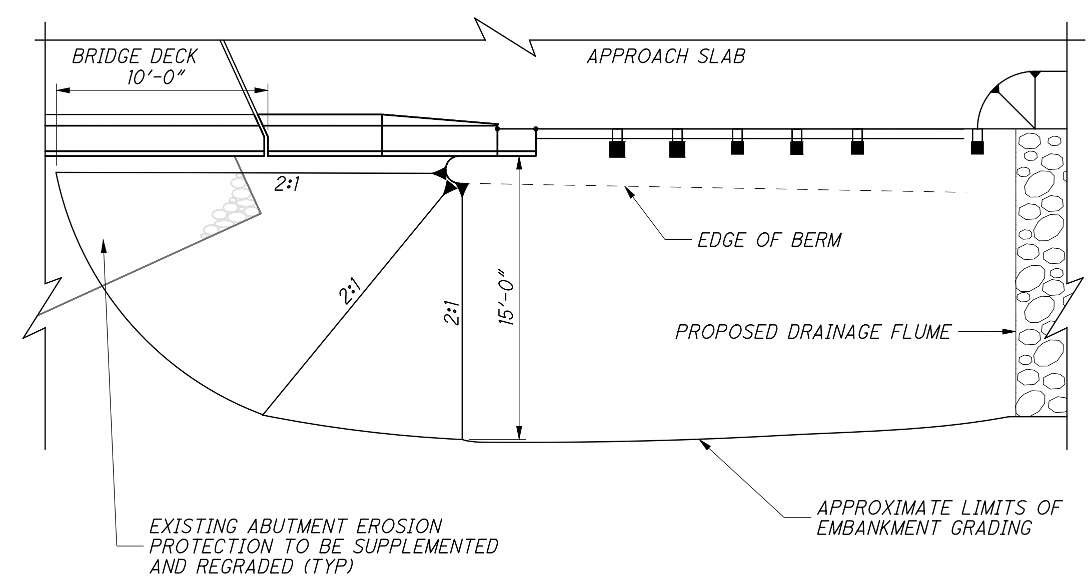
CONTROL JOINTS: SAWCUT 1¼ INCH DEEP CONTROL JOINTS ALONG THE PERIMETER OF THE PARAPET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE. PLACE THE JOINT SAW CUTS AT THE SAME LOCATION AS THE EXISTING DEFLECTION JOINTS. USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼INCH. SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF ONE INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ONE-HALF INCH OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THIS ITEM IN FEET BY THE ACTUAL LENGTH OF RAILING FACED BETWEEN THE ENDS OF THE EXISTING CONCRETE PARAPET.

BASIS OF PAYMENT: PAYMENT FOR THIS ITEM INCLUDES ALL COSTS OF REMOVAL, DOWEL HOLES, REINFORCING STEEL, CONCRETE, SHRINKAGE CONTROL JOINTS, EPOXY INJECTION AND INSPECTION PLATFORMS. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 517, RAILING FACED, AS PER PLAN.

ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN
PROVIDE SLOPE PROTECTION SIMILAR IN TYPE AND SIZE TO THE EXISTING. REGRADE THE EXISTING SLOPE PROTECTION TO A 2:1 SLOPE IN AN AREA BOUNDED BY A LINE DRAWN PERPENDICULAR TO THE CENTERLINE OF GURNEYVILLE ROAD 10 FEET FROM THE FACE OF THE ABUTMENT AT THE CENTERLINE AND 3 FEET OUTSIDE OF BOTH EDGES OF THE BRIDGE DECK. SUPPLEMENT THE SLOPE PROTECTION AS NECESSARY TO MEET A LEVEL OF 6" BELOW THE EXISTING WEEP HOLES . AN ESTIMATED QUANTITY OF 16 CUBIC YARDS OF SLOPE PROTECTION SHOULD BE USED FOR BIDDING PURPOSES. PAYMENT FOR THIS WORK WILL BE ON A SQUARE YARD BASIS AND INCLUDES ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED TO COMPLETE THE WORK DESCRIBED HEREIN. THIS ITEM SHALL ALSO INCLUDE GRADING OF THE APPROACH EMBANKMENTS TO CONFORM TO THE DETAIL ON THIS SHEET.

ITEM SPECIAL- VANDAL PROTECTION FENCE REMOVED AND REBUILT
THIS ITEM SHALL INCLUDE INSTALLATION OF STAINLESS STEEL CLOSURE PLATE TO CLOSE THE GAP AT THE BOTTOM OF THE EXISTING VANDAL PROTECTION FENCE BETWEEN THE BOTTOM RAIL AND THE TOP OF THE PARAPET. INSTALLATION PROCEDURES ARE TO FOLLOW STANDARD DRAWINGS VPF-1-90. THE CONTRACTOR SHALL DETERMINE THE VERTICAL LEG DIMENSION OF THE CLOSURE PLATE REQUIRED TO CLOSE THE EXISTING GAP. THE CONTRACTOR SHALL ALSO LOCATE THE ½" DIAMETER HOLES IN THE PLATE TO ALLOW FOR PROPER INSTALLATION OF THE FABRIC TIES. THIS ITEM SHALL ALSO INCLUDE REPLACEMENT OF THE EXISTING ¾" NUTS AND WASHERS WITH NEW HARDWARE MEETING THE REQUIREMENTS OF VPF-1-90. PAYMENT FOR THIS ITEM WILL BE ON A LINEAR FEET BASIS AND WILL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK DESCRIBED HEREIN.



DETAIL FOR ITEM 601

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242
WINCHESTER • NASHVILLE • LOUISVILLE • CINCINNATI • HURRICANE

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401653	

GENERAL NOTES
BRIDGE NO. CLI-71-0725
C15 (GURNEYVILLE RD.) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

2 / 8

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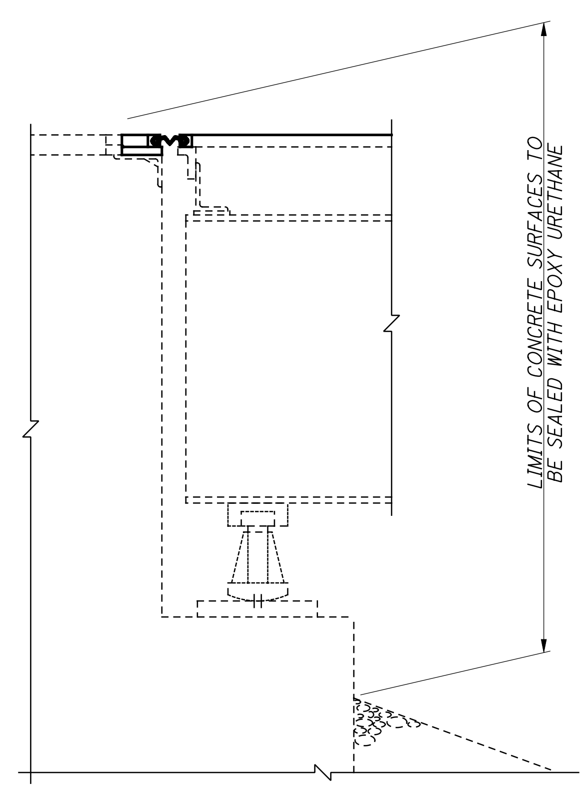
ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER	GENERAL	SHEET REF.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					2
202	38500	734	FT	BRIDGE RAILING REMOVED				734	
512	10100	1247	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	172	231	834		
516	11211	74	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	74				2
517	76201	738	FT	RAILING FACED, AS PER PLAN	74	664			2
519	11101	50	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN				50	2
601	20001	120	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN				120	2
SPECIAL	60740300	658	FT	VANDAL PROTECTION FENCE REMOVED AND REBUILT				658	2/7
848	10000	965	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (3 1/2" NOMINAL THICKNESS)			965		
848	20000	885	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION			885		
848	30000	61	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			61		
848	50000	88	SQ YD	HAND CHIPPING			88		
848	50100	LUMP		TEST SLAB					
848	50200	5	CU YD	FULL-DEPTH REPAIR			5		
848	50320	885	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (2 1/2" NOMINAL THICKNESS)			885		
848	50340	88	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY			88		



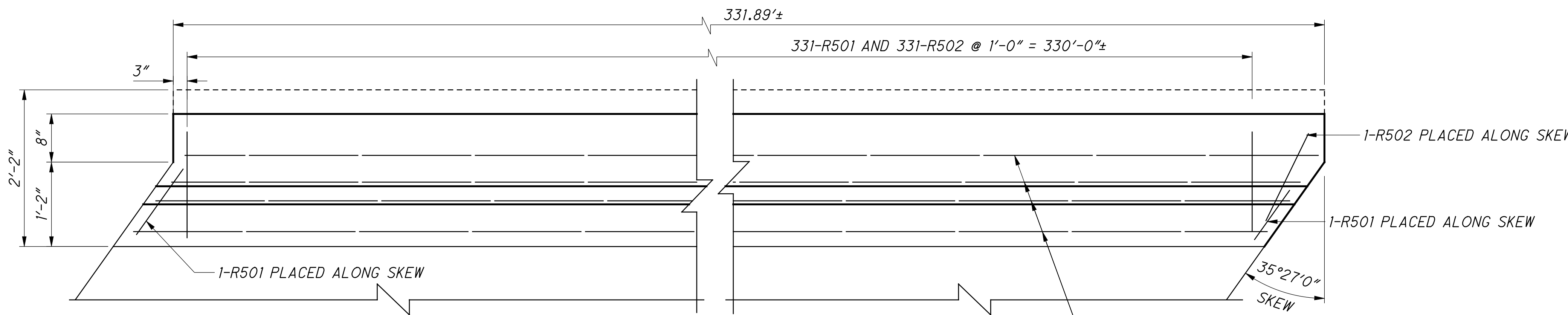
ABUTMENT CONCRETE SEALING

DESIGN AGENCY
PALMER ENGINEERING
1530 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED JPR | DRAWN SDW | REVIEWED BJF | DATE 1/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 1401653

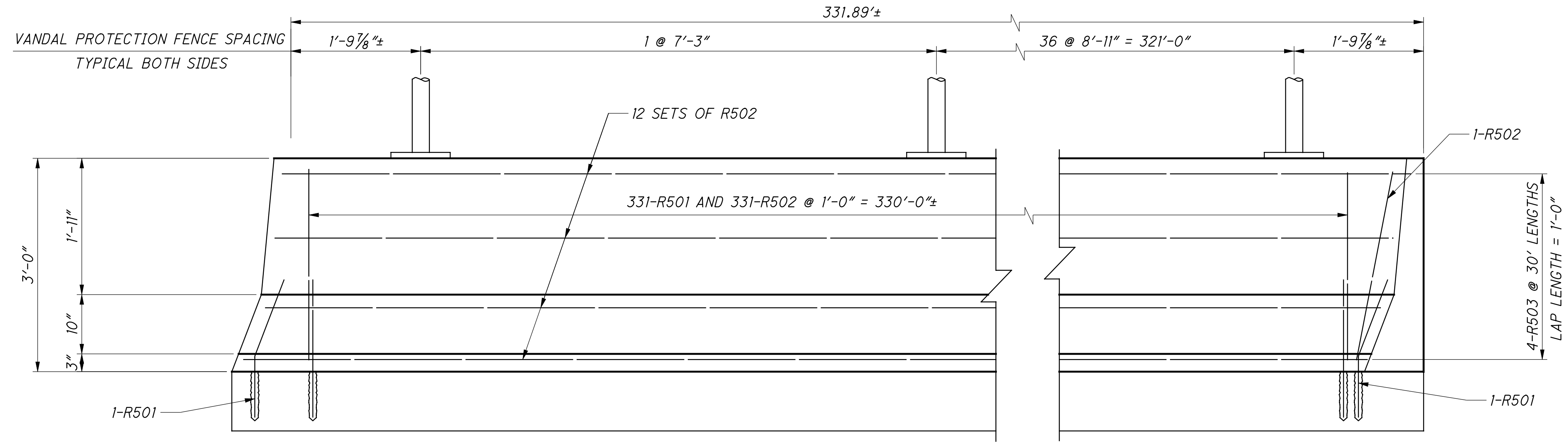
GENERAL SUMMARY
BRIDGE NO. CLI-71-0725
C15 (GURNEYVILLE RD.) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

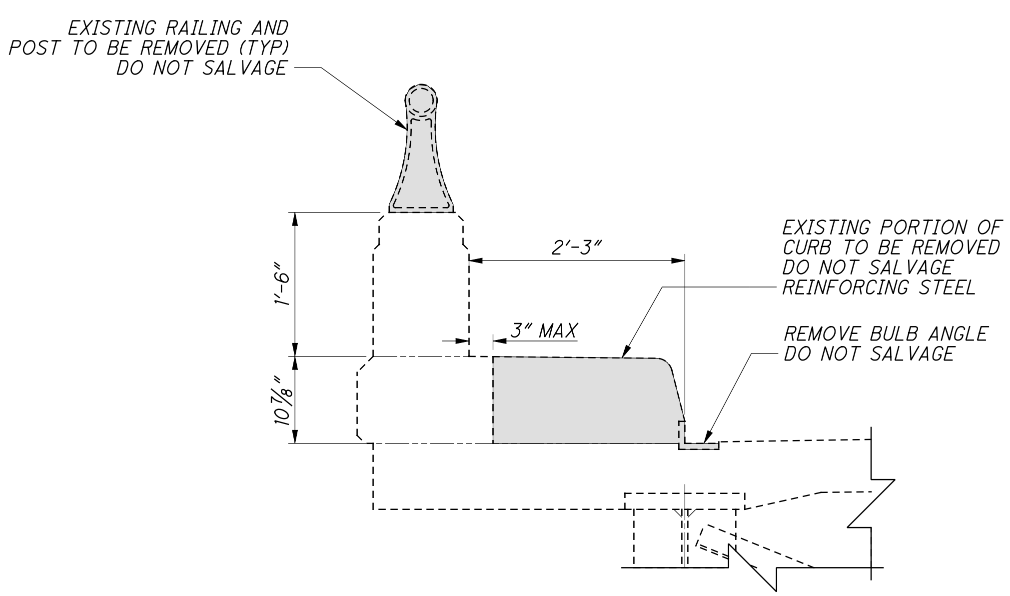


PARAPET PLAN

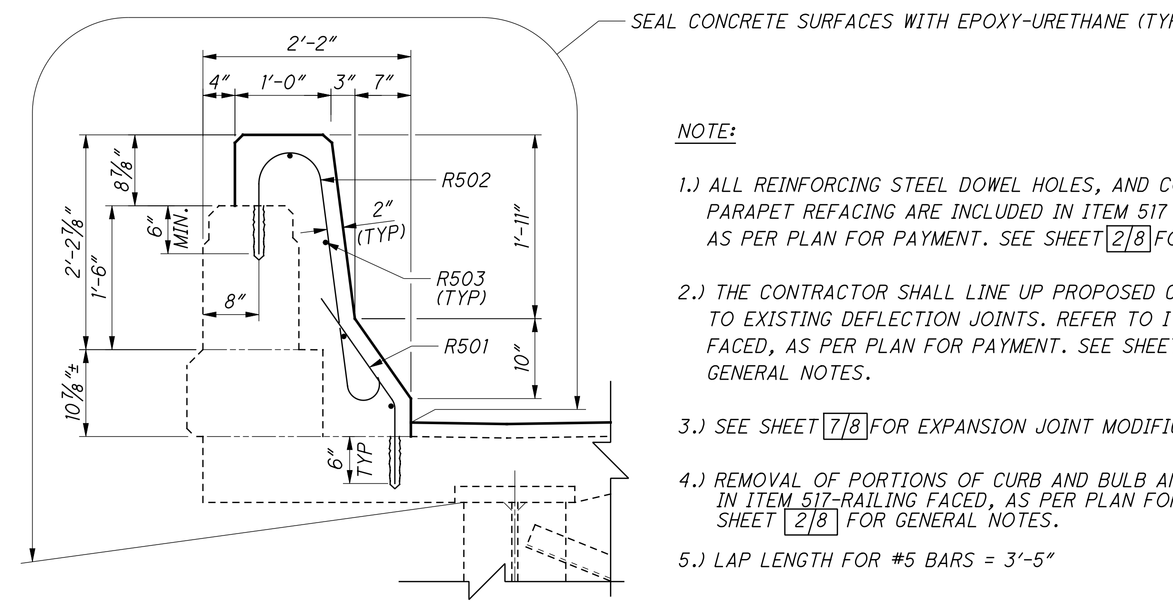
RIGHT SIDE SHOWN, LEFT SIDE SIMILAR



PARAPET ELEVATION



EXISTING PARAPET REMOVAL DETAIL



PARAPET REFACING DETAIL

NOTE:

1.) ALL REINFORCING STEEL DOWEL HOLES, AND CONCRETE FOR PARAPET REFACING ARE INCLUDED IN ITEM 517 - RAILING FACED, AS PER PLAN FOR PAYMENT. SEE SHEET 2/8 FOR GENERAL NOTES.

2.) THE CONTRACTOR SHALL LINE UP PROPOSED CONTROL JOINTS TO EXISTING DEFLECTION JOINTS. REFER TO ITEM 517 - RAILING FACED, AS PER PLAN FOR PAYMENT. SEE SHEET 2/8 FOR GENERAL NOTES.

3.) SEE SHEET 7/8 FOR EXPANSION JOINT MODIFICATIONS

4.) REMOVAL OF PORTIONS OF CURB AND BULB ANGLE ARE INCLUDED IN ITEM 517-RAILING FACED, AS PER PLAN FOR PAYMENT. SEE SHEET 2/8 FOR GENERAL NOTES.

5.) LAP LENGTH FOR #5 BARS = 3'-5"

PORTIONS OF EXISTING STRUCTURE REMOVED, SEE NOTES THIS SHEET

O:\ODOT\CLI\75745\bridge\CLI071_0725C\sheets\071_0725RA001.dgn 2/25/2010 2:15:48 PM dan-f

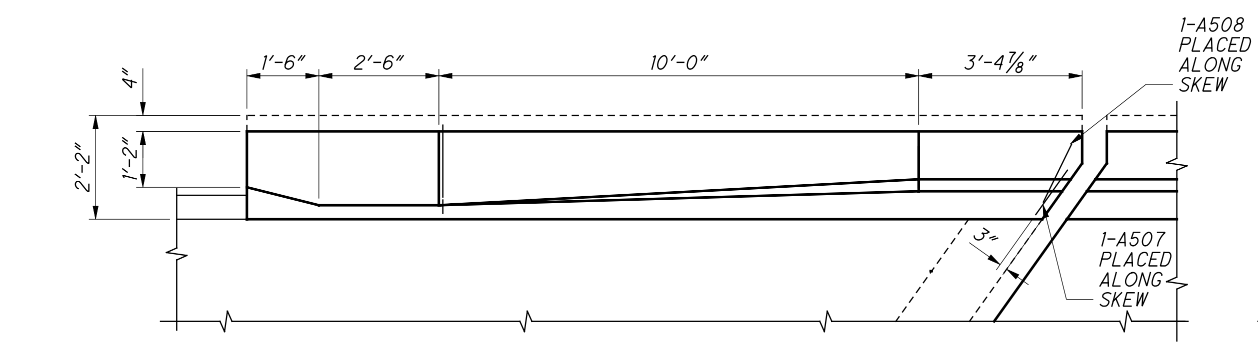
DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
1300 CORNELL PARK DR
CINCINNATI, OH 45242
WINCHESTER • NASHVILLE • LOUISVILLE • CINCINNATI • HURRICANE

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401653	

REFACED RAILING DETAILS FOR BRIDGE DECK

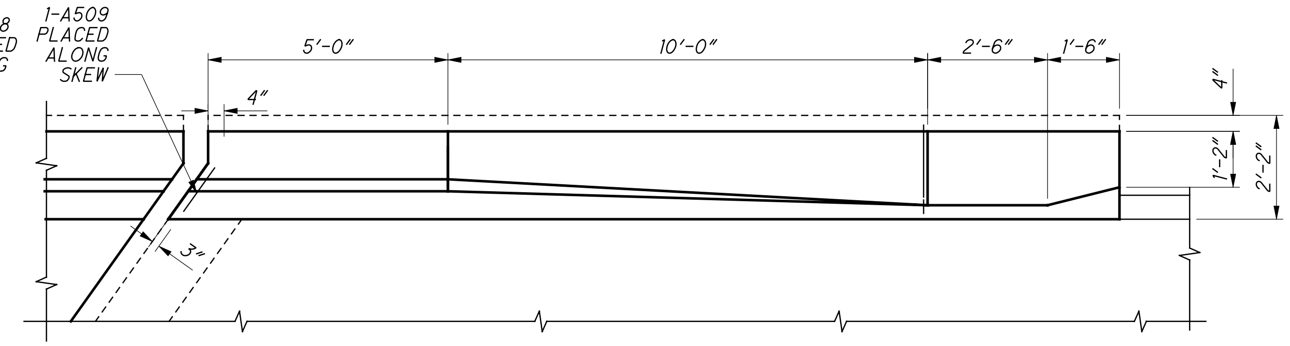
BRIDGE NO. CLI-71-0725
C15 (GURNEYVILLE RD.) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745



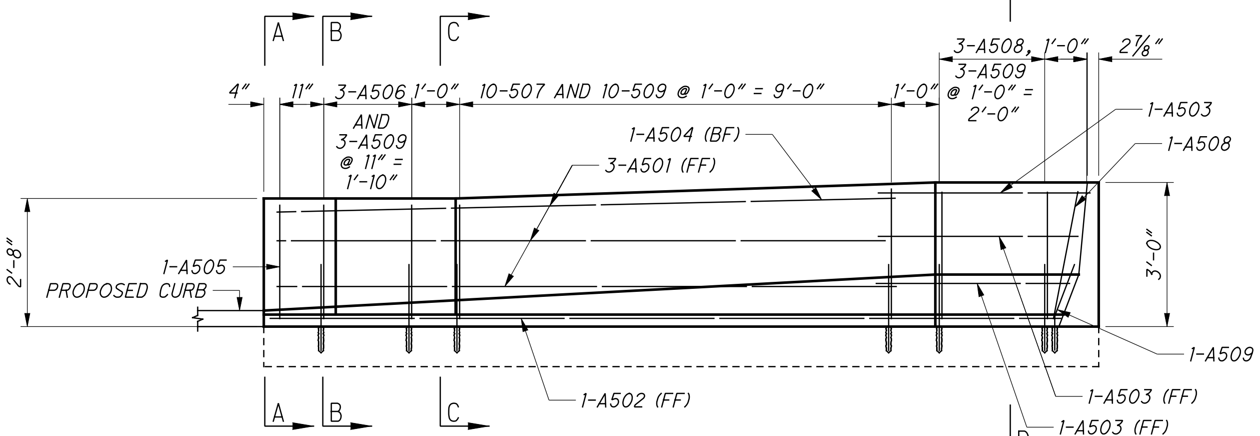
REAR LEFT APPROACH PARAPET PLAN

FORWARD RIGHT APPROACH PARAPET SIMILAR



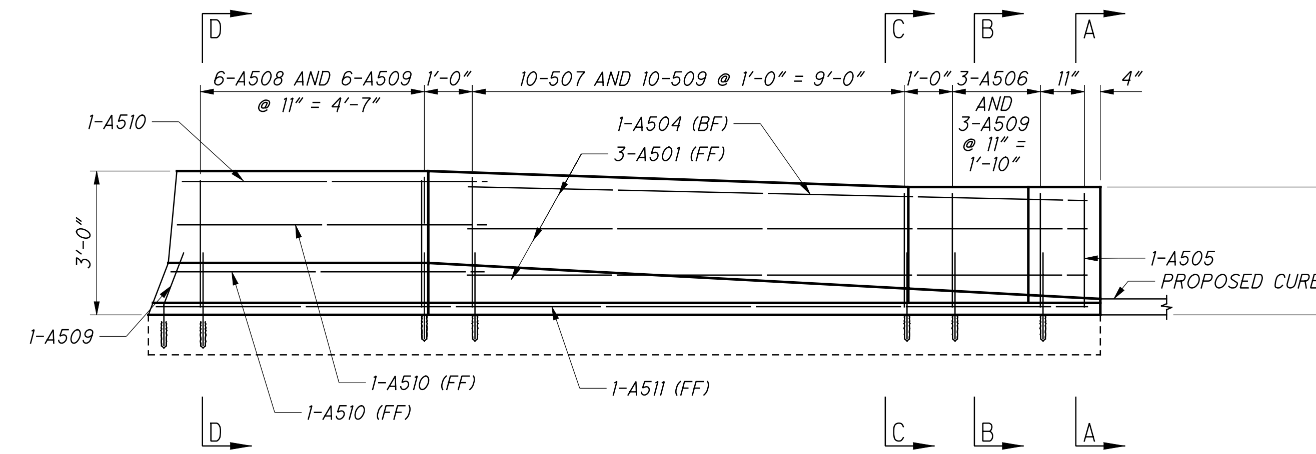
FORWARD LEFT APPROACH PARAPET PLAN

REAR RIGHT APPROACH PARAPET SIMILAR



REAR LEFT APPROACH PARAPET ELEVATION

FORWARD RIGHT APPROACH PARAPET SIMILAR



FORWARD LEFT APPROACH PARAPET ELEVATION

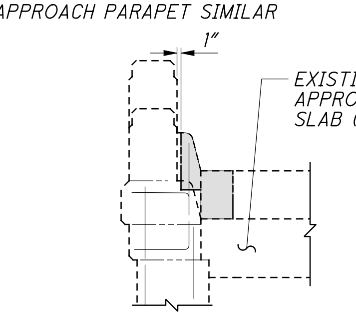
REAR RIGHT APPROACH PARAPET SIMILAR

NOTE:

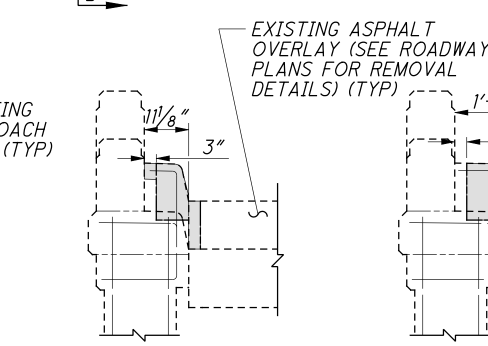
1.) ALL REINFORCING STEEL AND DOWEL HOLES FOR PARAPET REFACING ARE INCLUDED IN ITEM 517 - RAILING FACED, AS PER PLAN FOR PAYMENT. SEE SHEET 2/8 FOR GENERAL NOTES.

2.) SEE SHEET 7/8 FOR EXPANSION JOINT MODIFICATIONS

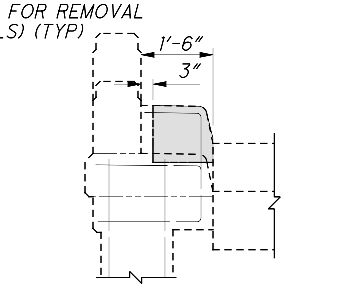
3.) LAP LENGTH FOR #5 BARS = 3'-5"



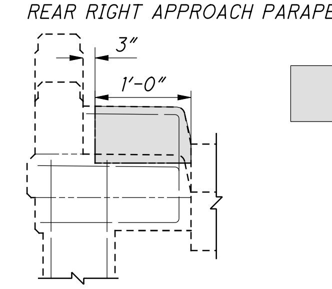
SECTION A-A REMOVAL DETAIL



SECTION B-B REMOVAL DETAIL



SECTION C-C REMOVAL DETAIL

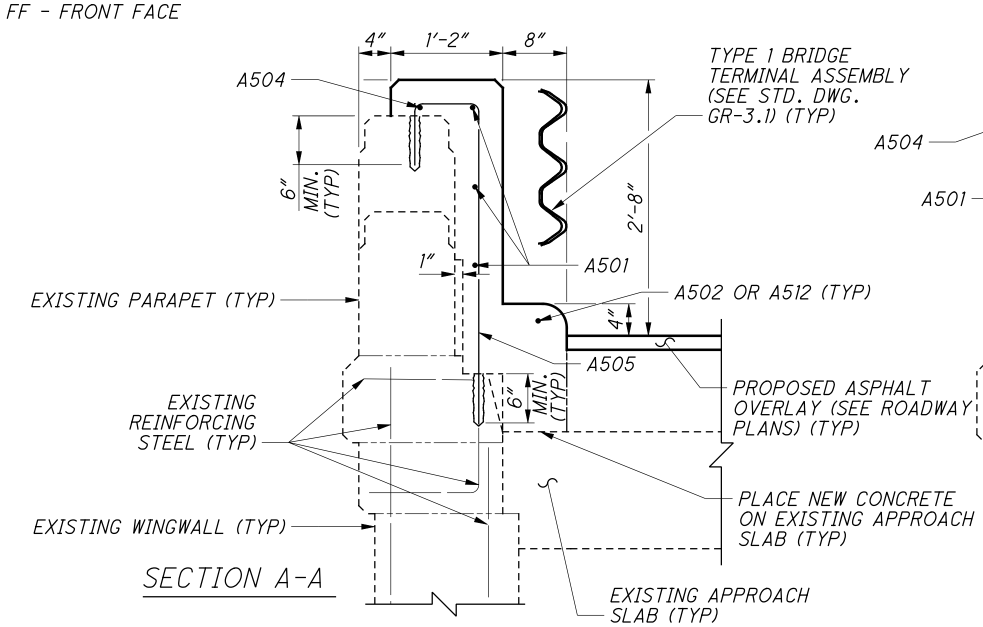


SECTION D-D REMOVAL DETAIL

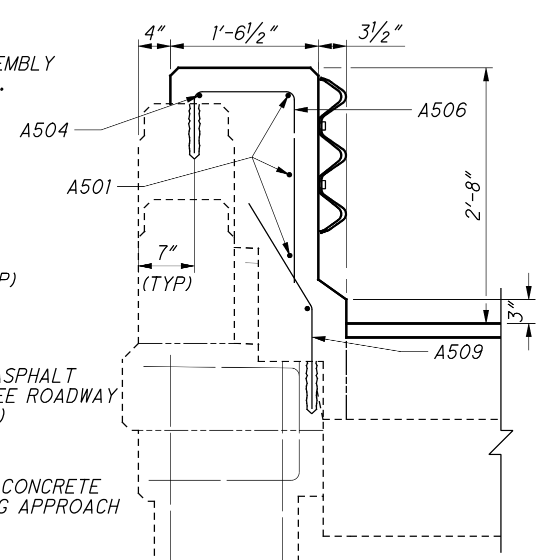
PORTIONS OF EXISTING STRUCTURE TO BE REMOVED

LEGEND

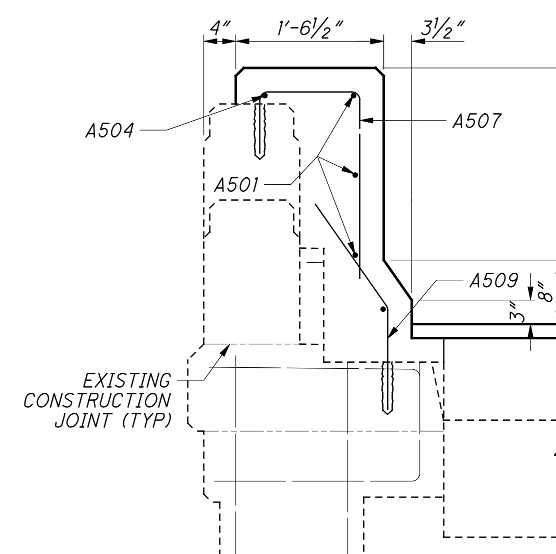
BF - BACK FACE
FF - FRONT FACE



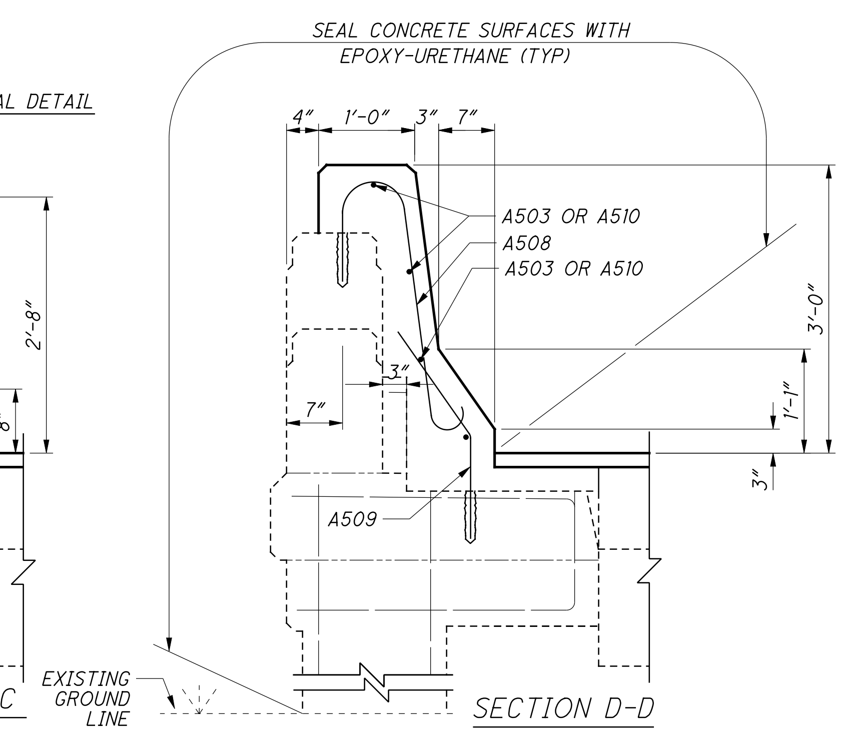
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

REFACED RAILING DETAILS FOR APPROACH SLAB

BRIDGE NO. CLI-71-0725

C15 (GURNEYVILLE RD.) OVER I-71

DESIGN AGENCY: PALMER ENGINEERING, 1530 CORNELL PARK DR, CINCINNATI, OH 45242

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
JPR	MLJ	SDW		BJF	1/09	1401653

CLI/GRE-71-7.26/0.00

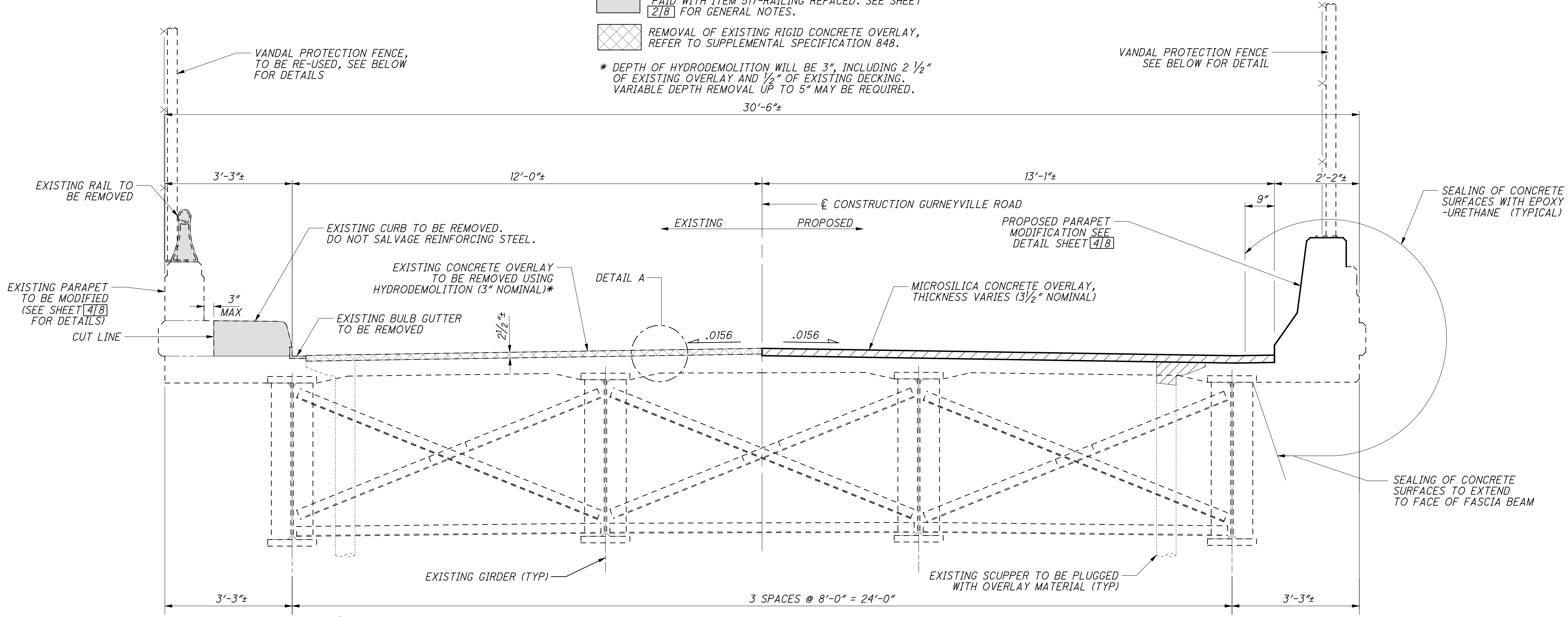
PID No. 75745

5/8

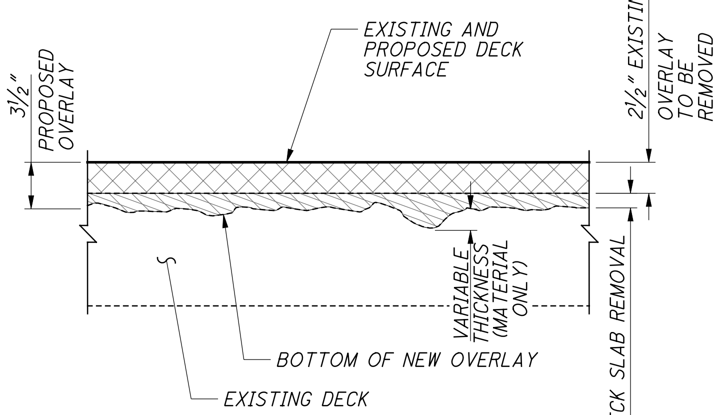
PORTIONS OF EXISTING STRUCTURE TO BE REMOVED. PAID WITH ITEM 517-RAILING REFACED. SEE SHEET 2/8 FOR GENERAL NOTES.

REMOVAL OF EXISTING RIGID CONCRETE OVERLAY, REFER TO SUPPLEMENTAL SPECIFICATION 848.

* DEPTH OF HYDRODEMOLITION WILL BE 3", INCLUDING 2 1/2" OF EXISTING OVERLAY AND 1/2" OF EXISTING DECKING. VARIABLE DEPTH REMOVAL UP TO 5" MAY BE REQUIRED.



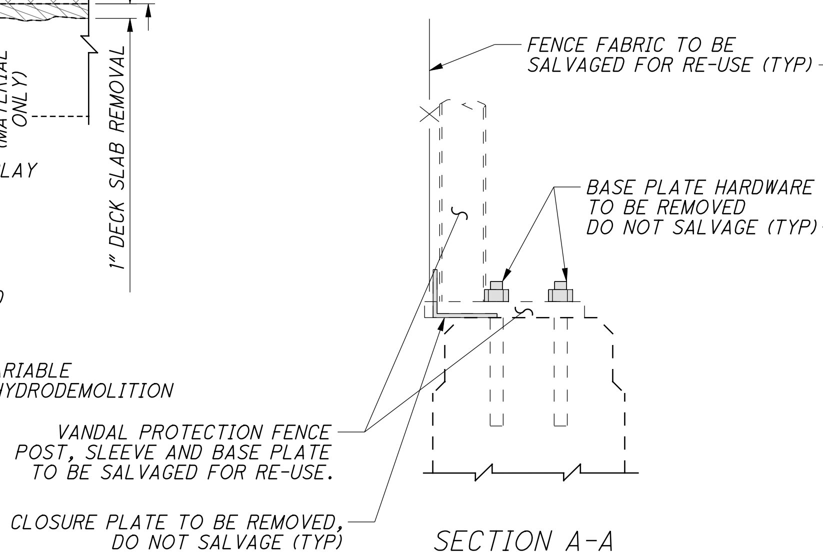
TRANSVERSE SECTION



DETAIL A

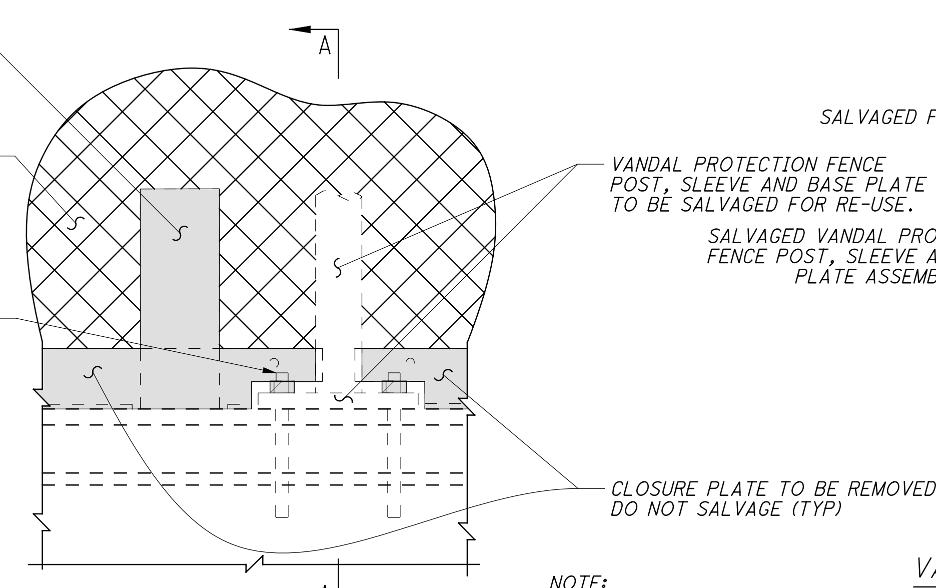
EXISTING OVERLAY TO BE REMOVED USING HYDRODEMOLITION

PORTION OF EXISTING DECK AND VARIABLE THICKNESS TO BE REMOVED USING HYDRODEMOLITION



SECTION A-A

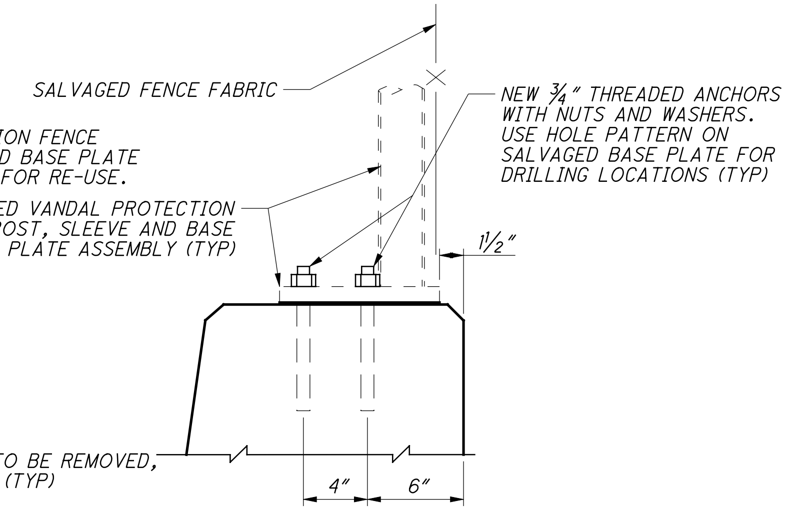
RAILING POST NOT SHOWN FOR CLARITY



VANDAL PROTECTION FENCE REMOVAL DETAIL

NOTE:

REFER TO STANDARD DRAWING VPF-1-90 FOR ADDITIONAL DETAILS. VPF WILL BE AS PER POST SECTION PS-4 DETAILS



VANDAL PROTECTION FENCE

SEE SHEET 4/8 FOR POST SPACING

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401653	

DESIGN AGENCY: PALMER ENGINEERING, 1550 CORNELL PARK DR, CINCINNATI, OH 45242

TRANSVERSE SECTION

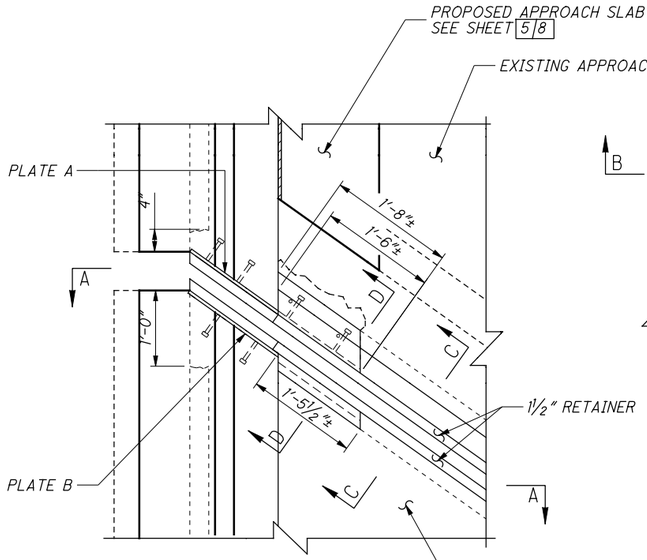
BRIDGE NO. CLI-71-0725

C15 (GURNEYVILLE RD.) OVER I-71

CLI/GRE-71-7.26/0.00

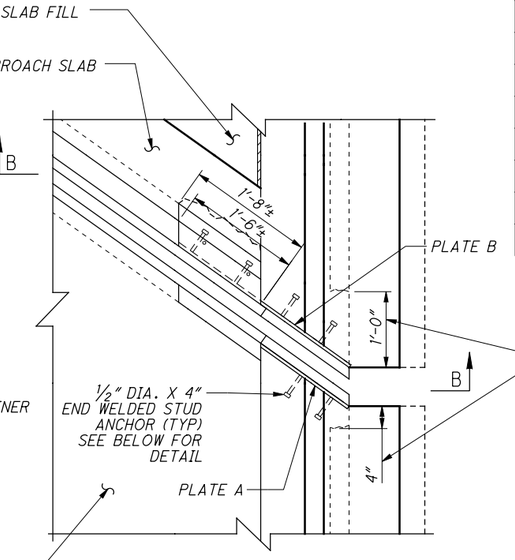
PID No. 75745

6/8



EXPANSION JOINT PLAN

(LEFT FORWARD ABUTMENT SHOWN
RIGHT REAR ABUTMENT SIMILAR)



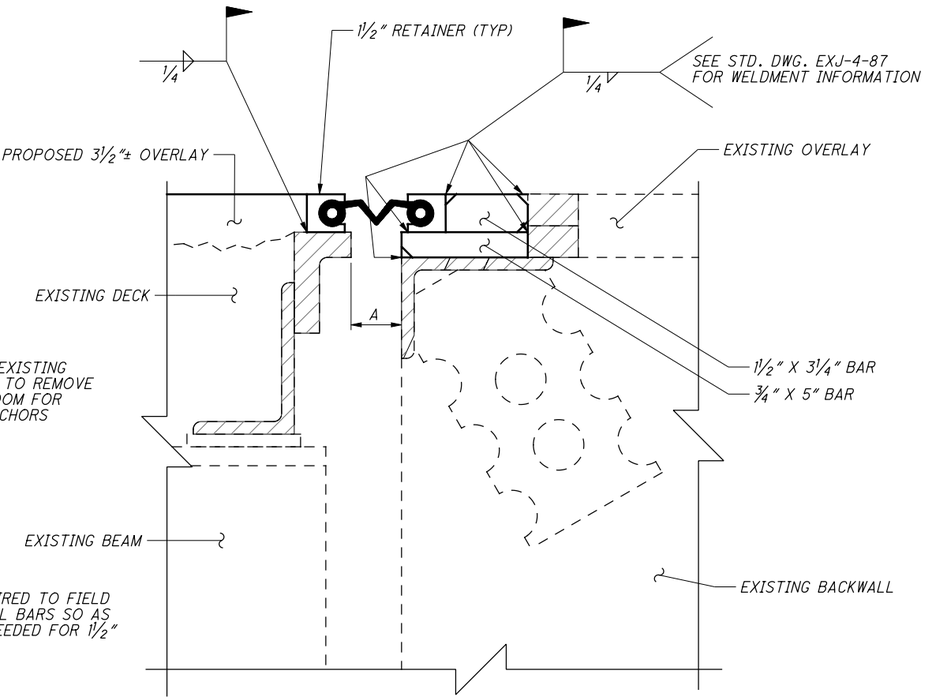
EXPANSION JOINT PLAN

(RIGHT FORWARD ABUTMENT SHOWN
LEFT REAR ABUTMENT SIMILAR)

DIMENSION "A"
2½" @ 30°
2⅜" @ 40°
2¼" @ 50°
2⅛" @ 60°
2" @ 70°
1⅛" @ 80°
1¾" @ 90°

PORTION OF EXISTING SAFETY CURB TO REMOVE TO ALLOW ROOM FOR ½" PLATE ANCHORS

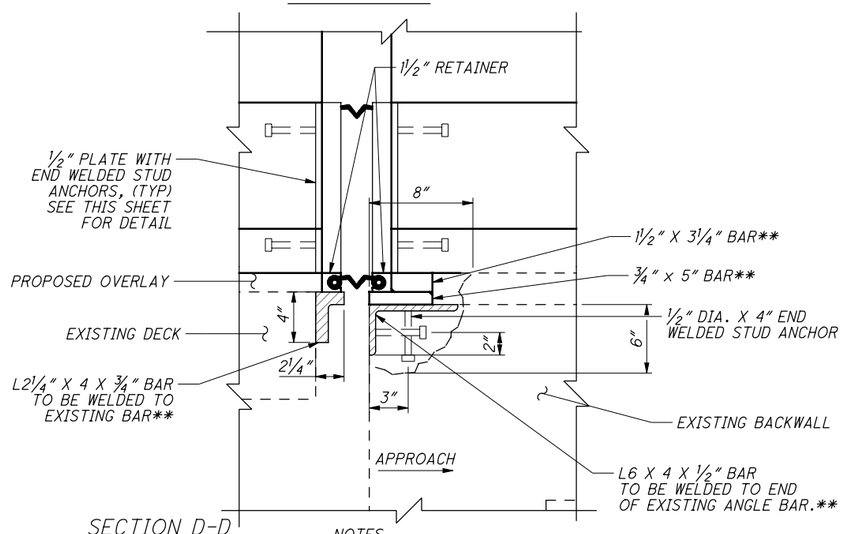
**CONTRACTOR WILL BE REQUIRED TO FIELD VERIFY LENGTH OF ADDITIONAL BARS SO AS TO MAINTAIN THE SUPPORT NEEDED FOR 1½" STRIP SEAL RETAINER.



SECTION C-C

VIEW A-A

VIEW B-B



SECTION D-D

WELDMENTS SIMILAR
TO SECTION C-C

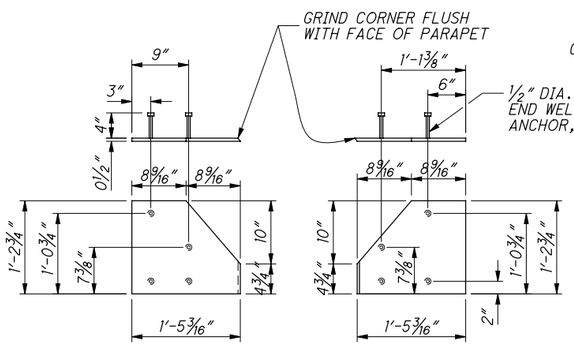
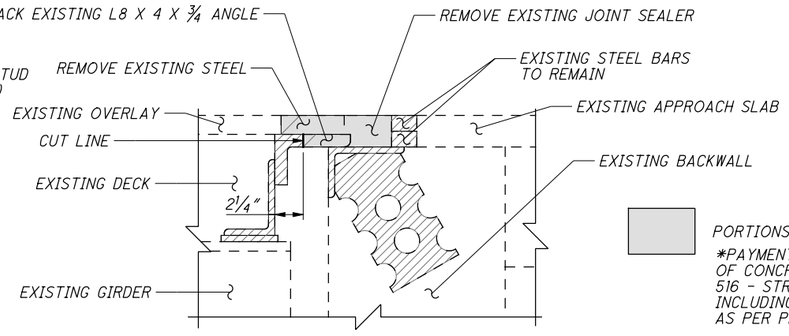


PLATE A PLATE B



TYPICAL EXPANSION JOINT REMOVAL DETAIL

PORTIONS OF STRUCTURE TO BE REMOVED*

*PAYMENT FOR REMOVAL AND PATCHING OF CONCRETE INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

EXISTING EXPANSION JOINT STEEL TO REMAIN

NOTES

1.) INCLUDE EXISTING JOINT REMOVALS WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

2.) NEW STEEL BARS SHALL BE ASTM A709 GRADE 50, AND SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

3.) COSTS ASSOCIATED WITH CONNECTING RETAINERS AT THE CROWN, INCLUDING COMPLETE PENETRATION WELDS AND GRINDING SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

4.) SEE STD. DWG. EXJ-4-87 FOR ADDITIONAL NOTES.

5.) SEE SHEET 2/8 FOR GENERAL NOTES.

DESIGN AGENCY
PALMER ENGINEERING
1100 CONNELL PARK DR
BLUE BELL, PENNSYLVANIA

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401653	

EXPANSION JOINT MODIFICATION DETAILS

BRIDGE NO. CLI-71-0725
C15 (GURNEYVILLE RD.) OVER 171

CLI/GRE-
71-7.26/0.00
PID No. 75745

7 / 8

113
218

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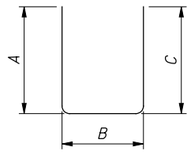
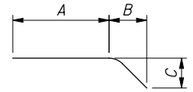
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL		(LBS.)		A	B	C	D	E	R	INC.
ABUTMENTS													
A501	6	6	12	13' - 10"	173	25	10'-0"	2'-5"	1'-4"	1 1/2"	5"		
A502	1	1	2	16' - 1 "	34	STR							
A503	3	3	6	4' - 11 "	31	STR							
A504	2	2	4	13' - 6 "	56	STR							
A505	2	2	4	4' - 2 "	17	2	8"	8"	3' - 1"				
A506	6	6	12	3' - 1 "	39	2	8"	1' - 0"	1' - 8"				
A507	20	20	40	3' - 9 "	156	2	1' - 0"	1' - 0"	2' - 0"				
A508	10	10	20	4' - 2"	87	34	1' - 0"	6"	3"	2' - 6"			
A509	37	37	74	2' - 2 "	167	19	11"	1' - 1"	9"				
A510	3	3	6	6' - 9 "	42	STR							
A511	1	1	2	19' - 3 "	40	STR							
SUBTOTAL					842								
DECK													
R501			666	2' - 2"	1505	19	10"	1'-1"	9"				
R502			664	4' - 2"	2886	34	1' - 0"	6"	3"	2' - 6"			
R503			96	30'-9"	3079	STR							
SUBTOTAL					7470								

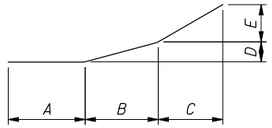
TOTAL REINFORCING STEEL 8312



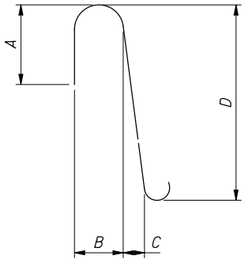
TYPE-2



TYPE-19



TYPE-25



TYPE 34

NOTES

1) THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. 'R' INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

2) ALL REINFORCING STEEL SHALL BE EPOXY COATED. PAYMENT FOR REINFORCING BARS SHALL BE INCLUDED WITH ITEM 517 - RAILING FACED, AS PER PLAN.

3) 'STR' IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4) HOOKS AND BENDS SHOWN ON THE BENDING DIAGRAMS THAT ARE NOT DIMENSIONED SHALL BE AS SPECIFIED IN THE C.M.S. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

5) ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.

6) FOR GENERAL NOTES, SEE SHEET 2 / 8 .

DESIGN AGENCY
Palmer ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401653	

REINFORCING STEEL QUANTITIES

BRIDGE NO. CLI-71-0725

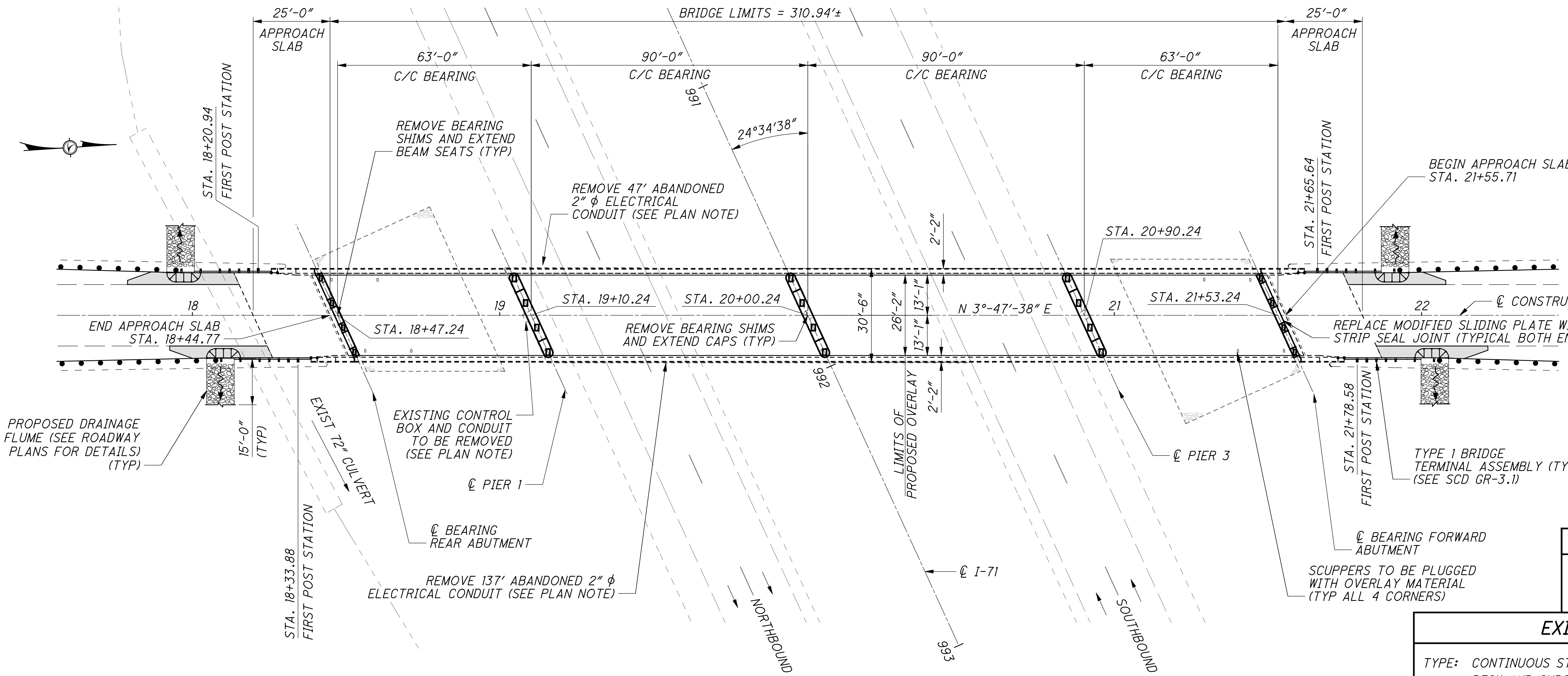
C15 (GURNEYVILLE RD.) OVER I-71

CLI/GRE-71-7.26/0.00

PID No. 75745

8 / 8

114
218



GENERAL PLAN

PROPOSED SHOULDER PAVING (SEE ROADWAY PLANS, SHEET 103)

PROPOSED WORK

1.) REMOVE THE EXISTING 2"± DECK OVERLAY AND 1" OF THE EXISTING DECK, USING HYDRODEMOLITION, AND REPLACE WITH A 3" MICROSILICA MODIFIED CONCRETE OVERLAY. PLUG EXISTING SCUPPERS WITH OVERLAY MATERIAL.
2.) REMOVE THE SHIMS UNDER THE EXISTING ABUTMENT BEARINGS AND CONSTRUCT NEW BEAM SEATS AT THE ABUTMENTS.
3.) REFURBISH THE EXISTING ABUTMENT BEARINGS (SEE PLAN NOTE).
4.) REPLACE THE SHIMS UNDER THE EXISTING BEARINGS AT THE PIERS WITH STEEL HP POSTS AND LOAD PLATES. CAST CAPS ONTO THE EXISTING PIER SEATS TO ENCASE THE NEW ASSEMBLIES IN CONCRETE.
5.) REPLACE PREVIOUSLY MODIFIED SLIDING PLATE JOINTS WITH STRIP SEAL EXPANSION JOINTS.
6.) CLEAN THE SURFACES OF THE SUBSTRUCTURE UNITS WITH SANDBLASTING AND APPLY EPOXY-URETHANE SEALER TO THE PARAPETS, ABUTMENTS, WINGWALLS AND PIERS.
7.) RESTORE THE APPROACH EMBANKMENTS ALONG THE ABUTMENT WINGWALLS (SEE SHEET 2/9) AND CONSTRUCT 15' LONG DRAINAGE FLUMES COMPRISED OF TYPE D ROCK ON EXCELSIOR MATTING ON BOTH EMBANKMENTS AT THE ENDS OF THE APPROACH SLABS.
8.) REMOVE ABANDONED ELECTRICAL CONDUIT FROM BRIDGE SUPERSTRUCTURE.
9.) INSTALL NEW VANDAL PROTECTION FENCE CLOSURE PLATES AND REPLACE HARDWARE.
10.) PROPOSED WORK WILL BE DONE UNDER CLOSURE OF HORSESHOE ROAD. SEE MAINTENANCE OF TRAFFIC SHEETS FOR CLOSURE DETAILS AND DURATION.
11.) MAINTAIN EXISTING VERTICAL CLEARANCES.

VERTICAL CLEARANCES
EXISTING AND PROPOSED = 16'-5"± (MINIMUM)

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 63.0'-90.0'-90.0'-63.0'
ROADWAY: 26'-2" T/T OF REFACED 32" PARAPET
LOADING: CF-130 (57)
SKEW: 24° 34' 38" R.F.
APPROACH SLABS: 25'-0"±
ALIGNMENT: TANGENT
STRUCTURAL FILE NUMBER: 1401777
DATE BUILT: 1964
DISPOSITION: TO BE REHABILITATED
WEARING SURFACE: 2"± SUPERPLASTICIZED DENSE CONCRETE OVERLAY

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 63.0'-90.0'-90.0'-63.0'
ROADWAY: 26'-2" TOE/TOE PARAPET
LOADING: CF-130 (57)
SKEW: 24° 34' 38" R.F.
APPROACH SLABS: TO REMAIN
ALIGNMENT: TANGENT
CROWN: .0156 FT/FT
COORDINATES: LATITUDE 39° 32' 06" N
LONGITUDE 83° 47' 16" W
WEARING SURFACE: 3" MICROSILICA CONCRETE OVERLAY

DESIGN AGENCY: Palmer ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401777	

GENERAL PLAN
BRIDGE NO. CLI-71-1187
T186 (HORSESHOE RD) OVER I71

CLI/GRE-71-7.26/0.00
PID No. 75745

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REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-4-87 DATED/REVISED 7-19-02
VPF-1-90 DATED/REVISED 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

848 DATED 10-16-09

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION , AND THE ODOT 2004 BRIDGE DESIGN MANUAL.

DESIGN STRESSES

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL - ASTM A709 , GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD:
2½" RIGID MICRO-SILICA MODIFIED CONCRETE OVERLAY

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH [25 MM] DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

ITEM 202 - REMOVAL, MISC.: ELECTRICAL CONDUIT AND CONTROL BOX
THIS ITEM SHALL INCLUDE THE REMOVAL OF THE ABANDONED ELECTRICAL CONDUIT AND CONTROL BOX AS SHOWN IN THE PLANS. CARE SHALL BE TAKEN DURING REMOVAL TO NOT DAMAGE THE EXISTING PROTECTIVE COATINGS ON THE STEEL BEAMS OR CONCRETE SURFACES. CONDUIT SUPPORT ANCHORS SHALL BE GROUND OR REMOVED FLUSH TO THE CONCRETE SURFACE. CLEAN ANY DEBRIS OR BUILDUP FROM BEHIND THE CONDUIT AND CONTROL BOX. THIS REMOVAL WORK SHALL BE PERFORMED BEFORE CLEANING AND REAPPLICATION OF EPOXY URETHANE SEALER. PAYMENT FOR THIS WORK WILL BE ON A LUMP SUM BASIS AND INCLUDES ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED TO COMPLETE THE WORK DESCRIBED HEREIN. (EXCEPT FOR CLEANING AND REAPPLICATION OF EPOXY SEALER). PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 202, REMOVAL MISC.: ELECTRICAL CONDUIT AND CONTROL BOX.

ESTIMATED REMOVAL QUANTITIES OF CONDUIT REMOVED:
184 LINEAR FEET

CONTROL BOX REMOVED:
1 EACH (SEE GENERAL PLAN, SHEET 1/8 FOR LOCATION)

EXISTING STRUCTURE VERIFICATION:
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ITEM 516 - REFURBISHING BEARING DEVICE, AS PER PLAN:
THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE ABUTMENT BEARINGS AS WELL AS THEIR CLEANING, REPAIR AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60° F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER AND DIRECTED BY THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICE, AS PER PLAN.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN:
THIS WORK CONSISTS OF REHABILITATING THE EXISTING SLIDING PLATE JOINT TO AN ELASTOMERIC STRIP SEAL TYPE JOINT. IT ALSO INCLUDES THE HORIZONTAL EXTENSION OF THE EXPANSION JOINT INTO THE REFACED PARAPET. PAYMENT FOR THE DESCRIBED LABOR AND MATERIALS INCLUDING CONCRETE REMOVAL AND PATCHING, ANGLES, PLATES, BARS, SHEAR STUDS AND WELDING WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN
THIS WORK CONSISTS OF TEMPORARILY RAISING THE EXISTING BEAMS TO ALLOW CONSTRUCTION OF PROPOSED CONCRETE SUBSTRUCTURE CAPS AND INSTALLATION OF PROPOSED PIER BEARING ASSEMBLIES.

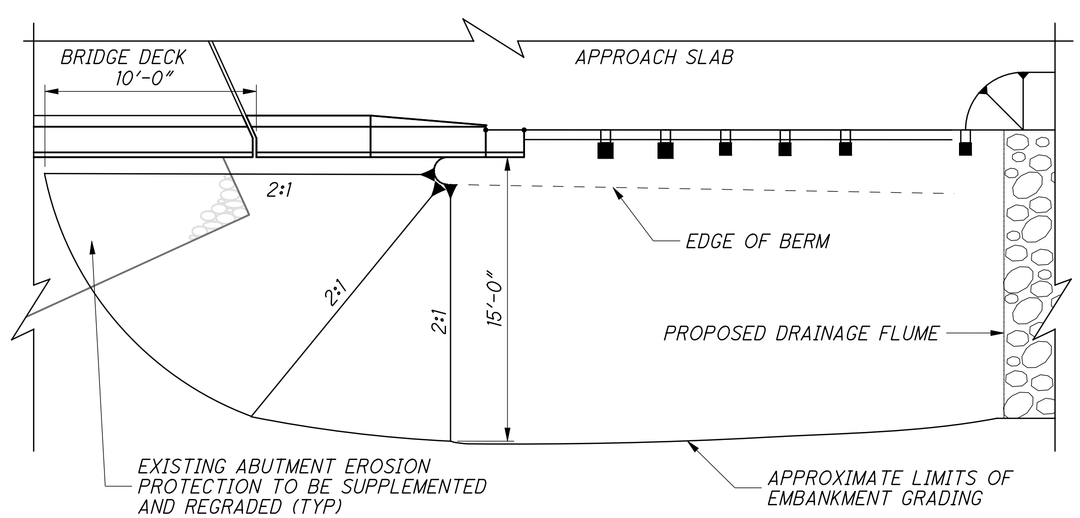
SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY

ITEM 516 - BEARING DEVICE, ROCKER, AS PER PLAN
THIS ITEM SHALL INCLUDE COMPLETE REPLACEMENT OF AN ABUTMENT ROCKER BEARING AS DIRECTED BY THE ENGINEER. THE ROCKERS SHALL BE CONSTRUCTED PER STANDARD DRAWING RB-1-55 AND OF THE SAME CAPACITY OF THE EXISTING ROCKERS. INCLUDED IN THIS ITEM SHALL BE THE DISASSEMBLY AND REMOVAL OF THE EXISTING BEARING, REPLACEMENT OF THE UPPER PLATE, ROCKER, LOWER PLATE, STEEL SHIM, AND PREFORMED BEARING PADS (711.21). ONLY ONE STEEL SHIM PLATE AND ONE PREFORMED BEARING PAD WILL BE ALLOWED TO OBTAIN THE PROPER FIT-UP. BOTH SHALL BE OF THE SAME PLAN AREAS AS THE MASONRY PLATE AND THE SHIM PLATE SHALL BE FULLY WELDED AROUND THE PERIMETER TO THE LOWER PLATE. THE BEARINGS SHALL BE VERTICALLY ALIGNED AT 60 DEGREES FAHRENHEIT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THOROUGH FIELD MEASUREMENTS AND ADJUSTING AS REQUIRED TO ENSURE ALL BEARING SURFACES ARE IN FULL CONTACT. ADJUSTMENTS REQUIRED TO ACHIEVE FULL BEARINGS SHALL NOT CAUSE OTHER BEARINGS TO "FLOAT".



DETAIL FOR ITEM 601

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:
PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING. LOCATIONS OF AREAS THAT REQUIRE MATCHING ARE NOT INCLUDED IN THE PLANS. ACTUAL PATCHING LOCATIONS SHALL BE VERIFIED AT THE TIME OF CONSTRUCTION. A CONTINGENCY QUANTITY OF 50 SQ FT IS INCLUDED IN THE SUMMARY TO BE USED AT THE DIRECTION OF THE ENGINEER. THIS QUANTITY IS IN ADDITION TO THE AREAS OF PATCHING ON THE ABUTMENTS AND PIER SHOWN IN THE PLANS.

ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN
PROVIDE SLOPE PROTECTION SIMILAR IN TYPE AND SIZE TO THE EXISTING. REGRADE THE EXISTING SLOPE PROTECTION TO A 2:1 SLOPE IN AN AREA BOUNDED BY A LINE DRAWN PERPENDICULAR TO THE CENTERLINE OF HORSESHOE ROAD 10 FEET FROM THE FACE OF THE ABUTMENT AT THE CENTERLINE AND 3 FEET OUTSIDE OF BOTH EDGES OF THE BRIDGE DECK. SUPPLEMENT THE SLOPE PROTECTION AS NECESSARY TO MEET THE DETAIL SHOWN ON SHEET 4/9. AN ESTIMATED QUANTITY OF 16 CUBIC YARDS OF SLOPE PROTECTION SHOULD BE USED FOR BIDDING PURPOSES. PAYMENT FOR THIS WORK WILL BE ON A SQUARE YARD BASIS AND INCLUDES ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED TO COMPLETE THE WORK DESCRIBED HEREIN. THIS ITEM SHALL ALSO INCLUDE GRADING OF THE APPROACH EMBANKMENTS TO CONFORM TO THE DETAIL ON THIS SHEET.

ITEM SPECIAL-VANDAL PROTECTION FENCE REMOVED AND REBUILT
THIS ITEM SHALL INCLUDE INSTALLATION OF STAINLESS STEEL CLOSURE PLATE TO CLOSE THE GAP AT THE BOTTOM OF THE EXISTING VANDAL PROTECTION FENCE BETWEEN THE BOTTOM RAIL AND THE TOP OF THE PARAPET. INSTALLATION PROCEDURES ARE TO FOLLOW STANDARD DRAWINGS BPF-1-90. THE CONTRACTOR SHALL DETERMINE THE VERTICAL LEG DIMENSION OF THE CLOSURE PLATE REQUIRED TO CLOSE THE EXISTING GAP. THE CONTRACTOR SHALL ALSO LOCATE THE ½" DIAMETER HOLES IN THE PLATE TO ALLOW FOR PROPER INSTALLATION OF THE FABRIC TIES. THIS ITEM SHALL ALSO INCLUDE REPLACEMENT OF THE EXISTING ¾" NUTS AND WASHERS WITH NEW HARDWARE MEETING THE REQUIREMENTS OF VPF-1-90. PAYMENT FOR THIS ITEM WILL BE ON A LINEAR FEET BASIS AND WILL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK DESCRIBED HEREIN.

DESIGN AGENCY: Palmer ENGINEERING

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MLJ		1401777	

GENERAL NOTES
BRIDGE NO. CLI-71-1187
T186 (HORSESHOE RD.) OVER I71

CLI/GRE-71-7.26/0.00
PID No. 75745

ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER	GENERAL	SHEET REF.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					2
202	98200	184	FT	REMOVAL, MISC.: ABANDONED ELECTRICAL CONDUIT AND CONTROL BOX			184		2
509	10000	1577	POUND	EPOXY COATED REINFORCING STEEL	650	927			
510	10000	204	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	96	108			
511	42500	7	CU YD	CLASS C CONCRETE, PIER CAP		7			
511	44100	3	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	3				
512	10100	1207	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	155	257	795		
516	11211	66	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			66		2
516	31000	63	FT	JOINT SEALER	63				
516	45305	8	EACH	REFURBISHED BEARING DEVICE, AS PER PLAN	8				2
516	46001	4	EACH	BEARING DEVICE, BOLSTER, AS PER PLAN		4			6
516	46201	8	EACH	BEARING DEVICE, ROCKER, AS PER PLAN		8			5
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					2
519	11101	50	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN				50	2
601	20001	105	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN				105	2
SPECIAL	60740300	612	FT	VANDAL PROTECTION FENCE, REMOVED AND REBUILT			612		2
848	10000	895	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (3" NOMINAL THICKNESS)			895		
848	20000	895	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION			895		
848	30000	62	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			62		
848	50000	89	SQ YD	HAND CHIPPING			89		
848	50100	LUMP		TEST SLAB					
848	50200	5	CU YD	FULL-DEPTH REPAIR			5		
848	50320	895	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (2.5" NOMINAL THICKNESS)			895		
848	50340	89	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY			89		

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

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GENERAL SUMMARY
BRIDGE NO. CLI-71-1187
T186 (HORSESHOE_RD.) OVER I71

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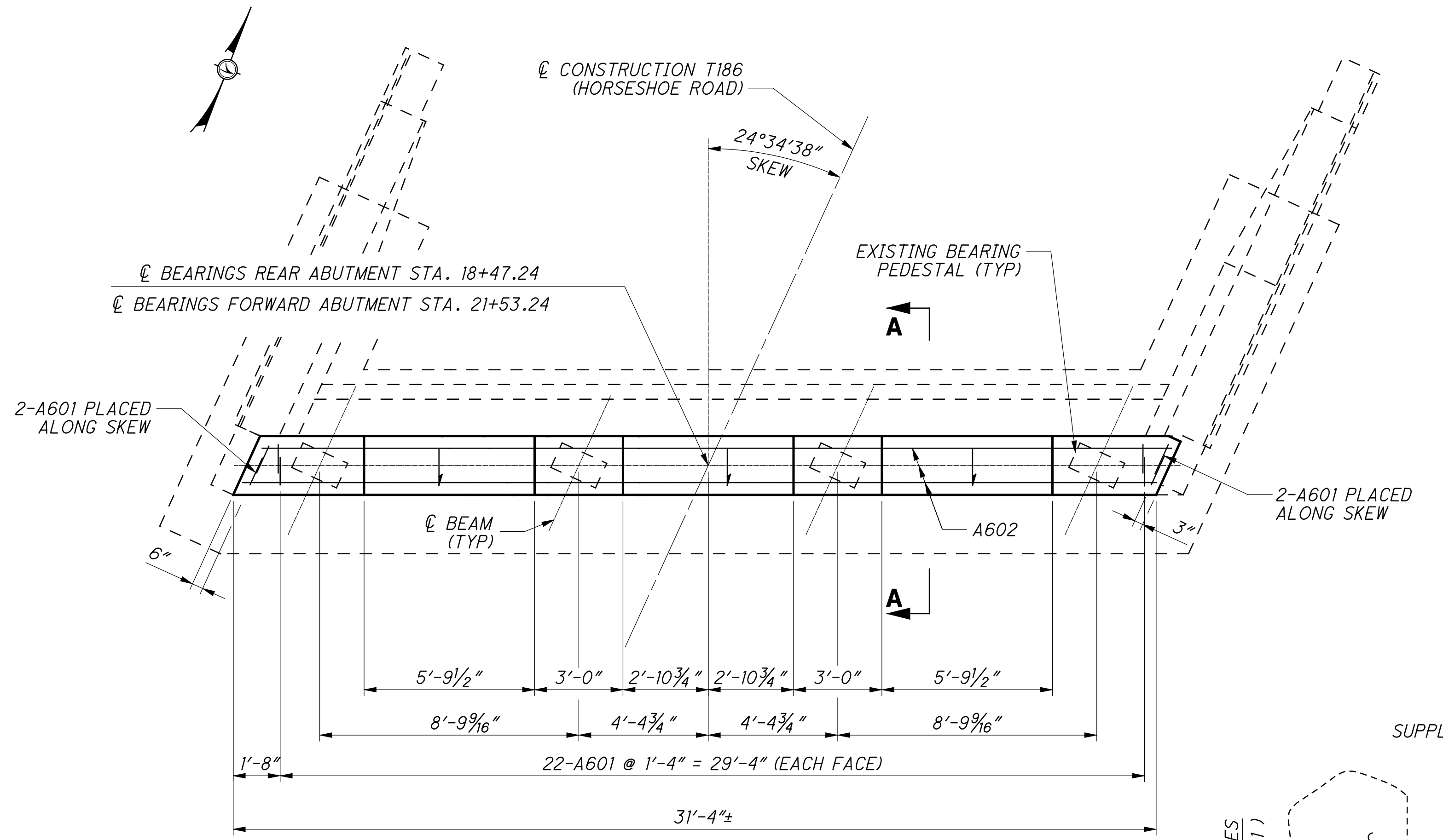
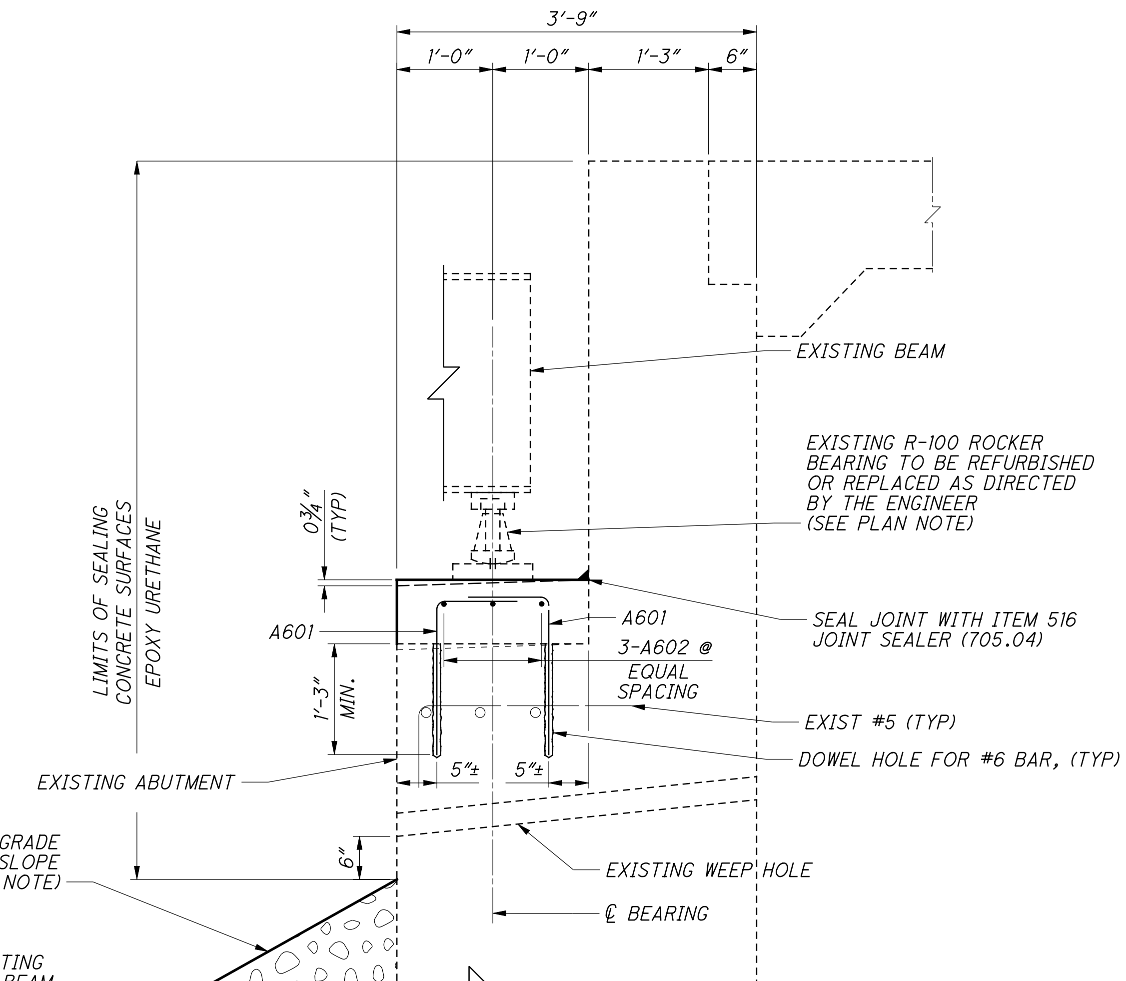
PID No. 75745

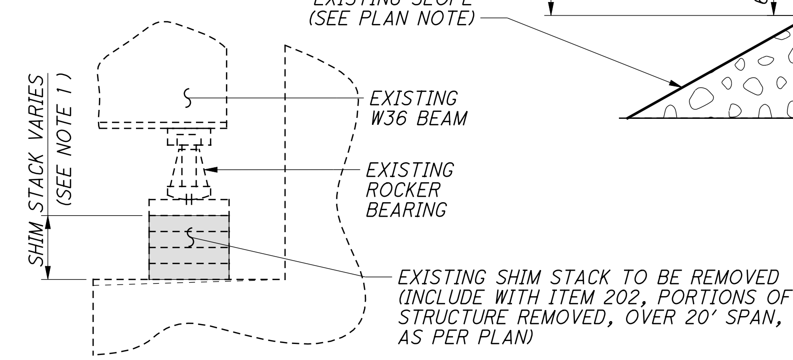


PLAN

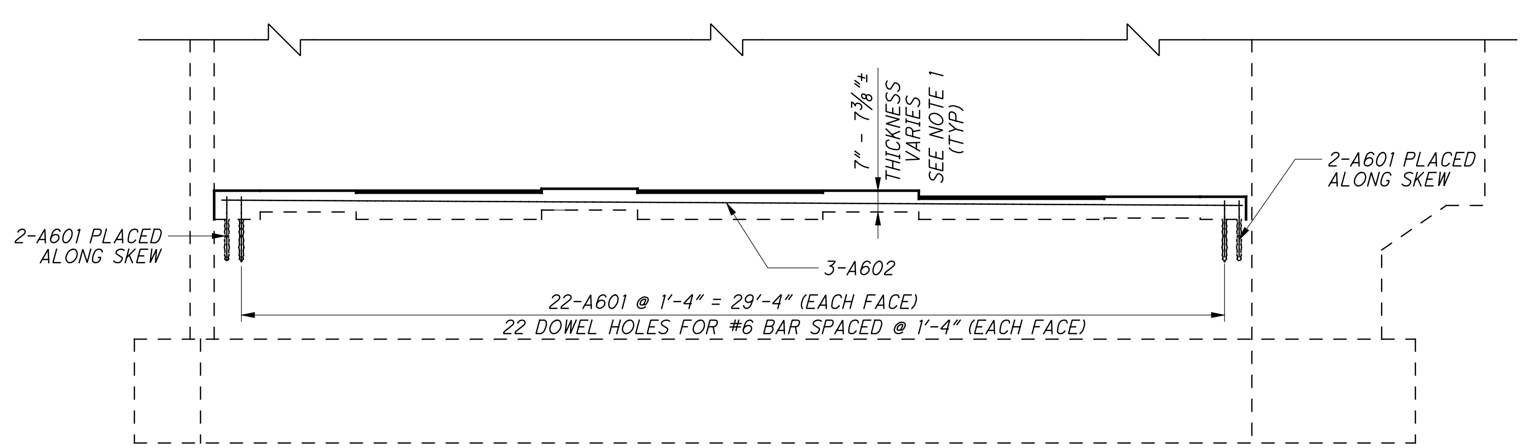
FORWARD ABUTMENT SHOWN, REAR ABUTMENT SIMILAR



SECTION A-A



EXISTING SHIM REMOVAL



ELEVATION OF ABUTMENT

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED ABUTMENT CAP EXTENSION SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 7.5" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).

3.) PEDESTALS OR SHIMS SHALL NOT BE ALLOWED TO BE CAST INTO THE ABUTMENT BEAMS SEATS.

4.) SEE SHEET 8/9 FOR EXPANSION JOINT DETAILS.

5.) SEE SHEET 2/9 FOR GENERAL NOTES.

6.) PROPOSED ABUTMENT CONCRETE SHALL BE CLASS C CONCRETE, ABUTMENT.

DESIGN AGENCY: PALMER ENGINEERING, 1590 CORNELL PARK DR, CINCINNATI, OH 45242

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ABUTMENT MODIFICATION DETAILS

BRIDGE NO. CLI-71-1187
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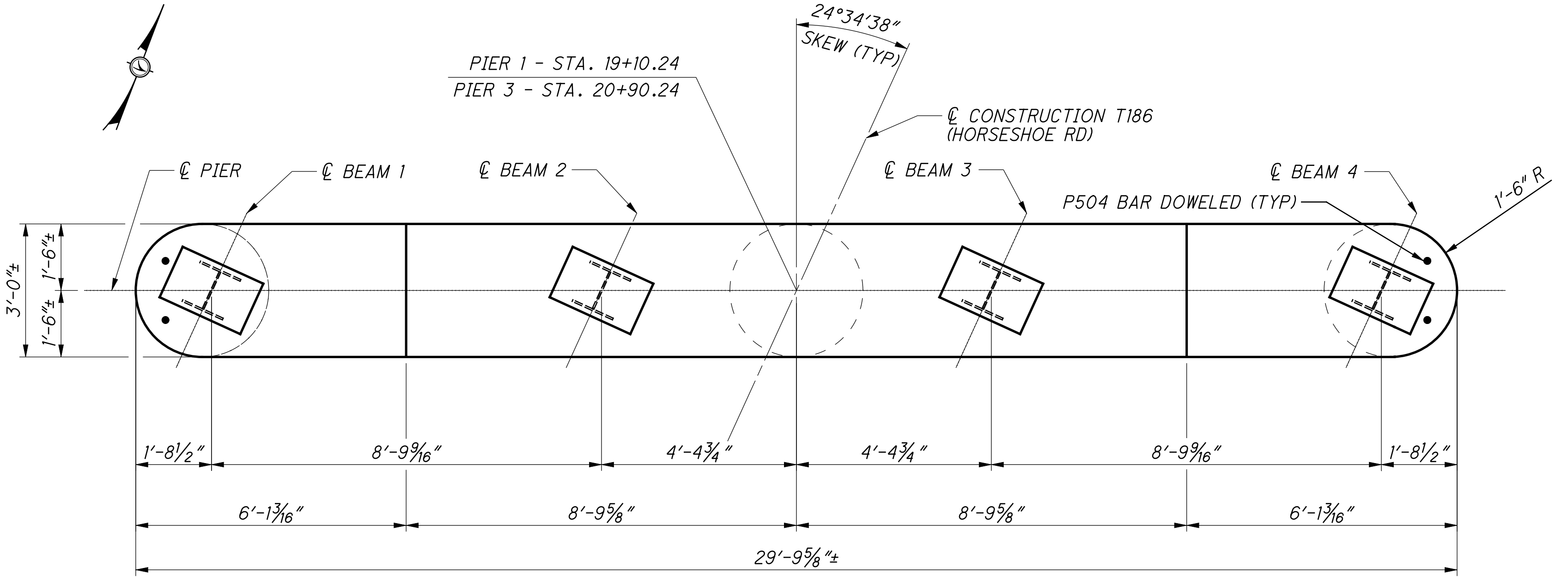
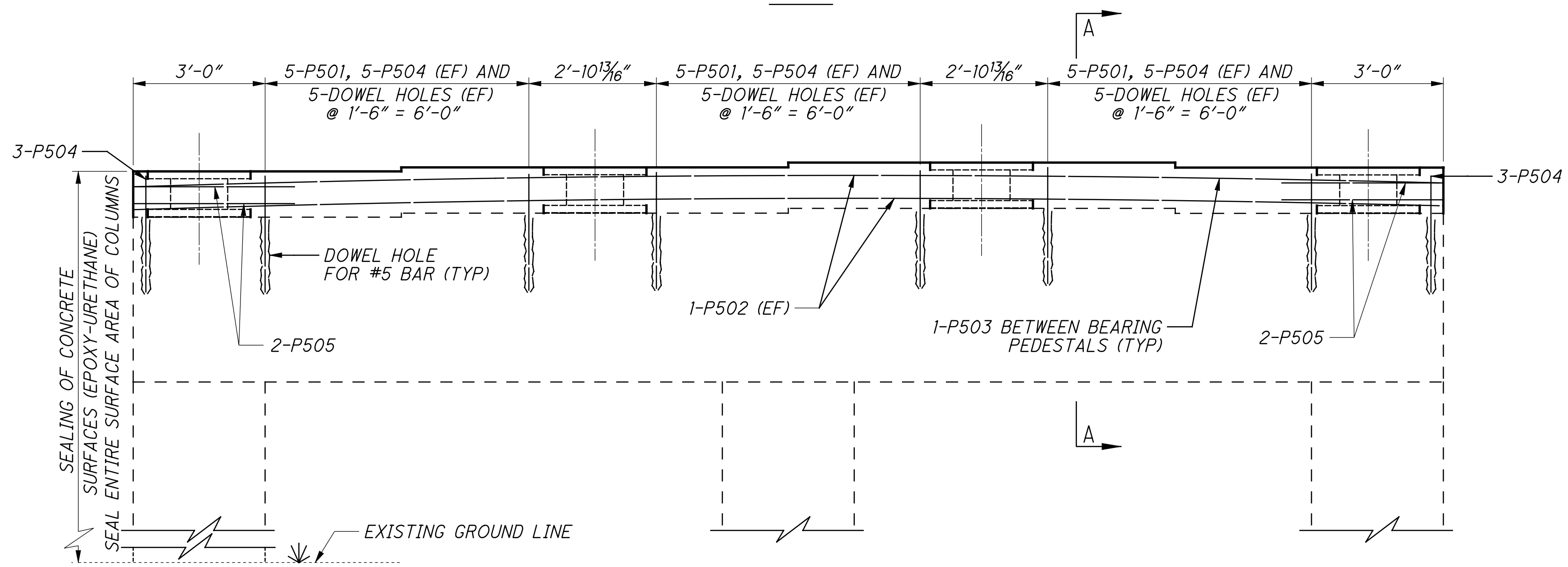
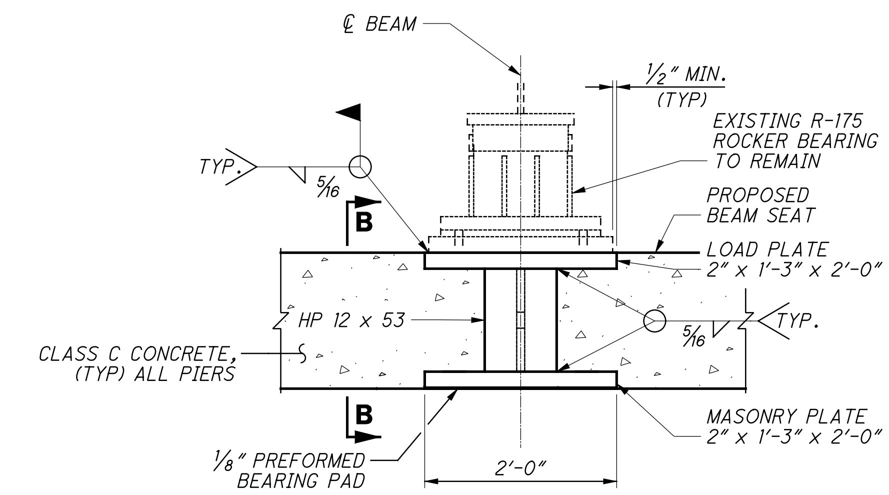
4/9



PLAN

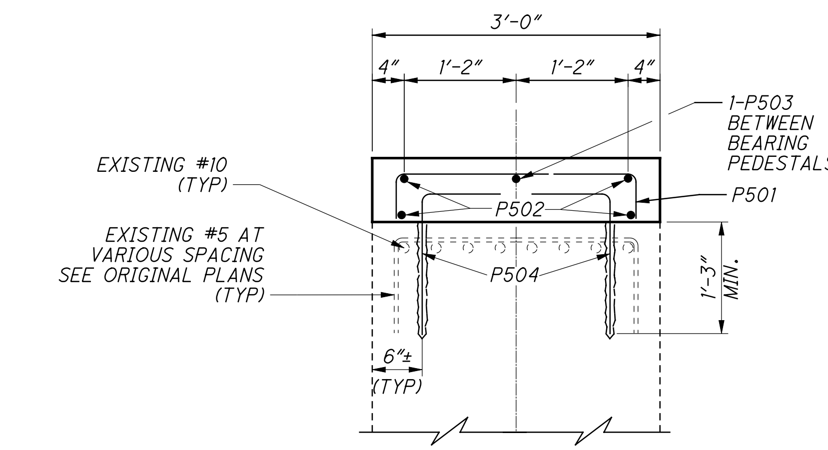


ELEVATION



BEARING MODIFICATIONS AT PIERS 1 & 3

(VIEW NOT TO SCALE)



SECTION A-A

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED PIER CAP AND HP SECTIONS SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 8" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

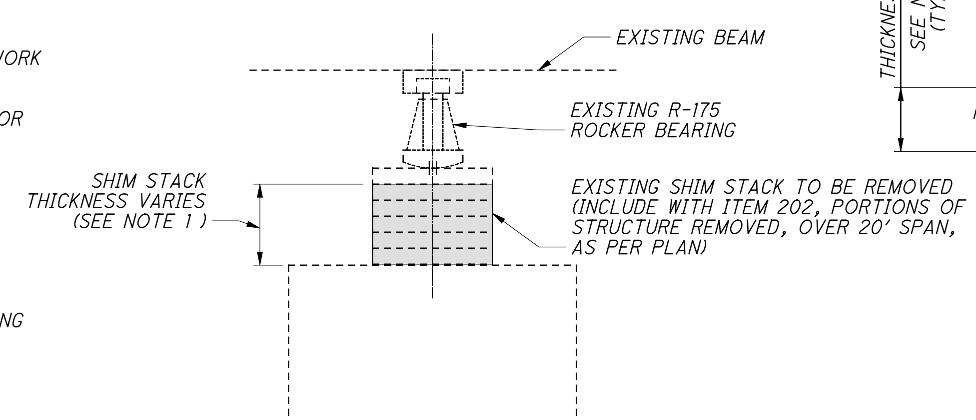
3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, BEARING DEVICE ROCKER, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

4.) LAP SPLICE LENGTH: #5 BARS = 26 INCHES.

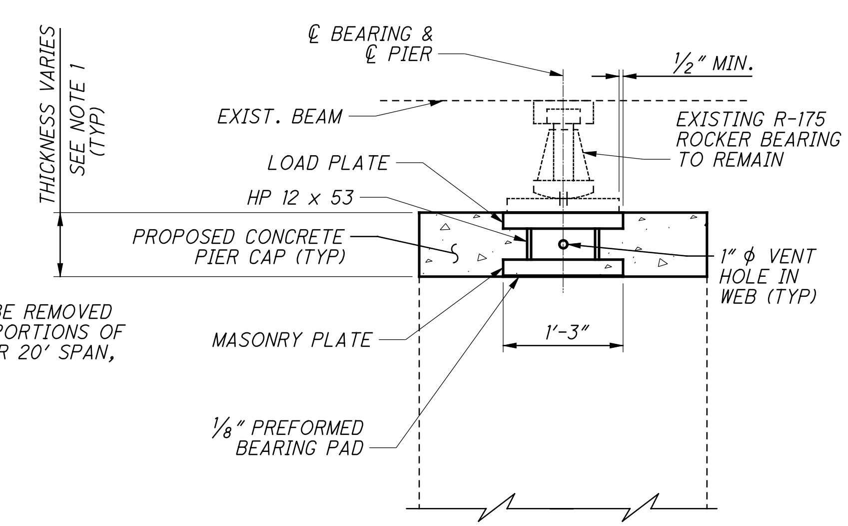
5.) HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

6.) THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

7.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).



EXISTING BEARING CONFIGURATION



SECTION B-B

DESIGN AGENCY: PALMER ENGINEERING, 1500 CORNELL PARK DR, CINCINNATI, OH 45242

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PIER MODIFICATION DETAILS FOR PIERS 1 AND 3

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5/9

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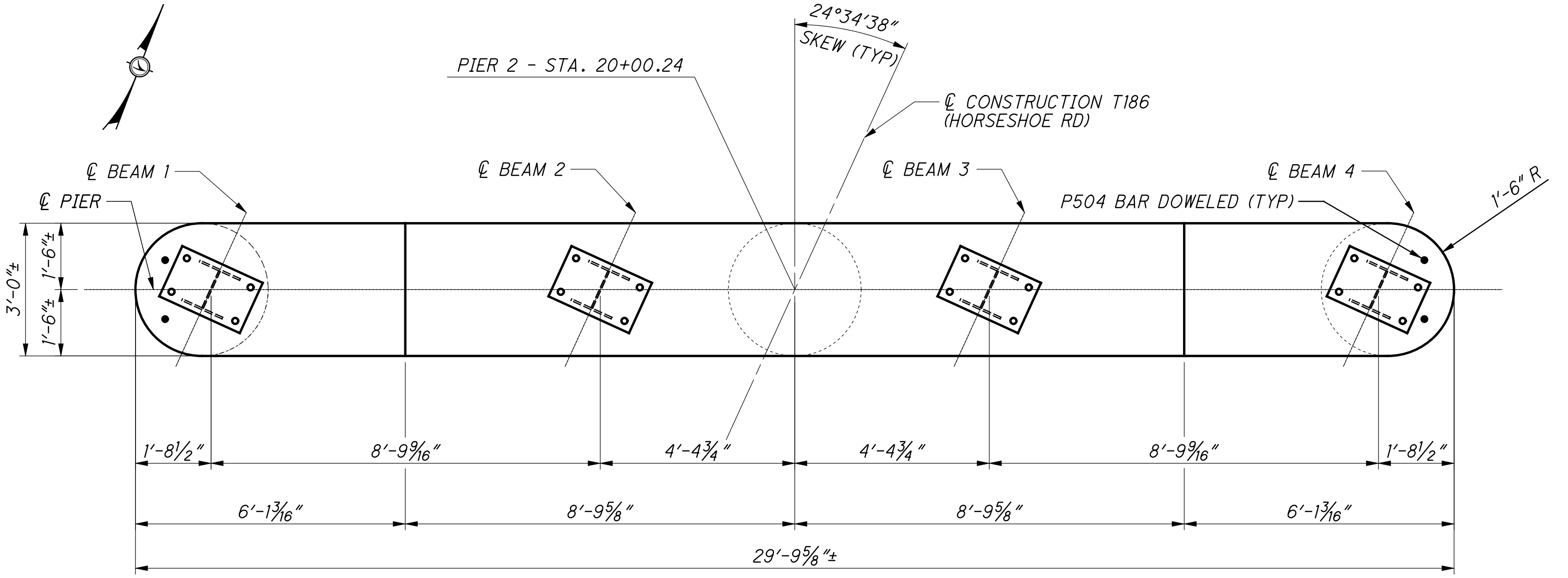
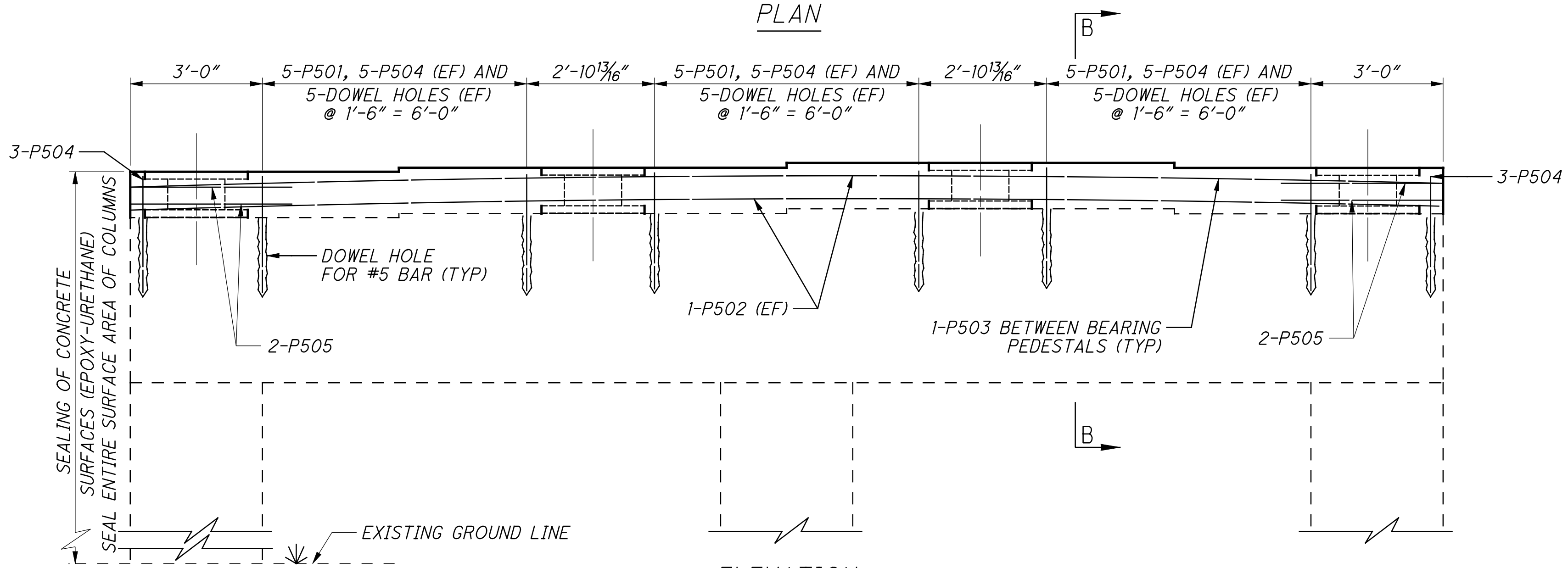
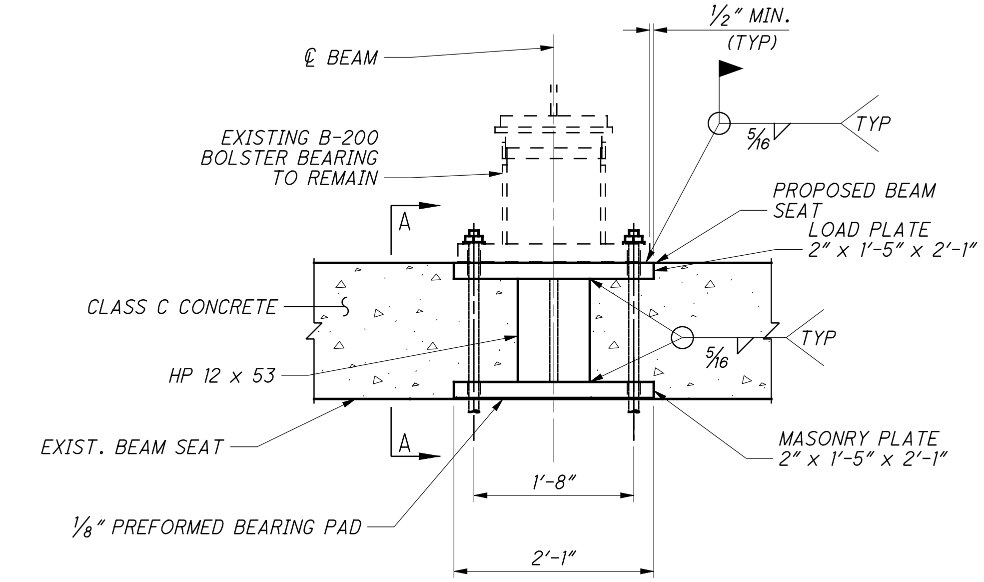


PLAN

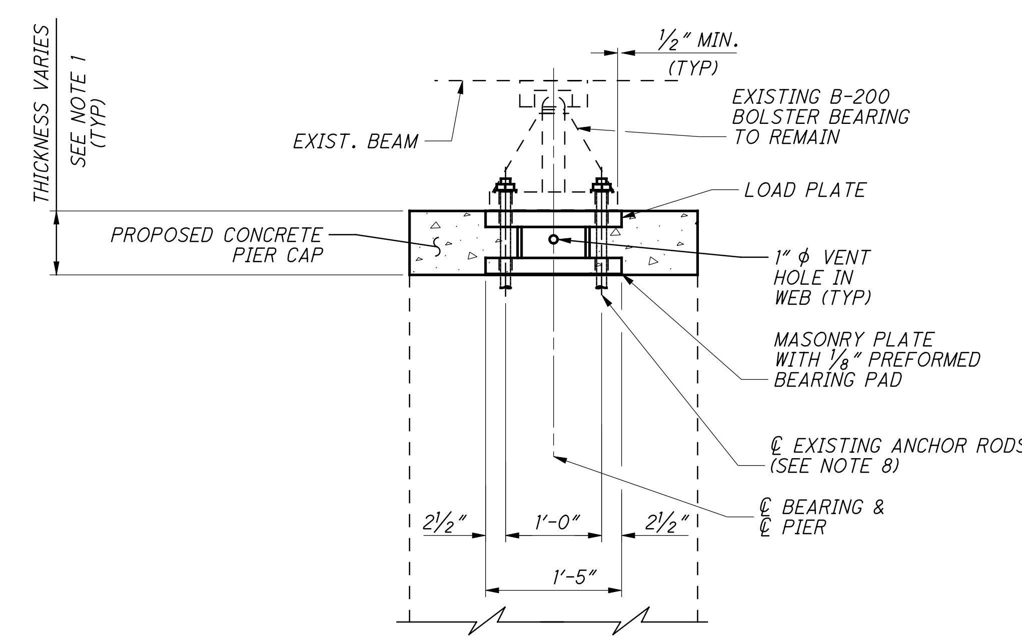


ELEVATION



BEARING MODIFICATIONS AT PIER 2

(VIEW NOT TO SCALE)



SECTION A-A

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED PIER CAP AND HP SECTIONS SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 8" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS, ANCHOR RODS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, BEARING DEVICE BOLSTER, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

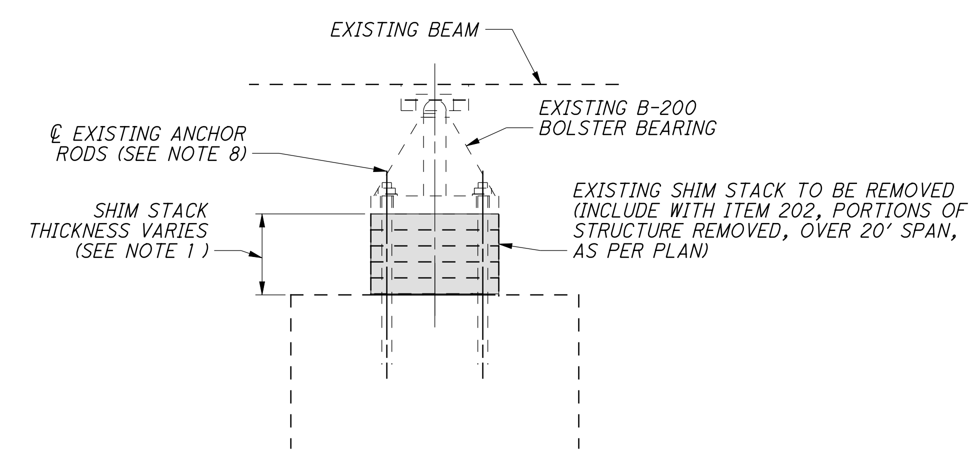
4.) LAP SPLICE LENGTH: #5 BARS = 26 INCHES.

5.) HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

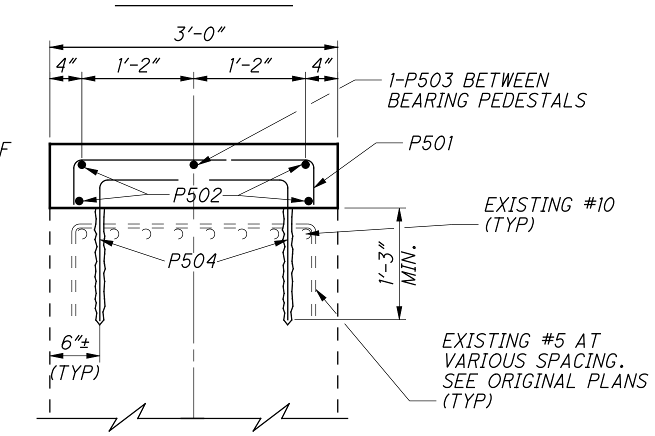
6.) THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

7.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).

8.) EXISTING ANCHOR RODS ARE TO REMAIN AND BE USED TO ANCHOR NEW BEARING AND PEDESTAL ASSEMBLY. IF NECESSARY, THE CONTRACTOR MAY CUT EXISTING ANCHOR RODS TO FACILITATE CONSTRUCTION. NEW ANCHOR RODS CAN THEN BE WELDED TO THE EXISTING ANCHOR RODS TO COMPLETE THE ASSEMBLY.



EXISTING BEARING CONFIGURATION



SECTION B-B

DESIGN AGENCY
Palmer ENGINEERING
1550 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401777	

PIER MODIFICATION DETAILS FOR PIER 2

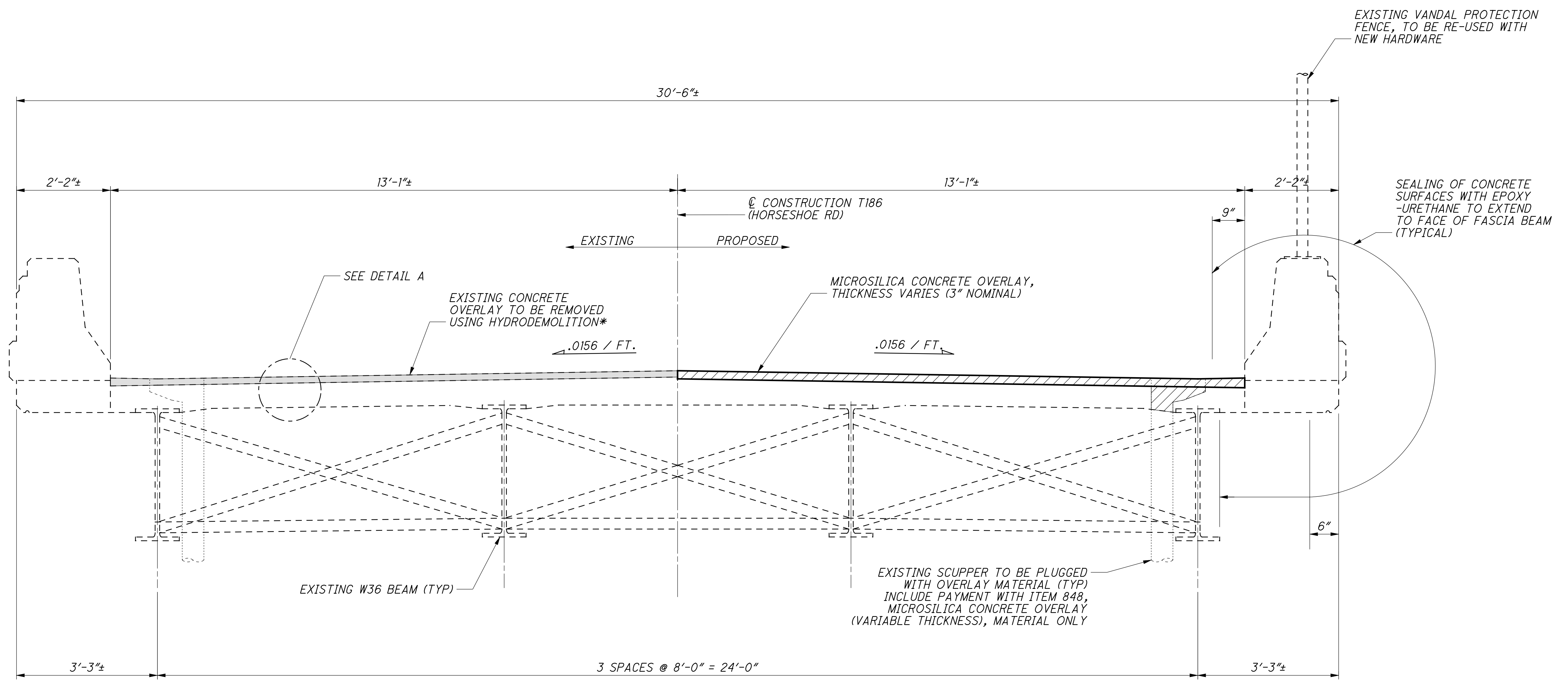
BRIDGE NO. CLI-71-1187

T186 (HORSESHOE RD) OVER I71

CLI/GRE-71-7.26/0.00

PID No. 75745

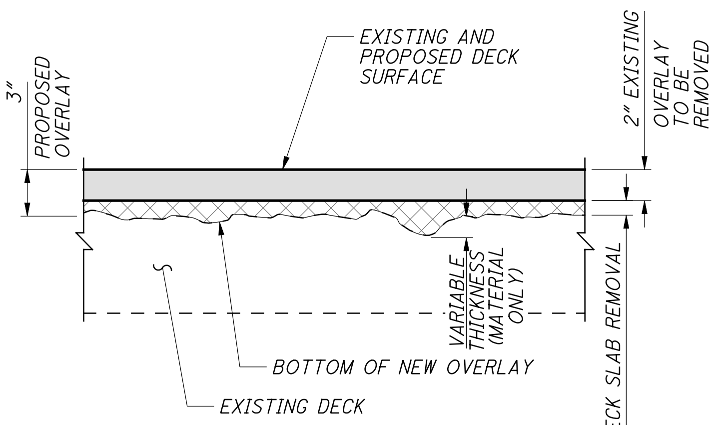
6 / 9



TRANSVERSE SECTION

* DEPTH OF HYDRODEMOLITION WILL BE 2½", INCLUDING 2" OF EXISTING OVERLAY AND ½" OF EXISTING CONCRETE DECK.

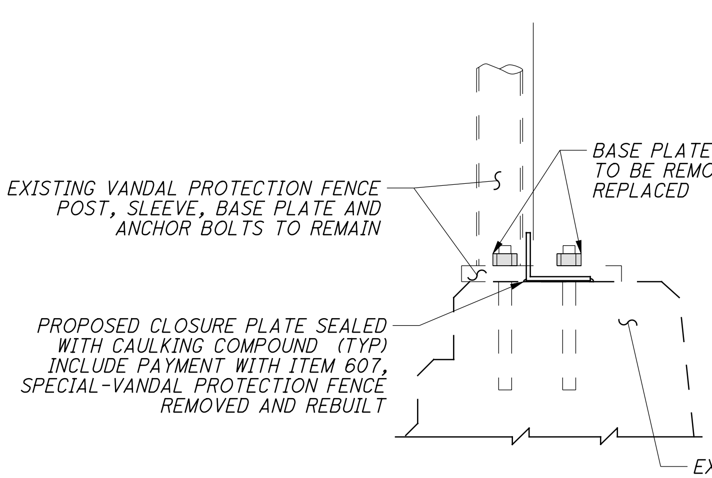
REMOVAL OF EXISTING RIGID CONCRETE OVERLAY, REFER TO SUPPLEMENTAL SPECIFICATION 848.



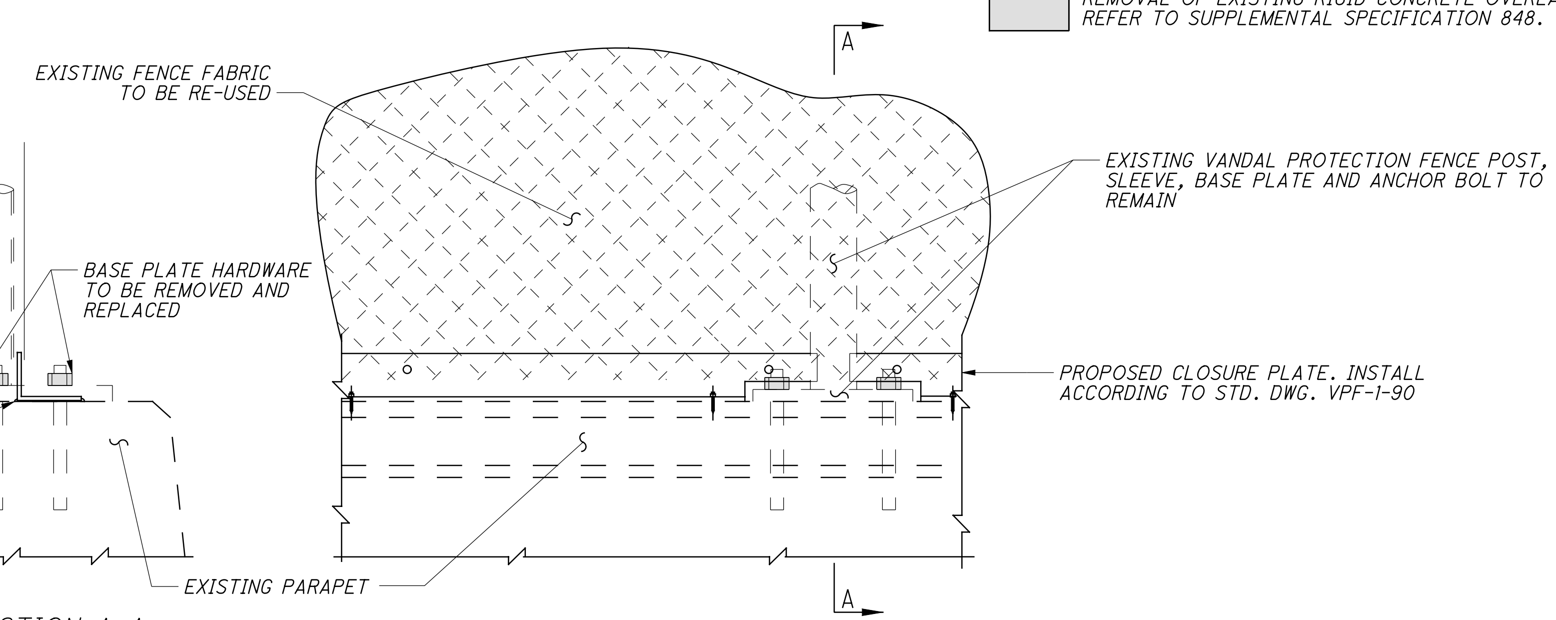
DETAIL A

EXISTING OVERLAY TO BE REMOVED USING HYDRODEMOLITION

PORTION OF EXISTING DECK AND VARIABLE THICKNESS TO BE REMOVED USING HYDRODEMOLITION



SECTION A-A



CLOSURE PLATE INSTALLATION DETAIL

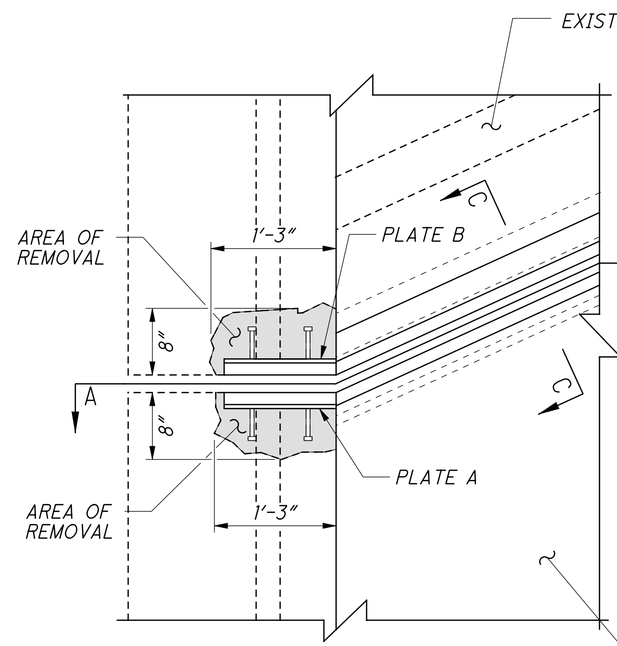
SEE STANDARD DRAWING VPF-1-90 FOR ADDITIONAL DETAILS

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401777	

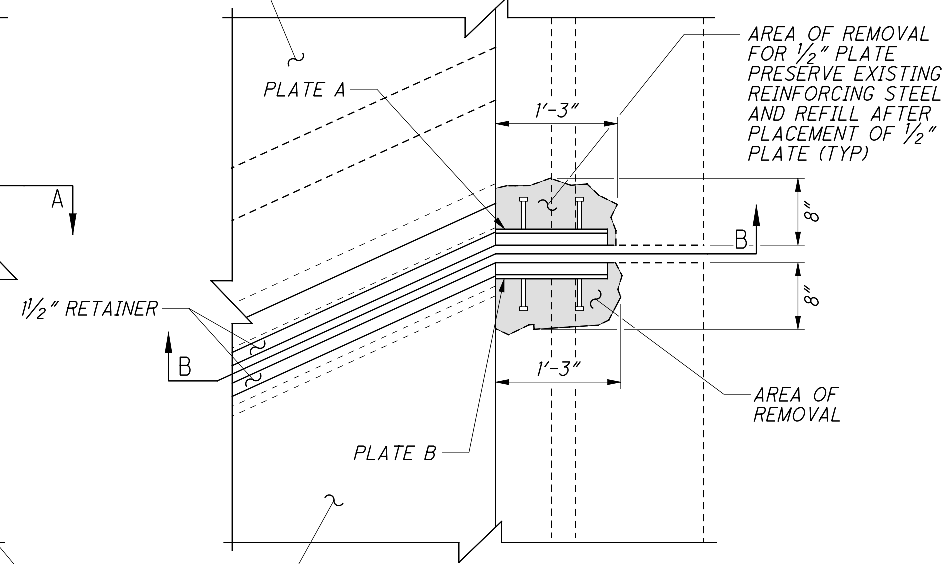
TRANSVERSE SECTION
BRIDGE NO. CLI-71-1187
T186 (HORSESHOE ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745



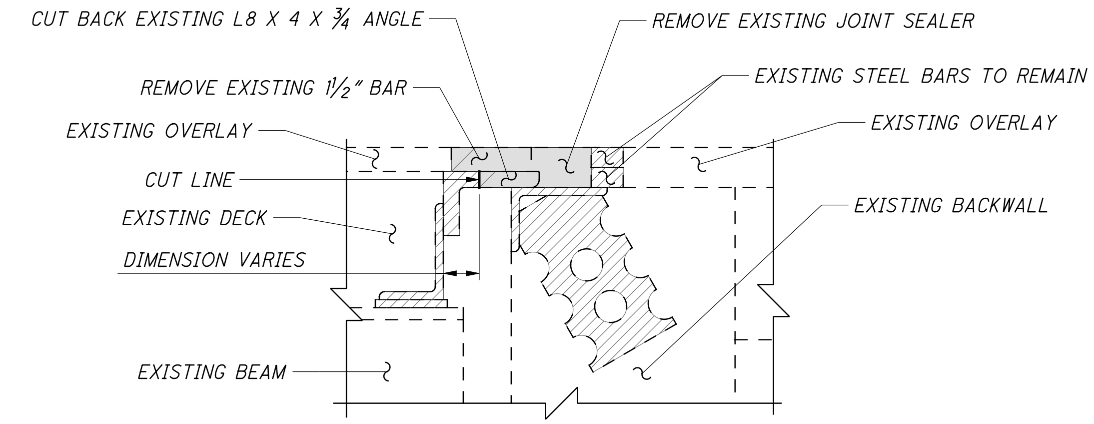
EXPANSION JOINT PLAN

(LEFT FORWARD ABUTMENT SHOWN RIGHT REAR ABUTMENT SIMILAR)



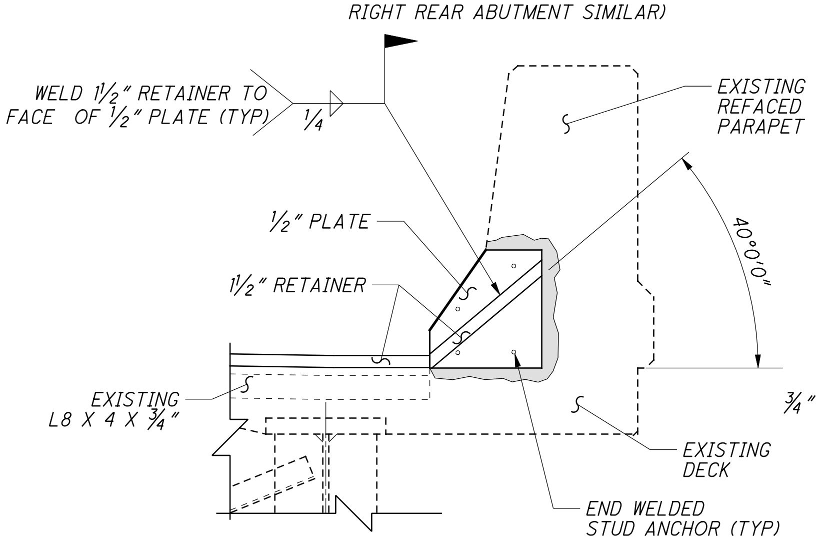
EXPANSION JOINT PLAN

(RIGHT FORWARD ABUTMENT SHOWN LEFT REAR ABUTMENT SIMILAR)

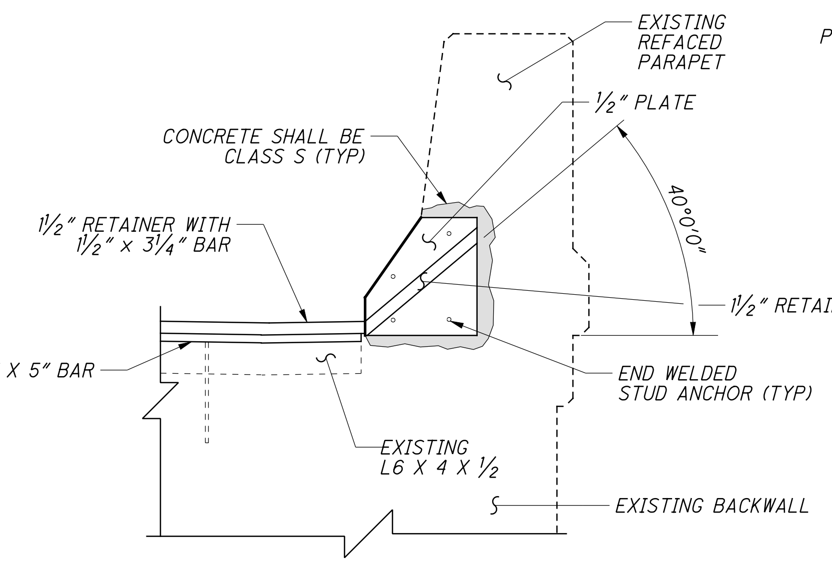


TYPICAL EXPANSION JOINT REMOVAL DETAIL

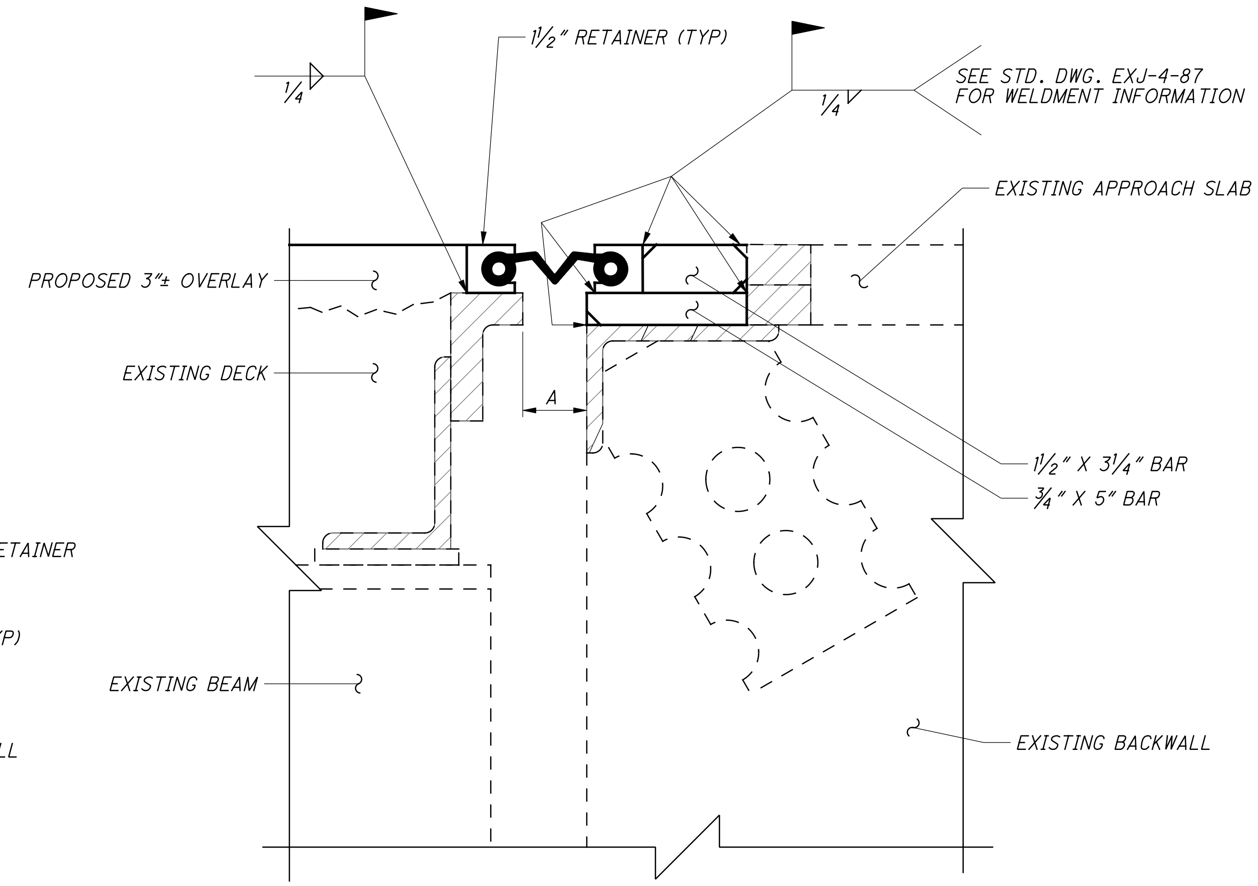
SEE NOTES THIS SHEET



VIEW A-A



VIEW B-B



SECTION C-C

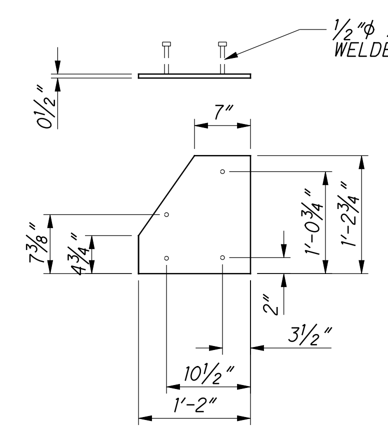


PLATE A

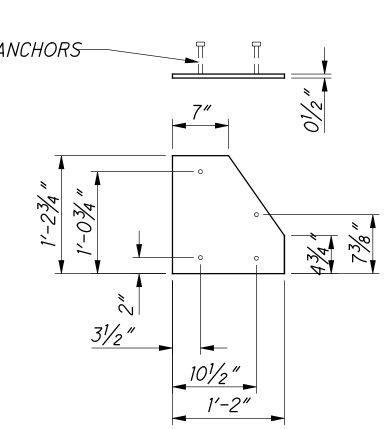


PLATE B

NOTES

1.) INCLUDE EXISTING JOINT REMOVALS WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

2.) NEW STEEL BARS SHALL BE ASTM A709 GRADE 50 AND SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

3.) CLASS S CONCRETE IS INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

4.) COSTS ASSOCIATED WITH CONNECTING RETAINERS AT THE CROWN, INCLUDING COMPLETE PENETRATION WELDS AND GRINDING SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

5.) SEE STD. DWG. EXJ-4-87 FOR ADDITIONAL NOTES.

6.) SEE SHEET 2/9 FOR GENERAL NOTES.

DIMENSION "A"
2⅜" @ 30°
2¼" @ 40°
2¼" @ 50°
2⅛" @ 60°
2" @ 70°
1⅞" @ 80°
1¾" @ 90°

PORTIONS OF STRUCTURE TO BE REMOVED*

*PAYMENT FOR REMOVAL AND PATCHING OF CONCRETE INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

EXISTING EXPANSION JOINT STEEL TO REMAIN

DESIGN AGENCY
Palmer ENGINEERING
1550 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED JRP | DRAWN SDW | REVIEWED BJF | DATE 1/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 1401777

EXPANSION JOINT MODIFICATION DETAILS

BRIDGE NO. CLI-71-1187

T186 (HORSESHOE RD.) OVER I71

CLI/GRE-71-7.26/0.00

PID No. 75745

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL		(LBS.)		A	B	C	D	E	R	INC.
PIERS													
P501			45	3′ - 3 ″	153	2	6″	2′ - 6″	6″				
P502			12	26′ - 10 ″	336	STR							
P503			9	6′ - 0 ″	56	STR							
P504			108	2′ - 6 ″	282	1	10″	1′ - 9″					
P505			12	8′ - 0 ″	100	24	2′ - 4″	2′ - 2″					
SUBTOTAL					927								
ABUTMENTS													
A601	48	48	96	2′ - 7 ″	372	1	1′ - 0″	1′ - 9″					
A602	3	3	6	30′ - 10 ″	278	STR							
SUBTOTAL					650								
TOTAL REINFORCING STEEL					1577								

NOTES

1) THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. 'R' INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

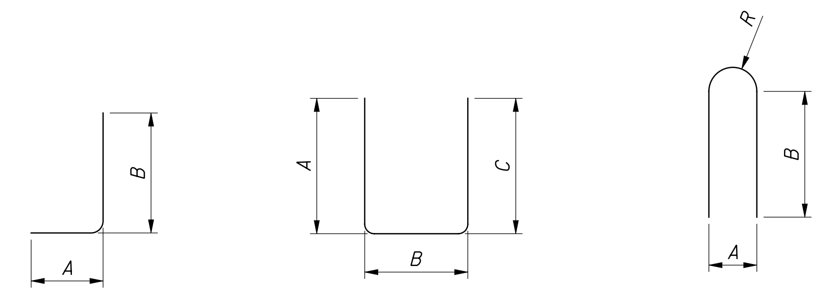
2) ALL REINFORCING STEEL SHALL BE EPOXY COATED. PAYMENT FOR REINFORCING BARS SHALL BE INCLUDED WITH ITEM 509.

3) 'STR' IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4) HOOKS AND BENDS SHOWN ON THE BENDING DIAGRAMS THAT ARE NOT DIMENSIONED SHALL BE AS SPECIFIED IN THE C.M.S. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

5) ALL REINFORCING STEEL CLEARANCES ARE 2″ UNLESS OTHERWISE NOTED.

6) FOR GENERAL NOTES, SEE SHEET 2 / 9 .



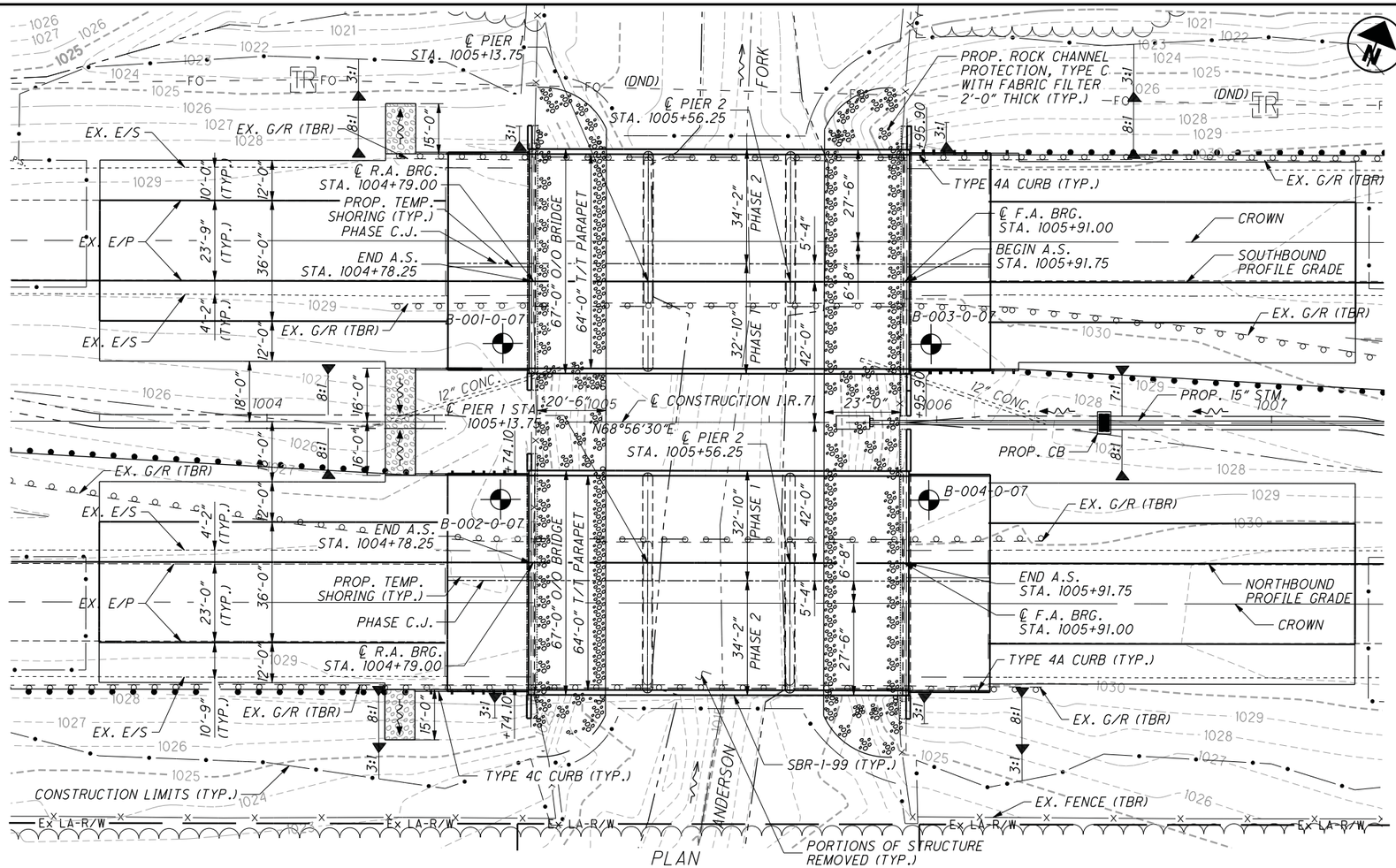
TYPE-1 TYPE-2 TYPE-24

DESIGN AGENCY
Palmer ENGINEERING
1530 CORNELL PARK DR
CINCINNATI, OH 45242

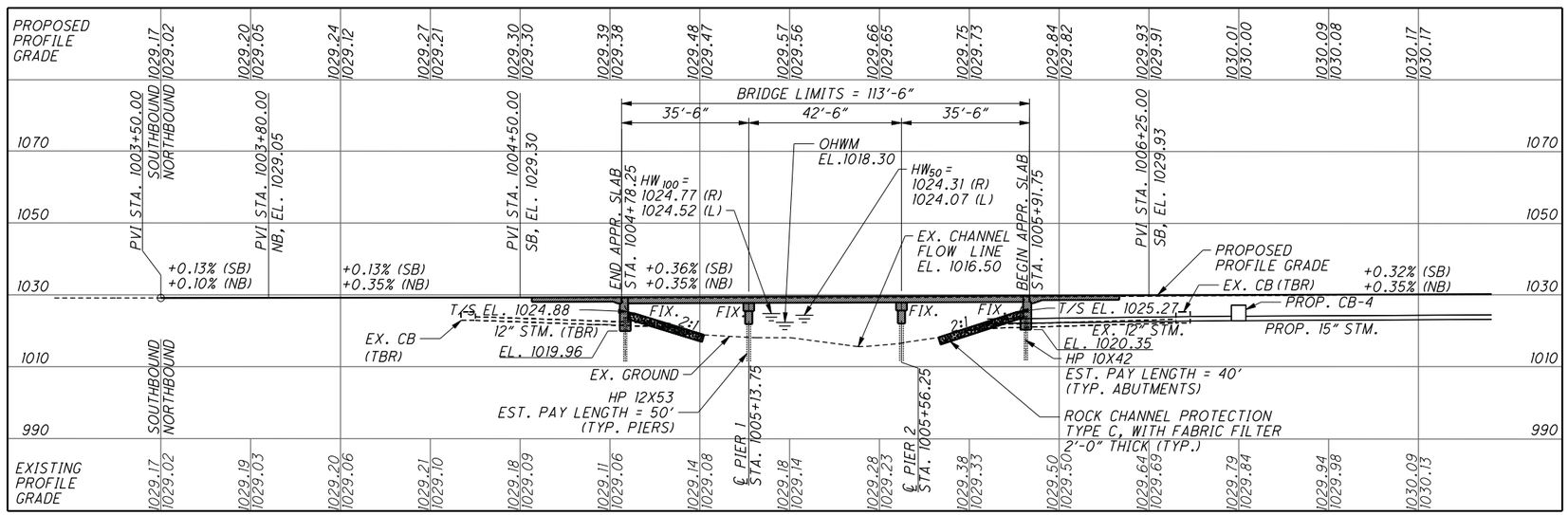
DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401777	

REINFORCING STEEL LIST
BRIDGE NO. CLI-71-1187
T186 (HORSESHOE RD.) OVER I71

CLI/GRE-71-7.26/0.00
PID No. 75745



PLAN



PROFILE ALONG NB & SB PROFILE GRADE LINES

BENCHMARK DATA

BM1 STA. 1000+97.34,	EL. 1026.12 ,	OFFSET 20.94 , RT.
BM2 STA. 1008+73.66,	EL. 1030.41 ,	OFFSET 1.76 , RT.
BM3 STA. 1100+61.22 ,	EL. 1038.81 ,	OFFSET 2.70 , LT.
BM4 STA. 1106+66.15 ,	EL. 1039.90 ,	OFFSET 0.65 , RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET (4/218)

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:

2012 ADT = 43,850 2012 ADTT = 16,225

2024 ADT = 54,260 2024 ADTT = 20,076

DIRECTIONAL DISTRIBUTION = 52%

LEGEND

⌖ BORING LOCATION

PROPOSED WORK

1. REMOVE AND REPLACE EXISTING REINFORCED CONCRETE DECK SLAB
2. REPLACE THE PIER CAPS.
3. REPLACE THE ABUTMENT BREASTWALL TO THE PILE CAP FOUNDATION.
4. REMOVE THE EXISTING ABUTMENT BREASTWALL AND WINGWALLS.
5. CONSTRUCT NEW ABUTMENT BREASTWALL AND WINGWALLS FOR THE WIDENED BRIDGE.
6. REMOVE AND REPLACE THE EXISTING APPROACH SLABS.
7. SEAL THE CONCRETE SURFACES ON THE BRIDGE DECK, ABUTMENTS AND PIERS.

HYDRAULIC DATA

DRAINAGE AREA = 34 SQ. MILES

EXISTING RIGHT BRIDGE

Q_{50} = 2260.0 CFS V_{50} = 4.60 FT/S $EL._{50}$ = 1024.30

Q_{100} = 2560.0 CFS V_{100} = 4.79 FT/S $EL._{100}$ = 1024.77

STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 3.28 FEET.

EXISTING LEFT BRIDGE

Q_{50} = 2260.0 CFS V_{50} = 5.14 FT/S $EL._{50}$ = 1024.06

Q_{100} = 2560.0 CFS V_{100} = 5.39 FT/S $EL._{100}$ = 1024.51

STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 3.52 FEET.

PROPOSED RIGHT BRIDGE

Q_{50} = 2260.0 CFS V_{50} = 4.79 FT/S $EL._{50}$ = 1024.31

Q_{100} = 2560.0 CFS V_{100} = 4.98 FT/S $EL._{100}$ = 1024.77

STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 3.27 FEET.

PROPOSED LEFT BRIDGE

Q_{50} = 2260.0 CFS V_{50} = 5.14 FT/S $EL._{50}$ = 1024.07

Q_{100} = 2560.0 CFS V_{100} = 5.39 FT/S $EL._{100}$ = 1024.52

STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 3.51 FEET.

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH CAPPED PILE SUBSTRUCTURE

SPANS: 34'-0", 42'-6", 34'-0" (C/C BRGS.)

ROADWAY: 44'-0" F/F PARAPET

LOADING: CF 2000(57) ADEQUATE FOR AASHTO ALTERNATE LOADING

SKEW: NONE

APPROACH SLABS: AS-1-54 (25' LONG)

WEARING SURFACE: 1" MONOLITHIC CONCRETE

ALIGNMENT: TANGENT

CROWN: 0.016

STRUCTURAL FILE NUMBER: 1401807, 1401831

DATE BUILT: 1964

PROPOSED STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH CAPPED PILE SUBSTRUCTURE

SPANS: 34'-9", 42'-6", 34'-9" (C/C BRGS.)

ROADWAY: 64'-0" TOE/TOE PARAPET

LOADING: HS25 AND ALTERNATE MILITARY

SKEW: NONE

APPROACH SLABS: 25'-0" LONG (AS-1-81)

WEARING SURFACE: 1" MONOLITHIC CONCRETE

ALIGNMENT: TANGENT

CROWN: 0.016

COORDINATES: LATITUDE 39° 32' 32" LONGITUDE 83° 46' 54"

STRUCTURAL FILE NUMBER: 1401807, 1401831

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
JGM	DB/JGM	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA		1401807/1401831	

CLINTON COUNTY
STA. 1004+78.25
STA. 1005+91.75

SITE PLAN
BRIDGE NO. CLI-71-1212L/R
OVER ANDERSON FORK

CLI/GRE-71-7.26
8.00
PID No.75745

1 / 16

124
218

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81	REVISED	07-19-02
CPA-1-08	DATED	07-18-08
CPP-2-94	REVISED	07-19-02
CS-1-03	DATED	04-18-03
PCB-91	REVISED	07-19-02
SBR-1-99	REVISED	07-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

898 DATED 7-17-09

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS25 AND THE ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE OF 60 PSF

DESIGN STRESSES:

CONCRETE CLASS OSC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS OSC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60
MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL

2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES & HEADACHE BALLS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. FOR CONCRETE THAT IS TO BE REMOVED WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED, THE CHIPPING HAMMER SHALL NOT EXCEED A 35-POUND CLASS. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.5.

SUBSTRUCTURE CONCRETE REMOVAL:

REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVALOF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 85 TONS PER PILE FOR THE ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 84 TONS PER PILE FOR THE PIER PILES.

ABUTMENT PILES: HP10X42

18 PILES 45 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

PIER PILES: HP12X53

24 PILES 55 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

ITEM SPECIAL - PILE ENCASEMENT:

ENCASE ALL STEEL H-PILES FOR THE CAPPED PILE PIERS IN CLASS C CONCRETE. PROVIDE A CONCRETE SLUMP BETWEEN 6 TO 8 INCHES WITH THE USE OF A SUPERPLASTICIZER. PLACE THE CONCRETE WITHIN A FORM THAT CONSISTS OF A POLYETHYLENE PIPE (707.33), OR PVC PIPE (707.42). THE ENCASEMENT SHALL EXTEND AS SHOWN IN THE PLANS. POSITION PIPE SO THAT AT LEAST 3 INCHES OF CONCRETE COVER IS PROVIDED AROUND THE EXTERIOR OF THE PILE.

THE DEPARTMENT WILL MEASURE PILE ENCASEMENT BY THE NUMBER OF FEET. THE DEPARTMENT WILL DETERMINE THE SUM AS THE LENGTH MEASURED ALONG THE AXIS OF EACH PILE FROM THE BOTTOM OF THE ENCASEMENT TO THE BOTTOM OF THE PIER CAP. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM SPECIAL - PILE ENCASEMENT.

UTILITY LINES:

THE UTILIT(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS AND THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 898 - OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (APPROACH SLAB), (T = 15") AS PER PLAN:

FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, OC/OA CONCRETE, CLASS OSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM 898 - OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK), AS PER PLAN:

THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

MECHANICAL CONNECTORS:

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES.

CONNECTORS AND DOWEL BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY MAY BE REPLACED BY MATERIAL WHICH MEET THE SPECIFICATIONS.

CONNECTORS AND DOWEL BAR EXTRUSIONS SHALL CONFORM WITH ITEM 509 AND SHALL BE INCLUDED IN THE BID PRICE FOR: ITEM 509 - EPOXY COATED REINFORCING STEEL.

ITEM 516, INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1 ¼" X #10 GAGE (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMGE EITHER THE NEOPRENE OF THE CONCRETE, WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY-DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094 ± 0.01
BREAKING STRENGTH, GRAB, MINIMUM (LONG.X TRANS.)	D751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212°F, 180°BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, 40°F BEND AROUND 1/4" MANDREL	D2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

ABBREVIATIONS:

A.S. - APPROACH SLAB
AVG. - AVERAGE
BET. - BETWEEN
BRGS. - BEARINGS
B.T.A. - BRIDGE TERMINALASSEMBLY
CB - CATCH BASIN
C.J. - CONSTRUCTION JOINT
DIA. - DIAMETER
DND - DO NOT DISTURB
DWG. - DRAWING
EB - EASTBOUND
E.F. - EACH FACE
E/P - EDGE OF PAVEMENT
EQ. - EQUAL
E/S - EDGE OF SHOULDER
EX. - EXISTING
F.A. - FORWARD ABUTMENT
F/F - FACE TO FACE
F.F. - FAR FACE
G/R - GUARDRAIL
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
INCR. - INCREMENT
(L) - LEFT
MSC - MICROSILICA CONCRETE
MIN. - MINIMUM
M.O.T. - MAINTENANCE OF TRAFFIC
N.F. - NEAR FACE
NE - NORTHEAST
NB - NORTHBOUND
NO. - NUMBER
NPCPP - NON-PERFORATED CORRUGATED PLASTIC PIPE
NW - NORTHWEST
O/O - OUT TO OUT
P1 - PIER 1
P2 - PIER 2
PCB - PORTABLE CONCRETE BARRIER
PCPP - PERFORATED CORRUGATED PLASTIC PIPE
PEJF - PREFORMED EXPANSION JOINT FILLER
PROP. - PROPOSED
PVMT. - PAVEMENT
R.A. - REAR ABUTMENT
REQ'D - REQUIRED
(R) - RIGHT
SB - SOUTHBOUND
SHT. - SHEET
SPA. - SPACE
STD. - STANDARD
SUPER. - SUPERSTRUCTURE
TBR - TO BE REMOVED
TEMP. - TEMPORARY
T/T - TOE TO TOE
TYP. - TYPICAL
U.N.O - UNLESS NOTED OTHERWISE
V.C. - VERTICAL CLEARANCE
W/ - WITH
WB - WESTBOUND

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

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JGM	JGM	JEP	1/2010
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EA		1401807/1401831	

GENERAL NOTES
BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

CLI/GRE-71-7.26 /0.00
PID No. 75745

ESTIMATED QUANTITIES

COMPUTED BY: JGM DATE: 7/2009

CHECKED BY: EA DATE: 9/2009

ITEM	EXT.	LEFT BRIDGE	RIGHT BRIDGE	TOTAL	UNIT	DESCRIPTION	LEFT BRIDGE				RIGHT BRIDGE				SHEET NO.
							ABUT.	SUPER.	PIER	GENERAL	ABUT.	SUPER.	PIER	GENERAL	
202	11203	LUMP	LUMP	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	LUMP	LUMP	LUMP		LUMP	LUMP	LUMP		2
202	22900	245	245	489	SQ YD	APPROACH SLAB REMOVED		245				245			
503	11100	LUMP	LUMP	LUMP		COFFERDAMS AND EXCAVATION BRACING	LUMP				LUMP				
503	21300	LUMP	LUMP	LUMP		UNCLASSIFIED EXCAVATION	LUMP				LUMP				
505	11100	LUMP	LUMP	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION	LUMP		LUMP		LUMP		LUMP		
507	00100	405	405	810	FT	STEEL PILES HP 10 X 42, FURNISHED	405				405				
507	00150	360	360	720	FT	STEEL PILES HP 10 X 42, DRIVEN	360				360				
507	00200	660	660	1,320	FT	STEEL PILES HP 12 X 53, FURNISHED		660				660			
507	00250	600	600	1,200	FT	STEEL PILES HP 12 X 53, DRIVEN		600				600			
SPECIAL	507E71200	110	110	220	FT	PILE ENCASEMENT		110				110			
509	10000	129252	129252	258,504	POUND	EPOXY COATED REINFORCING STEEL	11433	114063	3756		11433	114063	3756		
512	10100	439	439	878	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	53	348	39		53	348	39		
512	10300	26	26	52	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN		26				26			
512	33300	36	36	72	SQ YD	TYPE A WATERPROOFING	36				36				
512	44400	5	5	10	SQ YD	TYPE B WATERPROOFING	5				5				
516	10000	132	132	264	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL	132				132				
516	13200	415	415	830	SQ FT	1/2" PREFORMED ELASTOMERIC JOINT FILLER	415				415				
516	13600	408	408	816	SQ FT	1" PREFORMED ELASTOMERIC JOINT FILLER	408				408				
516	14014	155	155	310	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL	155				155				
516	25000	497	497	994	SQ FT	NYLON REINFORCED NEOPRENE SHEETING	497				497				
518	21200	98	98	196	CU YD	POROUS BACKFILL WITH FILTER FABRIC	98				98				
518	40000	165	165	330	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	165				165				
518	40010	90	90	180	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	90				90				
601	32204	252	252	504	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER				252				252	
898	10201	512	512	1024	CU YD	OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK), AS PER PLAN		512				512			2
898	10705	373	373	746	SQ YD	OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=15"), AS PER PLAN		373				373			2
898	11000	36	36	72	CU YD	OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (PARAPET)		36				36			
898	20100	42	42	84	CU YD	OC/OA CONCRETE, CLASS OSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)			42				42		
898	20160	99	99	198	CU YD	OC/OA CONCRETE, CLASS OSC1, SUBSTRUCTURE (ABUTMENT INCLUDING FOOTING)	99				99				

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BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

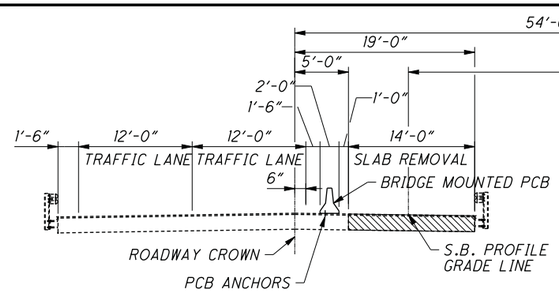
DESIGNED JGM | DRAWN JGM | REVIEWED JEP | DATE 1/2010

CHECKED EA | REVISED | STRUCTURE FILE NUMBER 14018071401831

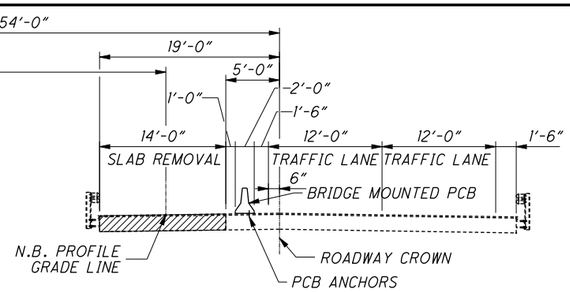
ESTIMATED QUANTITIES

BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

CLI/GRE-71-7.26
/0.00
PID No. 75745



PHASE I TRAFFIC AND PHASE I REMOVAL



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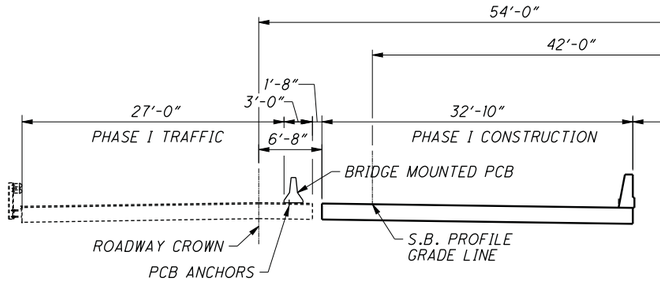

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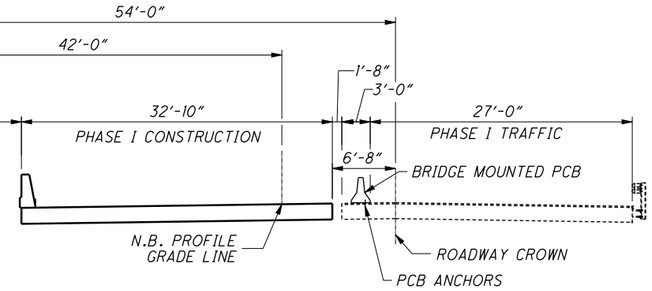
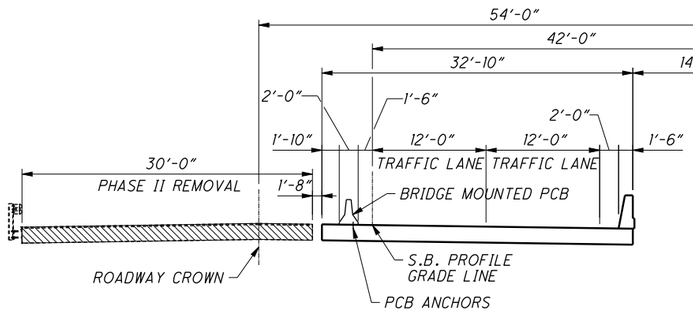
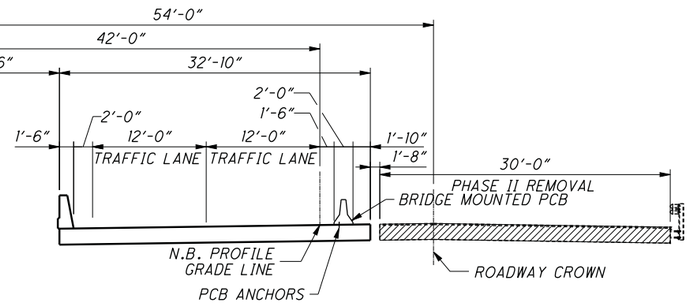


PHASE I TRAFFIC AND PHASE I CONSTRUCTION



PHASE II TRAFFIC AND PHASE II REMOVAL



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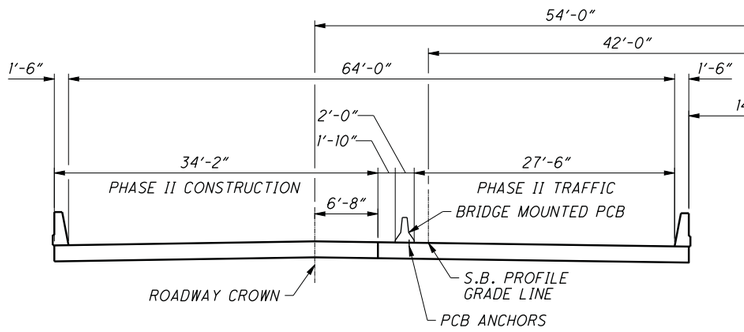
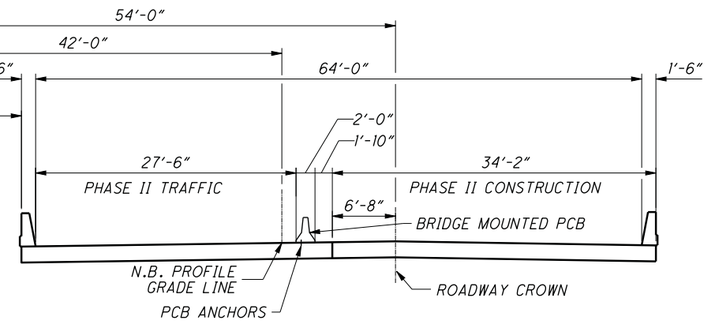


PHASE II TRAFFIC AND PHASE II AND PHASE III CONSTRUCTION



PHASE II TRAFFIC AND PHASE II AND PHASE III CONSTRUCTION

NOTES:

1. PORTABLE CONCRETE BARRIERS SHALL HAVE 3 ANCHORS PER SEGMENT.
2. PHASE 3 CONSTRUCTION CONSISTS OF MEDIAN RESTORATION.

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2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
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PHASE CONSTRUCTION DETAILS
BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

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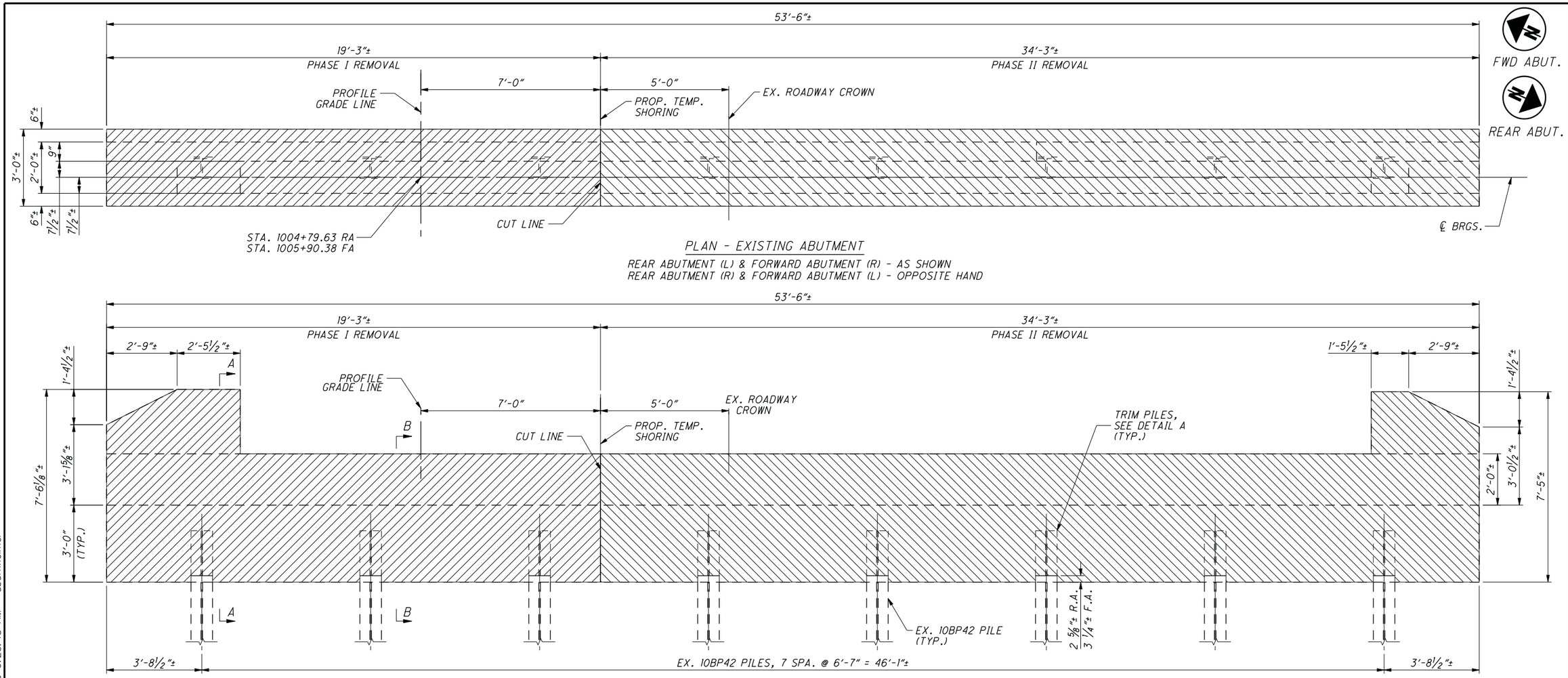
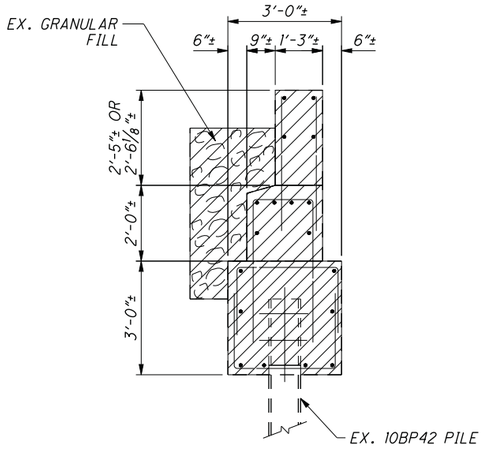


PLAN - EXISTING ABUTMENT

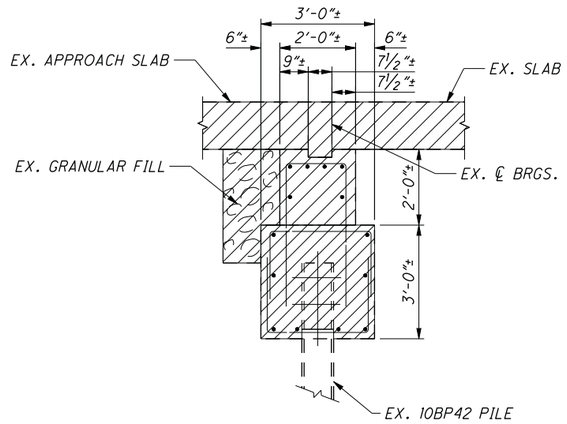
REAR ABUTMENT (L) & FORWARD ABUTMENT (R) - AS SHOWN
REAR ABUTMENT (R) & FORWARD ABUTMENT (L) - OPPOSITE HAND

ELEVATION - EXISTING ABUTMENT

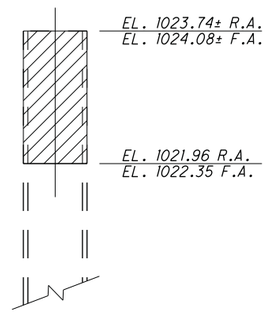
REAR ABUTMENT (L) & FORWARD ABUTMENT (R) - AS SHOWN
REAR ABUTMENT (R) & FORWARD ABUTMENT (L) - OPPOSITE HAND



SECTION A-A



SECTION B-B



DETAIL A

LEGEND

- PHASE I REMOVAL
- PHASE II REMOVAL

NOTES:

1. ALL EXISTING DIMENSIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO REMOVAL.
2. TRIMMING OF THE PILES SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN, FOR PAYMENT.

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2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
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EXISTING ABUTMENT REMOVAL
BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

CLI/GRE-71-7.26
/0.00
PID No. 75745

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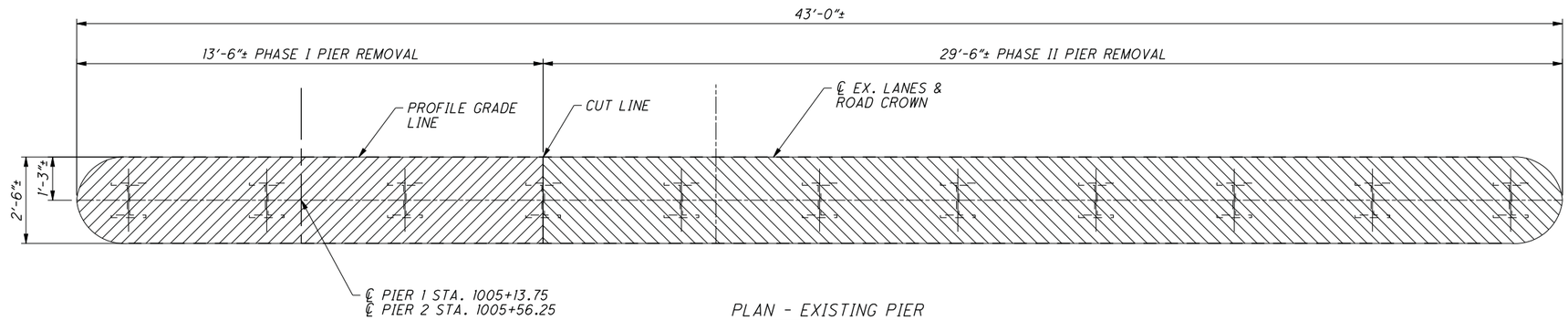
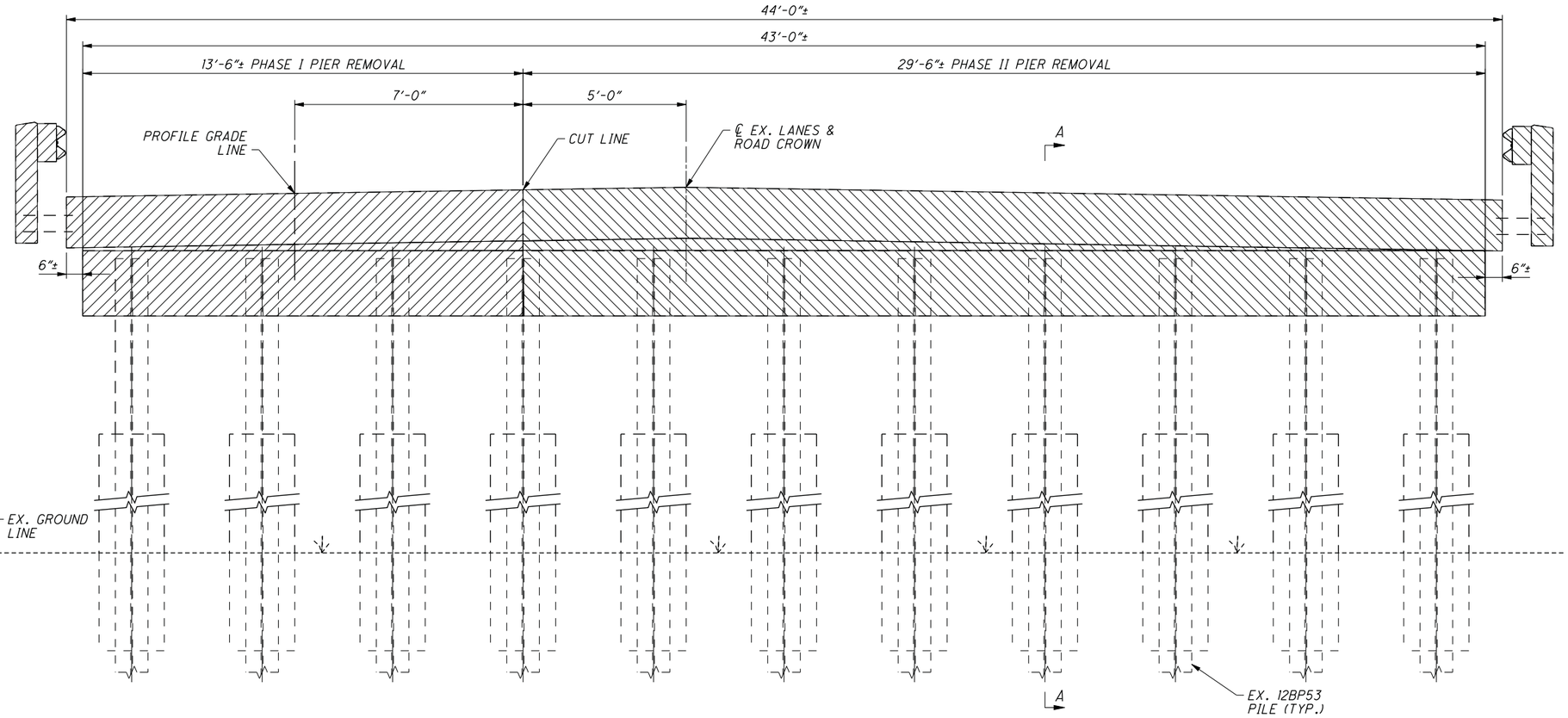


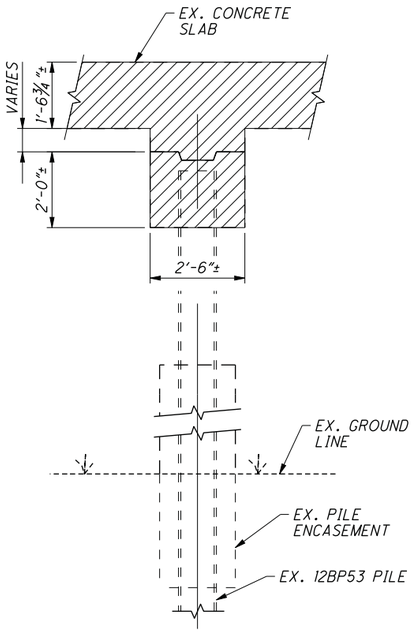
PLAN - EXISTING PIER

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)



ELEVATION - EXISTING PIER

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)



SECTION A-A

LEGEND

- PHASE I REMOVAL
- PHASE II REMOVAL

NOTE:
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COLUMBUS, OH 43231
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EXISTING PIER & DECK REMOVAL
BRIDGE NO. CLI-71-1212 L/R
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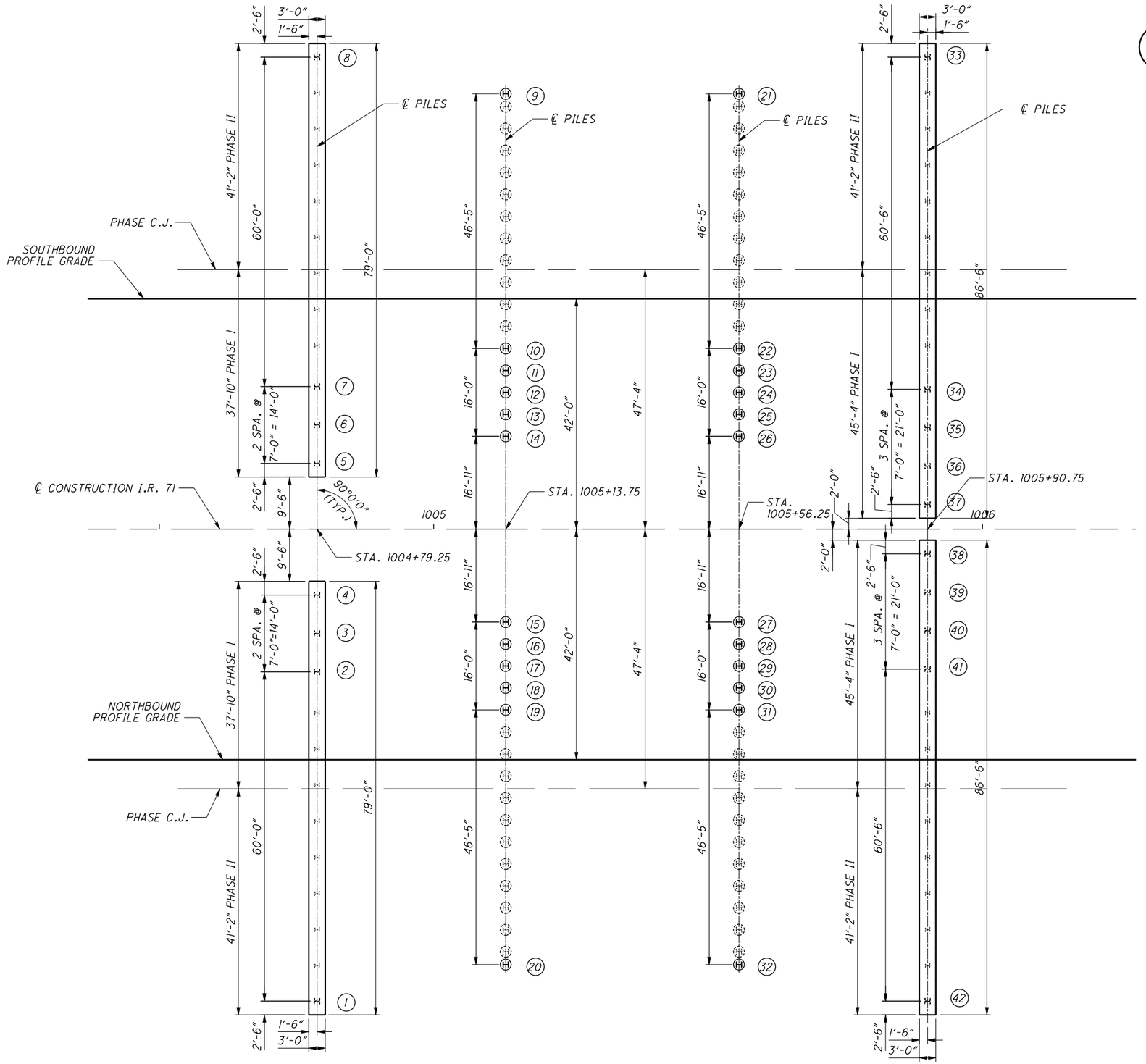

FOUNDATION LAYOUT PLAN

LEGEND:

(X) - PILE NUMBER

- EX. 10BP42 PILES

- EX. 12BP53 PILES

- PROP. HP10X42 PILES

Ⓗ - PROP. HP12X53 PILES

NOTES:

1. ESTIMATED PILE LENGTHS:
   REAR ABUTMENT: 40'
   FORWARD ABUTMENT: 40'
   PIERS: 50'

2. FOR ABBREVIATIONS, SEE SHEET 2/16.

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FOUNDATION LAYOUT PLAN
BRIDGE NO. CLI-71-1212 L/R
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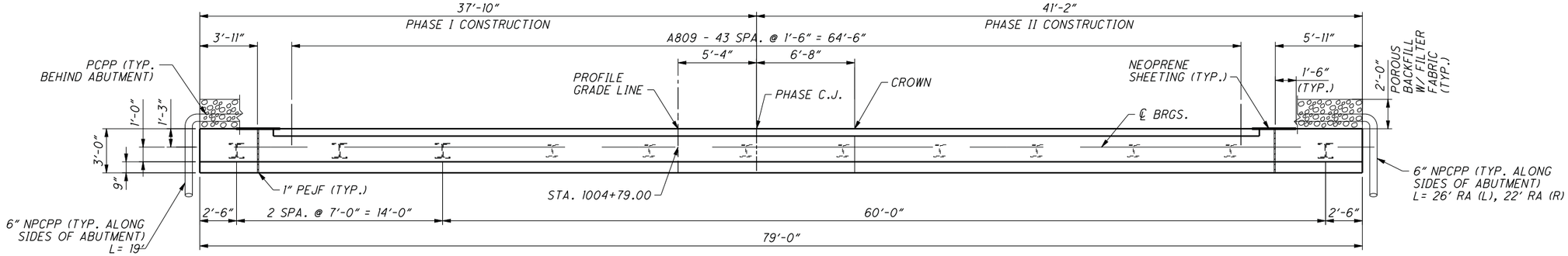
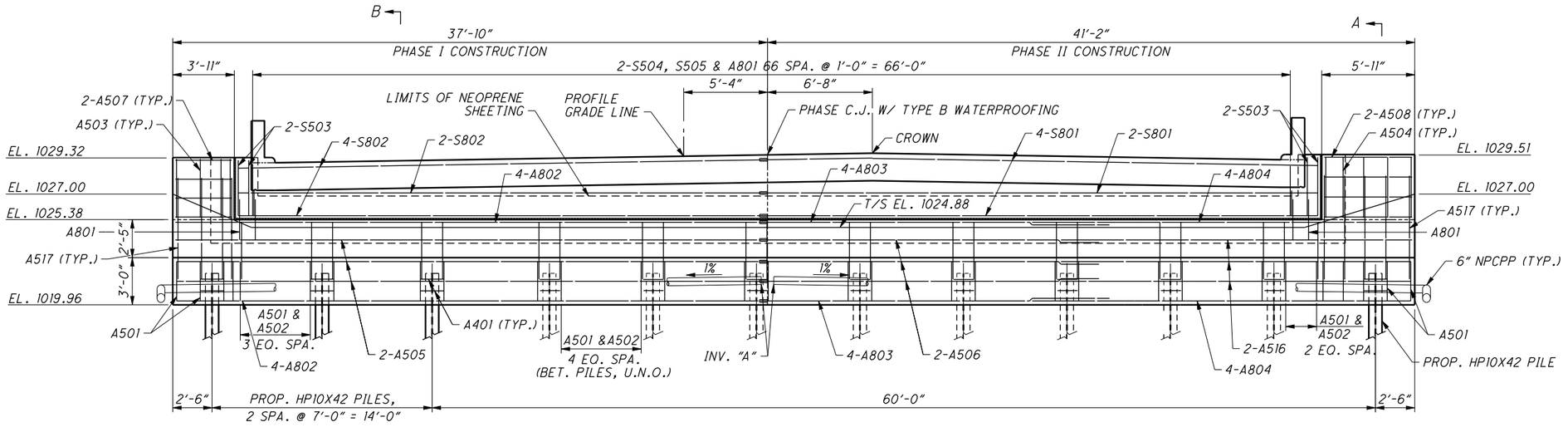
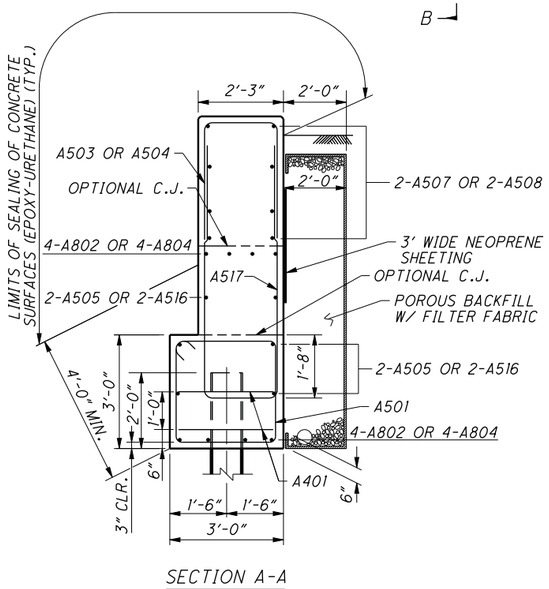


REAR ABUT.

PLAN - ABUTMENT

REAR ABUTMENT (L) - AS SHOWN
REAR ABUTMENT (R) - OPPOSITE HAND





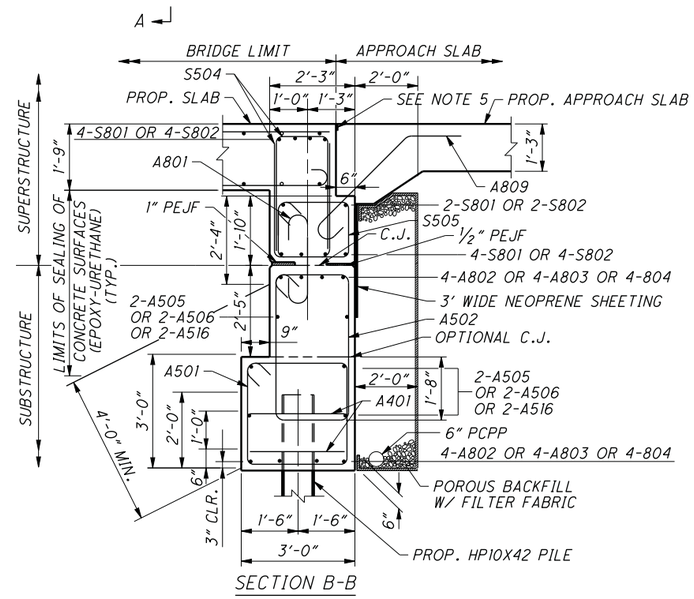
SECTION A-A

ELEVATION - ABUTMENT

REAR ABUTMENT (L) - AS SHOWN
REAR ABUTMENT (R) - OPPOSITE HAND

NOTES:

1. ALL EXISTING DIMENSIONS ARE APPROXIMATE.
2. SEE FOUNDATION PLAN SHEET 7/16 FOR PILE NUMBERS.
3. ESTIMATED AVG. PAY LENGTH FOR HP10x42 PILES = 40'
4. MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/16.
5. SEE DETAIL B ON STANDARD DRAWING AS-1-81.
6. LAP #5 BARS: 3'-7" MIN.
   LAP #8 BARS: 7'-3" MIN.
7. SEE SHEET 2/16 FOR ABBREVIATIONS.
8. "A" = 102.40
9. APPROACH SLAB CONCRETE SHALL NOT BE PLACED WITH THE DECK POUR



SECTION B-B

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
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REAR ABUTMENTS
BRIDGE NO. CLI-71-1212 L/R
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CLI/ GRE-71-7.26
/ 0.00
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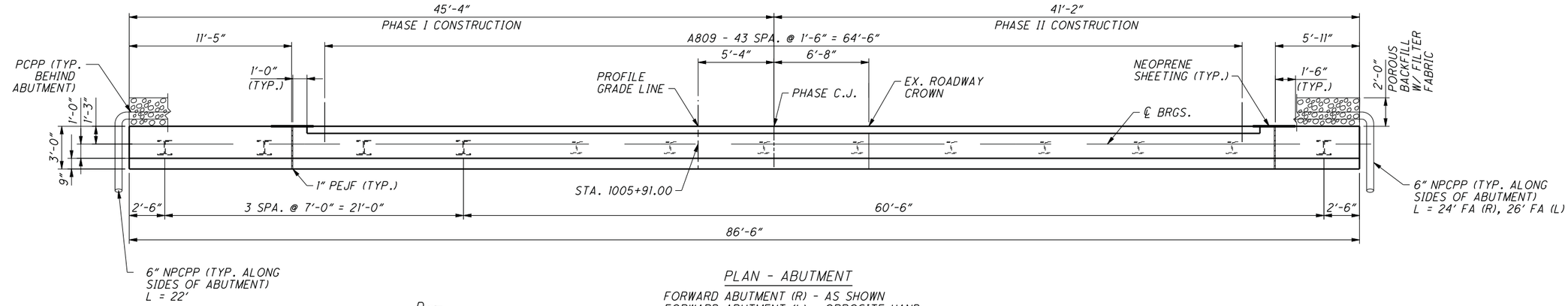
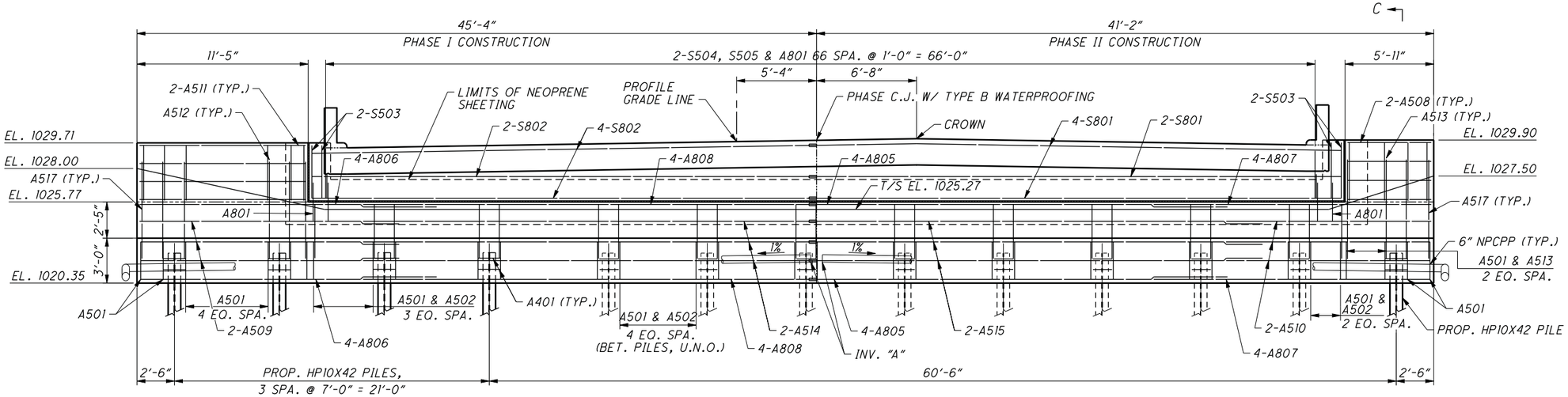
FWD ABUT.



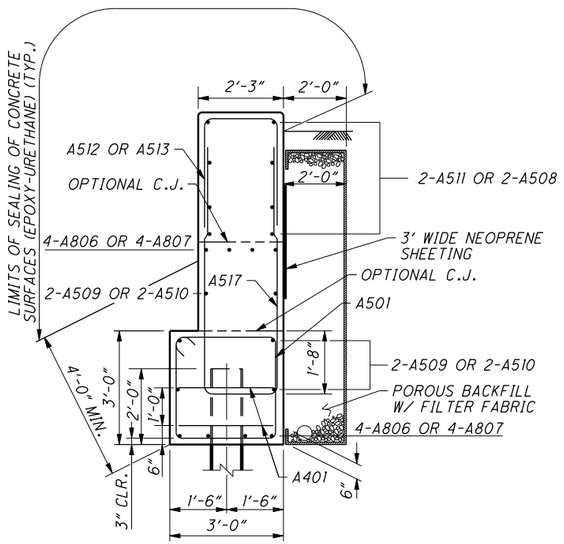
PLAN - ABUTMENT

FORWARD ABUTMENT (R) - AS SHOWN
FORWARD ABUTMENT (L) - OPPOSITE HAND



ELEVATION - ABUTMENT

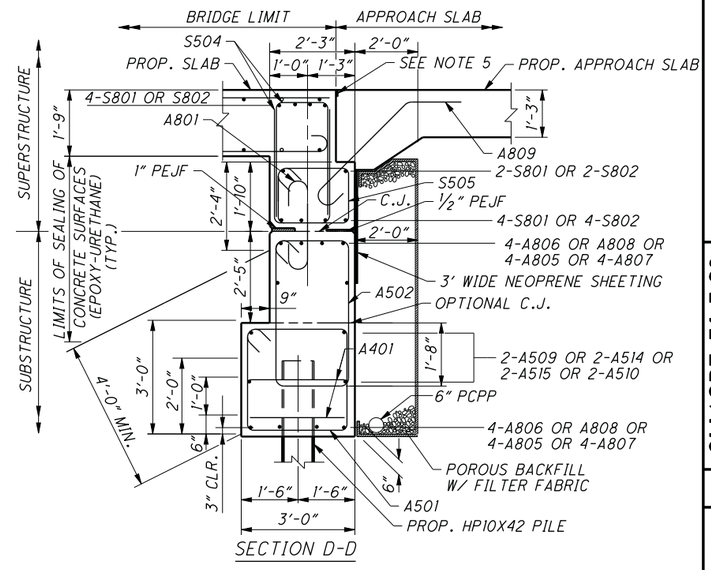
FORWARD ABUTMENT (R) - AS SHOWN
FORWARD ABUTMENT (L) - OPPOSITE HAND



SECTION C-C

NOTES:

1. ALL EXISTING DIMENSIONS ARE APPROXIMATE.
2. SEE FOUNDATION PLAN SHEET 7/16 FOR PILE NUMBERS.
3. ESTIMATED AVG. PAY LENGTH FOR HP10x42 PILES = 40'
4. MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/16.
5. SEE DETAIL B ON STANDARD DRAWING AS-1-81.
6. LAP #5 BARS: 3'-7" MIN.
   LAP #8 BARS: 7'-3" MIN.
7. SEE SHEET 2/16 FOR ABBREVIATIONS.
8. "A" = 1020.95
9. APPROACH SLAB CONCRETE SHALL NOT BE PLACED WITH THE DECK POUR



SECTION D-D

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
JGM	DB/JGM	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA		1401807 / 1401831	

FORWARD ABUTMENT
BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

CLI/ GRE-71-7.26
/0.00
PID No. 75745

9 / 16

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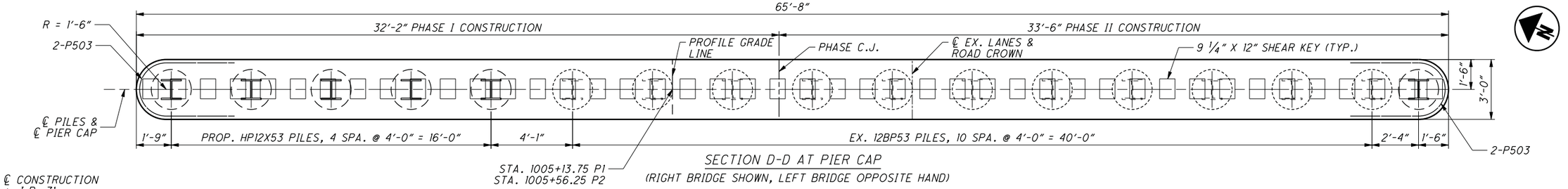
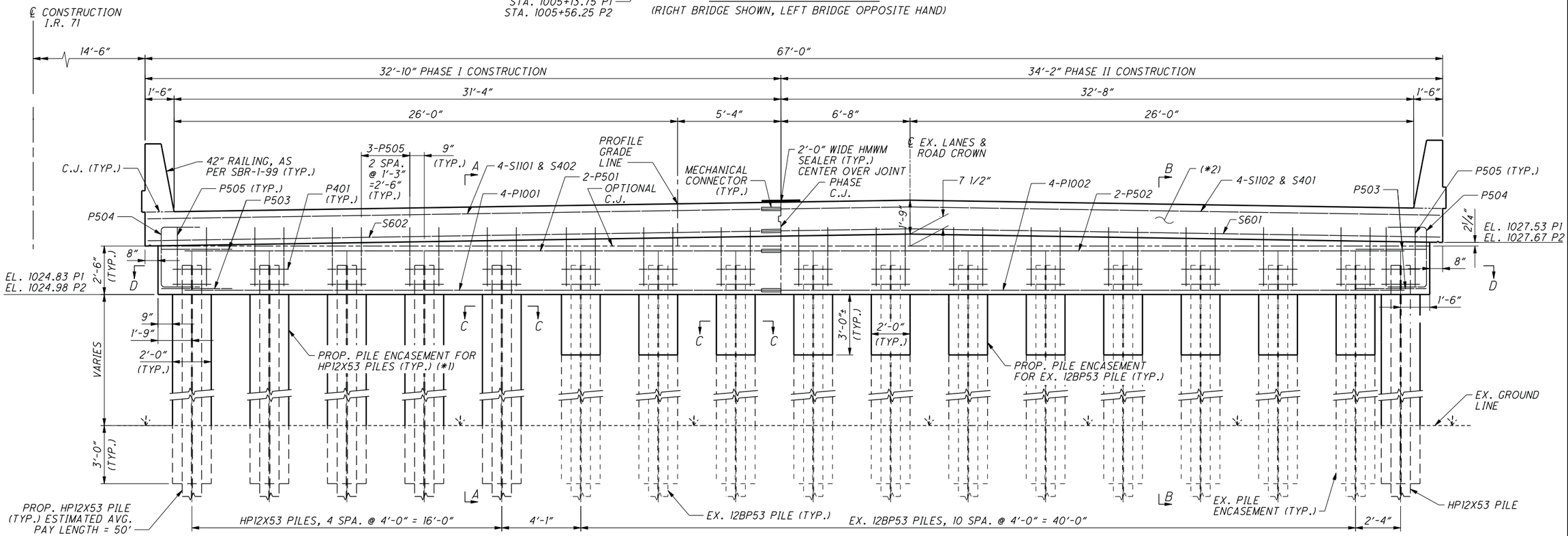


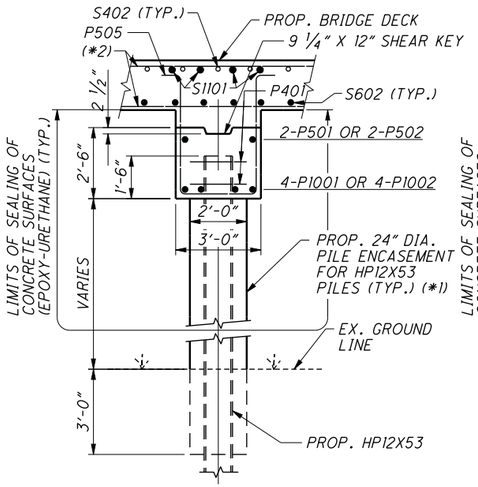
SECTION D-D AT PIER CAP

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)

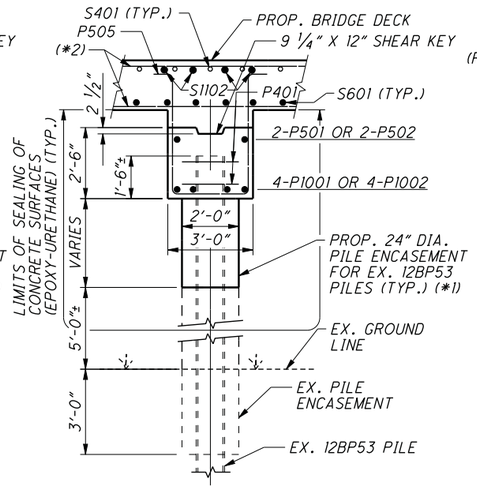


TRANSVERSE SECTION AT PIER

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)



SECTION A-A

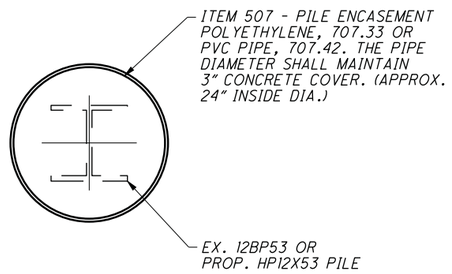


SECTION B-B

LEGEND:

(*1) - SEE DETAIL IN SECTION C-C

(*2) - FOR THE DETAILS OF LONGITUDINAL REBARS SEE TRANSVERSE SECTION IN SHT. 13/16



SECTION C-C

PILE ENCASEMENT

NOTE:

MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/16.

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
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(614) 714-0270 FAX (614) 714-0322

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JGM	DB/JGM	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA		140180T/140183I	

PIER DETAILS

BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

CLI/GRE-71-7.26
/0.00
PID No. 75745

10 / 16

133
218

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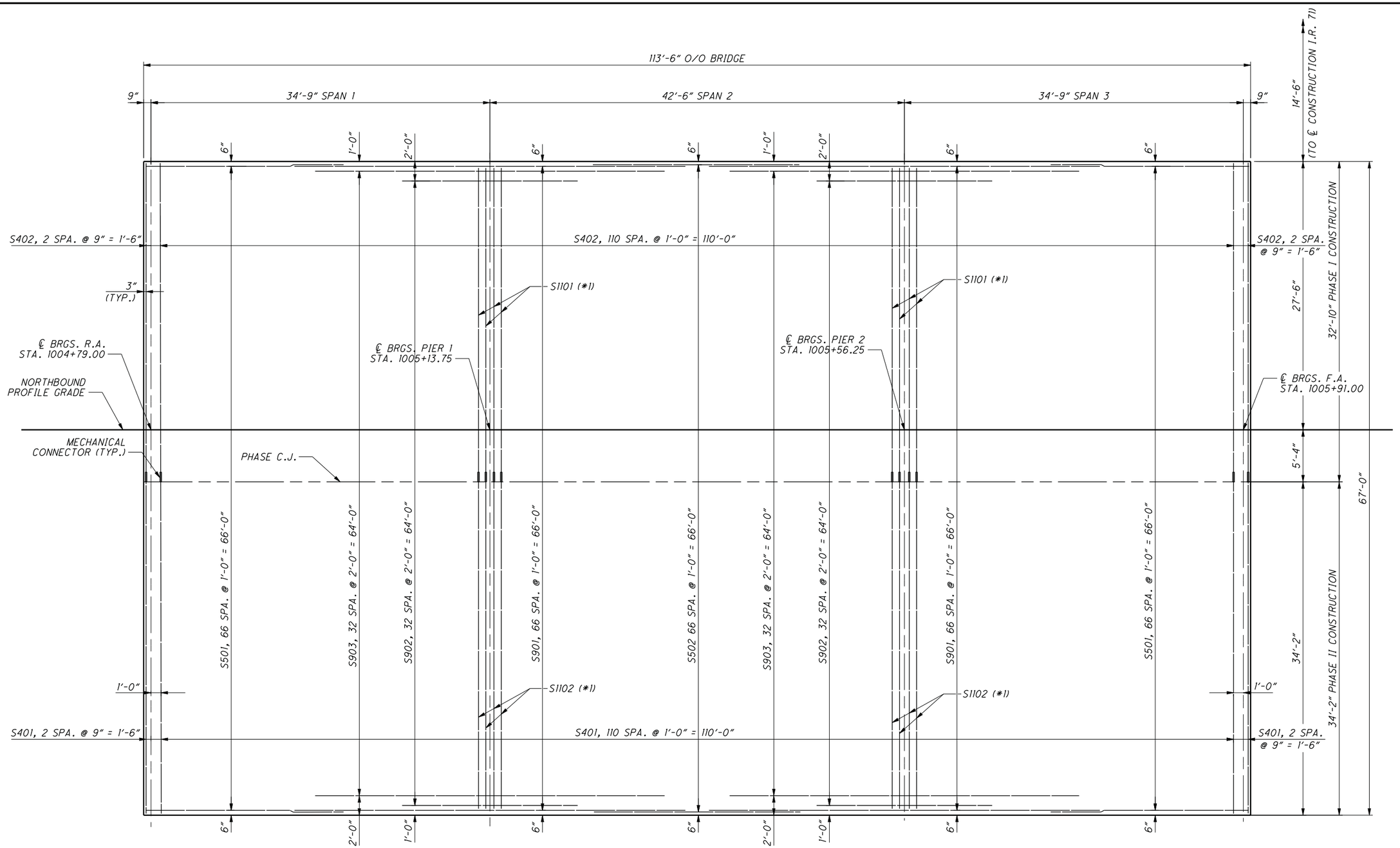

DECK REINFORCING PLAN - TOP

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)

NOTE:

MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/16.

LEGEND:

(*1) - 2 ON EITHER SIDE OF ℄ PIER, SEE SHT. 10/16 FOR DETAIL

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BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA	—	14018071401831	

DECK REINFORCING PLAN - TOP
BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

CLI/GRE-71-7.26
/0.00
PID No. 75745

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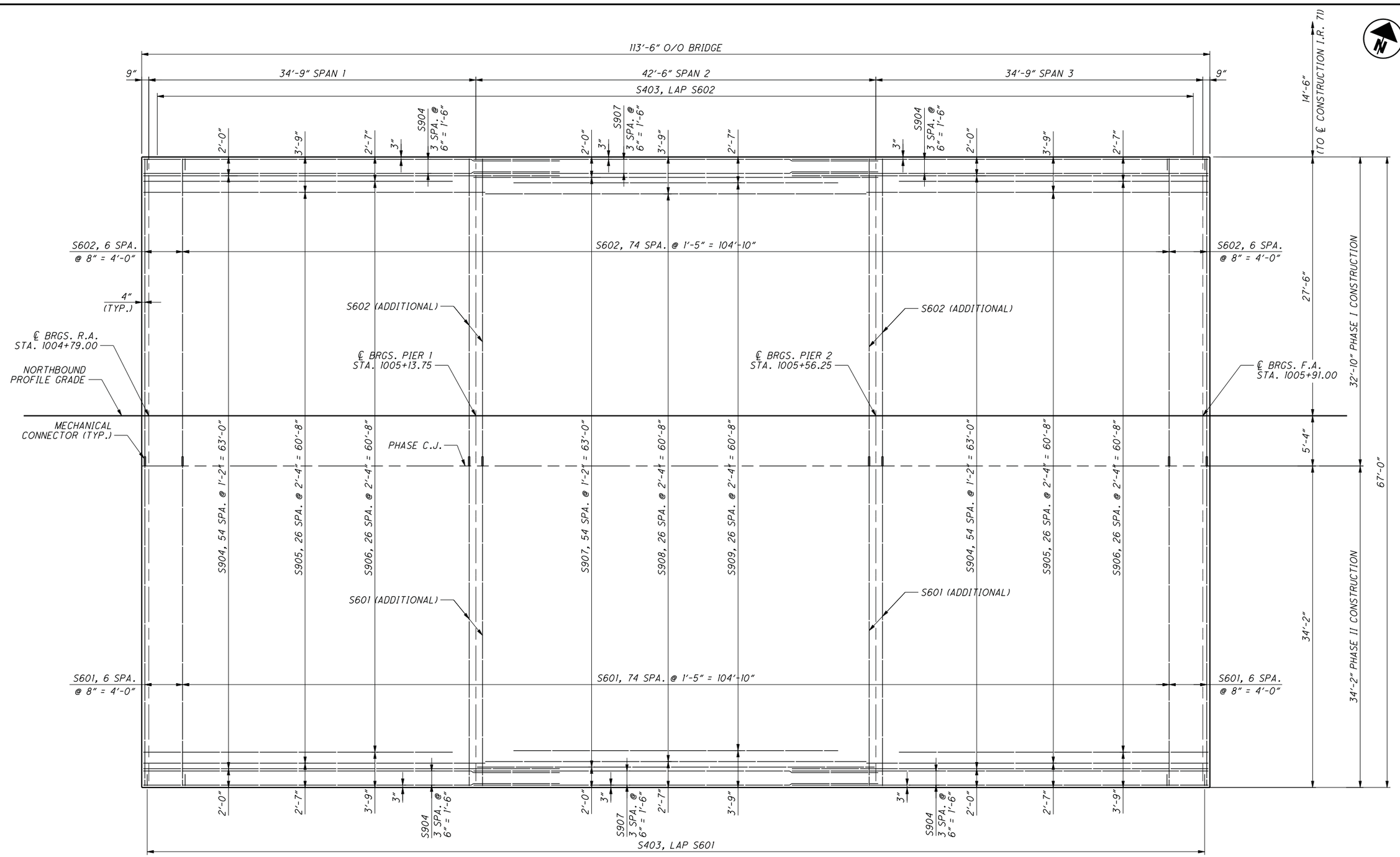
134
218



DECK REINFORCING PLAN - BOTTOM

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)

NOTE:

MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2 / 16.

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
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JGM	JGM	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA	—	14018071401831	

DECK REINFORCING PLAN - BOTTOM
BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

CLI/ GRE-71-7.26
/0.00
PID No. 75745

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135
218

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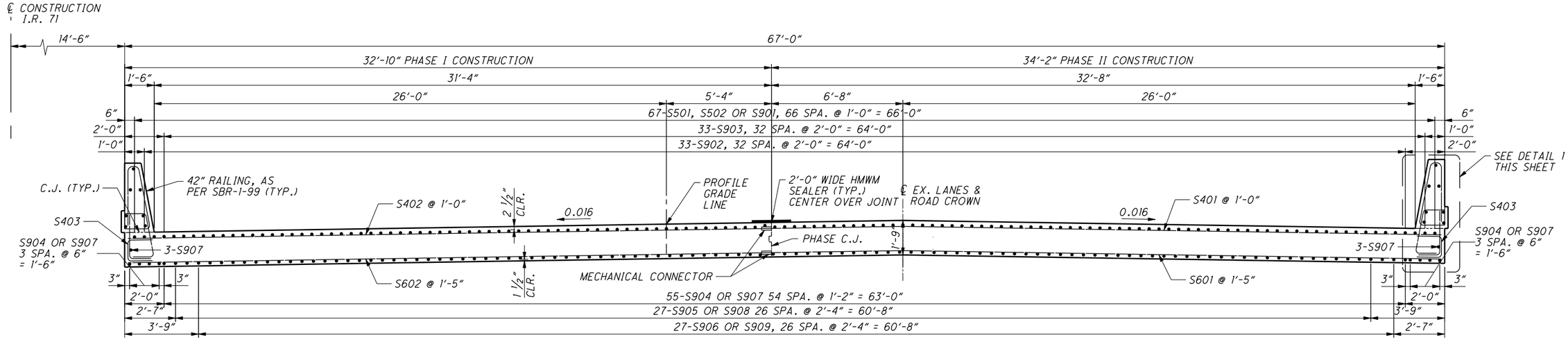
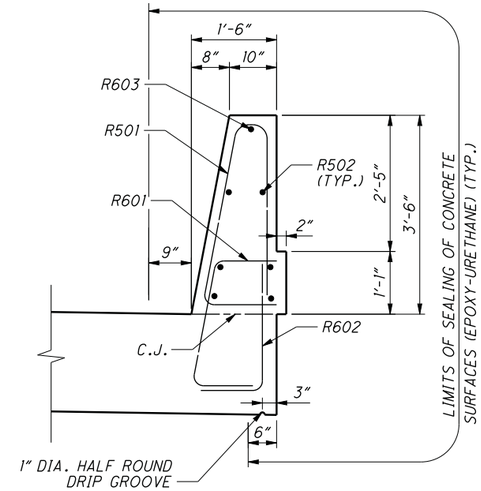


TRANSVERSE SECTION

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)



DETAIL 1

NOTE:

MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/16.

DESIGN AGENCY
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2800 CORPORATE EXCHANGE DR., STE 240
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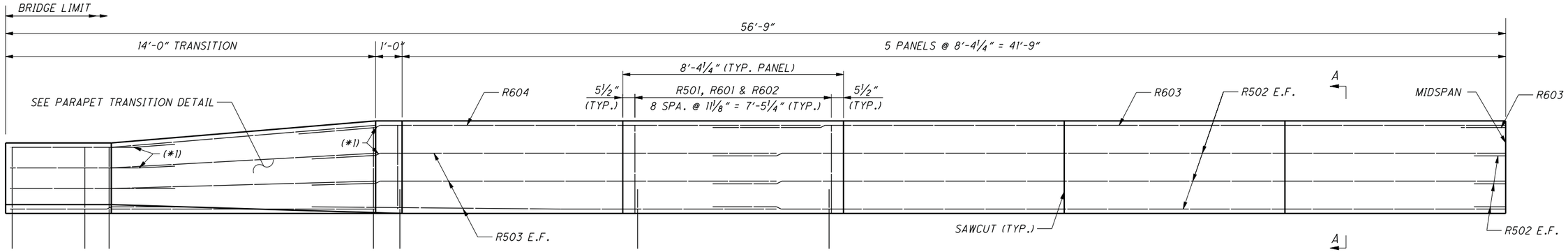
DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA		14018071401831	

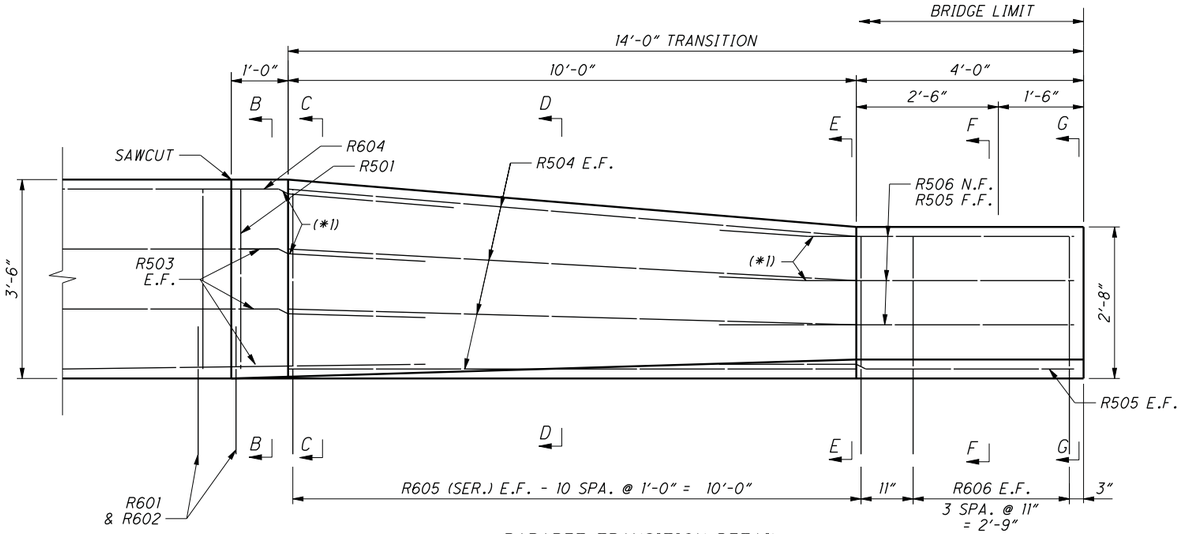
SUPERSTRUCTURE DETAILS

BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

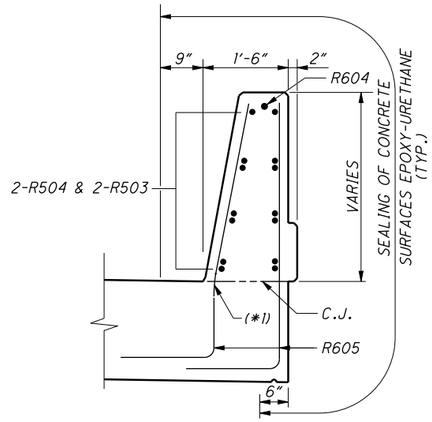
CLI/GRE-71-7.26
/0.00
PID No. 75745



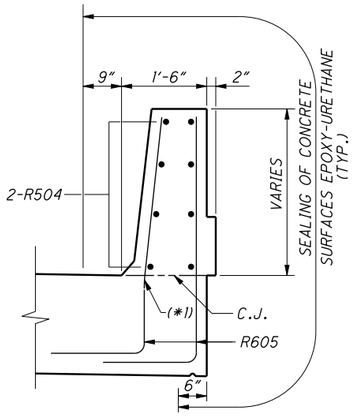
HALF PARAPET REINFORCING DETAIL
(SYMMETRICAL ABOUT MIDSPAN)



PARAPET TRANSITION DETAIL



SECTION C-C



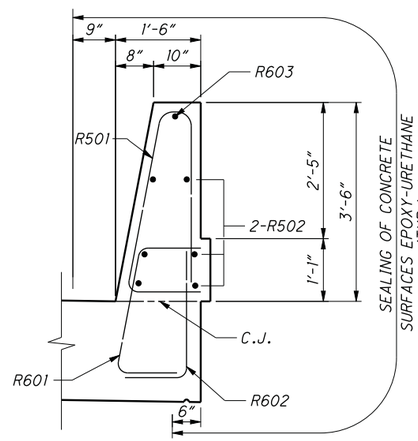
SECTION D-D

LEGEND:

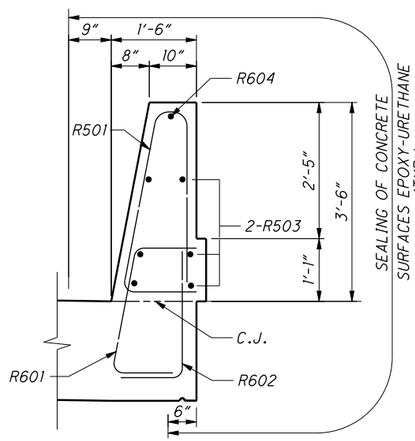
(*1) FIELD BEND AS NECESSARY

NOTES:

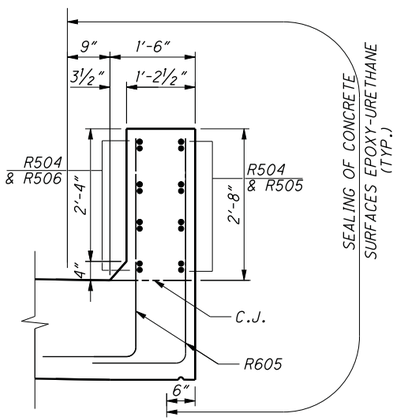
1. QUANTITY FOR APPROACH SLAB PARAPET INCLUDED WITH ITEM 898 OC/OA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)
2. FOR NOTES AND ADDITIONAL DETAILS OF THE CONCRETE PARAPET, REFERENCE STANDARD DRAWING SBR-1-99.
3. MINIMUM LAP LENGTHS:
   #5 BARS 2'-5"
   #6 BARS 2'-11"
   TOP #6 BARS 4'-1"



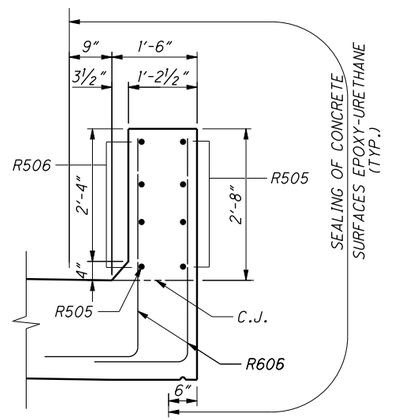
SECTION A-A



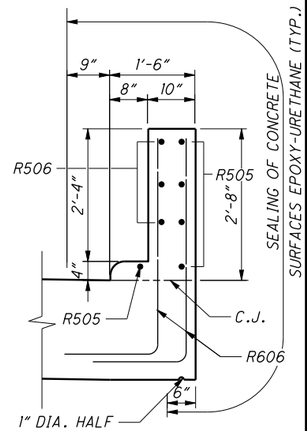
SECTION B-B



SECTION E-E



SECTION F-F



SECTION G-G

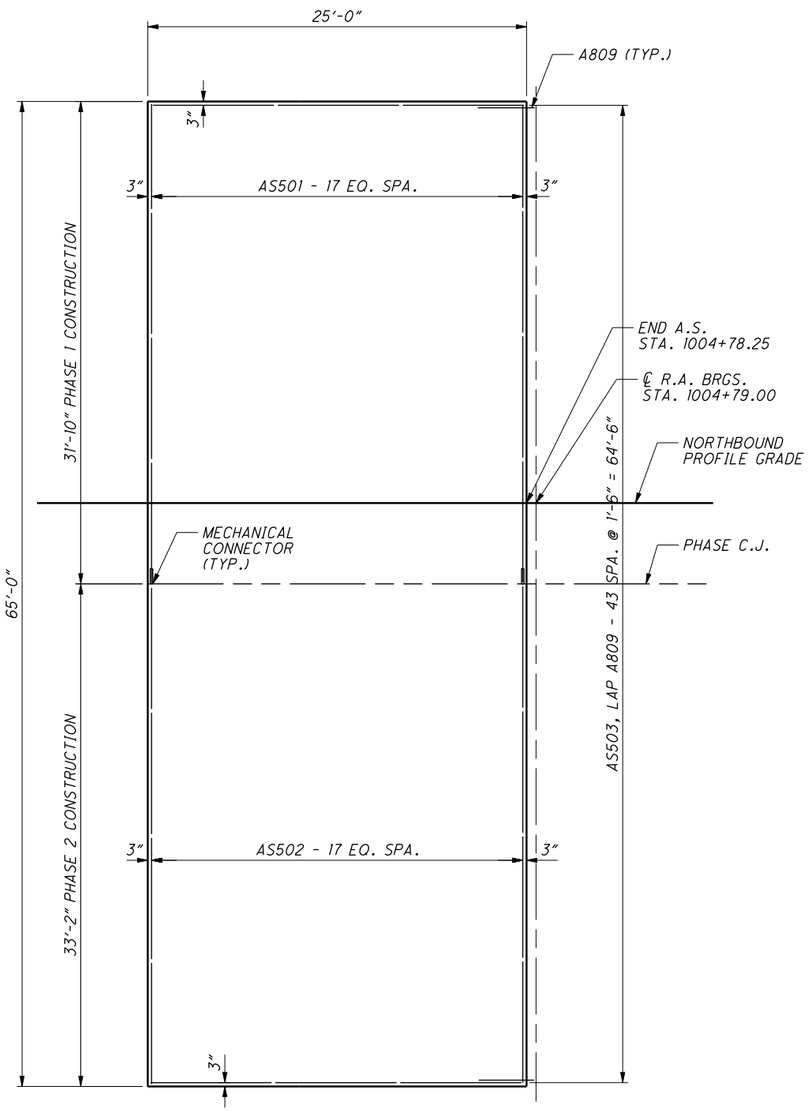
DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA		1401807/1401831	

PARAPET DETAILS

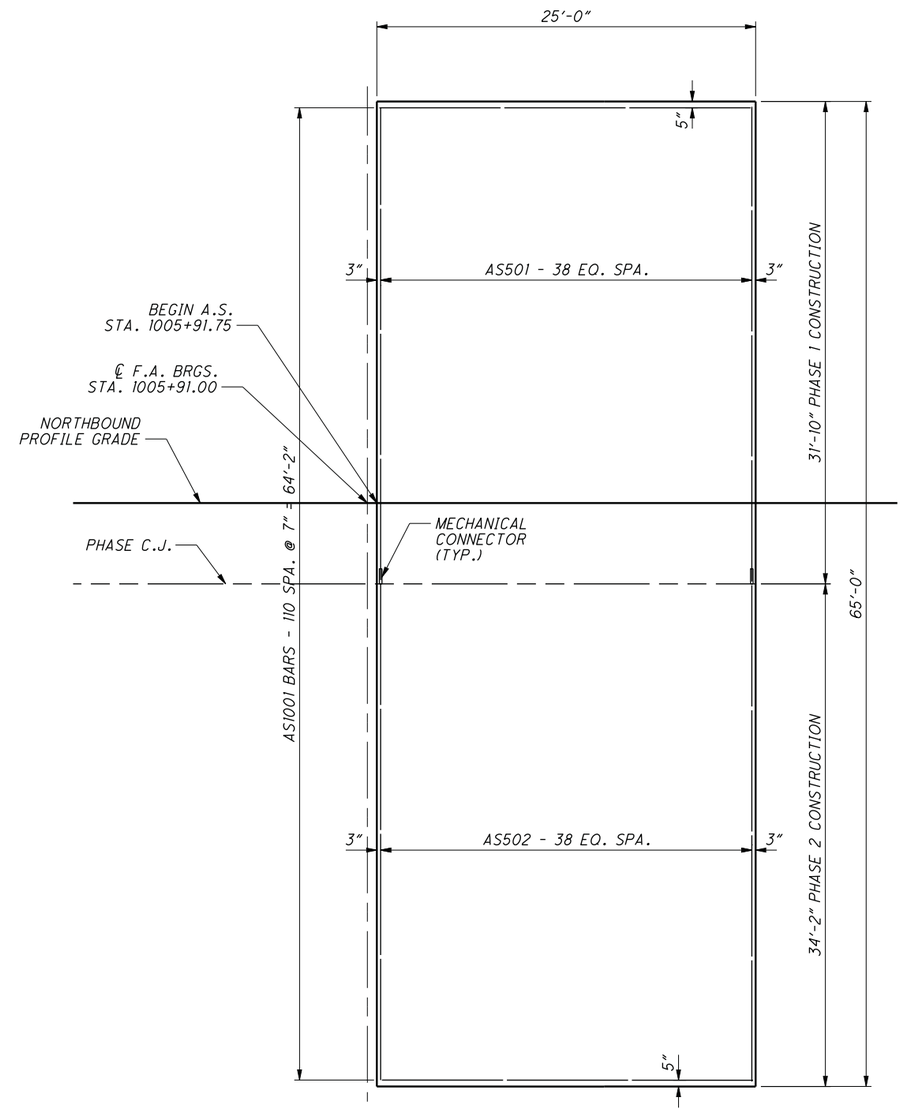
BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

CLI/ GRE-71-7.26
/0.00
PID No. 75745



REAR APPROACH SLAB - TOP REINFORCING

(FORWARD APPROACH SLAB SIMILAR)
(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)



FORWARD APPROACH SLAB - BOTTOM REINFORCING

(REAR APPROACH SLAB SIMILAR)
(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)

NOTES:

1. SEE STD. DWG. AS-1-81 FOR MORE DETAILS
2. APPROACH SLAB CONCRETE SHALL NOT BE PLACED WITH THE DECK POUR

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA	—	1401807/1401831	

APPROACH SLAB REINFORCINFG DETAILS
BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

CLI/GRE-71-7.26
/0.00
PID No. 75745

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ABUTMENTS

MARK	NUMBER (L)	WEIGHT (L)	NUMBER (R)	WEIGHT (R)	LENGTH	TYPE	A	B	C	R	INCR
A401	50	295	50	295	8'-10"	3	1'-9"	2'-6"			
A501	127	1415	127	1415	10'-8"	3	2'-8"	2'-7"			
A502	104	1286	104	1286	11'-11"	3	3'-11"	1'-11"			
A503	4	38	4	38	9'-0"	2	3'-8"	1'-11"	3'-8"		
A504	5	49	5	49	9'-4"	2	3'-10"	1'-11"	3'-10"		
A505	6	234	6	234	37'-5"	STR					
A506	6	133	6	133	21'-4"	STR					
A507	8	30	8	30	3'-7"	STR					
A508	16	93	16	93	5'-7"	STR					
A509	6	109	6	109	17'-4"	STR					
A510	6	85	6	85	13'-8"	STR					
A511	8	93	8	93	11'-2"	STR					
A512	9	84	9	84	9'-0"	2	3'-8"	1'-11"	3'-8"		
A513	5	49	5	49	9'-4"	2	3'-10"	1'-11"	3'-10"		
A514	6	188	6	188	30'-0"	STR					
A515	6	188	6	188	30'-0"	STR					
A516	6	140	6	140	22'-4"	STR					
A517	23	400	23	400	16'-8"	2	7'-6"	1'-11"	7'-6"		
A801	138	1412	138	1412	3'-10"	17	2'-0"				
A802	8	798	8	798	37'-5"	STR					
A803	8	470	8	470	22'-0"	STR					
A804	8	514	8	514	24'-1"	STR					
A805	8	591	8	591	27'-9"	STR					
A806	8	422	8	422	19'-9"	STR					
A807	8	394	8	394	18'-6"	STR					
A808	8	641	8	641	30'-0"	STR					
A809	88	1282	88	1282	5'-6"	18	3'-7"	1'-0"	1'-0"		
TOTAL WEIGHT =		11,433		11,433							

DIAPHRAGMS

MARK	NUMBER (L)	WEIGHT (L)	NUMBER (R)	WEIGHT (R)	LENGTH	TYPE	A	B	C	R	INCR
S503	16	128	16	128	7'-8"	2	3'-0"	1'-11"	3'-0"		
S504	268	2003	268	2003	7'-2"	2	3'-0"	1'-5"	3'-0"		
S505	134	981	134	981	7'-1"	3	1'-11"	1'-6"			
S801	20	1869	20	1869	35'-0"	STR					
S802	20	1798	20	1798	33'-8"	STR					
TOTAL WEIGHT =		6,779		6,779							

PIERS

MARK	NUMBER (L)	WEIGHT (L)	NUMBER (R)	WEIGHT (R)	LENGTH	TYPE	A	B	C	R	INCR
P401	68	426	68	426	9'-5"	3	2'-0"	2'-6"			
P501	4	127	4	127	30'-7"	STR					
P502	4	136	4	136	32'-6"	STR					
P503	8	90	8	90	10'-10"	24	2'-6"	3'-5"		1'-2 3/8"	
P504	4	31	4	31	7'-4"	2	2'-0"	3'-7"	2'-0"		
P505	68	774	68	774	10'-11"	6	2'-8"	3'-7"	0'-8"		
P1001	8	1053	8	1053	30'-7"	STR					
P1002	8	1119	8	1119	32'-6"	STR					
TOTAL WEIGHT =		3,756		3,756							

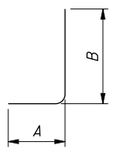
SUPERSTRUCTURE

MARK	NUMBER (L)	WEIGHT (L)	NUMBER (R)	WEIGHT (R)	LENGTH	TYPE	A	B	C	R	INCR
S401	115	2631	115	2631	34'-3"	STR					
S402	115	2490	115	2490	32'-5"	STR					
S403	174	610	174	610	5'-3"	2	2'-0"	1'-5"	2'-0"		
S501	134	2842	134	2842	20'-4"	STR					
S502	67	1479	67	1479	21'-3"	STR					
S601	87	4475	87	4475	34'-3"	STR					
S602	87	4237	87	4237	32'-5"	STR					
S901	134	18224	134	18224	40'-0"	STR					
S902	66	4039	66	4039	18'-0"	STR					
S903	66	8041	66	8041	35'-10"	STR					
S904	126	18956	126	18956	44'-3"	STR					
S905	54	6671	54	6671	36'-5"	STR					
S906	54	6044	54	6044	32'-11"	STR					
S907	69	10088	69	10088	43'-0"	STR					
S908	27	3718	27	3718	40'-6"	STR					
S909	27	3167	27	3167	34'-6"	STR					
S1101	8	1378	8	1378	32'-5"	STR					
S1102	8	1456	8	1456	34'-3"	STR					
TOTAL WEIGHT =		100,546		100,546							

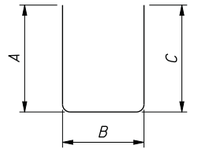
RAILING

MARK	NUMBER (L)	WEIGHT (L)	NUMBER (R)	WEIGHT (R)			A	B	C	D	E	R	INCR
R501	184	1424	184	1424	7'-5"	23	1'-1"	3'-2"	3'-0"			2 3/4"	
R502	24	751	24	751	30'-0"	ST.							
R503	24	440	24	440	17'-7"	ST.							
R504	32	334	32	334	10'-0"	ST.							
R505	20	134	20	134	6'-5"	ST.							
R506	12	69	12	69	5'-6"	25	1'-8"	2'-5"	1'-4"	1 1/2"	5"		
R601	184	1243	184	1243	4'-6"	28	2'-6"	1'-1"					
R602	184	945	184	945	3'-5"	1	1'-1"	2'-6"					
R603	4	181	4	181	30'-0"	ST.							
R604	4	125	4	125	20'-11"	ST.							
	8		8		5'-9"			4'-1"					
R605	SETS OF	815	SETS OF	815	TO	1	1'-10"	TO					1"
	11		11		6'-7"			4'-11"					
R606	32	277	32	277	5'-9"	1	1'-10"	4'-1"					
TOTAL WEIGHT =		6,738		6,738									
GRAND TOTAL =		129,252		129,252									

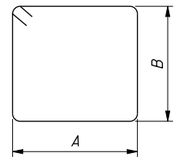
BENDING DIAGRAMS



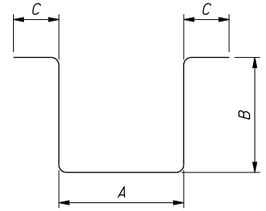
TYPE-1



TYPE-2



TYPE-3



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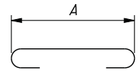

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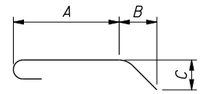

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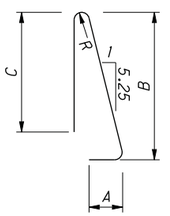
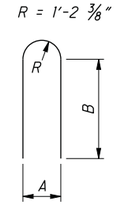


TYPE-23

R = 1'-2 3/8"



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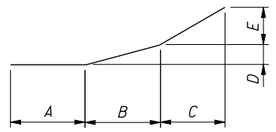

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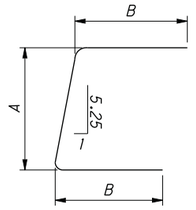

TYPE-28

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED KCS | DRAWN JGM | REVIEWED JEP | DATE 1/2010
CHECKED EA | REVISED | STRUCTURE FILE NUMBER 1401807/1401831

REINFORCING STEEL LIST
BRIDGE NO. CLI-71-1212 L/R
OVER ANDERSON FORK

CLI/ GRE-71-7.26
/0.00
PID No. 75745

16 / 16

139
218

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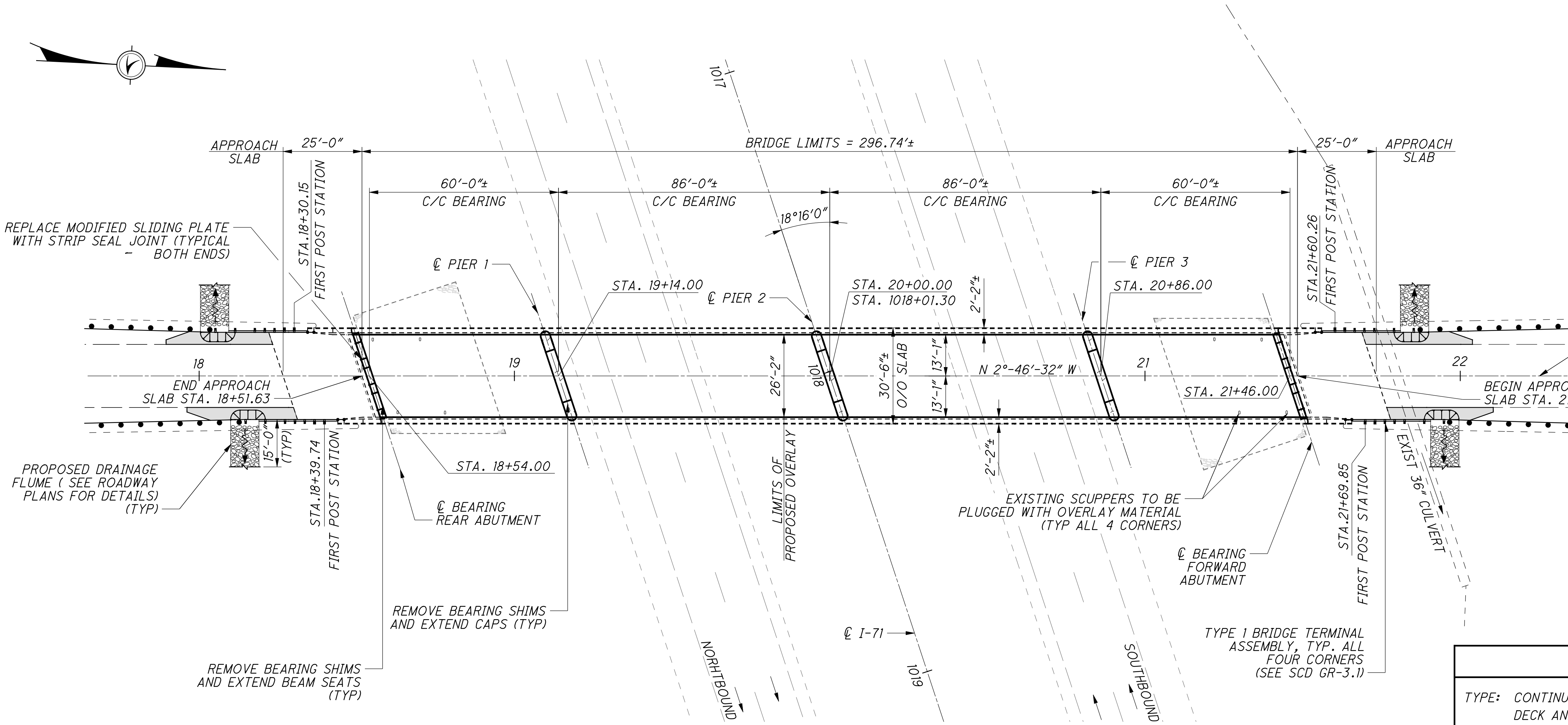


GENERAL PLAN

VERTICAL CLEARANCES
EXISTING AND PROPOSED = 16'-4"± (MINIMUM)

PROPOSED SHOULDER PAVING (SEE ROADWAY PLANS, SHEET 103)

PROPOSED WORK

1.) REMOVE THE EXISTING 2¼"± DECK OVERLAY AND 1" OF THE EXISTING DECK, USING HYDRODEMOLITION, AND REPLACE WITH A 3¼" MICROSILICA MODIFIED CONCRETE OVERLAY. PLUG EXISTING SCUPPERS WITH OVERLAY MATERIAL.
2.) REMOVE THE SHIMS UNDER THE EXISTING ABUTMENT BEARINGS AND CONSTRUCT NEW BEAM SEATS AT THE ABUTMENTS.
3.) REFURBISH THE EXISTING ABUTMENT BEARINGS (SEE PLAN NOTE).
4.) REPLACE THE SHIMS UNDER THE EXISTING BEARINGS AT THE PIERS WITH STEEL HP POSTS AND LOAD PLATES. CAST CAPS ONTO THE EXISTING PIER SEATS TO ENCASE THE NEW ASSEMBLIES IN CONCRETE.
5.) REPLACE PREVIOUSLY MODIFIED SLIDING PLATE JOINTS WITH STRIP SEAL EXPANSION JOINTS.
6.) CLEAN THE SURFACES OF THE SUBSTRUCTURE UNITS WITH SANDBLASTING AND APPLY EPOXY-URETHANE SEALER TO THE PARAPETS, ABUTMENTS, WINGWALLS AND PIERS.
7.) RESTORE THE APPROACH EMBANKMENTS ALONG THE ABUTMENT WINGWALLS (SEE SHEET 2/9) AND CONSTRUCT 15' LONG DRAINAGE FLUMES COMPRISED OF TYPE D ROCK ON EXCELSIOR MATTING ON BOTH EMBANKMENTS AT THE ENDS OF THE APPROACH SLABS.
8.) INSTALL NEW VANDAL PROTECTION FENCE CLOSURE PLATES AND REPLACE HARDWARE.
9.) PROPOSED WORK WILL BE DONE UNDER CLOSURE OF SABINA ROAD. SEE MAINTENANCE OF TRAFFIC SHEETS FOR CLOSURE DETAILS AND DURATION.
10.) MAINTAIN EXISTING VERTICAL CLEARANCES.

EXISTING STRUCTURE

TYPE: CONTINUOUS BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 60.0'±-86.0'±-86.0'±-60.0'±
ROADWAY: 26'-2" T/T OF REFACED 32" PARAPET
LOADING: CF-130 (57)
SKEW: 18° 16' 0"
APPROACH SLABS: 25' LONG
ALIGNMENT: TANGENT
CROWN: .0156
STRUCTURAL FILE NUMBER: 1401866
DATE BUILT: 1964
DISPOSITION: TO BE REHABILITATED
WEARING SURFACE: 1¾"- 2¼" SUPERPLASTICIZED DENSE CONCRETE OVERLAY

PROPOSED STRUCTURE

TYPE: CONTINUOUS BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 60.0'±-86.0'±-86.0'±-60.0'±
ROADWAY: 26'-2" T/T OF REFACED 32" PARAPET
LOADING: CF-130 (57)
SKEW: 18° 16' 0"
APPROACH SLABS: TO REMAIN
ALIGNMENT: TANGENT
CROWN: .0156 FT/FT
COORDINATES: LATITUDE 39° 32' 06" N
LONGITUDE 83° 47' 16" W
WEARING SURFACE: 3¼" MICROSILICA CONCRETE OVERLAY

DESIGN AGENCY
Palmer ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
JPR	MLJ	SDW		BJF	1/09	1401866

GENERAL PLAN
BRIDGE NO. CLI-71-1237
C5 (SABINA ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

1/9

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-4-87 DATED/REVISED 7-19-02
VPF-1-90 DATED/REVISED 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

848 DATED 10-16-09

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION , AND THE ODOT 2004 BRIDGE DESIGN MANUAL.

DESIGN STRESSES

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL - ASTM A709 , GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD:
2¾" RIGID MICRO-SILICA MODIFIED CONCRETE OVERLAY

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH [25 MM] DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

EXISTING STRUCTURE VERIFICATION:
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ITEM 516 - REFURBISHING BEARING DEVICE, AS PER PLAN:
THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE ABUTMENT BEARINGS AS WELL AS THEIR CLEANING, REPAIR AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60° F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER AND DIRECTED BY THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICE, AS PER PLAN.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN
THIS WORK CONSISTS OF TEMPORARILY RAISING THE EXISTING BEAMS TO ALLOW CONSTRUCTION OF PROPOSED CONCRETE SUBSTRUCTURE CAPS AND INSTALLATION OF PROPOSED PIER BEARING ASSEMBLIES.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS.
IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

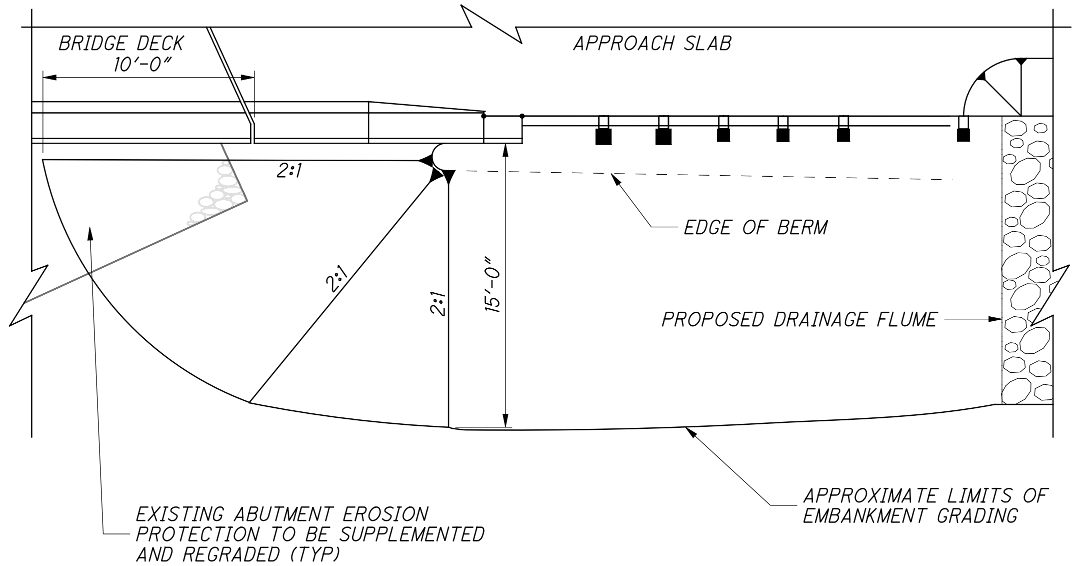
THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN:
THIS WORK CONSISTS OF REHABILITATING THE EXISTING SLIDING PLATE JOINT TO AN ELASTOMERIC STRIP SEAL TYPE JOINT. IT ALSO INCLUDES THE HORIZONTAL EXTENSION OF THE EXPANSION JOINT INTO THE REFACED PARAPET. PAYMENT FOR THE DESCRIBED LABOR AND MATERIALS INCLUDING CONCRETE REMOVAL AND PATCHING, ANGLES, PLATES, BARS, SHEAR STUDS AND WELDING WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

ITEM 516 - BEARING DEVICE, ROCKER, AS PER PLAN
THIS ITEM SHALL INCLUDE COMPLETE REPLACEMENT OF AN ABUTMENT ROCKER BEARING AS DIRECTED BY THE ENGINEER. THE ROCKERS SHALL BE CONSTRUCTED PER STANDARD DRAWING RB-1-55 AND OF THE SAME CAPACITY OF THE EXISTING ROCKERS. INCLUDED IN THIS ITEM SHALL BE THE DISASSEMBLY AND REMOVAL OF THE EXISTING BEARING, REPLACEMENT OF THE UPPER PLATE, ROCKER, LOWER PLATE, STEEL SHIM, AND PREFORMED BEARING PADS (711.21). ONLY ONE STEEL SHIM PLATE AND ONE PREFORMED BEARING PAD WILL BE ALLOWED TO OBTAIN THE PROPER FIT-UP. BOTH SHALL BE OF THE SAME PLAN AREAS AS THE MASONRY PLATE AND THE SHIM PLATE SHALL BE FULLY WELDED AROUND THE PERIMETER TO THE LOWER PLATE. THE BEARINGS SHALL BE VERTICALLY ALIGNED AT 60 DEGREES FAHRENHEIT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THOROUGH FIELD MEASUREMENTS AND ADJUSTING AS REQUIRED TO ENSURE ALL BEARING SURFACES ARE IN FULL CONTACT. ADJUSTMENTS REQUIRED TO ACHIEVE FULL BEARINGS SHALL NOT CAUSE OTHER BEARINGS TO "FLOAT".

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:
PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING. LOCATIONS OF AREAS THAT REQUIRE MATCHING ARE NOT INCLUDED IN THE PLANS. ACTUAL PATCHING LOCATIONS SHALL BE VERIFIED AT THE TIME OF CONSTRUCTION. A CONTINGENCY QUANTITY OF 50 SQ FT IS INCLUDED IN THE SUMMARY TO BE USED AT THE DIRECTION OF THE ENGINEER. THIS QUANTITY IS IN ADDITION TO THE AREAS OF PATCHING ON THE ABUTMENTS AND PIER SHOWN IN THE PLANS.



DETAIL FOR ITEM 601

ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN
PROVIDE SLOPE PROTECTION SIMILAR IN TYPE AND SIZE TO THE EXISTING. REGRADE THE EXISTING SLOPE PROTECTION TO A 2:1 SLOPE IN AN AREA BOUNDED BY A LINE DRAWN PERPENDICULAR TO THE CENTERLINE OF SABINA ROAD 10 FEET FROM THE FACE OF THE ABUTMENT AT THE CENTERLINE AND 3 FEET OUTSIDE OF BOTH EDGES OF THE BRIDGE DECK. SUPPLEMENT THE SLOPE PROTECTION AS NECESSARY TO MEET THE DETAIL SHOWN ON SHEET 4/9 . AN ESTIMATED QUANTITY OF 16 CUBIC YARDS OF SLOPE PROTECTION SHOULD BE USED FOR BIDDING PURPOSES. PAYMENT FOR THIS WORK WILL BE ON A SQUARE YARD BASIS AND INCLUDES ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED TO COMPLETE THE WORK DESCRIBED HEREIN. THIS ITEM SHALL ALSO INCLUDE GRADING OF THE APPROACH EMBANKMENTS TO CONFORM TO THE DETAIL ON THIS SHEET.

ITEM SPECIAL-VANDAL PROTECTION FENCE REMOVED AND REBUILT
THIS ITEM SHALL INCLUDE INSTALLATION OF STAINLESS STEEL CLOSURE PLATE TO CLOSE THE GAP AT THE BOTTOM OF THE EXISTING VANDAL PROTECTION FENCE BETWEEN THE BOTTOM RAIL AND THE TOP OF THE PARAPET. INSTALLATION PROCEDURES ARE TO FOLLOW STANDARD DRAWINGS VPF-1-90. THE CONTRACTOR SHALL DETERMINE THE VERTICAL LEG DIMENSION OF THE CLOSURE PLATE REQUIRED TO CLOSE THE EXISTING GAP. THE CONTRACTOR SHALL ALSO LOCATE THE ½" DIAMETER HOLES IN THE PLATE TO ALLOW FOR PROPER INSTALLATION OF THE FABRIC TIES. THIS ITEM SHALL ALSO INCLUDE REPLACEMENT OF THE EXISTING ¾" NUTS AND WASHERS WITH NEW HARDWARE MEETING THE REQUIREMENTS OF VPF-1-90. PAYMENT FOR THIS ITEM WILL BE ON A LINEAR FEET BASIS AND WILL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK DESCRIBED HEREIN.

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242
WINCHESTER ■ NASHVILLE ■ LOUISVILLE ■ CINCINNATI ■ HURRICANE

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401866	

GENERAL NOTES
BRIDGE NO. CLI-71-1237
C5 (SABINA ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

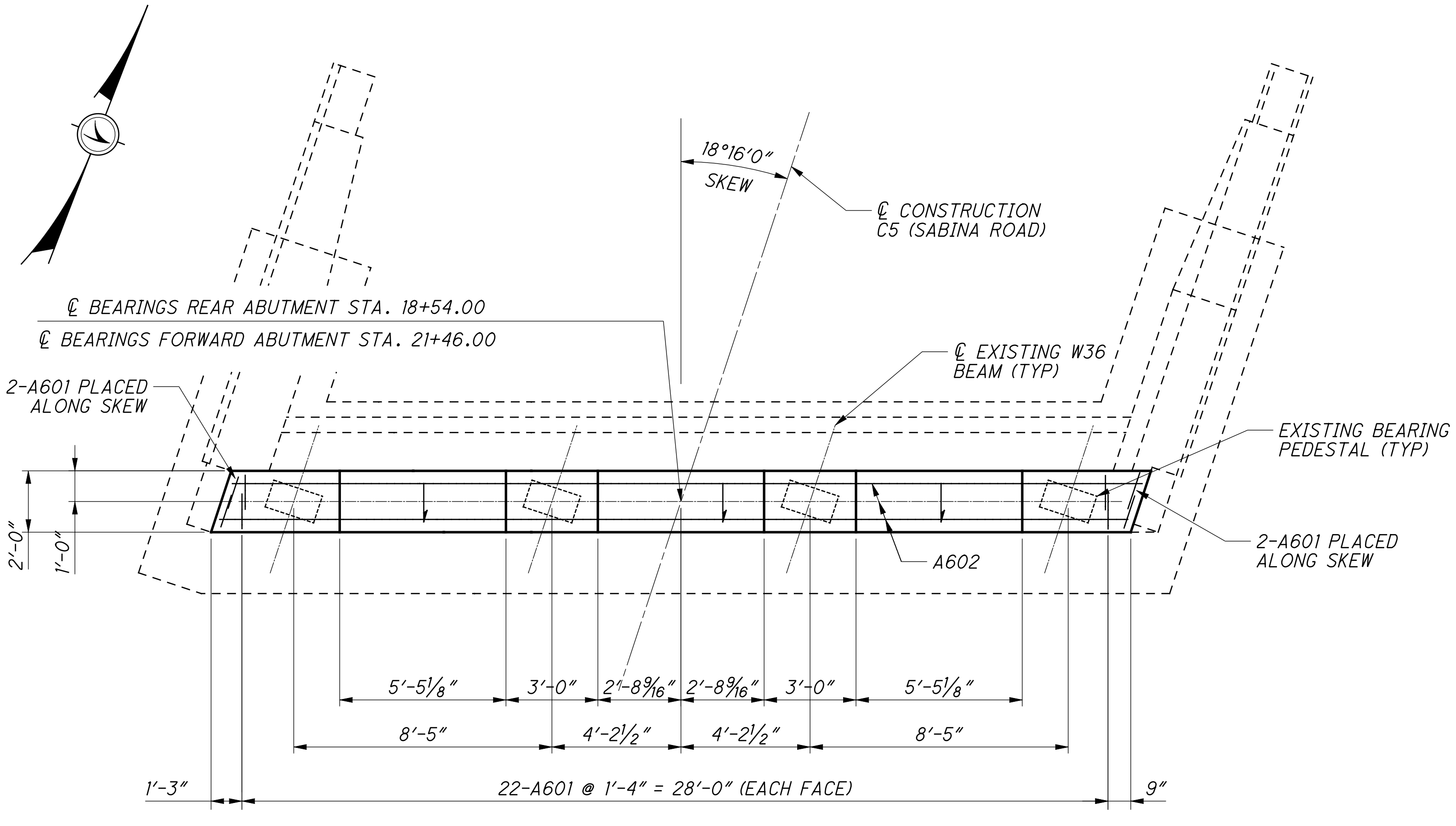
ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER	GENERAL	SHEET REF.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					2
509	10000	1550	POUND	EPOXY COATED REINFORCING STEEL	638	912			
510	10000	204	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	96	108			
511	42500	6	CU YD	CLASS C CONCRETE, PIER CAP		6			
511	44100	3	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	3				
512	10100	1159	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	150	250	759		
516	11211	59	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			59		2
516	31000	60	FT	JOINT SEALER	60				
516	45305	8	EACH	REFURBISHED BEARING DEVICE, AS PER PLAN	8				2
516	46001	4	EACH	BEARING DEVICE, BOLSTER, AS PER PLAN		4			6
516	46201	8	EACH	BEARING DEVICE, ROCKER, AS PER PLAN		8			5
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					2
519	11101	50	SQ FT	PATCHING CONCRETE STRUCTURES, AS PER PLAN				50	2
601	20001	100	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN				100	2
SPECIAL	60740300	584	FT	VANDAL PROTECTION FENCE, REMOVED AND REBUILT			584		2/7
848	10000	854	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (3.25" NOMINAL THICKNESS)			854		
848	20000	854	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION			854		
848	30000	59	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			59		
848	50000	85	SQ YD	HAND CHIPPING			85		
848	50100	LUMP		TEST SLAB					
848	50200	5	CU YD	FULL-DEPTH REPAIR			5		
848	50320	854	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (2.25" NOMINAL THICKNESS)			854		
848	50340	85	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY			85		

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

DATE 1/09
REVIEWED BJF
STRUCTURE FILE NUMBER 1401866
DRAWN SDW
REVISED
DESIGNED JPR
CHECKED MLJ

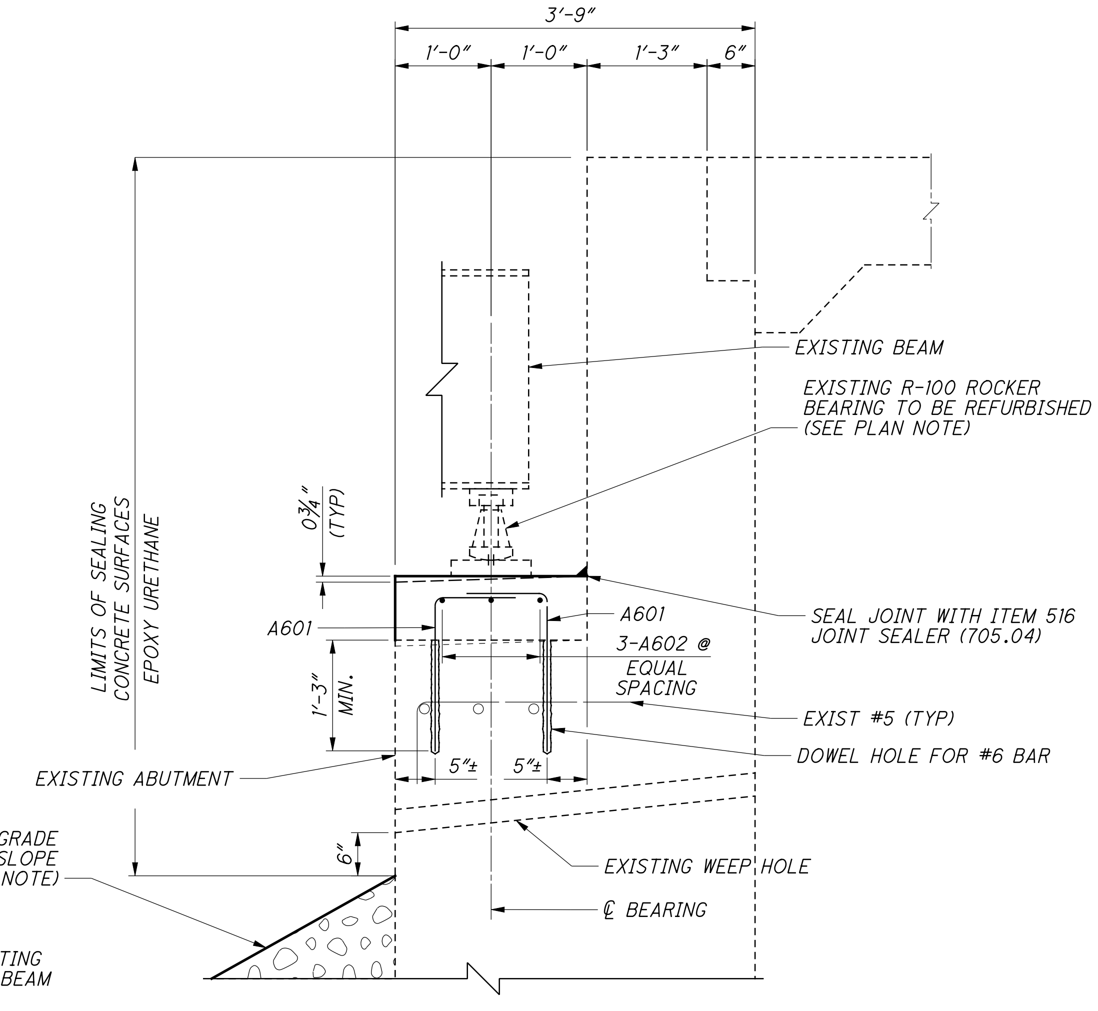
GENERAL QUANTITIES
BRIDGE NO. CLI-71-1237
C5 (SABINA ROAD) OVER I-71

CLI/GRE-
7I-7.26/0.00
PID No. 75745

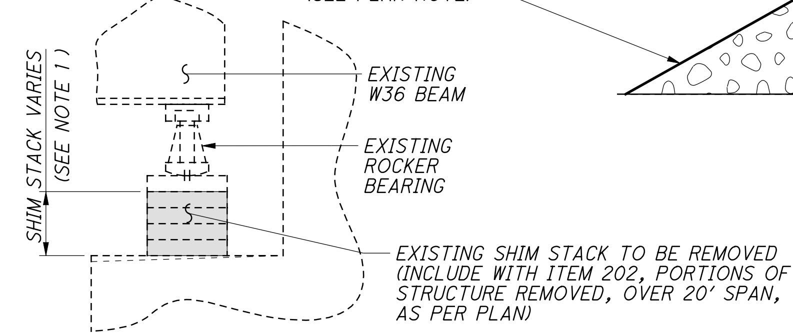


PLAN

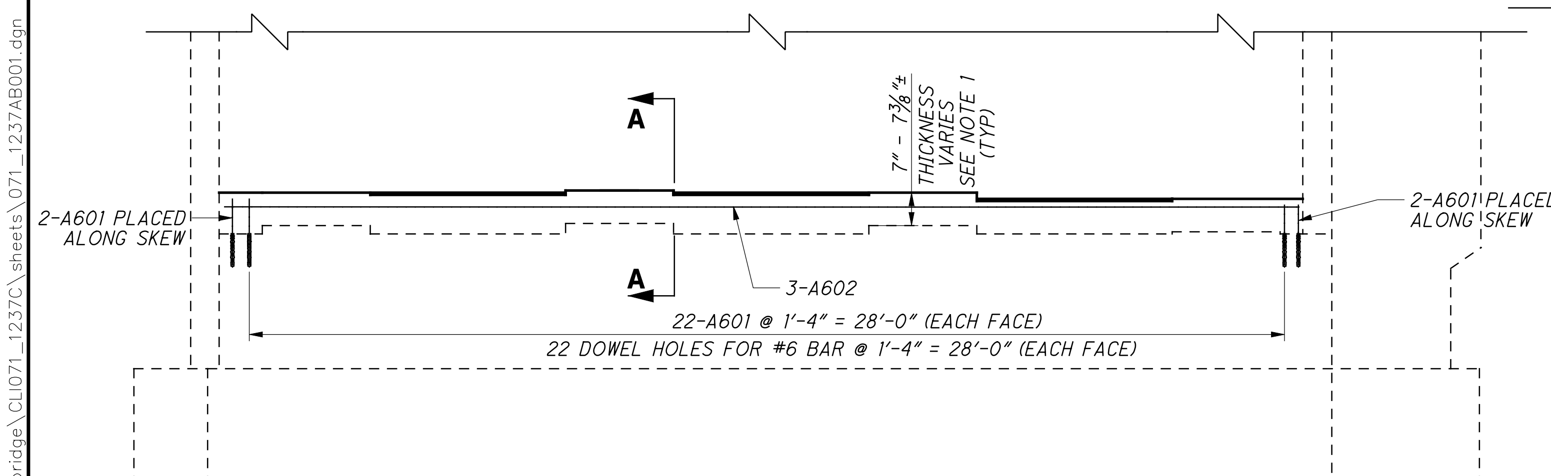
FORWARD ABUTMENT SHOWN,
REAR ABUTMENT SIMILAR



SECTION A-A



EXISTING SHIM REMOVAL



ELEVATION OF ABUTMENT

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED ABUTMENT CAP EXTENSION SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 7.5" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).

3.) PEDESTALS OR SHIMS SHALL NOT BE ALLOWED TO BE CAST INTO THE ABUTMENT BEAMS SEATS.

3.) SEE SHEET 8/9 FOR EXPANSION JOINT DETAILS.

4.) SEE SHEET 2/9 FOR GENERAL NOTES.

5.) PROPOSED ABUTMENT CONCRETE SHALL BE CLASS C CONCRETE, ABUTMENT.

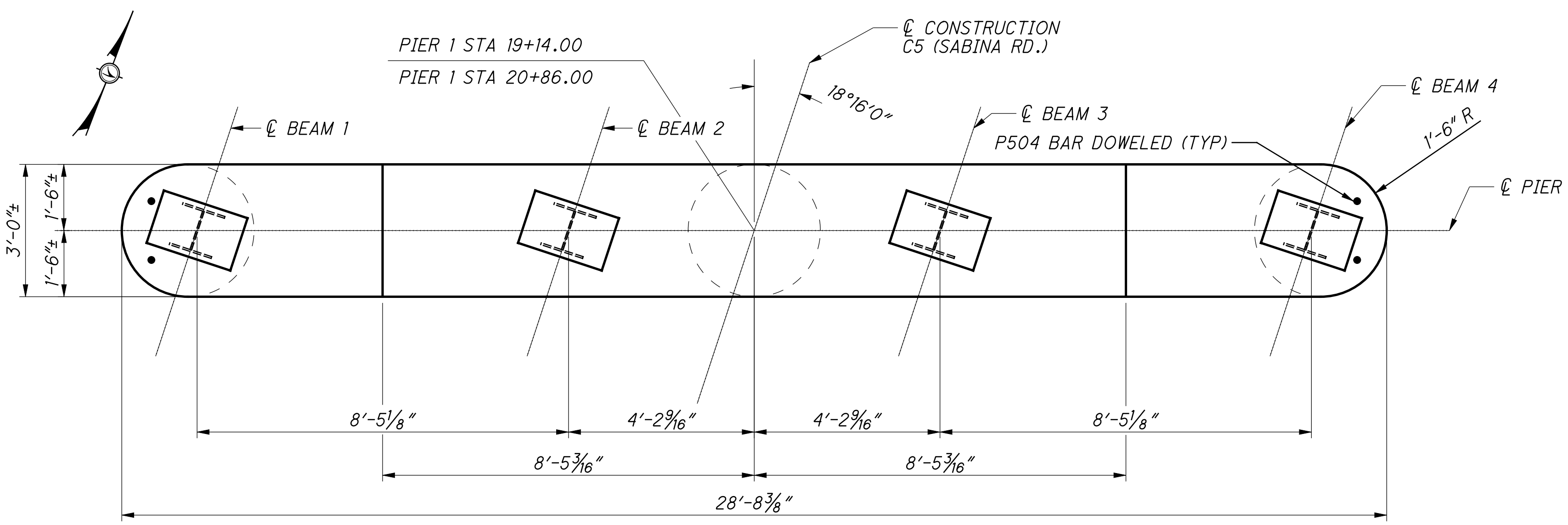
DESIGN AGENCY
Palmer ENGINEERING
1590 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401866	

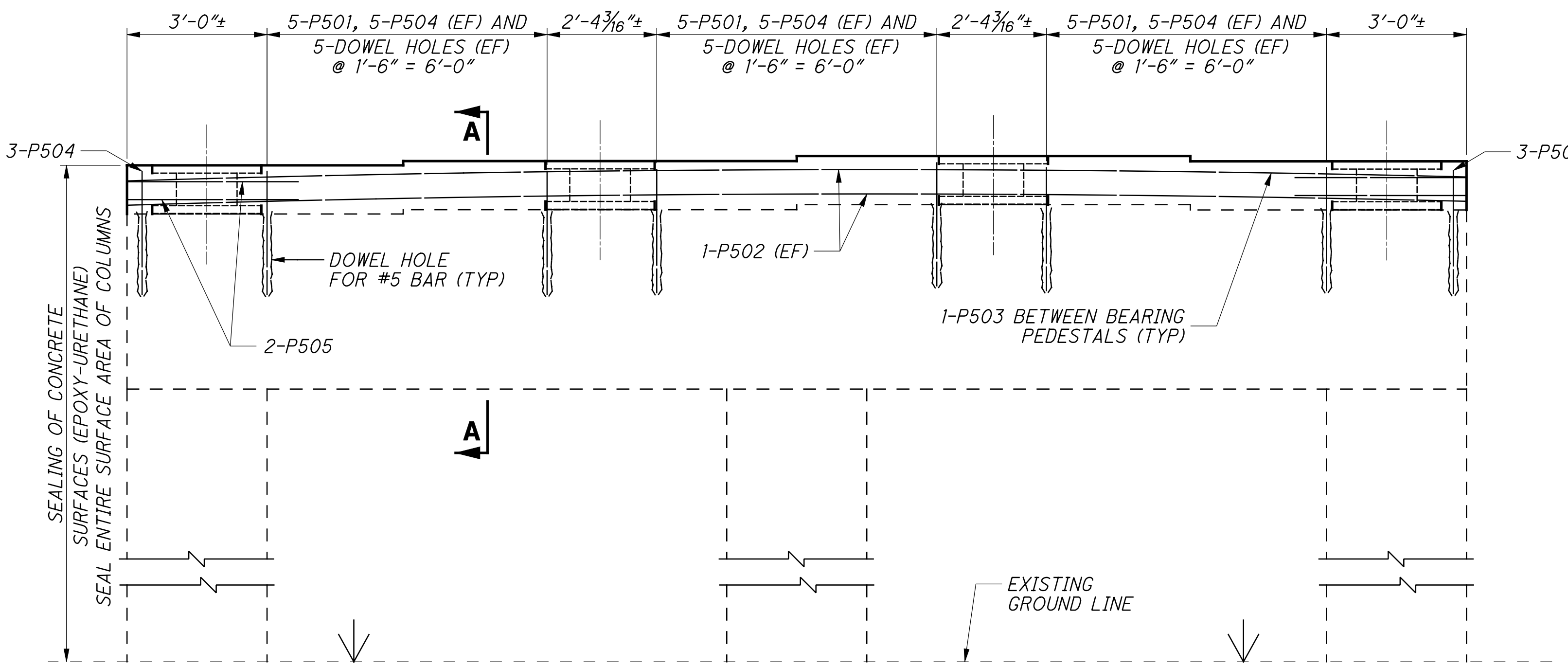
ABUTMENT MODIFICATION DETAILS

BRIDGE NO. CLI-71-1237
C5 (SABINA ROAD) OVER I-71

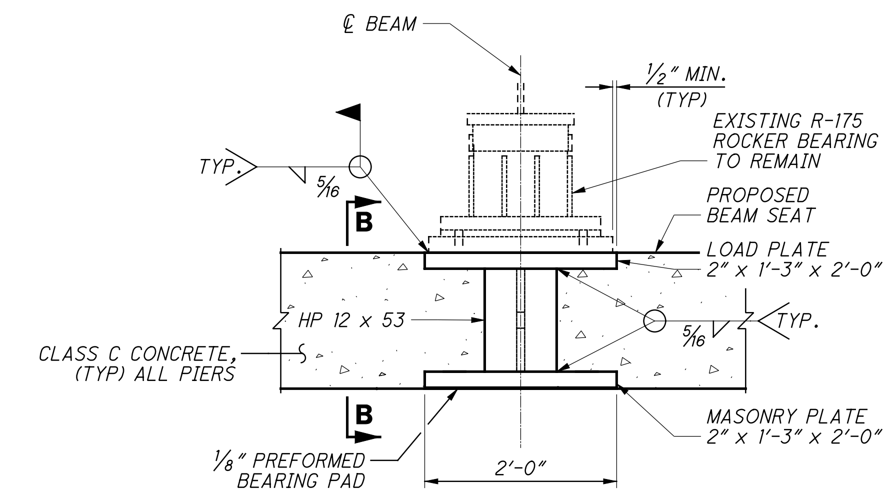
CLI/GRE-71-7.26/0.00
PID No. 75745



PLAN

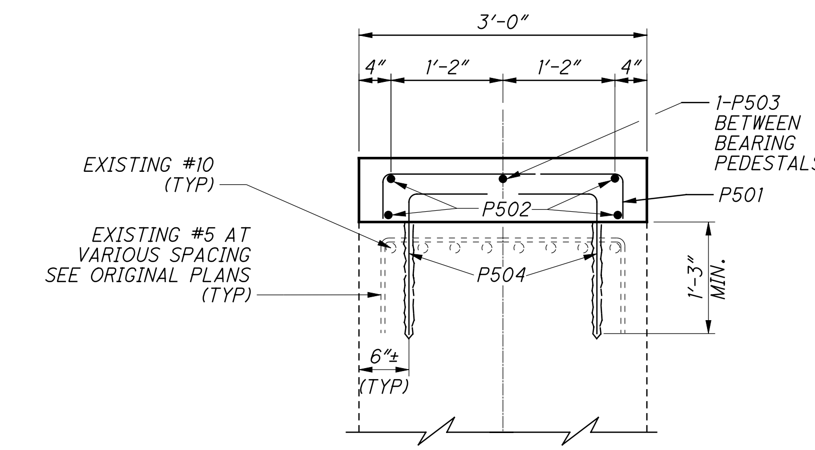


ELEVATION

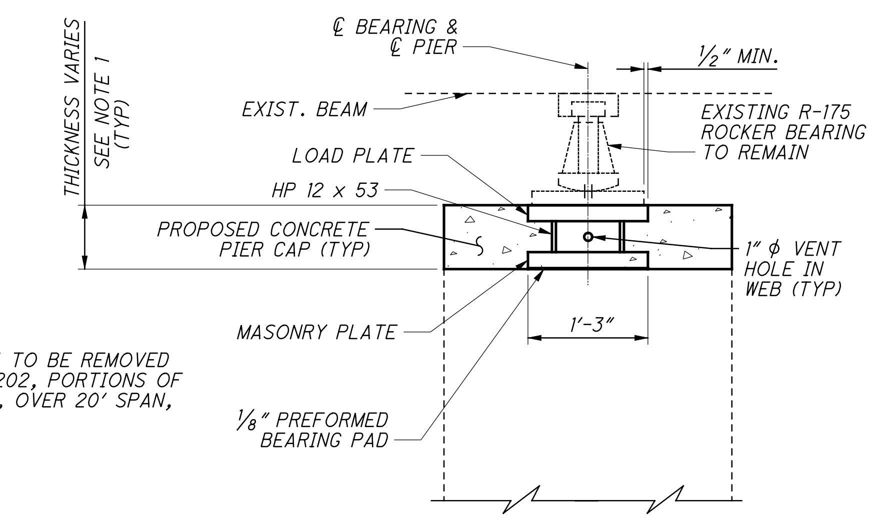


BEARING MODIFICATIONS AT PIERS 1 & 3

(VIEW NOT TO SCALE)



SECTION A-A



SECTION B-B

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED PIER CAP AND HP SECTIONS SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 8" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

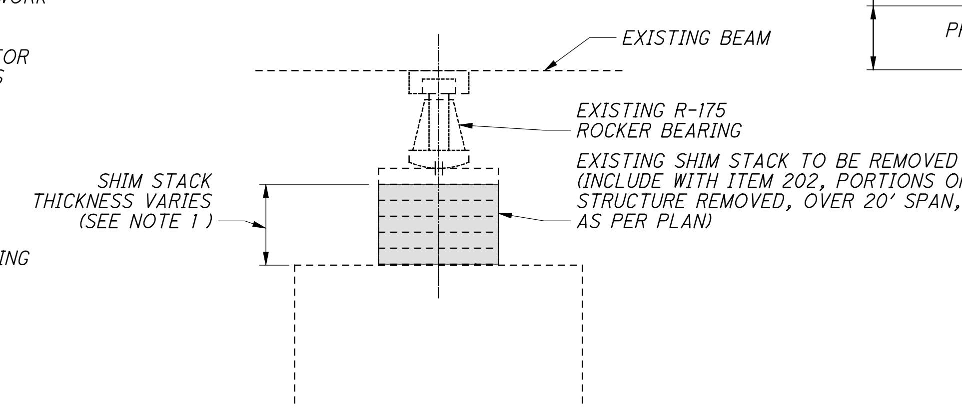
3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, BEARING DEVICE ROCKER, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

4.) LAP SPLICE LENGTH: #5 BARS = 26 INCHES.

5.) HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

6.) THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

7.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).



EXISTING BEARING CONFIGURATION

O:\ODOT\CLI\75745\bridge\CLI071_1237C\sheets\071_1237PI001.dgn 2/25/2010 2:27:17 PM dan-f

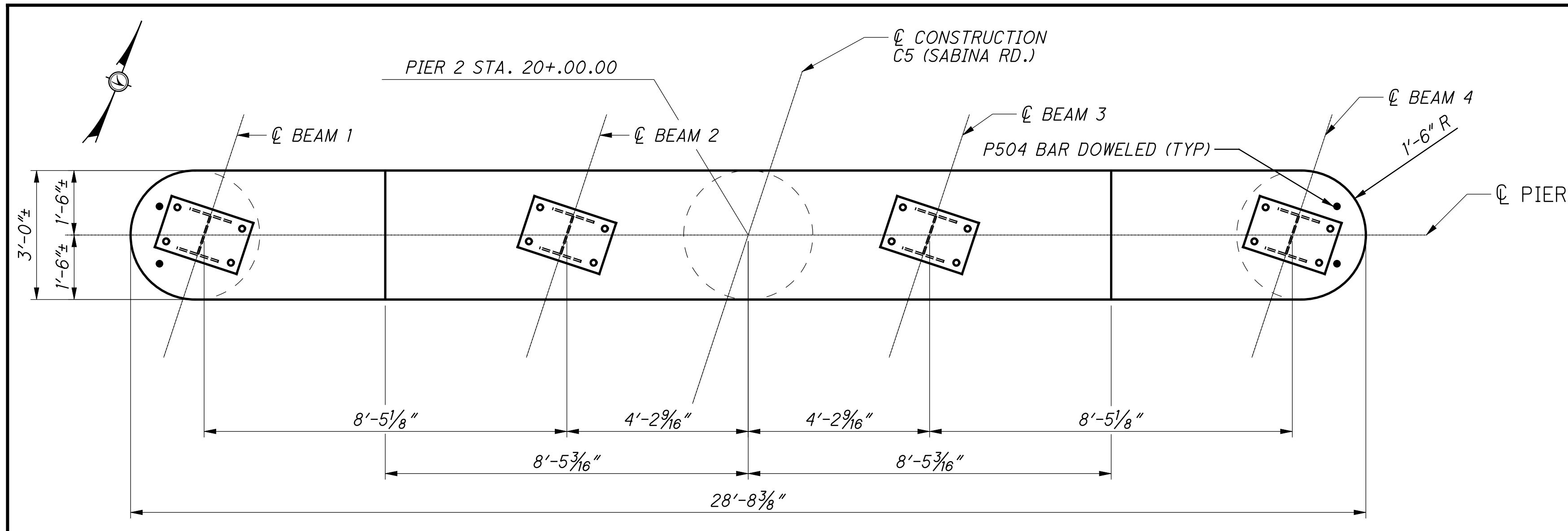
DESIGN AGENCY
PALMER ENGINEERING
1300 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401866	

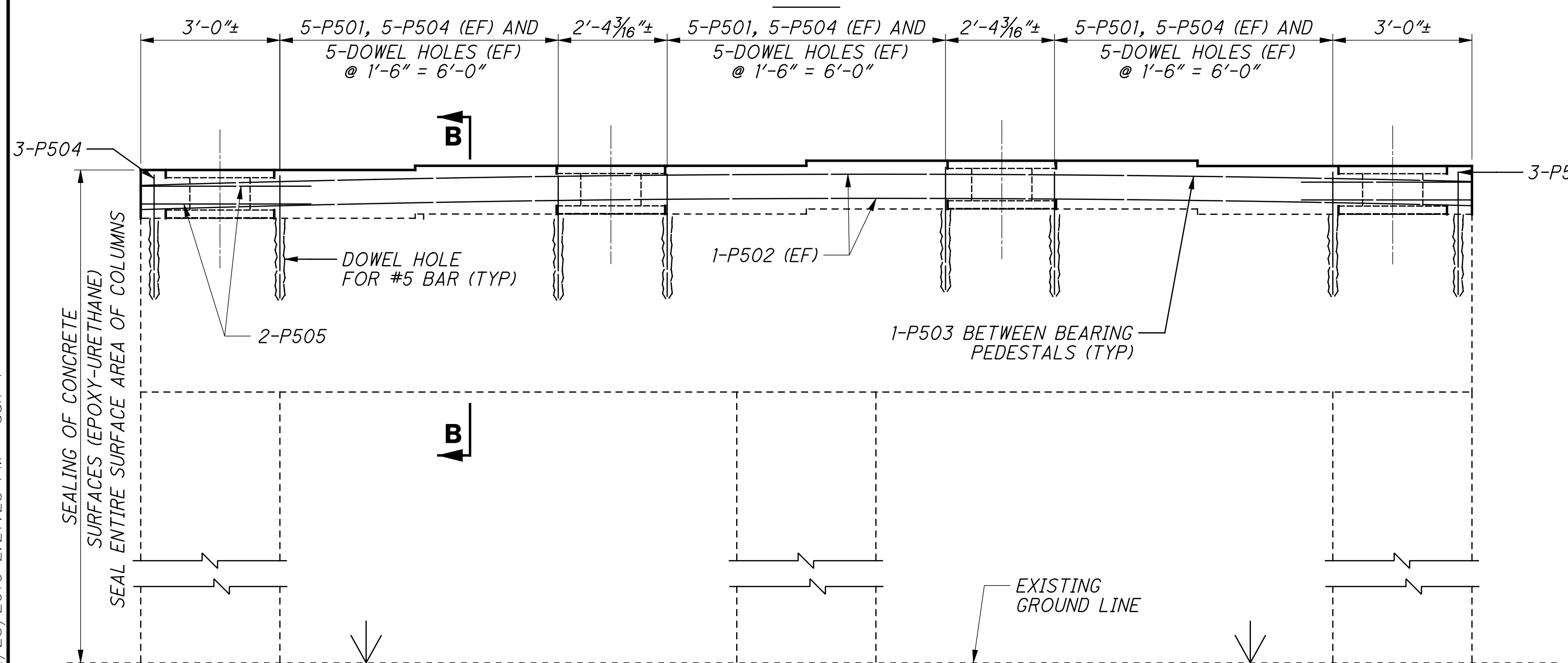
PIER MODIFICATION PLAN FOR PIERS 1 AND 3

BRIDGE NO. CLI-71-1237
C5 (SABINA ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745



PLAN



ELEVATION

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED PIER CAP AND HP SECTIONS SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 8" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS, ANCHOR RODS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, BEARING DEVICE BOLSTER, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

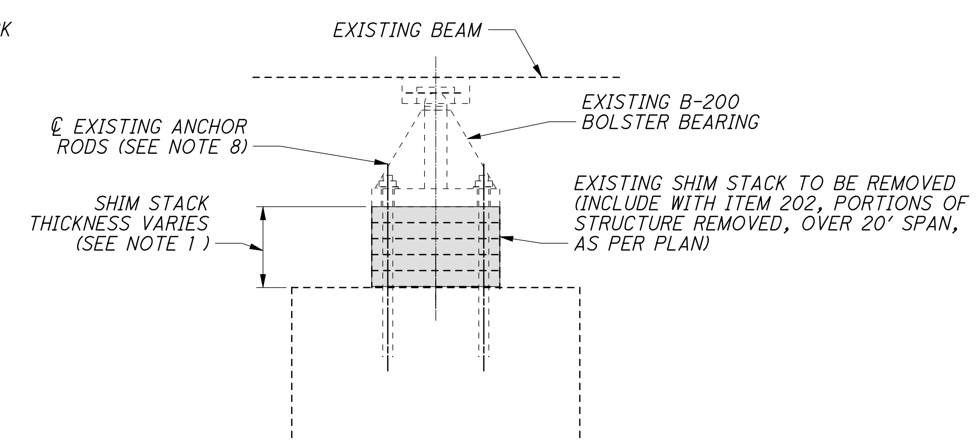
4.) LAP SPLICE LENGTH: #5 BARS = 26 INCHES.

5.) HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

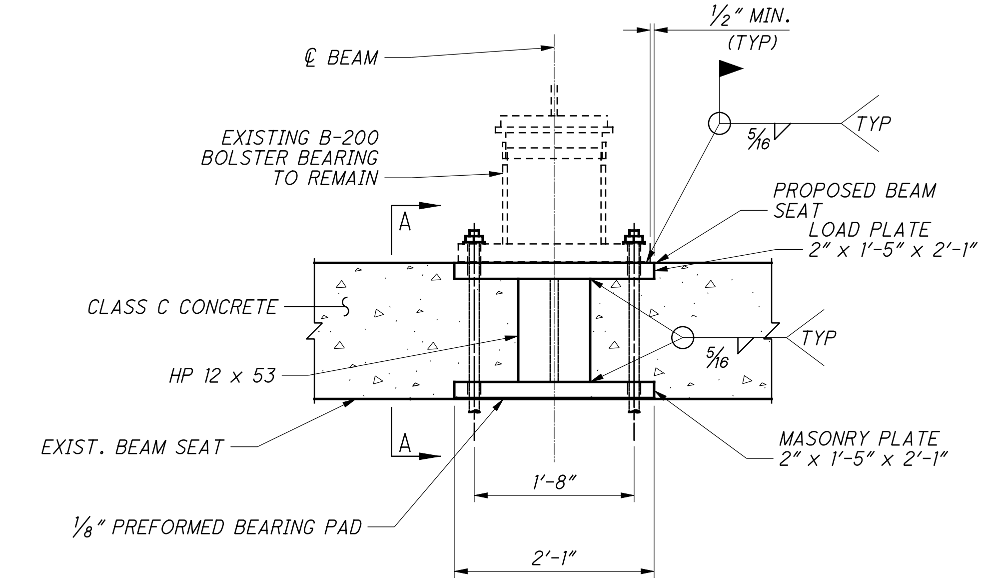
6.) THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

7.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).

8.) EXISTING ANCHOR RODS ARE TO REMAIN AND BE USED TO ANCHOR NEW BEARING AND PEDESTAL ASSEMBLY. IF NECESSARY, THE CONTRACTOR MAY CUT EXISTING ANCHOR RODS TO FACILITATE CONSTRUCTION. NEW ANCHOR RODS CAN THEN BE WELDED TO THE EXISTING ANCHOR RODS TO COMPLETE THE ASSEMBLY.

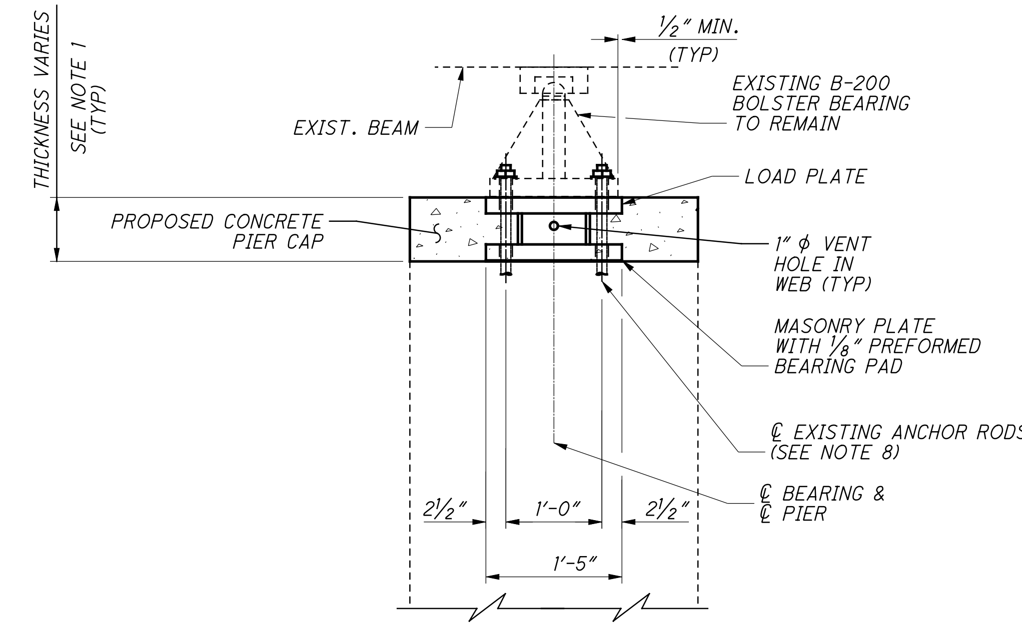


EXISTING BEARING CONFIGURATION

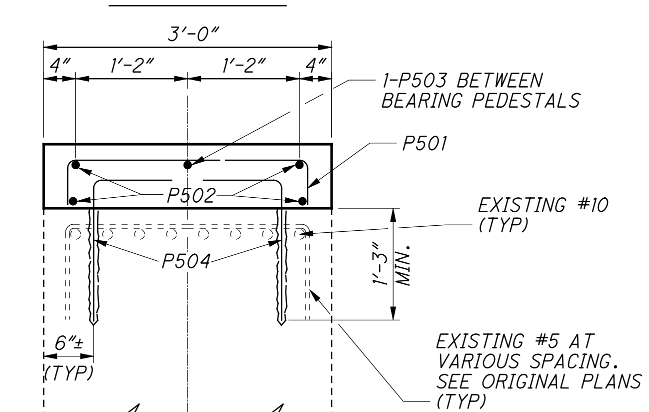


BEARING MODIFICATIONS AT PIER 2

(VIEW NOT TO SCALE)



SECTION A-A



SECTION B-B

O:\ODOT\CLI\75745\bridge\CLI071_1237C\sheets\071_1237PI002.dgn 2/25/2010 2:27:25 PM don-f

DESIGN AGENCY
PALMER ENGINEERING
1530 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401866	

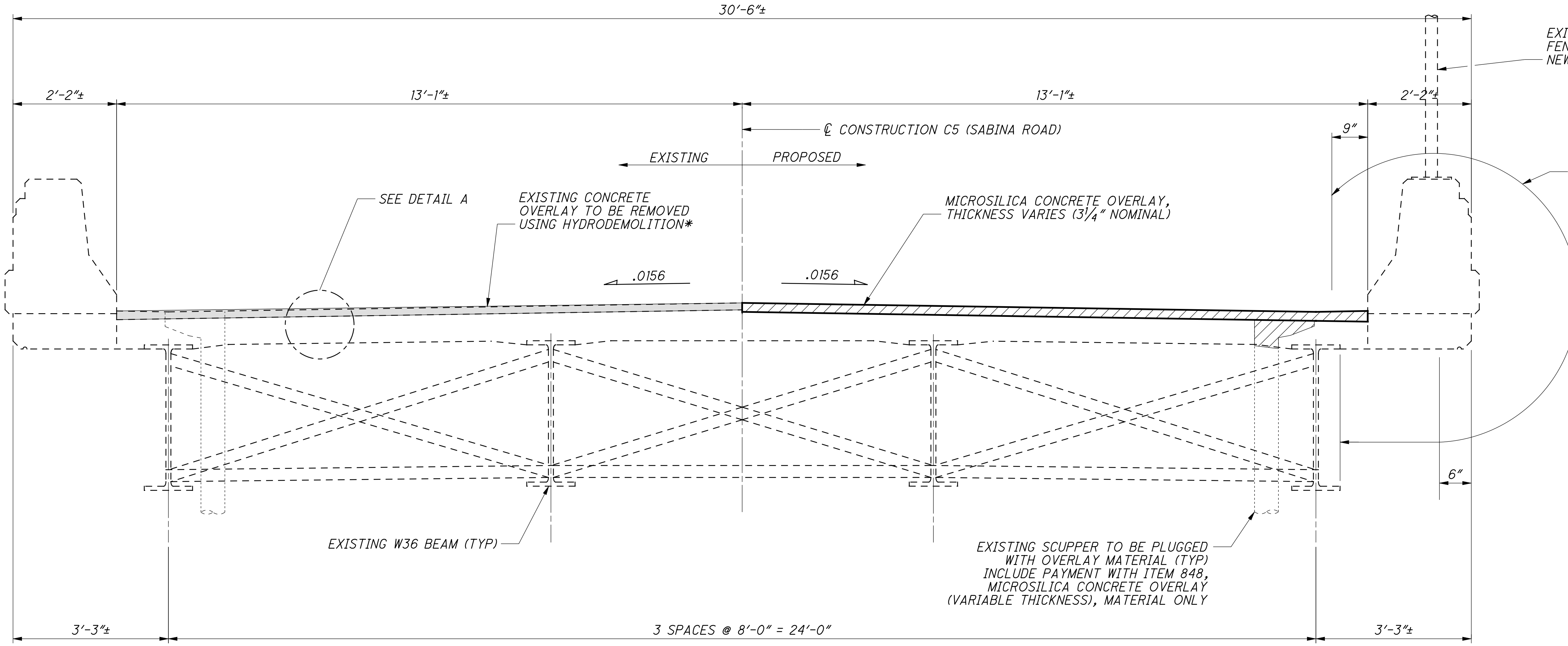
PIER MODIFICATION PLAN FOR PIER 2

BRIDGE NO. CLI-71-1237

C5 (SABINA ROAD) OVER I-71

CLI/GRE-71-7.26/0.00

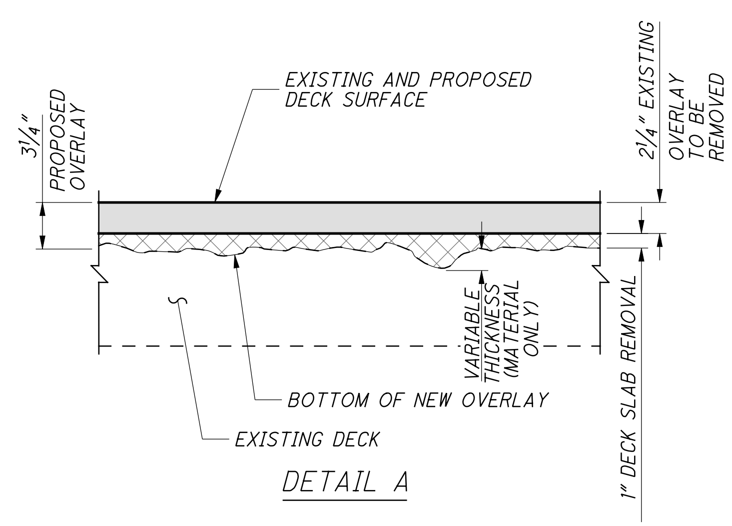
PID No. 75745



TRANSVERSE SECTION

* DEPTH OF HYDRODEMOLITION WILL BE 2¾", INCLUDING 2¼" OF EXISTING OVERLAY AND ½" OF EXISTING CONCRETE DECK

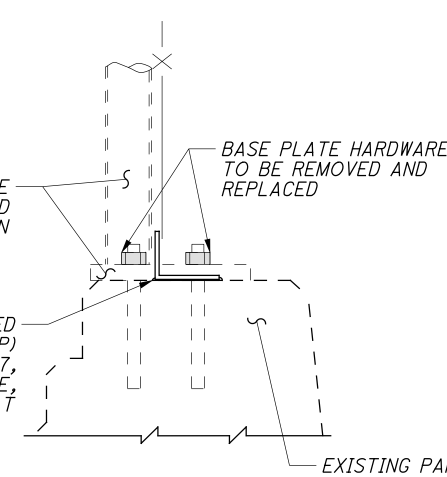
REMOVAL OF EXISTING RIGID CONCRETE OVERLAY, REFER TO SUPPLEMENTAL SPECIFICATION 848.



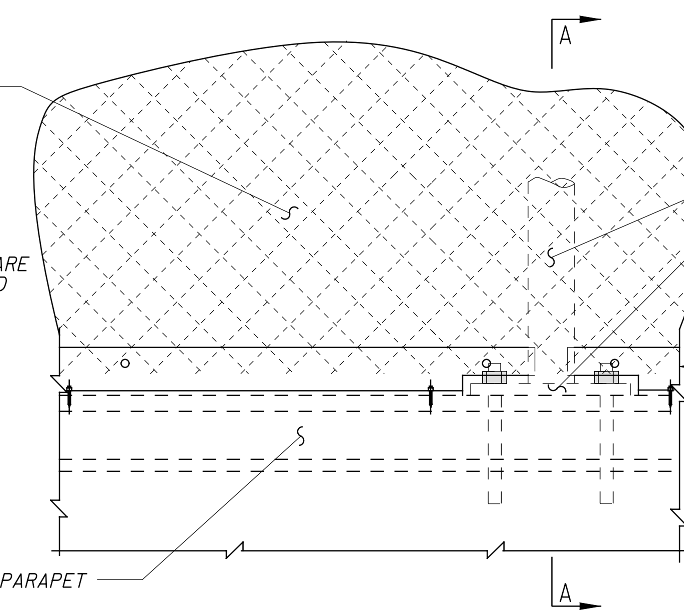
DETAIL A

EXISTING OVERLAY TO BE REMOVED USING HYDRODEMOLITION

PORTION OF EXISTING DECK AND VARIABLE THICKNESS TO BE REMOVED USING HYDRODEMOLITION



SECTION A-A



CLOSURE PLATE INSTALLATION DETAIL

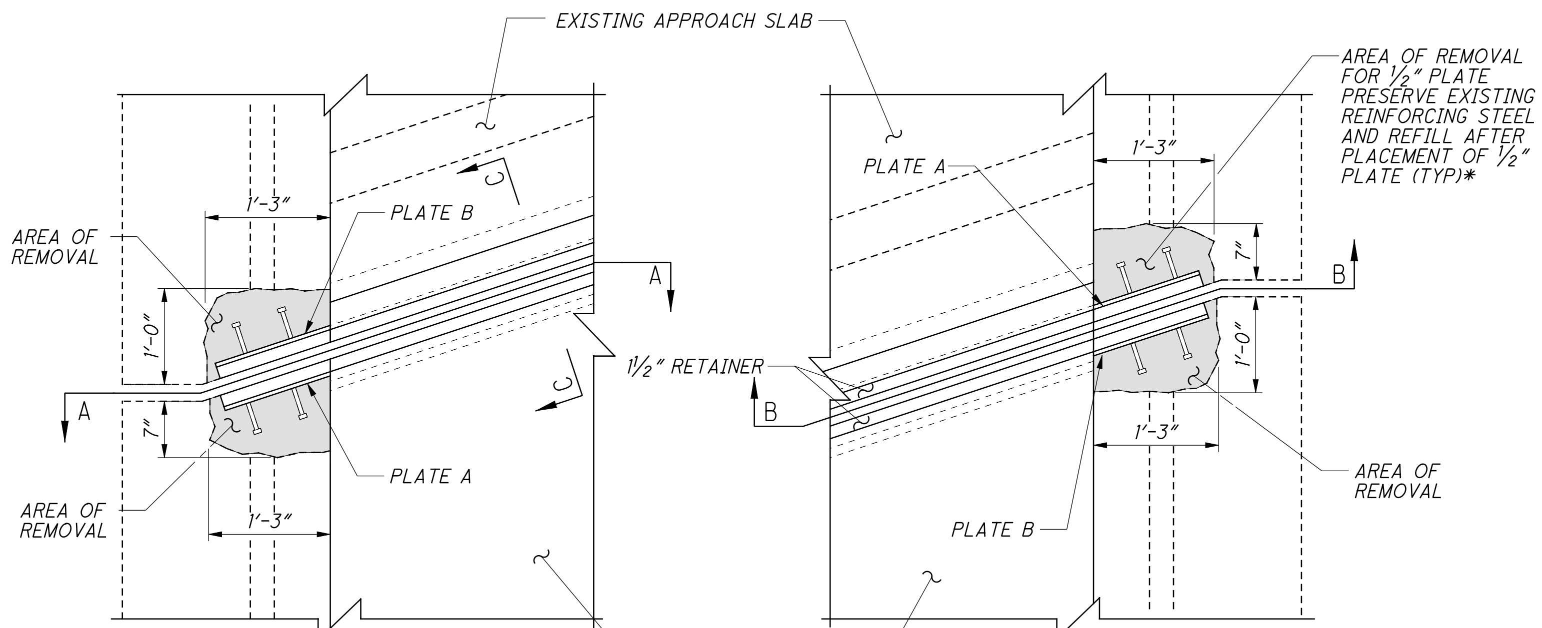
SEE STANDARD DRAWING VPF-1-90 FOR ADDITIONAL DETAILS

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242
WINCHESTER ▪ NASHVILLE ▪ LOUISVILLE ▪ CINCINNATI ▪ HURRICANE

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401866	

TRANSVERSE SECTION
BRIDGE NO. CLI-71-1237
C5 (SABINA ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

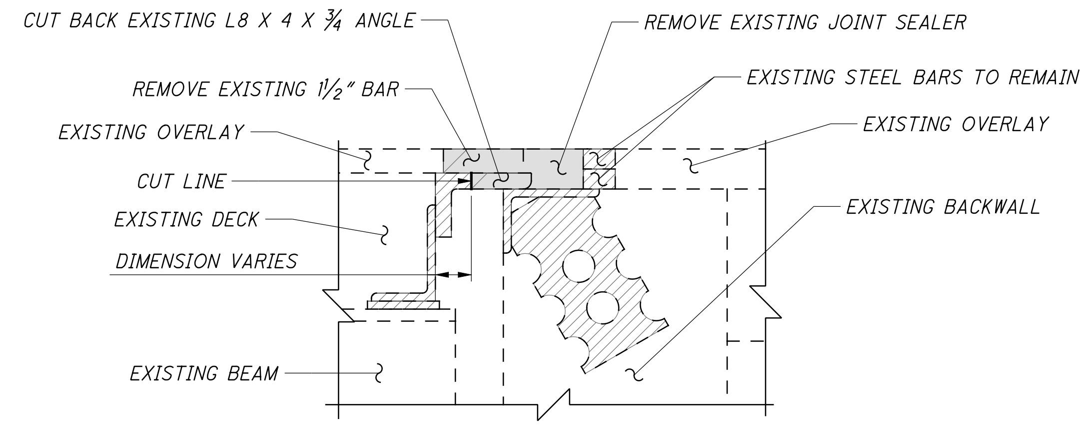


EXPANSION JOINT PLAN

(LEFT FORWARD ABUTMENT SHOWN RIGHT REAR ABUTMENT SIMILAR)

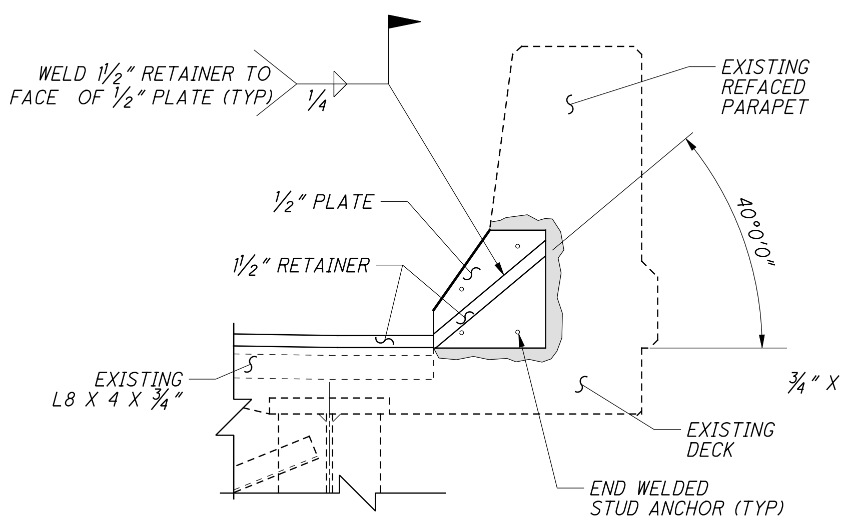
EXPANSION JOINT PLAN

(RIGHT FORWARD ABUTMENT SHOWN LEFT REAR ABUTMENT SIMILAR)

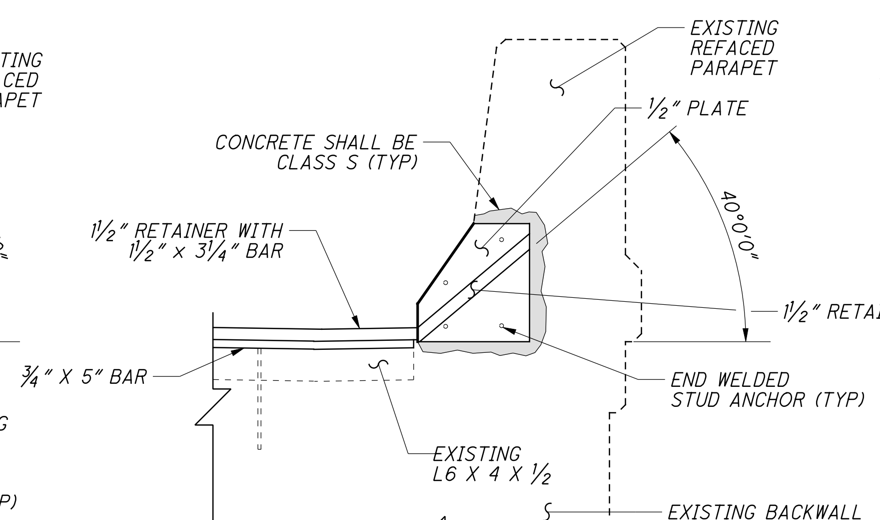


TYPICAL EXPANSION JOINT REMOVAL DETAIL

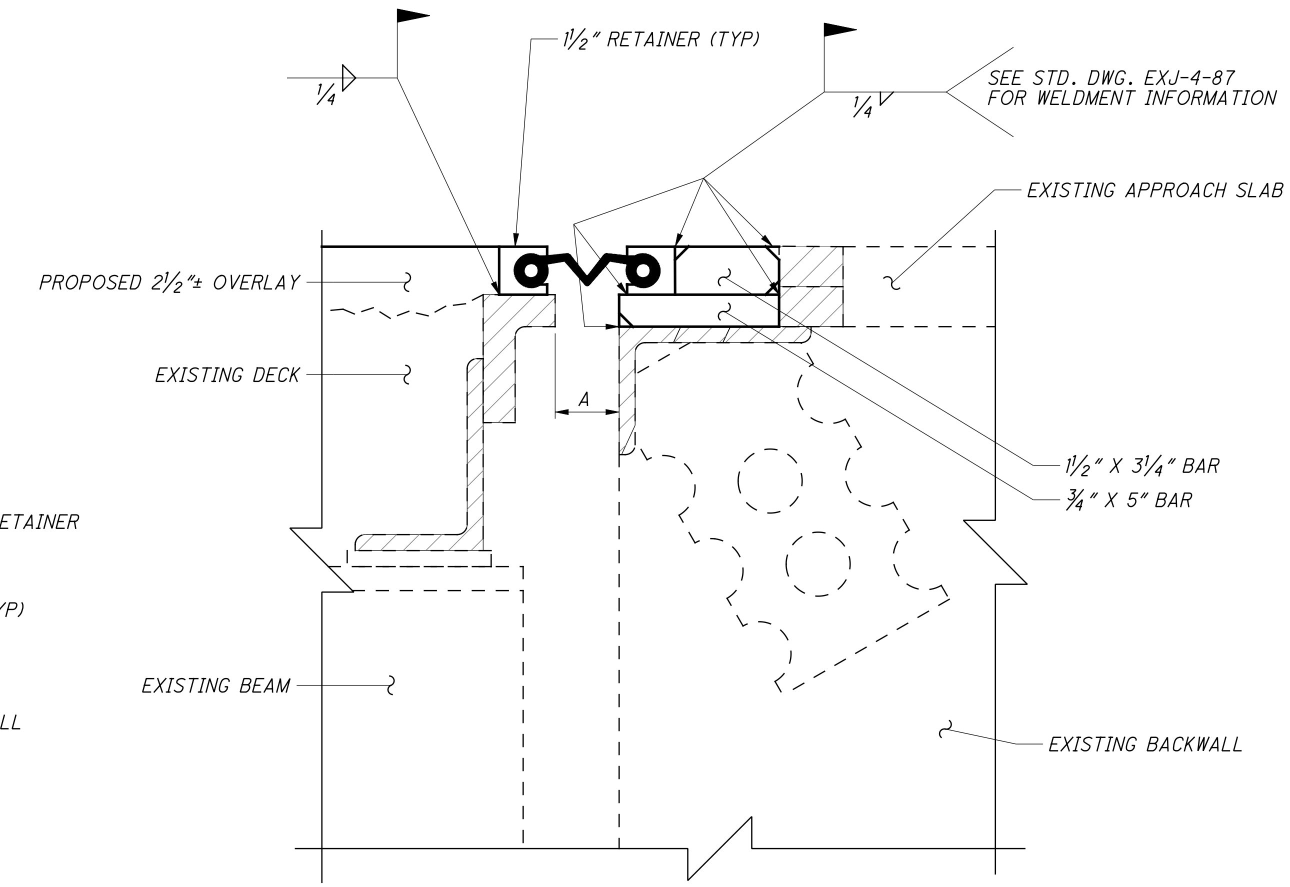
SEE NOTES THIS SHEET



VIEW A-A



VIEW B-B



SECTION C-C

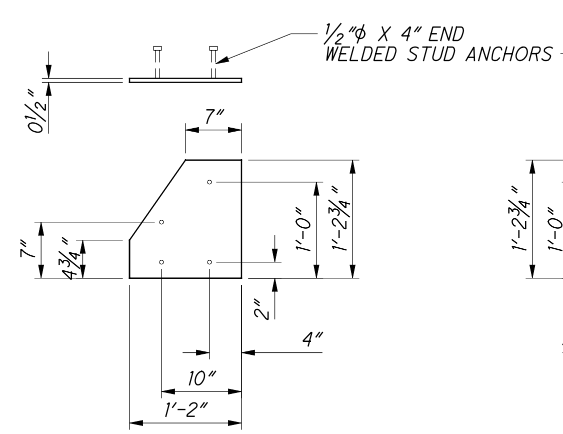


PLATE A

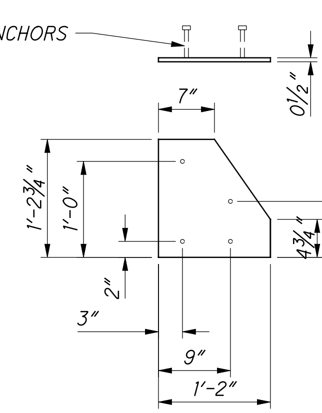


PLATE B

NOTES

1.) INCLUDE EXISTING JOINT REMOVALS WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

2.) NEW STEEL BARS SHALL BE ASTM A709 GRADE 50 AND SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

3.) CLASS S CONCRETE IS INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

4.) COSTS ASSOCIATED WITH CONNECTION RETAINERS AT THE CROWN, INCLUDING COMPLETE PENETRATION WELDS AND GRINDING SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

5.) SEE STD. DWG. EXJ-4-87 FOR ADDITIONAL NOTES.

6.) SEE SHEET 2/9 FOR GENERAL NOTES.

DIMENSION "A"
2⅜" @ 30°
2¼" @ 40°
2¼" @ 50°
2⅛" @ 60°
2" @ 70°
1⅞" @ 80°
1¾" @ 90°

PORTIONS OF STRUCTURE TO BE REMOVED*

*PAYMENT FOR REMOVAL AND PATCHING OF CONCRETE INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

EXISTING EXPANSION JOINT STEEL TO REMAIN

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401866	

EXPANSION JOINT MODIFICATION DETAILS

BRIDGE NO. CLI-71-1237

C5 (SABINA ROAD) OVER I-71

CLI/GRE-71-7.26/0.00

PID No. 75745

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL		(LBS.)		A	B	C	D	E	R	INC.
PIERS													
P501			45	3′ - 3″	153	2	6″	2′ - 6″	6″				
P502			12	25′ - 8″	321	STR							
P503			9	6′ - 0″	56	STR							
P504			108	2′ - 6″	282	1	10″	1′ - 9″					
P505			12	8′ - 0″	100	24	2′ - 4″	2′ - 2″				1′-2″	
SUBTOTAL					912								
ABUTMENTS													
A601	48	48	96	2′ - 7″	372	1	1′ - 0″	1′ - 9″					
A602	3	3	6	29′ - 6″	266	STR							
SUBTOTAL					638								
TOTAL REINFORCING STEEL					1550								

NOTES

1) THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. 'R' INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

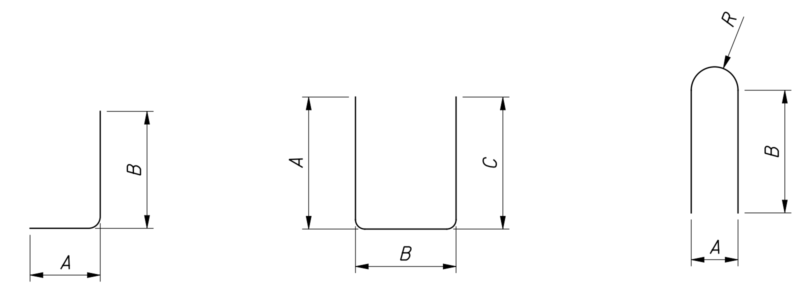
2) ALL REINFORCING STEEL SHALL BE EPOXY COATED. PAYMENT FOR REINFORCING BARS SHALL BE INCLUDED WITH ITEM 509.

3) 'STR' IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4) HOOKS AND BENDS SHOWN ON THE BENDING DIAGRAMS THAT ARE NOT DIMENSIONED SHALL BE AS SPECIFIED IN THE C.M.S. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

5) ALL REINFORCING STEEL CLEARANCES ARE 2″ UNLESS OTHERWISE NOTED.

6) FOR GENERAL NOTES, SEE SHEET 2 / 9 .



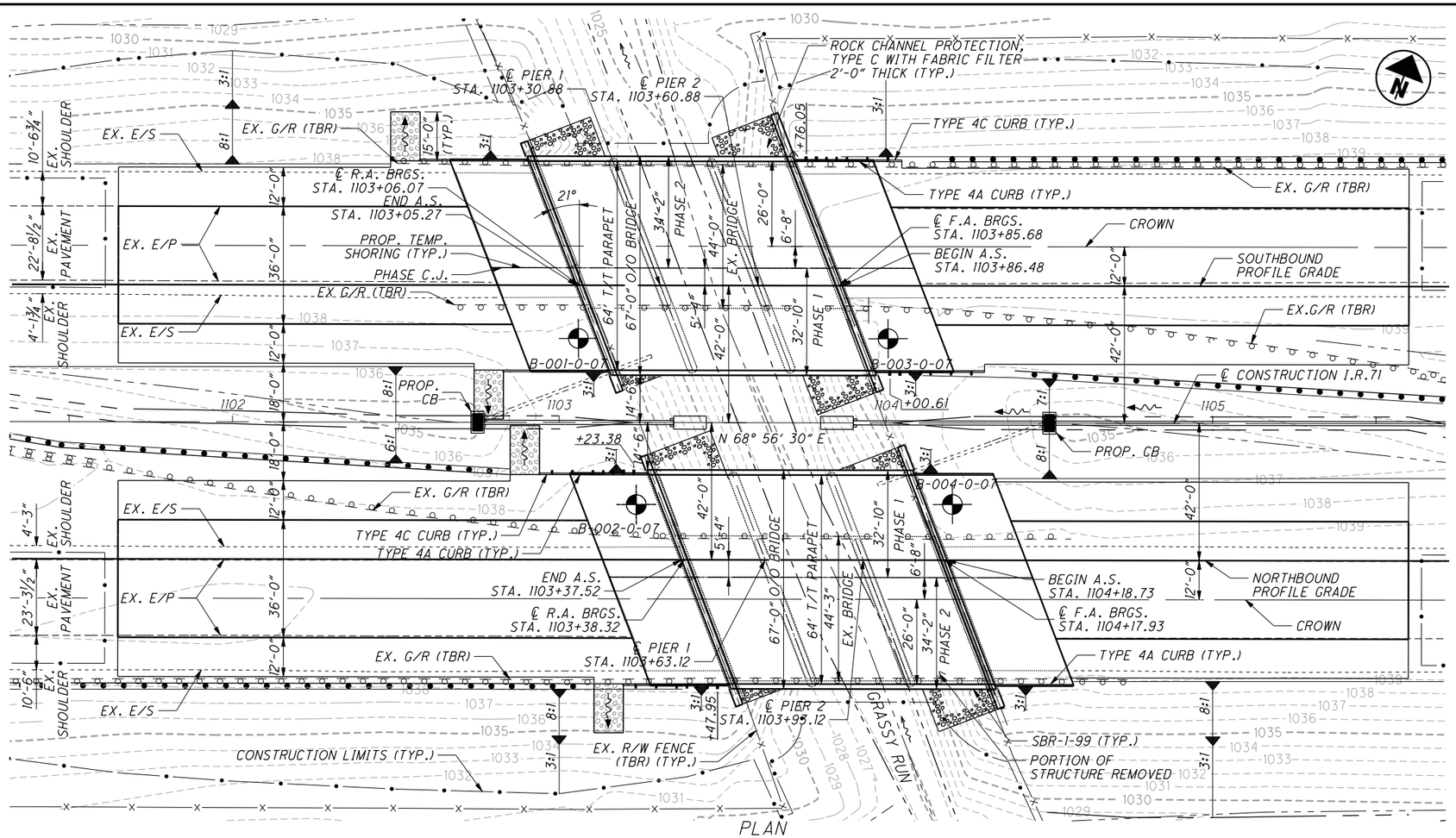
TYPE-1 TYPE-2 TYPE-24

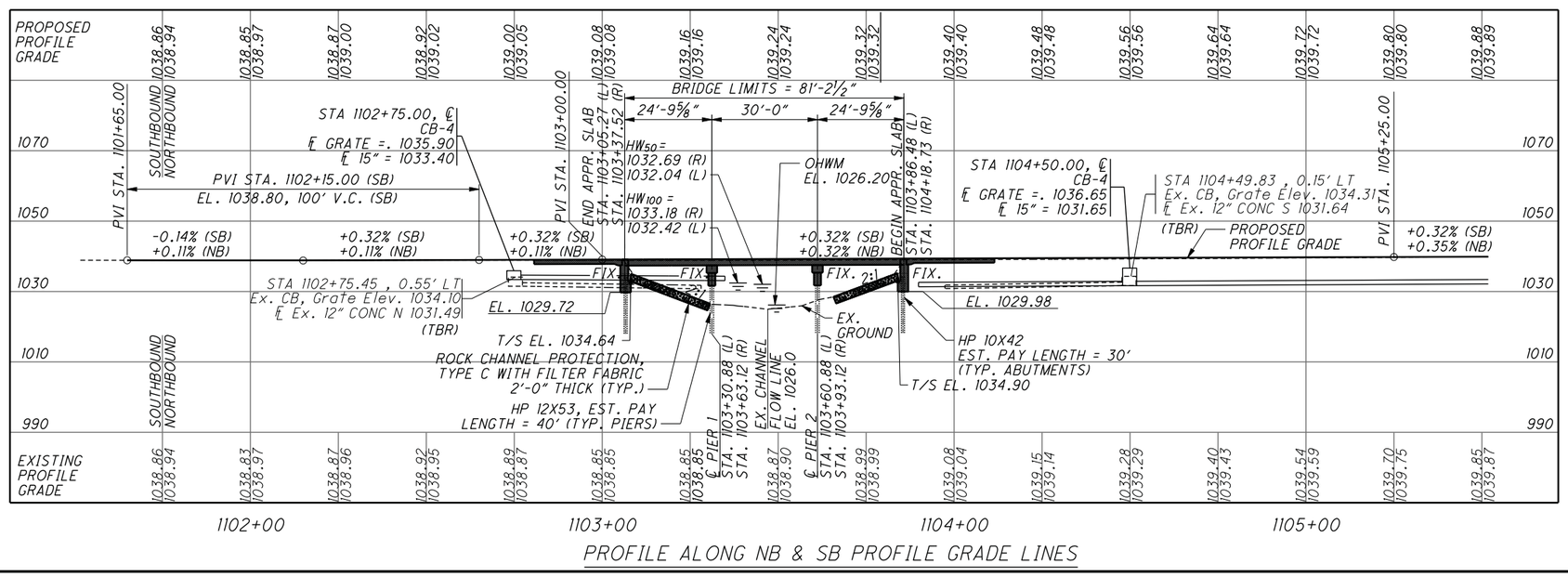
DESIGN AGENCY: PALMER ENGINEERING

DESIGNED JPR | CHECKED MLJ | DRAWN SDW | REVISED | REVIEWED BJF | DATE 1/09 | STRUCTURE FILE NUMBER 1401866

REINFORCING STEEL LIST
BRIDGE NO. CLI-71-1237
C5 (SABINA ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745





BENCHMARK DATA

BM1 STA. 1000+97.34,	EL. 1026.12 ,	OFFSET 20.94 ,	RT.
BM2 STA. 1008+73.66,	EL. 1030.41 ,	OFFSET 1.76 ,	RT.
BM3 STA. 1100+61.22 ,	EL. 1038.81 ,	OFFSET 2.70 ,	LT.
BM4 STA. 1106+66.15 ,	EL. 1039.90 ,	OFFSET 0.65 ,	RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 4/215

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:

2012 ADT = 43,850 2012 ADTT = 16,225
2024 ADT = 54,260 2024 ADTT = 20,076
DIRECTIONAL DISTRIBUTION = 52%

LEGEND

⌖ BORING LOCATION

PROPOSED WORK

1. REMOVE AND REPLACE EXISTING REINFORCED CONCRETE DECK SLAB
2. REPLACE THE PIER CAPS.
3. REPLACE THE ABUTMENT BREASTWALL TO THE PILE CAP FOUNDATION.
4. REMOVE THE EXISTING ABUTMENT BREASTWALL AND WINGWALLS.
5. CONSTRUCT NEW ABUTMENT BREASTWALL AND WINGWALLS FOR THE WIDENED BRIDGE.
6. REMOVE AND REPLACE THE EXISTING APPROACH SLABS.
7. SEAL THE CONCRETE SURFACES ON THE BRIDGE DECK, ABUTMENTS AND PIERS.

HYDRAULIC DATA

DRAINAGE AREA = 6 SQ. MILES

EXISTING RIGHT BRIDGE
Q_{50} = 1140.0 CFS V_{50} = 5.17 FT/S $EL._{50}$ = 1032.72
Q_{100} = 1320.0 CFS V_{100} = 5.55 FT/S $EL._{100}$ = 1033.16
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 4.93 FEET.

EXISTING LEFT BRIDGE
Q_{50} = 1140.0 CFS V_{50} = 5.05 FT/S $EL._{50}$ = 1032.27
Q_{100} = 1320.0 CFS V_{100} = 5.46 FT/S $EL._{100}$ = 1032.61
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 5.38 FEET.

PROPOSED RIGHT BRIDGE
Q_{50} = 1140.0 CFS V_{50} = 6.48 FT/S $EL._{50}$ = 1032.69
Q_{100} = 1320.0 CFS V_{100} = 6.96 FT/S $EL._{100}$ = 1033.18
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 4.96 FEET.

PROPOSED LEFT BRIDGE
Q_{50} = 1140.0 CFS V_{50} = 6.27 FT/S $EL._{50}$ = 1032.04
Q_{100} = 1320.0 CFS V_{100} = 6.87 FT/S $EL._{100}$ = 1032.42
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 5.61 FEET.

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH CAPPED PILE SUBSTRUCTURE
SPANS: 24'-0", 30'-0", 24'-0" (C/C BRGS.)
ROADWAY: 44'-0" F/F PARAPET
LOADING: CF 2000(57) ADEQUATE FOR AASHTO ALTERNATE LOADING
SKEW: 21°00'00" R.F.
APPROACH SLABS: AS-1-54 (25' LONG)
WEARING SURFACE: 1" MONOLITHIC CONCRETE
ALIGNMENT: TANGENT
CROWN: 0.016
STRUCTURAL FILE NUMBER: 1401890, 1401920
DATE BUILT: 1964

PROPOSED STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH CAPPED PILE SUBSTRUCTURE
SPANS: 24'-9⅝", 30'-0", 24'-9⅝" (C/C BRGS.)
ROADWAY: 64'-0" TOE/TOE PARAPET
LOADING: HS25 AND ALTERNATE MILITARY
SKEW: 21°00'00" R.F.
APPROACH SLABS: 25'-0" LONG (AS-1-81)
WEARING SURFACE: 1" MONOLITHIC CONCRETE
ALIGNMENT: TANGENT
CROWN: 0.016
COORDINATES: LATITUDE 39° 32' 48" LONGITUDE 83° 44' 54"
STRUCTURAL FILE NUMBER: 1401890, 1401920

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED JGM | DRAWN DB/JGM | REVIEWED JEP | DATE 1/2010 | CHECKED EA | REVISED | STRUCTURE FILE NUMBER 1401890/1401920

CLINTON COUNTY
STA. 1103+05.27
STA. 1104+18.73

SITE PLAN

BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/GRE-71-7.26
0.00
PID No. 75745

$DATE$ $TIME$ BY:USR
$FILEL$
MODEL: $MODELNAME$

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81	REVISED	07-19-02
CPA-1-08	DATED	07-18-08
CPP-2-94	REVISED	07-19-02
CS-1-03	DATED	04-18-03
PCB-91	REVISED	07-19-02
SBR-1-99	REVISED	07-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

898 DATED 7-17-09

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS25 AND THE ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE OF 60 PSF

DESIGN STRESSES:

CONCRETE CLASS OSC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS OSC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60
MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL

2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES & HEADACHE BALLS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. FOR CONCRETE THAT IS TO BE REMOVED WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED, THE CHIPPING HAMMER SHALL NOT EXCEED A 35-POUND CLASS. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.5.

SUBSTRUCTURE CONCRETE REMOVAL:

REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVALOF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

PILES TO BEDROCK:

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES TO A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR BY CONTACTING HARD BEDROCK AND THE PILE RECEIVING AT LEAST 20 BLOWS. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL. INSTEAD OF DRIVING TO REFUSAL, THE CONTRACTOR MAY PERFORM DYNAMIC LOAD TESTING ACCORDING TO C&MS 523 TO ESTABLISH A DRIVING CRITERIA FOR EACH PILE TYPE AND CAPACITY. ESTABLISH THE DRIVING CRITERIA TO ACHIEVE THE ULTIMATE BEARING VALUE GIVEN BELOW FOR THE PILES. PAYMENT FOR DYNAMIC LOAD TESTING PERFORMED AT THE CONTRACTOR'S OPTION IS INCLUDED IN THE UNIT PRICE PAY ITEM FOR PILES DRIVEN.

THE ULTIMATE BEARING VALUE IS 70 TONS PER PILE FOR THE ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 58 TONS PER PILE FOR THE PIER PILES.

ABUTMENT PILES:
17 PILES 35 FEET LONG, ORDER LENGTH

PIER PILES:
24 PILES 45 FEET LONG, ORDER LENGTH

ITEM SPECIAL - PILE ENCASEMENT:

ENCASE ALL STEEL H-PILES FOR THE CAPPED PILE PIERS IN CLASS C CONCRETE. PROVIDE A CONCRETE SLUMP BETWEEN 6 TO 8 INCHES WITH THE USE OF A SUPERPLASTICIZER. PLACE THE CONCRETE WITHIN A FORM THAT CONSISTS OF A POLYETHYLENE PIPE (707.33), OR PVC PIPE (707.42). THE ENCASEMENT SHALL EXTEND AS SHOWN IN THE PLANS. POSITION PIPE SO THAT AT LEAST 3 INCHES OF CONCRETE COVER IS PROVIDED AROUND THE EXTERIOR OF THE PILE.

THE DEPARTMENT WILL MEASURE PILE ENCASEMENT BY THE NUMBER OF FEET. THE DEPARTMENT WILL DETERMINE THE SUM AS THE LENGTH MEASURED ALONG THE AXIS OF EACH PILE FROM THE BOTTOM OF THE ENCASEMENT TO THE BOTTOM OF THE PIER CAP. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM SPECIAL - PILE ENCASEMENT.

UTILITY LINES:

THE UTILIT(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNDERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS AND THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 898 - OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN:

FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, OC/OA CONCRETE, CLASS OSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SOUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM 898 - OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK), AS PER PLAN:

THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

MECHANICAL CONNECTORS:

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES.

CONNECTORS AND DOWEL BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY MAY BE REPLACED BY MATERIAL WHICH MEET THE SPECIFICATIONS.

CONNECTORS AND DOWEL BAR EXTRUSIONS SHALL CONFORM WITH ITEM 509 AND SHALL BE INCLUDED IN THE BID PRICE FOR: ITEM 509 - EPOXY COATED REINFORCING STEEL.

ABBREVIATIONS:

A.S. - APPROACH SLAB
APPROX. - APPROXIMATE
BET. - BETWEEN
BRGS. - BEARINGS
B.T.A. - BRIDGE TERMINAL ASSEMBLY
C.J. - CONSTRUCTION JOINT
DIA. - DIAMETER
EB - EASTBOUND
E.P. - EXISTING PAVEMENT
E.S. - EXISTING SHOULDER
E.F. - EACH FACE
EQ. - EQUAL
EX. - EXISTING
F.A. - FORWARD ABUTMENT
F/F - FACE TO FACE
F.F. - FAR FACE
G/R - GUARDRAIL
INCR. - INCREMENT
LT. - LEFT
MSC - MICROSILICA CONCRETE
MIN. - MINIMUM
M.O.T. - MAINTENANCE OF TRAFFIC
NB - NORTH BOUND
N.F. - NEAR FACE
NE - NORTHEAST
NO. - NUMBER
NPCPP - NON-PERFORATED CORRUGATED PLASTIC PIPE
NW - NORTHWEST
O/O - OUT TO OUT
PCB - PORTABLE CONCRETE BARRIER
PCPP - PERFORATED CORRUGATED PLASTIC PIPE
PEJF - PREFORMED EXPANSION JOINT FILLER
PROP. - PROPOSED
PVMT. - PAVEMENT
R.A. - REAR ABUTMENT
REQ'D - REQUIRED
RT. - RIGHT
SB - SOUTH BOUND
SER. - SERIES
SPA. - SPACES
SUPER. - SUPERSTRUCTURE
STA. - STATION
TEMP. - TEMPORARY
TBR - TO BE REMOVED
T/T - TOE TO TOE
T/S - TOE OF SLOPE
TYP. - TYPICAL
U.N.O - UNLESS NOTED OTHERWISE
V.C. - VERTICAL CLEARANCE
W/ - WITH
WB - WESTBOUND

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	JEP	1/2010

CHECKED	REVISED	STRUCTURE FILE NUMBER
EA		1401890/1401920

GENERAL NOTES
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/GRE-71-7.26
/0.00
PID No. 75745

ESTIMATED QUANTITIES

COMPUTED BY: JGM DATE: 7/2009

CHECKED BY: EA DATE: 9/2009

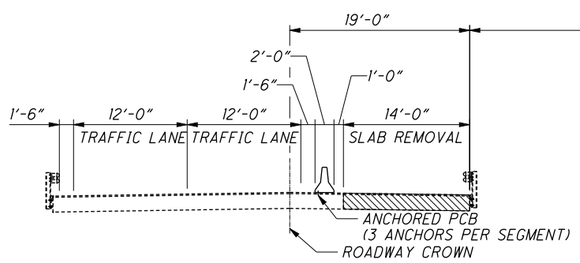
ITEM	EXT.	LEFT BRIDGE	RIGHT BRIDGE	TOTAL	UNIT	DESCRIPTION	LEFT BRIDGE ABUT.	LEFT BRIDGE SUPER.	LEFT BRIDGE PIER	LEFT BRIDGE GEN.	RIGHT BRIDGE ABUT.	RIGHT BRIDGE SUPER.	RIGHT BRIDGE PIER	RIGHT BRIDGE GEN.
202	11203	LUMP	LUMP	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	LUMP	LUMP	LUMP		LUMP	LUMP	LUMP	
202	22900	245	245	490	SQ YD	APPROACH SLAB REMOVED		245				245		
503	11100	LUMP	LUMP	LUMP		COFFERDAMS AND EXCAVATION BRACING	LUMP				LUMP			
503	21300	LUMP	LUMP	LUMP	CU YD	UNCLASSIFIED EXCAVATION	LUMP				LUMP			
505	11100	LUMP	LUMP	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION	LUMP		LUMP		LUMP		LUMP	
507	00100	315	280	595	FT	STEEL PILES HP 10 X 42, FURNISHED	315				280			
507	00150	270	240	510	FT	STEEL PILES HP 10 X 42, DRIVEN	270				240			
507	00200	540	540	1,080	FT	STEEL PILES HP 12 X 53, FURNISHED			540				540	
507	00250	480	480	960	FT	STEEL PILES HP 12 X 53, DRIVEN			480				480	
SPECIAL	507E71200	564	564	1,128	FT	PILE ENCASEMENT			564				564	
509	10000	93,151	92,340	185,491	POUND	EPOXY COATED REINFORCING STEEL	10949	78008	4194		10491	77655	4194	
512	10100	339	338	677	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	61	206	72		60	206	72	
512	10300	19	19	38	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN		19				19		
512	33300	39	39	78	SQ YD	TYPE A WATERPROOFING	39				39			
512	44400	3	3	6	SQ YD	TYPE B WATERPROOFING	3				3			
516	10000	144	144	288	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL	144				144			
516	13200	112	112	224	SQ FT	1/2" PREFORMED ELASTOMERIC JOINT FILLER	112				112			
516	13600	139	140	279	SQ FT	1" PREFORMED ELASTOMERIC JOINT FILLER	139				140			
516	25000	519	504	1,023	SQ FT	NYLON REINFORCED NEOPRENE SHEETING	519				504			
518	21200	90	93	183	CU YD	POROUS BACKFILL WITH FILTER FABRIC	90				93			
518	40000	173	168	341	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	173				168			
518	40010	76	85	161	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	76				85			
601	32204	125	125	250	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER				125				125
898	10201	291	291	582	CU YD	OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK), AS PER PLAN		291				291		
898	10705	362	362	724	SQ YD	OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=15"), AS PER PLAN		362				362		
898	11000	26	26	52	CU YD	OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (PARAPET)		26				26		
898	20100	44	45	89	CU YD	OC/OA CONCRETE, CLASS OSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)			44				45	
898	20160	101	97	198	CU YD	OC/OA CONCRETE, CLASS OSC1, SUBSTRUCTURE (ABUTMENT INCLUDING FOOTING)	101				97			

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

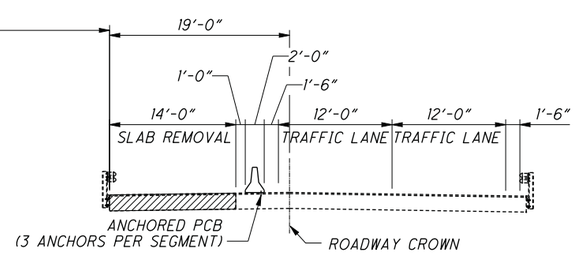
DESIGNED JGM | DRAWN JGM | REVIEWED JEP | DATE 1/2010 | CHECKED EA | REVISED | STRUCTURE FILE NUMBER 1401890/1401920

ESTIMATED QUANTITIES
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI-71-7.26
PID No. 75745



PHASE I TRAFFIC AND PHASE I REMOVAL



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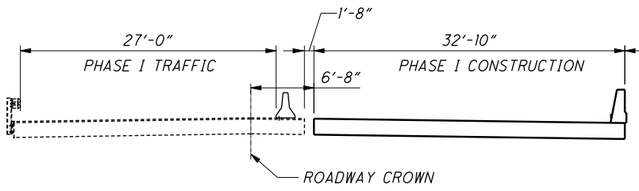
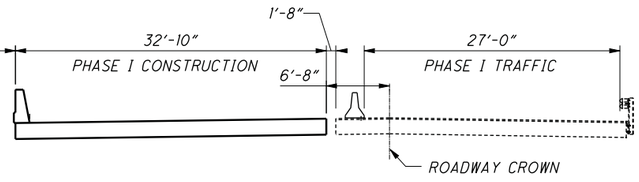


PHASE I TRAFFIC AND PHASE I CONSTRUCTION



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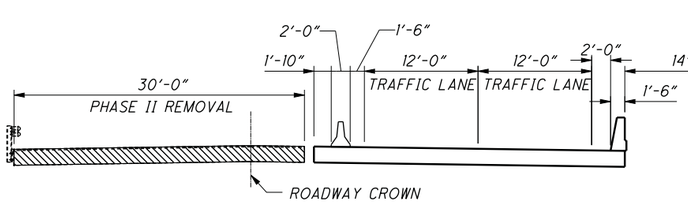

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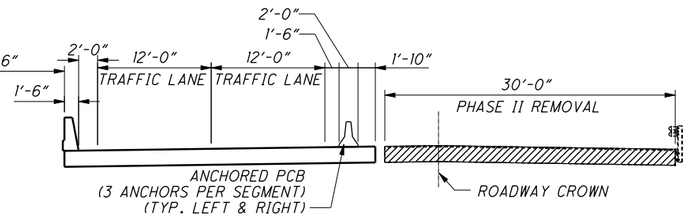
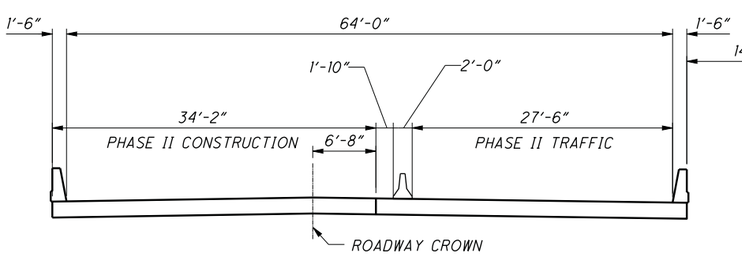
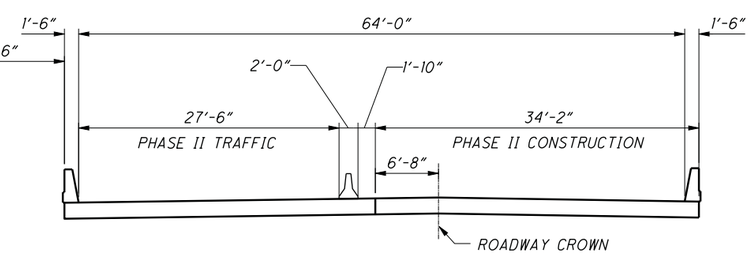


PHASE II TRAFFIC AND PHASE II REMOVAL



PHASE II TRAFFIC AND PHASE II AND PHASE III CONSTRUCTION



PHASE II TRAFFIC AND PHASE II AND PHASE III CONSTRUCTION

NOTE:

1. PHASE III CONSTRUCTION CONSISTS OF MEDIAN RESTORATION.

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR
COLUMBUS, OH 43231
(614)-714-0270 FAX (614)-714-0322

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JGM	JGM	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA		1401890/1401920	

PHASE CONSTRUCTION DETAILS
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

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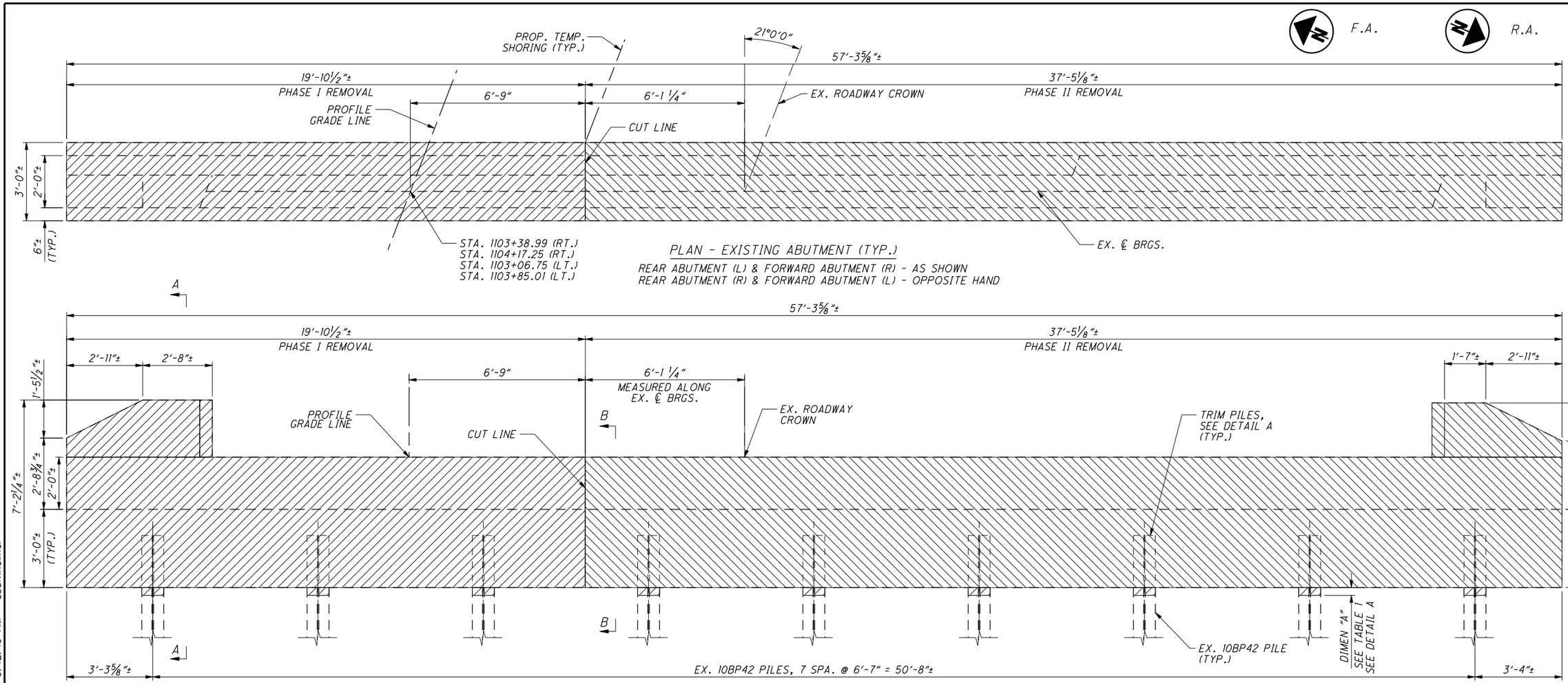
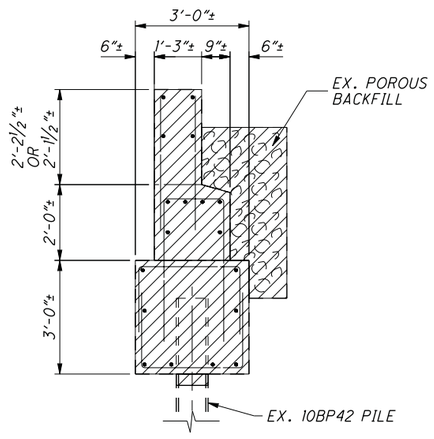


PLAN - EXISTING ABUTMENT (TYP.)

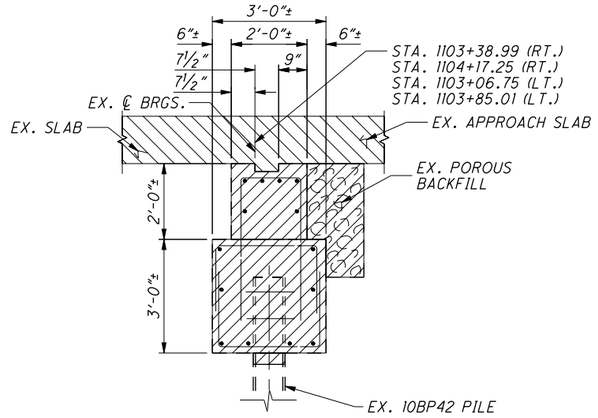
REAR ABUTMENT (L) & FORWARD ABUTMENT (R) - AS SHOWN
REAR ABUTMENT (R) & FORWARD ABUTMENT (L) - OPPOSITE HAND

ELEVATION - EXISTING ABUTMENT (TYP.)

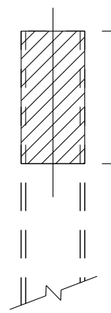
REAR ABUTMENT (L) & FORWARD ABUTMENT (R) - AS SHOWN
REAR ABUTMENT (R) & FORWARD ABUTMENT (L) - OPPOSITE HAND



SECTION A-A



SECTION B-B



DETAIL A

LEGEND

- PHASE I REMOVAL
- PHASE II REMOVAL

NOTES:

1. ALL EXISTING DIMENSIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO REMOVAL.
2. TRIMMING OF THE PILES SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN, FOR PAYMENT.

TABLE 1

LOCATION	DIMEN "A"
R.A. (LT.)	4"
R.A. (RT.)	4"
F.A. (LT.)	6"
F.A. (RT.)	2"

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BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
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EXISTING ABUTMENT REMOVAL

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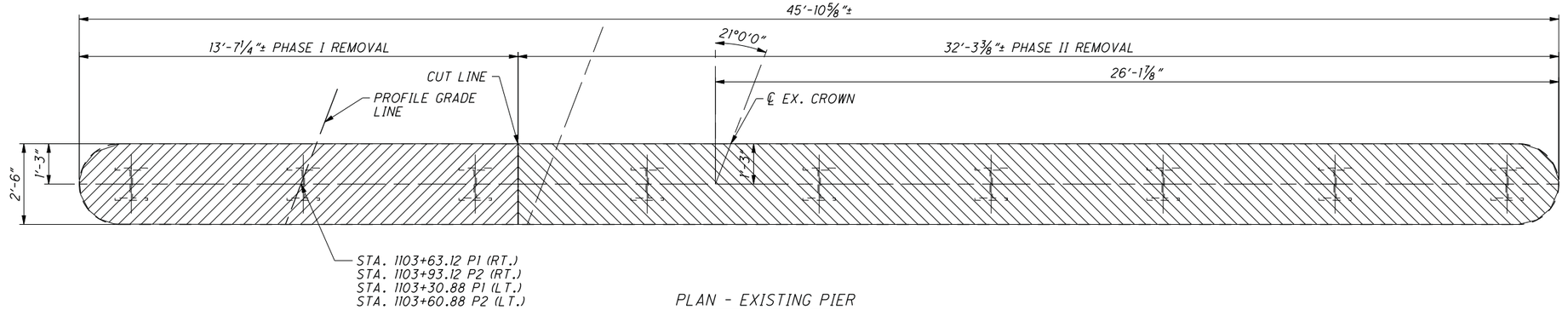
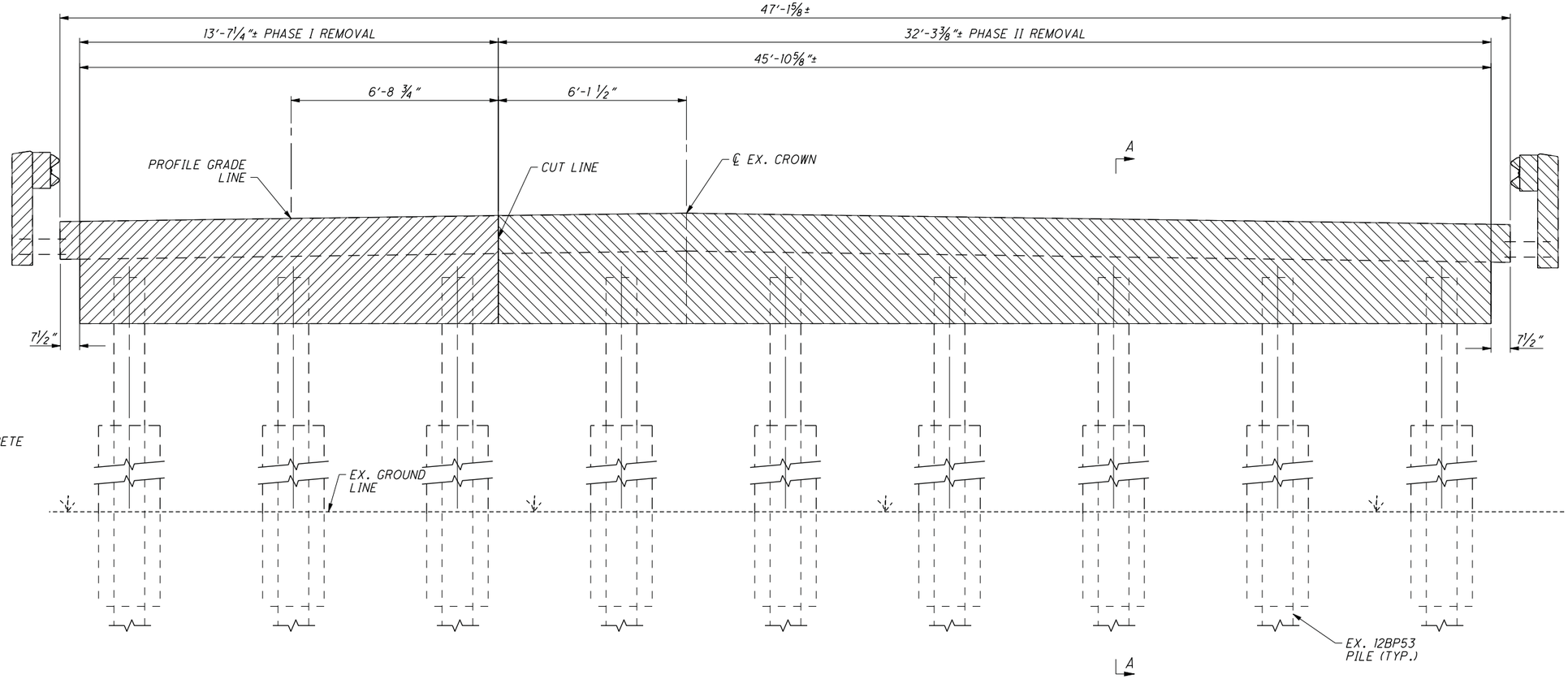


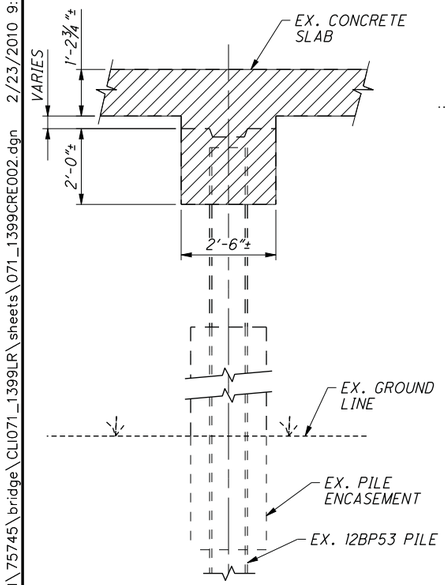
PLAN - EXISTING PIER

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)



ELEVATION - EXISTING PIER

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)



SECTION A-A

LEGEND

- PHASE I REMOVAL
- PHASE II REMOVAL

NOTE:
ALL EXISTING DIMENSIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO REMOVAL.

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BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

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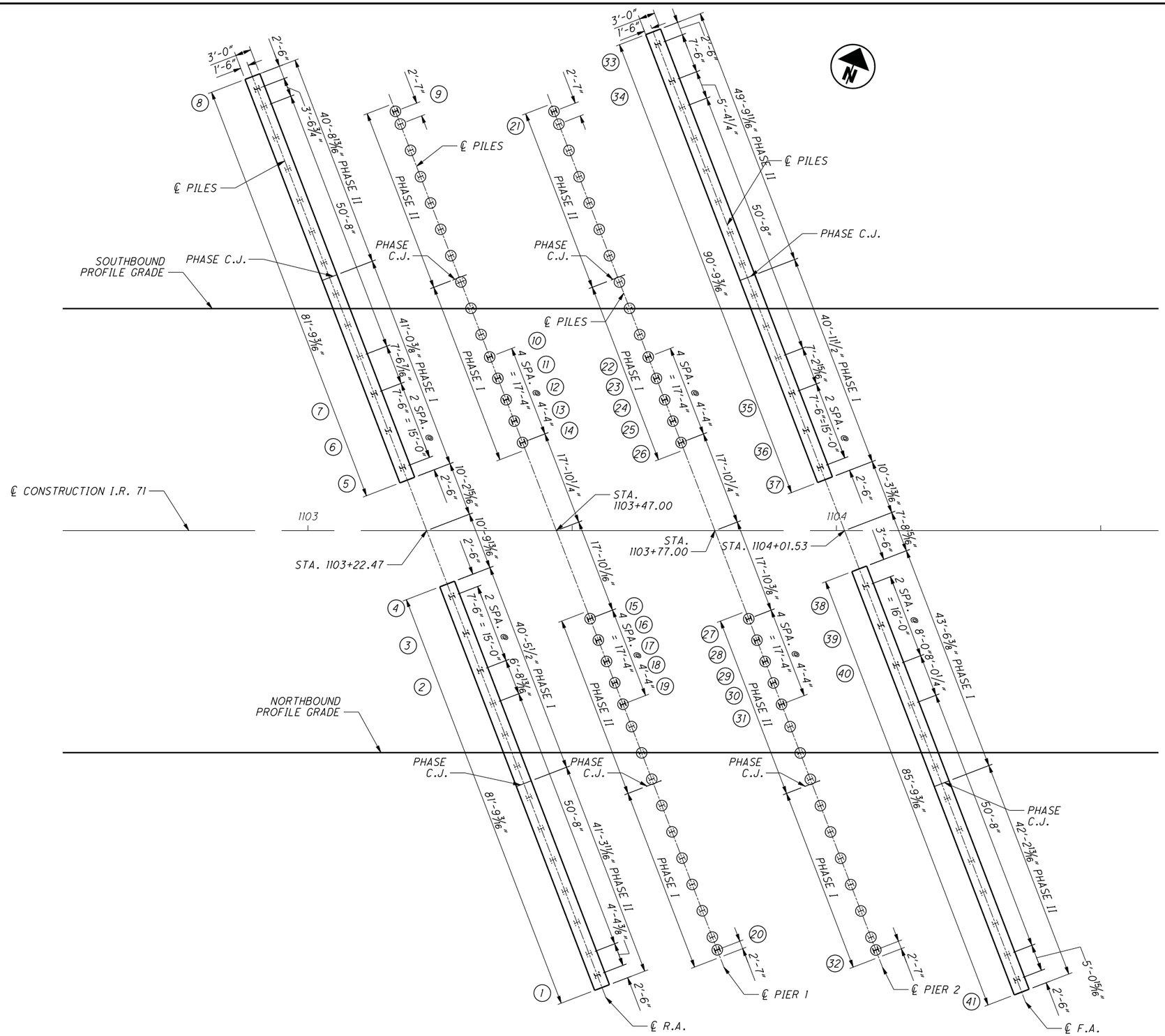
EXISTING PIER REMOVAL

BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/GRE-71-7.26/0.00
PID No. 75745



FOOTING LAYOUT PLAN

LEGEND:

(X) - PILE NUMBER

- EX. 10BP42 PILES

- EX. 12BP53 PILES W/ PROP. ENCASEMENT

- PROP. HP10X42 PILES

- PROP. HP12X53 PILES

NOTES:

1. ESTIMATED PILE LENGTHS:
   REAR ABUTMENT: 40'
   FORWARD ABUTMENT: 40'
   PIERS: 40'

2. FOR ABBREVIATIONS, SEE SHEET 2/18.

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2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

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FOOTING LAYOUT PLAN
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/ GRE-71-7.26
/0.00
PID No. 75745

7 / 18

155
218

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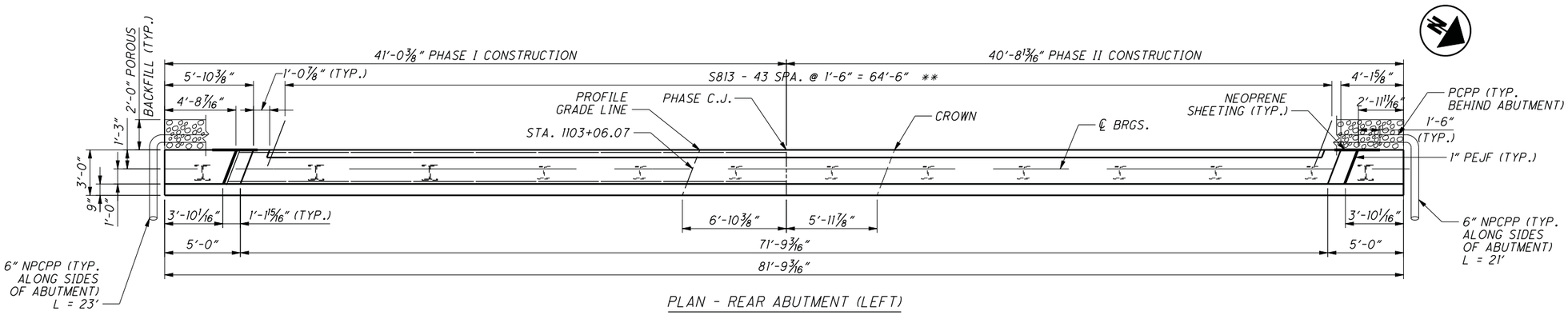
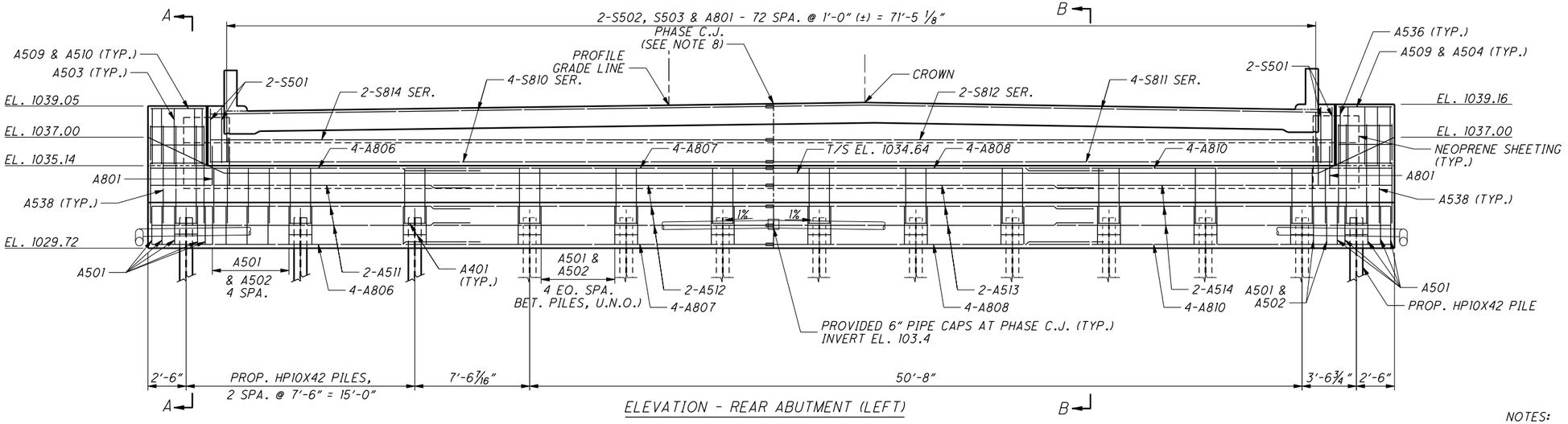
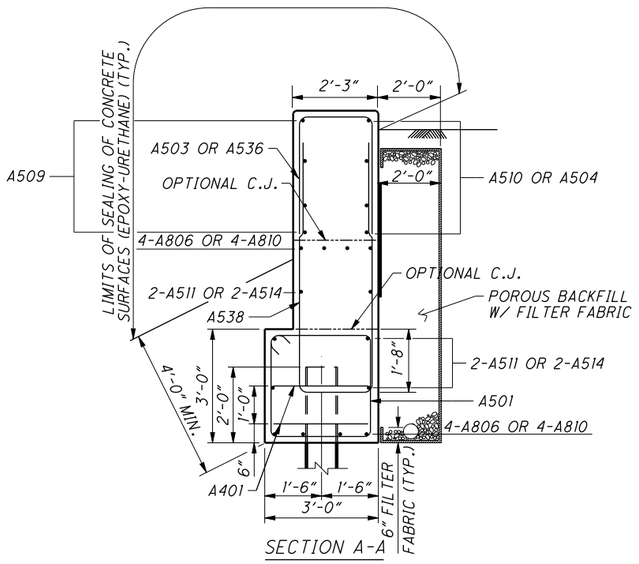


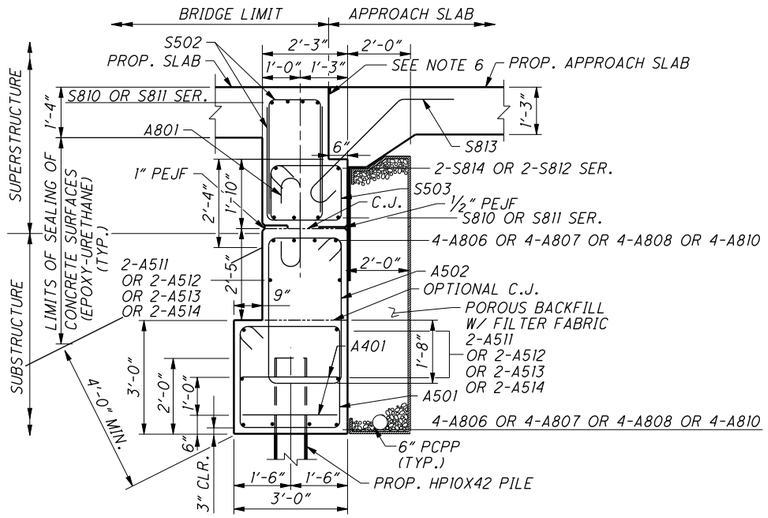
PLAN - REAR ABUTMENT (LEFT)



ELEVATION - REAR ABUTMENT (LEFT)



SECTION A-A



SECTION B-B

NOTES:

1. ALL EXISTING DIMENSIONS ARE APPROXIMATE.

2. SEE FOUNDATION PLAN SHEET 7/18 FOR PILE NUMBERS.

3. ESTIMATED AVG. PAY LENGTH FOR HP10x42 PILES = 40'

4. MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/18.

5. LAP #5 BARS: 3'-5" MIN.
LAP #8 BARS: 7'-3" MIN.

6. SEE DETAIL B ON STANDARD DRAWINGS AS-1-81.

7. SEE SHEET 2/16 FOR ABBREVIATIONS.

8. APPLY TYPE B WATERPROOFING TO VERTICAL FACE OF PHASE CONST. JOINT.

9. APPROACH SLAB CONCRETE SHALL NOT BE PLACED WITH THE DECK POUR

LEGEND:

** - MEASURED PERPENDICULAR TO THE CENTERLINE OF ROADWAY

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED KCS/JGM | DRAWN JGM/KCS | REVIEWED JEP | DATE 1/2010
CHECKED EA | REVISED | STRUCTURE FILE NUMBER 1401890/1401920

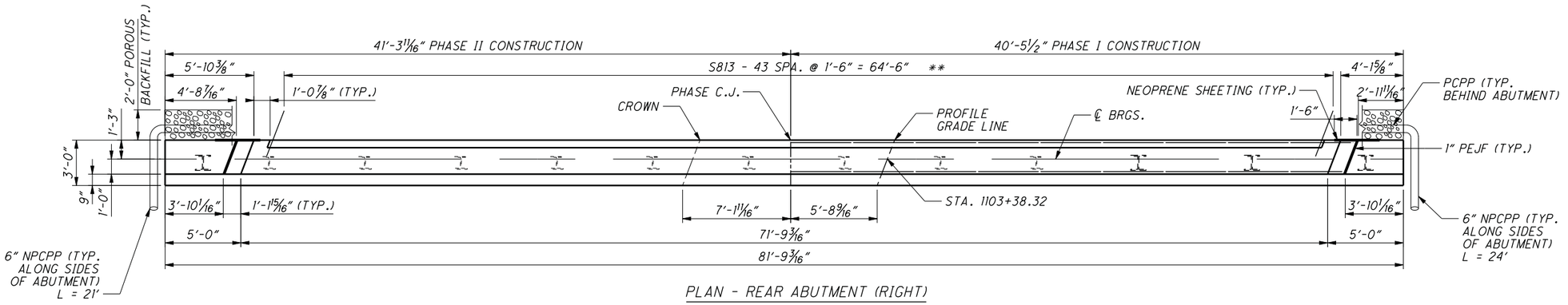
REAR ABUTMENT - LEFT
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/GRE-71-7.26
/0.00
PID No. 75745

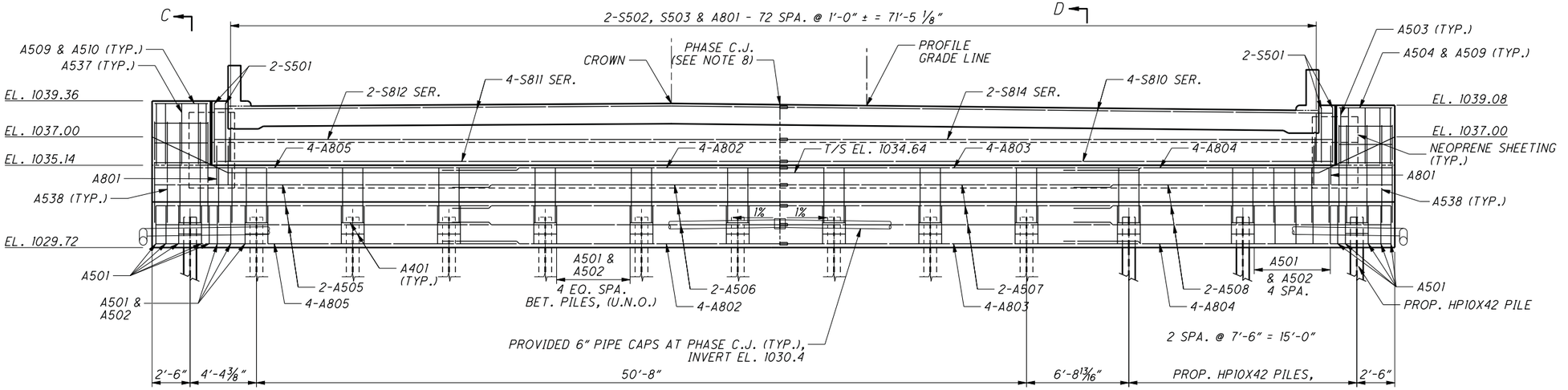
8 / 18

156 / 218

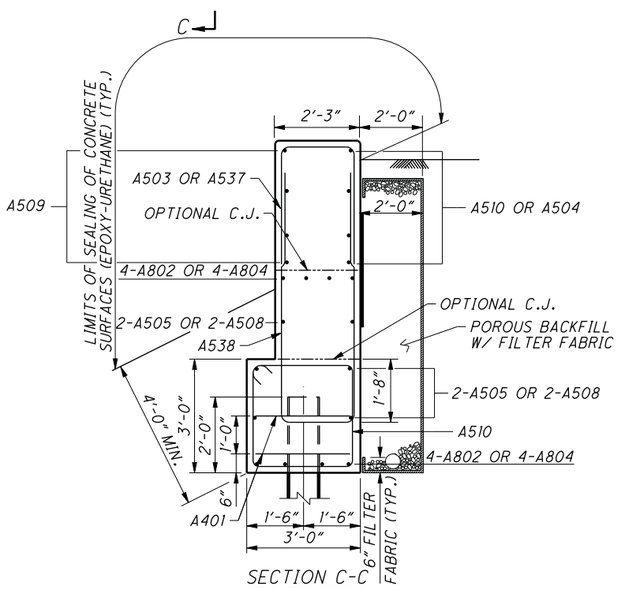
REAR ABUT.



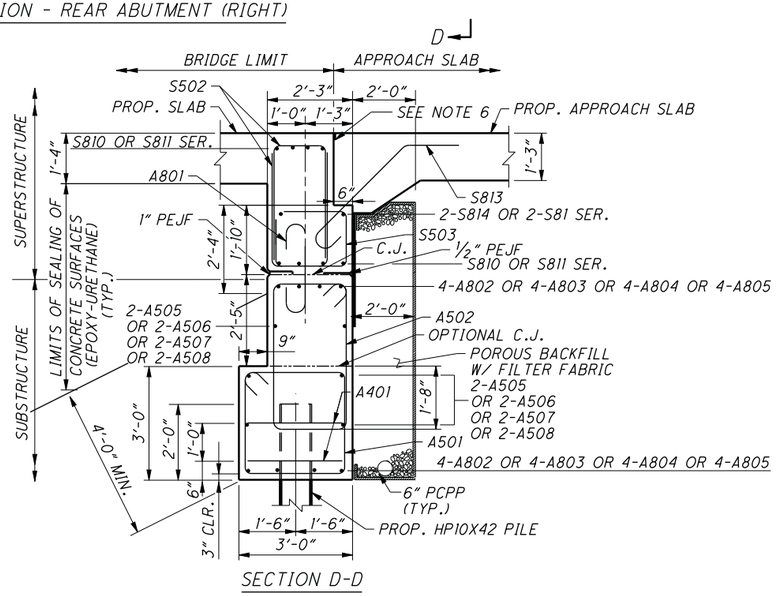
PLAN - REAR ABUTMENT (RIGHT)



ELEVATION - REAR ABUTMENT (RIGHT)



SECTION C-C



SECTION D-D

NOTES:

1. ALL EXISTING DIMENSIONS ARE APPROXIMATE.

2. SEE FOUNDATION PLAN SHEET 7/18 FOR PILE NUMBERS.

3. ESTIMATED AVG. PAY LENGTH FOR HP10x42 PILES = 40'

4. MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/18.

5. LAP #5 BARS: 3'-5" MIN.
   LAP #8 BARS: 7'-3" MIN.

6. SEE DETAIL B ON STANDARD DRAWINGS AS-1-81.

7. SEE SHEET 2/16 FOR ABBREVIATIONS.

8. APPLY TYPE B WATERPROOFING TO VERTICAL FACE OF PHASE CONST. JOINT.

9. APPROACH SLAB CONCRETE SHALL NOT BE PLACED WITH THE DECK POUR

LEGEND:

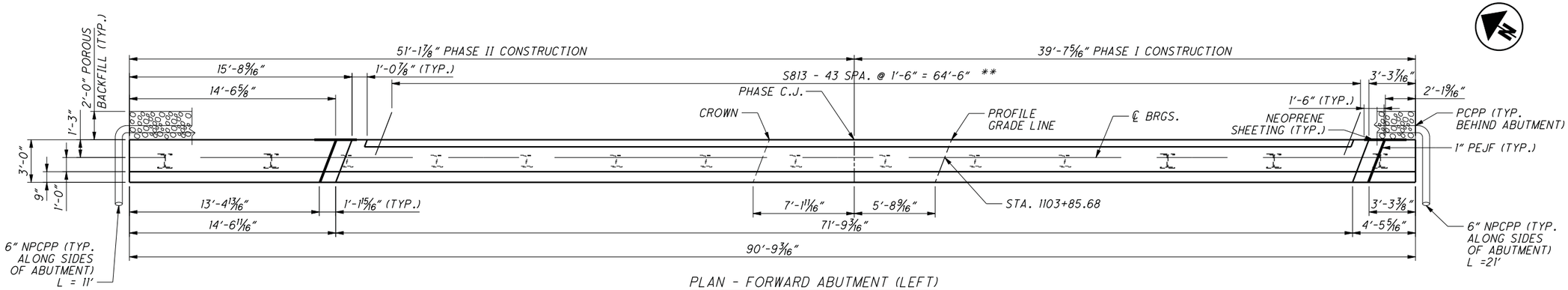
** - MEASURED PERPENDICULAR TO THE CENTERLINE OF ROADWAY

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

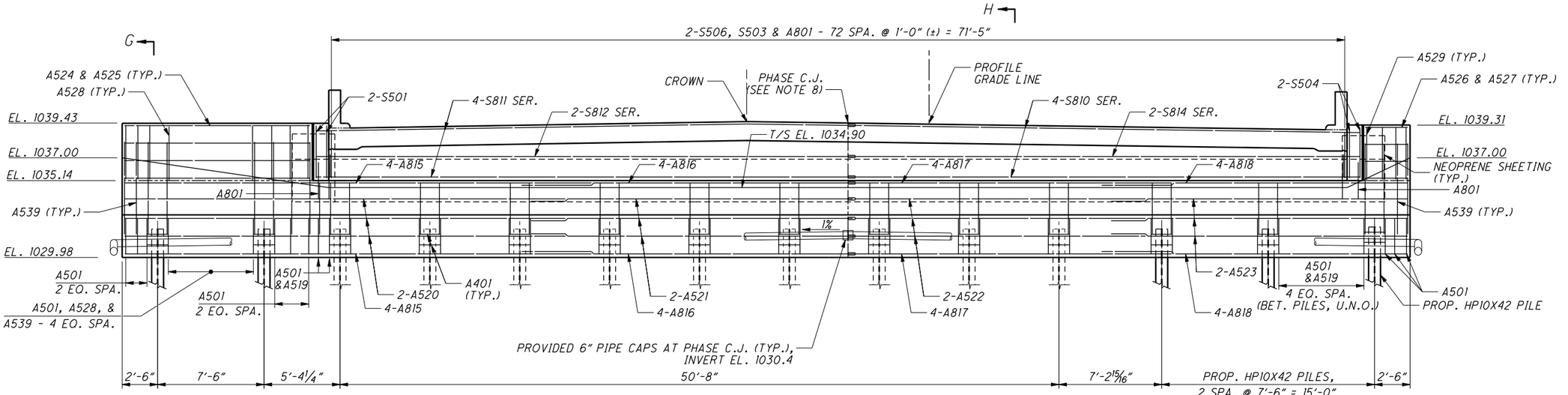
DESIGNED	DRAWN	REVIEWED	DATE
KCS/JGM	JGM/KCS	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA		1401890/1401920	

REAR ABUTMENT - RIGHT
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

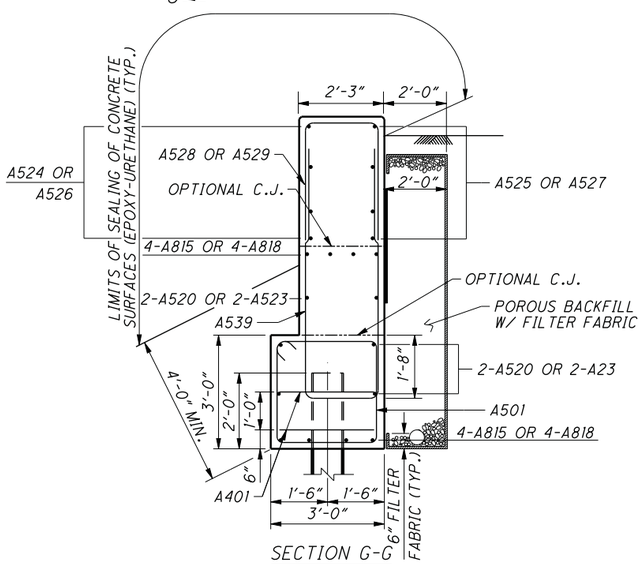
CLI/GRE-71-7.26
/0.00
PID No. 75745



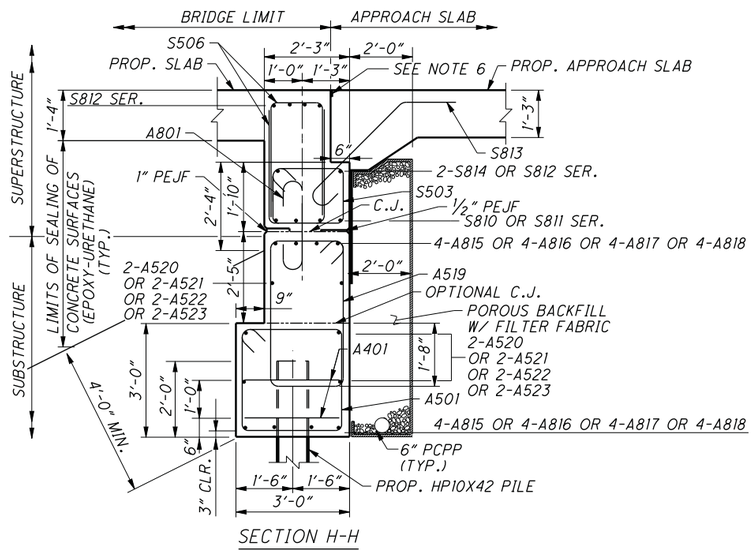
PLAN - FORWARD ABUTMENT (LEFT)



ELEVATION - FORWARD ABUTMENT (LEFT)



SECTION G-G



SECTION H-H

NOTES:

1. ALL EXISTING DIMENSIONS ARE APPROXIMATE.

2. SEE FOUNDATION PLAN SHEET 7/18 FOR PILE NUMBERS.

3. ESTIMATED AVG. PAY LENGTH FOR HP10x42 PILES = 40'

4. MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/18.

5. LAP #5 BARS: 3'-5" MIN.
LAP #8 BARS: 7'-3" MIN.

6. SEE DETAIL B ON STANDARD DRAWINGS AS-1-81.

7. SEE SHEET 2/16 FOR ABBREVIATIONS.

8. APPLY TYPE B WATERPROOFING TO VERTICAL FACE OF PHASE CONST. JOINT.

9. APPROACH SLAB CONCRETE SHALL NOT BE PLACED WITH THE DECK POUR

LEGEND:

** - MEASURED PERPENDICULAR TO THE CENTERLINE OF ROADWAY

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
KCS/JGM	JGM/KCS	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA		1401890/1401920	

FORWARD ABUTMENT - LEFT

BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/GRE-71-7.26
/0.00
PID No. 75745

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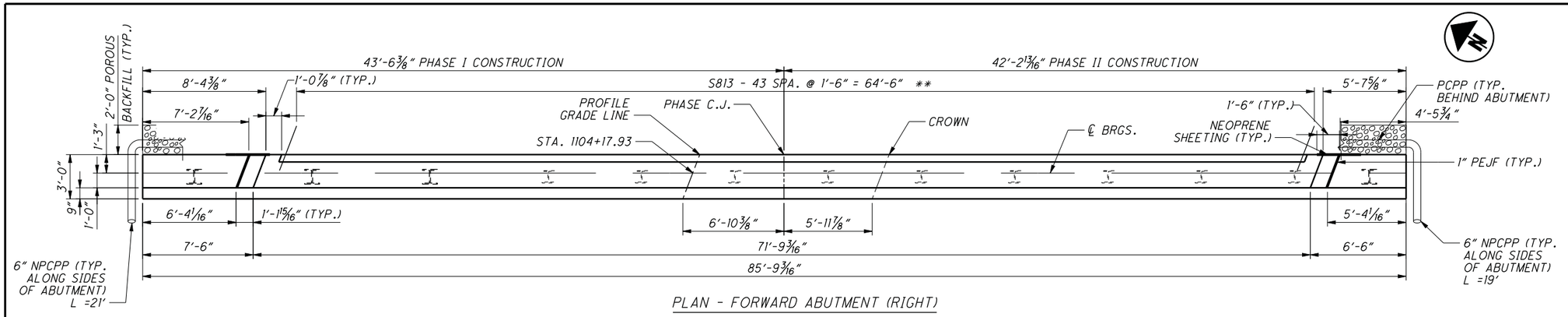
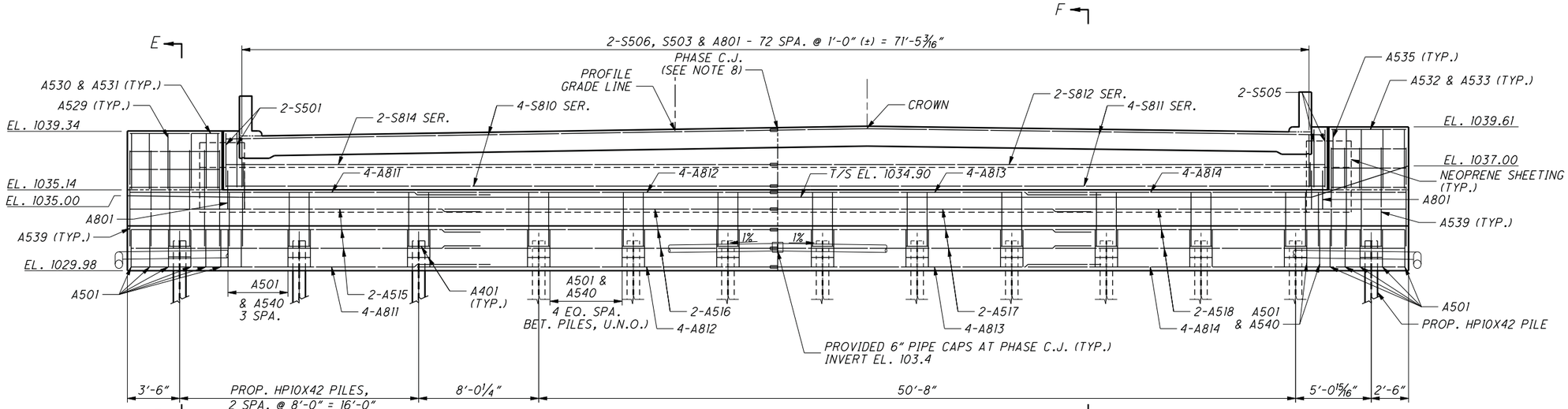
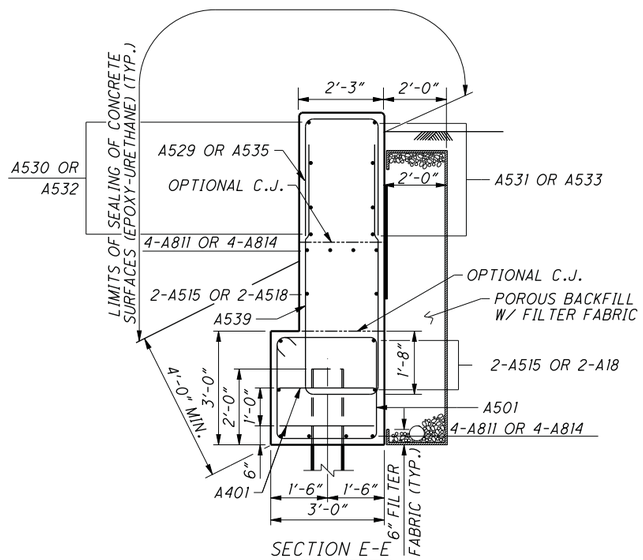
218



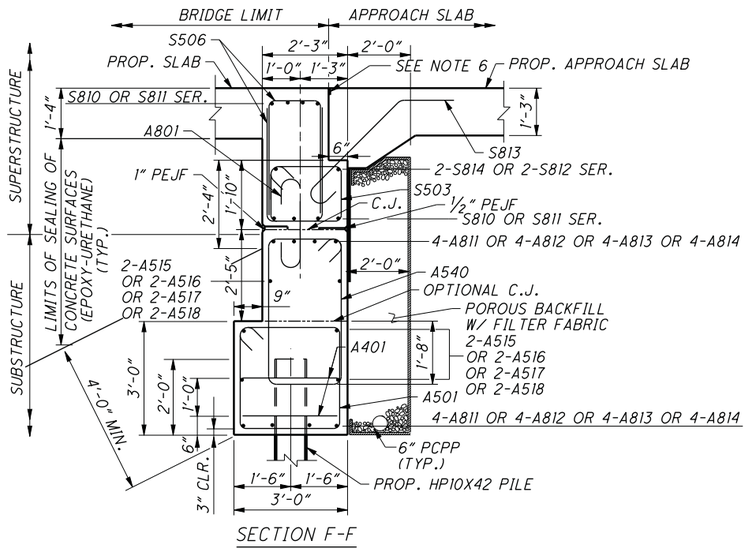
PLAN - FORWARD ABUTMENT (RIGHT)



ELEVATION - FORWARD ABUTMENT (RIGHT)



SECTION E-E



SECTION F-F

NOTES:

1. ALL EXISTING DIMENSIONS ARE APPROXIMATE.
2. SEE FOUNDATION PLAN SHEET 7/18 FOR PILE NUMBERS.
3. ESTIMATED AVG. PAY LENGTH FOR HP10x42 PILES = 40'
4. MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/18.
5. LAP #5 BARS: 3'-5" MIN. LAP #8 BARS: 7'-3" MIN.
6. SEE DETAIL B ON STANDARD DRAWINGS AS-1-81.
7. SEE SHEET 2/16 FOR ABBREVIATIONS.
8. APPLY TYPE B WATERPROOFING TO VERTICAL FACE OF PHASE CONST. JOINT.
9. APPROACH SLAB CONCRETE SHALL NOT BE PLACED WITH THE DECK POUR

LEGEND:

** - MEASURED PERPENDICULAR TO THE CENTERLINE OF ROADWAY

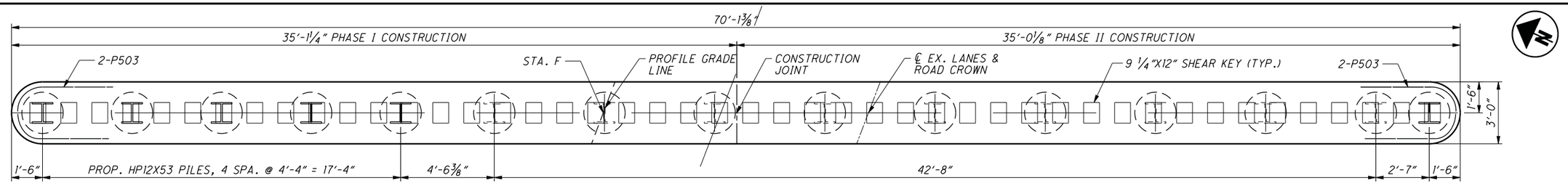
DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
KCS/JGM	JGM/KCS	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA		1401890/1401920	

FORWARD ABUTMENT - RIGHT

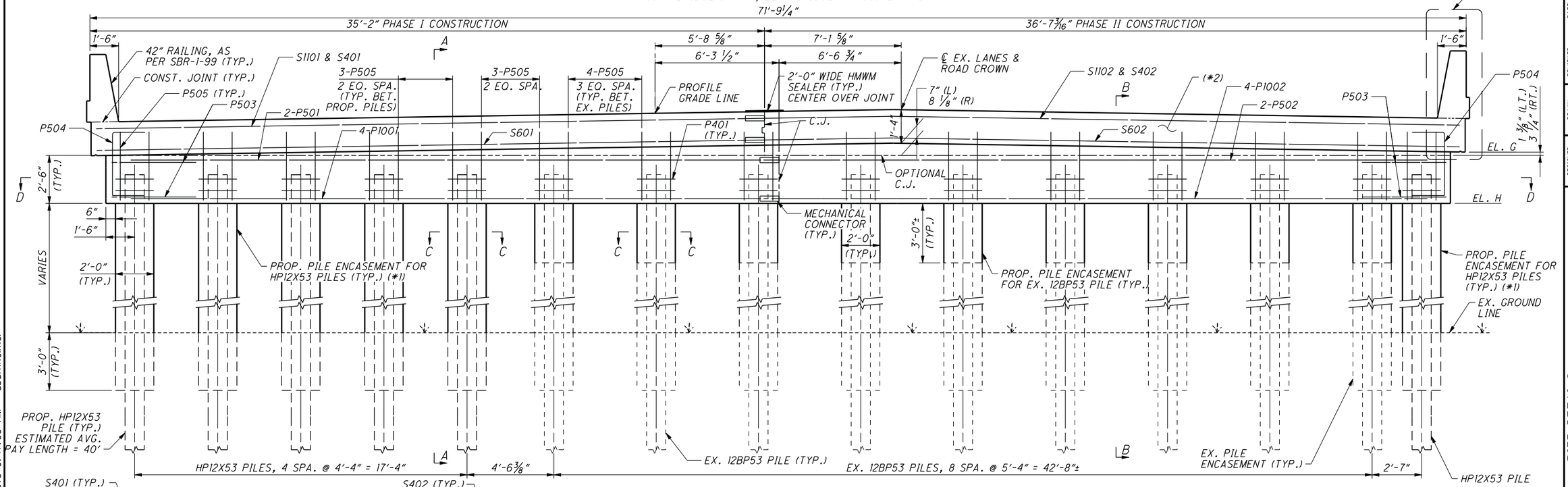
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

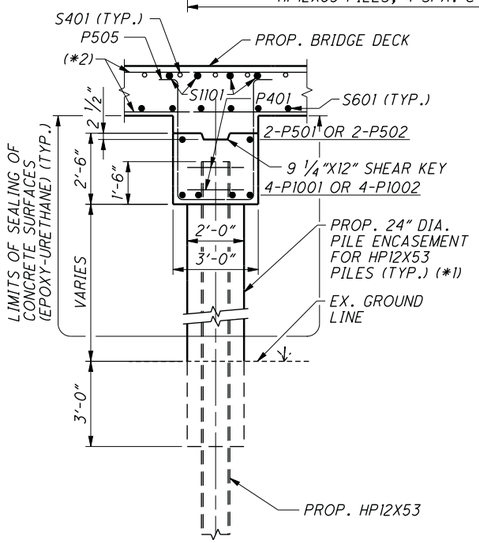
CLI/GRE-71-7.26
/0.00
PID No. 75745



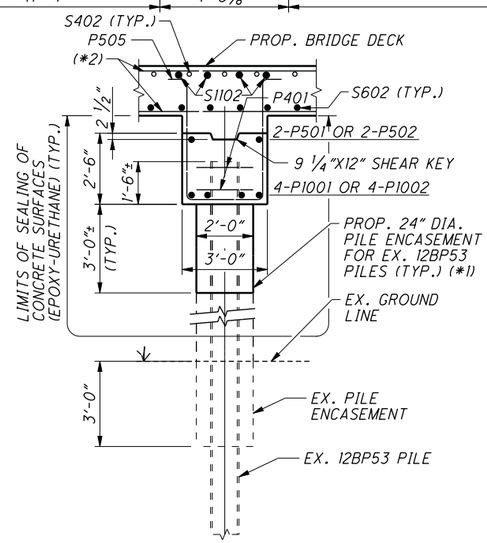
SECTION D-D AT PIER CAP

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)





SECTION A-A



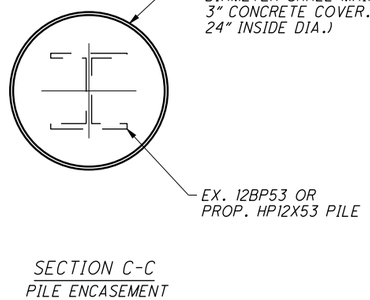
SECTION B-B

TRANSVERSE SECTION AT PIER

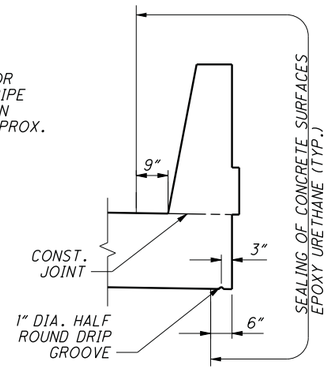
(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)

(*1) - SEE DETAIL IN SECTION C-C

(*2) - FOR THE DETAILS OF LONGITUDINAL REBARS SEE TRANSVERSE SECTION IN SHT. 15/18



SECTION C-C
PILE ENCASEMENT



DETAIL 1

LOCATION	F	G	H
P1 (LT.)	1103+30.88	1037.55	1034.94
P2 (LT.)	1103+60.88	1037.65	1035.04
P1 (RT.)	1103+63.12	1037.75	1034.98
P2 (RT.)	1103+93.12	1037.85	1035.07

NOTE:

MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/18.

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

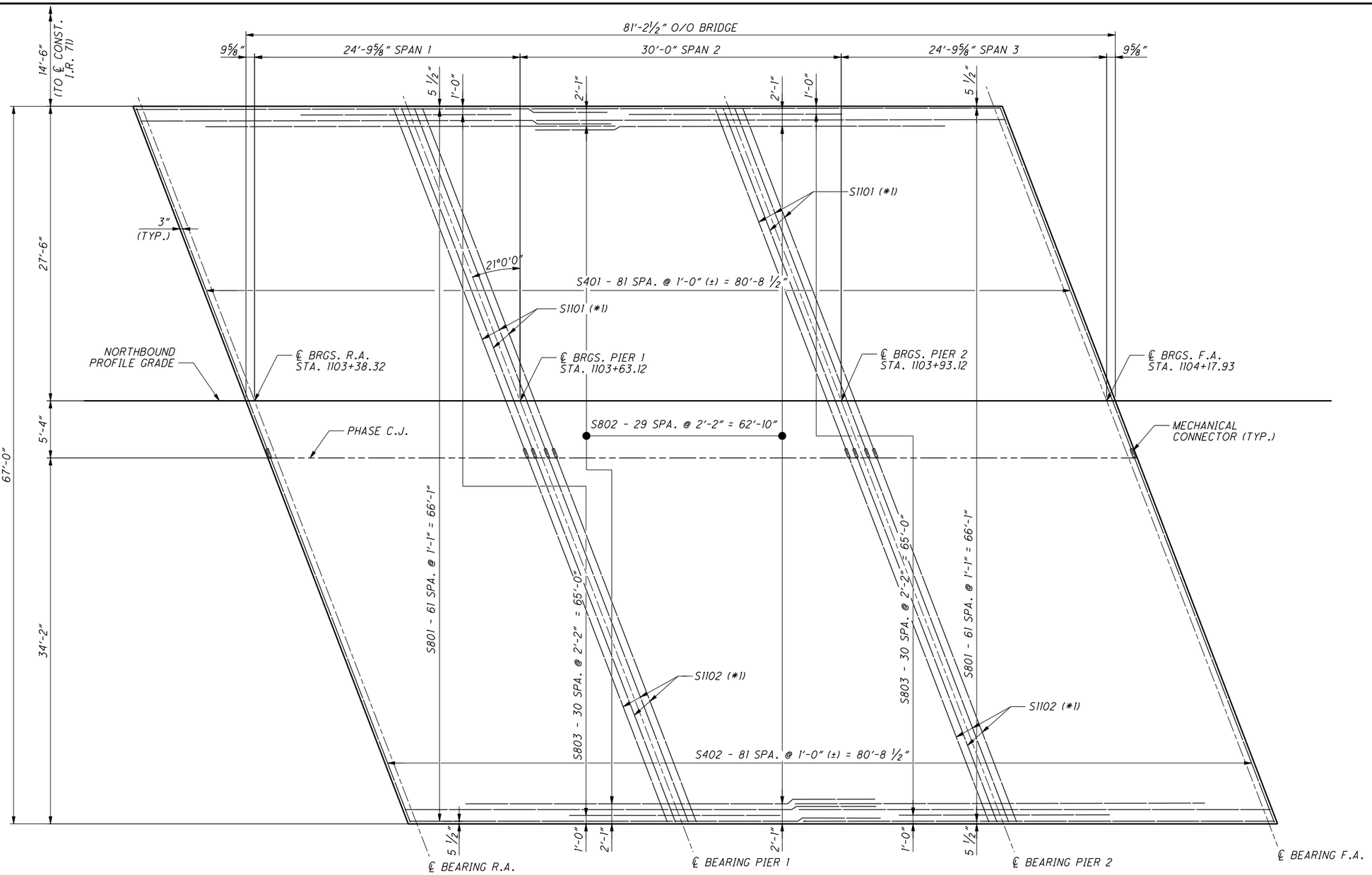
DESIGNED JGM | DRAWN JGM | REVIEWED JEP | DATE 1/2010
CHECKED EA | REVISED | STRUCTURE FILE NUMBER 1401890/1401920

PIER DETAILS
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/GRE-71-7.26
/0.00
PID No. 75745

12 / 18

160
218



DECK REINFORCING PLAN - TOP

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)

NOTES:

1. MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/18.
2. SEE STD. DWG. CS-1-03 FOR MORE DETAIL

LEGEND:

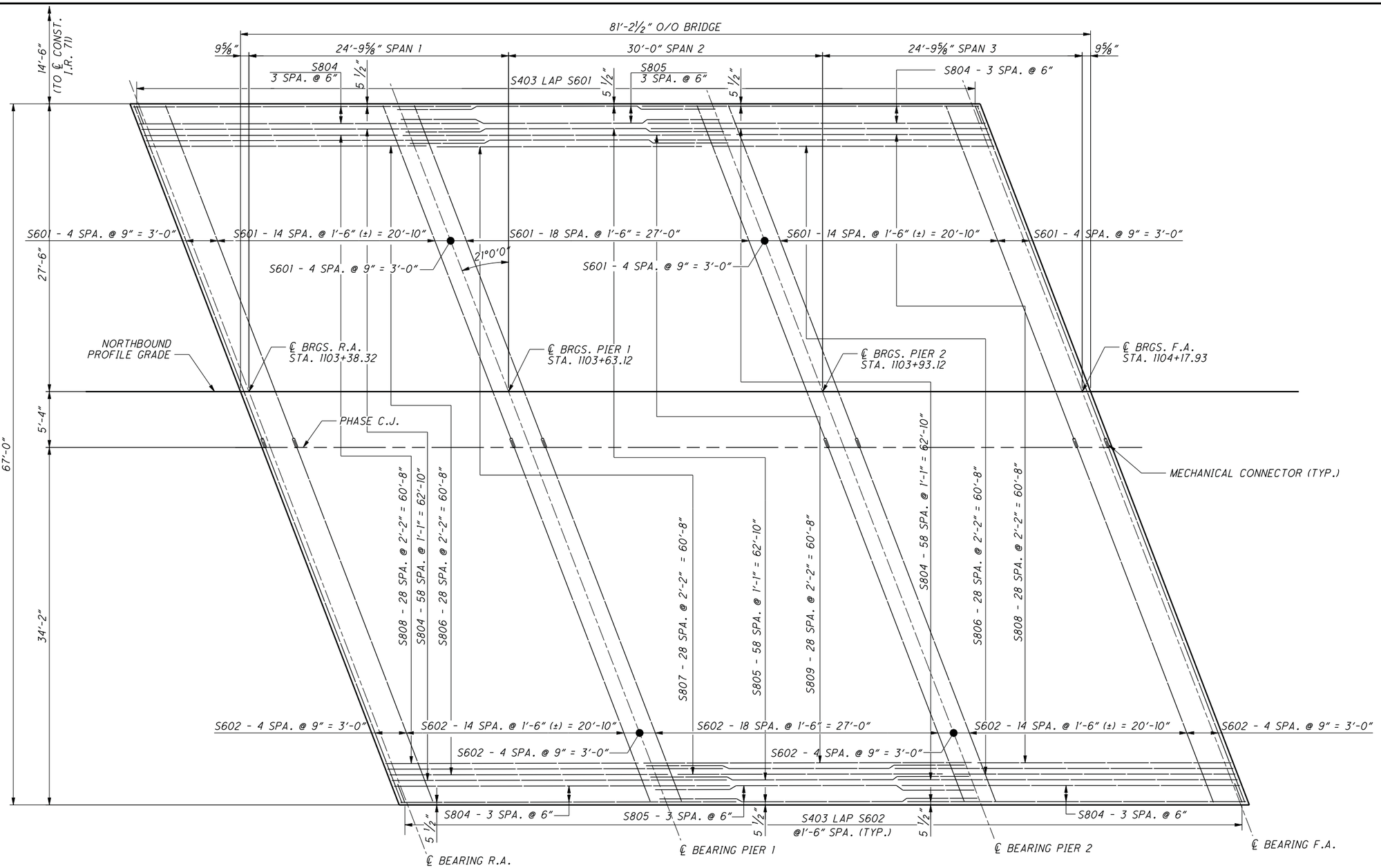
(*1) - 2 ON EITHER SIDE OF ℄ PIER, SEE SHT. 12/18 FOR DETAIL

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
KCS	KCS	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA	—	1401890/1401920	

DECK REINFORCING PLAN - TOP
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/ GRE-71-7.26 /0.00
PID No. 75745



DECK REINFORCING PLAN - BOTTOM

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)

NOTES:

1. MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/18.
2. SEE STD. DWG. CS-1-03 FOR MORE DETAILS

DESIGN AGENCY
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2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
KCS	KCS	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA	—	1401890/1401920	

DECK REINFORCING PLAN - BOTTOM
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/GRE-71-7.26
/0.00
PID No. 75745

14 / 18

162
218

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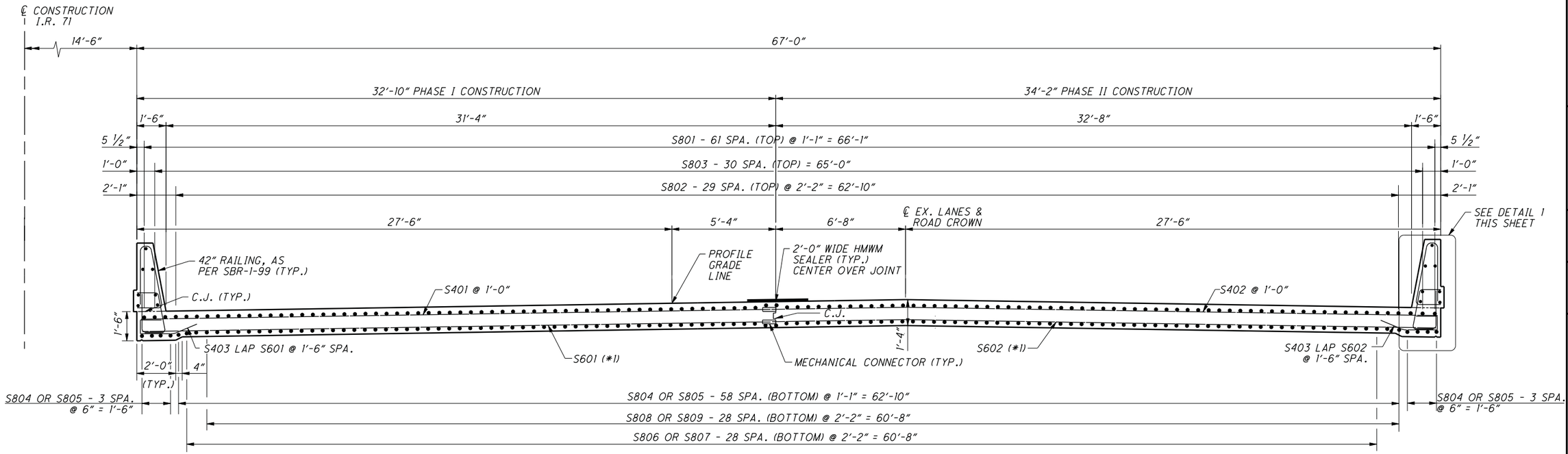
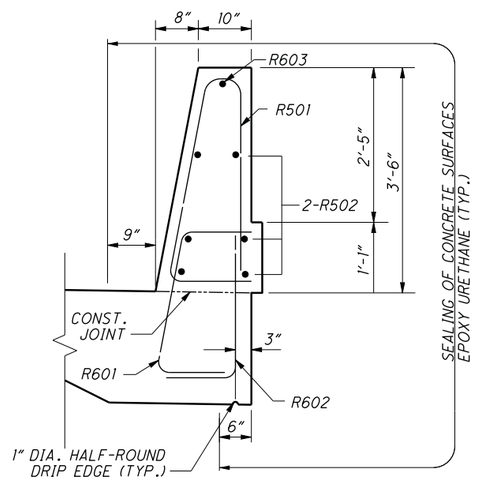


TRANSVERSE SECTION

(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)



DETAIL 1

NOTES:

1. MECHANICAL CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. SEE NOTE ON SHEET 2/18.
2. SEE STD. DWG. CS-1-03 FOR MORE DETAILS

LEGEND:

(*1) - FOR SPACING SEE DECK PLAN ON SHEET 11/15.

DESIGN AGENCY
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KCS	KCS	JEP	1/2010
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EA		1401890/1401920	

TRANSVERSE SECTION
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/ GRE-71-7.26 /0.00
PID No. 75745

15 / 18

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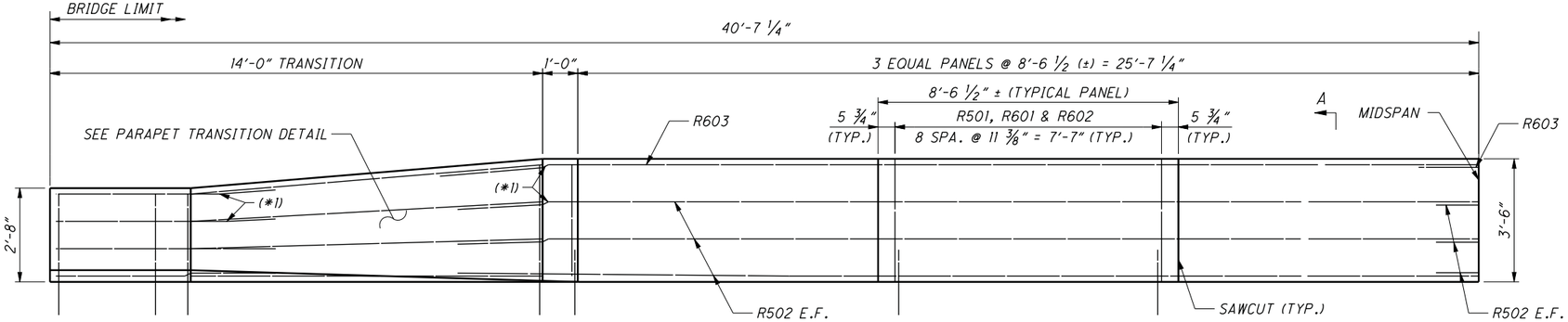
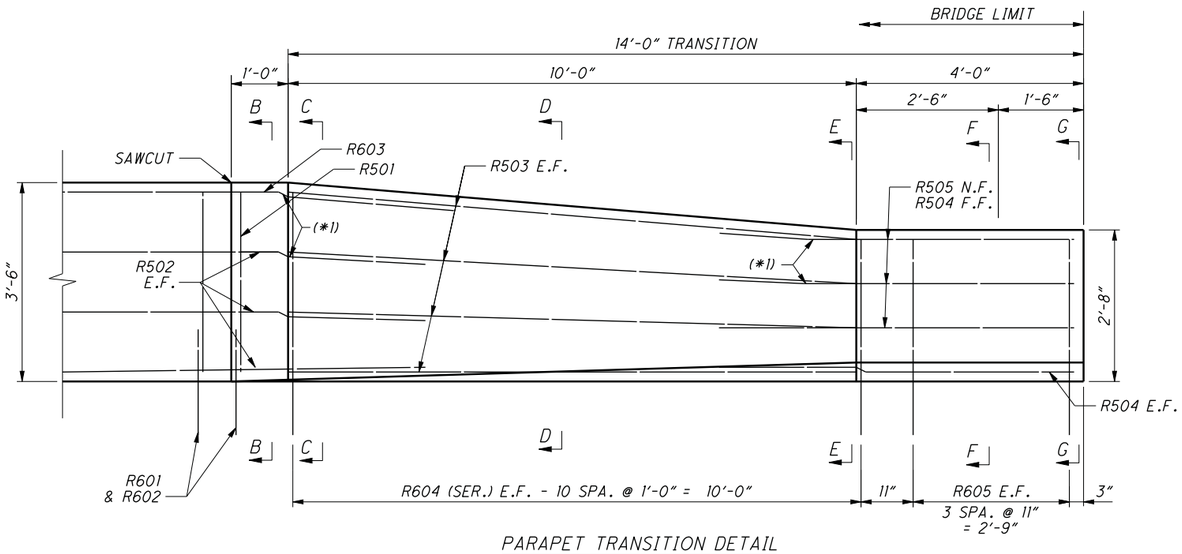
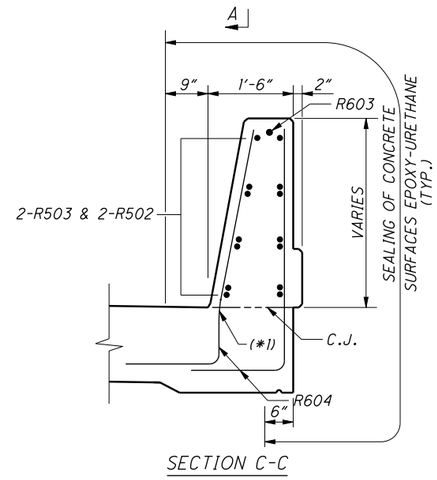


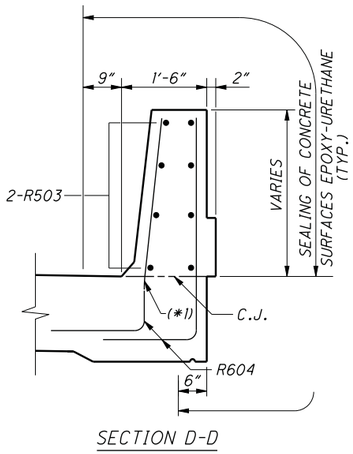
HALF PARAPET REINFORCING DETAIL
(SYMMETRICAL ABOUT MIDSPAN)



PARAPET TRANSITION DETAIL



SECTION C-C



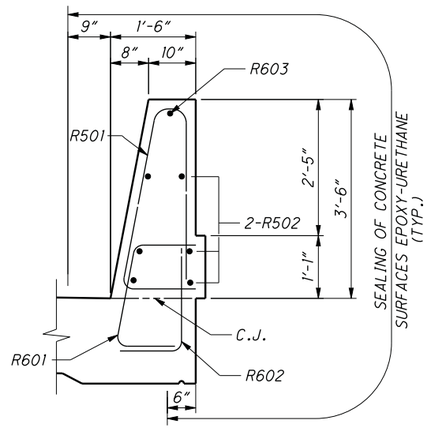
SECTION D-D

LEGEND:

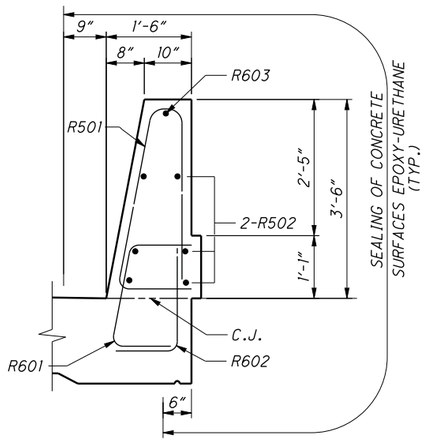
(*1) FIELD BEND AS NECESSARY

NOTES:

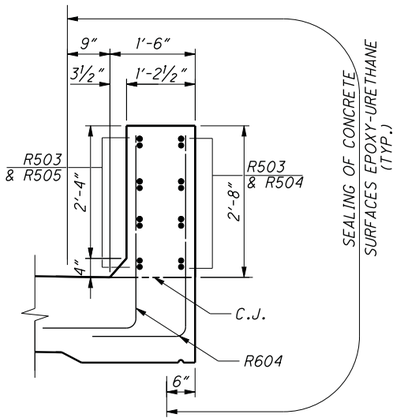
1. QUANTITY FOR APPROACH SLAB PARAPET INCLUDED WITH ITEM 898 OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (PARAPET)
2. FOR NOTES AND ADDITIONAL DETAILS OF THE CONCRETE PARAPET, REFERENCE STANDARD DRAWING SBR-1-99.
3. MINIMUM LAP LENGTHS:
   #5 BARS 2'-5"
   #6 BARS 2'-11"
   TOP #6 BARS 4'-1"



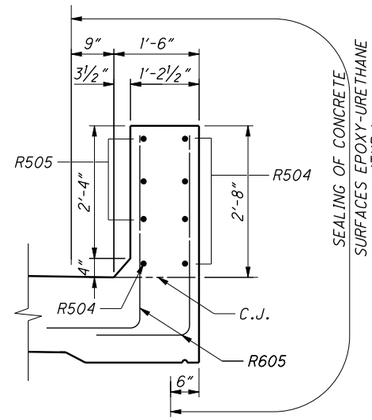
SECTION A-A



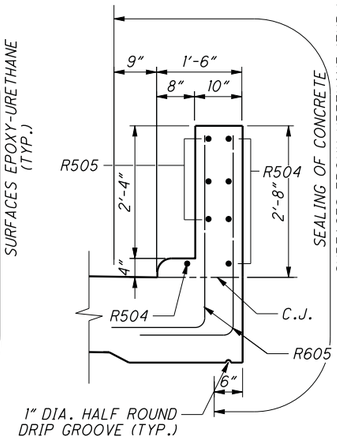
SECTION B-B



SECTION E-E



SECTION F-F



SECTION G-G

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	JEP	1/2010
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EA		1401890/1401920	

PARAPET DETAILS

CLI/ GRE-71-7.26
/0.00
PID No. 75745

BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

16 / 18

164
218

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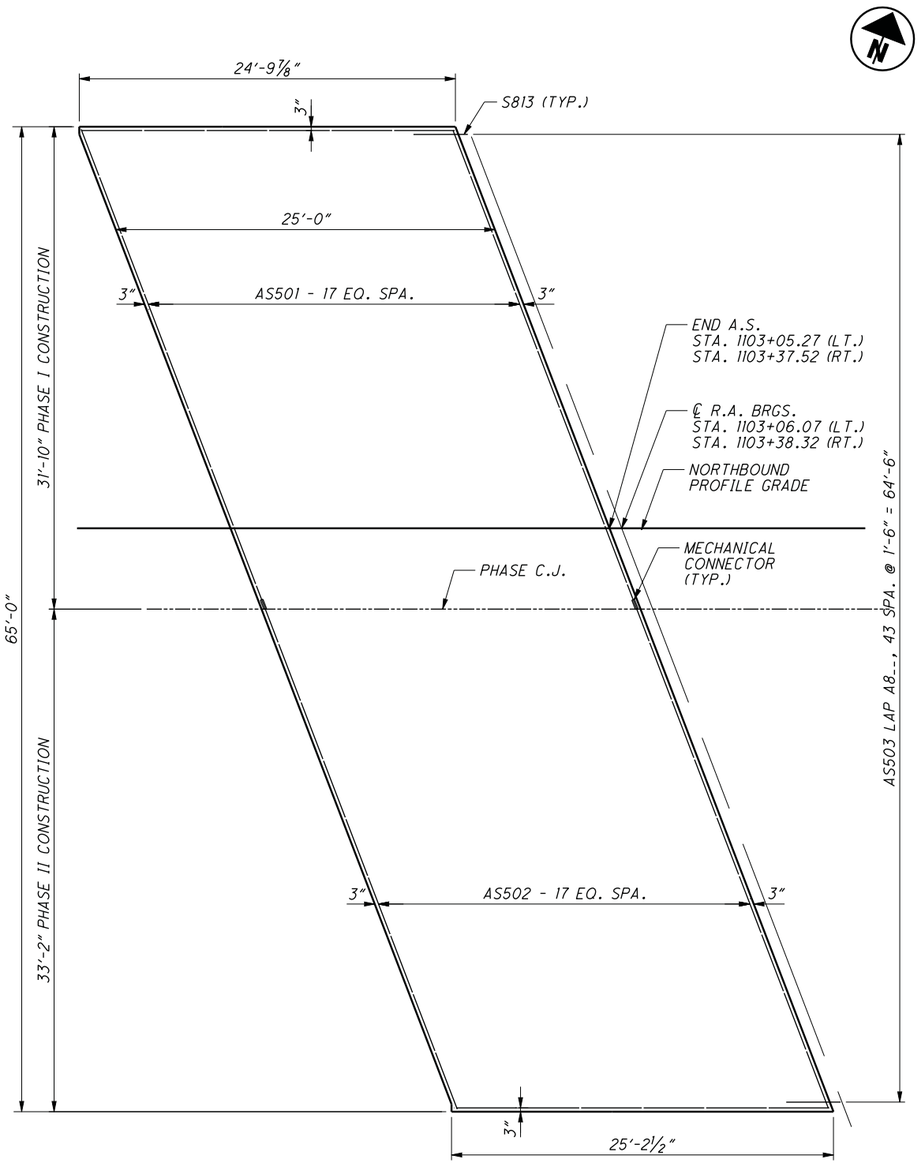
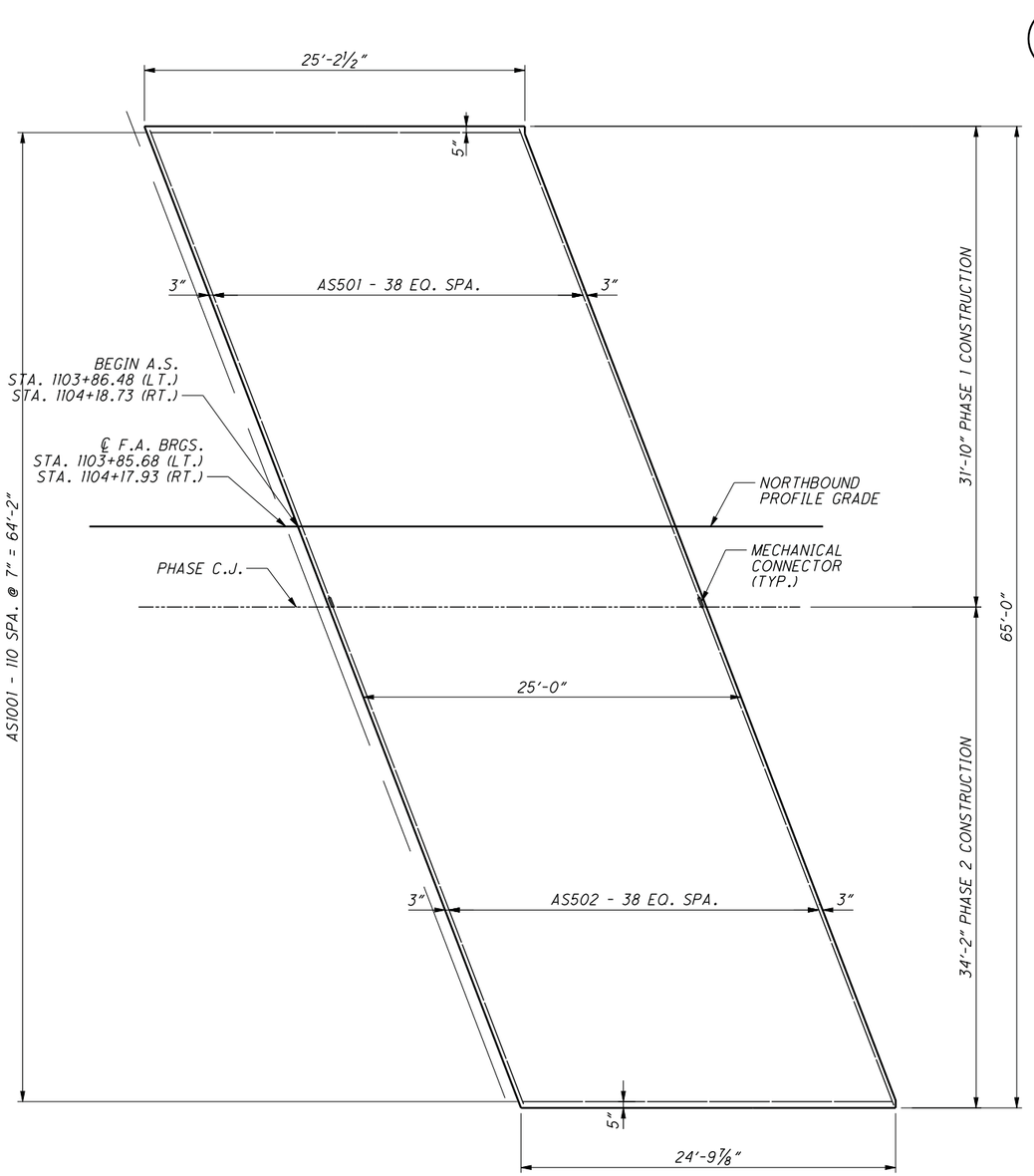


REAR APPROACH SLAB - TOP REINFORCING

(FORWARD APPROACH SLAB SIMILAR)
(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)



FORWARD APPROACH SLAB - BOTTOM REINFORCING

(REAR APPROACH SLAB SIMILAR)
(RIGHT BRIDGE SHOWN, LEFT BRIDGE OPPOSITE HAND)

NOTES:
1. SEE ROADWAY TYPICAL SECTIONS FOR APPROACH SLAB TRANSVERSE SECTION.

2. APPOACH SLAB CONCRETE SHALL NOT BE PLACED WITH THE DECK POUR

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED	DRAWN	REVIEWED	DATE
KCS	JGM/KCS	JEP	1/2010
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EA	—	1401890/1401920	

APPROACH SLAB REINFORCINFG DETAILS
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/GRE-71-7.26
/0.00
PID No. 75745

ABUTMENTS

MARK	NUMBER (L)	NUMBER (R)	LENGTH	WEIGHT (L)	WEIGHT (R)	TYPE	A	B	C	D	E	R	INCR.
A401	54	52	8'-10"	319	306	3	1'-9"	2'-6"					
A501	138	135	10'-7"	1538	1505	3	2'-8"	2'-7"					
A502	57	58	11'-11"	705	717	3	3'-11"	1'-11"					
A503	5	5	8'-10"	46	46	2	3'-7"	1'-11"	3'-7"				
A504	4	4	2'-7"	11	11	STR							
A505		6	22'-0"		138	STR							
A506		6	21'-10"		137	STR							
A507		6	21'-6"		135	STR							
A508		6	21'-0"		131	STR							
A509	8	8	3'-6"	29	29	STR							
A510	4	4	4'-4"	18		STR							
A511	6		21'-0"	131		STR							
A512	6		22'-1"	138		STR							
A513	6		21'-3"	133		STR							
A514	6		22'-0"	138		STR							
A515		6	23'-6"		147	STR							
A516		6	22'-1"		138	STR							
A517		6	21'-3"		133	STR							
A518		6	23'-6"		147	STR							
A519	57		10'-8"	634		3	1'-11"	3'-8"					
A520	6		31'-1"	195		STR							
A521	6		22'-7"	141		STR							
A522	6		20'-9"	130		STR							
A523	6		20'-11"	131		STR							
A524	4		13'-0"	54		STR							
A525	4		14'-2"	59		STR							
A526	4		2'-11"	12		STR							
A527	4		1'-9"	7		STR							
A528	11		9'-10"	113		2	1'-11"	4'-1"					
A529	4	6	9'-6"	39	58	2	1'-11"	3'-11"					
A530		4	6'-0"		25	STR							
A531		4	6'-10"		29	STR							
A532		4	5'-0"		21	STR							
A533		4	4'-1"		17	STR							
A535		5	10'-0"		52	2	1'-11"	4'-2"					
A536	5		9'-0"	47		2							
A537		5	9'-6"		50	2							
A538	10	10	14'-8"	153	153	2	1'-11"	6'-6"					
A539	15	11	14'-2"	222	162	2	1'-11"	6'-3"					
A540		56	10'-8"		623	3	1'-11"	3'-8"					
A801	154	154	3'-10"	1576	1576	17	2'-0"						
A802		8	22'-6"		481	STR							
A803		8	23'-4"		498	STR							
A804		8	21'-9"		463	STR							
A805		8	23'-10"		509	STR							
A806	8		21'-9"	463		STR							
A807	8		23'-11"	511		STR							
A808	8		21'-11"	468		STR							
A810	8		23'-11"	511		19	23'-11"						
A811		8	24'-0"		513	STR							
A812		8	24'-2"		516	STR							
A813		8	21'-8"		463	STR							
A814		8	25'-3"		539	STR							
A815	8		32'-11"	703		STR							
A816	8		23'-0"	491		STR							
A817	8		22'-9"	486		STR							
A818	8		21'-6"	459		STR							
	TOTAL WEIGHT =			10,949	10,491								

PIERS

MARK	NUMBER (L)	NUMBER (R)	LENGTH	WEIGHT (L)	WEIGHT (R)	TYPE	A	B	C	D	E	R	INCR.
P401	60	60	9'-5"	376	376	3	2'-0"	2'-6"					
P501	4	4	33'-6"	140	140	STR							
P502	4	4	34'-0"	142	142	STR							
P503	8	8	10'-7"	88.5	88.5	24	2'-6"	3'-5"				1'-2 3/8"	
P504	4	4	7'-3"	30	30	2	2'-0"	3'-6"	2'-0"				
P505	104	104	10'-1"	1094	1094	6	2'-8"	3'-2"	8"				
P1001	8	8	33'-6"	1153	1153	STR							
P1002	8	8	34'-0"	1170.5	1170.5	STR							
	TOTAL WEIGHT =			4,194	4,194								

DIAPHRAGMS

MARK	NUMBER (L)	NUMBER (R)	LENGTH	WEIGHT (L)	WEIGHT (R)	TYPE	A	B	C	D	E	R	INCR.
S501	12	12	8'-10"	111	111	2	3'-7"	1'-11"	3'-7"				
S502	146	146	8'-5"	1269	1269	2	3'-7"	1'-5"	3'-7"				
S503	146	146	7'-1"	1069	1069	3	1'-11"	1'-6"					
S504	4		8'-10"	37		2	3'-7"	1'-11"	3'-7"				
S505		4	9'-4"		40	2	3'-10"	1'-11"	3'-10"				
S506	146	146	7'-8"	1166	1166	2	3'-3"	1'-5"	3'-3"				
	4	4	36'-0"										
S810	SETS OF	SETS OF	TO	1127	1166	STR							3"
	4	4	36'-9"										
	4	4	36'-7"										
S811	SETS OF	SETS OF	TO	1579	1184	STR							3"
	4	4	37'-4"										
	4	4	36'-4"										
S812	SETS OF	SETS OF	TO	784	784	STR							3"
	2	2	37'-1"										
S813	88	88	6'-0"	1410	1410	18	3'-7"	1'-0"	1'-0"				
	4	4	36'-7"										
S814	SETS OF	SETS OF	TO	784	784	STR							9"
	2	2	37'-4"										
			TOTAL WEIGHT = 9,336	8,983									

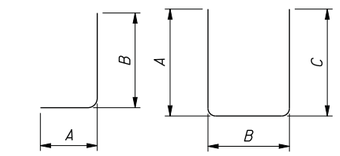
SUPERSTRUCTURE

MARK	NUMBER (L)	NUMBER (R)	LENGTH	WEIGHT (L)	WEIGHT (R)	TYPE	A	B	C	D	E	R	INCR.
S401	82	82	34'-9"	1904	1904	STR							
S402	82	82	36'-8"	2009	2009	STR							
S403	226	226	5'-6"	463	463	29	10"	1'-8"	1'-8"	1'-0"	1'-0"		
S601	63	63	34'-9"	3289	3289	STR							
S602	63	63	36'-8"	3470	3470	STR							
S801	124	124	43'-11"	14541	14541	STR							
S802	30	30	38'-5"	3077	3077	STR							
S803	62	62	19'-9"	3270	3270	STR							
S804	134	134	32'-5"	11598	11598	STR							
S805	67	67	30'-6"	5457	5457	STR							
S806	58	58	26'-7"	4116	4116	STR							
S807	29	29	25'-4"	1962	1962	STR							
S808	58	58	24'-3"	3756	3756	STR							
S809	29	29	31'-4"	2426	2426	STR							
S1101	8	8	34'-9"	1477	1477	STR							
S1102	8	8	36'-8"	1559	1559	STR							
			TOTAL WEIGHT = 64,374	64,374									

RAILING

MARK	NUMBER (L)	NUMBER (R)	LENGTH	WEIGHT (L)	WEIGHT (R)	TYPE	A	B	C	D	E	R	INCR.
R501	112	112	7'-5"	567	567	23	1'-1"	3'-2"	3'-0"			2 3/4"	
R502	24	24	30'-4"	760	760	ST.							
R503	32	32	10'-0"	334	334	ST.							
R504	20	20	6'-5"	134	134	ST.							
R505	12	12	5'-6"	69	69	25	1'-8"	2'-5"	1'-4"	1 1/2"	5"		
R601	112	112	4'-3"	715	715	28	2'-3"	1'-1"					
R602	112	112	3'-2"	534	534	1	1'-1"	2'-3"					
R603	4	4	31'-0"	169	169	ST.							
	8	8	5'-4"					3'-8"					
R604	SETS OF	SETS OF	TO	760	760	1	1'-10"	TO					1"
	11	11	6'-2"					4'-6"					
R605	32	32	5'-4"	256	256	1	1'-10"	3'-8"					
			TOTAL WEIGHT =	4,298	4,298								
			GRAND TOTAL WEIGHT =	93,151	92,340								

BENDING DIAGRAMS



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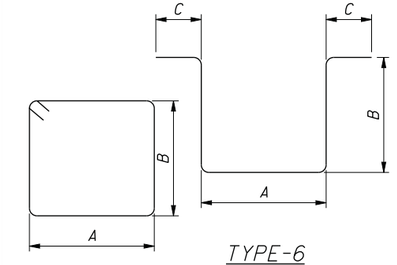

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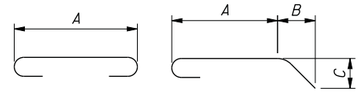

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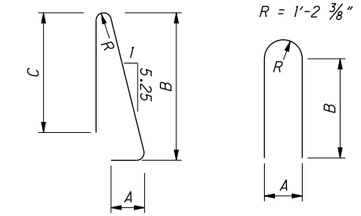

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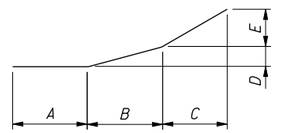

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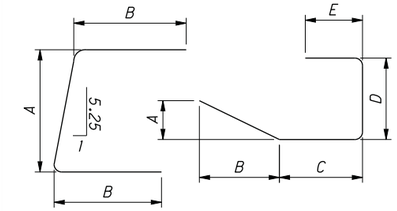

TYPE-28 TYPE-29

DESIGN AGENCY
BARR & PREVOST
2800 CORPORATE EXCHANGE DR., STE 240
COLUMBUS, OH 43231
(614) 714-0270 FAX (614) 714-0322

DESIGNED KCS | DRAWN JGM | REVIEWED JEP | DATE 1/2010
CHECKED EA | REVISED | STRUCTURE FILE NUMBER 1401807/1401831

REINFORCING STEEL LIST
BRIDGE NO. CLI-71-1399 L/R
OVER GRASSY RUN

CLI/ GRE-71-7.26
/0.00
PID No. 75745

18 / 18

166
218

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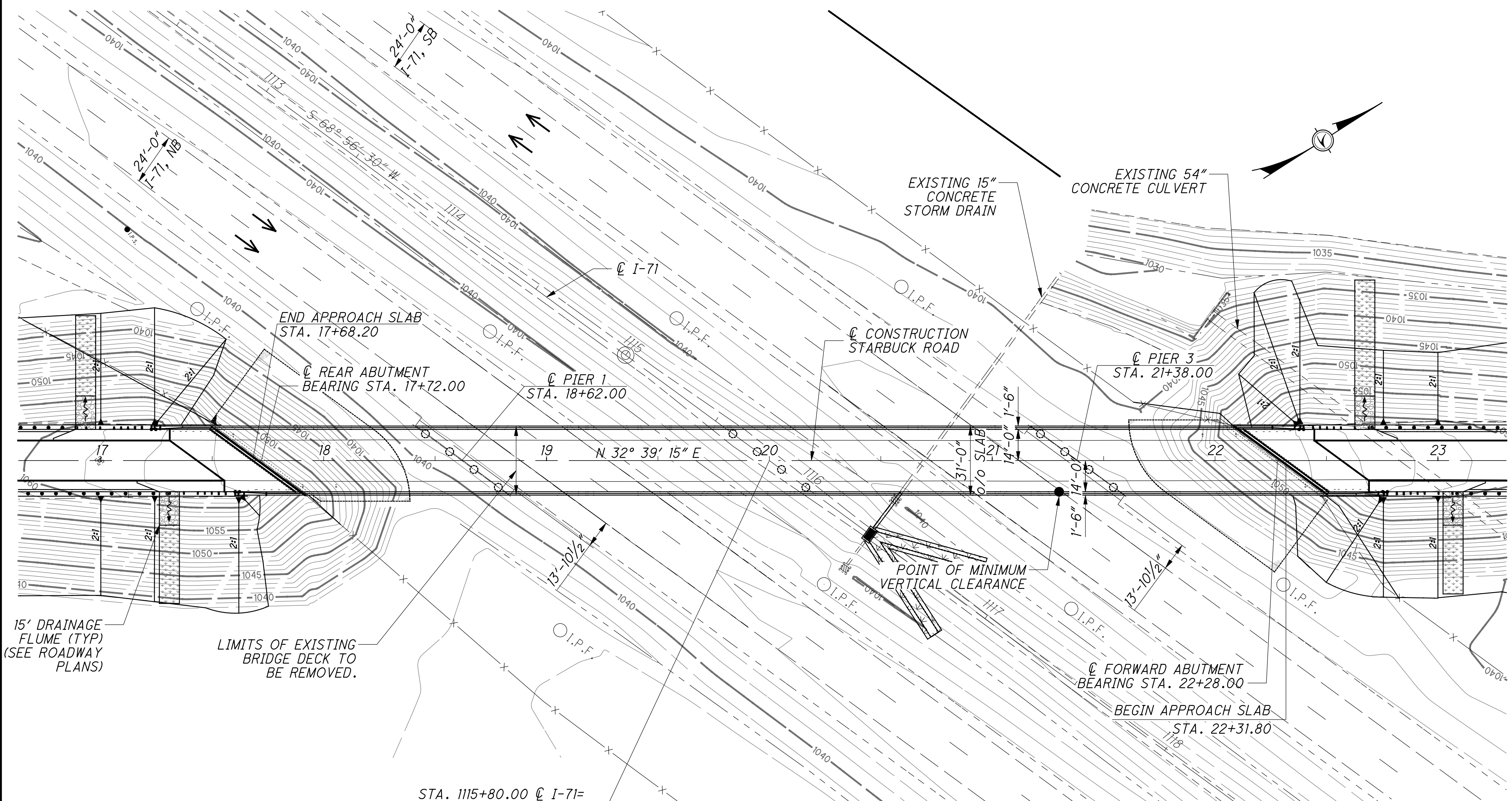
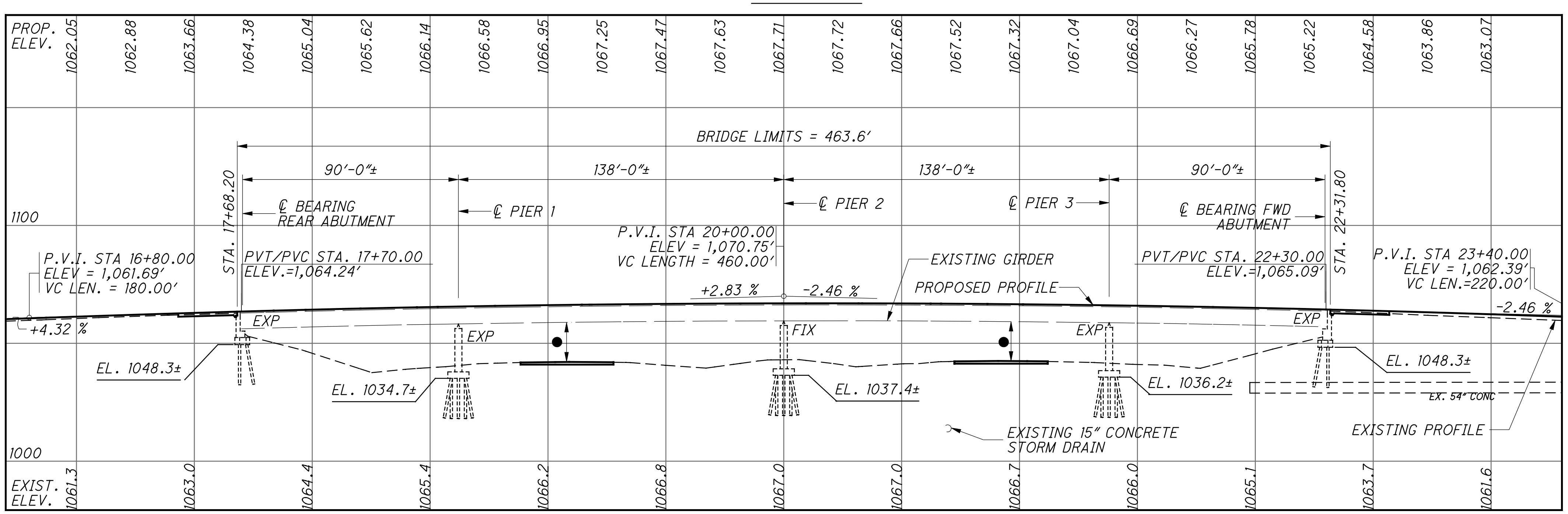
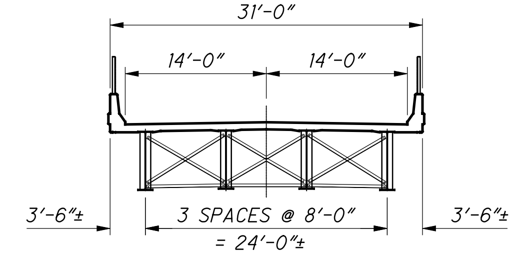


SITE PLAN



PROFILE ALONG ℄ STARBUCK ROAD



NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2010 ADT = 650 2010 ADTT = 13
2022 ADT = 650 2022 ADTT = 13
DIRECTIONAL DISTRIBUTION = .70

LEGEND

- BORING LOCATION
- 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
  16'-2" ACTUAL MINIMUM VERTICAL CLEARANCE (EXISTING)
  16'-8" ACTUAL MINIMUM VERTICAL CLEARANCE (PROPOSED), SB
  16'-9" ACTUAL MINIMUM VERTICAL CLEARANCE (PROPOSED), NB

BENCHMARK DATA

BM #1 STA. 6+99.72	ELEV. 1035.54	OFFSET 14.73 RT
BM #2 STA. 26+27.90	ELEV. 1047.11	OFFSET 16.38 RT

FIRST GUARDRAIL POST LOCATION

LEFT, REAR STA. 17+18.55	LEFT, FORWARD STA. 22+43.88
RIGHT, REAR STA. 17+56.12	RIGHT, FORWARD STA. 22+81.45

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDERS WITH NON-COMPOSITE CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURE
SPANS: 90.0'±, 138.0'±, 138.0'±, 90.0'± C/C BEARINGS
ROADWAY: 26'-2" TOE TO TOE PARAPET
LOADING: CF-130 (H15)
SKEW: 53° 44' 00"± RF
APPROACH SLABS: 25'± LONG
WEARING SURFACE: SUPERPLASTICIZED CONCRETE OVERLAY
ALIGNMENT: TANGENT
CROWN: NORMAL CROWN
STRUCTURAL FILE NUMBER: 1401955
DATE BUILT: 1964 (REHABILITATED IN 1988, 1993 & 1998)
DISPOSITION: TO REMAIN IN PLACE

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDERS WITH NEW COMPOSITE CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURE
SPANS: 90.0'±, 138.0'±, 138.0'±, 90.0'± C/C BEARINGS
ROADWAY: 28'-0" TOE TO TOE PARAPET
LOADING: HS20 CASE II AND ALTERNATE MILITARY
SKEW: 53° 44' 00"± RF
APPROACH SLABS: 25'-0" LONG (AS-1-81)
WEARING SURFACE: MONOLITHIC CONCRETE
ALIGNMENT: TANGENT
CROWN: .0156 FT/FT

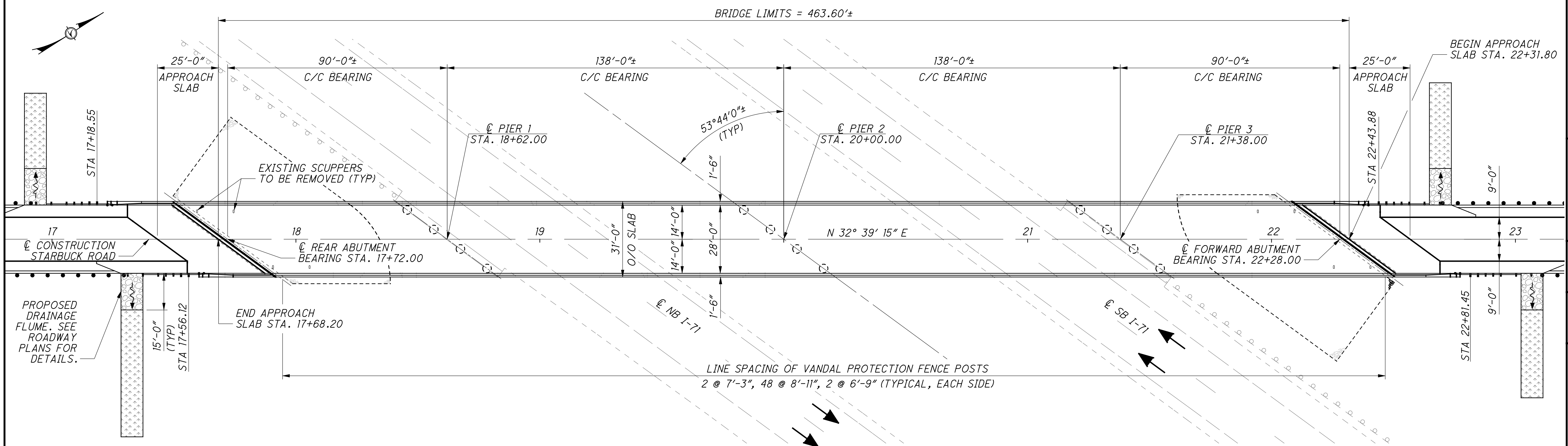
DESIGN AGENCY: Palmer ENGINEERING, 1330 CORNELL PARK DR, CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE	STRUCTURE FILE NUMBER
CEJ	DPF/SDW	BJF	2/09	1401955
CHECKED MLJ	REVISED			

CLINTON COUNTY
STA. 17+68.20
STA. 22+31.80

SITE PLAN
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745



GENERAL PLAN

NOT TO SCALE

PROPOSED WORK

1.) RAISE THE EXISTING SUPERSTRUCTURE 6"± TO PROVIDE 16'-6" MINIMUM VERTICAL CLEARANCE.
2.) REPLACE THE EXISTING CONCRETE DECK WITH A NEW COMPOSITE REINFORCED CONCRETE DECK ON THE EXISTING GIRDERS FOR A WIDENED OUTSIDE TO OUTSIDE WIDTH OF 31'-0".
3.) CONSTRUCT 36" DEFLECTOR PARAPETS TO INCREASE THE TOE-TO-TOE WIDTH FROM 26'-2" TO 28'-0".
4.) REMOVE THE EXISTING SCUPPERS AND GRIND SMOOTH THE SCUPPER CONNECTIONS ON THE GIRDERS.
5.) REMOVE THE EXISTING ABUTMENT BACKWALLS DOWN TO THE APPROACH SLAB SEATS AND REBUILD THEM FOR THE INSTALLATION OF NEW STRIP SEAL EXPANSION JOINTS.
6.) REMOVE THE EXISTING PARAPETS ON THE ABUTMENTS DOWN TO THE WINGWALL CONSTRUCTION JOINTS AND REPLACE THEM WITH 36" DEFLECTOR PARAPETS.
7.) CONSTRUCT NEW BEAM SEATS.
8.) REPLACE THE EXISTING ABUTMENT BEARINGS AND SHIMS WITH NEW ELASTOMERIC BEARINGS.
9.) REPLACE THE SHIMS UNDER THE EXISTING PIER BEARINGS WITH STEEL HP POSTS AND LOAD PLATES. CAST CAPS ONTO THE EXISTING PIER SEATS TO ENCASE THE NEW ASSEMBLIES IN CONCRETE.
10.) REPLACE THE EXISTING APPROACH SLABS WITH NEW APPROACH SLABS AS PER STANDARD DRAWINGS AS-1-81.
11.) REUSE THE EXISTING VANDAL PROTECTION FENCE WITH NEW BASE PLATES, CLOSURE PLATES AND INSTALLATION HARDWARE.
12.) CLEAN THE SURFACES OF THE SUBSTRUCTURE UNITS WITH SANDBLASTING MECHANISMS AND APPLY EPOXY-URETHANE SEALER TO THE PARAPETS, ABUTMENTS, WINGWALLS AND PIERS.
13.) REGRADE THE APPROACH EMBANKMENTS ALONG THE ABUTMENT WINGWALLS AND CONSTRUCT 15' LONG DRAINAGE FLUMES PER ROADWAY PLANS.

NOTE

BRIDGE TERMINAL ASSEMBLY, TYPE 1, SHALL BE USED AT ALL TRANSITIONS BETWEEN BRIDGE PARAPET AND APPROACH GUARDRAIL.

DESIGN AGENCY
PALMER ENGINEERING
1550 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401955	

GENERAL PLAN
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

2/16

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS

AS-1-81	DATED (REVISED)	07-19-02
EXJ-4-87	DATED (REVISED)	07-19-02
BR-1	DATED (REVISED)	07-19-02
VPF-1-90	DATED (REVISED)	07-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION

898	DATED (REVISED)	07-17-09

DESIGN SPECIFICATIONS THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION (2002), AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

HS20 CASE II AND THE ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE (FWS) - 60 PSF

DESIGN DATA

ITEM 898 QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE-4000 PSI
ITEM 898 QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE-4500 PSI
EXISTING STRUCTURAL STEEL, ASTM A709; GRADE 50
MINIMUM YIELD STRENGTH 33,000 PSI
REINFORCING STEEL - ASTM A615, OR A996; GRADE 60
MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

ITEM 202 PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND [41 KILOGRAM] CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05. THIS ITEM SHALL ALSO INCLUDE REMOVAL OF SCUPPERS AND ABUTMENT BEARINGS.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED OVER 20' SPAN, AS PER PLAN.

THE CONTRACTOR MUST REVIEW THE STRUCTURE WHEN PREPARING HIS BID. THE CONTRACTOR WILL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL. THE CONTRACTOR WILL DETERMINE THE CORRESPONDING COST TO CLEAN-UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING ANY REMOVAL OPERATION. THE COST TO CLEAR AND CLEAN-UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

ITEM 202 APPROACH SLAB REMOVED, AS PER PLAN THIS ITEM INCLUDES REMOVAL OF EXISTING ASPHALT ON THE APPROACH SLABS.

ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

INSPECTION OF EXISTING STRUCTURAL STEEL THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 898, SUPERSTRUCTURE CONCRETE. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

UTILITY LINES THE UTILITY(IES) SHALL BORE ALL EXPENSE INVOLVED IN PROTECTING THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXISTING STRUCTURE VERIFICATION DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.
BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE BID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 514 - FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN
THIS ITEM CONSISTS OF FIELD PAINTING DAMAGED STRUCTURAL STEEL BY PERFORMING SURFACE PREPARATION AND APPLYING A THREE-COAT PAINT SYSTEM TO THE UNCOATED STEEL AND FEATHERED REMOVAL AREAS OF EXISTING COATINGS.

CMS 514.06 THROUGH 514.10 APPLY. REMOVE EXISTING PAINT COATING TO CONTRACT LIMITS OR AS DIRECTED BY THE ENGINEER ACCORDING TO SSPC-SP 15, COMMERCIAL GRADE POWER TOOL CLEANING, OR EQUAL AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS 3. THE ENGINEER WILL USE THE SSPC-VIS 3 TO DETERMINE THE ACCEPTANCE OF THE COMMERCIAL GRADE POWER TOOL CLEANING. FEATHER THE EXISTING PAINT TO EXPOSE A MINIMUM OF 1/2 INCH (13 MM) OF EACH COAT. CONTAIN AND DISPOSE OF WASTE GENERATED BY THE CLEANING ACCORDING TO CMS 514.13.D.

ROUND ALL EXPOSED CORNERS OF MAIN MATERIAL AS NECESSARY TO ACHIEVE A 1/16 INCH RADIUS (1.6 MM) OR EQUIVALENT FLAT SURFACE AT A 45 DEGREE ANGLE.

APPLY THE PRIME AND INTERMEDIATE COATS OF THE SPECIFIED THREE-COAT PAINT SYSTEM, CMS 708.02, ACCORDING TO CMS 514.15, 514.16, 514.17, AND 514.20 TO CONTRACT LIMITS OR AS DIRECTED BY THE ENGINEER. TINT THE INTERMEDIATE COAT TO APPROXIMATELY THE SAME COLOR AS THE EXISTING FINISH COLOR. MATCH THE COLOR TO THE ENGINEERS SATISFACTION. THE ENGINEER WILL DETERMINE THE PRIME COAT THICKNESS; PRIME AND INTERMEDIATE COAT THICKNESS USING A TYPE 2 MAGNETIC GAGE AT SPOT LOCATIONS. EACH COAT OF PAINT SHALL MEET THE MINIMUM DRY FILM THICKNESS REQUIREMENTS OF CMS 514.20. APPLY PAINT AS FOLLOWS:

A.) APPLY THE PRIME COAT ONLY TO THE SURFACE OF THE BARE STEEL AND THE EXISTING PRIME COAT EXPOSED BY FEATHERING. DO NOT APPLY THE PRIME COAT TO THE ADJACENT INTERMEDIATE COAT.

B.) APPLY THE INTERMEDIATE COAT ONLY TO THE NEW PRIME COAT AND THE EXISTING INTERMEDIATE COAT EXPOSED BY FEATHERING. DO NOT APPLY THE INTERMEDIATE COAT TO THE ADJACENT FINISH COAT.

AT THE PERIMETER OF THE REPAIR AREA, APPLY THE PRIME AND INTERMEDIATE COATS USING A BRUSH. APPLY THE FINISH COAT USING EITHER BRUSH OR SPRAY. IN LIEU OF BRUSHING THE USE OF MASKING AREAS NOT TO BE COATED AND SPRAY TO FEATHERED REMOVAL LINES MAY BE PERFORMED.

BLEND REPAIR AREAS WITH THE ADJACENT COATING AND PROVIDE A FINISHED SURFACE IN THE PATCHED AREAS THAT IS SMOOTH AND HAS AN EVEN PROFILE WITH THE ADJACENT SURFACE.

THE DEPARTMENT WILL MEASURE FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN BY THE NUMBER OF SQUARE FEET (SQUARE METERS) OF STRUCTURAL STEEL PAINTED. ALL REQUIREMENTS OF THIS SPECIFICATION ARE CONSIDERED INCIDENTAL TO THE WORK.

THE DEPARTMENT WILL DETERMINE THE SURFACE AREA BY TAKING EXACT FIELD MEASUREMENTS OF ALL PAINTED SURFACES AND CALCULATIONS.

GENERAL NOTES CONTINUED ON SHEET 4/16

DESIGN AGENCY
Palmer PALMER ENGINEERING
1300 CONNELL PARK DR
BLACKLICK, OHIO 43004
DESIGNED CEJ
DRAWN SDW
REVIEWED BJF
DATE 2/09
CHECKED MLJ
REVISED
STRUCTURE FILE NUMBER 1401955

GENERAL NOTES
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-
71-7.26/0.00
PID No. 75745

ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER STRUCT	GENERAL	SHEET REF.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					3
202	22901	158	SQ YD	APPROACH SLAB REMOVED, AS PER PLAN				158	3
509	10000	127325	POUND	EPOXY COATED REINFORCING STEEL	9120	546	117659		
509	20001	100	POUND	REINFORCING STEEL, PREPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	100				3
510	10000	588	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	516	72			
512	10100	1727	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	317	205	1205		
513	20000	3624	EACH	WELDED STUD SHEAR CONNECTORS			3624		
514	20001	20	SQ FT	FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN			20		3
516	11210	105	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			105		
516	44301	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)	8				11
				(13" X 14" X 4.14" WITH 14" X 26" BEVELED LOAD PLATE)					
516	46001	4	EACH	BEARING DEVICE, BOLSTER, AS PER PLAN		4			9
516	46201	8	EACH	BEARING DEVICE, ROCKER, AS PER PLAN		8			8
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					3
SPECIAL	60740300	912	FT	ITEM SPECIAL - VANDAL PROTECTION FENCE REMOVED AND REBUILT			912		3/12
898	10601	433	SQ YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN			433		3
898	10705	149	SQ YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), 15", AS PER PLAN				149	3
898	11000	130	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)	24		106		
898	20150	20	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT)	20				

GENERAL NOTES, CONTINUED FROM SHEET 3/16

STAY IN PLACE FORMS
THE USE OF STAY IN PLACE FORMS HAS BEEN LOOKED INTO AND THEY ARE NOT ALLOWED FOR USE ON THIS BRIDGE.

NON-USE OF ASBESTOS-CONTAINING MATERIALS
THE CONTRACTOR SHALL AT NO TIME INCORPORATE ANY MATERIALS WHICH ARE COMPOSED OF OR CONTAIN ANY AMOUNTS OF ASBESTOS. THE SUBSTITUTION OF MATERIALS WHICH CONTAIN ANY AMOUNTS OF ASBESTOS WILL IN NO CIRCUMSTANCES BE ACCEPTABLE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF CERTIFICATION ASSERTING THAT NO ASBESTOS CONTAINING MATERIALS WERE USED IN ANY PORTION OF THE CONSTRUCTION.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN THIS WORK CONSISTS OF RAISING OR REPOSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM SPECIAL-VANDAL PROTECTION FENCE REMOVED AND REBUILT
THE EXISTING VANDAL PROTECTION FENCE SHALL BE REMOVED FROM THE BRIDGE PARAPETS AND STORED FOR REUSE ON THE REHABILITATED STRUCTURE. THE CONTRACTOR SHALL INSTALL THE FENCE ON THE NEW DEFLECTOR PARAPETS USING NEW BASE PLATES, CLOSURE PLATES AND ANCHORAGE HARDWARE. IF THE FENCE IS DAMAGED DURING REMOVAL OR INSTALLATION PROCEDURES, THE CONTRACTOR SHALL REPLACE THE DAMAGED COMPONENTS TO THE SATISFACTION OF THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THE REPAIR.
THE DEPARTMENT WILL MEASURE THE QUANTITY OF VANDAL PROTECTION FENCE BY LINEAR FEET.
THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF FENCE REMOVAL AND INSTALLATION AT THE CONTRACT PRICE FOR ITEM 607, SPECIAL: VANDAL PROTECTION FENCE REMOVED AND REBUILT.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, QC/QA CONCRETE, CLASS QSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

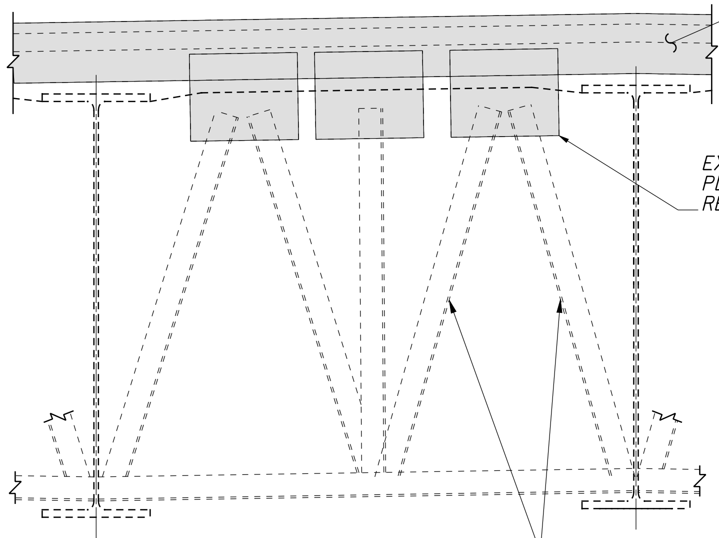
ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

DECK PLACEMENT DESIGN ASSUMPTIONS:
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

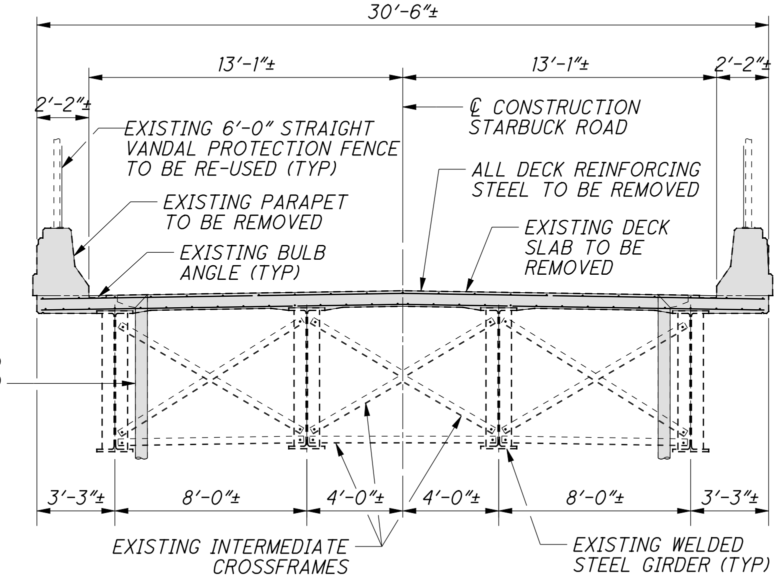
AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.3 kips FOR A TOTAL MACHINE LOAD OF 10.4 kips.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

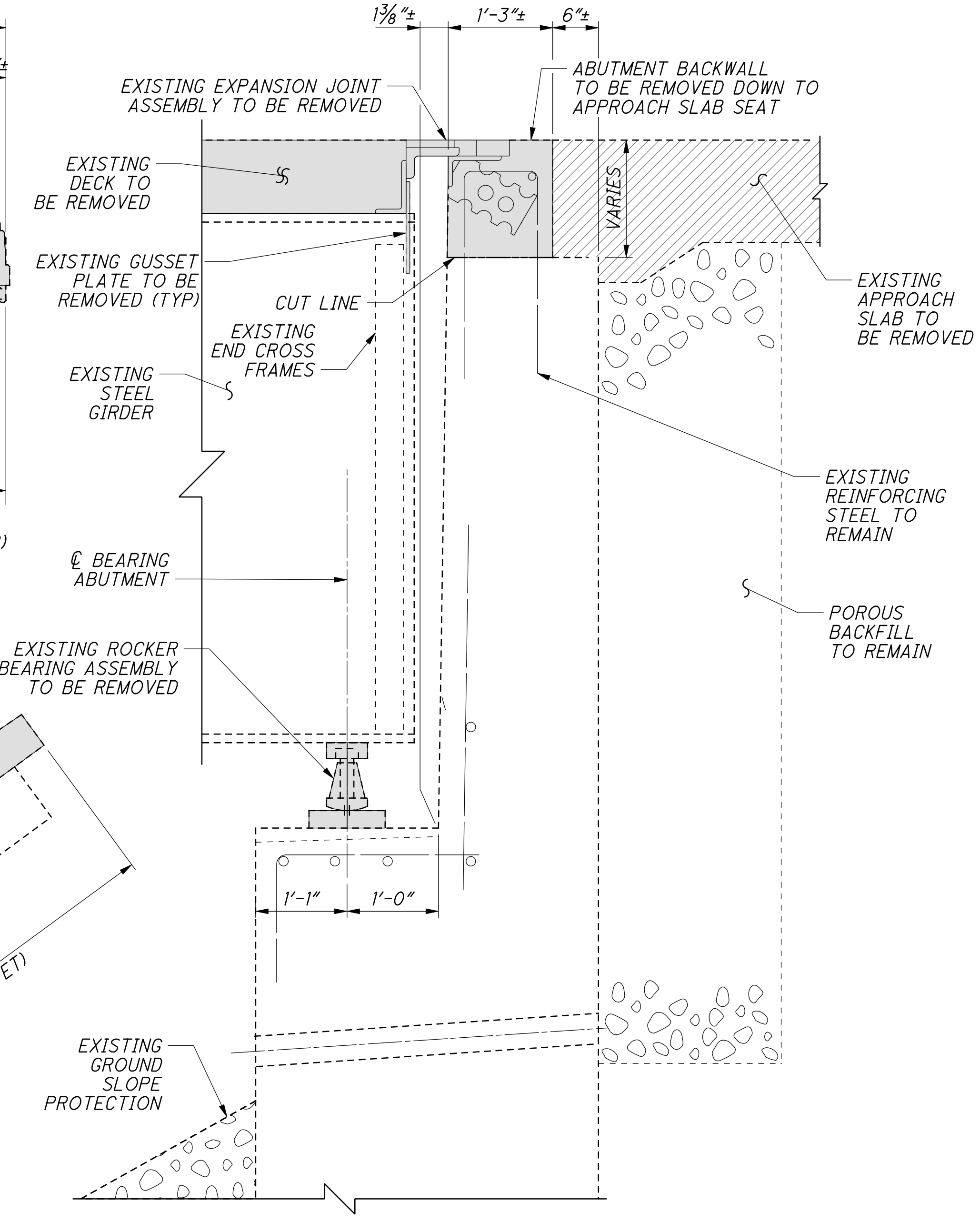
A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".



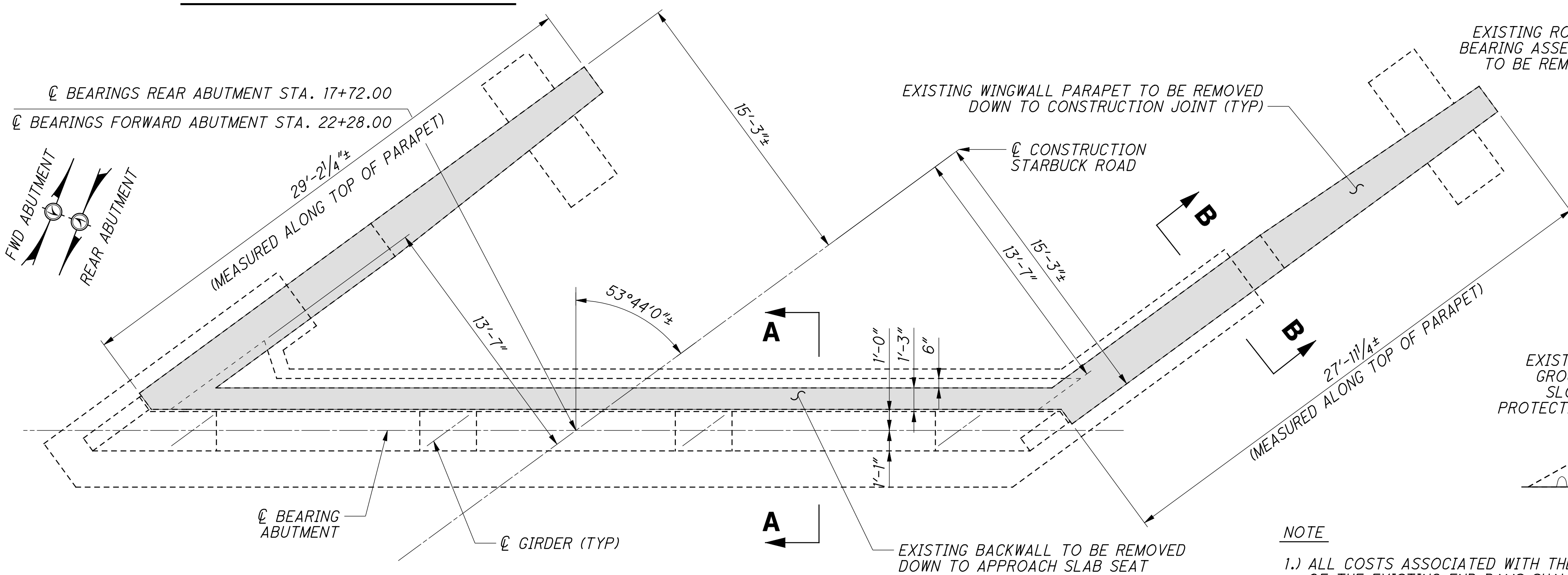
END CROSS-FRAME ELEVATION



DECK REMOVAL DETAIL



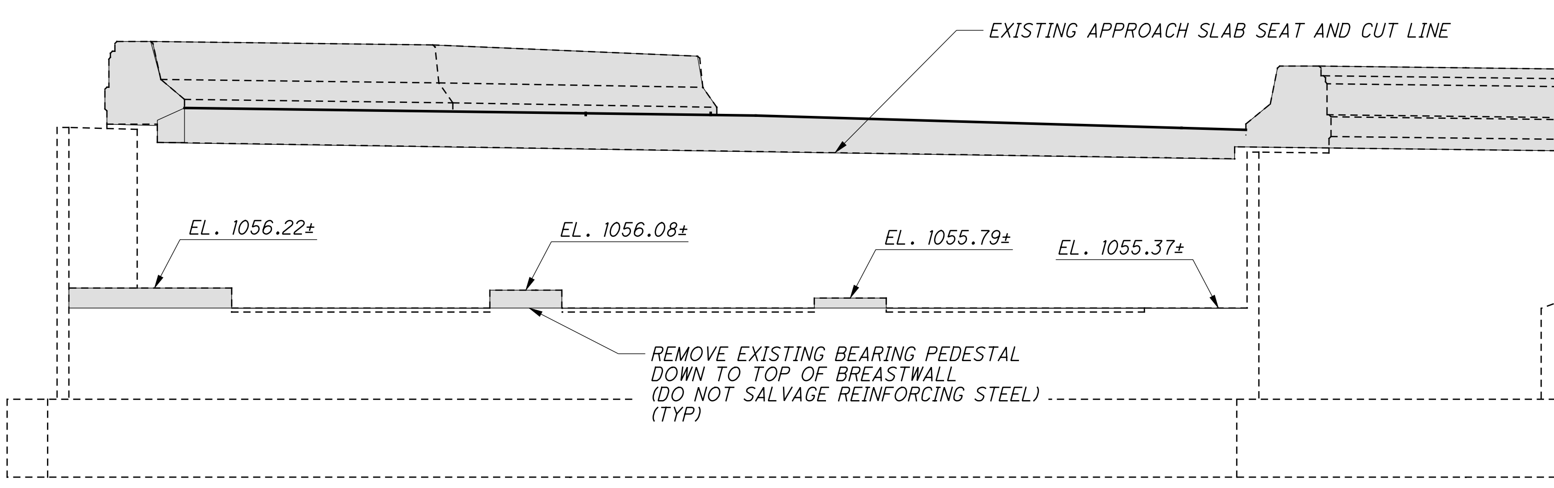
SECTION A-A



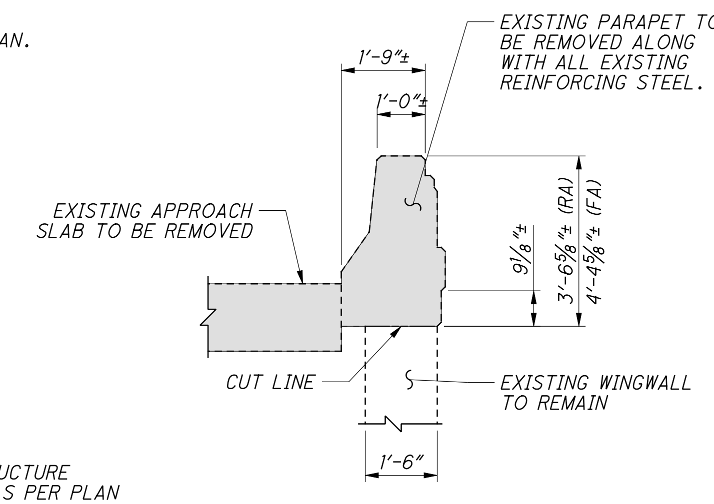
ABUTMENT REMOVAL PLAN

NOTE

1.) ALL COSTS ASSOCIATED WITH THE REMOVAL OF THE EXISTING END DAMS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN.



ABUTMENT REMOVAL ELEVATION



SECTION B-B

ITEM 202-PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

ITEM 202-APPROACH SLAB REMOVED, OVER 20' SPAN

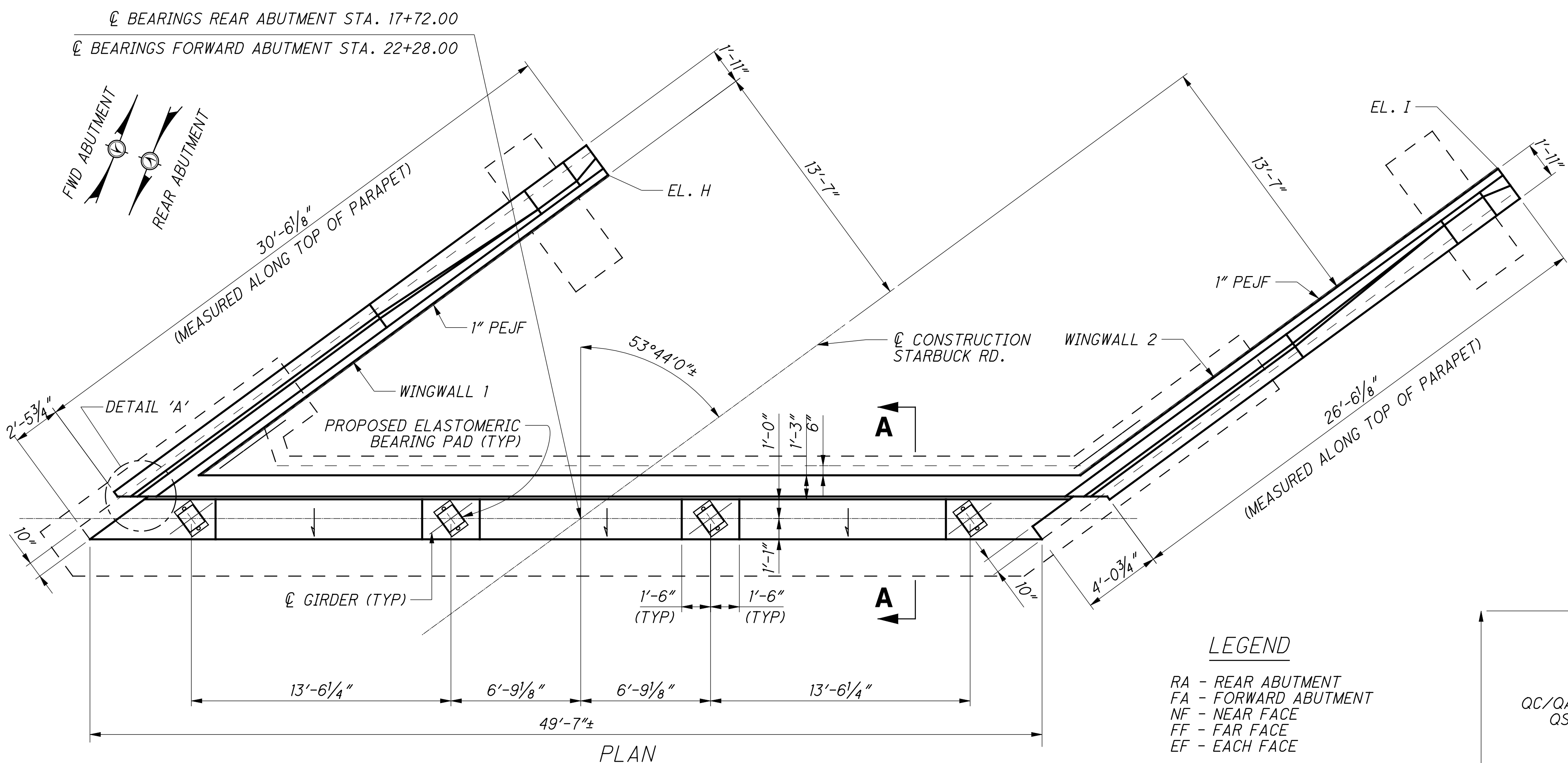
DESIGN AGENCY
Palmer ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401955	

REMOVAL DETAILS
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

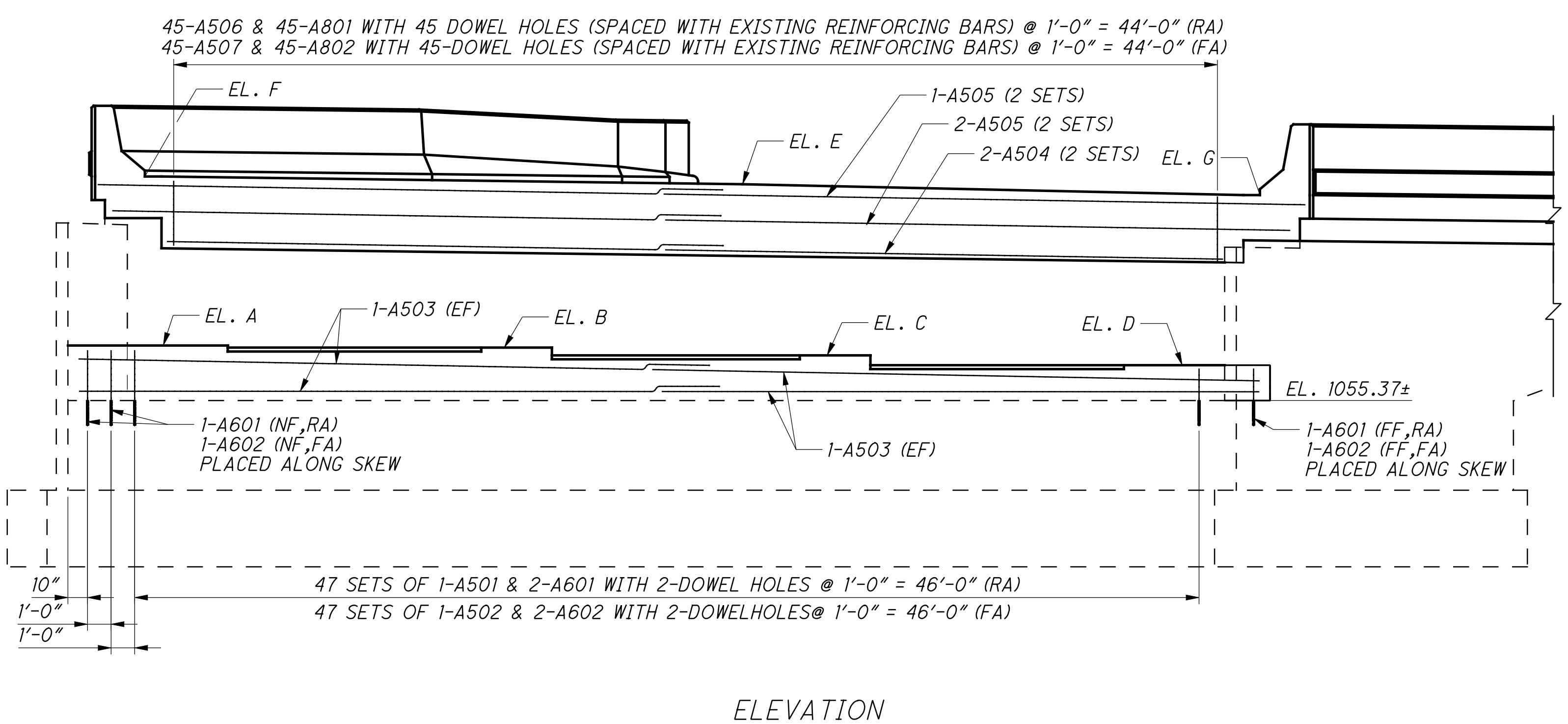
5/16



PLAN

LEGEND

RA - REAR ABUTMENT
FA - FORWARD ABUTMENT
NF - NEAR FACE
FF - FAR FACE
EF - EACH FACE



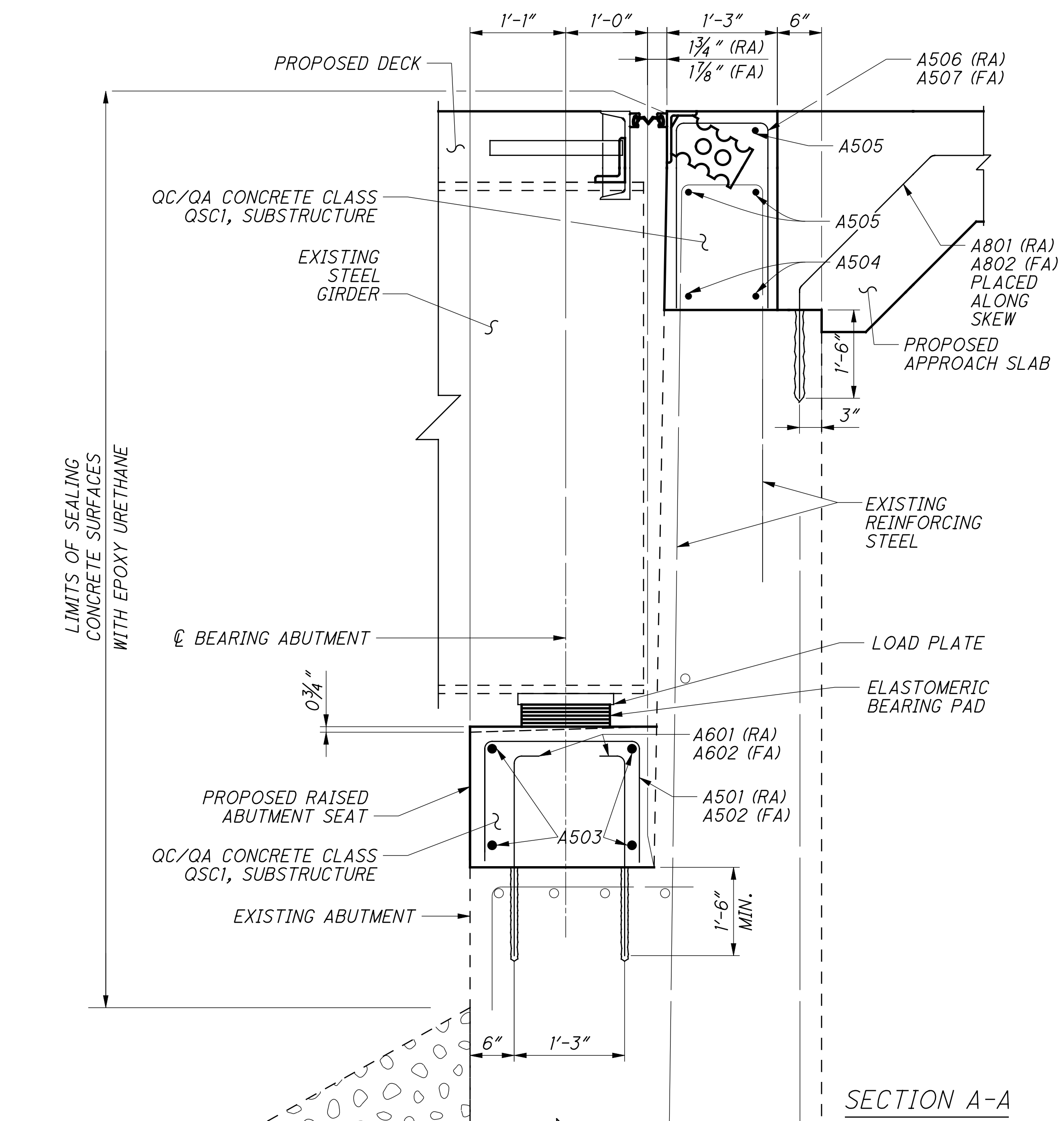
ELEVATION

PROPOSED BEARING SEAT ELEVATIONS (±)				
LOCATION	"A"	"B"	"C"	"D"
R. ABUT.	1057.18	1057.04	1056.75	1056.33
F. ABUT.	1057.96	1057.82	1057.53	1057.11

PROPOSED ABUTMENT ELEVATIONS (±)					
LOCATION	"E"	"F"	"G"	"H"	"I"
REAR ABUTMENT	1064.24	1064.54	1063.46	1063.73	1062.58
FORWARD ABUTMENT	1065.10	1065.32	1064.38	1064.63	1063.57

NOTES

1.) EXISTING REINFORCING STEEL IN THE ABUTMENT BREASTWALL AND WINGWALL SHALL BE AVOIDED WHEN DRILLING DOWEL HOLES. SEE EXISTING PLANS FOR APPROXIMATE LOCATIONS OF EXISTING REINFORCING BARS.
2.) IF THE BEAM SEATS ARE SEALED WITH EPOXY URETHANE PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.
3.) DO NOT PLACE BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
4.) PEDESTALS OR SHIMS SHALL NOT BE ALLOWED TO BE CAST INTO THE ABUTMENT BEAMS SEATS.
5.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE FINAL BEAM SEAT ELEVATIONS BY SUBTRACTING THE EXISTING ROCKER AND BOLSTER HEIGHTS WITH THE 1/8" BEARING PAD FROM THE CONTRACTOR MEASURED BOTTOM OF EXISTING BEAM ELEVATION AT EACH BEARING LOCATION. THIS NEW BEAM SEAT ELEVATION IS TO BE INCREASED BY THE AMOUNT THE BRIDGE IS TO BE RAISED OF 6"± INCHES. THIS FINAL BEAM SEAT ELEVATION IS A CONTRACTOR CALCULATED ELEVATION AND ANY SHIMS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER.
6.) LAP LENGTH OF #5 BARS IS 3'-5".
7.) FOR GENERAL NOTES, SEE SHEET 3/16.
8.) FOR WINGWALL DETAILS, SEE SHEET 7/16.
9.) FOR EXPANSION JOINT DETAILS AND DETAIL 'A', SEE SHEET 15/16.
10.) FOR APPROACH SLAB DETAILS, SEE ROADWAY PLANS.



SECTION A-A

DESIGN AGENCY
Palmer ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401955	

ABUTMENT DETAILS 1

BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

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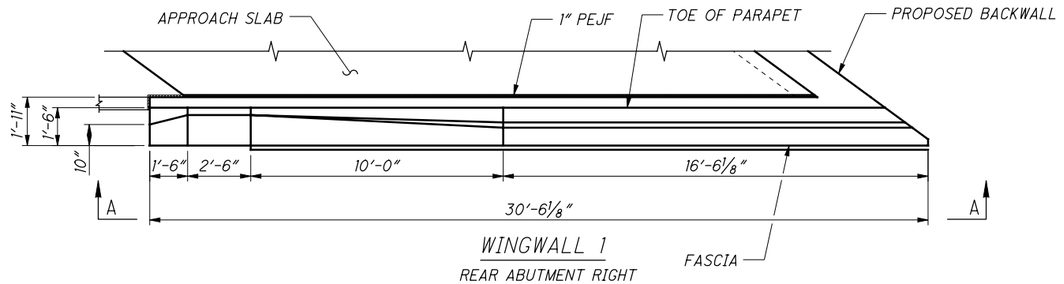
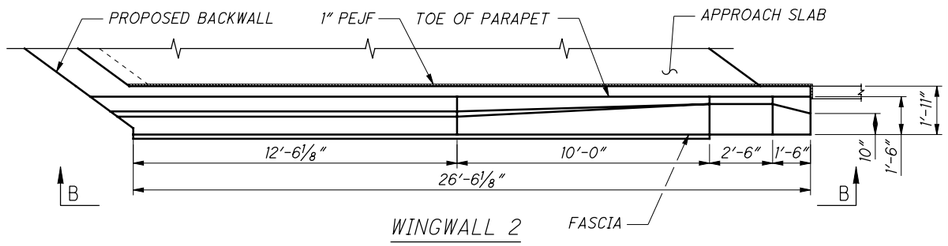


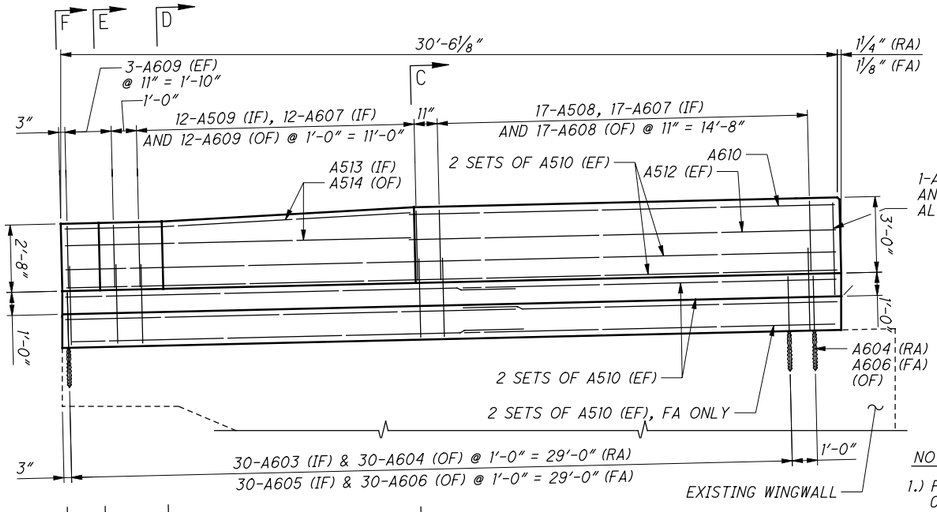
WINGWALL 1

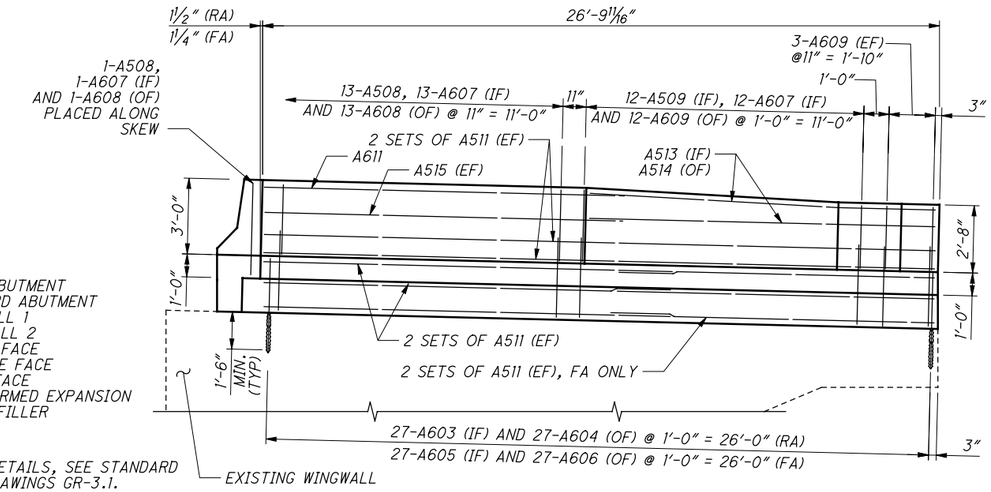
REAR ABUTMENT RIGHT
FORWARD ABUTMENT LEFT



WINGWALL 2

FORWARD ABUTMENT RIGHT
REAR ABUTMENT LEFT





LEGEND

RA - REAR ABUTMENT
FA - FORWARD ABUTMENT
WW1 - WINGWALL 1
WW2 - WINGWALL 2
IF - INSIDE FACE
OF - OUTSIDE FACE
EF - EACH FACE
PEJF - PREFORMED EXPANSION JOINT FILLER

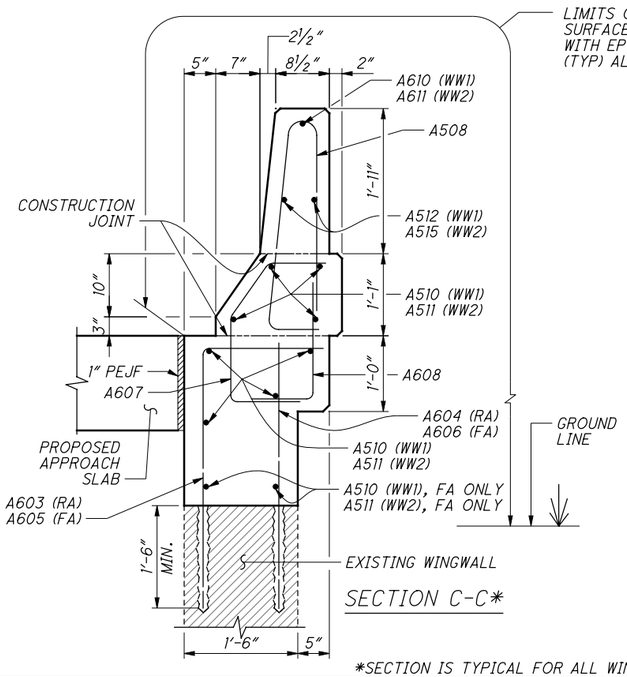
NOTES

1.) FOR GUARDRAIL DETAILS, SEE STANDARD CONSTRUCTION DRAWINGS GR-3.1.

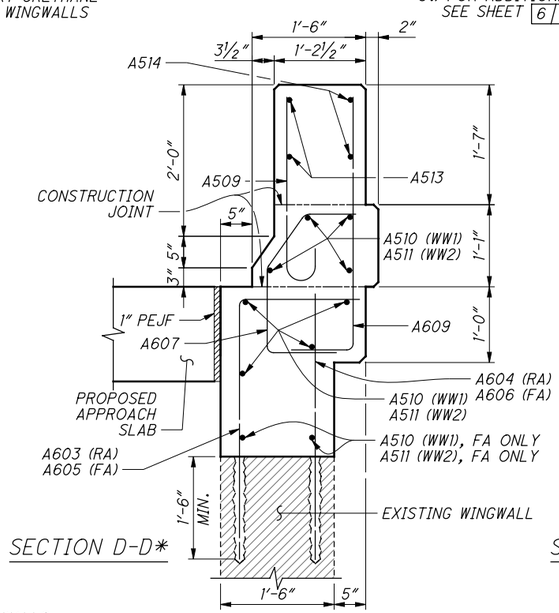
2.) ALL PARAPET CONCRETE SHALL BE ITEM 898 QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)

3.) FOR ADDITIONAL ABUTMENT DETAILS, SEE SHEET 6 | 16

VIEW A-A



SECTION C-C*



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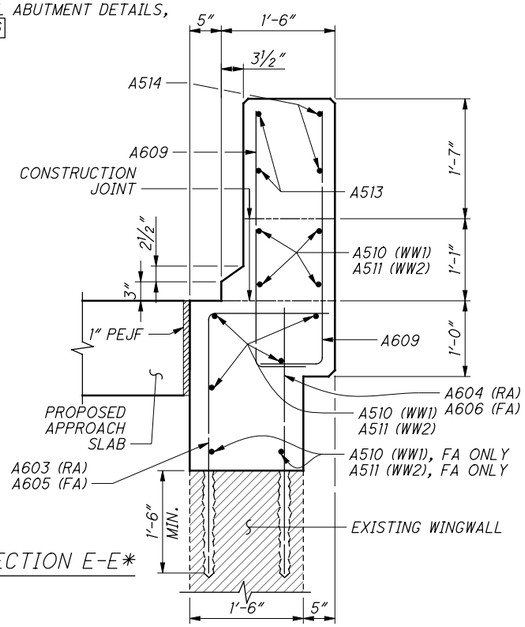

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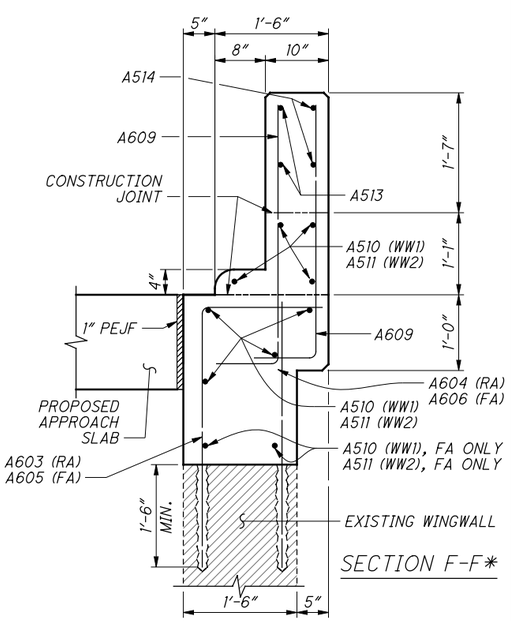

SECTION F-F*

VIEW B-B

*SECTION IS TYPICAL FOR ALL WINGWALLS

DESIGN AGENCY
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401955	

ABUTMENT DETAILS 2

BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-17.26/0.00
PID No. 75745

7 | 16

173
218

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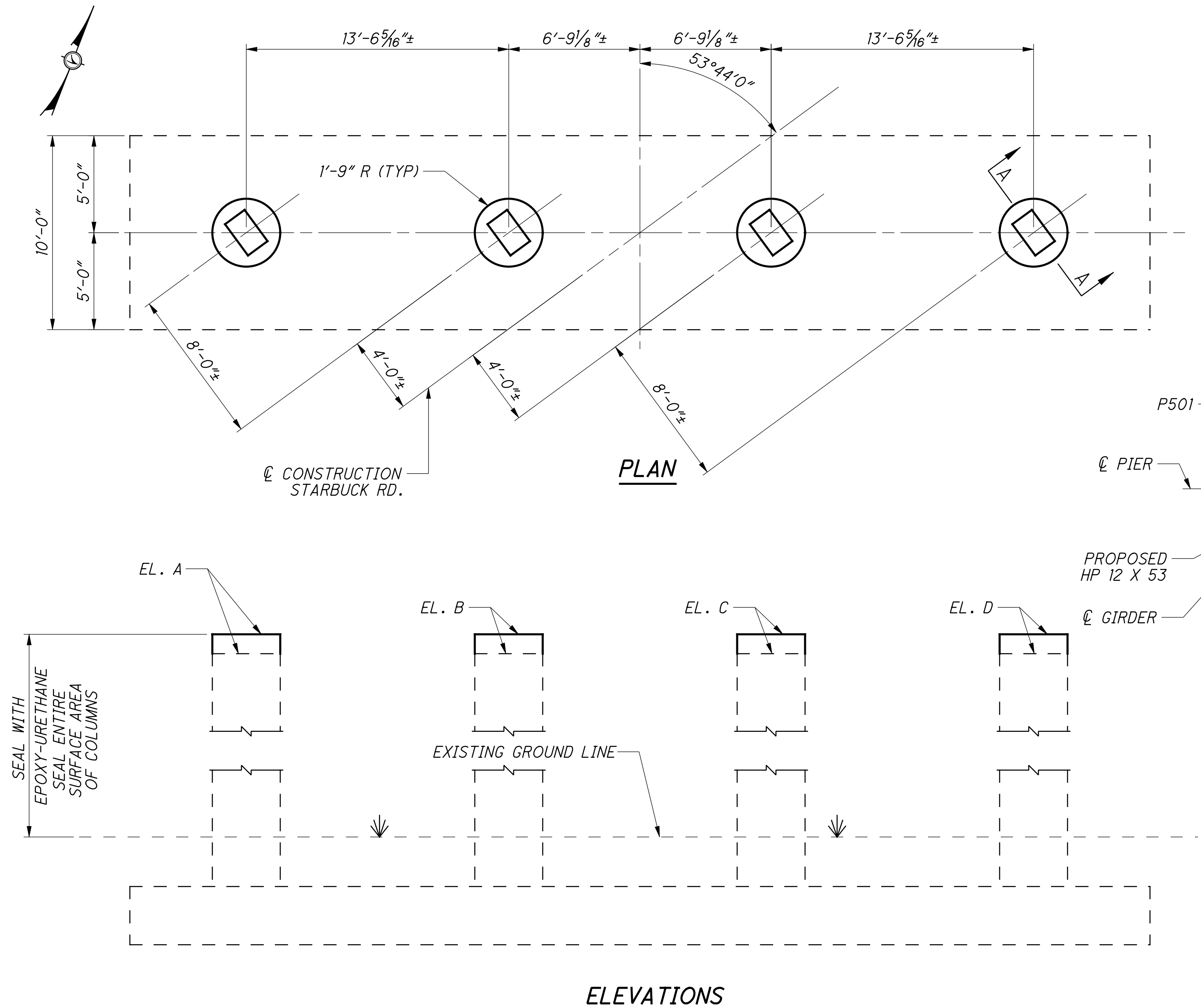
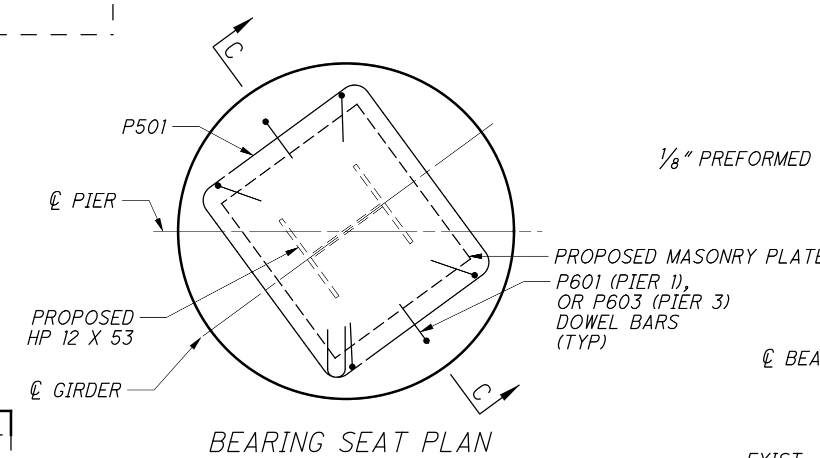
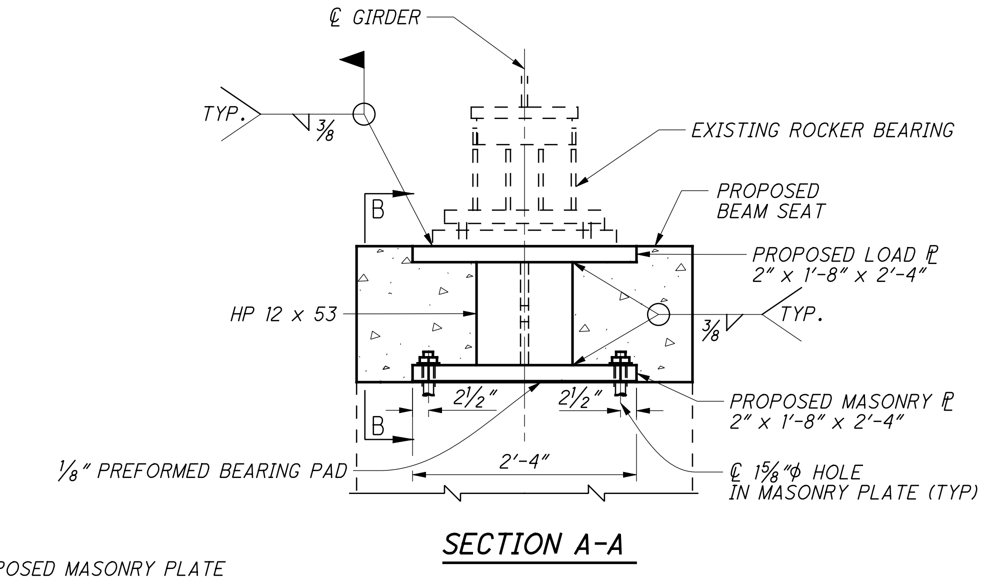
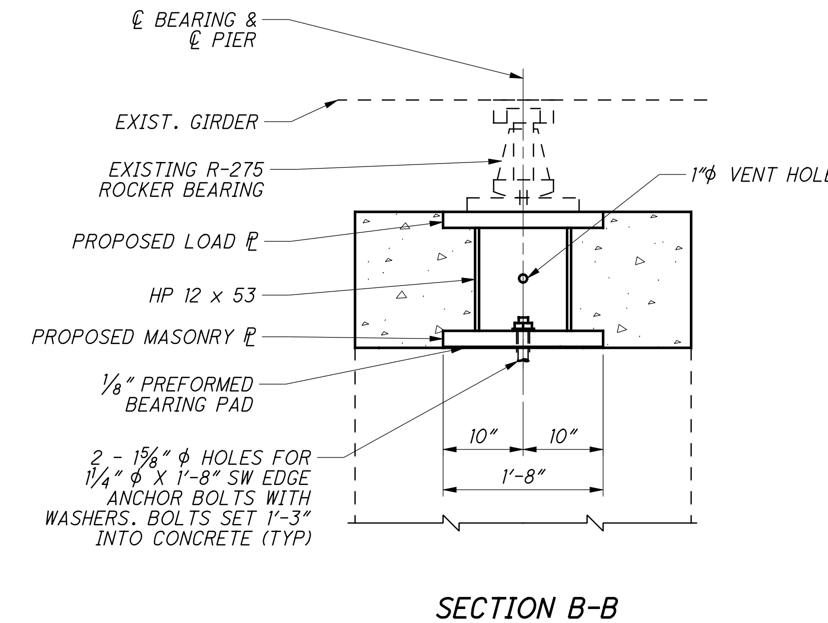








NOTES:

1.) THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF EXISTING BEARINGS, EXISTING BOTTOM OF BEAM ELEVATIONS AND EXISTING SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO THE DISTRICT 8 BRIDGE DESIGN ENGINEER, SCOTT KRAMER, PRIOR TO JACKING. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO ACHIEVE THE PROPOSED BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. PAYMENT OF ALL DESCRIBED WORK SHALL BE INCLUDED WITH ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN. THE PROPOSED LOAD PLATE, MASONRY PLATE AND HP SECTION DIMENSIONS SHALL BE VERIFIED PRIOR TO FABRICATION.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS, SHALL BE GALVANIZED AS PER 711.02.

3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, REFURBISH BEARING DEVICE, AS PER PLAN.

4.) HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

5.) THE EXISTING WELDS BETWEEN THE GIRDER BOTTOM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

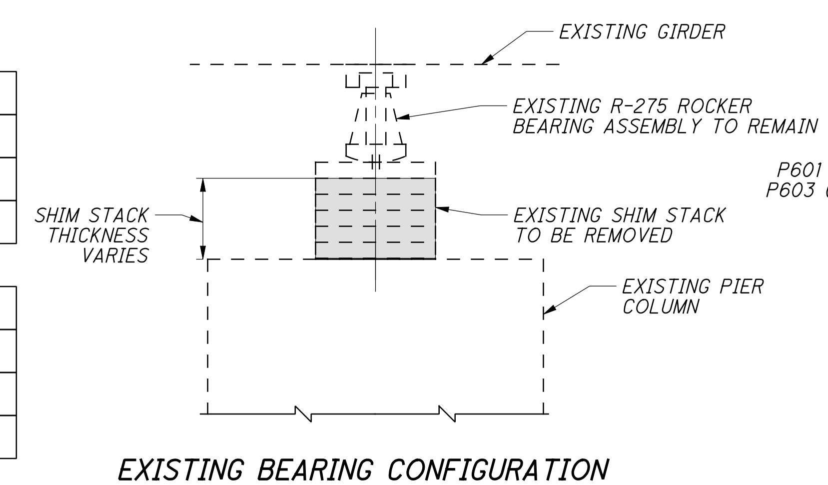
6.) FINAL BOTTOM OF GIRDER ELEVATIONS SHOULD BE 6" HIGHER THAN EXISTING GIRDER ELEVATIONS.

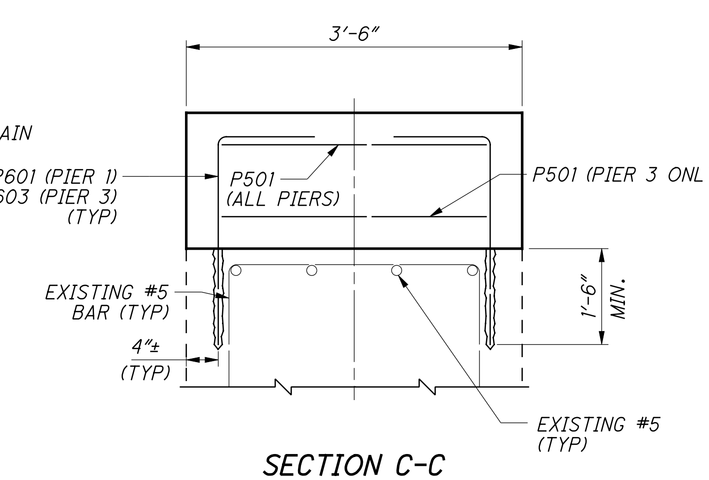
EXISTING BEAM SEAT ELEVATIONS (±)

LOCATION	"A"	"B"	"C"	"D"
PIER 1	1056.83	1057.14	1057.32	1057.34
PIER 3	1057.34	1057.32	1057.14	1056.83

PROPOSED BEAM SEAT ELEVATIONS (±)

LOCATION	"A"	"B"	"C"	"D"
PIER 1	1057.48	1057.79	1057.97	1057.99
PIER 3	1058.47	1058.45	1058.27	1057.96





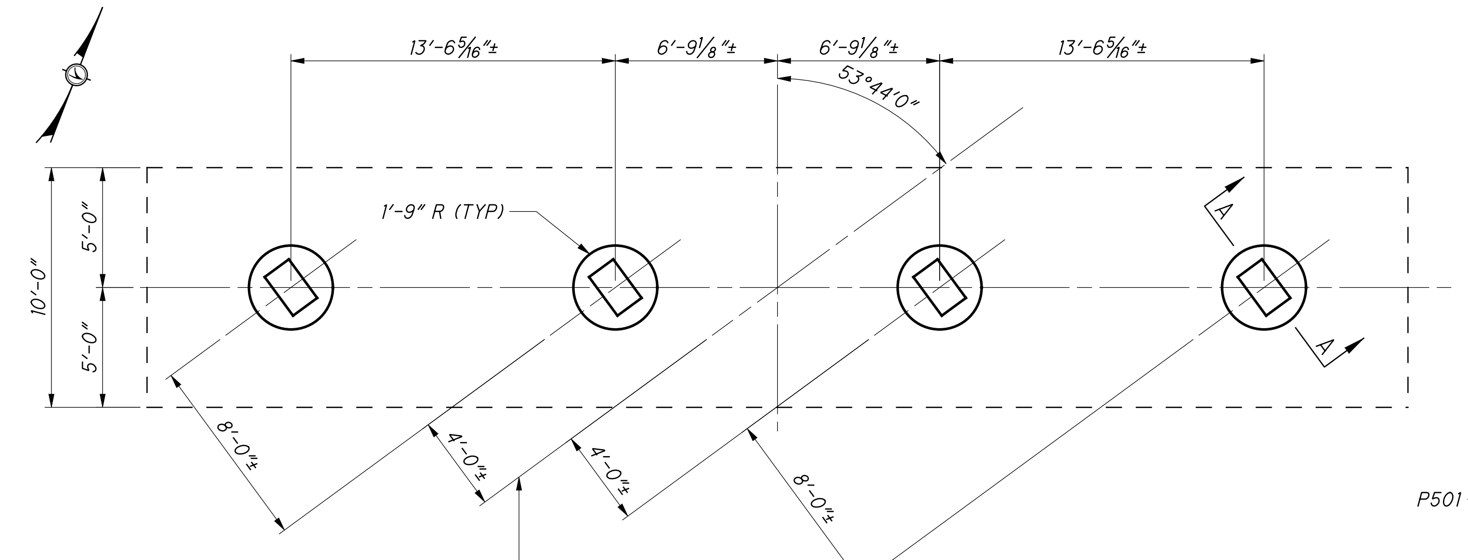
DESIGN AGENCY: Palmer ENGINEERING, PALMER ENGINEERING, 1300 CORNELL PARK DR, CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	2/09
CHECKED MLJ	REVISED	STRUCTURE FILE NUMBER 1401955	

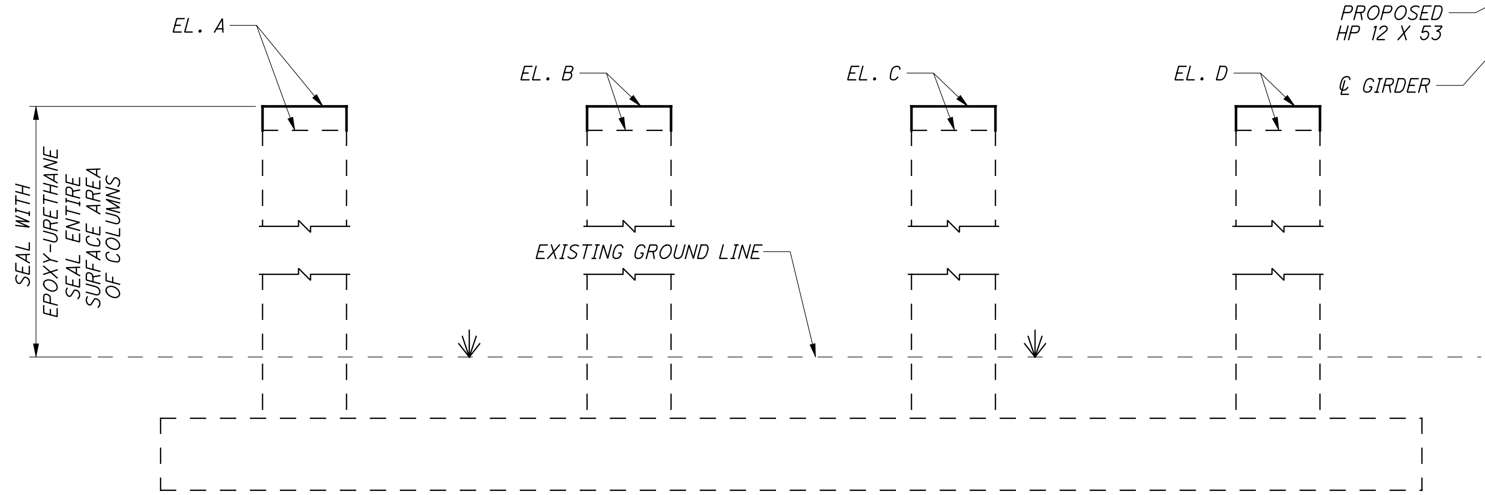
PIER MODIFICATION DETAILS FOR PIERS 1 AND 3
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

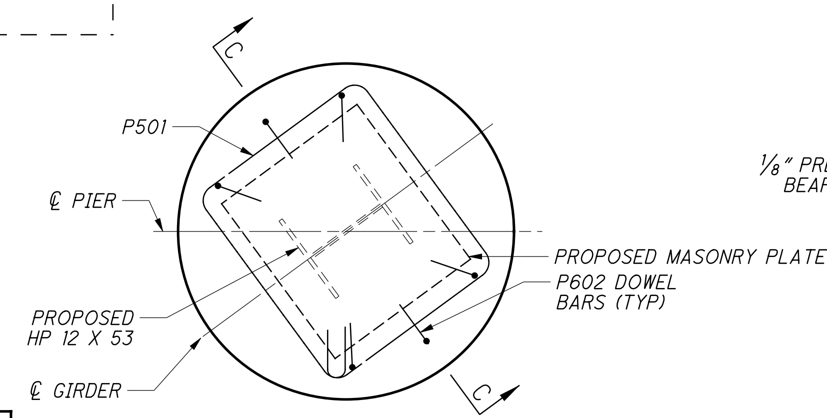
8 / 16



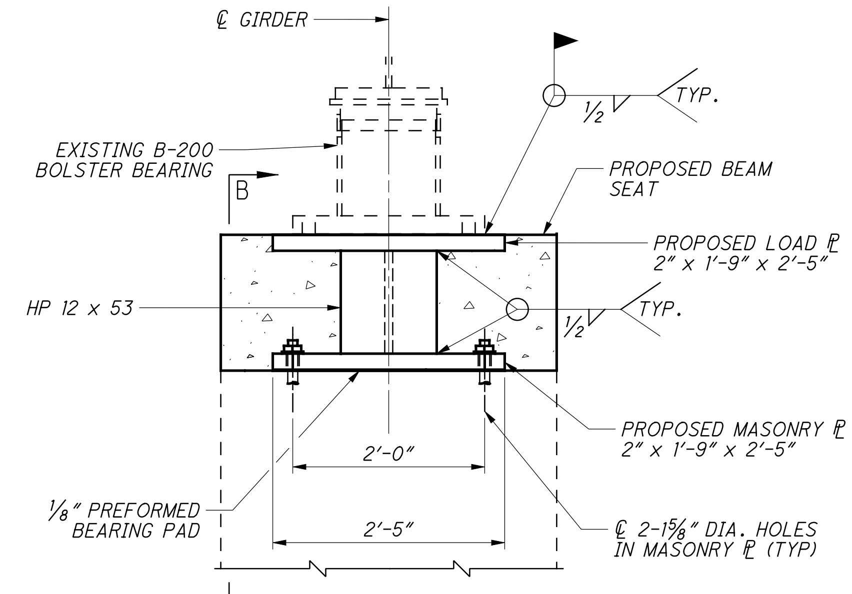
PLAN



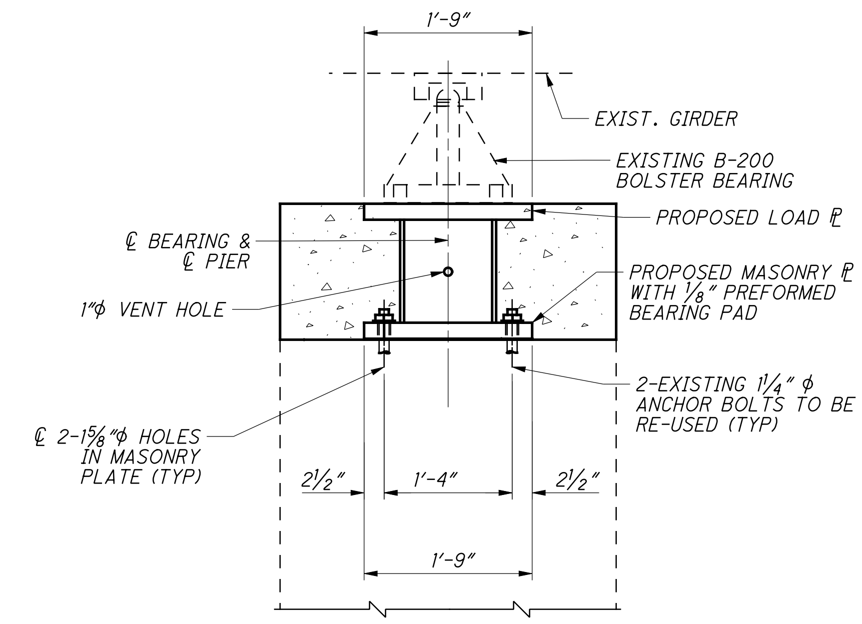
ELEVATIONS



BEARING SEAT PLAN



SECTION A-A



SECTION B-B

NOTES:

1.) THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF EXISTING BEARINGS, EXISTING BOTTOM OF BEAM ELEVATIONS AND EXISTING SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO THE DISTRICT 8 BRIDGE DESIGN ENGINEER, SCOTT KRAMER, PRIOR TO JACKING. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO ACHIEVE THE PROPOSED BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. PAYMENT OF ALL DESCRIBED WORK SHALL BE INCLUDED WITH ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN. THE PROPOSED LOAD PLATE, MASONRY PLATE AND HP SECTION DIMENSIONS SHALL BE VERIFIED PRIOR TO FABRICATION.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS, SHALL BE GALVANIZED AS PER 711.02.

3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, REFURBISH BEARING DEVICE, AS PER PLAN.

4.) HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

5.) THE EXISTING WELDS BETWEEN THE GIRDER BOTTOM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

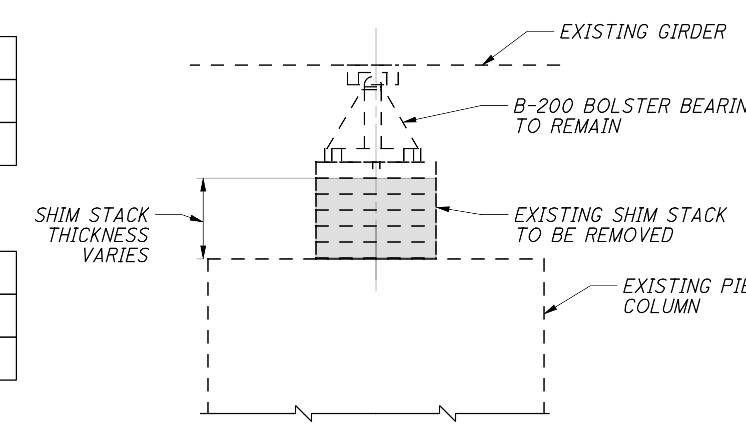
6.) FINAL BOTTOM OF GIRDER ELEVATIONS SHOULD BE 6" HIGHER THAN EXISTING GIRDER ELEVATIONS.

EXISTING BEAM SEAT ELEVATIONS (±)

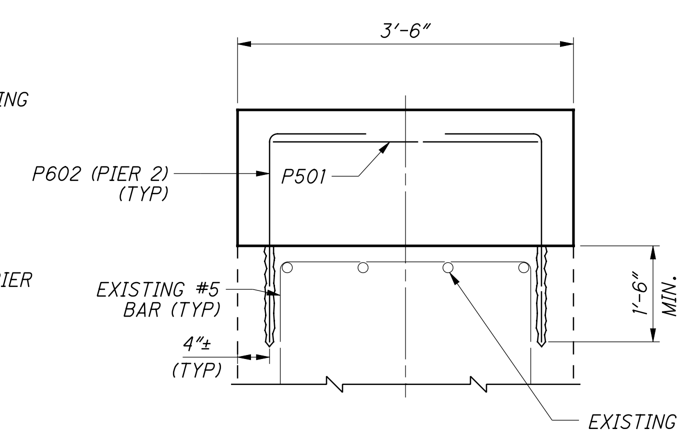
LOCATION	"A"	"B"	"C"	"D"
PIER 2	1058.08	1058.22	1058.22	1058.08

PROPOSED BEAM SEAT ELEVATIONS (±)

LOCATION	"A"	"B"	"C"	"D"
PIER 2	1058.98	1059.12	1059.12	1058.98



EXISTING BEARING CONFIGURATION



SECTION C-C

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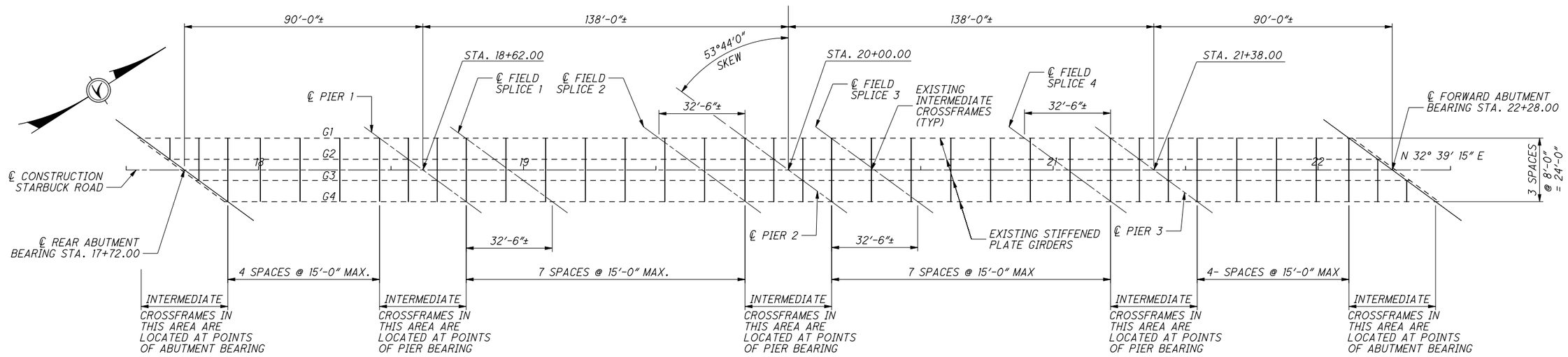
DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
1500 CORNELL PARK DR.
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401955	

PIER MODIFICATION DETAILS FOR PIER 2
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

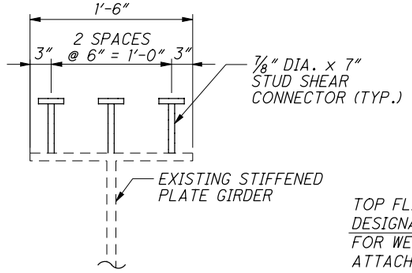
9 / 16



FRAMING PLAN

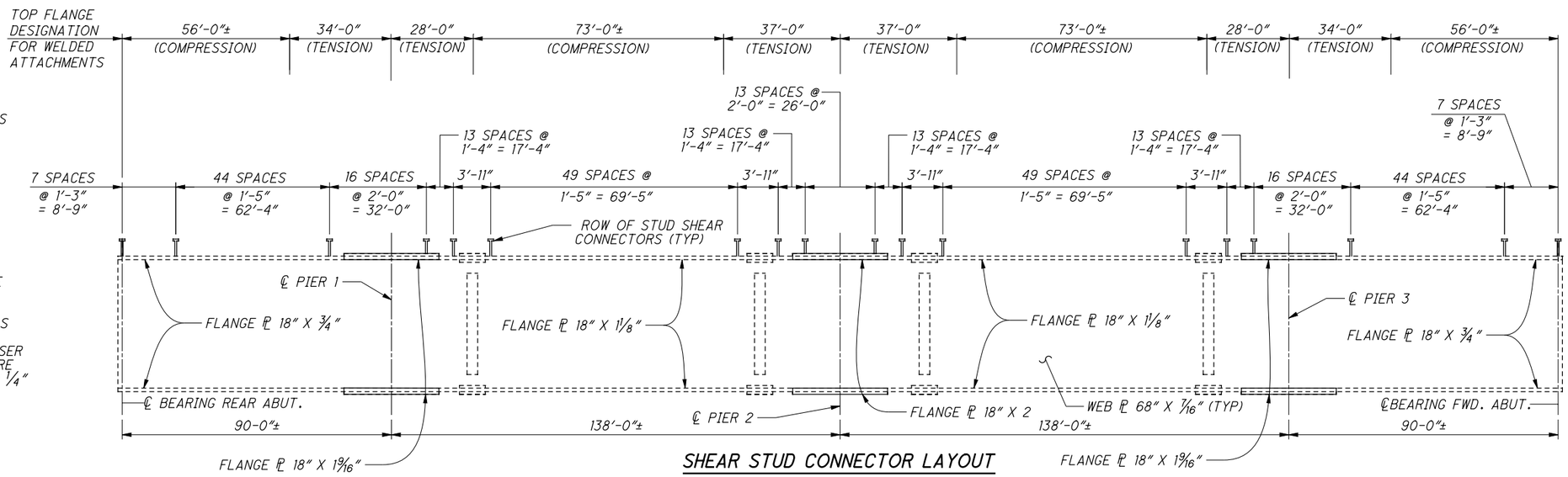
DEFLECTION (in.) OF EXISTING GIRDERS

	SPAN 1									SPAN 2									SPAN 3									SPAN 4								
	REAR ABUT.	1/8	1/4	3/8	1/2	5/8	3/4	7/8	PIER 1	1/8	FIELD SPLICE 1	1/4	3/8	1/2	5/8	3/4	FIELD SPLICE 2	7/8	PIER 2	1/8	FIELD SPLICE 3	1/4	3/8	1/2	5/8	3/4	FIELD SPLICE 4	7/8	PIER 3	1/8	1/4	3/8	1/2	5/8	3/4	7/8	FWD. ABUT.
DEFLECTION FROM NON-COMPOSITE DEAD LOAD	0	1/8	1/4	1/4	1/4	3/16	1/16	0	0	3/16	1/2	1/2	3/4	13/16	11/16	7/16	3/8	1/8	0	1/8	3/8	7/16	11/16	13/16	3/4	1/2	1/2	3/16	0	0	1/16	3/16	1/4	1/4	1/4	1/8	0
DEFLECTION FROM COMPOSITE DEAD LOAD	0	1/16	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/8	1/8	1/8	1/16	1/16	1/16	0	1/16	1/16	1/16	1/8	1/8	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	0
TOTAL DEFLECTION FROM DEAD LOAD	0	3/16	5/16	5/16	5/16	3/16	1/16	0	0	1/4	9/16	9/16	7/8	15/16	13/16	1/2	7/16	3/16	0	3/16	7/16	1/2	13/16	15/16	7/8	9/16	9/16	1/4	0	0	1/16	3/16	5/16	5/16	5/16	3/16	0



SHEAR STUD CONNECTOR LAYOUT

NOTE: WELDING OF THE STUD SHEAR CONNECTORS IS TO BE IN ACCORDANCE WITH 513.22 OF THE CMS.



SHEAR STUD CONNECTOR LAYOUT

NOTES

1.) WELDED ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FASCIA GIRDER FLANGES DESIGNATED "COMPRESSION". ATTACHMENT SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL NOT BE CLOSER THAN 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE NOT SMALLER THAN 1/4" FOR THICKNESS UP TO 3/4" AND 5/16" FOR GREATER THAN 3/4" THICK.

2.) FOR GENERAL NOTES, SEE SHEET 3/16.

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING 1000 CONNELL PARK DR BLUE BELL, PENNSYLVANIA 19422

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401955	

CLI/GRE-71-7.26/0.00
PID No. 75745

FRAMING PLAN
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

10 / 16

176 / 218

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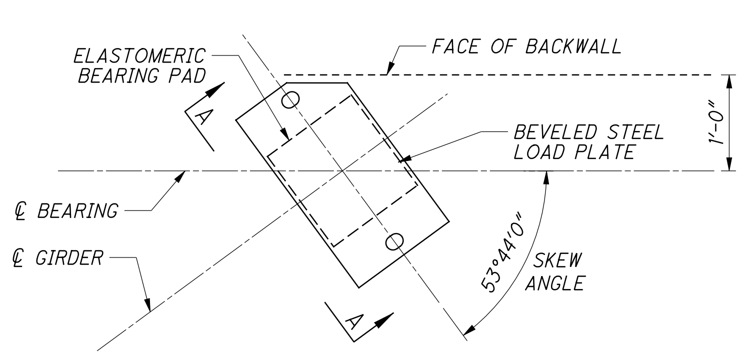
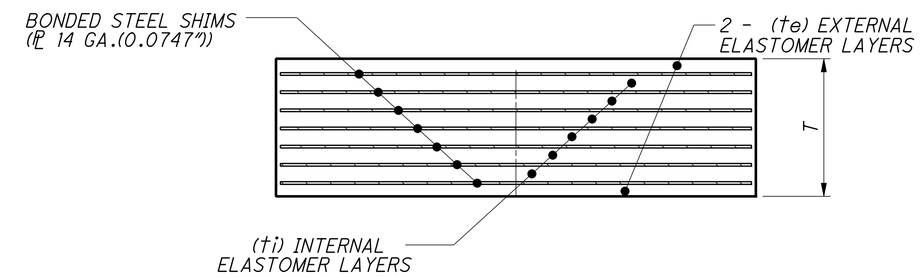
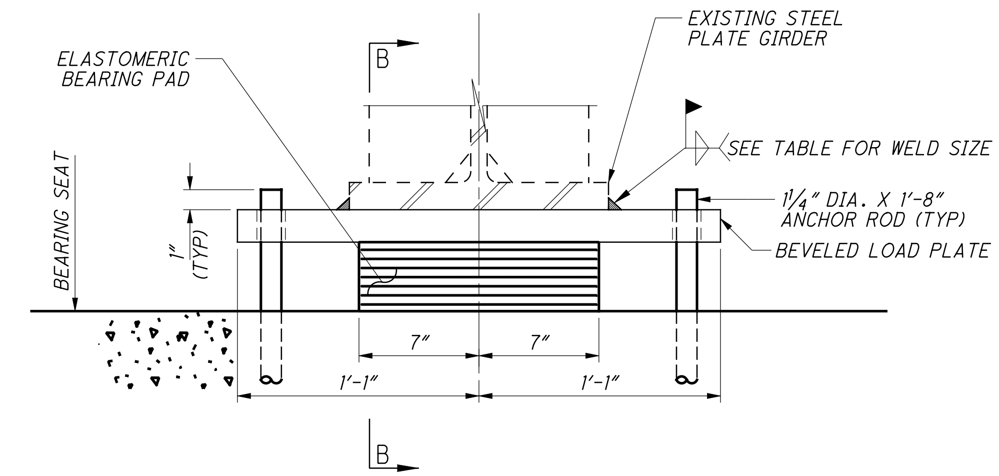


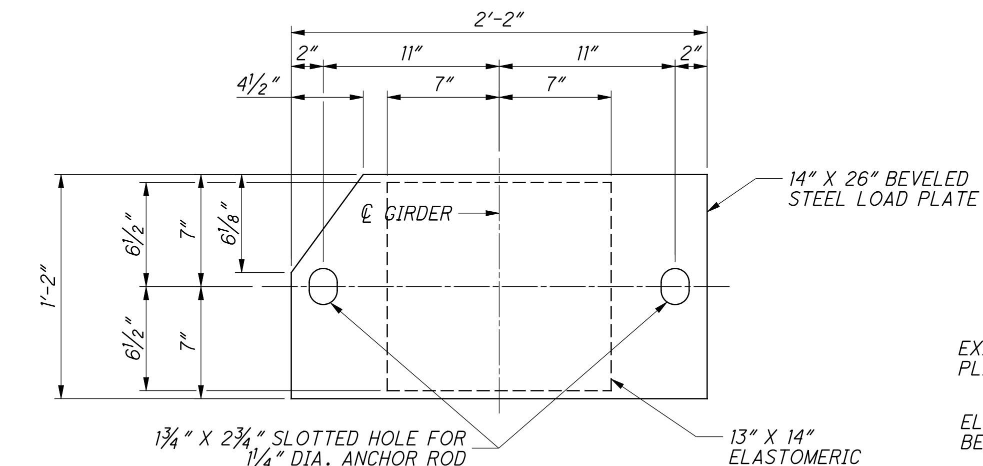
LAMINATED ELASTOMERIC BEARINGS ORIENTATION AT ABUTMENTS



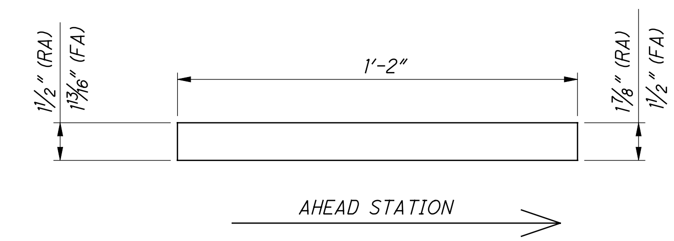
BEARING PAD ELEVATION



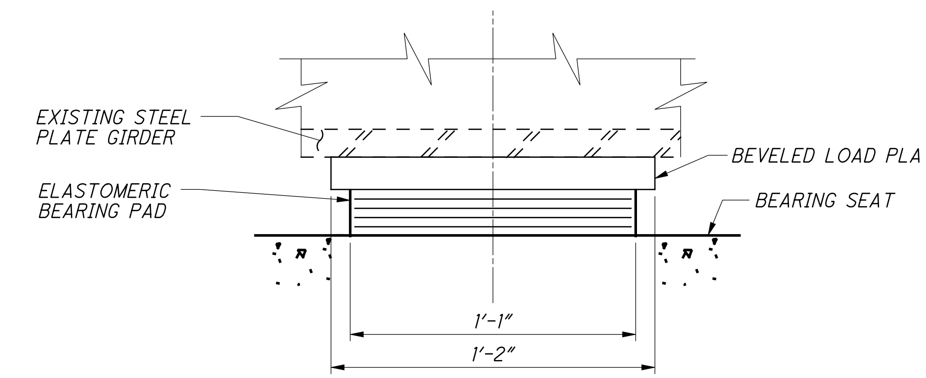
VIEW A-A



LOAD PLATE PLAN



LOAD PLATE PROFILE



SECTION B-B

NOTES:

THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE AT THE CONTRACT PRICE FOR ITEM 516, ELASTOMERIC BEARINGS.

WELDING:
CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

THE STEEL LOAD PLATE SHALL BE ASTM A709 GRADE 50 STEEL AND SHALL BE BONDED TO THE ELASTOMER BY VULCANIZATION DURING THE MOLDING PROCESS.

THE STEEL LOAD PLATES SHALL BE INCLUDED WITH ITEM 516, ELASTOMERIC BEARINGS FOR PAYMENT.

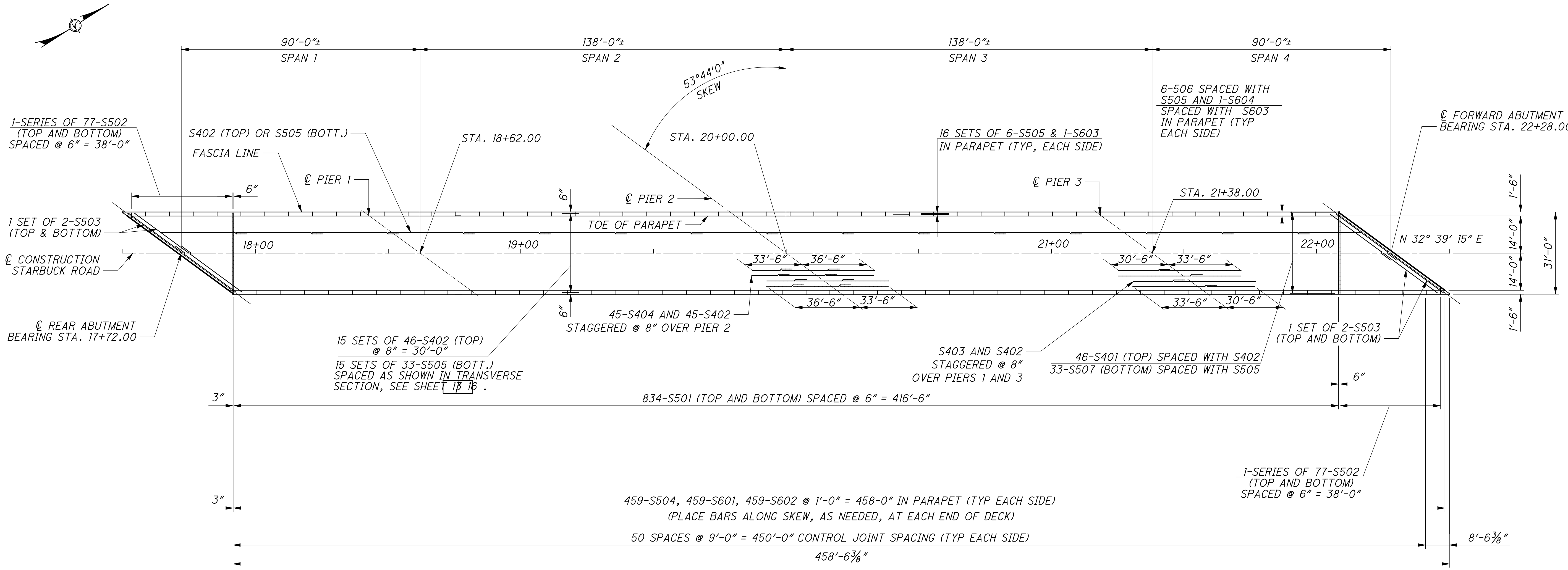
BEARING LOCATION	BEARING TYPE	NO. REQ'D	DEAD LOAD (KIPS)	LIVE LOAD (KIPS)	TOTAL LOAD (KIPS)	ti	NO. OF ti	te (2 EA.)	NO. OF INT. LAMINATES (14 GAGE)	T	REQUIRED DUROMETER	WELD SIZES
REAR ABUT	EXPANSION	4	56.3	62.0	118.3	0.49	6	0.34	7	4.14	50	5/16
FWD. ABUT	EXPANSION	4	56.3	62.0	118.3	0.49	6	0.34	7	4.14	50	5/16

DESIGN AGENCY
PALMER ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

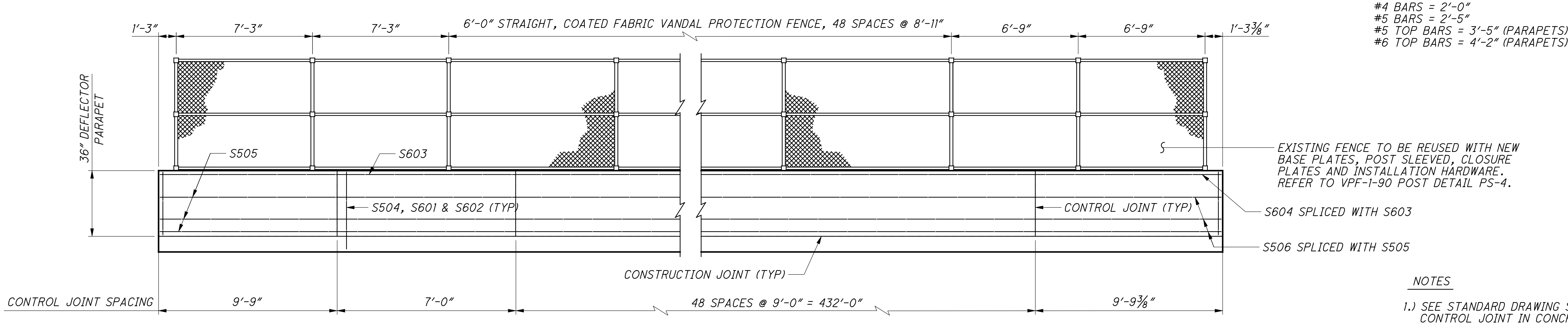
DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401955	

ELASTOMERIC BEARING DETAIL
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745



DECK SLAB PLAN



ELEVATION OF DECK PARAPET AND VANDAL PROTECTION FENCE

LAP LENGTHS

#4 BARS = 2'-0"
#5 BARS = 2'-5"
#5 TOP BARS = 3'-5" (PARAPETS)
#6 TOP BARS = 4'-2" (PARAPETS)

NOTES

1.) SEE STANDARD DRAWING SBR-1 FOR CONTROL JOINT IN CONCRETE PARAPET DETAILS.

2.) FOR GENERAL NOTES SEE SHEET 3/16.

3.) FOR TRANSVERSE SECTION, SEE SHEET 13/16.

DESIGN AGENCY
PALMER ENGINEERING
1530 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401955	

DECK SLAB PLAN
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

12/16

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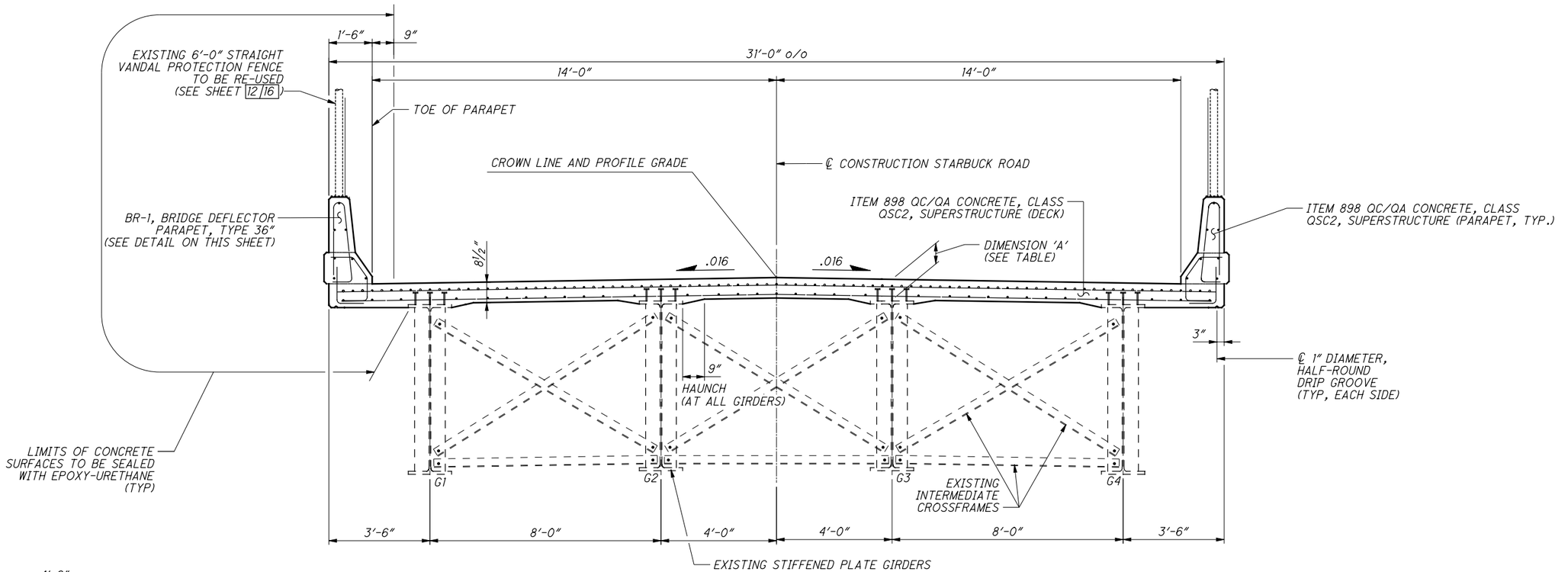
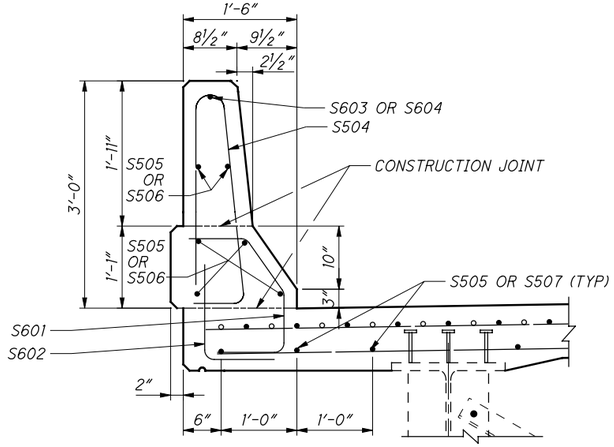
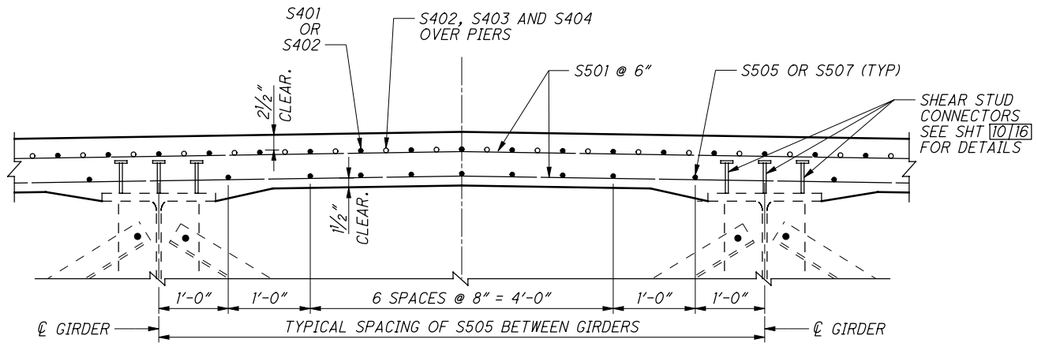


SECTION A-A



PARAPET DETAIL



REINFORCEMENT BETWEEN BEAMS

DIMENSION "A" (IN)				
LOCATION	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4
℄ BRG. REAR ABUT.	11 3/8	11 3/4	11 7/8	12 1/4
℄ PIER 1	10 7/8	11 1/4	11 3/8	11 3/4
℄ PIER 2	10 5/8	10 7/8	11 1/8	11 3/8
℄ PIER 3	11 3/8	11 1/2	11 7/8	12
℄ BRG. FWD. ABUT.	12 1/4	12 1/2	12 3/4	12 7/8

NOTES

1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF 4 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ±3" INCHES. DIMENSION OF "A" WAS MEASURED AT THE CENTERLINE OF THE GIRDER FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE. THE AREA OF ALL EMBEDDED GIRDER FLANGES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH CMS 511.24
2. FOR DECK SLAB PLAN AND SCREED ELEVATIONS, SEE SHEET 12/16 AND 14/16 .
3. FOR GENERAL NOTES, SEE SHEET 3/16 .

DESIGN AGENCY
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401955	

DECK SLAB DETAIL
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

13 / 16

179
218

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FINAL DECK SURFACE ELEVATIONS

LOCATION	LEFT FASCIA	LEFT TOE OF PARAPET	GIRDER 1	GIRDER 2	℄; PG; CROWN	GIRDER 3	GIRDER 4	RIGHT TOE OF PARAPET	RIGHT FASCIA
℄ BRG. REAR ABUT.	1063.43	1063.52	1063.63	1064.08	1064.29	1064.38	1064.55	1064.59	1064.61
1/8	1063.76	1063.85	1063.96	1064.39	1064.60	1064.68	1064.83	1064.87	1064.90
1/4	1064.08	1064.17	1064.27	1064.69	1064.90	1064.97	1065.11	1065.14	1065.16
3/8	1064.39	1064.47	1064.57	1064.98	1065.18	1065.24	1065.37	1065.39	1065.41
1/2	1064.68	1064.76	1064.86	1065.25	1065.44	1065.50	1065.61	1065.63	1065.65
5/8	1064.96	1065.03	1065.13	1065.51	1065.69	1065.74	1065.84	1065.86	1065.88
3/4	1065.23	1065.30	1065.39	1065.75	1065.93	1065.97	1066.05	1066.07	1066.08
7/8	1065.47	1065.54	1065.63	1065.98	1066.15	1066.19	1066.25	1066.27	1066.28
℄ PIER 1	1065.71	1065.77	1065.86	1066.19	1066.36	1066.39	1066.44	1066.45	1066.46
1/8	1066.04	1066.10	1066.18	1066.49	1066.64	1066.67	1066.70	1066.70	1066.70
℄ FIELD SPLICE 1	1066.30	1066.36	1066.44	1066.73	1066.87	1066.88	1066.89	1066.89	1066.89
1/4	1066.34	1066.39	1066.47	1066.76	1066.90	1066.91	1066.92	1066.92	1066.92
3/8	1066.60	1066.65	1066.72	1066.99	1067.12	1067.12	1067.11	1067.10	1067.10
1/2	1066.83	1066.87	1066.94	1067.19	1067.31	1067.29	1067.26	1067.25	1067.24
5/8	1067.02	1067.06	1067.12	1067.35	1067.46	1067.43	1067.38	1067.36	1067.35
3/4	1067.18	1067.22	1067.27	1067.48	1067.58	1067.54	1067.46	1067.44	1067.43
℄ FIELD SPLICE 2	1067.19	1067.24	1067.29	1067.49	1067.59	1067.55	1067.47	1067.45	1067.43
7/8	1067.30	1067.34	1067.39	1067.57	1067.66	1067.61	1067.51	1067.49	1067.47
℄ PIER 2	1067.40	1067.43	1067.47	1067.63	1067.71	1067.65	1067.53	1067.50	1067.47
1/8	1067.45	1067.48	1067.52	1067.66	1067.72	1067.66	1067.51	1067.48	1067.45
℄ FIELD SPLICE 3	1067.47	1067.50	1067.53	1067.65	1067.71	1067.63	1067.47	1067.43	1067.39
1/4	1067.47	1067.50	1067.53	1067.65	1067.70	1067.63	1067.46	1067.42	1067.39
3/8	1067.46	1067.48	1067.51	1067.61	1067.65	1067.56	1067.38	1067.33	1067.29
1/2	1067.42	1067.43	1067.45	1067.53	1067.56	1067.46	1067.26	1067.20	1067.16
5/8	1067.34	1067.35	1067.37	1067.42	1067.44	1067.33	1067.10	1067.04	1067.00
3/4	1067.22	1067.23	1067.24	1067.27	1067.28	1067.16	1066.91	1066.85	1066.80
℄ FIELD SPLICE 4	1067.21	1067.22	1067.23	1067.25	1067.26	1067.14	1066.89	1066.82	1066.77
7/8	1067.08	1067.08	1067.08	1067.09	1067.09	1066.96	1066.69	1066.62	1066.57
℄ PIER 3	1066.89	1066.89	1066.89	1066.88	1066.87	1066.73	1066.43	1066.36	1066.30
1/8	1066.75	1066.75	1066.75	1066.72	1066.71	1066.56	1066.25	1066.17	1066.11
1/4	1066.60	1066.60	1066.59	1066.55	1066.53	1066.37	1066.05	1065.96	1065.90
3/8	1066.44	1066.43	1066.42	1066.36	1066.33	1066.17	1065.83	1065.75	1065.68
1/2	1066.25	1066.24	1066.23	1066.16	1066.12	1065.95	1065.60	1065.51	1065.44
5/8	1066.06	1066.05	1066.03	1065.95	1065.90	1065.72	1065.36	1065.26	1065.19
3/4	1065.85	1065.83	1065.81	1065.72	1065.66	1065.48	1065.10	1065.00	1064.93
7/8	1065.62	1065.61	1065.58	1065.47	1065.41	1065.22	1064.83	1064.73	1064.65
℄ BRG. FWD. ABUT.	1065.38	1065.36	1065.33	1065.21	1065.14	1064.95	1064.54	1064.43	1064.35

DECK SCREED ELEVATIONS

LOCATION	LEFT FASCIA	LEFT TOE OF PARAPET	GIRDER 1	GIRDER 2	℄ CONSTR.	GIRDER 3	GIRDER 4	RIGHT TOE OF PARAPET	RIGHT FASCIA
℄ BRG. REAR ABUT.	1063.43	1063.52	1063.63	1064.08	1064.29	1064.38	1064.55	1064.59	1064.61
1/8	1063.78	1063.86	1063.97	1064.40	1064.62	1064.70	1064.85	1064.88	1064.91
1/4	1064.11	1064.19	1064.30	1064.72	1064.92	1064.99	1065.13	1065.16	1065.19
3/8	1064.42	1064.50	1064.60	1065.01	1065.20	1065.27	1065.39	1065.42	1065.44
1/2	1064.71	1064.79	1064.89	1065.27	1065.46	1065.52	1065.63	1065.66	1065.68
5/8	1064.98	1065.05	1065.15	1065.52	1065.71	1065.76	1065.85	1065.87	1065.89
3/4	1065.23	1065.30	1065.40	1065.76	1065.93	1065.98	1066.06	1066.08	1066.09
7/8	1065.47	1065.54	1065.63	1065.98	1066.15	1066.19	1066.25	1066.27	1066.28
℄ PIER 1	1065.71	1065.77	1065.86	1066.19	1066.36	1066.39	1066.44	1066.45	1066.46
1/8	1066.06	1066.12	1066.20	1066.51	1066.67	1066.69	1066.72	1066.72	1066.73
℄ FIELD SPLICE 1	1066.35	1066.41	1066.48	1066.78	1066.92	1066.93	1066.94	1066.95	1066.95
1/4	1066.39	1066.44	1066.52	1066.81	1066.95	1066.96	1066.97	1066.97	1066.97
3/8	1066.67	1066.73	1066.80	1067.06	1067.19	1067.19	1067.18	1067.18	1067.17
1/2	1066.91	1066.96	1067.02	1067.27	1067.39	1067.37	1067.35	1067.33	1067.33
5/8	1067.09	1067.14	1067.19	1067.42	1067.52	1067.50	1067.45	1067.43	1067.42
3/4	1067.22	1067.26	1067.32	1067.52	1067.62	1067.58	1067.51	1067.48	1067.47
℄ FIELD SPLICE 2	1067.23	1067.27	1067.33	1067.53	1067.62	1067.59	1067.51	1067.49	1067.47
7/8	1067.32	1067.35	1067.40	1067.59	1067.67	1067.63	1067.53	1067.50	1067.48
℄ PIER 2	1067.40	1067.43	1067.47	1067.63	1067.71	1067.65	1067.53	1067.50	1067.47
1/8	1067.47	1067.49	1067.53	1067.67	1067.74	1067.67	1067.53	1067.49	1067.46
℄ FIELD SPLICE 3	1067.51	1067.54	1067.57	1067.69	1067.74	1067.67	1067.51	1067.47	1067.43
1/4	1067.51	1067.54	1067.57	1067.69	1067.74	1067.67	1067.50	1067.46	1067.43
3/8	1067.53	1067.55	1067.58	1067.67	1067.72	1067.63	1067.45	1067.40	1067.36
1/2	1067.50	1067.52	1067.54	1067.61	1067.64	1067.54	1067.34	1067.29	1067.24
5/8	1067.42	1067.43	1067.44	1067.49	1067.51	1067.40	1067.18	1067.12	1067.07
3/4	1067.28	1067.29	1067.30	1067.32	1067.33	1067.21	1066.96	1066.90	1066.85
℄ FIELD SPLICE 4	1067.26	1067.27	1067.28	1067.30	1067.31	1067.19	1066.94	1066.87	1066.82
7/8	1067.10	1067.10	1067.11	1067.12	1067.12	1066.98	1066.71	1066.64	1066.59
℄ PIER 3	1066.89	1066.89	1066.89	1066.88	1066.87	1066.73	1066.43	1066.36	1066.30
1/8	1066.75	1066.75	1066.75	1066.72	1066.70	1066.56	1066.25	1066.17	1066.11
1/4	1066.61	1066.60	1066.59	1066.56	1066.53	1066.38	1066.06	1065.97	1065.91
3/8	1066.45	1066.44	1066.43	1066.38	1066.35	1066.18	1065.85	1065.76	1065.70
1/2	1066.28	1066.27	1066.25	1066.18	1066.15	1065.98	1065.63	1065.54	1065.47
5/8	1066.09	1066.07	1066.05	1065.97	1065.93	1065.75	1065.39	1065.30	1065.22
3/4	1065.87	1065.86	1065.83	1065.74	1065.68	1065.50	1065.13	1065.03	1064.96
7/8	1065.64	1065.62	1065.59	1065.48	1065.42	1065.23	1064.84	1064.74	1064.66
℄ BRG. FWD. ABUT.	1065.38	1065.36	1065.33	1065.21	1065.14	1064.95	1064.54	1064.43	1064.35

NOTE

1.) SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

2.) SEE SHEET 12/16 FOR DECK SLAB PLAN

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

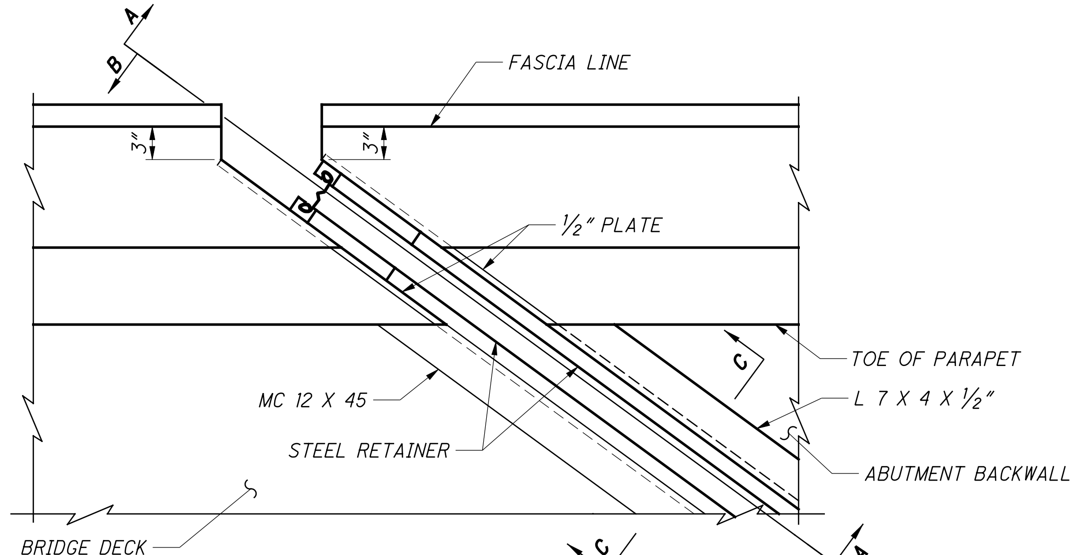
DESIGNED CEJ | DRAWN SDW | REVIEWED BJF | DATE 2/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 1401955

SCREED AND DECK SLAB ELEVATIONS
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-
71-7.26/0.00
PID No. 75745

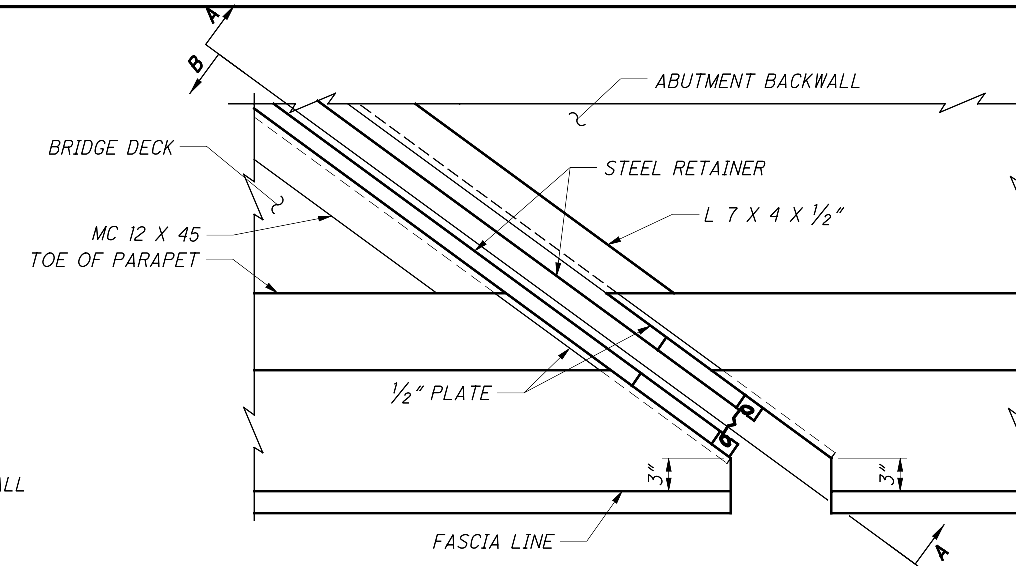
14/16

180
218



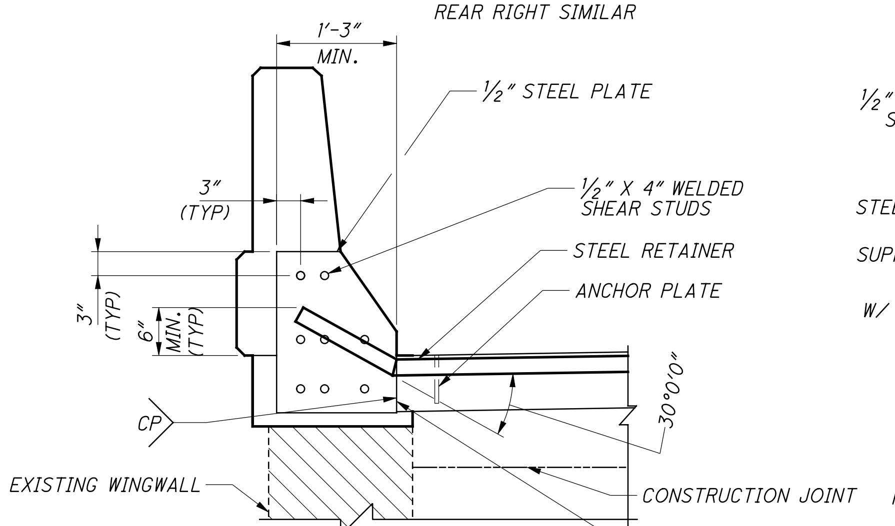
PART PLAN AT ABUTMENT

FORWARD LEFT SHOWN
REAR RIGHT SIMILAR

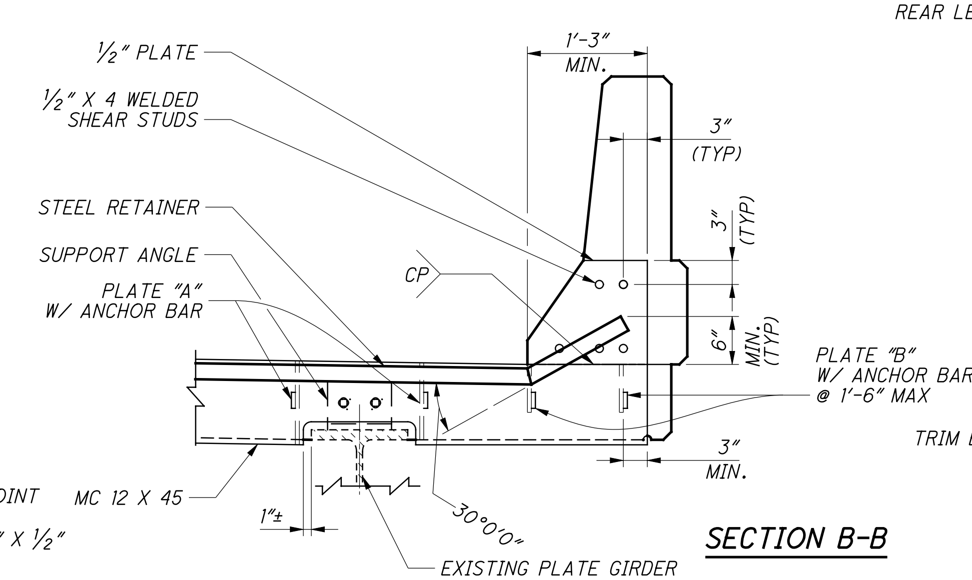


PART PLAN AT ABUTMENT

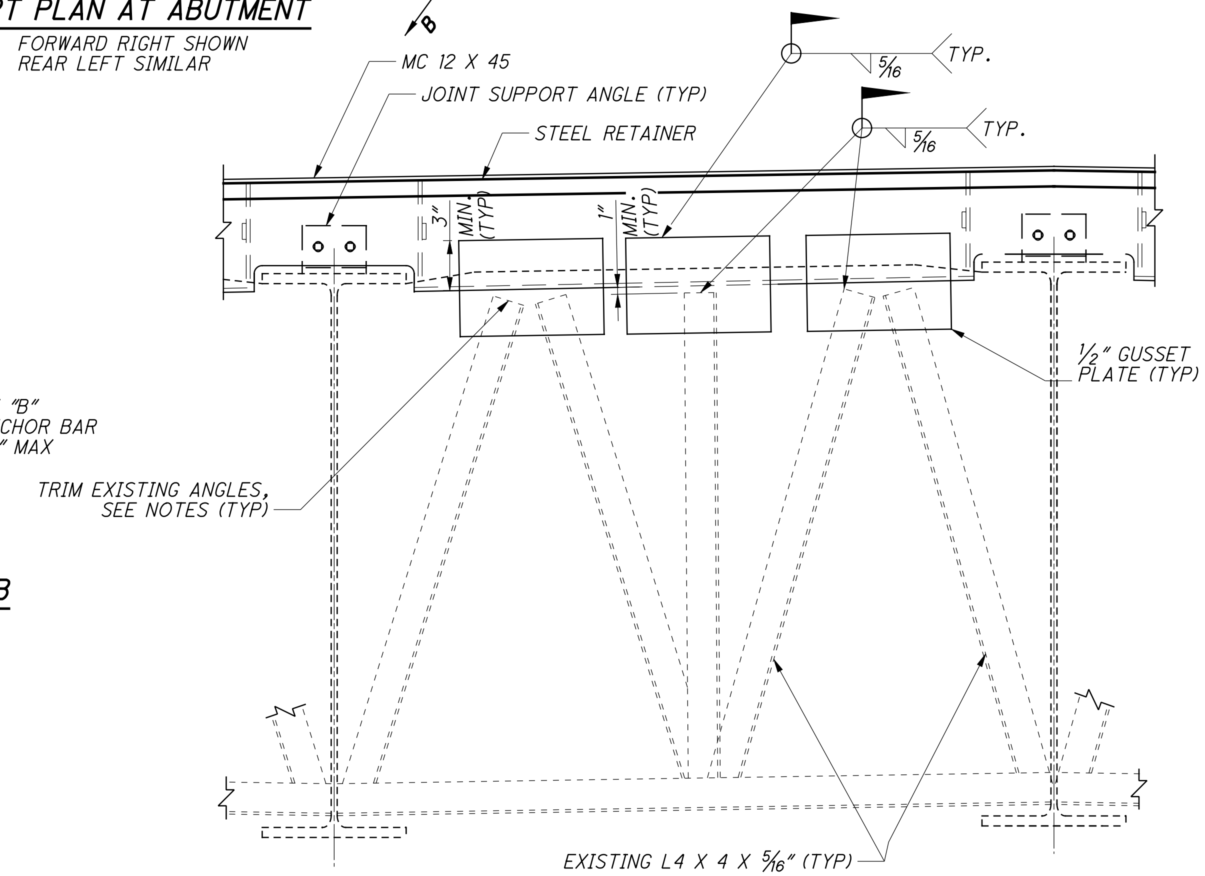
FORWARD RIGHT SHOWN
REAR LEFT SIMILAR



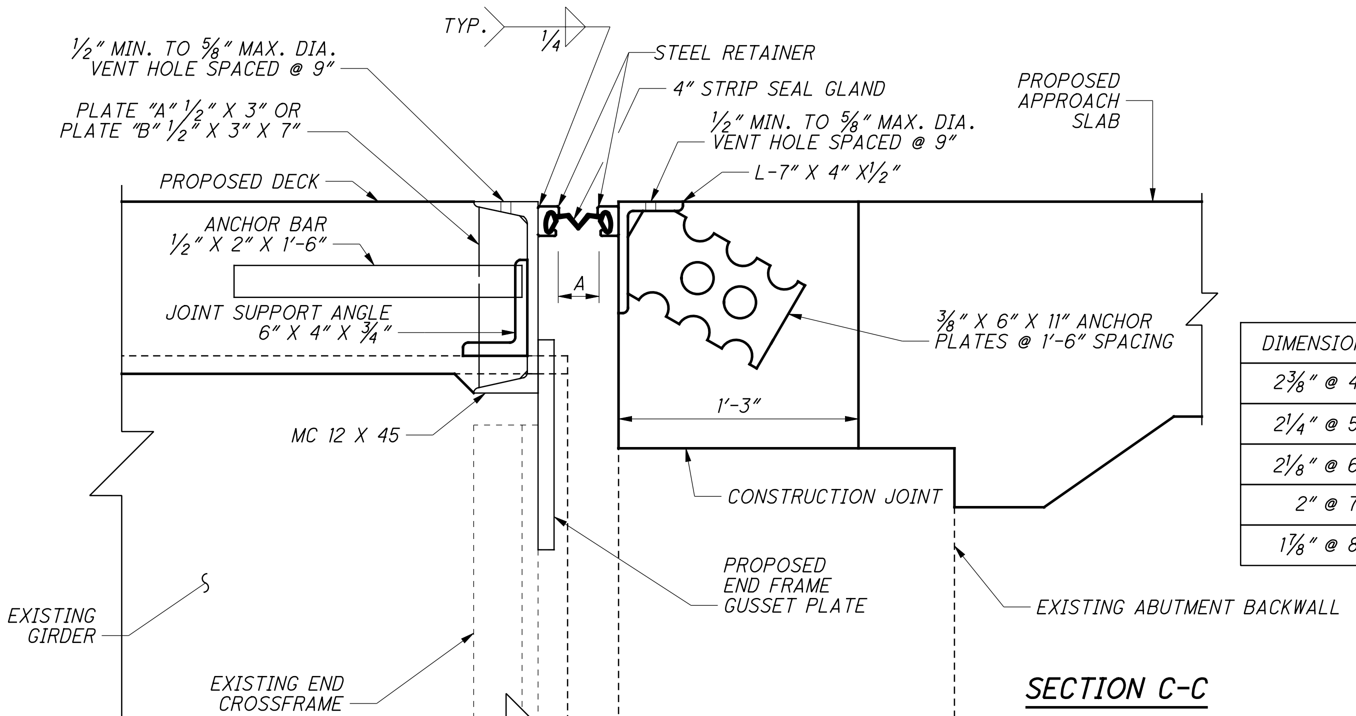
SECTION A-A



SECTION B-B



END CROSS-FRAME ELEVATION



SECTION C-C

DIMENSION "A"
2⅜" @ 40° F
2¼" @ 50° F
2⅛" @ 60° F
2" @ 70° F
1⅞" @ 80° F

NOTES

1.) INSTALLATION OF SEAL: DURING INSTALLATION OF THE SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE EXPANSION JOINT SEAL, OBSERVE THE SEATING OF BEAMS ON BEARINGS TO ASSURE THAT POSITIVE BEARING IS MAINTAINED.

2.) TO ENSURE PROPER FITTING OF THE NEW END DAMS, THE CONTRACTOR SHALL TAKE MEASUREMENTS TO FIELD VERIFY ALL CONNECTION PLATE LOCATIONS PRIOR TO FABRICATING THE NEW SUPERSTRUCTURE END DAMS. COAT ALL STEEL PARTS OF THE JOINT ACCORDING TO STD. DWG. EXJ-4-87. CLEAN AND PAINT THE AREAS OF THE PROPOSED ½" GUSSET PLATES, TRIMMED L BRACKETS, ETC. DAMAGED DURING THE INSTALLATIONS, PER CMS 514. ALL COSTS ASSOCIATED WITH THIS REQUIREMENT SHALL BE CONSIDERED INCIDENTAL TO ITEM 516. ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO FABRICATE AND INSTALL THE NEW END DAMS SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

3.) THE ENDS OF EXISTING CROSSFRAMES MAY REQUIRE TRIMMING WHERE THEY MEET THE NEW CONNECTION PLATES. ANGLES SHALL BE TRIMMED TO PROVIDE A MINIMUM CLEARANCE OF 1" BETWEEN THE END OF THE ANGLE AND THE NEW MC 12X45. ALL CUT EDGES SHALL BE GROUND SMOOTH PRIOR TO PAINTING. COST OF TRIMMING EXISTING CROSSFRAME ANGLES SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

4.) SHIM ½" PLATE AS NECESSARY TO MAINTAIN DIMENSION 'A' IN TABLE. ALL WORK SHALL MEET APPROVAL OF THE ENGINEER.

5.) SEE STANDARD DRAWING EXJ-4-87 FOR ADDITIONAL DETAILS.

6.) FOR DECK SLAB, PLAN SEE SHEET 12/16 .

7.) FOR ABUTMENT DETAILS, SEE SHEET 6/16 .

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
1530 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		1401955	

EXPANSION JOINT DETAILS
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL		(LBS.)		A	B	C	D	E	R	INC.
ABUTMENTS													
A501	47		47	2' - 10 "	139	2	9"	1' - 7"	9"				
A502		47	47	4' - 4 "	212	2	1' - 6"	1' - 7"	1' - 6"				
A503	8	8	16	26' - 0 "	434	STR							
A504	4	4	8	24' - 2 "	202	STR							
A505	6	6	12	27' - 4 "	342	STR							
A506	45		45	4' - 10 "	227	2	2' - 1"	11"	2' - 1"				
A507		45	45	6' - 8 "	313	2	3' - 0"	11"	3' - 0"				
A508	32	32	64	6' - 0 "	401	23	8"	2' - 9"	2' - 6"				
A509	24	24	48	2' - 11 "	146	16	2' - 4"						
A510	16	20	36	16' - 10 "	632	STR							
A511	16	20	36	14' - 10 "	557	STR							
A512	2	2	4	20' - 1 "	84	STR							
A513	4	4	8	13' - 10 "	115	STR							
A514	4	4	8	13' - 10 "	115	25	10' - 0"	2' - 5"	1' - 4"	1 1/2"	5"		
A515	2	2	4	16' - 1 "	67	STR							
				' - "	0								
A601	26	26	52	2' - 9 "	215	1	1' - 0"	1' - 11"					
A602	26	26	52	3' - 6 "	273	1	1' - 0"	2' - 8"					
A603	57		57	3' - 11 "	335	1	1' - 6"	2' - 7"					
A604	58		58	2' - 7 "	225	STR							
A605		57	57	4' - 8 "	400	1	1' - 6"	3' - 4"					
A606		58	58	3' - 4 "	290	STR							
A607	56	56	112	2' - 11 "	491	14	10 1/2"	9"	8.5"	6"	9"		
A608	32	32	64	3' - 4 "	320	1	10 1/2"	2' - 7"					
A609	36	36	72	4' - 3 "	460	1	10 1/2"	3' - 4"					
A610	1	1	2	20' - 9 "	62	STR							
A611	1	1	2	16' - 9 "	50	STR							
				' - "	0								
A801	45		45	7' - 7 "	911	13	1' - 2"	1' - 2"	4' - 4"	1' - 2"	1' - 2"		
A802		45	45	9' - 2 "	1,101	13	1' - 2"	1' - 2"	5' - 11"	1' - 2"	1' - 2"		
SUBTOTAL					9,120								

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
			(LBS.)		A	B	C	D	E	R	INC.
PIERS											
P501	16	9' -6"	159	3	2'-3"	2'-3"					
P601	24	3' - 4 "	120	1	1'-0"	2'-6"					
P602	24	3' - 7 "	129	1	1'-0"	2'-9"					
P603	24	3' - 10 "	138	1	1'-0"	3'-0"					
	SUBTOTAL		547								
DECK											
S401	46	38' - 3 "	1,175	STR							
S402	825	30' - 0 "	16,533	STR							
S403	90	36' - 0 "	2,164	STR							
S404	45	42' - 0 "	1,263	STR							
S501	1668	30' - 8 "	53,352	STR							
	4	1'-6"									
S502	SERIES	TO	5,060	STR							4 1/2"
	77	30' - 0"									
S503	16	27' - 3 "	455	STR							
S504	918	6' - 0 "	5,745	23	8"	2' - 9"	2' - 6"			1 1/2"	
S505	687	30' - 0 "	21,496	STR							
S506	12	32' - 11 "	412	STR							
S507	33	44' - 6 "	1,532	STR							
S601	918	2' - 11 "	4,022	14	10 1/2"	9"	8 1/2"	6"	9"		
S602	918	2' - 1 "	2,873	1	11"	1' - 4"					
S603	32	30' - 0 "	1,442	STR							
S604	2	44' - 11 "	135	STR							
	SUBTOTAL		117,659								
	TOTAL		127,325								

NOTES

1) THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. 'R' INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

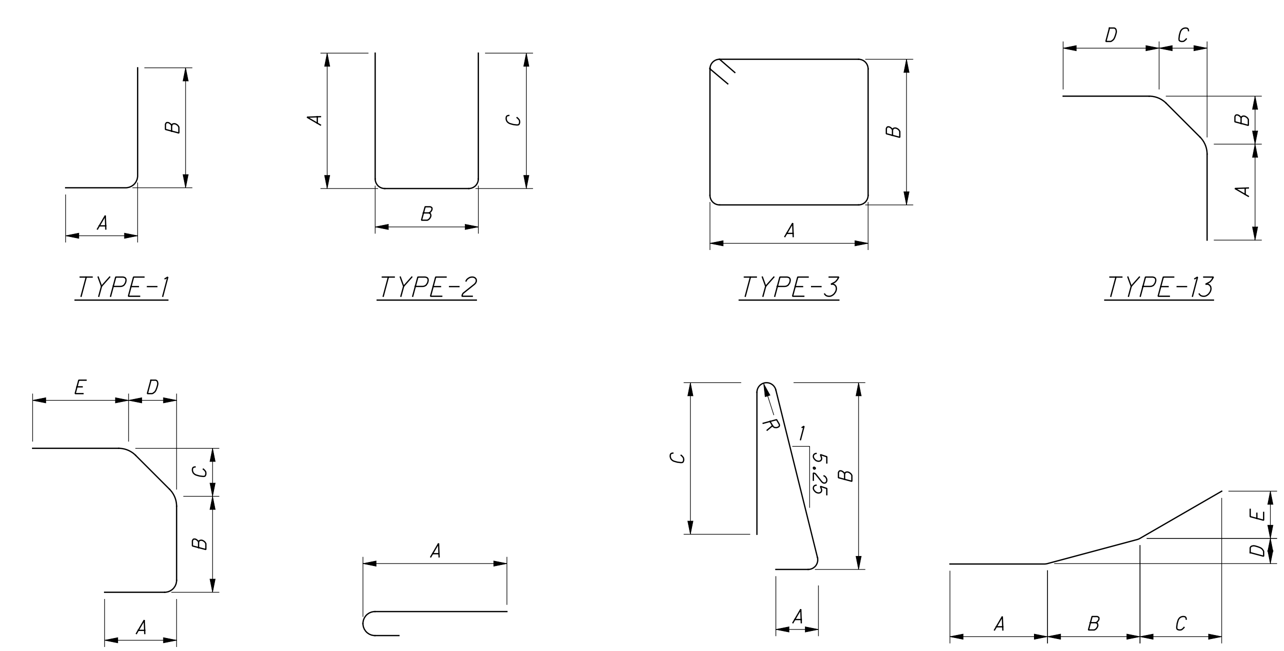
2) ALL REINFORCING STEEL SHALL BE EPOXY COATED. PAYMENT FOR REINFORCING BARS SHALL BE INCLUDED WITH ITEM 509.

3) 'STR' IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4) HOOKS AND BENDS SHOWN ON THE BENDING DIAGRAMS THAT ARE NOT DIMENSIONED SHALL BE AS SPECIFIED IN THE C.M.S. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

5) ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.

6) FOR GENERAL NOTES, SEE SHEET 3 / 16 .

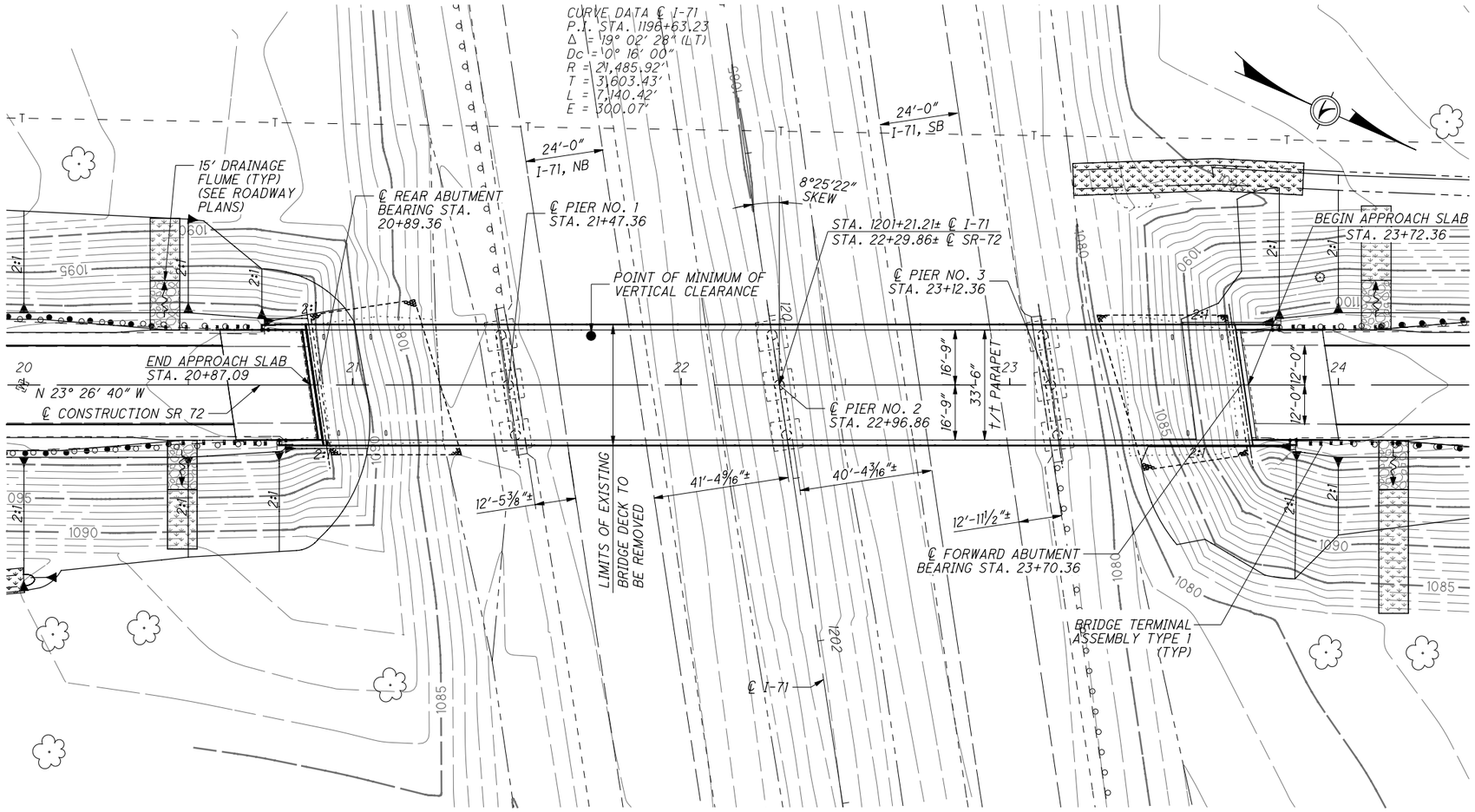


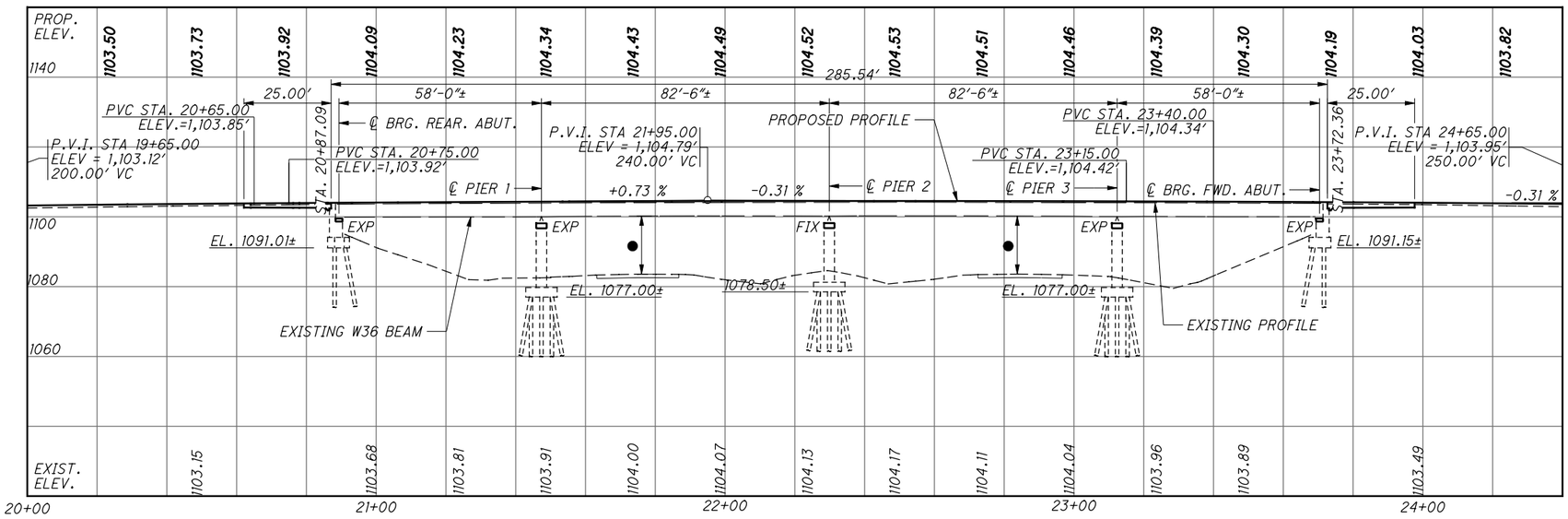
TYPE-1 TYPE-2 TYPE-3 TYPE-13 TYPE-14 TYPE-16 TYPE-23 TYPE-25

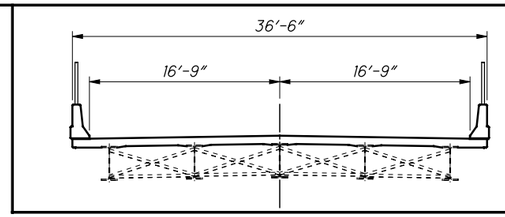
DESIGN AGENCY
PALMER ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242
DESIGNED CEJ | DRAWN SDW | REVIEWED BJF | DATE 2/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 1401955

REINFORCING STEEL LIST
BRIDGE NO. CLI-71-1421
C11 (STARBUCK ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745







NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2010 ADT = 3030 2010 ADTT = 242
2022 ADT = 3810 2022 ADTT = 305
DIRECTIONAL DISTRIBUTION = 0.60

LEGEND

- BORING LOCATION
- 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
  16'-4" ACTUAL MINIMUM VERTICAL CLEARANCE (EXISTING)
  16'-6" ACTUAL MINIMUM VERTICAL CLEARANCE (PROPOSED) (NB)
  16'-7" ACTUAL MINIMUM VERTICAL CLEARANCE (PROPOSED) (SB)

BENCHMARK DATA

BM #1 STA. 16+89.84	ELEV. 1096.48	OFFSET 27.42 LT
BM #2 STA. 26+98.57	ELEV. 1097.69	OFFSET 56.79 RT

BRIDGE TERMINAL ASSEMBLIES

SCD GR-3.1 FIRST POST OFF STATIONS

STA. 20+68.15	STA. 23+86.29
STA. 20+73.44	STA. 23+91.57

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS WITH NONCOMPOSITE CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURE.
SPANS: 58'-0"±, 82'-6", 82'-6"±, 58'-0"± C/C BEARINGS
ROADWAY: 32'-6" TOE/TOE PARAPET
LOADING: CF-400 (H20)
SKEW: 8° 25' 22" RF
APPROACH SLABS: 25' LONG
ALIGNMENT: TANGENT
CROWN: NORMAL CROWN
STRUCTURAL FILE NUMBER: 2901838
DATE BUILT: 1964
REHABILITATED: 1988 AND 2003

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS WITH NEW COMPOSITE CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURES.
SPANS: 58'-0"±, 82'-6", 82'-6"±, 58'-0"± C/C BEARINGS
ROADWAY: 33'-6" TOE/TOE PARAPET
LOADING: HS20 CASE II AND ALTERNATE MILITARY
SKEW: 8° 25' 22" RF
APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: TANGENT
CROWN: .0156 FT/FT
COORDINATES: LATITUDE 39° 33' 27" N
LONGITUDE 83° 43' 09" W

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING COMPANY
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

DESIGNED JPR	DRAWN DPF/SDW	REVIEWED BJF	DATE 2/09
CHECKED MLJ	REVISED		STRUCTURE FILE NUMBER 2901838

GREENE COUNTY
STA. 20+87.09
STA. 23+72.63

SITE PLAN
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

1 / 16
183 / 218

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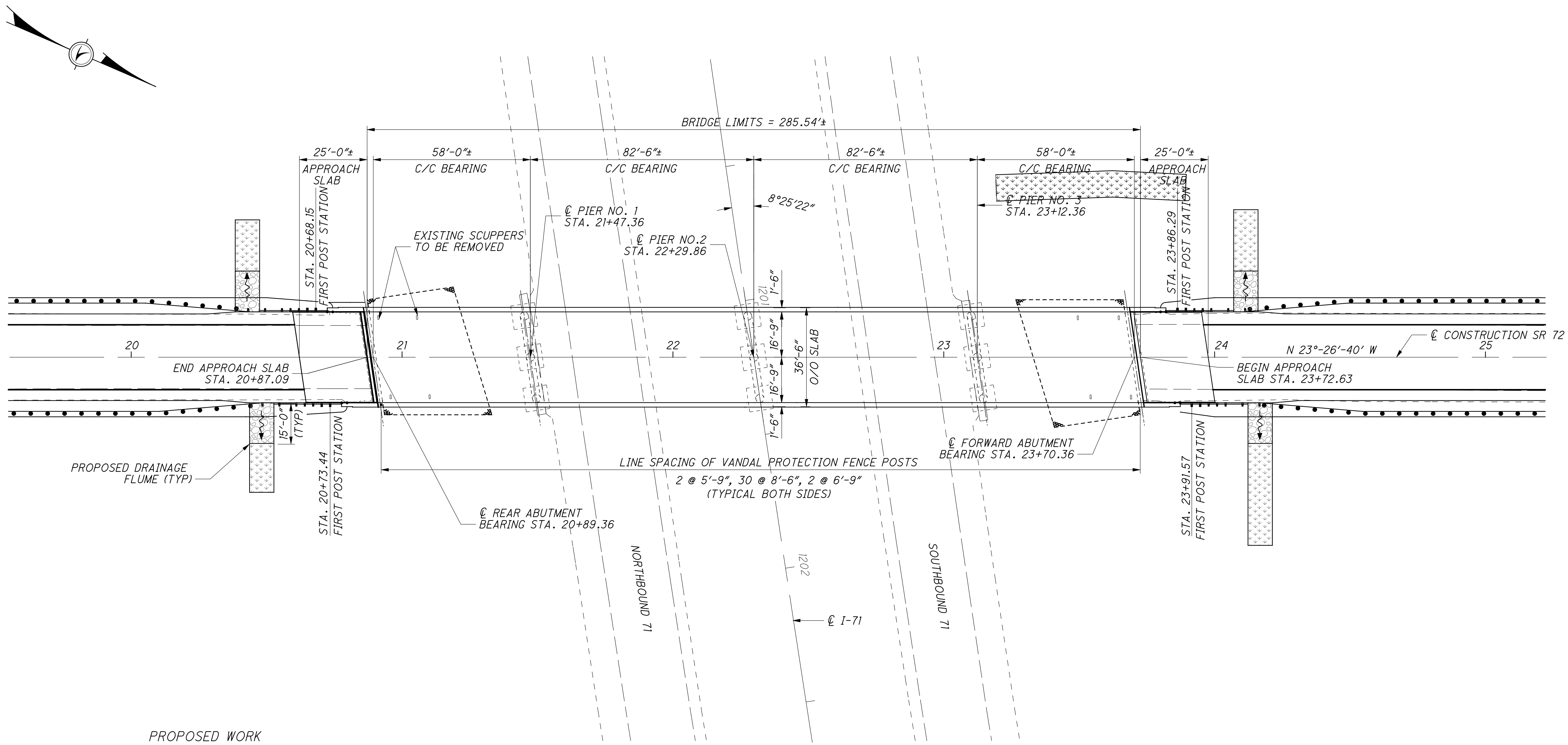


GENERAL PLAN

PROPOSED WORK

1.) RAISE THE EXISTING BEAMS ±3" TO PROVIDE 16'-6" MINIMUM VERTICAL CLEARANCE.
2.) REMOVED EXISTING CONCRETE DECK, INSTALL SHEAR CONNECTORS ON THE EXISTING BEAMS AND CAST A NEW COMPOSITE REINFORCED CONCRETE DECK ON THE BEAMS.
3.) CONSTRUCT 36" DEFLECTOR PARAPETS TO INCREASE THE TOE TO TOE WIDTH FROM 32'-2" TO 33'-6".
4.) REMOVE THE EXISTING SCUPPERS AND GRIND SMOOTH THE SCUPPER CONNECTIONS ON THE BEAMS.
5.) REMOVE THE EXISTING ABUTMENT BACKWALLS DOWN TO THE APPROACH SLAB SEATS AND REBUILD THEM FOR THE INSTALLATION OF NEW STRIP SEAL EXPANSION JOINTS.
6.) REMOVE THE EXISTING PARAPETS ON THE ABUTMENTS DOWN TO THE WINGWALL CONSTRUCTION JOINTS AND REPLACE THEM WITH 36" DEFLECTOR PARAPETS.
7.) CONSTRUCT NEW BEAM SEATS AT THE ABUTMENTS.
8.) REPLACE THE EXISTING ABUTMENT BEARINGS AND SHIMS WITH NEW ELASTOMERIC BEARINGS.
9.) REPLACE THE SHIMS UNDER THE EXISTING BEARINGS AND PEDESTALS, AT PIERS 1 - 3, WITH STEEL HP POSTS AND LOAD PLATES. CAST CAPS ONTO THE EXISTING PIER SEATS TO ENCASE THE NEW ASSEMBLIES IN CONCRETE.
10.) REPLACE THE EXISTING APPROACH SLABS WITH NEW APPROACH SLABS AS PER STANDARD DRAWING AS-1-81.
11.) REUSE THE EXISTING VANDAL PROTECTION FENCE WITH NEW BASE PLATES, AND INSTALLATION HARDWARE.
12.) CLEAN THE SURFACES OF THE SUBSTRUCTURE UNITS WITH SANDBLASTING MECHANISMS AND APPLY EPOXY-URETHANE SEALER TO THE PARAPETS, ABUTMENTS, WINGWALLS AND PIERS.
13.) REGRADE THE APPROACH EMBANKMENTS ALONG THE ABUTMENT WINGWALLS AND CONSTRUCT 15' LONG DRAINAGE FLUMES COMPRISED OF TYPE D ROCK ON EXCELSIOR MATTING ON BOTH EMBANKMENTS AT THE ENDS OF THE APPROACH SLABS.

DESIGN AGENCY
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242
WINCHESTER ▪ NASHVILLE ▪ LOUISVILLE ▪ CINCINNATI ▪ HURRICANE

DESIGNED JPR | DRAWN SDW | REVIEWED BJF | DATE 2/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 2901838

GENERAL PLAN
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS

AS-1-81	DATED (REVISED)	07-19-02
EXJ-4-87	DATED (REVISED)	07-19-02
BR-1	DATED (REVISED)	07-19-02
VPF-1-90	DATED (REVISED)	07-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION

898 DATED (REVISED) 07-17-09

DESIGN SPECIFICATIONS THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION (2002), AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

HS20 CASE I AND THE ALTERNATE MILITARY LOADING

FUTURE WEARING SURFACE (FWS) - 60 PSF

DESIGN DATA

ITEM 898 QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE-4000 PSI

ITEM 898 QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE-4500 PSI

EXISTING STRUCTURAL STEEL,
MINIMUM YIELD STRENGTH 33,000 PSI

REINFORCING STEEL - ASTM A615, OR A996; GRADE 60
MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

ITEM 202 PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND [41 KILOGRAM] CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05. THIS ITEM SHALL ALSO INCLUDE REMOVAL OF SCUPPERS AND ABUTMENT BEARINGS.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES [50 MM] OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES [50 MM] OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES [50 MM] OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS [16 KILOGRAMS] BUT NOT TO EXCEED 90 POUNDS [41 KILOGRAMS] UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH [25 MM] DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS [16 KILOGRAMS] FOR REMOVAL WITHIN 18 INCHES [450 MM] OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH [450 MM] LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS [41 KILOGRAMS] UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

THE CONTRACTOR MUST REVIEW THE STRUCTURE WHEN PREPARING HIS BID. THE CONTRACTOR WILL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL. THE CONTRACTOR WILL DETERMINE THE CORRESPONDING COST TO CLEAN UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING ANY REMOVAL OPERATION. THE COST TO CLEAR AND CLEAN UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED OVER 20' SPAN, AS PER PLAN.

ITEM 202 APPROACH SLAB REMOVED, AS PER PLAN THIS ITEM INCLUDES REMOVAL OF EXISTING ASPHALT ON THE APPROACH SLABS.

ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

INSPECTION OF EXISTING STRUCTURAL STEEL THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 898, SUPERSTRUCTURE CONCRETE. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

UTILITY LINES THE UTILITY(IES) SHALL BEAR ALL EXPENSE INVOLVED IN PROTECTING THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXISTING STRUCTURE VERIFICATION DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE BID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO THE DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO JACKING. APPROVAL OF THE ELEVATIONS ARE NOT REQUIRED. THE FINAL BEAM SEAT ELEVATION IS BASED ON THE HEIGHT OF THE BEARING AND LOAD PLATE BEING SUBTRACTED FROM THE CONTRACTOR'S MEASURED BOTTOM OF EXISTING BEAM ELEVATION AT EACH BEARING LOCATION. IF ANY OF THE BEAMS ARE TO BE RAISED, THEN THE AMOUNT OF JACKING SHALL BE ADDED TO THIS ELEVATION. SUBMIT ELEVATIONS TO scott.kramer@dot.state.oh.us.

ITEM 514 - FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN

THIS ITEM CONSISTS OF FIELD PAINTING DAMAGED STRUCTURAL STEEL BY PERFORMING SURFACE PREPARATION AND APPLYING A THREE-COAT PAINT SYSTEM TO THE UNCOATED STEEL AND FEATHERED REMOVAL AREAS OF EXISTING COATINGS.

CMS 514.06 THROUGH 514.10 APPLY. REMOVE EXISTING PAINT COATING TO CONTRACT LIMITS OR AS DIRECTED BY THE ENGINEER ACCORDING TO SSPC-SP 15, COMMERCIAL GRADE POWER TOOL CLEANING, OR EQUAL AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS 3. THE ENGINEER WILL USE THE SSPC-VIS 3 TO DETERMINE THE ACCEPTANCE OF THE COMMERCIAL GRADE POWER TOOL CLEANING. FEATHER THE EXISTING PAINT TO EXPOSE A MINIMUM OF ½ INCH (13 MM) OF EACH COAT. CONTAIN AND DISPOSE OF WASTE GENERATED BY THE CLEANING ACCORDING TO CMS 514.13.D.

ROUND ALL EXPOSED CORNERS OF MAIN MATERIAL AS NECESSARY TO ACHIEVE A 1/16 INCH RADIUS [1.6 MM] OR EQUIVALENT FLAT SURFACE AT A 45 DEGREE ANGLE.

APPLY THE PRIME AND INTERMEDIATE COATS OF THE SPECIFIED THREE-COAT PAINT SYSTEM, CMS 708.02, ACCORDING TO CMS 514.15, 514.16, 514.17, AND 514.20 TO CONTRACT LIMITS OR AS DIRECTED BY THE ENGINEER. TINT THE INTERMEDIATE COAT TO APPROXIMATELY THE SAME COLOR AS THE EXISTING FINISH COLOR. MATCH THE COLOR TO THE ENGINEERS SATISFACTION. THE ENGINEER WILL DETERMINE THE PRIME COAT THICKNESS; PRIME AND INTERMEDIATE COAT THICKNESS USING A TYPE 2 MAGNETIC GAGE AT SPOT LOCATIONS. EACH COAT OF PAINT SHALL MEET THE MINIMUM DRY FILM THICKNESS REQUIREMENTS OF CMS 514.20. APPLY PAINT AS FOLLOWS:

A.) APPLY THE PRIME COAT ONLY TO THE SURFACE OF THE BARE STEEL AND THE EXISTING PRIME COAT EXPOSED BY FEATHERING. DO NOT APPLY THE PRIME COAT TO THE ADJACENT INTERMEDIATE COAT.

B.) APPLY THE INTERMEDIATE COAT ONLY TO THE NEW PRIME COAT AND THE EXISTING INTERMEDIATE COAT EXPOSED BY FEATHERING. DO NOT APPLY THE INTERMEDIATE COAT TO THE ADJACENT FINISH COAT.

AT THE PERIMETER OF THE REPAIR AREA, APPLY THE PRIME AND INTERMEDIATE COATS USING A BRUSH. APPLY THE FINISH COAT USING EITHER BRUSH OR SPRAY. IN LIEU OF BRUSHING THE USE OF MASKING AREAS NOT TO BE COATED AND SPRAY TO FEATHERED REMOVAL LINES MAY BE PERFORMED.

BLEND REPAIR AREAS WITH THE ADJACENT COATING AND PROVIDE A FINISHED SURFACE IN THE PATCHED AREAS THAT IS SMOOTH AND HAS AN EVEN PROFILE WITH THE ADJACENT SURFACE.

THE DEPARTMENT WILL MEASURE FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN BY THE NUMBER OF SQUARE FEET (SQUARE METERS) OF STRUCTURAL STEEL PAINTED. ALL REQUIREMENTS OF THIS SPECIFICATION ARE CONSIDERED INCIDENTAL TO THE WORK.

THE DEPARTMENT WILL DETERMINE THE SURFACE AREA BY TAKING EXACT FIELD MEASUREMENTS OF ALL PAINTED SURFACES AND CALCULATIONS.

GENERAL NOTES CONTINUED ON SHEET 4/16.

DESIGN AGENCY
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242
Palmer ENGINEERING
WINCHESTER ■ NASHVILLE ■ LOUISVILLE ■ CINCINNATI ■ HURRICANE

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901838	

GENERAL NOTES
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

3/16

ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER	GENERAL	SHEET REF.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					3
202	22901	197	SQ YD	APPROACH SLAB REMOVED, AS PER PLAN				197	3
509	10000	91555	POUND	EPOXY COATED REINFORCING STEEL	3730	1384	86441		
509	20001	100	POUND	REINFORCING STEEL, PREPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	100				3
510	10000	424	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	268	156			
512	10100	1106	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	120	251	735		
513	20000	3030	EACH	WELDED STUD SHEAR CONNECTORS			3030		
514	20001	20	SQ FT	FIELD PAINTING OF DAMAGED STRUCTURAL STEEL			20		3
516	11210	73	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			73		
516	44300	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (11 1/2" X 14" X 3 3/4" WITH 12 1/2" X 15" 1 1/2" LOAD PLATE)	10				3
516	46001	5	EACH	BEARING DEVICE, BOLSTER, AS PER PLAN		5			9
516	46201	10	EACH	BEARING DEVICE, ROCKER, AS PER PLAN		10			8
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					3
SPECIAL	60740300	560	FT	SPECIAL - VANDAL PROTECTION FENCE REMOVED AND REBUILT			560		12
898	10201	306	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN			306		3
898	10705	186	SQ YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), 15", AS PER PLAN				186	3
898	11000	76	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)	11		65		
898	11100	4	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE	4				
898	20100	12	CU YD	QC/QA CONCRETE, CLASS QSC2, SUBSTRUCTURE (PIER ABOVE FOOTING)		12			
898	20150	10	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT)	10				

GENERAL NOTES CONTINUED FROM SHEET 3/16.

ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)
SEE SHEET 11/16 FOR PLAN NOTES.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.
SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.
THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM SPECIAL - VANDAL PROTECTION FENCE REMOVED AND REBUILT
THE EXISTING VANDAL PROTECTION FENCE SHALL BE REMOVED FROM THE BRIDGE PARAPETS AND STORED FOR REUSE ON THE REHABILITATED STRUCTURE. THE CONTRACTOR SHALL INSTALL THE FENCE ON THE NEW DEFLECTOR PARAPETS USING NEW BASE PLATES, CLOSURE PLATES AND ANCHORAGE HARDWARE. IF THE FENCE IS DAMAGED DURING REMOVAL OR INSTALLATION PROCEDURES, THE CONTRACTOR SHALL REPLACE THE DAMAGED COMPONENTS TO THE SATISFACTION OF THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THE REPAIR.
THE DEPARTMENT WILL MEASURE THE QUANTITY OF VANDAL PROTECTION FENCE BY LINEAR FEET.
THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF FENCE REMOVAL AND INSTALLATION AT THE CONTRACT PRICE FOR ITEM SPECIAL: VANDAL PROTECTION FENCE REMOVED AND REBUILT.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, QC/QA CONCRETE, CLASS QSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

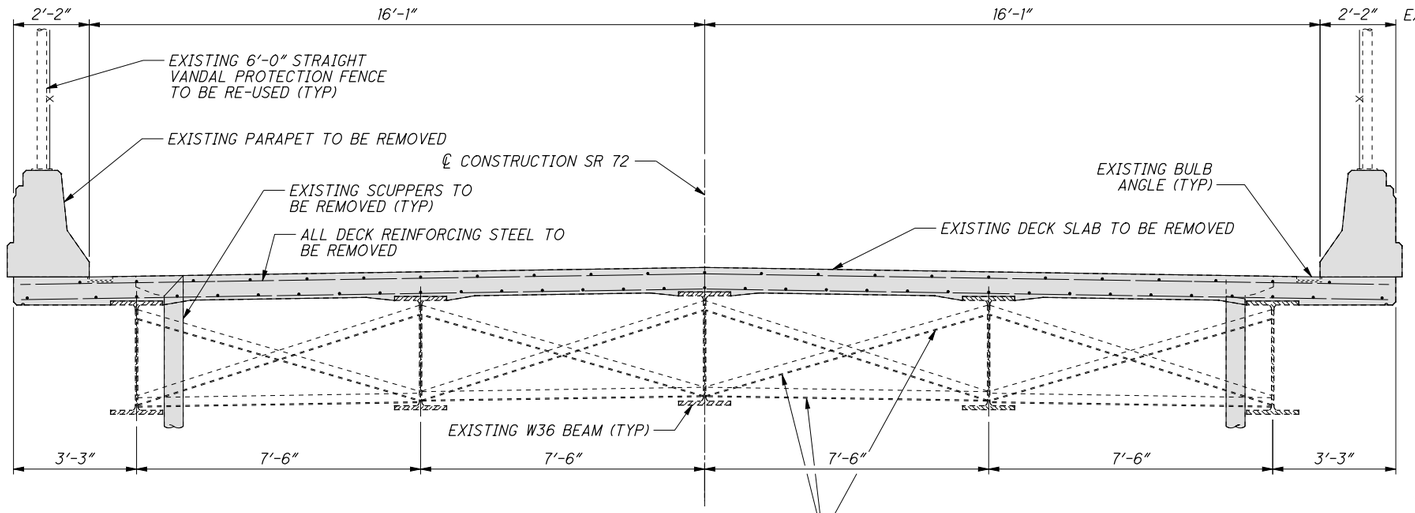
STAY IN PLACE FORMS
THE USE OF STAY IN PLACE FORMS HAS BEEN LOOKED INTO AND THEY ARE NOT ALLOWED FOR USE ON THIS BRIDGE.

NON-USE OF ASBESTOS-CONTAINING MATERIALS
THE CONTRACTOR SHALL AT NO TIME INCORPORATE ANY MATERIALS WHICH ARE COMPOSED OF OR CONTAIN ANY AMOUNTS OF ASBESTOS. THE SUBSTITUTION OF MATERIALS WHICH CONTAIN ANY AMOUNTS OF ASBESTOS WILL IN NO CIRCUMSTANCES BE ACCEPTABLE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF CERTIFICATION ASSERTING THAT NO ASBESTOS CONTAINING MATERIALS WERE USED IN ANY PORTION OF THE CONSTRUCTION.

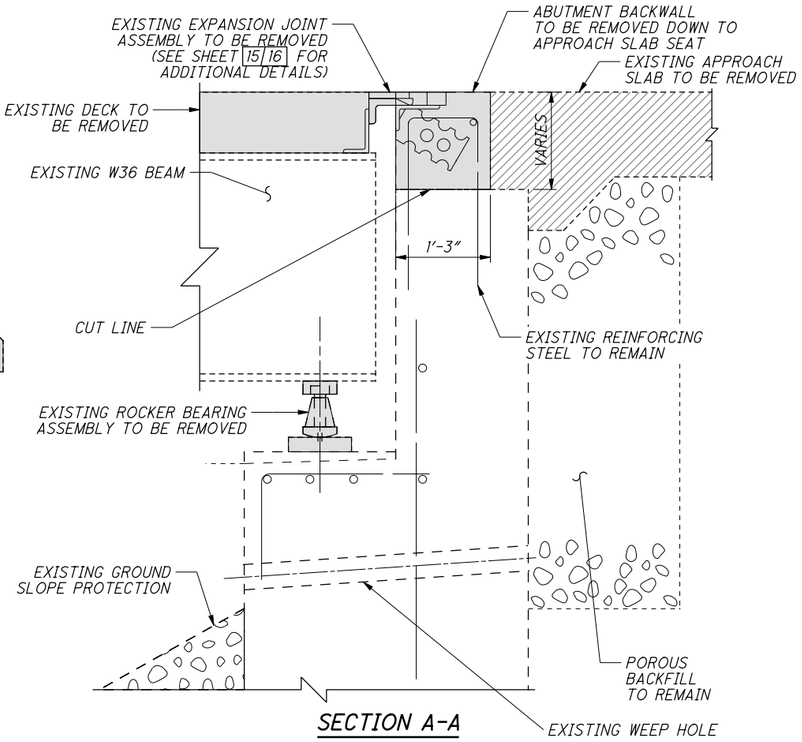
DESIGN AGENCY
PALMER ENGINEERING
11100 CONNELL PARK DR
LOUISVILLE, KENTUCKY 40299
DESIGNED JPR
DRAWN SDW
CHECKED MLJ
REVIEWED BJF
DATE 2/09
REVISED
STRUCTURE FILE NUMBER 2901838

GENERAL SUMMARY
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

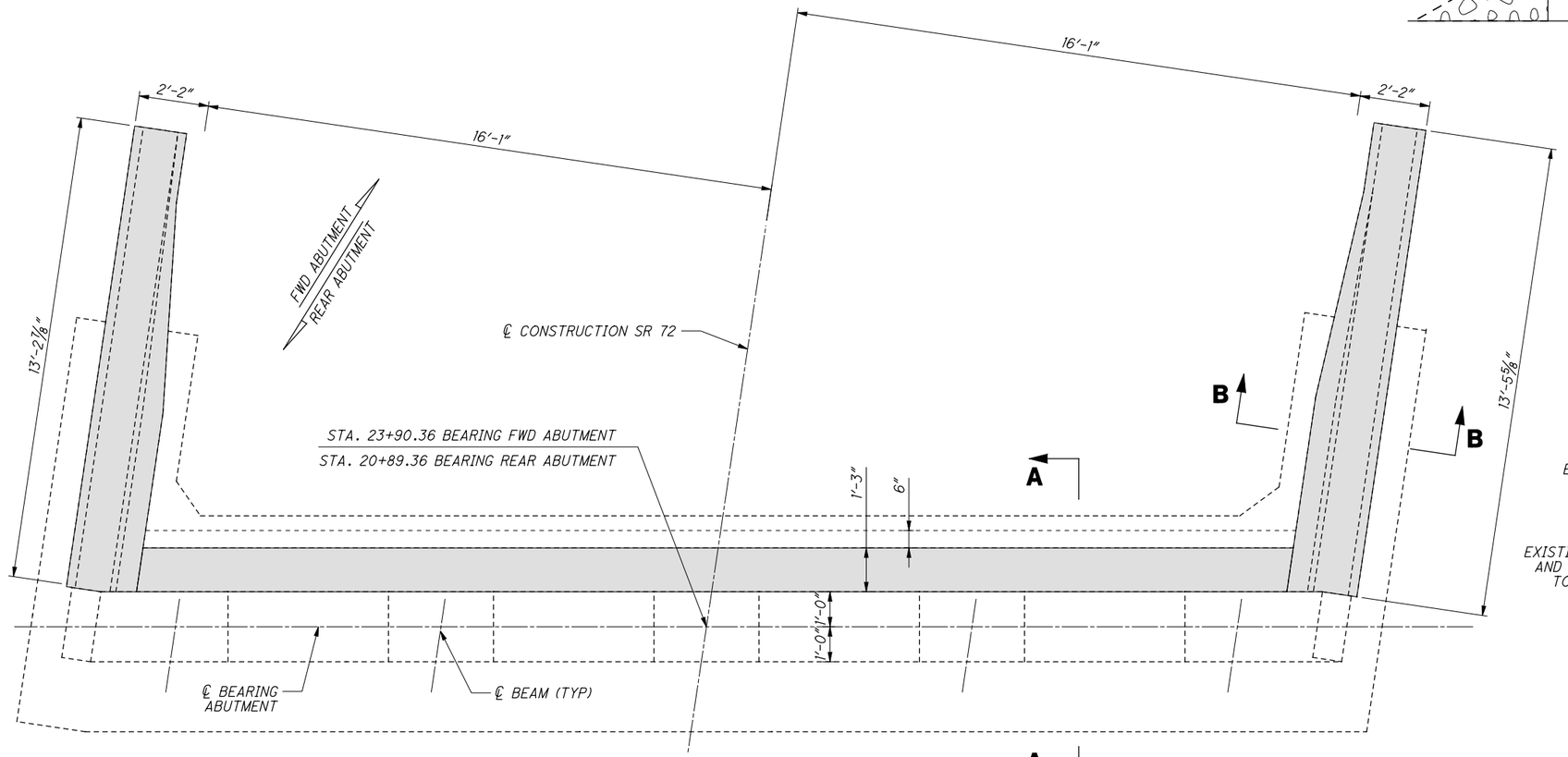
CLI/GRE-71-7.26/0.00
PID No. 75745



DECK REMOVAL DETAIL



SECTION A-A



ABUTMENT REMOVAL PLAN

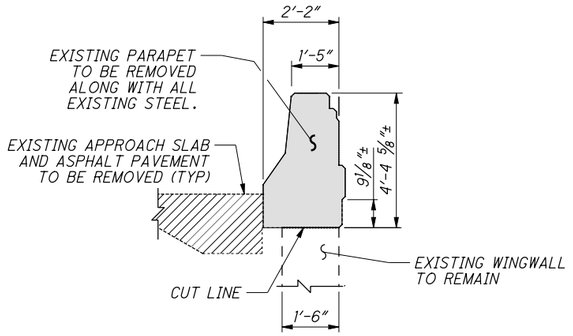
NOTE

1.) ALL COSTS ASSOCIATED WITH THE REMOVAL OF THE EXISTING END DAMS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED , AS PER PLAN.

2.) FOR ADDITIONAL REMOVAL DETAILS, SEE SHEET 14 16 .

ITEM 202-PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

ITEM 202-APPROACH SLAB REMOVED, OVER 20' SPAN



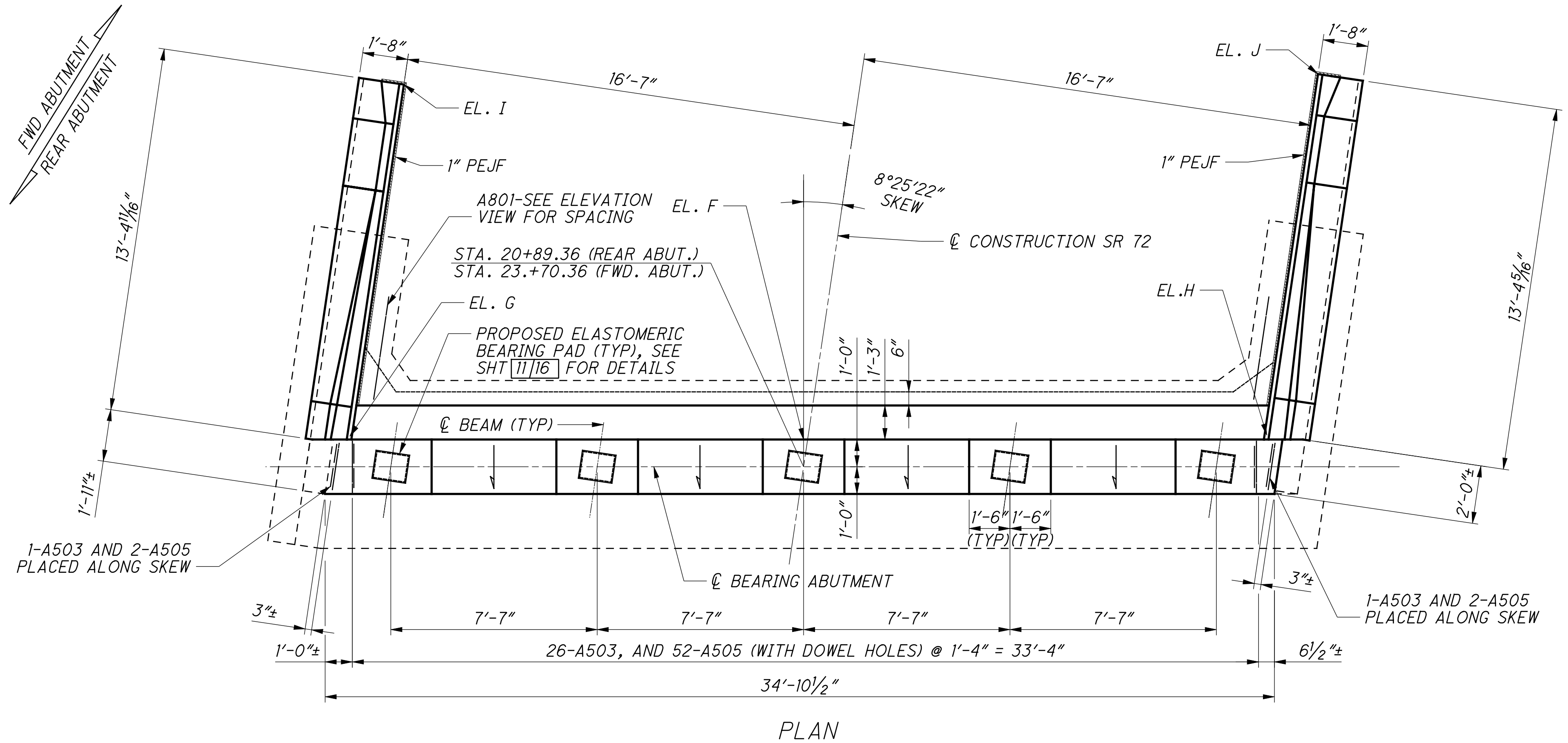
SECTION B-B

DESIGN AGENCY
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

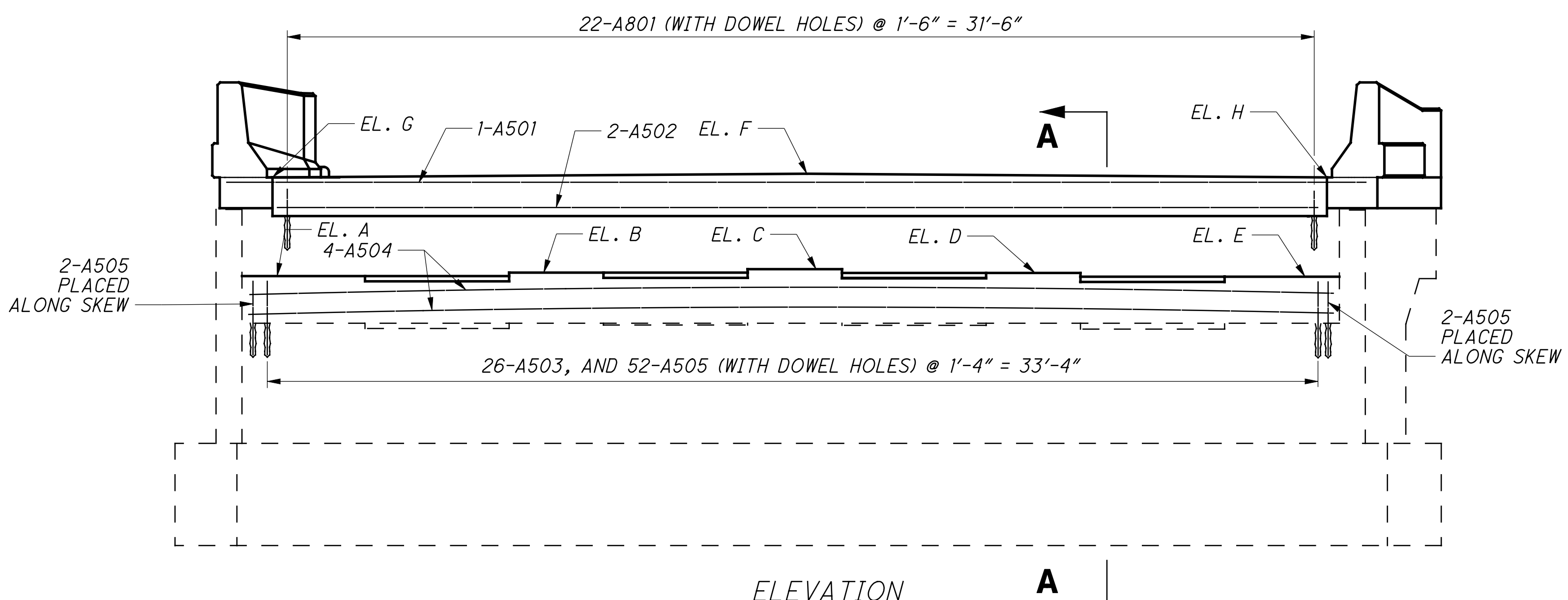
DESIGNED JPR
DRAWN SDW
REVIEWED BJF
DATE 2/09
CHECKED MLJ
REVISED
STRUCTURE FILE NUMBER 2901838

REMOVAL DETAILS
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

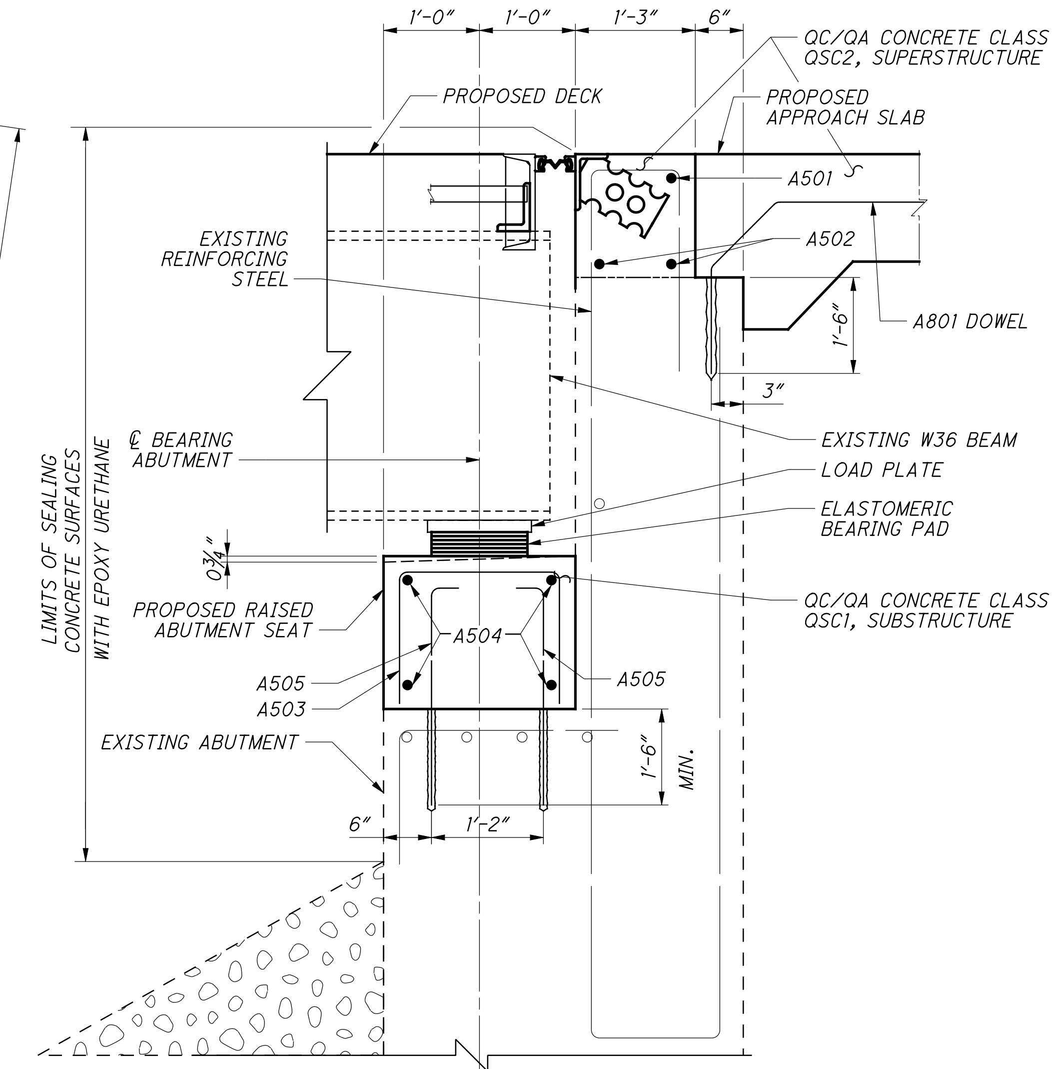
CLI/GRE-71-7.26/0.00
PID No. 75745



PLAN



ELEVATION



SECTION A-A

EXISTING BEARING SEAT ELEVATIONS, AS SURVEYED (±)					
LOCATION	"A"	"B"	"C"	"D"	"E"
REAR ABUTMENT	1097.72	1097.82	1097.94	1097.83	1097.71
FORWARD ABUTMENT	1097.89	1097.99	1098.11	1097.98	1097.86

PROPOSED BEARING SEAT ELEVATIONS (±)					
LOCATION	"A"	"B"	"C"	"D"	"E"
REAR ABUTMENT	1099.46	1099.58	1099.69	1099.57	1099.44
FORWARD ABUTMENT	1099.59	1099.72	1099.85	1099.71	1099.57

PROPOSED ABUTMENT ELEVATIONS (±)					
LOCATION	"F"	"G"	"H"	"I"	"J"
REAR ABUTMENT	1104.01	1103.76	1103.73	1103.67	1103.64
FORWARD ABUTMENT	1104.21	1103.96	1103.93	1103.88	1103.85

NOTES

1.) EXISTING REINFORCING STEEL IN THE ABUTMENT BREASTWALL AND WINGWALL SHALL BE AVOIDED WHEN DRILLING DOWEL HOLES. SEE EXISTING PLANS FOR APPROXIMATE LOCATIONS OF EXISTING REINFORCING BARS.

2.) IF THE BEAM SEATS ARE SEALED WITH EPOXY URETHANE PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.

3.) DO NOT PLACE BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.

4.) PEDESTALS OR SHIMS SHALL NOT BE ALLOWED TO BE CAST INTO THE ABUTMENT BEAMS SEATS.

5.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE FINAL BEAM SEAT ELEVATIONS BY SUBTRACTING THE EXISTING ROCKER HEIGHTS WITH THE 1/8" BEARING PAD (LOAD PLATE AND ELASTOMERIC BEARING HEIGHT) FROM THE CONTRACTOR MEASURED BOTTOM OF EXISTING BEAM ELEVATION AT EACH BEARING LOCATION. THIS NEW BEAM SEAT ELEVATION IS TO BE INCREASED BY THE AMOUNT THE BRIDGE IS TO BE RAISED OF 3"±. THIS FINAL BEAM SEAT ELEVATION IS A CONTRACTOR CALCULATED ELEVATION AND ANY SHIMS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER.

6.) LAP LENGTH OF #5 BARS IS 3'-5".

7.) FOR GENERAL NOTES, SEE SHEET 3/16.

8.) FOR WINGWALL DETAILS, SEE SHEET 7/16.

9.) FOR EXPANSION JOINT DETAILS, SEE SHEET 15/16.

10.) FOR APPROACH SLAB DETAILS, SEE ROADWAY PLANS AND STANDARD DRAWING AS-1-81.

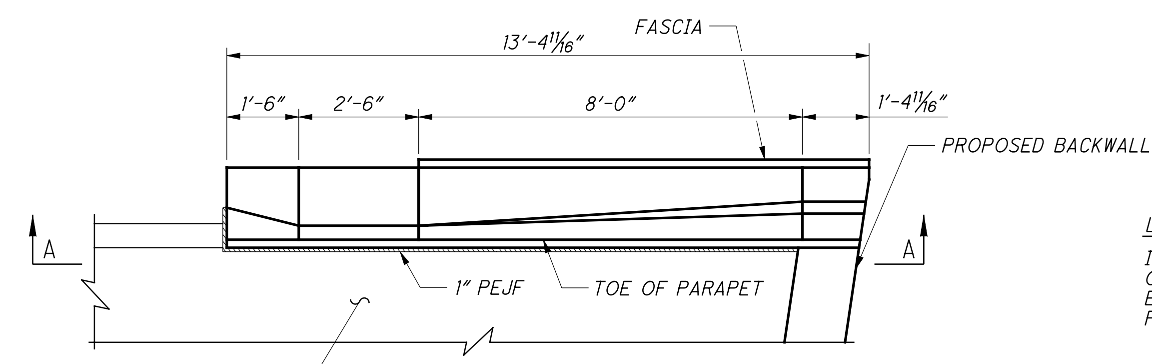
DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING 1330 CORNELL PARK DR CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901838	

ABUTMENT DETAILS
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

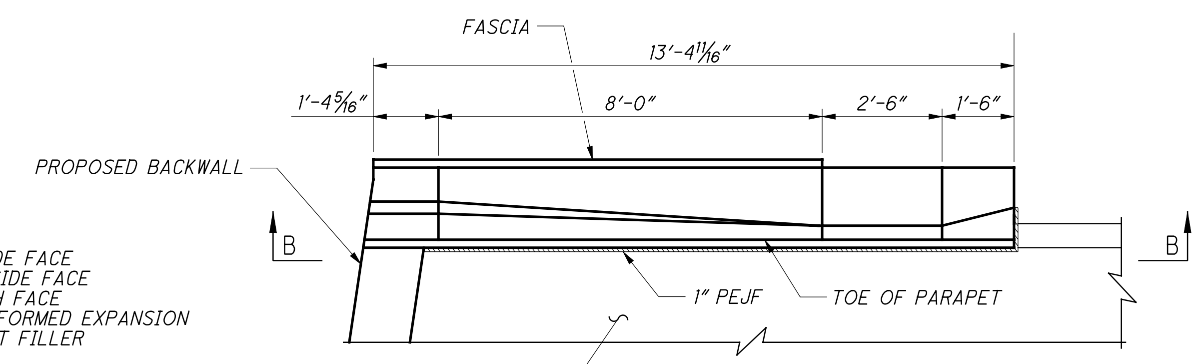
CLI/GRE-71-7.26/0.00
PID No. 75745

6/16



WINGWALL 1

FORWARD ABUTMENT LEFT
REAR ABUTMENT RIGHT



WINGWALL 2

FORWARD ABUTMENT RIGHT
REAR ABUTMENT LEFT

LEGEND

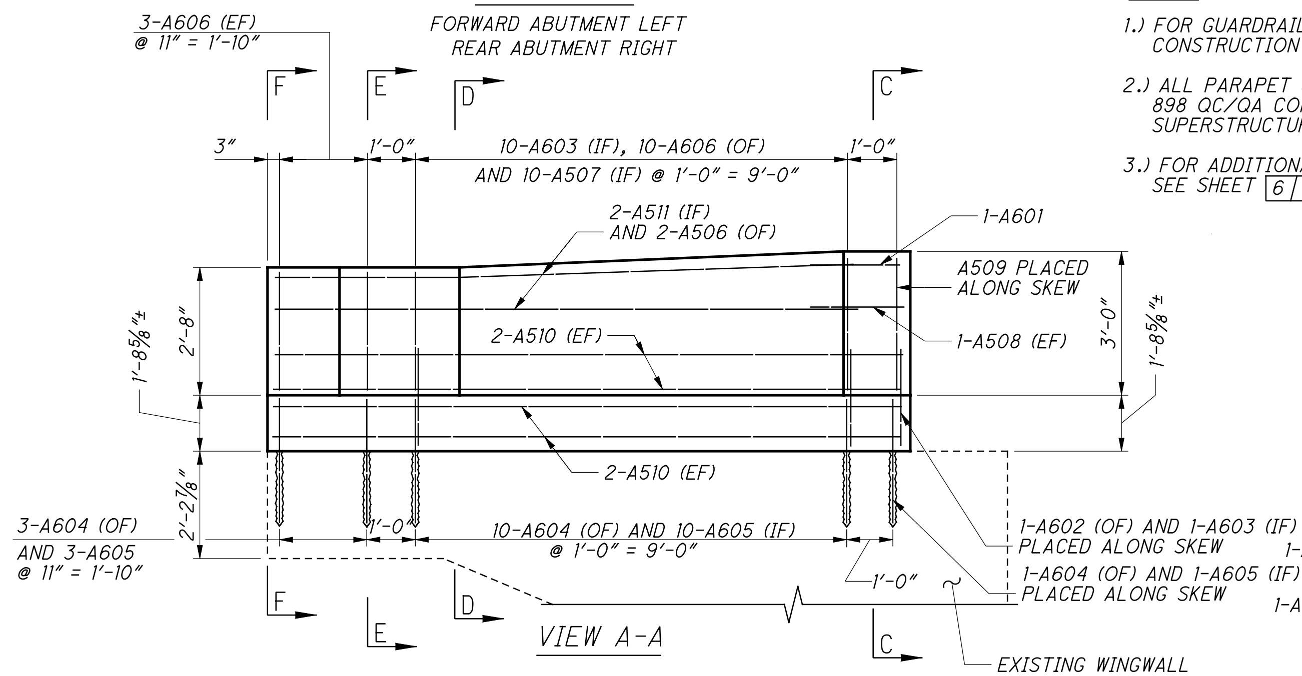
IF - INSIDE FACE
OF - OUTSIDE FACE
EF - EACH FACE
PEJF - PREFORMED EXPANSION JOINT FILLER

NOTES

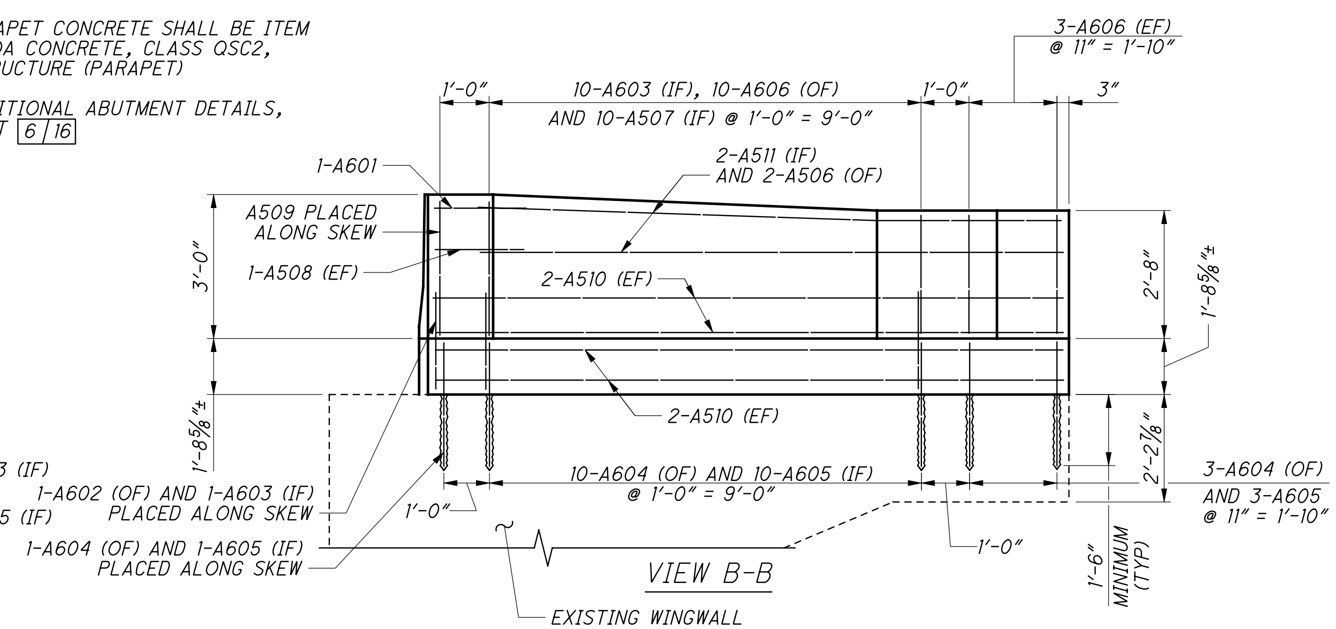
1.) FOR GUARDRAIL DETAILS, SEE STANDARD CONSTRUCTION DRAWINGS GR-3.1.

2.) ALL PARAPET CONCRETE SHALL BE ITEM 898 QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)

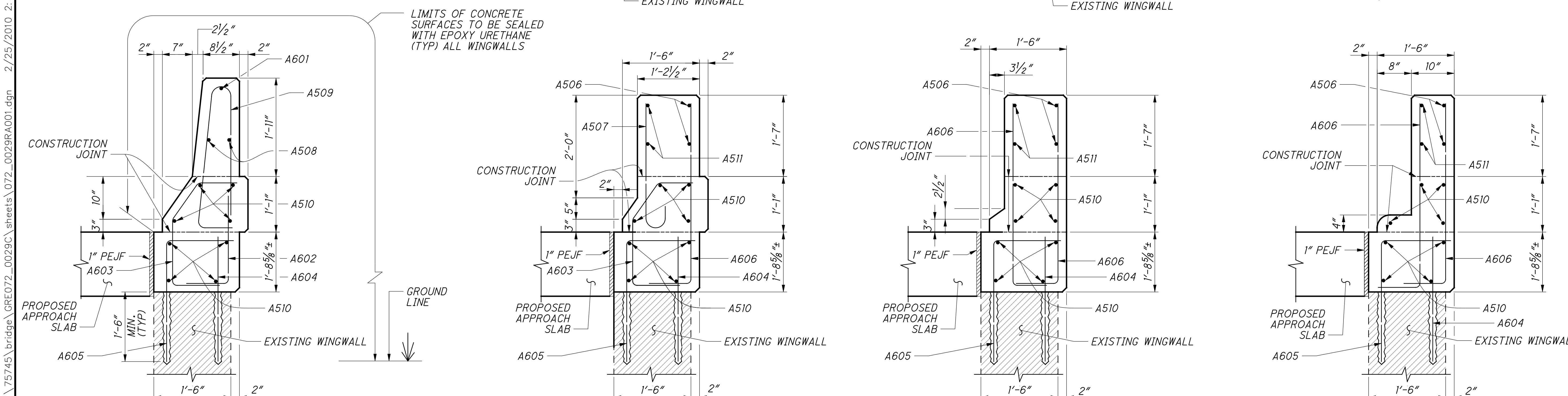
3.) FOR ADDITIONAL ABUTMENT DETAILS, SEE SHEET 6/16



VIEW A-A



VIEW B-B



SECTION C-C*

SECTION D-D*

SECTION E-E*

SECTION F-F*

*SECTION IS TYPICAL FOR ALL WINGWALLS

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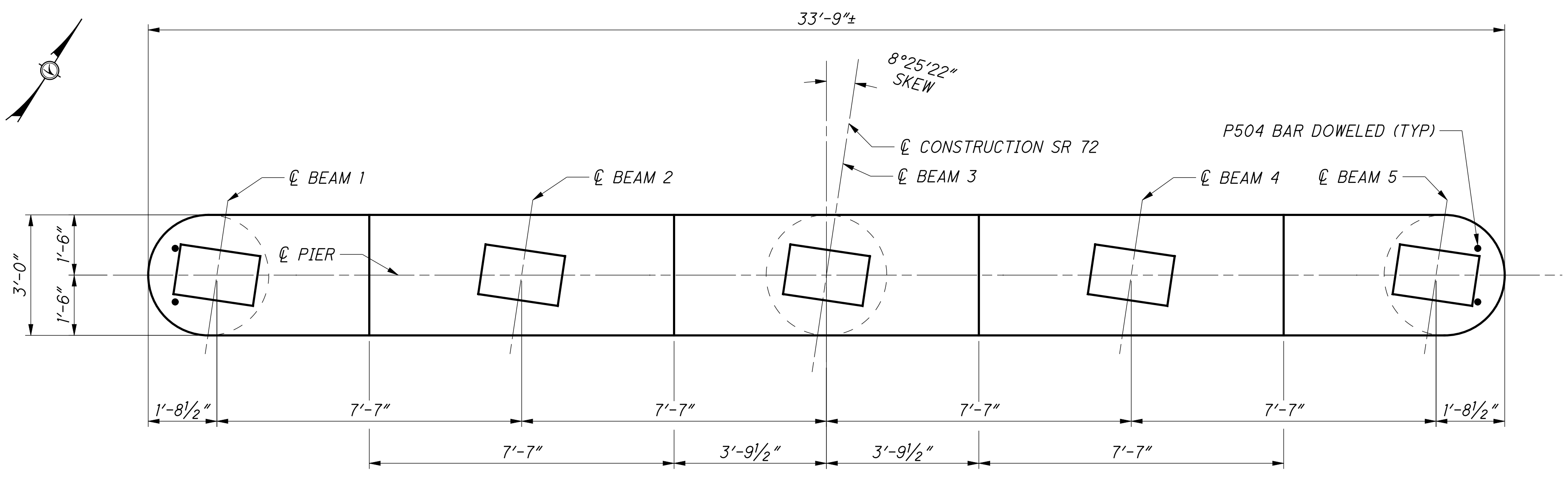
DESIGNED JPR	DRAWN SDW	REVIEWED BJF	DATE 2/09
CHECKED MLJ	REVISED	STRUCTURE FILE NUMBER 2901838	

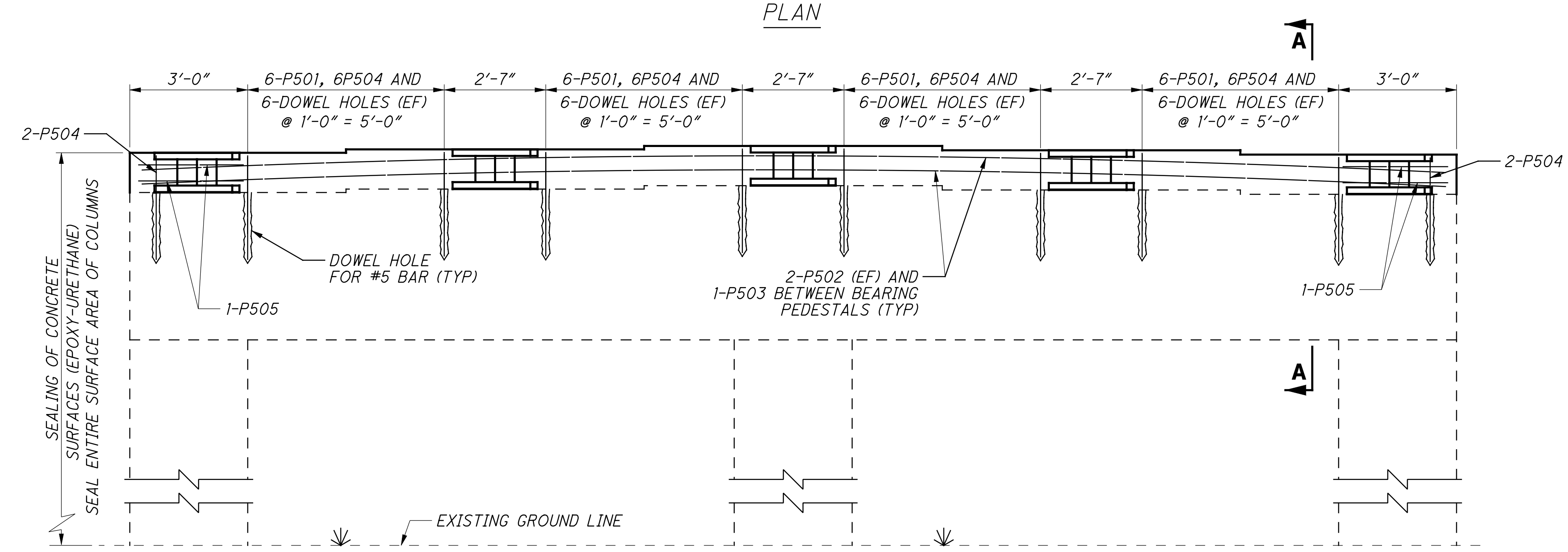
DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

WINGWALL DETAILS
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

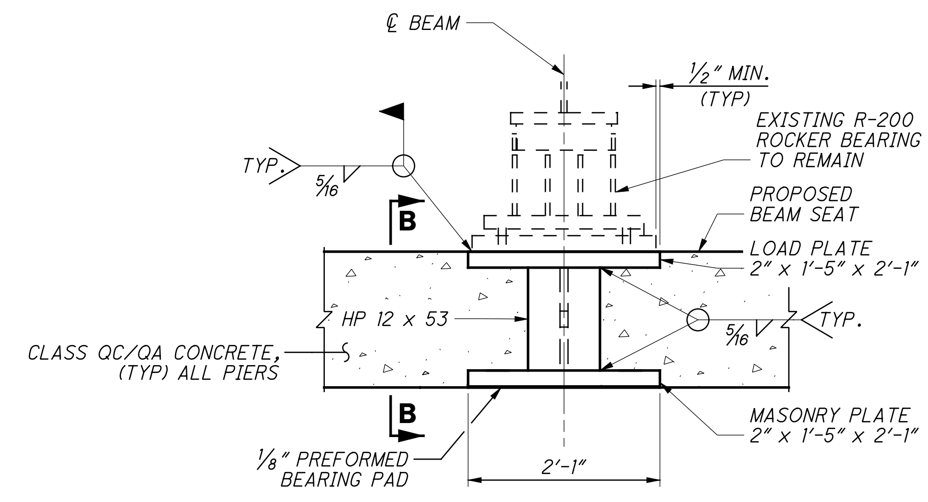
CLI/GRE-
71-7.26/0.00
PID No. 75745



PLAN

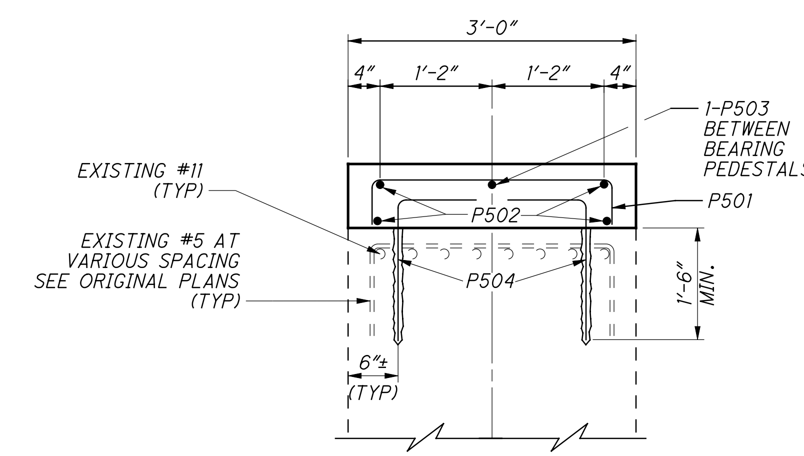


ELEVATION

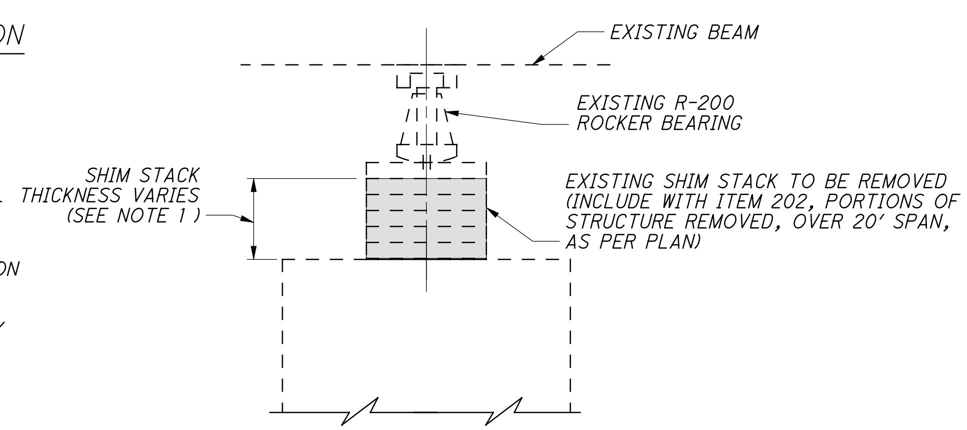


BEARING MODIFICATIONS AT PIERS 1 & 3

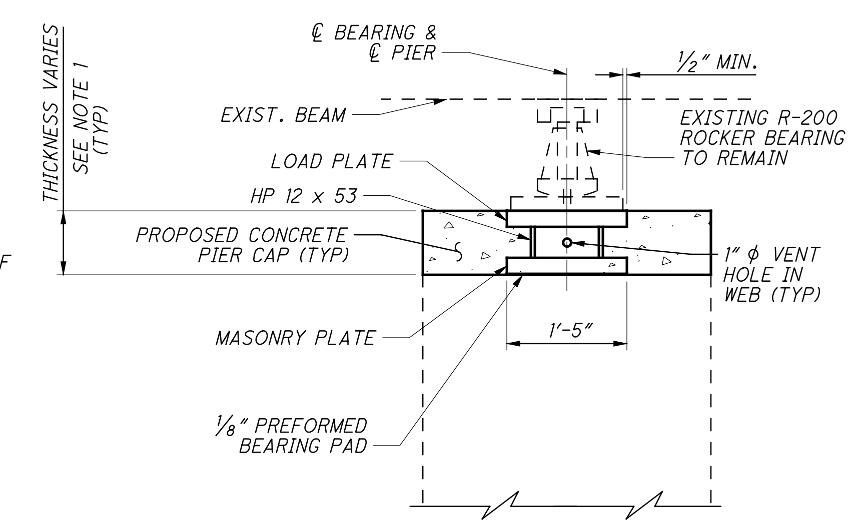
(VIEW NOT TO SCALE)



SECTION A-A



EXISTING BEARING CONFIGURATION



SECTION B-B

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE FINAL BEAM SEAT ELEVATIONS BY SUBTRACTING THE EXISTING ROCKER HEIGHTS WITH THE 1/8" BEARING PAD (LOAD PLATE AND ELASTOMERIC BEARING HEIGHT) FROM THE CONTRACTOR MEASURED BOTTOM OF EXISTING BEAM ELEVATION AT EACH BEARING LOCATION. THIS NEW BEAM SEAT ELEVATION IS TO BE INCREASED BY THE AMOUNT THE BRIDGE IS TO BE RAISED OF 3"±. THIS FINAL BEAM SEAT ELEVATION IS A CONTRACTOR CALCULATED ELEVATION AND ANY SHIMS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, BEARING DEVICE ROCKER, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

4.) LAP SPLICE LENGTH: #5 BARS = 2'-2".

5.) HP LOAD PLATE MASONRY PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

6.) THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

EXISTING BEAM SEAT ELEVATIONS, AS SURVEYED (±)					
LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
PIER 1	1097.57	1097.65	1097.77	1097.64	1097.53
PIER 3	1097.66	1097.74	1097.83	1097.73	1097.63

PROPOSED BEAM SEAT ELEVATIONS (±)					
LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
PIER 1	1098.65	1098.74	1098.85	1098.72	1098.61
PIER 3	1098.74	1098.83	1098.91	1098.81	1098.72

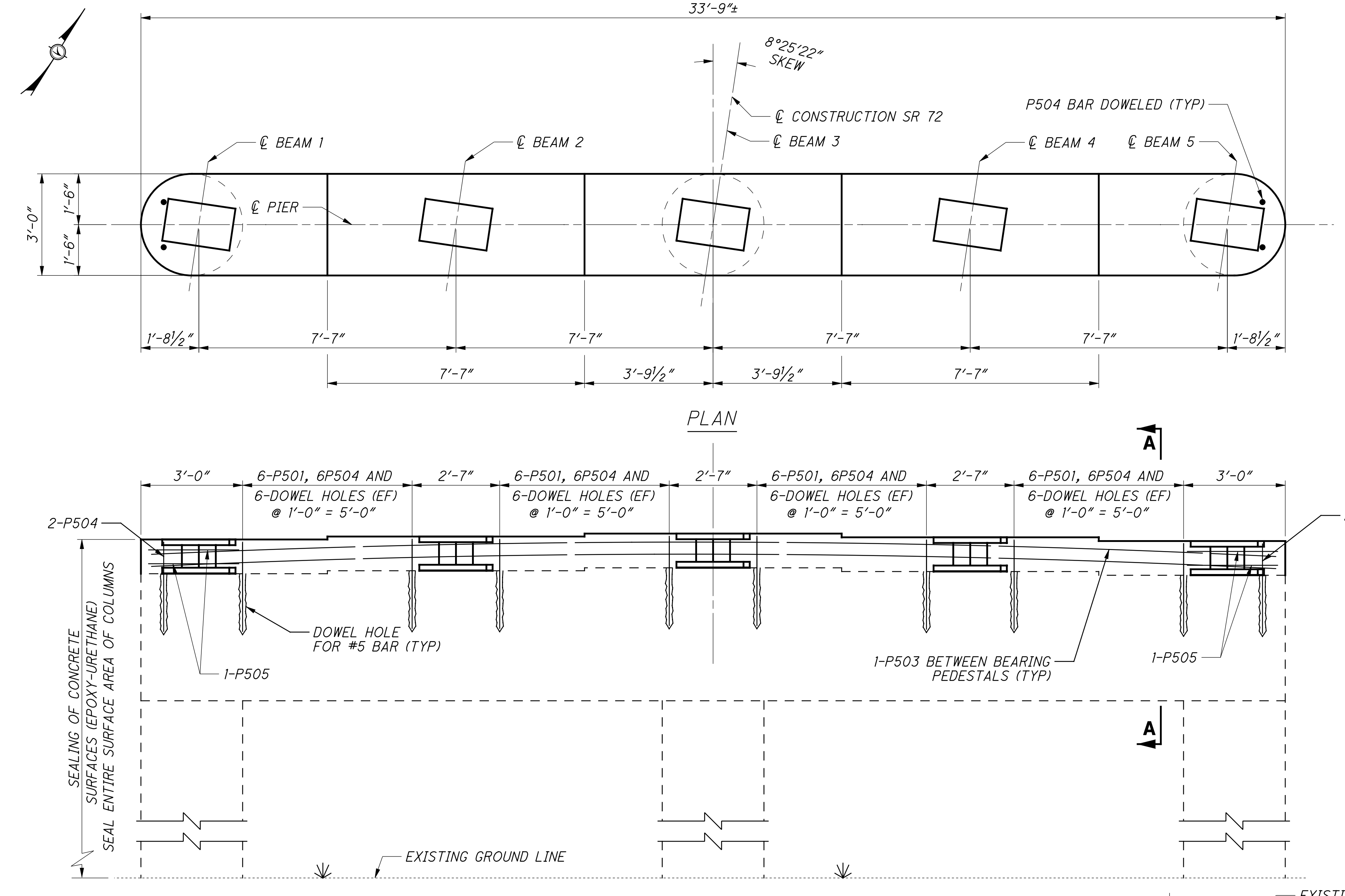
DESIGN AGENCY
PALMER ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

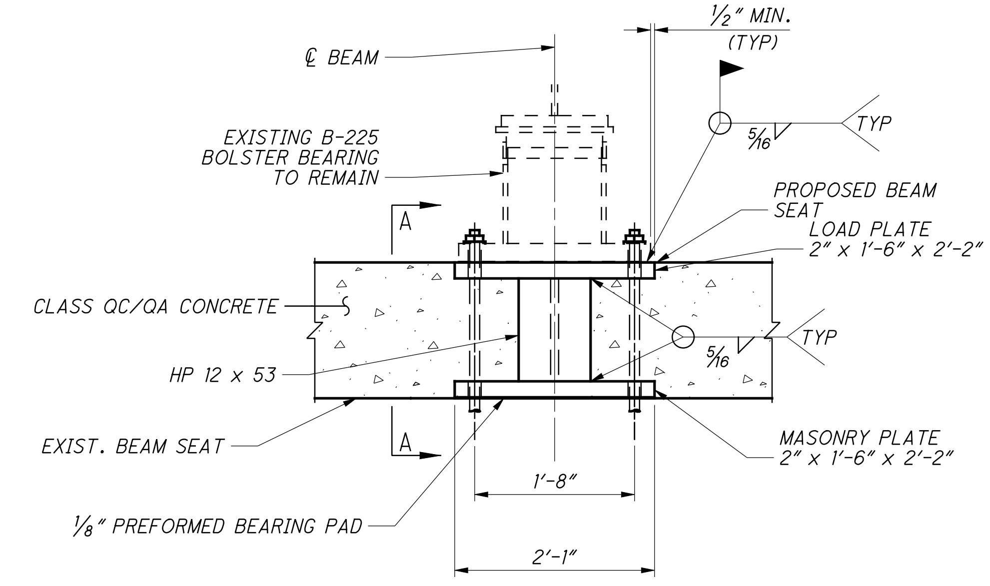
DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	2/09
CHECKED MLJ	REVISED	STRUCTURE FILE NUMBER 2901838	

PIER MODIFICATION DETAILS FOR PIERS 1 AND 3

BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

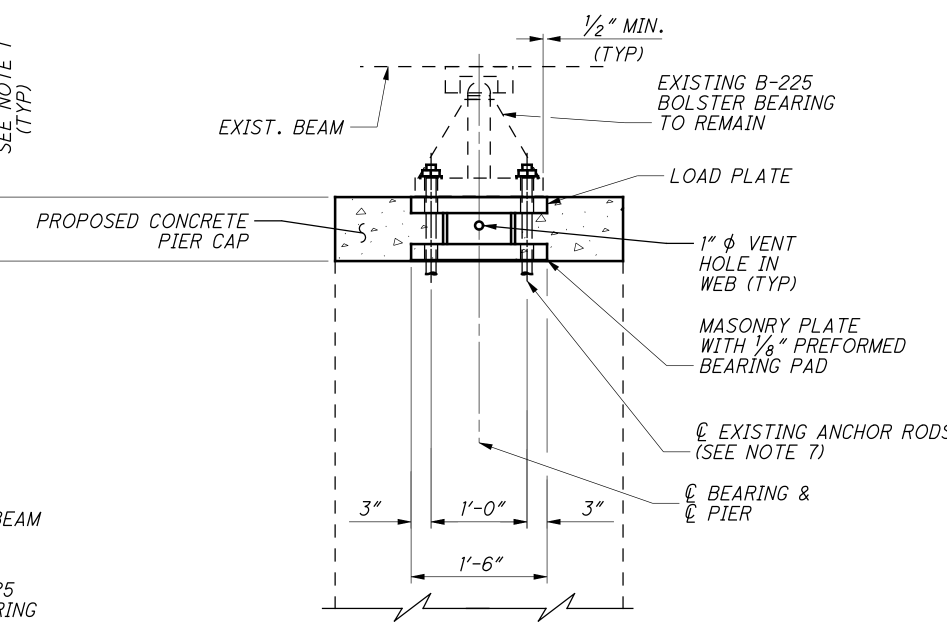
CLI/GRE-71-7.26/0.00
PID No. 75745



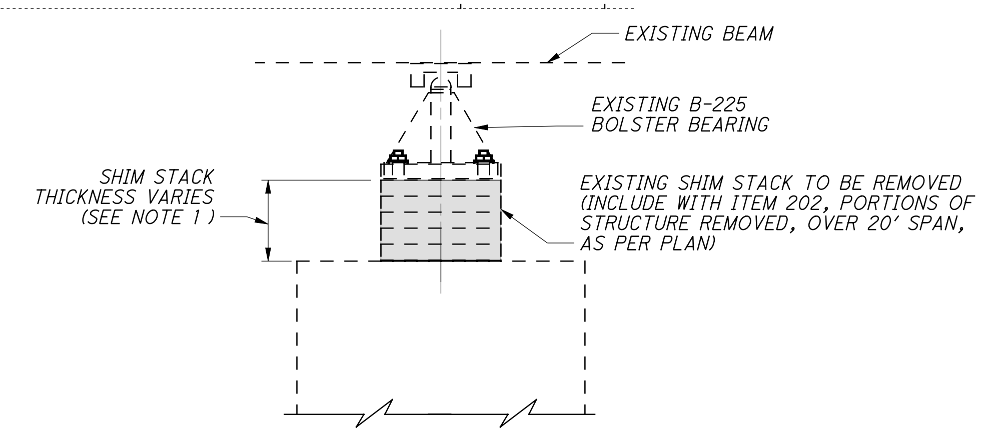


BEARING MODIFICATIONS AT PIER 2

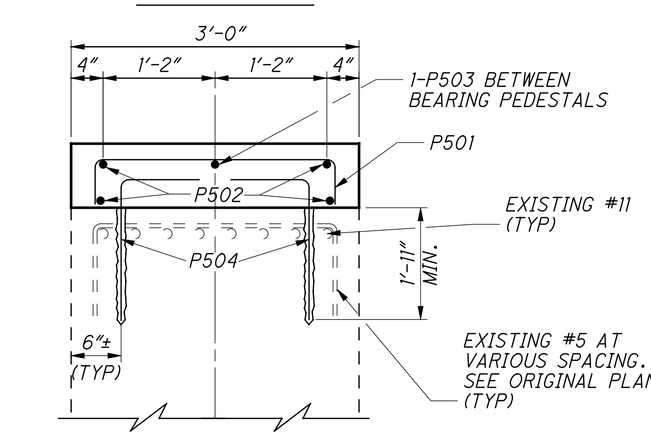
(VIEW NOT TO SCALE)



SECTION A-A



EXISTING BEARING CONFIGURATION



SECTION B-B

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE FINAL BEAM SEAT ELEVATIONS BY SUBTRACTING THE EXISTING ROCKER HEIGHTS WITH THE 1/8" BEARING PAD (LOAD PLATE AND ELASTOMERIC BEARING HEIGHT) FROM THE CONTRACTOR MEASURED BOTTOM OF EXISTING BEAM ELEVATION AT EACH BEARING LOCATION. THIS NEW BEAM SEAT ELEVATION IS TO BE INCREASED BY THE AMOUNT THE BRIDGE IS TO BE RAISED OF 3"±. THIS FINAL BEAM SEAT ELEVATION IS A CONTRACTOR CALCULATED ELEVATION AND ANY SHIMS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, BEARING DEVICE BOLSTER, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

4.) LAP SPLICE LENGTH: #5 BARS = 2'-2".
" INCHES.

5.) HP LOAD PLATE MASONRY PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

6.) THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

7.) EXISTING ANCHOR RODS ARE TO REMAIN AND BE USED TO ANCHOR NEW BEARING AND PEDESTAL ASSEMBLY. IF NECESSARY, THE CONTRACTOR MAY CUT EXISTING ANCHOR RODS TO FACILITATE CONSTRUCTION. NEW ANCHOR RODS CAN THEN BE WELDED TO THE EXISTING ANCHOR RODS TO COMPLETE THE ASSEMBLY.

EXISTING BEAM SEAT ELEVATIONS					
LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
PIER 2	1097.75	1097.82	1097.94	1097.81	1097.72
PROPOSED BEAM SEAT ELEVATIONS					
LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
PIER 2	1098.83	1098.91	1099.02	1098.90	1098.80

DESIGN AGENCY
PALMER ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED JPR | CHECKED MLJ | DRAWN SDW | REVISED | REVIEWED BJF | DATE 2/09 | STRUCTURE FILE NUMBER 2901838

PIER MODIFICATION DETAILS FOR PIER 2

BRIDGE NO. GRE-72-0029

SR 72 OVER I-71

CLI/GRE-71-7.26/0.00

PID No. 75745

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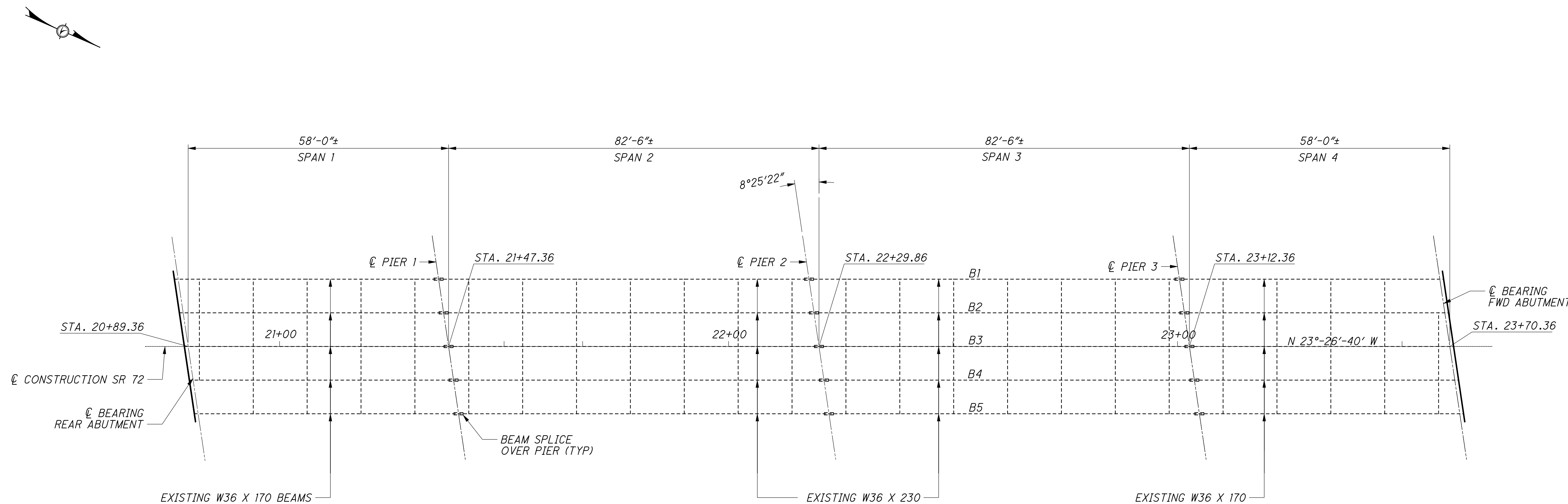
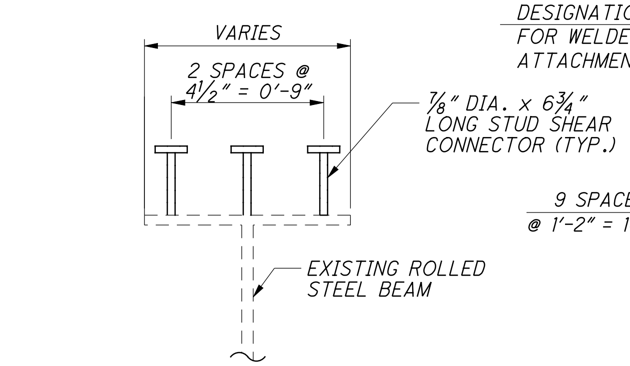
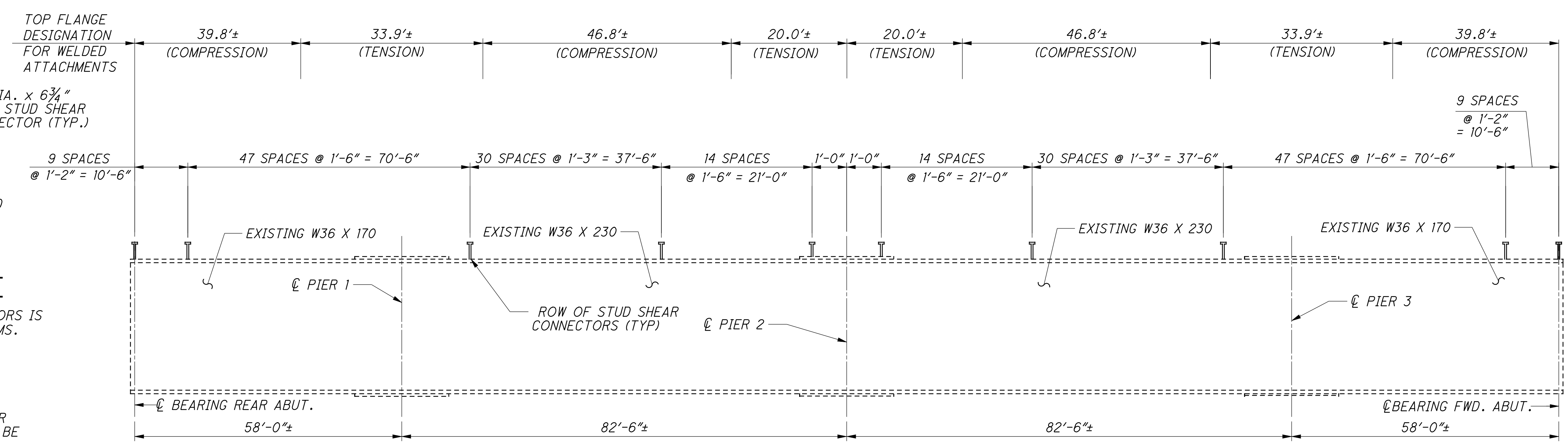


FRAMING PLAN



SHEAR STUD CONNECTOR LAYOUT

NOTE: WELDING OF THE STUD SHEAR CONNECTORS IS TO BE IN ACCORDANCE WITH 513.22 OF THE CMS.



SHEAR STUD CONNECTOR LAYOUT

NOTES

1.) WELDED ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FASCIA GIRDER FLANGES DESIGNATED "COMPRESSION". ATTACHMENT SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL NOT BE CLOSER THAN 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE NOT SMALLER THAN ¼" FOR THICKNESS UP TO ¾" AND 5/16" FOR GREATER THAN ¾" THICK.

2.) FOR GENERAL NOTES, SEE SHEET 3/16.

DEFLECTION (in.) OF EXISTING BEAMS

	REAR ABUT.	¼	½	¾	PIER 1	¼	½	¾	PIER 2	¼	½	¾	PIER 3	¼	½	¾	FWD. ABUT.
DEFLECTION FROM NON-COMPOSITE DEAD LOAD	0	3/16	3/16	1/16	0	¼	⅜	3/16	0	3/16	⅜	¼	0	1/16	3/16	3/16	0
DEFLECTION FROM COMPOSITE DEAD LOAD	0	0	1/16	0	0	1/16	1/16	1/16	0	1/16	1/16	1/16	0	0	1/16	0	0
TOTAL DEFLECTION FROM DEAD LOAD	0	3/16	¼	1/16	0	5/16	7/16	¼	0	¼	7/16	5/16	0	1/16	¼	3/16	0

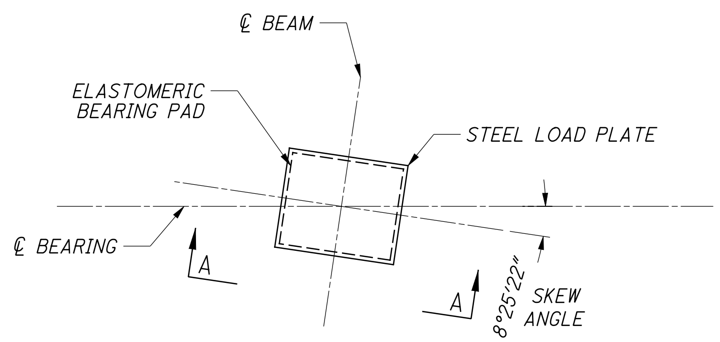
DESIGN AGENCY
PALMER ENGINEERING
1930 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED JPR | DRAWN SDW | REVIEWED BJF | DATE 2/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 2901838

FRAMING PLAN
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

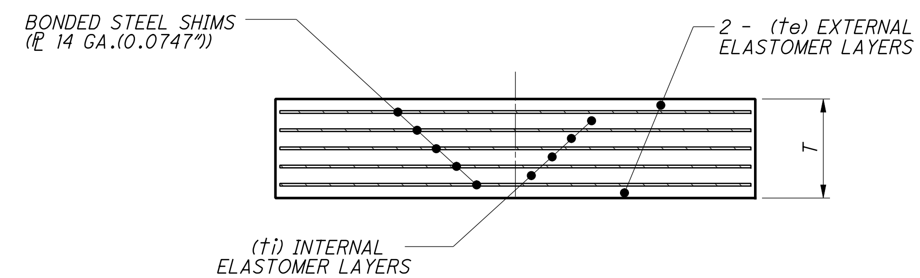
CLI/GRE-71-7.26/0.00
PID No. 75745

10/16

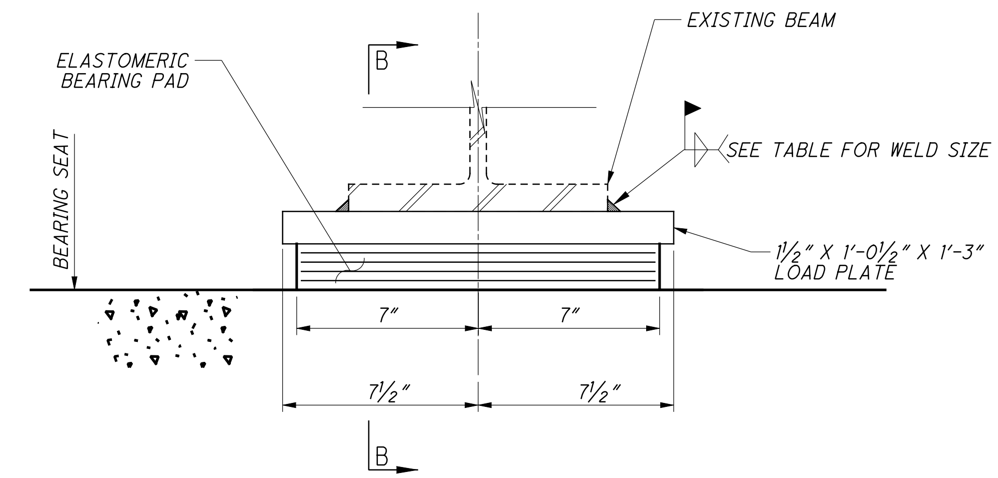


(CLIPPED CORNERS SHALL NOT BE ALLOWED)

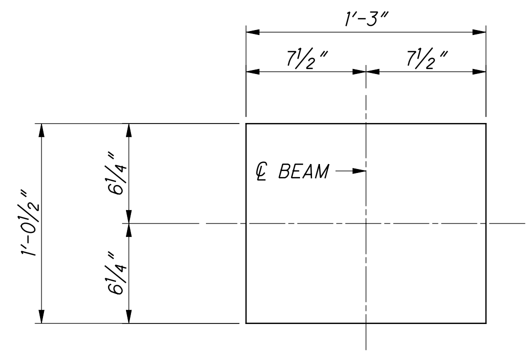
LAMINATED ELASTOMERIC BEARING ORIENTATION AT ABUTMENTS



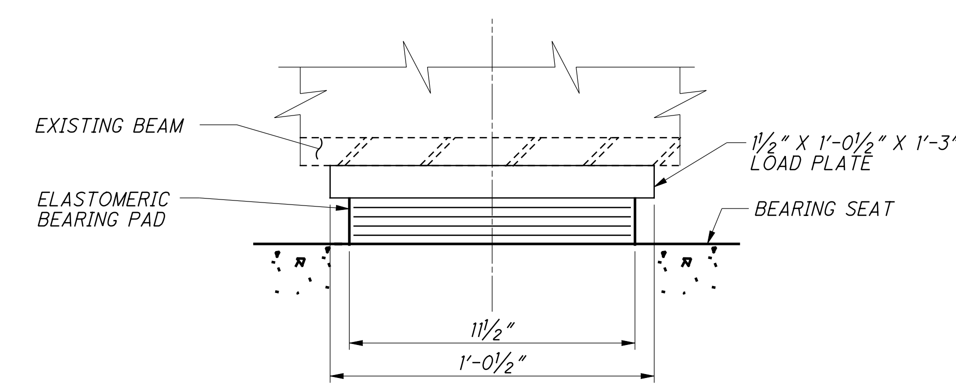
BEARING PAD ELEVATION



VIEW A-A



LOAD PLATE PLAN



SECTION B-B

NOTES:

THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE AT THE CONTRACT PRICE FOR ITEM 516, ELASTOMERIC BEARINGS.

WELDING:
CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

THE STEEL LOAD PLATE SHALL BE ASTM A709 GRADE 50 STEEL AND SHALL BE BONDED TO THE ELASTOMER BY VULCANIZATION DURING THE MOLDING PROCESS.

THE STEEL LOAD PLATES SHALL BE INCLUDED WITH ITEM 516, ELASTOMERIC BEARINGS FOR PAYMENT.

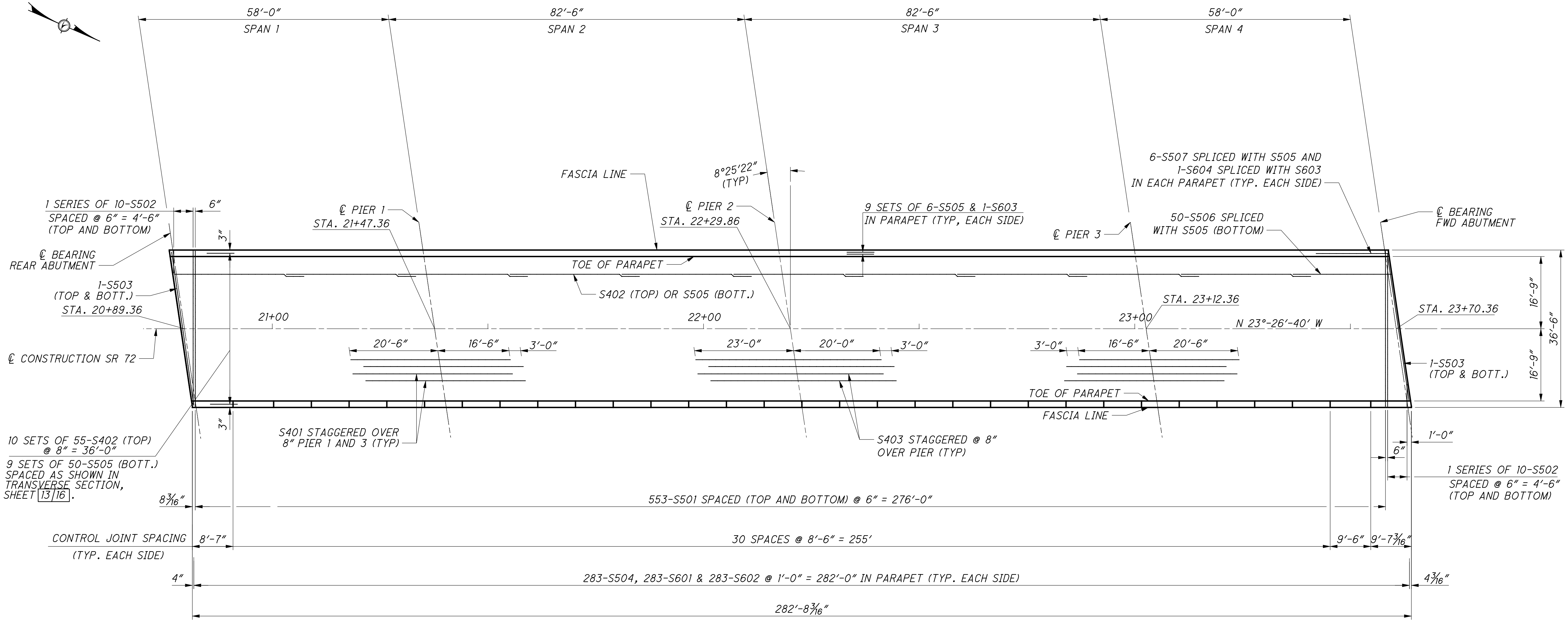
BEARING LOCATION	BEARING TYPE	NO. REQ'D	DEAD LOAD (KIPS)	LIVE LOAD (KIPS)	TOTAL LOAD (KIPS)	t_i	NO. OF t_i	t_e (2 EA.)	NO. OF INT. LAMINATES (14 GAGE)	T	REQUIRED DUROMETER	WELD SIZES
REAR ABUT	EXPANSION	5	34.9	48.1	83.0	0.56"	5	0.25"	6	3.75"	50	5⁄16
FWD. ABUT	EXPANSION	5	34.9	48.1	83.0	0.56"	5	0.25"	6	3.75"	50	5⁄16

DESIGN AGENCY
Palmer Engineering
PALMER ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

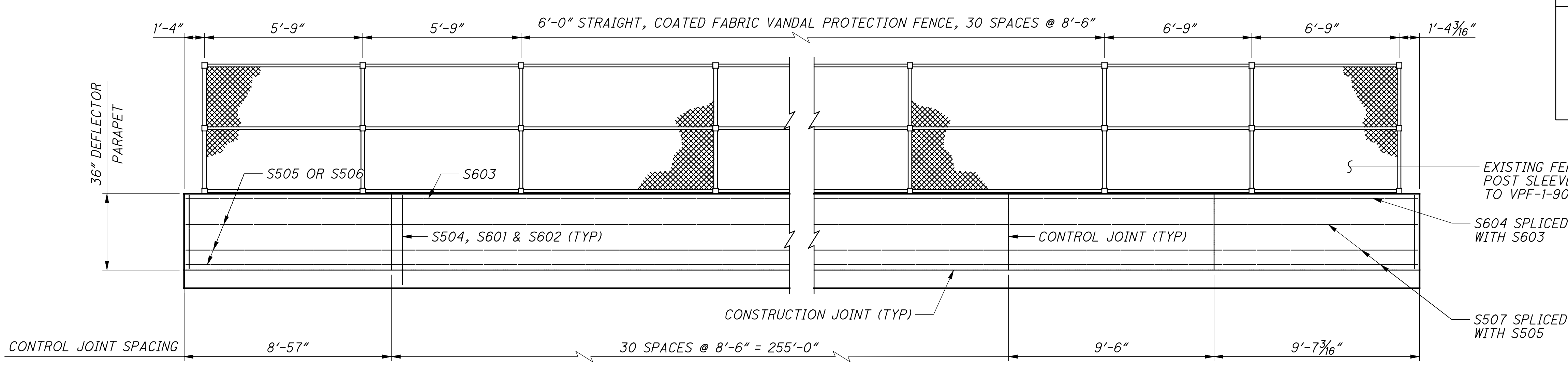
DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	2/09
CHECKED: MLJ	REVISED	STRUCTURE FILE NUMBER: 2901838	

ABUTMENT BEARING DEVICE
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745



DECK SLAB PLAN



ELEVATION OF DECK PARAPET AND VANDAL PROTECTION FENCE

MINIMUM LAP LENGTHS
#4 BARS: 1'-11"
#5 BARS: 2'-5"
#5 BARS: 3'-5" (PARAPET)
#6 BARS: 4'-1" (PARAPET)

NOTES

1.) SEE STANDARD DRAWING BR-1 FOR CONTROL JOINT IN CONCRETE PARAPET DETAILS.

2.) FOR GENERAL NOTES SEE SHEET 3/16.

3.) FOR TRANSVERSE SECTION, SEE SHEET 13/16.

DESIGN AGENCY: PALMER ENGINEERING, 1500 CORNELL PARK DR, CINCINNATI, OH 45242

DESIGNED JPR | CHECKED MLJ | DRAWN SDW | REVIEWED BJF | DATE 2/09 | STRUCTURE FILE NUMBER 2901838

DECK PLAN
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

12/16

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SCREED ELEVATIONS

LOCATION	LEFT FASCIA	LEFT TOE OF PARAPET	GIRDER 1	BEAM 2	℄ SR 72; BEAM 3	GIRDER 4	GIRDER 5	RIGHT TOE OF PARAPET	RIGHT FASCIA
℄ BRG. REAR ABUT.	1103.71	1103.74	1103.77	1103.89	1104.01	1103.90	1103.79	1103.77	1103.75
1/4	1103.82	1103.85	1103.88	1104.00	1104.12	1104.01	1103.90	1103.88	1103.86
1/2	1103.91	1103.93	1103.96	1104.09	1104.21	1104.10	1103.99	1103.96	1103.94
3/4	1103.97	1104.00	1104.03	1104.15	1104.27	1104.16	1104.05	1104.02	1104.00
℄ PIER 1	1104.03	1104.06	1104.09	1104.21	1104.33	1104.22	1104.10	1104.08	1104.05
1/4	1104.13	1104.16	1104.19	1104.31	1104.43	1104.31	1104.20	1104.17	1104.15
1/2	1104.21	1104.23	1104.26	1104.38	1104.50	1104.39	1104.27	1104.25	1104.22
3/4	1104.23	1104.26	1104.29	1104.40	1104.52	1104.41	1104.29	1104.26	1104.24
℄ PIER 2	1104.24	1104.26	1104.29	1104.41	1104.52	1104.41	1104.29	1104.26	1104.24
1/4	1104.26	1104.29	1104.31	1104.43	1104.55	1104.43	1104.31	1104.29	1104.26
1/2	1104.27	1104.29	1104.32	1104.44	1104.55	1104.43	1104.32	1104.29	1104.26
3/4	1104.22	1104.25	1104.27	1104.39	1104.50	1104.38	1104.26	1104.24	1104.21
℄ PIER 3	1104.15	1104.17	1104.20	1104.31	1104.43	1104.31	1104.18	1104.16	1104.13
1/4	1104.11	1104.13	1104.16	1104.27	1104.39	1104.27	1104.15	1104.12	1104.10
1/2	1104.08	1104.10	1104.13	1104.24	1104.35	1104.23	1104.11	1104.08	1104.06
3/4	1104.02	1104.05	1104.07	1104.19	1104.30	1104.18	1104.05	1104.03	1104.00
℄ BRG. FWD. ABUT.	1103.94	1103.96	1103.99	1104.10	1104.21	1104.09	1103.97	1103.94	1103.91

FINAL DECK SURFACE ELEVATIONS

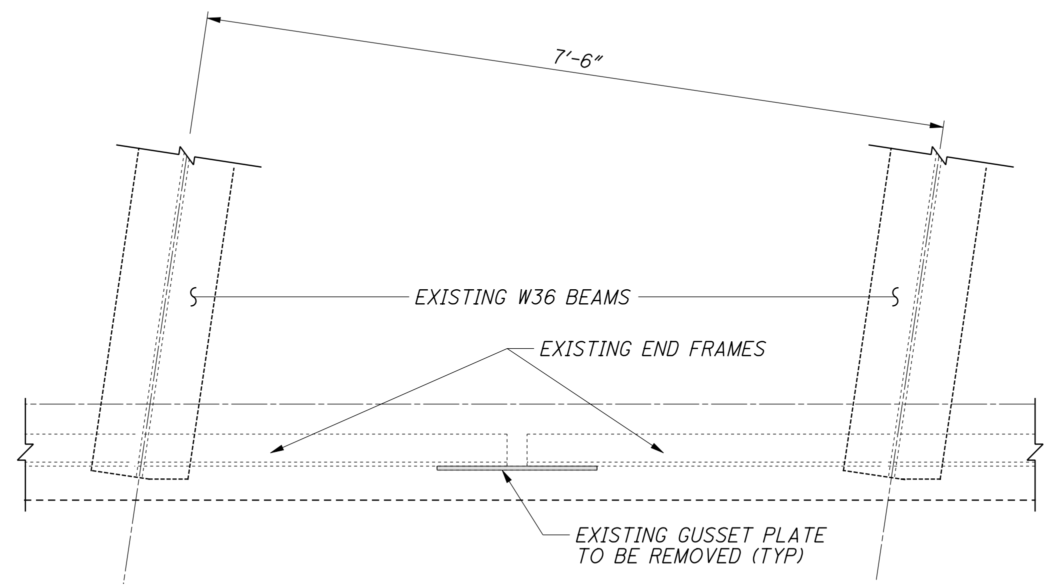
LOCATION	LEFT FASCIA	LEFT TOE OF PARAPET	BEAM 1	BEAM 2	℄ SR 72; BEAM 3	BEAM 4	GIRDER 5	RIGHT TOE OF PARAPET	RIGHT FASCIA
℄ BRG. REAR ABUT.	1103.71	1103.74	1103.77	1103.89	1104.01	1103.90	1103.79	1103.77	1103.75
1/4	1103.80	1103.83	1103.86	1103.98	1104.11	1104.00	1103.89	1103.86	1103.84
1/2	1103.89	1103.91	1103.94	1104.07	1104.19	1104.08	1103.97	1103.94	1103.92
3/4	1103.97	1103.99	1104.02	1104.14	1104.26	1104.15	1104.04	1104.01	1103.99
℄ PIER 1	1104.03	1104.06	1104.09	1104.21	1104.33	1104.22	1104.10	1104.08	1104.05
1/4	1104.11	1104.14	1104.16	1104.28	1104.41	1104.29	1104.18	1104.15	1104.13
1/2	1104.17	1104.20	1104.22	1104.34	1104.46	1104.35	1104.23	1104.21	1104.18
3/4	1104.21	1104.24	1104.27	1104.38	1104.50	1104.39	1104.27	1104.25	1104.22
℄ PIER 2	1104.24	1104.26	1104.29	1104.41	1104.52	1104.41	1104.29	1104.26	1104.24
1/4	1104.24	1104.27	1104.29	1104.41	1104.53	1104.41	1104.29	1104.27	1104.24
1/2	1104.23	1104.25	1104.28	1104.40	1104.51	1104.39	1104.28	1104.25	1104.22
3/4	1104.20	1104.22	1104.25	1104.36	1104.48	1104.36	1104.24	1104.21	1104.19
℄ PIER 3	1104.15	1104.17	1104.20	1104.31	1104.43	1104.31	1104.18	1104.16	1104.13
1/4	1104.10	1104.13	1104.15	1104.27	1104.38	1104.26	1104.14	1104.11	1104.09
1/2	1104.06	1104.08	1104.11	1104.22	1104.33	1104.21	1104.09	1104.06	1104.04
3/4	1104.01	1104.03	1104.05	1104.17	1104.28	1104.16	1104.04	1104.01	1103.98
℄ BRG. FWD. ABUT.	1103.94	1103.96	1103.99	1104.10	1104.21	1104.09	1103.97	1103.94	1103.91

NOTE

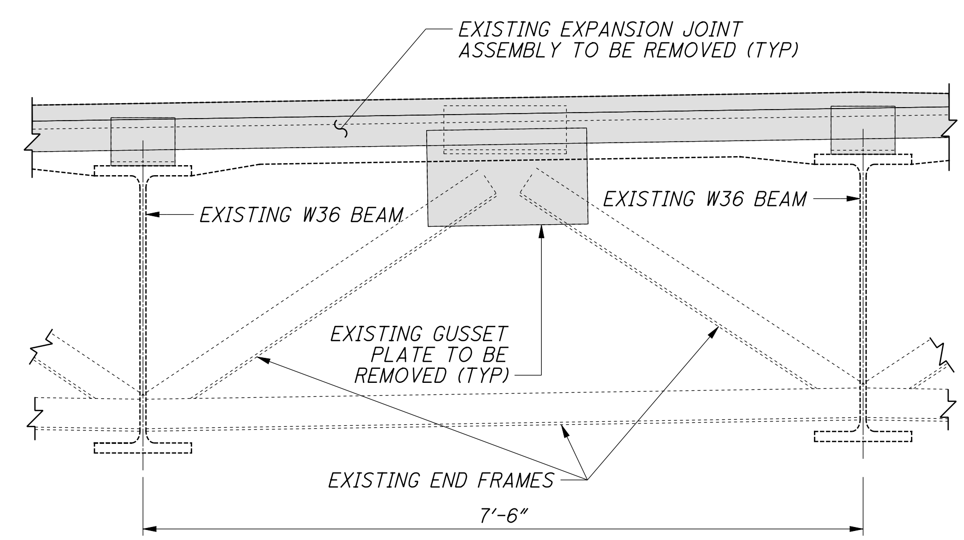
1.) SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

2.) SEE SHEET 12/16 FOR DECK SLAB PLAN.

3.) SEE SHEET 10/16 FOR FRAMING PLAN.



CROSSFRAME REMOVAL PLAN



CROSSFRAME REMOVAL ELEVATION

NOTE

1.) ALL COSTS ASSOCIATED WITH THE REMOVAL OF THE EXISTING END DAMS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED , AS PER PLAN.

2.) FOR ADDITIONAL REMOVAL DETAILS SEE SHEET 5/16.

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED JPR | DRAWN SDW | REVIEWED BJF | DATE 2/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 2901838

SCREED AND DECK SLAB ELEVATIONS
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

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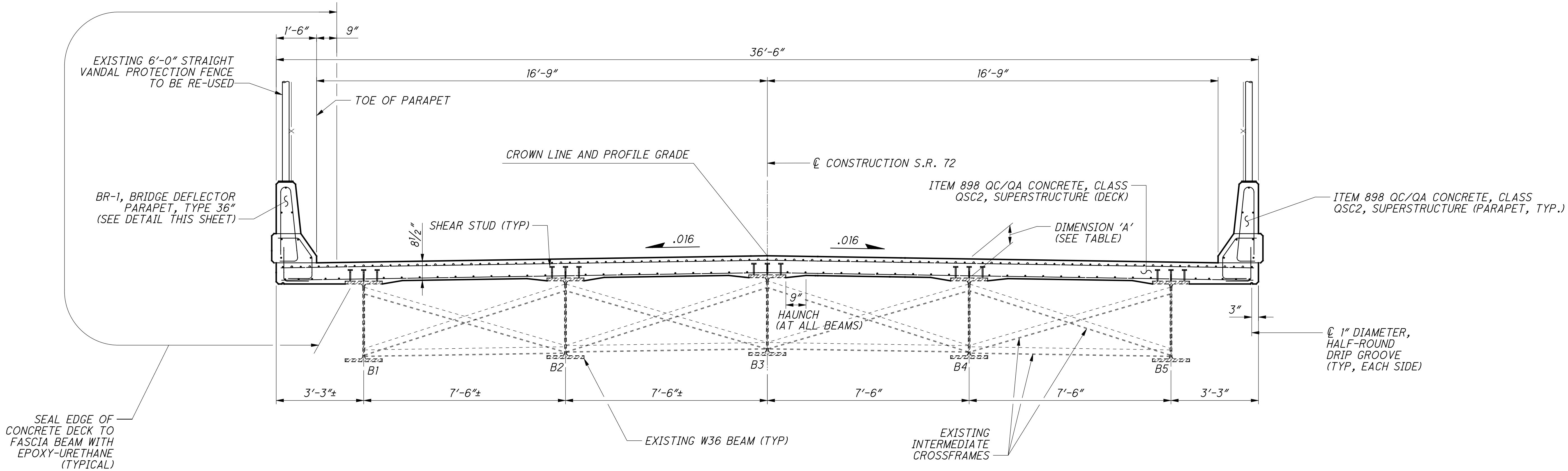
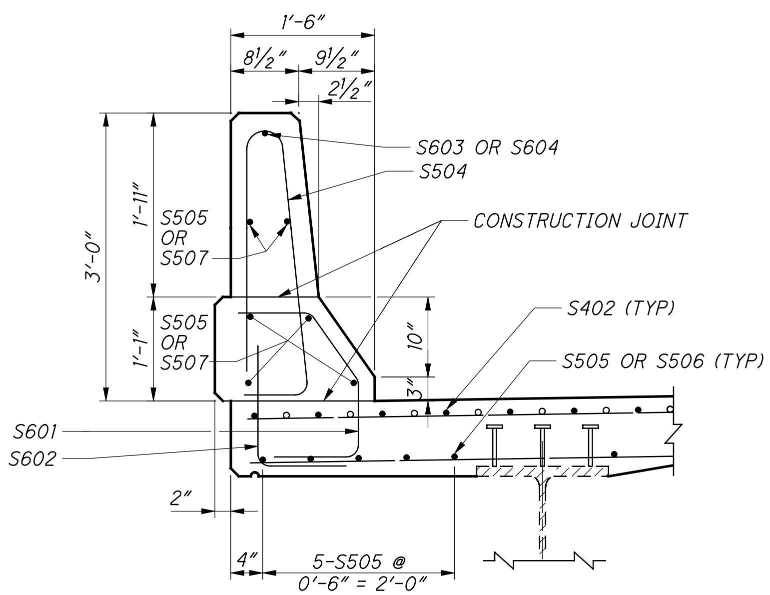
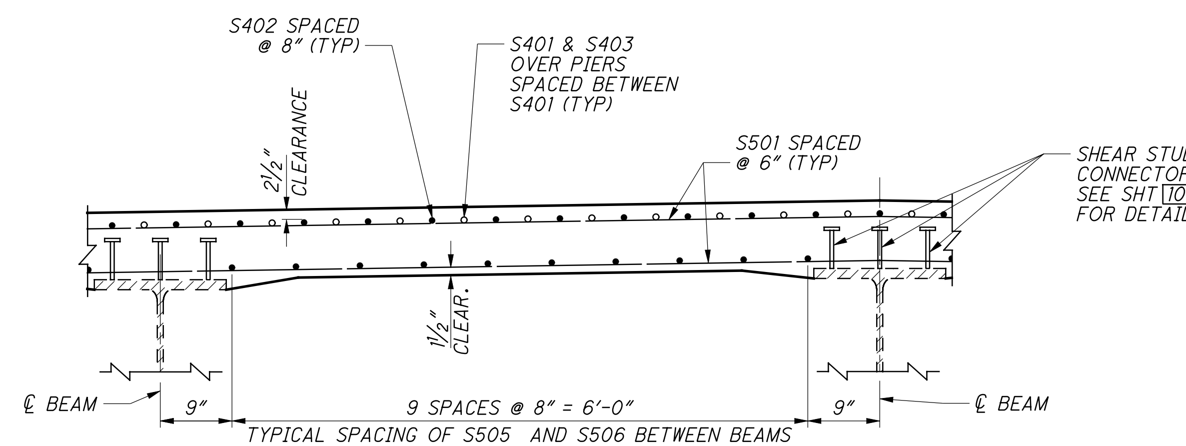


TRANSVERSE SECTION



PARAPET DETAIL



REINFORCEMENT BETWEEN BEAMS

NOTES

1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF 3 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ±3" INCHES. DIMENSION OF "A" WAS MEASURED AT THE CENTERLINE OF THE BEAM FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE. THE AREA OF ALL EMBEDDED BEAM FLANGES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH CMS 511.24
2. FOR DECK SLAB PLAN, SEE SHEET 12|16.
3. FOR SCREED ELEVATION AND DECK SLAB ELEVATIONS, SEE SHEET 14|16.
4. FOR GENERAL NOTES, SEE SHEET 3|16.

DIMENSION "A" (IN)					
LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
℄ BRG. REAR ABUT.	10 1/2"	10 1/2"	10 1/2"	10 1/2"	10 9/16"
℄ PIER 1	10 3/4"	11 1/8"	11 1/8"	11 5/8"	11 1/4"
℄ PIER 2	11 1/8"	11 1/2"	11 1/4"	11 7/16"	11 1/16"
℄ PIER 3	10 1/2"	11 1/4"	11 3/8"	11 3/8"	10 13/16"
℄ BRG. FWD. ABUT.	11 3/8"	11 3/16"	10 7/8"	11 3/16"	11 5/16"

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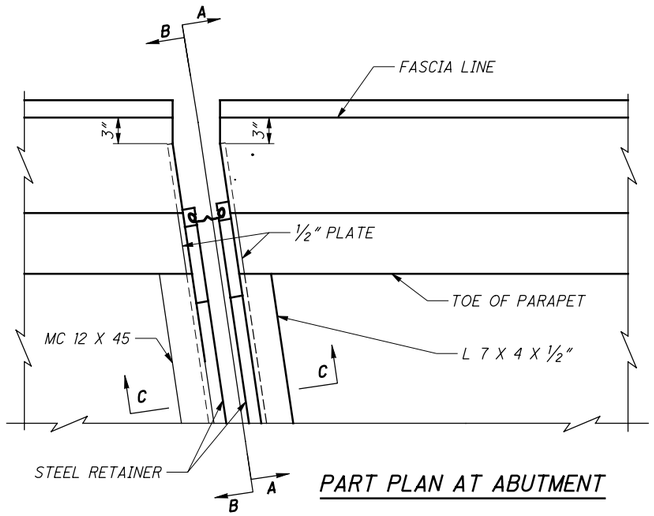
DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING 11300 CORNELL PARK DR CINCINNATI, OH 45242
WINCHESTER • NASHVILLE • LOUISVILLE • CINCINNATI • HURRICANE

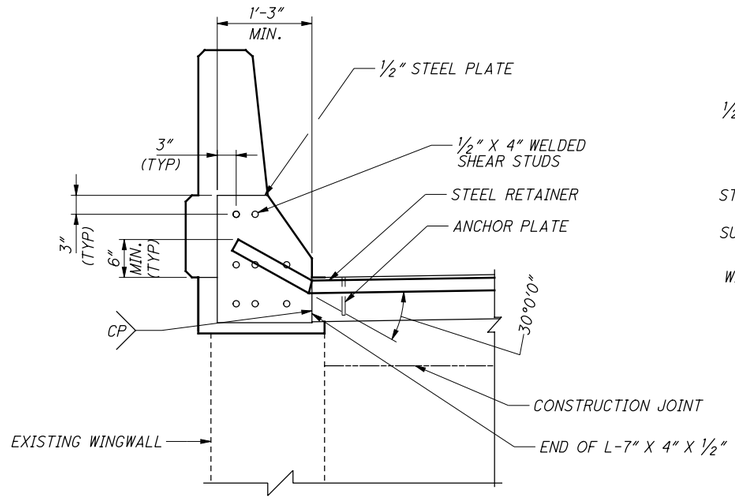
DESIGNED JPR | DRAWN SDW | REVIEWED BJF | DATE 2/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 2901838

DECK SLAB DETAIL
BRIDGE NO. GRE-72-0029
S.R. 72 OVER I-71

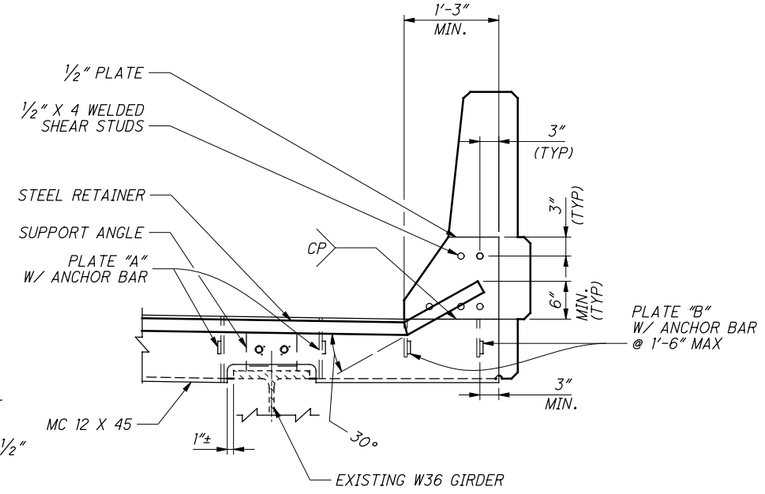
CLI/GRE-71-7.26/0.00
PID No. 75745



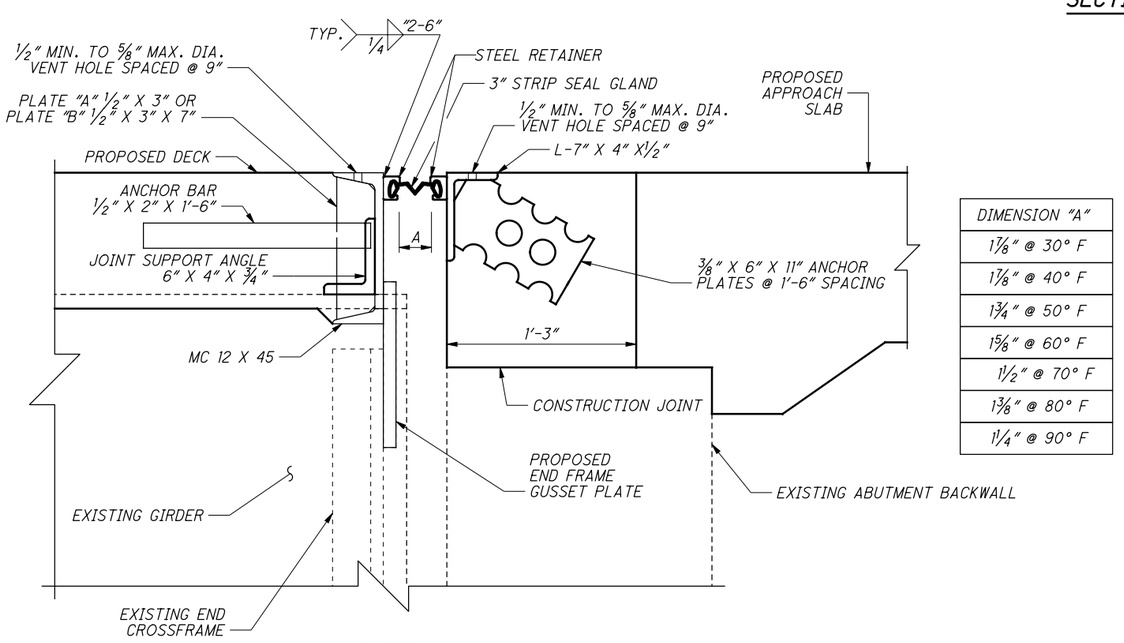
PART PLAN AT ABUTMENT



SECTION A-A



SECTION B-B



DIMENSION "A"
1⅛" @ 30° F
1⅛" @ 40° F
1¾" @ 50° F
1⅝" @ 60° F
1½" @ 70° F
1⅜" @ 80° F
1¼" @ 90° F

SECTION C-C

NOTES

1.) INSTALLATION OF SEAL: DURING INSTALLATION OF THE SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE EXPANSION JOINT SEAL, OBSERVE THE SEATING OF BEAMS ON BEARINGS TO ASSURE THAT POSITIVE BEARING IS MAINTAINED.

2.) TO ENSURE PROPER FITTING OF THE NEW END DAMS, THE CONTRACTOR SHALL TAKE MEASUREMENTS TO FIELD VERIFY ALL CONNECTION PLATE LOCATIONS PRIOR TO FABRICATING THE NEW SUPERSTRUCTURE END DAMS. COAT ALL STEEL PARTS OF THE JOINT ACCORDING TO STD. DWG. EXJ-4-87. CLEAN AND PAINT THE AREAS OF THE PROPOSED ½" GUSSET PLATES, TRIMMED L BRACKETS, ETC. DAMAGED DURING THE INSTALLATIONS, PER CMS 514. ALL COSTS ASSOCIATED WITH THIS REQUIREMENT SHALL BE CONSIDERED INCIDENTAL TO ITEM 516. ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO FABRICATE AND INSTALL THE NEW END DAMS SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

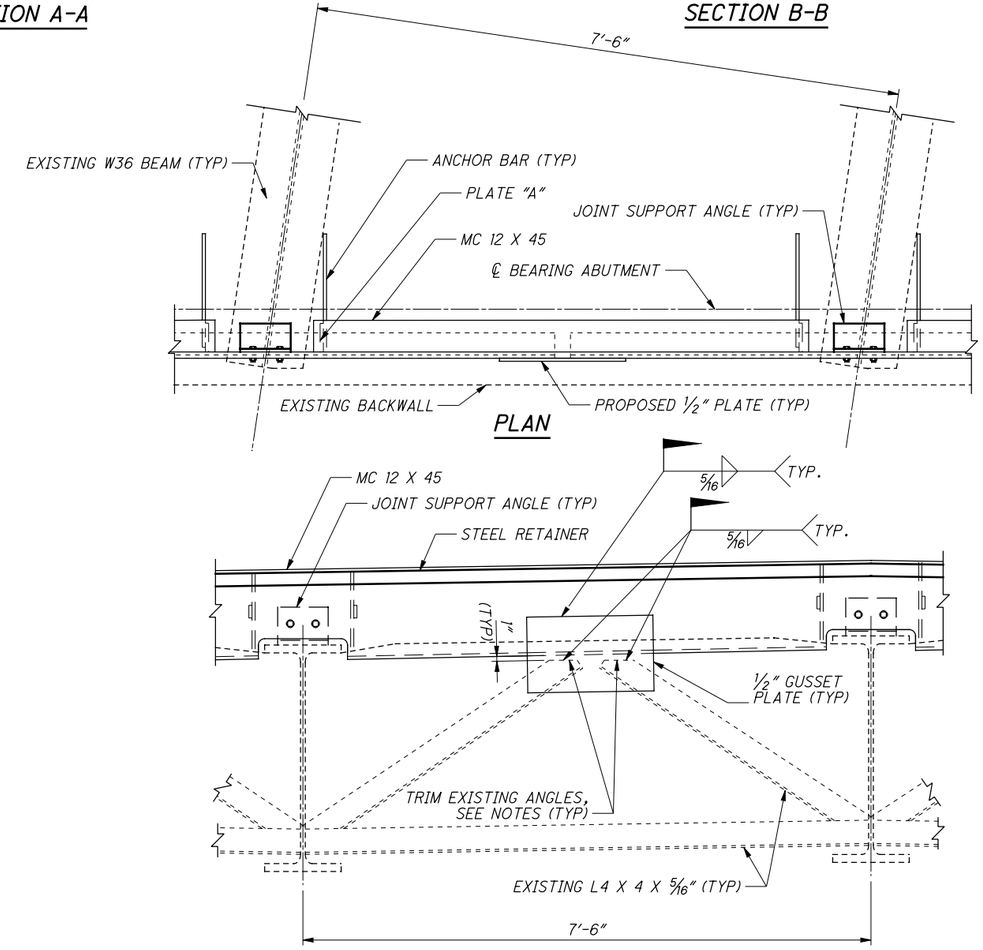
3.) THE ENDS OF EXISTING CROSSFRAMES MAY REQUIRE TRIMMING WHERE THEY MEET THE NEW CONNECTION PLATES. ANGLES SHALL BE TRIMMED TO PROVIDE A MINIMUM CLEARANCE OF 1" BETWEEN THE END OF THE ANGLE AND THE NEW MC 12X45. ALL CUT EDGES SHALL BE GROUND SMOOTH PRIOR TO PAINTING. COST OF TRIMMING EXISTING CROSSFRAME ANGLES SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

4.) SHIM ½" PLATE AS NECESSARY TO MAINTAIN DIMENSION 'A' IN TABLE. ALL WORK SHALL MEET APPROVAL OF THE ENGINEER.

5.) SEE STANDARD DRAWING EXJ-4-87 FOR ADDITIONAL DETAILS.

6.) FOR DECK SLAB, PLAN SEE SHEET 12 16 .

7.) FOR ABUTMENT DETAILS, SEE SHEET 6 16 .



PLAN

END CROSSFRAME ELEVATION

DESIGN AGENCY
Palmer ENGINEERING
1000 CONNELL PARK DR
BLUE ASH, OHIO 45241
DATE 2/09
REVIEWED BJF
DRAWN SDW
DESIGNED JPR
CHECKED MLJ
REVISED
STRUCTURE FILE NUMBER 2901838

EXPANSION JOINT DETAILS

BRIDGE NO. GRE-71-0029
SR 72 OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL		(LBS.)		A	B	C	D	E	R	INC.
ABUTMENTS													
A501	1	1	2	36' - 3 "	76	STR							
A502	2	2	4	33' - 0 "	138	STR							
A503	28	28	56	4' - 1 "	238	2	1' - 5"	1' - 6"	1' - 5"				
A504	4	4	8	34' - 6 "	288	STR							
A505	56	56	112	3' - 5 "	399	1	10"	2' - 8"					
A506	4	4	8	11' - 10 "	99	STR							
A507	20	20	40	2' - 11 "	122	16	2' - 4"						
A508	4	4	8	4' - 8 "	39	STR							
A509	2	2	4	6' - 0 "	25	23	8"	2' - 9"	2' - 6"				
A510	16	16	32	13' - 0 "	434	STR							
A511	4	4	8	11' - 10 "	99	25	8' - 0"	2' - 5"	1' - 5"	1 1/2"	5"		
A601	2	2	4	5' - 4 "	32	STR							
A602	2	2	4	2' - 5 "	15	1	11"	1' - 8"					
A603	22	22	44	3'-5"	226	14	10 1/2"	1' - 3"	8 1/2"	6"	9"		
A604	28	28	56	2' - 6 "	210	STR							
A605	28	28	56	3' - 8 "	308	1	1' - 4"	2' - 6"					
A606	32	32	64	4' - 0 "	385	1	10"	3' - 4"					
A801	22	22	44	5' - 1 "	597	13	1' - 7"	1' - 5"	1' - 5"	1' - 7"			
	SUBTOTAL				3730								
PIERS													
P501			72	3' - 11 "	294	2	10"	2' - 6"	10"				
P502			12	30' - 9 "	385	STR							
P503			12	5' - 0 "	63	STR							
P504			156	3' - 4 "	542	1	10"	2' - 7"					
P505			12	8' - 0 "	100	24	2' - 4"	2' - 2"					
	SUBTOTAL				1384								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL		(LBS.)		A	B	C	D	E	R	INC.
DECK													
S401			108	37' - 0 "	2669	STR							
S402			550	30' - 0 "	11022	STR							
S403			54	43' - 0 "	1551	STR							
S501			1106	36' - 2 "	41720	STR							
			4	4' - 0"									
S502			SERIES	TO	793	STR							3' - 4"
			10	34' - 0"									
S503			4	36' - 6 "	152	STR							
S504			566	6' - 0 "	3542	23	8"	2' - 9"	2' - 6"			1 1/2"	
S505			558	30' - 0 "	17460	STR							
S506			50	34' - 2 "	1782	STR							
S507			12	43' - 2 "	540	STR							
S601			566	2' - 11 "	2480	14	10 1/2"	9"	8 1/2"	6"	9"		
S602			566	2' - 1 "	1771	1	11"	1' - 4"					
S603			18	30' - 0 "	811	STR							
S604			2	49' - 2 "	148	STR							
	SUBTOTAL				86441								
	TOTAL REINFORCING STEEL				91555								

NOTES

1) THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. 'R' INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

2) ALL REINFORCING STEEL SHALL BE EPOXY COATED. PAYMENT FOR REINFORCING BARS SHALL BE INCLUDED WITH ITEM 509.

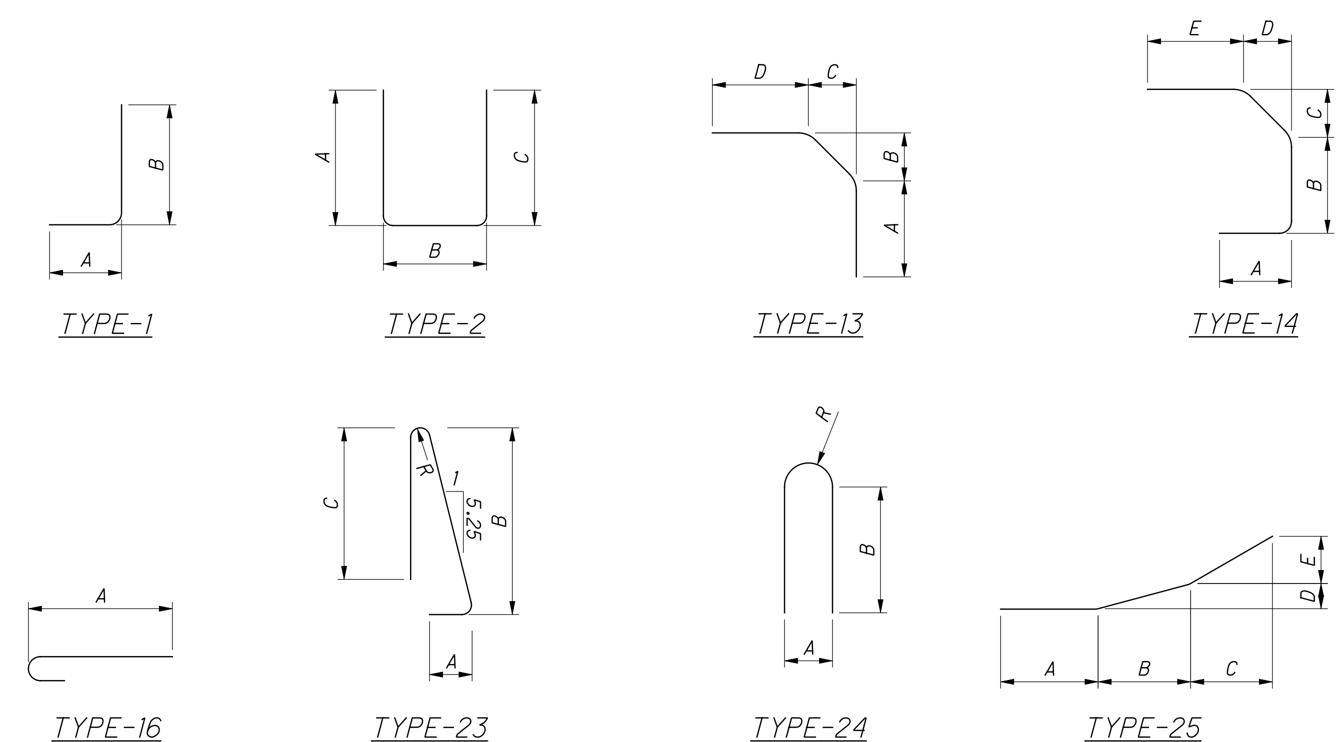
3) 'STR' IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4) HOOKS ND BENDS SHOWN ON THE BENDING DIAGRAMS THAT ARE NOT DIMENSIONED SHALL BE AS SPECIFIED IN THE C.M.S. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

5) ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.

6) FOR GENERAL NOTES, SEE SHEET 3 / 16 .

7) THE TOTAL REINFORCING STEEL IN THE APPROACH SLABS IS INCLUDED UNDER ITEM 526 REINFORCED CONCRETE, APPROACH SLABS (T=15"), AS PER PLAN, FOR PAYMENT



DESIGN AGENCY
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242
Palmer ENGINEERING
WINCHESTER ■ NASHVILLE ■ LOUISVILLE ■ CINCINNATI ■ HURRICANE

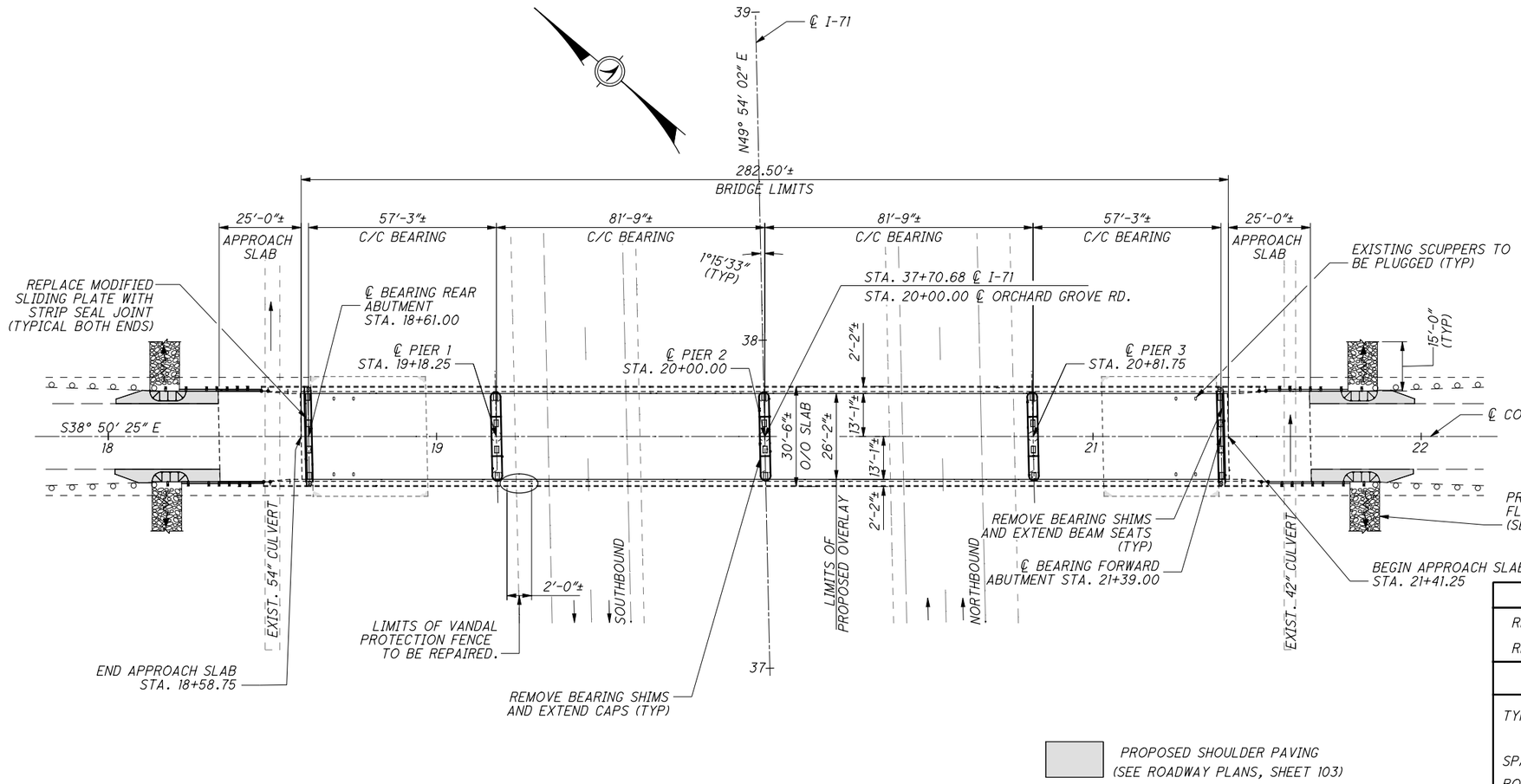
DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901838	

REINFORCING STEEL
BRIDGE NO. GRE-72-0029
SR 72 OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

16 / 16

198 / 218



PROPOSED SHOULDER PAVING
(SEE ROADWAY PLANS, SHEET 103)

GENERAL PLAN

PROPOSED WORK

1.) REMOVE THE EXISTING 2"± DECK OVERLAY AND 1" OF THE EXISTING DECK, USING HYDRODEMOLITION, AND REPLACE WITH A 3" MICROSILICA MODIFIED CONCRETE OVERLAY. PLUG EXISTING SCUPPERS WITH OVERLAY MATERIAL.
2.) REMOVE THE SHIMS UNDER THE EXISTING ABUTMENT BEARINGS AND CONSTRUCT NEW BEAM SEATS AT THE ABUTMENTS.
3.) REFURBISH THE EXISTING ABUTMENT BEARINGS (SEE PLAN NOTE).
4.) REPLACE THE SHIMS UNDER THE EXISTING BEARINGS AT THE PIERS WITH STEEL HP POSTS AND LOAD PLATES. CAST CAPS ONTO THE EXISTING PIER SEATS TO ENCASE THE NEW ASSEMBLIES IN CONCRETE.
5.) REPLACE PREVIOUSLY MODIFIED SLIDING PLATE JOINTS WITH STRIP SEAL EXPANSION JOINTS.
6.) CLEAN THE SURFACES OF THE SUBSTRUCTURE UNITS WITH SANDBLASTING AND APPLY EPOXY-URETHANE SEALER TO THE PARAPETS, ABUTMENTS, WINGWALLS AND PIERS.
7.) RESTORE THE APPROACH EMBANKMENTS ALONG THE ABUTMENT WINGWALLS (SEE SHEET 2 9) AND CONSTRUCT 15' LONG DRAINAGE FLUMES COMPRISED OF TYPE D ROCK ON EXCELSIOR MATTING ON THE BOTH EMBANKMENTS AT THE ENDS OF THE APPROACH SLABS.
8.) INSTALL NEW VANDAL PROTECTION FENCE CLOSURE PLATES AND REPLACE HARDWARE.
9.) REMOVE AND REPLACE A DAMAGED SECTION (2 SQ FT) OF THE VANDAL PROTECTION FENCE FABRIC.
10.) PROPOSED WORK WILL BE DONE UNDER A CLOSURE OF ORCHARD GROVE ROAD. SEE MAINTENANCE OF TRAFFIC SHEETS FOR CLOSURE DETAILS AND DURATION.
11.) MAINTAIN EXISTING VERTICAL CLEARANCES.

VERTICAL CLEARANCES

EXISTING AND PROPOSED = 16'-5"± (MINIMUM)

FIRST POST LOCATIONS

REAR LEFT STA. 18+42.41	FORWARD LEFT STA. 21+56.92
REAR RIGHT STA. 18+43.08	FORWARD RIGHT STA. 21+57.59

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS WITH NONCOMPOSITE CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURE
SPANS: 57'-3"±, 81'-9"±, 81'-9"±, 57'-3"± C/C BEARINGS
ROADWAY: 26'-2" TOE/TOE PARAPETS
LOADING: CF-130 (57)
SKEW: 1°-15'-33" RF
APPROACH SLABS: 25' LONG
ALIGNMENT: TANGENT
CROWN: NORMAL CROWN
STRUCTURAL FILE NUMBER: 2901714
DATE BUILT: 1964
DISPOSITION: GOOD
WEARING SURFACE: 2"± SUPERPLASTICIZED DENSE CONCRETE OVERLAY

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS WITH NONCOMPOSITE CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURE
SPANS: 57'-3"±, 81'-9"±, 81'-9"±, 57'-3"± C/C BEARINGS
ROADWAY: 26'-2" TOE/TOE PARAPETS
LOADING: CF-130 (57)
SKEW: 1°-15'-33" RF
APPROACH SLABS: TO REMAIN
ALIGNMENT: TANGENT
CROWN: .0156 FT/FT
WEARING SURFACE: NEW 3"± MICROSILICA MODIFIED CONCRETE OVERLAY
COORDINATES: LATITUDE 39° 33' 59" N
LONGITUDE 83° 42' 18" W

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING 1300 CONNELL PARK DR VANDALIA, OHIO 45377

DESIGNED	DRAWN	REVIEWED	DATE
CEJ	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901714	

GENERAL PLAN
BRIDGE NO. GRE-71-0150
T57 (ORCHARD GROVE ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

1 / 9

199
218

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REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-4-87 DATED/REVISED 7-19-02
VPF-1-90 DATED/REVISED 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

848 DATED 10-16-09

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION , AND THE ODOT 2004 BRIDGE DESIGN MANUAL.

DESIGN STRESSES

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL - ASTM A709 , GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD:
2½" RIGID MICRO-SILICA MODIFIED CONCRETE OVERLAY

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH [25 MM] DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

EXISTING STRUCTURE VERIFICATION:
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ITEM 516 - REFURBISHING BEARING DEVICE, AS PER PLAN:
THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE ABUTMENT BEARINGS AS WELL AS THEIR CLEANING, REPAIR AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60° F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER AND DIRECTED BY THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICE, AS PER PLAN.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN
THIS WORK CONSISTS OF TEMPORARILY RAISING THE EXISTING BEAMS TO ALLOW CONSTRUCTION OF PROPOSED CONCRETE SUBSTRUCTURE CAPS AND INSTALLATION OF PROPOSED PIER BEARING ASSEMBLIES.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY

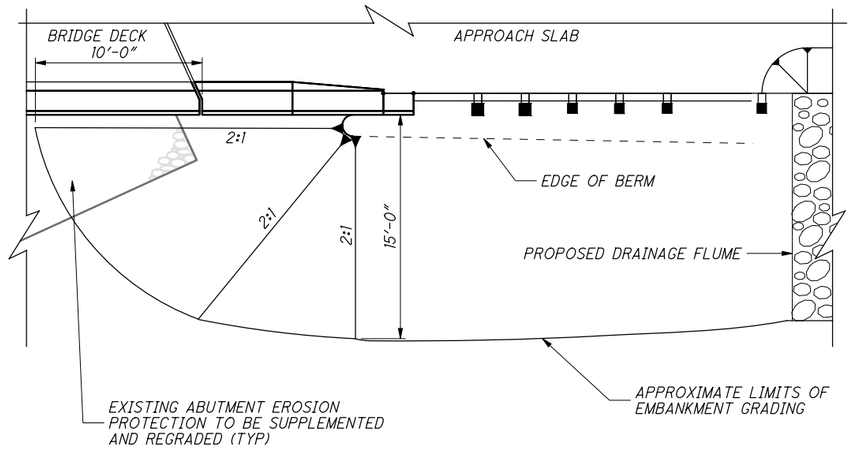
ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN:
THIS WORK CONSISTS OF REHABILITATING THE EXISTING SLIDING PLATE JOINT TO AN ELASTOMERIC STRIP SEAL TYPE JOINT. IT ALSO INCLUDES THE HORIZONTAL EXTENSION OF THE EXPANSION JOINT INTO THE REFACED PARAPET. PAYMENT FOR THE DESCRIBED LABOR AND MATERIALS INCLUDING CONCRETE REMOVAL AND PATCHING, ANGLES, PLATES, BARS, SHEAR STUDS AND WELDING WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

ITEM 516 - BEARING DEVICE, ROCKER, AS PER PLAN
THIS ITEM SHALL INCLUDE COMPLETE REPLACEMENT OF AN ABUTMENT ROCKER BEARING AS DIRECTED BY THE ENGINEER. THE ROCKERS SHALL BE CONSTRUCTED PER STANDARD DRAWING RB-1-55 AND OF THE SAME CAPACITY OF THE EXISTING ROCKERS. INCLUDED IN THIS ITEM SHALL BE THE DISASSEMBLY AND REMOVAL OF THE EXISTING BEARING, REPLACEMENT OF THE UPPER PLATE, ROCKER, LOWER PLATE, STEEL SHIM, AND PREFORMED BEARING PADS (711.21). ONLY ONE STEEL SHIM PLATE AND ONE PREFORMED BEARING PAD WILL BE ALLOWED TO OBTAIN THE PROPER FIT-UP. BOTH SHALL BE OF THE SAME PLAN AREAS AS THE MASONRY PLATE AND THE SHIM PLATE SHALL BE FULLY WELDED AROUND THE PERIMETER TO THE LOWER PLATE. THE BEARINGS SHALL BE VERTICALLY ALIGNED AT 60 DEGREES FAHRENHEIT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THOROUGH FIELD MEASUREMENTS AND ADJUSTING AS REQUIRED TO ENSURE ALL BEARING SURFACES ARE IN FULL CONTACT. ADJUSTMENTS REQUIRED TO ACHIEVE FULL BEARINGS SHALL NOT CAUSE OTHER BEARINGS TO "FLOAT".

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:
PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING. LOCATIONS OF AREAS THAT REQUIRE MATCHING ARE NOT INCLUDED IN THE PLANS. ACTUAL PATCHING LOCATIONS SHALL BE VERIFIED AT THE TIME OF CONSTRUCTION. A CONTINGENCY QUANTITY OF 50 SQ FT IS INCLUDED IN THE SUMMARY TO BE USED AT THE DIRECTION OF THE ENGINEER. THIS QUANTITY IS IN ADDITION TO THE AREAS OF PATCHING ON THE ABUTMENTS AND PIER SHOWN IN THE PLANS.

ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN
PROVIDE SLOPE PROTECTION SIMILAR IN TYPE AND SIZE TO THE EXISTING. REGRADE THE EXISTING SLOPE PROTECTION TO A 2:1 SLOPE IN AN AREA BOUNDED BY A LINE DRAWN PERPENDICULAR TO THE CENTERLINE OF ORCHARD GROVE ROAD 10 FEET FROM THE FACE OF THE ABUTMENT AT THE CENTERLINE AND 3 FEET OUTSIDE OF BOTH EDGES OF THE BRIDGE DECK. SUPPLEMENT THE SLOPE PROTECTION AS NECESSARY TO MEET THE DETAIL SHOWN ON SHEET 4/9. AN ESTIMATED QUANTITY OF 16 CUBIC YARDS OF SLOPE PROTECTION SHOULD BE USED FOR BIDDING PURPOSES. PAYMENT FOR THIS WORK WILL BE ON A SQUARE YARD BASIS AND INCLUDES ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED TO COMPLETE THE WORK DESCRIBED HEREIN. THIS ITEM SHALL ALSO INCLUDE GRADING OF THE APPROACH EMBANKMENTS TO CONFORM TO THE DETAIL ON THIS SHEET.

ITEM SPECIAL- VANDAL PROTECTION FENCE REMOVED AND REBUILT
THIS ITEM SHALL INCLUDE INSTALLATION OF STAINLESS STEEL CLOSURE PLATE TO CLOSE THE GAP AT THE BOTTOM OF THE EXISTING VANDAL PROTECTION FENCE BETWEEN THE BOTTOM RAIL AND THE TOP OF THE PARAPET. INSTALLATION PROCEDURES ARE TO FOLLOW STANDARD DRAWINGS BPF-1-90. THE CONTRACTOR SHALL DETERMINE THE VERTICAL LEG DIMENSION OF THE CLOSURE PLATE REQUIRED TO CLOSE THE EXISTING GAP. THE CONTRACTOR SHALL ALSO LOCATE THE ½" DIAMETER HOLES IN THE PLATE TO ALLOW FOR PROPER INSTALLATION OF THE FABRIC TIES. THIS ITEM SHALL ALSO INCLUDE REPLACEMENT OF THE EXISTING ¾" NUTS AND WASHERS WITH NEW HARDWARE MEETING THE REQUIREMENTS OF VPF-1-90. THIS ITEM SHALL ALSO INCLUDE REPAIR OF A DAMAGED 2' X 2' SECTION OF FENCING AT THE LOCATION SHOWN ON THE GENERAL PLAN. PAYMENT FOR THIS ITEM WILL BE ON A LINEAR FEET BASIS AND WILL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK DESCRIBED HEREIN.



DETAIL FOR ITEM 601

DESIGN AGENCY
PALMER ENGINEERING
11100 CONNELL PARK DR
LOUISVILLE, KENTUCKY 40299

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901714	

GENERAL NOTES
BRIDGE NO. GRE-71-0150
T57 (ORCHARD GROVE ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

2 / 9

200
218

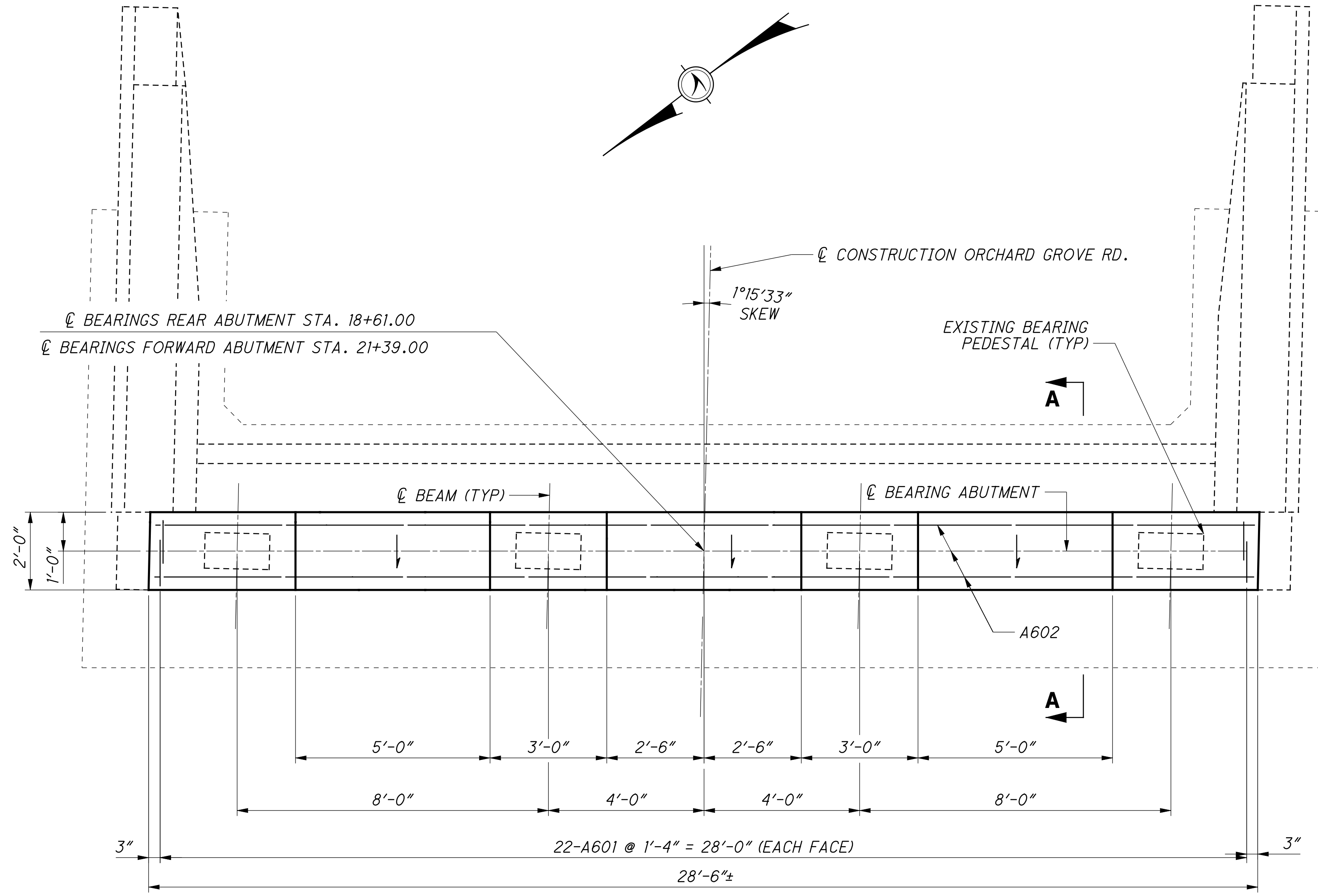
ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER STRUCT.	GENERAL	SHEET REF.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					2
509	10000	1536	POUND	EPOXY COATED REINFORCING STEEL	593	943			
510	10000	214	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	88	126			
511	42500	6	CU YD	CLASS C CONCRETE, PIER CAP		6			
511	44100	3	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	3				
512	10100	1133	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	143	268	722		
516	11211	61	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			61		2
516	31000	57	FT	JOINT SEALER	57				
516	45305	8	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	8				2
516	46001	4	EACH	BEARING DEVICE, BOLSTER, AS PER PLAN		4			6
516	46201	8	EACH	BEARING DEVICE, ROCKER, AS PER PLAN		8			5
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					2
519	11101	50	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN				50	2
601	20001	91	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN				91	2
SPECIAL	60740300	556	FT	SPECIAL - VANDAL PROTECTION FENCE, REMOVED AND REBUILT			556		
848	10000	813	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2.75" NOMINAL THICKNESS)			813		
848	20000	813	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION			813		
848	30000	56	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			56		
848	50000	81	SQ YD	HAND CHIPPING			81		
848	50100	LUMP		TEST SLAB					
848	50200	5	CU YD	FULL-DEPTH REPAIR			5		
848	50320	813	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (2.75" NOMINAL THICKNESS)			813		
848	50340	81	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY			81		

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
1050 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED JPR | DRAWN SDW | REVIEWED BJF | DATE 1/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 2901714

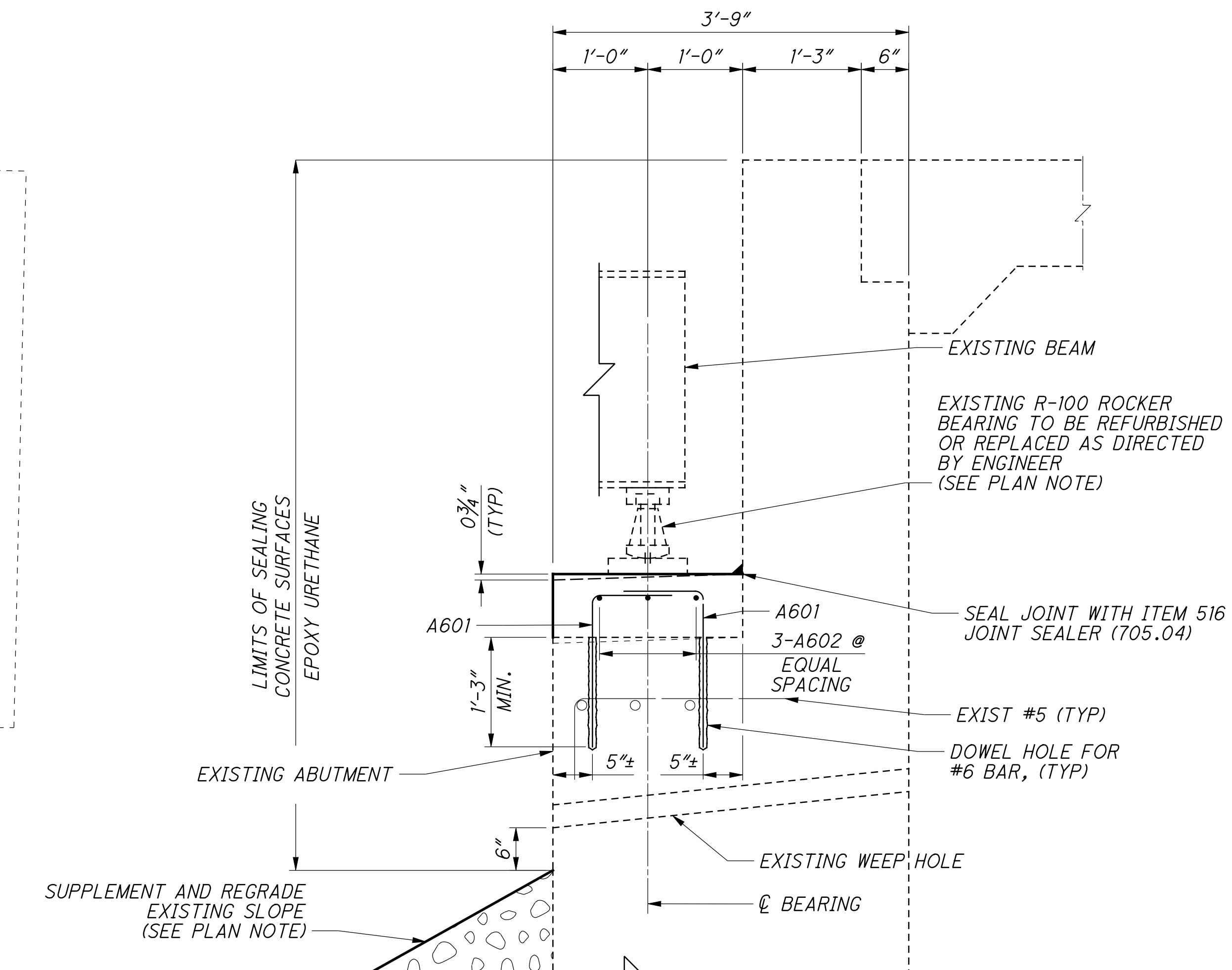
GENERAL SUMMARY
BRIDGE NO. GRE-71-0150
T57 (ORCHARD GROVE ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

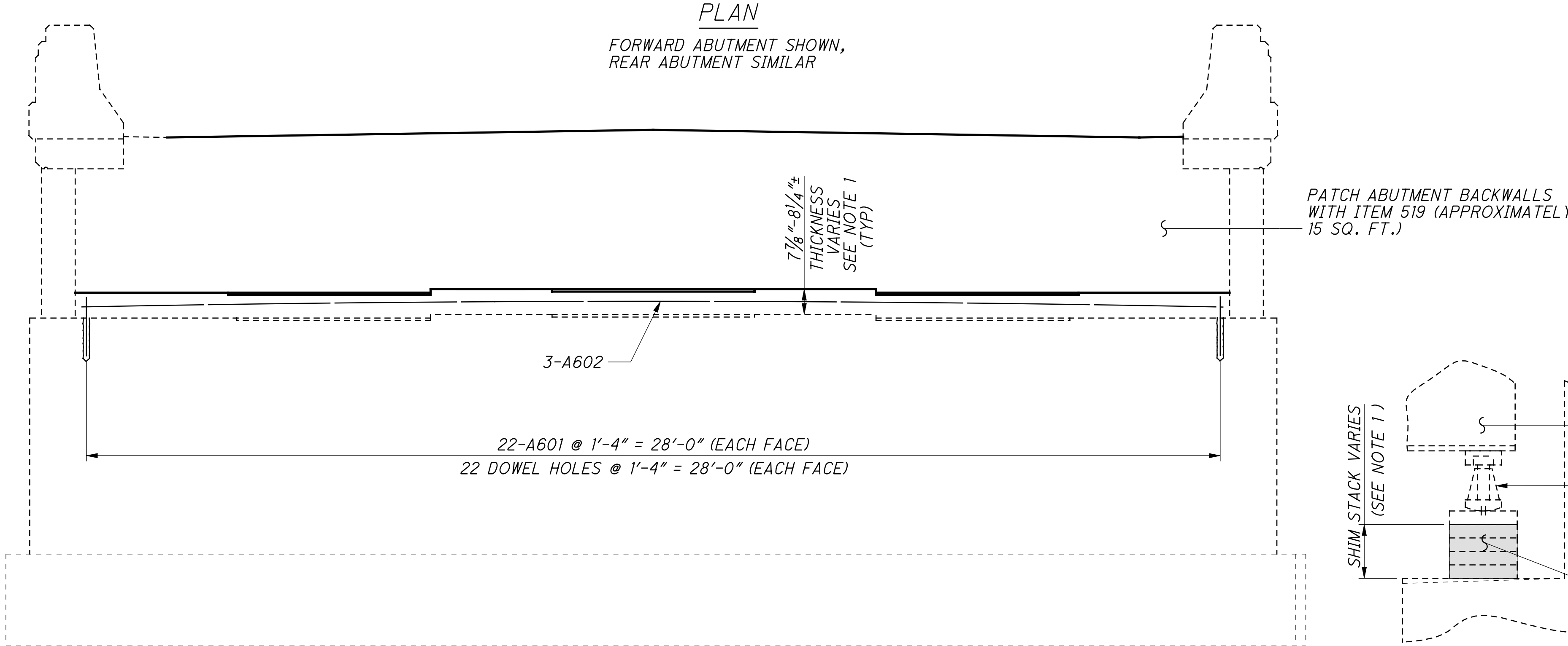


PLAN

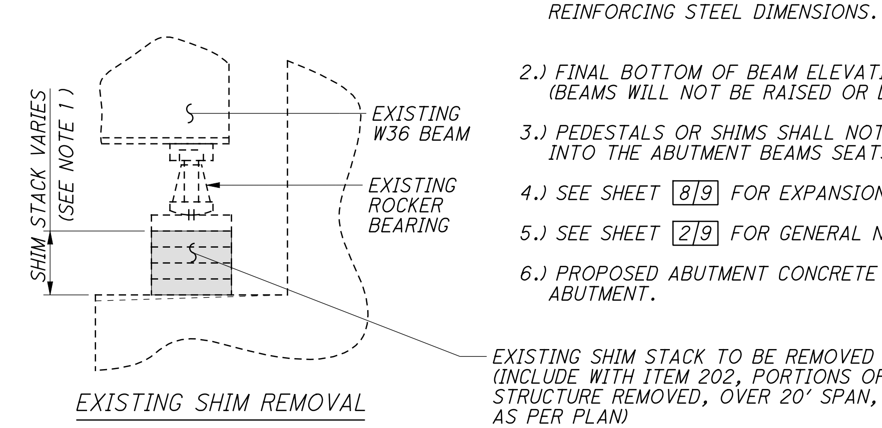
FORWARD ABUTMENT SHOWN, REAR ABUTMENT SIMILAR



SECTION A-A



ELEVATION OF ABUTMENT



EXISTING SHIM REMOVAL

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED ABUTMENT CAP EXTENSION SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 7.5" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).

3.) PEDESTALS OR SHIMS SHALL NOT BE ALLOWED TO BE CAST INTO THE ABUTMENT BEAMS SEATS.

4.) SEE SHEET 8/9 FOR EXPANSION JOINT DETAILS.

5.) SEE SHEET 2/9 FOR GENERAL NOTES.

6.) PROPOSED ABUTMENT CONCRETE SHALL BE CLASS C CONCRETE, ABUTMENT.

DESIGN AGENCY: Palmer ENGINEERING, 1300 CORNELL PARK DR, CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901714	

ABUTMENT MODIFICATION DETAILS

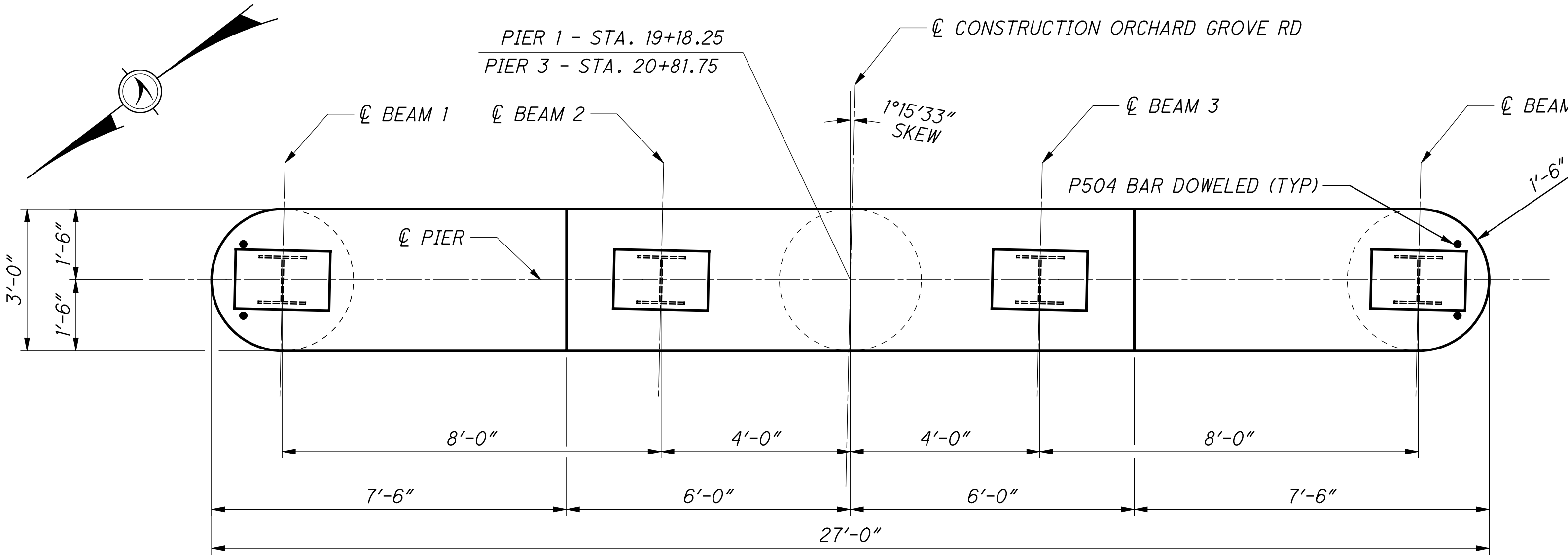
BRIDGE NO. GRE-71-0150

T57 (ORCHARD GROVE ROAD) OVER I-71

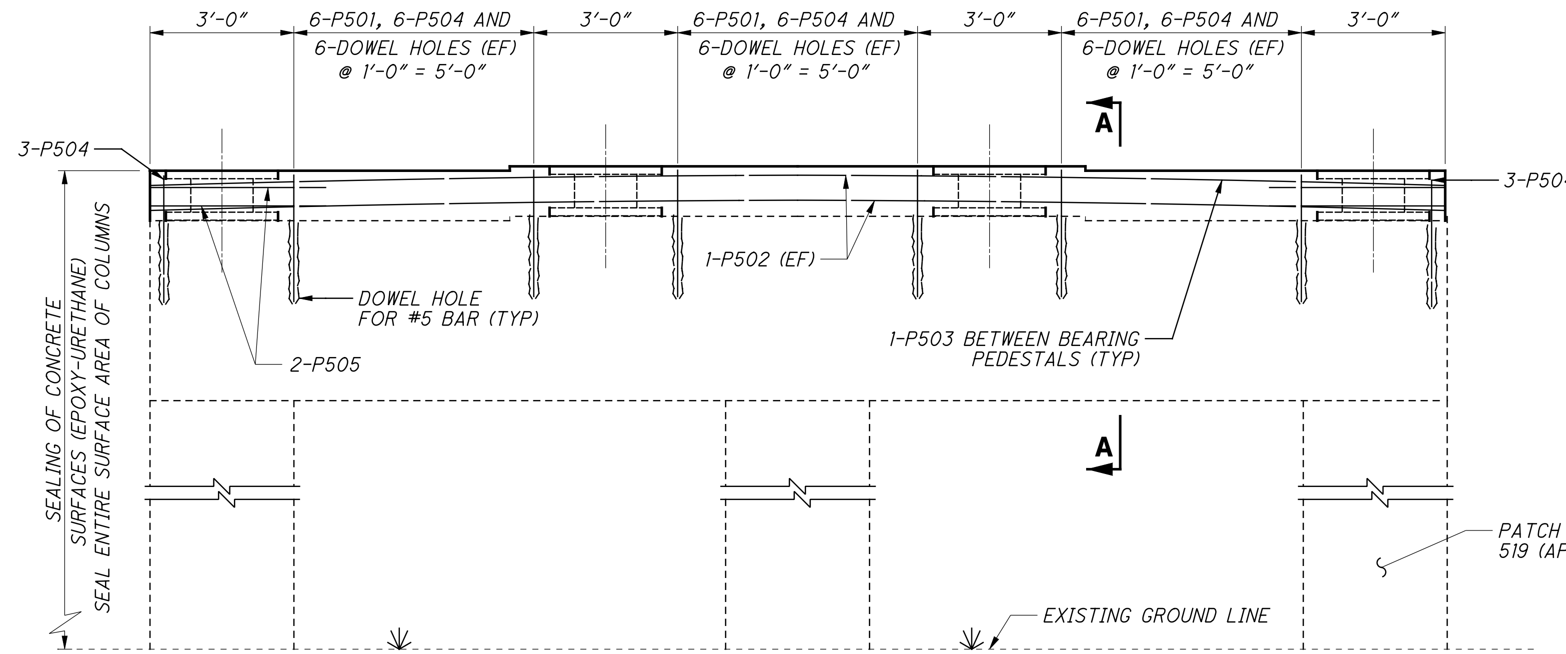
CLI/GRE-71-7.26/0.00

PID No. 75745

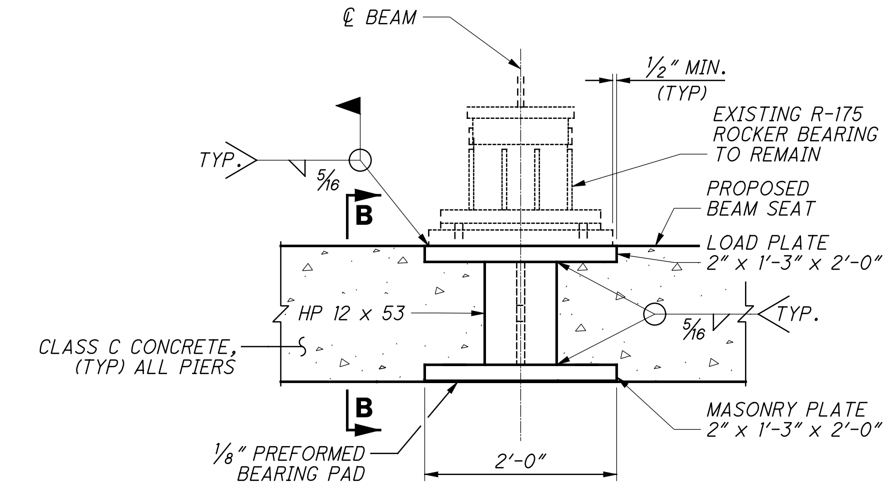
O:\ODOT\CLI\75745\bridge\GRE071_0150C\sheets\071_0150AB001.dgn 2/25/2010 2:33:25 PM dan-f



PLAN

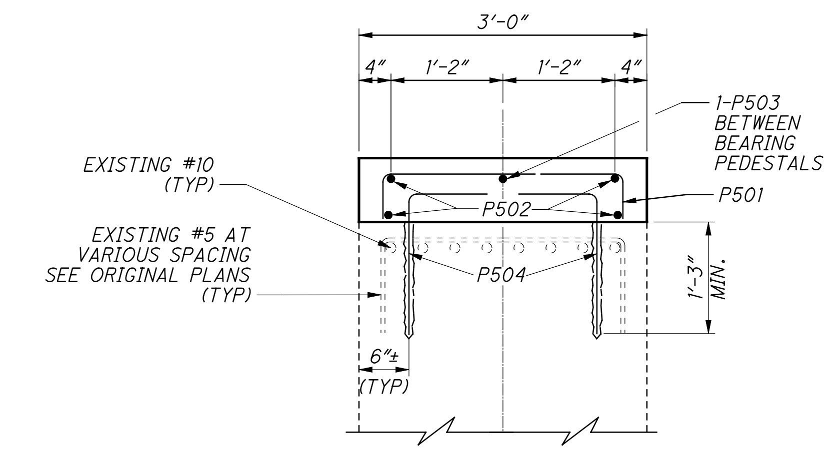


ELEVATION

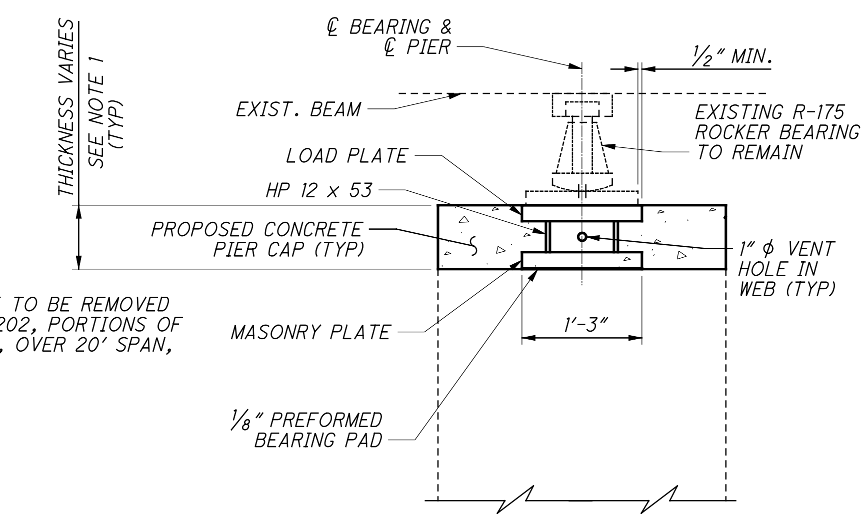


BEARING MODIFICATIONS AT PIERS 1 & 3

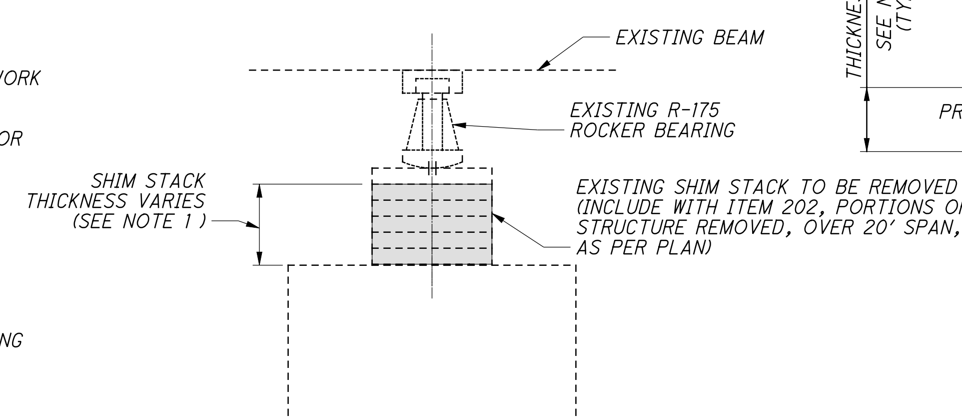
(VIEW NOT TO SCALE)



SECTION A-A



SECTION B-B



EXISTING BEARING CONFIGURATION

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED PIER CAP AND HP SECTIONS SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 8" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, BEARING DEVICE ROCKER, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

4.) LAP SPLICE LENGTH: #5 BARS = 26 INCHES.

5.) HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

6.) THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

7.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).

DESIGN AGENCY: PALMER ENGINEERING, 1500 CORNELL PARK DR, CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901714	

PIER MODIFICATION PLAN FOR PIERS 1 AND 3

BRIDGE NO. GRE-71-0150

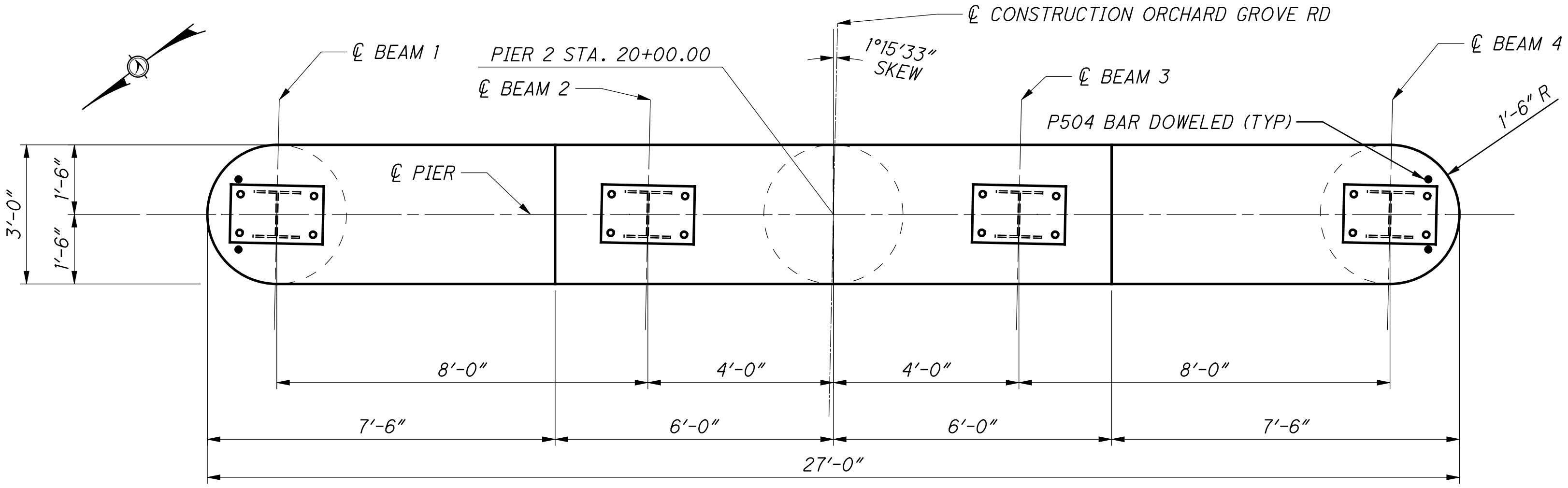
T57 (ORCHARD GROVE ROAD) OVER I-71

CLI/GRE-71-7.26/0.00

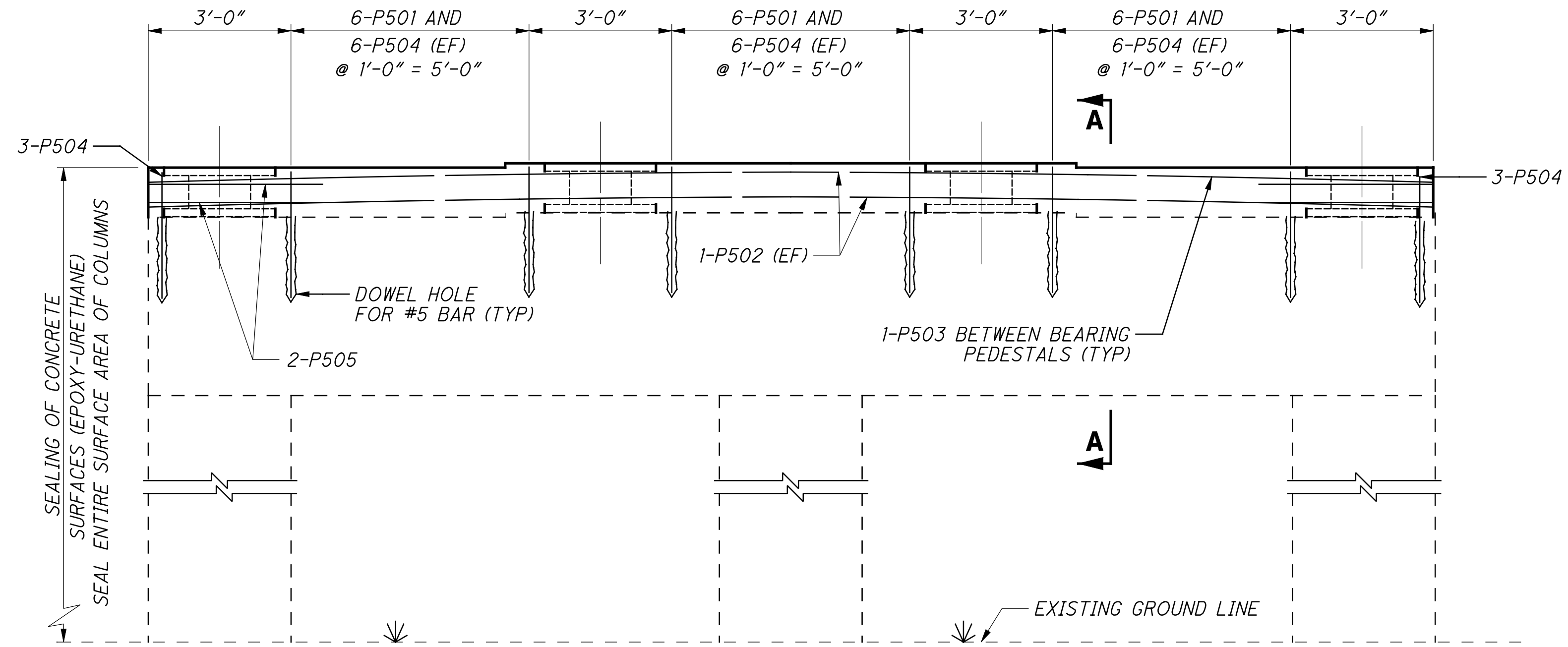
PID No. 75745

5/9

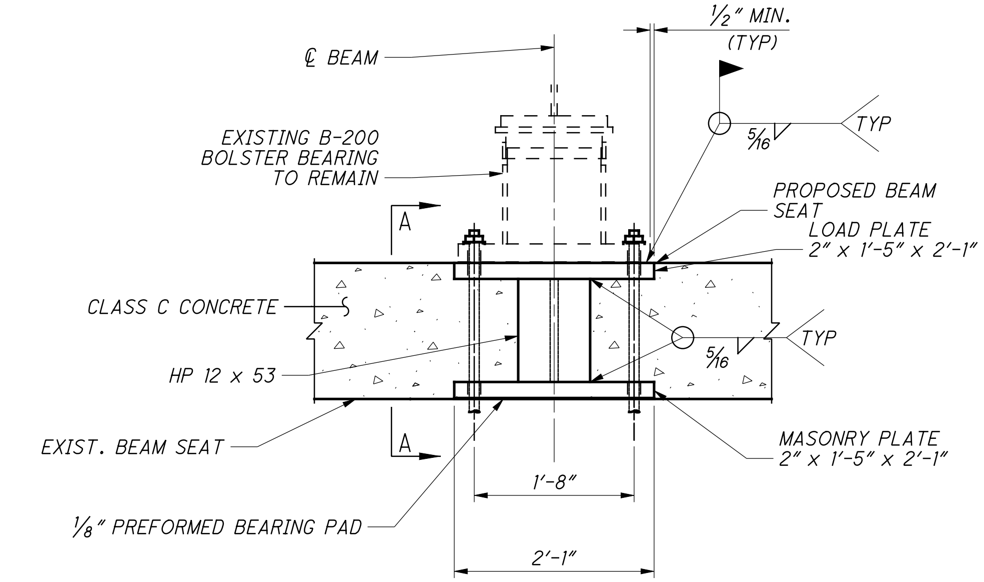
0:\ODOT\CLI\75745\bridge\GRE071_0150C\sheets\071_0150P1001.dgn 2/25/2010 2:33:30 PM dan-f



PLAN

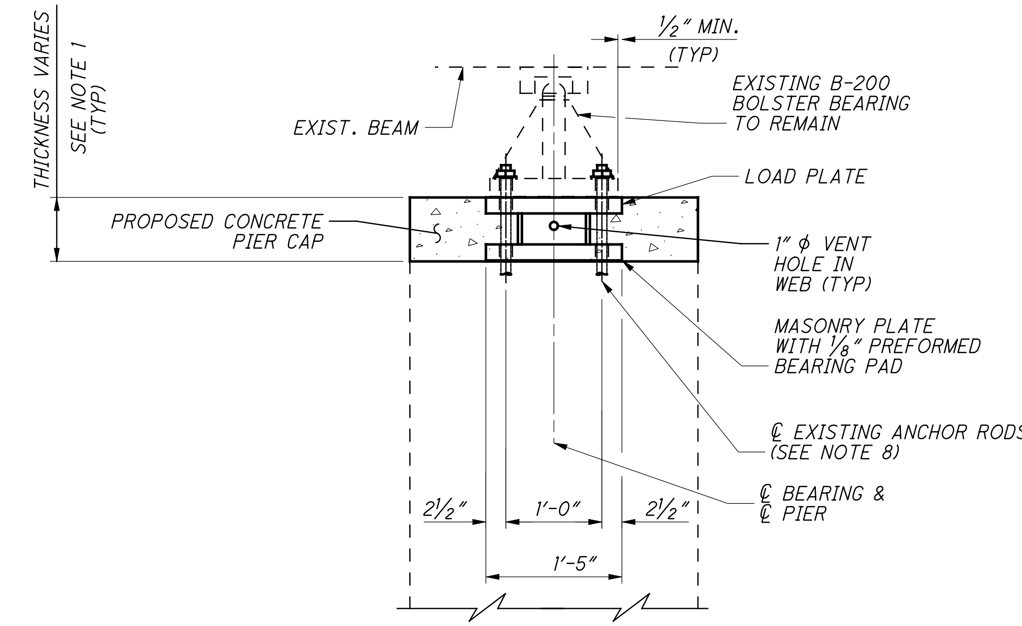


ELEVATION



BEARING MODIFICATIONS AT PIER 2

(VIEW NOT TO SCALE)



SECTION A-A

NOTES:

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED PIER CAP AND HP SECTIONS SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 8" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS, ANCHOR RODS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, BEARING DEVICE BOLSTER, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

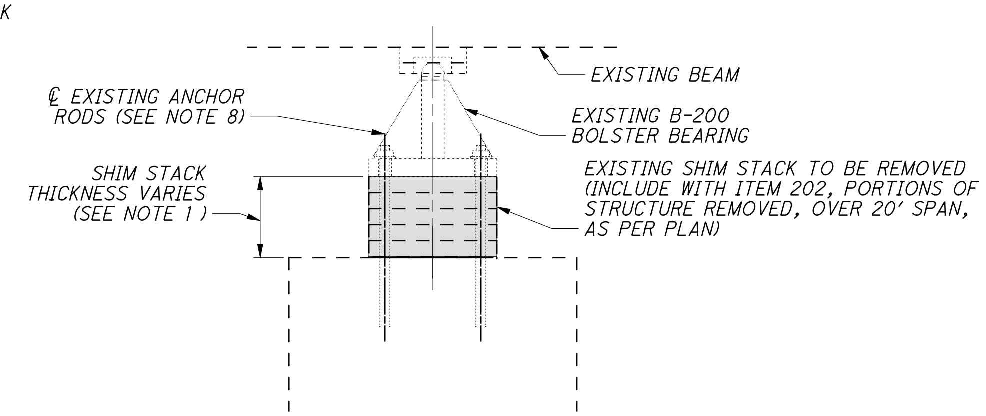
4.) LAP SPLICE LENGTH: #5 BARS = 26 INCHES.

5.) HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

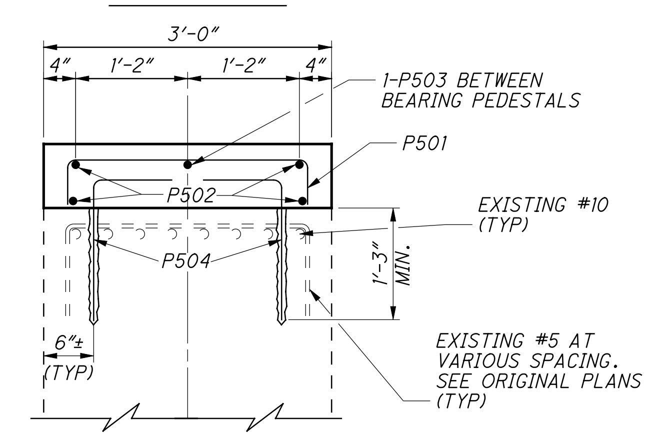
6.) THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

7.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).

8.) EXISTING ANCHOR RODS ARE TO REMAIN AND BE USED TO ANCHOR NEW BEARING AND PEDESTAL ASSEMBLY. IF NECESSARY, THE CONTRACTOR MAY CUT EXISTING ANCHOR RODS TO FACILITATE CONSTRUCTION. NEW ANCHOR RODS CAN THEN BE WELDED TO THE EXISTING ANCHOR RODS TO COMPLETE THE ASSEMBLY.



EXISTING BEARING CONFIGURATION



SECTION B-B

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901714	

PIER MODIFICATION PLAN FOR PIER 2

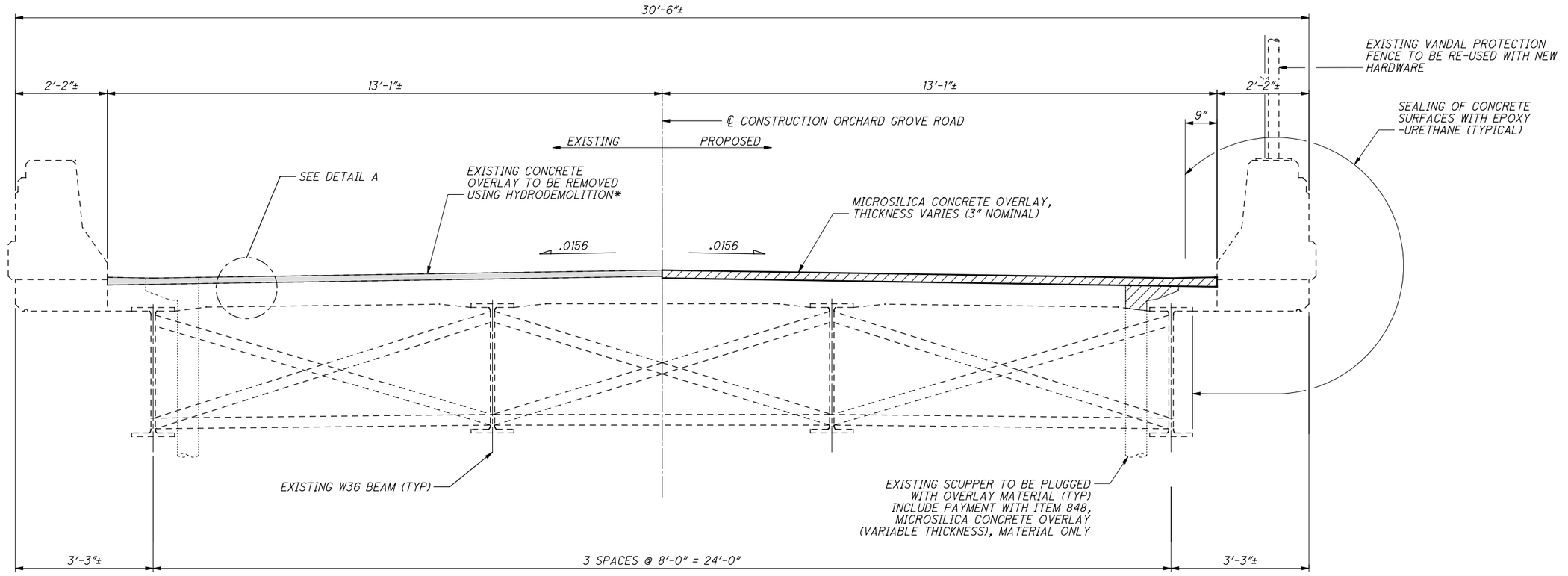
BRIDGE NO. GRE-71-0150

T57 (ORCHARD GROVE ROAD) OVER I-71

CLI/GRE-71-7.26/0.00

PID No. 75745

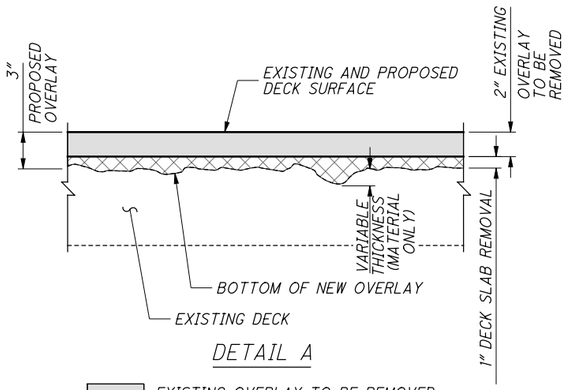
6 / 9



TRANSVERSE SECTION

* DEPTH OF HYDRODEMOLITION WILL BE 3", INCLUDING 2" OF EXISTING OVERLAY AND 1" OF EXISTING CONCRETE DECK

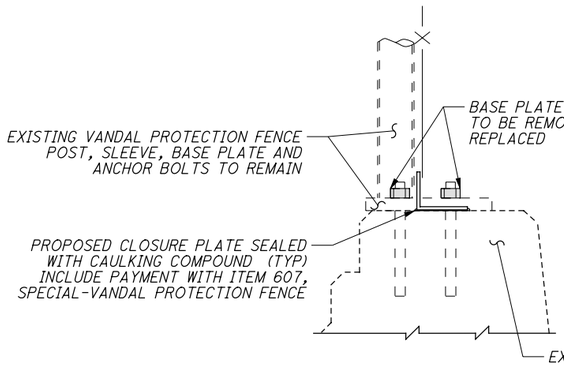
REMOVAL OF EXISTING RIGID CONCRETE OVERLAY, REFER TO SUPPLEMENTAL SPECIFICATION 848.



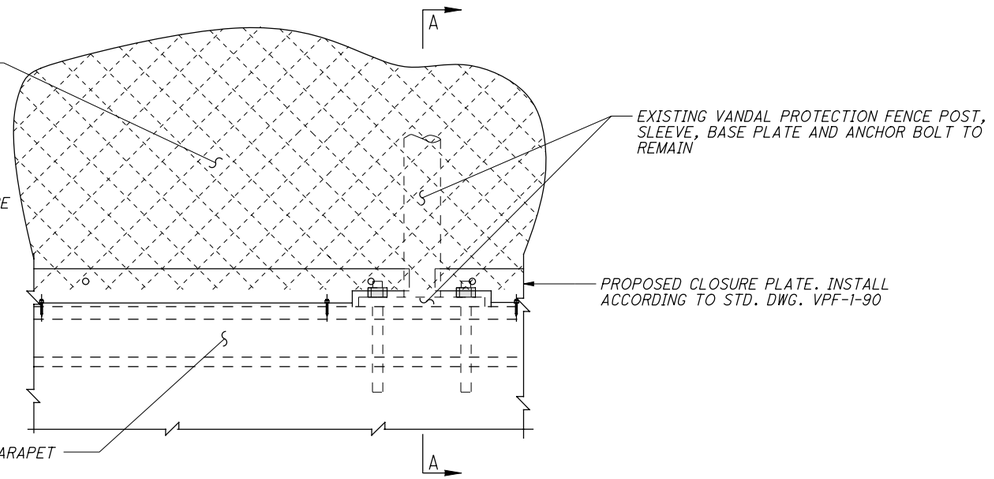
DETAIL A

EXISTING OVERLAY TO BE REMOVED USING HYDRODEMOLITION

PORTION OF EXISTING DECK AND VARIABLE THICKNESS TO BE REMOVED USING HYDRODEMOLITION



SECTION A-A



CLOSURE PLATE INSTALLATION DETAIL

SEE STANDARD DRAWING VPF-1-90 FOR ADDITIONAL DETAILS

DESIGN AGENCY
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901714	

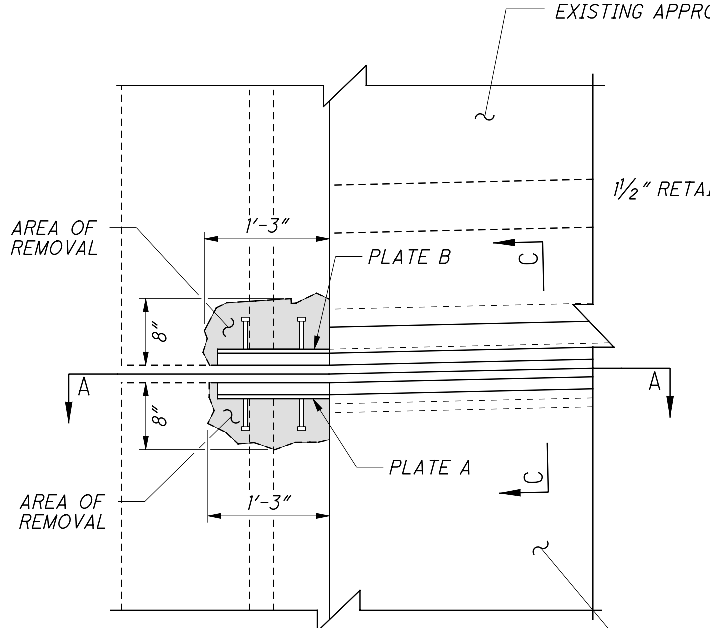
TRANSVERSE SECTION

BRIDGE NO. GRE-71-0150
T57 (ORCHARD GROVE ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

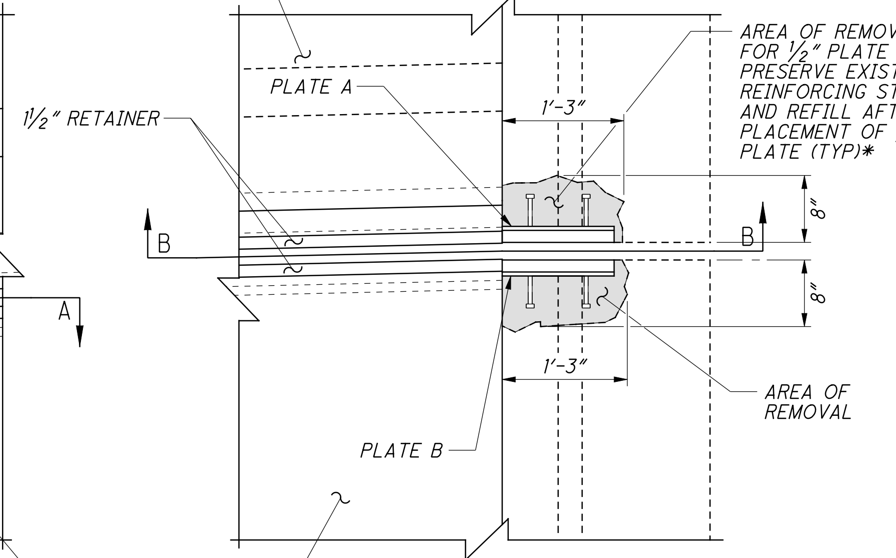
7 / 9

205
218



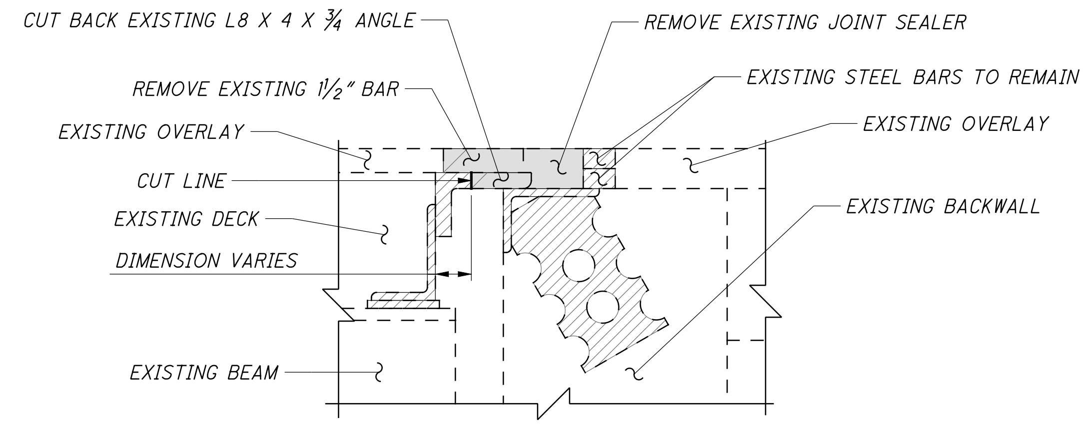
EXPANSION JOINT PLAN

(LEFT FORWARD ABUTMENT SHOWN RIGHT REAR ABUTMENT SIMILAR)



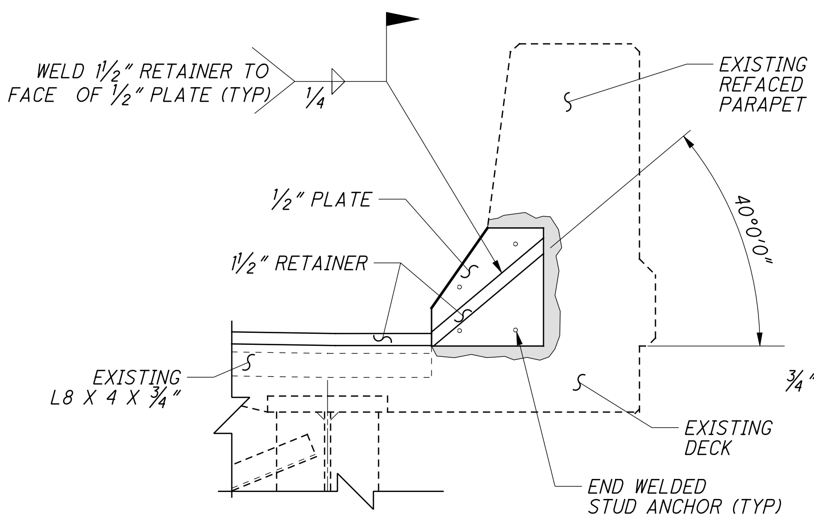
EXPANSION JOINT PLAN

(RIGHT FORWARD ABUTMENT SHOWN LEFT REAR ABUTMENT SIMILAR)

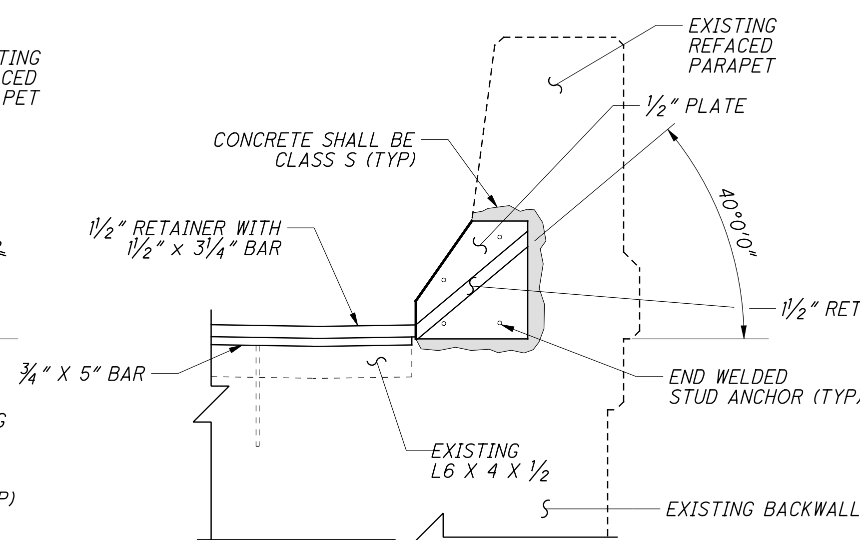


TYPICAL EXPANSION JOINT REMOVAL DETAIL

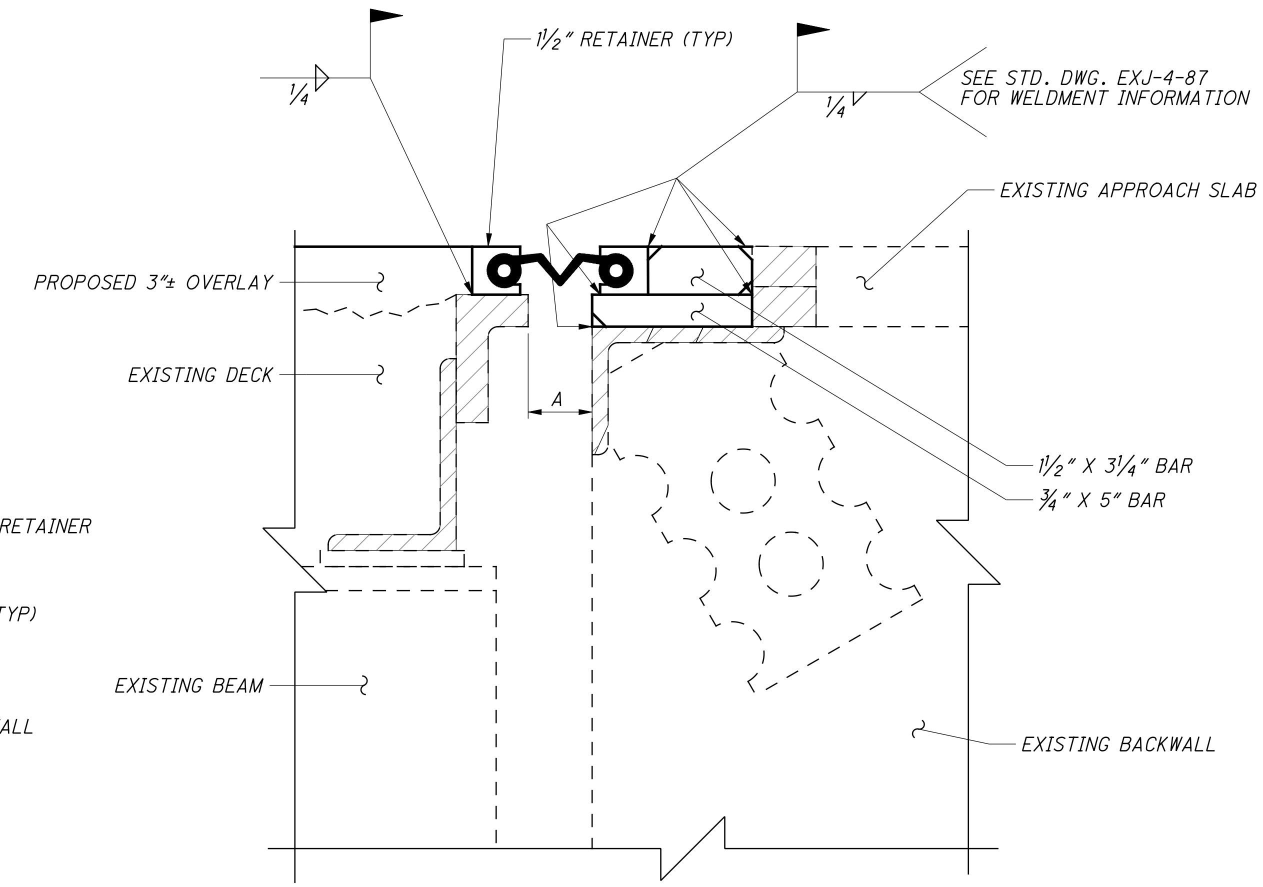
SEE NOTES THIS SHEET



VIEW A-A



VIEW B-B



SECTION C-C

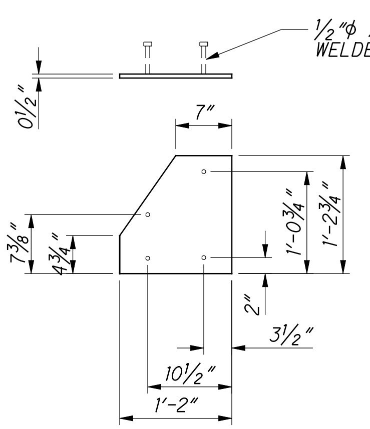


PLATE A

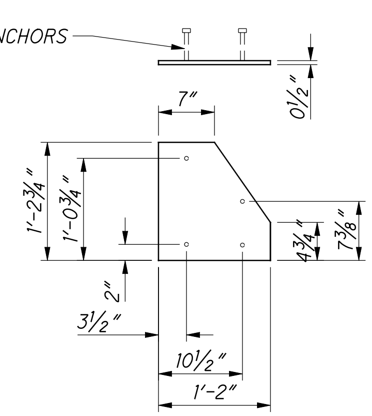


PLATE B

NOTES

1.) INCLUDE EXISTING JOINT REMOVALS WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

2.) NEW STEEL BARS SHALL BE ASTM A709 GRADE 50 AND SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

3.) CLASS S CONCRETE IS INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

4.) COSTS ASSOCIATED WITH CONNECTION RETAINERS AT THE CROWN, INCLUDING COMPLETE PENETRATION WELDS AND GRINDING SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

5.) SEE STD. DWG. EXJ-4-87 FOR ADDITIONAL NOTES.

6.) SEE SHEET 2/9 FOR GENERAL NOTES.

DIMENSION "A"
2⅜" @ 30°
2¼" @ 40°
2¼" @ 50°
2⅛" @ 60°
2" @ 70°
1⅞" @ 80°
1¾" @ 90°

PORTIONS OF STRUCTURE TO BE REMOVED*

*PAYMENT FOR REMOVAL AND PATCHING OF CONCRETE INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

EXISTING EXPANSION JOINT STEEL TO REMAIN

DESIGN AGENCY: Palmer ENGINEERING, 1500 CORNELL PARK DR, CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED MLJ	REVISED	STRUCTURE FILE NUMBER 2901714	

EXPANSION JOINT MODIFICATION DETAILS

BRIDGE NO. GRE-71-0150

T57 (ORCHARD GROVE ROAD) OVER I-71

CLI/GRE-71-7.26/0.00

PID No. 75745

8/9

O:\ODOT\CLI\75745\bridge\GRE071_0150C\sheets\071_0150EX001.dgn 2/25/2010 2:33:43 PM dan-f

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL		(LBS.)		A	B	C	D	E	R	INC.
PIERS													
P501			54	3' - 3 "	183	2	6"	2' - 6"	6"				
P502			12	24' - 0 "	300	STR							
P503			9	5' - 0 "	47	STR							
P504			120	2' - 6 "	313	1	10"	1' - 9"					
P505			12	8' - 0 "	100	24	2' - 4"	2' - 2"					
SUBTOTAL					943								
ABUTMENTS													
A601	44	44	88	2' - 7 "	341	1	1' - 0"	1' - 9"					
A602	3	3	6	28' - 0 "	252	STR							
SUBTOTAL					593								
TOTAL REINFORCING STEEL					1536								

NOTES

1) THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. 'R' INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

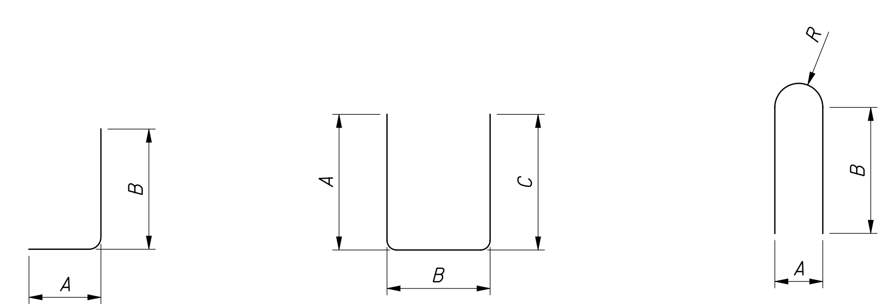
2) ALL REINFORCING STEEL SHALL BE EPOXY COATED. PAYMENT FOR REINFORCING BARS SHALL BE INCLUDED WITH ITEM 509.

3) 'STR' IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

4) HOOKS AND BENDS SHOWN ON THE BENDING DIAGRAMS THAT ARE NOT DIMENSIONED SHALL BE AS SPECIFIED IN THE C.M.S. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

5) ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.

6) FOR GENERAL NOTES, SEE SHEET 2 / 9 .



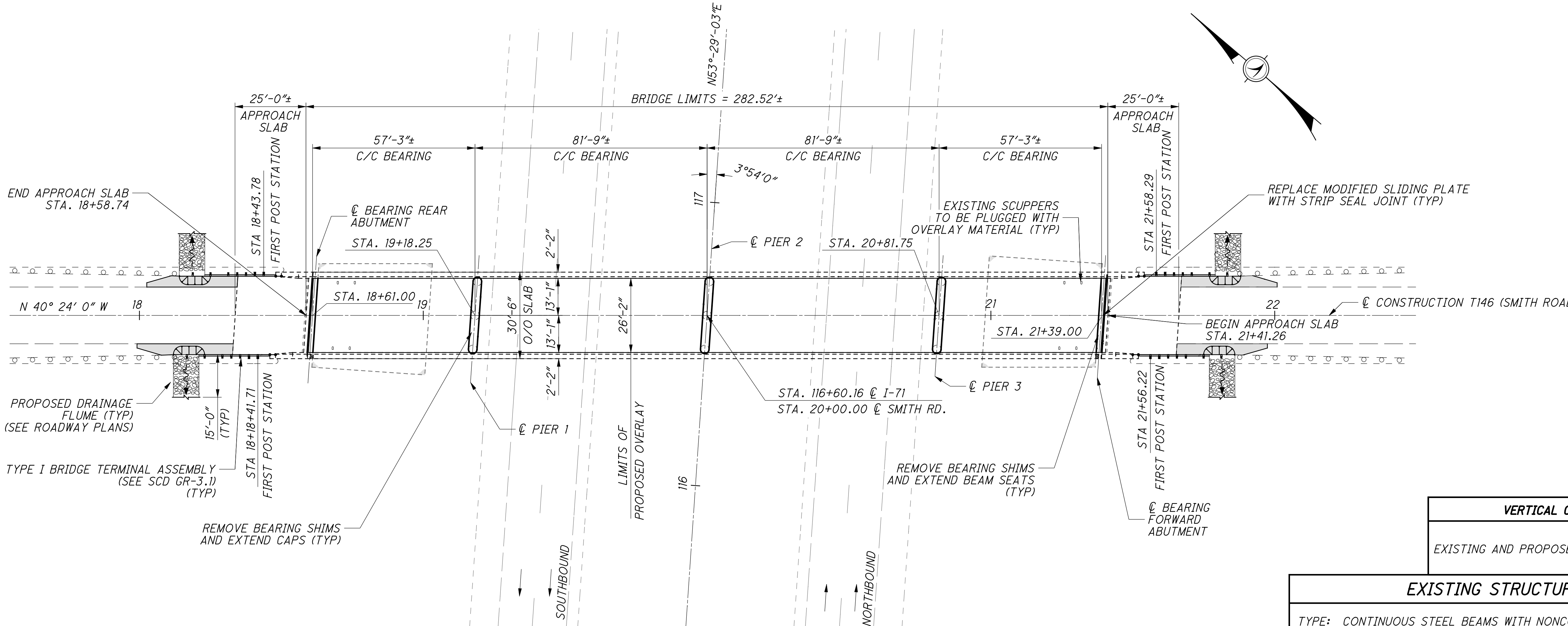
TYPE-1 TYPE-2 TYPE-24

DESIGN AGENCY
PALMER ENGINEERING
1550 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901714	

REINFORCEMENT STEEL LIST
BRIDGE NO. GRE-71-0150
T57 (ORCHARD GROVE ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745



GENERAL PLAN

PROPOSED SHOULDER PAVING
(SEE ROADWAY PLANS, SHEET 103)

VERTICAL CLEARANCES
EXISTING AND PROPOSED = 16'-4"± (MINIMUM)

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS WITH NONCOMPOSITE CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURE
SPANS: 57'-3"±, 81'-9"±, 81'-9"±, 57'-3"±, C/C BEARINGS
ROADWAY: 26'-2" TOE TO TOE PARAPET
LOADING: CF-130 (57)
SKEW: 3°-54'-00" LF
APPROACH SLABS: 25' LONG
ALIGNMENT: TANGENT
CROWN: NORMAL CROWN
STRUCTURAL FILE NUMBER: 2901803
DATE BUILT: 1964
DISPOSITION: GOOD
WEARING SURFACE: 1¾"± SUPERPLASTICIZED DENSE CONCRETE OVERLAY

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS WITH NONCOMPOSITE CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURE
SPANS: 57'-3"±, 81'-9"±, 81'-9"±, 57'-3"±, C/C BEARINGS
ROADWAY: 26'-2" TOE TO TOE PARAPET
LOADING: CF-130 (57)
SKEW: 3°-54'-00" LF
APPROACH SLABS: TO REMAIN
ALIGNMENT: TANGENT
CROWN: .0156 FT/FT
COORDINATES: LATITUDE 39°-34'-46" N
LONGITUDE 83°-40'-58" W
WEARING SURFACE: NEW 2¾" MICROSILICA CONCRETE OVERLAY

PROPOSED WORK

1.) REMOVE THE EXISTING 1¾"± DECK OVERLAY AND 1" OF THE EXISTING DECK, USING HYDRODEMOLITION, AND REPLACE WITH A 2¾" MICROSILICA MODIFIED CONCRETE OVERLAY. PLUG EXISTING SCUPPERS WITH OVERLAY MATERIAL.
2.) REMOVE THE SHIMS UNDER THE EXISTING ABUTMENT BEARINGS AND CONSTRUCT NEW BEAM SEATS AT THE ABUTMENTS.
3.) REFURBISH THE EXISTING ABUTMENT BEARINGS (SEE PLAN NOTE).
4.) REPLACE THE SHIMS UNDER THE EXISTING BEARINGS AT THE PIERS WITH STEEL HP POSTS AND LOAD PLATES. CAST CAPS ONTO THE EXISTING PIER SEATS TO ENCASE THE NEW ASSEMBLIES IN CONCRETE.
5.) REPLACE PREVIOUSLY MODIFIED SLIDING PLATE JOINTS WITH STRIP SEAL EXPANSION JOINTS.
6.) REMOVE UNSOUND CONCRETE AT EAST PIER AND PATCH WITH ITEM 519. WRAP WRAP COLUMN FROM TOP OF BARRIER TO BOTTOM OF CAP WITH FIBER REINFORCED POLYMER (FRP) WRAP MATERIAL.
7.) CLEAN THE SURFACES OF THE SUBSTRUCTURE UNITS WITH SANDBLASTING AND APPLY EPOXY-URETHANE SEALER TO THE PARAPETS, ABUTMENTS, WINGWALLS AND PIERS.
8.) RESTORE THE APPROACH EMBANKMENTS ALONG THE ABUTMENT WINGWALLS (SEE SHEET 2/10) AND CONSTRUCT 15' LONG DRAINAGE FLUMES COMPRISED OF TYPE D ROCK ON EXCELSIOR MATTING ON BOTH EMBANKMENTS AT THE ENDS OF THE APPROACH SLABS.
9.) INSTALL NEW VANDAL PROTECTION FENCE CLOSURE PLATES AND REPLACE HARDWARE.
10.) PROPOSED WORK WILL BE DONE UNDER A CLOSURE OF SMITH ROAD. SEE MAINTENANCE OF TRAFFIC SHEETS FOR CLOSURE DETAILS AND DURATION.
11.) MAINTAIN EXISTING VERTICAL CLEARANCES.

DESIGN AGENCY
Palmer ENGINEERING
1500 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED JPR | DRAWN SDW | REVIEWED BJF | DATE 1/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 2901803

GENERAL PLAN
BRIDGE NO. GRE-71-0299
T146 (SMITH ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

1/10

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-4-87 DATED/REVISED 7-19-02
VPF-1-90 DATED/REVISED 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

848 DATED 10-16-09

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION , AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN STRESSES

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL - ASTM A709 , GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD:
2¼" RIGID MICRO-SILICA MODIFIED CONCRETE OVERLAY

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH [25 MM] DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

EXISTING STRUCTURE VERIFICATION:
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ITEM 516 - REFURBISHING BEARING DEVICE, AS PER PLAN:
THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE ABUTMENT BEARINGS AS WELL AS THEIR CLEANING, REPAIR AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60° F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER AND DIRECTED BY THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICE, AS PER PLAN.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN
THIS WORK CONSISTS OF TEMPORARILY RAISING THE EXISTING BEAMS TO ALLOW CONSTRUCTION OF PROPOSED CONCRETE SUBSTRUCTURE CAPS AND INSTALLATION OF PROPOSED PIER BEARING ASSEMBLIES.
SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05. IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.
THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.
THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN:
THIS WORK CONSISTS OF REHABILITATING THE EXISTING SLIDING PLATE JOINT TO AN ELASTOMERIC STRIP SEAL TYPE JOINT. IT ALSO INCLUDES THE HORIZONTAL EXTENSION OF THE EXPANSION JOINT INTO THE REFACED PARAPET. PAYMENT FOR THE DESCRIBED LABOR AND MATERIALS INCLUDING CONCRETE REMOVAL AND PATCHING, ANGLES, PLATES, BARS, SHEAR STUDS AND WELDING WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

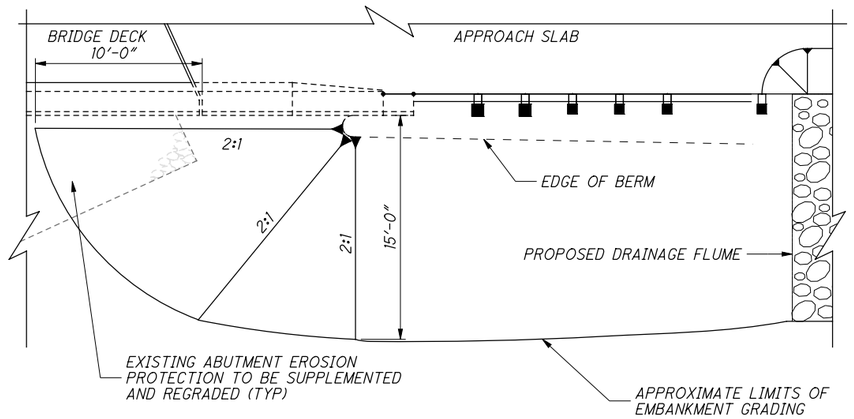
ITEM 516 - BEARING DEVICE, ROCKER, AS PER PLAN
THIS ITEM SHALL INCLUDE COMPLETE REPLACEMENT OF AN ABUTMENT ROCKER BEARING AS DIRECTED BY THE ENGINEER. THE ROCKERS SHALL BE CONSTRUCTED PER STANDARD DRAWING RB-1-55 AND OF THE SAME CAPACITY OF THE EXISTING ROCKERS. INCLUDED IN THIS ITEM SHALL BE THE DISASSEMBLY AND REMOVAL OF THE EXISTING BEARING, REPLACEMENT OF THE UPPER PLATE, ROCKER, LOWER PLATE, STEEL SHIM, AND PREFORMED BEARING PADS (711.21). ONLY ONE STEEL SHIM PLATE AND ONE PREFORMED BEARING PAD WILL BE ALLOWED TO OBTAIN THE PROPER FIT-UP. BOTH SHALL BE OF THE SAME PLAN AREAS AS THE MASONRY PLATE AND THE SHIM PLATE SHALL BE FULLY WELDED AROUND THE PERIMETER TO THE LOWER PLATE. THE BEARINGS SHALL BE VERTICALLY ALIGNED AT 60 DEGREES FAHRENHEIT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THOROUGH FIELD MEASUREMENTS AND ADJUSTING AS REQUIRED TO ENSURE ALL BEARING SURFACES ARE IN FULL CONTACT. ADJUSTMENTS REQUIRED TO ACHIEVE FULL BEARINGS SHALL NOT CAUSE OTHER BEARINGS TO "FLOAT".

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:
PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING. LOCATIONS OF AREAS THAT REQUIRE MATCHING ARE NOT INCLUDED IN THE PLANS. ACTUAL PATCHING LOCATIONS SHALL BE VERIFIED AT THE TIME OF CONSTRUCTION. A CONTINGENCY QUANTITY OF 50 SQ FT IS INCLUDED IN THE SUMMARY TO BE USED AT THE DIRECTION OF THE ENGINEER. THIS QUANTITY IS IN ADDITION TO THE AREAS OF PATCHING ON THE ABUTMENTS AND PIER SHOWN IN THE PLANS.

ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN
PROVIDE SLOPE PROTECTION SIMILAR IN TYPE AND SIZE TO THE EXISTING. REGRADE THE EXISTING SLOPE PROTECTION TO A 2:1 SLOPE IN AN AREA BOUNDED BY A LINE DRAWN PERPENDICULAR TO THE CENTERLINE OF SMITH ROAD 10 FEET FROM THE FACE OF THE ABUTMENT AT THE CENTERLINE AND 3 FEET OUTSIDE OF BOTH EDGES OF THE BRIDGE DECK. SUPPLEMENT THE SLOPE PROTECTION AS NECESSARY TO MEET THE DETAIL SHOWN ON SHEET 5/10 . AN ESTIMATED QUANTITY OF 16 CUBIC YARDS OF SLOPE PROTECTION SHOULD BE USED FOR BIDDING PURPOSES. PAYMENT FOR THIS WORK WILL BE ON A SQUARE YARD BASIS AND INCLUDES ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED TO COMPLETE THE WORK DESCRIBED HEREIN. THIS ITEM SHALL ALSO INCLUDE GRADING OF THE APPROACH EMBANKMENTS TO CONFORM TO THE DETAIL ON THIS SHEET.

ITEM SPECIAL- VANDAL PROTECTION FENCE REMOVED AND REBUILT
THIS ITEM SHALL INCLUDE INSTALLATION OF STAINLESS STEEL CLOSURE PLATE TO CLOSE THE GAP AT THE BOTTOM OF THE EXISTING VANDAL PROTECTION FENCE BETWEEN THE BOTTOM RAIL AND THE TOP OF THE PARAPET. INSTALLATION PROCEDURES ARE TO FOLLOW STANDARD DRAWINGS BPF-1-90. THE CONTRACTOR SHALL DETERMINE THE VERTICAL LEG DIMENSION OF THE CLOSURE PLATE REQUIRED TO CLOSE THE EXISTING GAP. THE CONTRACTOR SHALL ALSO LOCATE THE ½" DIAMETER HOLES IN THE PLATE TO ALLOW FOR PROPER INSTALLATION OF THE FABRIC TIES. THIS ITEM SHALL ALSO INCLUDE REPLACEMENT OF THE EXISTING ¾" NUTS AND WASHERS WITH NEW HARDWARE MEETING THE REQUIREMENTS OF VPF-1-90. PAYMENT FOR THIS ITEM WILL BE ON A LINEAR FEET BASIS AND WILL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK DESCRIBED HEREIN.

GENERAL NOTES CONTINUED ON SHEET 3/10



DETAIL FOR ITEM 601

DESIGN AGENCY
PALMER ENGINEERING
1300 CONNELL PARK DR
VANDALIA, OHIO 45377
DESIGNED JPR
DRAWN SDW
REVIEWED BJF
DATE 1/09
CHECKED MLJ
REVISED
STRUCTURE FILE NUMBER 2901803

GENERAL NOTES
BRIDGE NO. GRE-71-0299
T146 (SMITH ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

ITEM SPECIAL- URETHANE TOP COAT SEALER

THIS ITEM SHALL CONSIST OF THE APPLICATION OF A URETHANE TOP COAT SEALER OVER CONCENTRATE AREAS PREVIOUSLY COATED WITH FIBER.

THE AREA SHALL BE DRY AND FREE FROM DUST, DIRT, OIL, WAX, CURING COMPOUNDS, EFFLORESCENCE, LAITANCE AND OTHER FOREIGN MATERIALS WITH THE EXCEPTION OF THE FIBER WRAP.

THE COATING SHALL BE APPLIED BEFORE THE FINAL THICKENED EPOXY LAYER HAS BEEN ALLOWED TO CURE (AS DETERMINED BY THE MANUFACTURER) TO BETTER ADHERE TO THE GFRC COMPOSITE SYSTEM.

IF THE INSTALLED GFRC IS ALLOWED TO COMPLETELY CURE PRIOR TO THE APPLICATION OF THE FINAL COATING, THE SURFACE GLOSS MUST BE BROKEN BY HAND SANDING OR LIGHT ABRASIVE BLASTING FOR PROPER ADHERENCE TO THE FINAL COATING.

THE COATING SYSTEM SHALL CONSIST OF THE APPLICATION OF A URETHANE TOP COAT SEALER OVER THE INSTALLED GFRC SYSTEM. THE COLOR SHALL BE FEDERAL COLOR STANDARD NO. 17778 (LIGHT NEUTRAL) AND THE MATERIAL AND APPLICATION SHALL CONFORM TO CMS 512.

THE COATING MATERIAL SUPPLIER MUST PROVIDE A LETTER VERIFYING THAT THE FULL COATING SYSTEM IS COMPATIBLE WITH THE INSTALLED GFRC SYSTEM.

THE CERTIFIED AND EXPERIENCED INSTALLER SHALL SUBMIT A QUALITY CONTROL AND QUALITY ASSURANCE PLAN FOR THE GFRC INSTALLATION.

THE GFRC SYSTEM SHALL BE INSTALLED UNDER THE DIRECT SUPERVISION OF A MANUFACTURER QUALIFIED TECHNICIAN UNTIL THE INSTALLER HAS DEMONSTRATED HIS ABILITY TO PERFORM THE INSTALLATION TO SATISFACTION OF THE ENGINEER AND THE MANUFACTURER.

THE COST OF ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO ACCOMPLISH THIS ITEM OF WORK SHALL BE PAID FOR BY SQUARE YARDAGE COVERED.

ITEM SPECIAL - URETHANE TOP COAT SEALER

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM

DESCRIPTION:

THE WORK SHALL CONSIST OF PROVIDING A GLASS FIBER REINFORCED COMPOSITE (GFRC) STRENGTHENING SYSTEM. THE GFRC SYSTEM IS TO BE APPLIED TO THE PIER COLUMNS AS DESIGNATED BY THE PROJECT DRAWINGS.

THE CONCRETE IS TO BE PATCHED PER ITEM 519. THEN CLEANED AND PREPARED TO THE INSTALLERS SATISFACTION PRIOR TO THE INSTALLATION OF THE GFRC SYSTEM.

DESIGN:

THE GFRC SHALL BE DESIGNED TO PROVIDE EQUIVALENT STRENGTH PERFORMANCE TO A #4 SPIRAL REBAR AT A 5.5" PITCH OVER THE HEIGHT OF THE REPAIRS. STRENGTH EQUIVALENCE CALCULATIONS ARE BASED ON 40 KSI REINFORCING STEEL AND A DESIGN STRAIN NO LARGER THAN 0.004 FOR THE GFRC SYSTEM.

A MINIMUM E x A VALUE FOR THE INSTALLED GFRC SYSTEM IS 600 KIPS/INCH WIDTH OF INSTALLED GFRC SYSTEM FOR THE COLUMNS.

MATERIALS:

3000-HOUR DURABILITY TESTS FOR 140° F FOR WATER, SALT WATER, AKALINE SOIL, OZONE, EFFERVESCENCE AND OTHER FACTORS (REFER TO TABLE).

THE PROPOSED GFRC SHALL HAVE BEEN TESTED BY AN INDEPENDENT AGENCY FOR DELAMINATED COLUMNS DEMONSTRATING THAT THE REPAIRED COLUMN RESTORES THE ORIGINAL AXIAL STRENGTH AND INCREASE DUCTILITY.

TO BE AN APPROVED EQUAL THE INSTALLER MUST PROVIDE A HISTORY OF A MINIMUM OF 50 INSTALLATIONS COMPLETED IN THE LAST 5 YEARS, DURABILITY TESTING, INDEPENDENT LABORATORY TESTING FOR CORRODED COLUMN REPAIRS, DESIGN EQUIVALENCE TO THE SPECIFIED SYSTEM, AND ALL PROPOSED MATERIAL DATA.

POLYESTER OR OTHER RESINS WILL NOT BE ALLOWED AS A SUBSTITUTE TO EPOXY RESINS. CARBON COMPOSITE SYSTEMS WILL NOT BE ALLOWED AS A SUBSTITUTE TO GLASS COMPOSITE SYSTEMS.

SURFACE PREPARATION:

THE REPAIRED CONCRETE SURFACES SHALL BE ALLOWED TO CURE A MINIMUM OF 14 DAYS. THE SURFACES SHALL BE CLEAN AND FREE OF FINS, DEPRESSIONS, OR OTHER CONDITIONS THAT MAY AFFECT THE INTENDED PERFORMANCE OF THE GFRC SYSTEM.

THE CERTIFIED AND EXPERIENCED INSTALLER RESPONSIBLE SHALL VERIFY THAT ALL REQUIRED SURFACE PREPARATION HAS BEEN COMPLETED PROPERLY AND THAT THE GFRC SYSTEM IS CLEARED FOR INSTALLATION.

COMPOSITE APPLICATION:

THE GFRC COMPOSITE SYSTEM SHALL ONLY BE INSTALLED BY INDIVIDUALS CERTIFIED IN WRITING BY THE MATERIAL SUPPLIER. THE CERTIFIED INSTALLER SHALL HAVE COMPLETED A MINIMUM OF 15 PROJECTS IN THE PAST 2 YEARS. REFERENCES OF THESE INSTALLATIONS INCLUDING DESCRIPTIONS AND CONTACT INFORMATION WILL BE REVIEWED. INSTALLERS WITHOUT THE PROPER CERTIFICATIONS, EXPERIENCE, AND REFERENCES WILL NOT BE ALLOWED TO COMPLETE THIS WORK.

TEMPERATURES OF THE SUBSTRATE TO RECEIVE THE COMPOSITE, AMBIENT TEMPERATURES, AND THE TEMPERATURE OF THE GFRC MATERIALS SHALL BE BETWEEN 55° F AND 95° F AT THE TIME OF MIXING OF EPOXY. THE GFRC SYSTEM SHALL BE APPLIED WHEN THE RELATIVE HUMIDITY IS LESS THAN 85% AND THE SUBSTRATE TEMPERATURE IS MORE THAN 5° F ABOVE THE DEW POINT. APPLICATION OF THE GFRC SHALL BEGIN WITHIN ONE HOUR OF THE MIXING OF EPOXIES.

THE MANUFACTURER SHALL DESIGNATE THE PROPER MIXING PROCEDURE FOR THE EPOXY RESINS.

APPLY A PRIMER COATING OF EPOXY TO SURFACES OF THE SUBSTRATE TO RECEIVE THE GFRC SYSTEM.

SATURATE THE GLASS FIBER IN A DOCUMENTED SUCCESSFUL MANNER THAT ENSURES FULL SATURATION OF THE GLASS FIBER PRIOR TO THE INSTALLATION OF THE GFRC. SATURATION OF THE GLASS FIBER IN PLACE IS NOT ALLOWED. APPLY THE GFRC TO THE PREPARED AND PRIMED SUBSTRATE USING METHODS THAT PROVIDE A UNIFORM TENSILE FORCE OVER THE WIDTH OF THE SATURATED GLASS FABRIC. STRONG FIBERS SHALL NOT DEVIATE FROM THE INTENDED FIBER DIRECTION MORE THAN ½" PER 12" LENGTH OF COMPOSITE. INSPECTION OF THE INSTALLED COMPOSITE SHALL BE COMPLETED PRIOR TO THE CURING OF THE GFRC TO ENSURE THAT ALL EDGES, SEAMS, AND OTHER AREAS ARE PROPERLY ADHERED. DURING THE INSPECTION PROCESS, RELEASING OF ENTRAPPED AIR AND OTHER IDENTIFIED DEFICIENCIES SHALL BE ADDRESSED.

AFTER THE GFRC SYSTEM HAS BEEN INSTALLED, USE THICKENED EPOXY TO DETAIL ALL EDGES AND SEAMS TO PROVIDE A SMOOTH FINISH. APPLY A FINAL LAYER OF THICKENED EPOXY TO THE INSTALLED GFRC SYSTEM FOR PROTECTION.

COATING SYSTEM APPLICATION

AREAS AFTER THE EPOXY SETS YET PRIOR TO THE APPLICATION OF THE URETHANE TOP COAT. ALL DEFECTS (INCLUDING BUBBLES, DELAMINATIONS, AND FABRIC TEARS) MORE THAN 1 SQUARE INCH OF THE SURFACE AREA, OR AS SPECIFIED BY THE PROJECT ENGINEER, SHALL BE REPAIRED AS SUCH:

1) SMALL DEFECTS (ON THE ORDER OF 6" DIAMETER) SHALL BE INJECTED OR BACK FILLED WITH EPOXY.

2) BUBBLES LESS THAN 12" IN DIAMETER SHALL BE REPAIRED BY INJECTING WITH EPOXY. TWO HOLES SHALL BE DRILLED INTO THE BUBBLE TO ALLOW INJECTION OF THE EPOXY AND ESCAPE OF ENTRAPPED AIR.

3) BUBBLES, DELAMINATIONS AND FABRIC TEARS GREATER THAN 12" IN DIAMETER SHALL BE REPAIRED BY REMOVING AND REAPPLYING THE REQUIRED NUMBER OF LAYERS OF THE COMPOSITE AND THE REQUIRED FINISH COATINGS. ALL REPAIRS SHALL BE APPROVED BY THE PROJECT ENGINEER.

4) THE URETHANE TOP COAT SHALL THEN BE APPLIED TO THE FINAL EPOXY COAT.

MATERIALS MANUFACTURER:

ONE MANUFACTURER SHALL SUPPLY ALL MATERIALS REQUIRED FOR THE GFRC SYSTEM. THE MANUFACTURER SHALL BE ONE OF THE TWO LISTED BELOW OR APPROVED EQUAL FOR THE GLASS FIBER REINFORCED COMPOSITE (GFRC) STRENGTHENING AND PROTECTION SYSTEM.

TYFO FIBERWRAP
COMPOSITE SYSTEM AS SUPPLIED BY R.J. WATSON, INC.
78 GLENN DRIVE
AMHERST, NY 14228 (PHONE: 716-691-3301)

MBRACE SYSTEM
SUPPLIED BY BASF CONSTRUCTION CHEMICALS - BUILDING SYSTEMS
889 VALLEY PARK DRIVE
SHAKOPEE, MN 55379 (PHONE: 800-443-9517)

SIKAWRAP
SUPPLIED BY SIKA CORPORATION
201 POLITO AVENUE
LYNDHURST, NJ 07071 (PHONE: 800-933-7452)

THE GFRC MATERIAL SUPPLIER SHALL HAVE A HISTORY OF AT LEAST 5 YEARS FOR SUPPLYING THE SPECIFIED MATERIALS.

MEASUREMENT AND PAYMENT:

THE ITEM WILL BE PAID FOR BY (SQUARE FOOTAGE COVERED x NUMBER OF LAYERS) AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM

PROPERTY	REQUIREMENT	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI. MIN. IN PRIMARY FIBER DIRECTION.	60,000 PSI	D3039, AVERAGE OF 7. 1" BY 10" NORMALIZED TO 0.80" THICK .01" PER MIN. TESTING SPEED
ULTIMATE TENSILE STRENGTH, PSI. MIN. IN ORTHOGONAL FIBER DIRECTION.	3000 PSI	1" BY 10" NORMALIZED TO 0.80" THICK .01" PER MIN. TESTING SPEED
1000 HOURS EXPOSURE TO 100% HUMIDITY	60,000 PSI	C 581
TENSILE STRENGTH (MIN AFTER TEST) 1000 HOURS EXPOSURE TO OZONE	60,000 PSI	D 1149 EXCEPT NOT UNDER STRESS DURING OZONE EXPOSURE
TENSILE STRENGTH (MIN AFTER TEST) 1000 HOURS EXPOSURE TO ALKALI	60,000 PSI	D 3083 USING SOIL BURIAL BURIAL - WATER CONTENT
TENSILE STRENGTH (MIN AFTER TEST) 1000 HOURS EXPOSURE TO SALT	60,000 PSI	C 581 AND D 1141 OMITTING ADDITION OF HEAVY METAL
TENSILE STRENGTH (MIN AFTER TEST) 1000 HOURS EXPOSURE AT 140° F	60,000 PSI	D 3045
TENSILE STRENGTH (MIN AFTER TEST) ULTRAVIOLET (UV) EXPOSURE	60,000 PSI	G 53 USING FS 40 UV-B BULBS FOR A MINIMUM 38 CYCLES. THE CYCLE SHALL BE 4 HOURS OF CONDENSATE EXPOSURE AT 40° C.
ELONGATION: PERCENT, MIN PERCENT, MAX	1.7% 5.0%	
TENSILE MODULUS, PSI MIN. OF PRIMARY FIBERS	3,000 PSI	
VISUAL DEFECTS	ACCEPTANCE LEVEL III	D 2563
COEFFICIENT OF THERMAL EXPANSION IN PRIMARY DIRECTION	4,300,00 PPM/DEG F (+ 15%)	E 1142

DESIGN AGENCY
Palmer ENGINEERING

DESIGNED JPR | DRAWN SDW | REVIEWED BJF | DATE 1/09
CHECKED MLJ | REVISED | STRUCTURE FILE NUMBER 2901803

GENERAL NOTES
BRIDGE NO. GRE-71-0299
T146 (SMITH ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

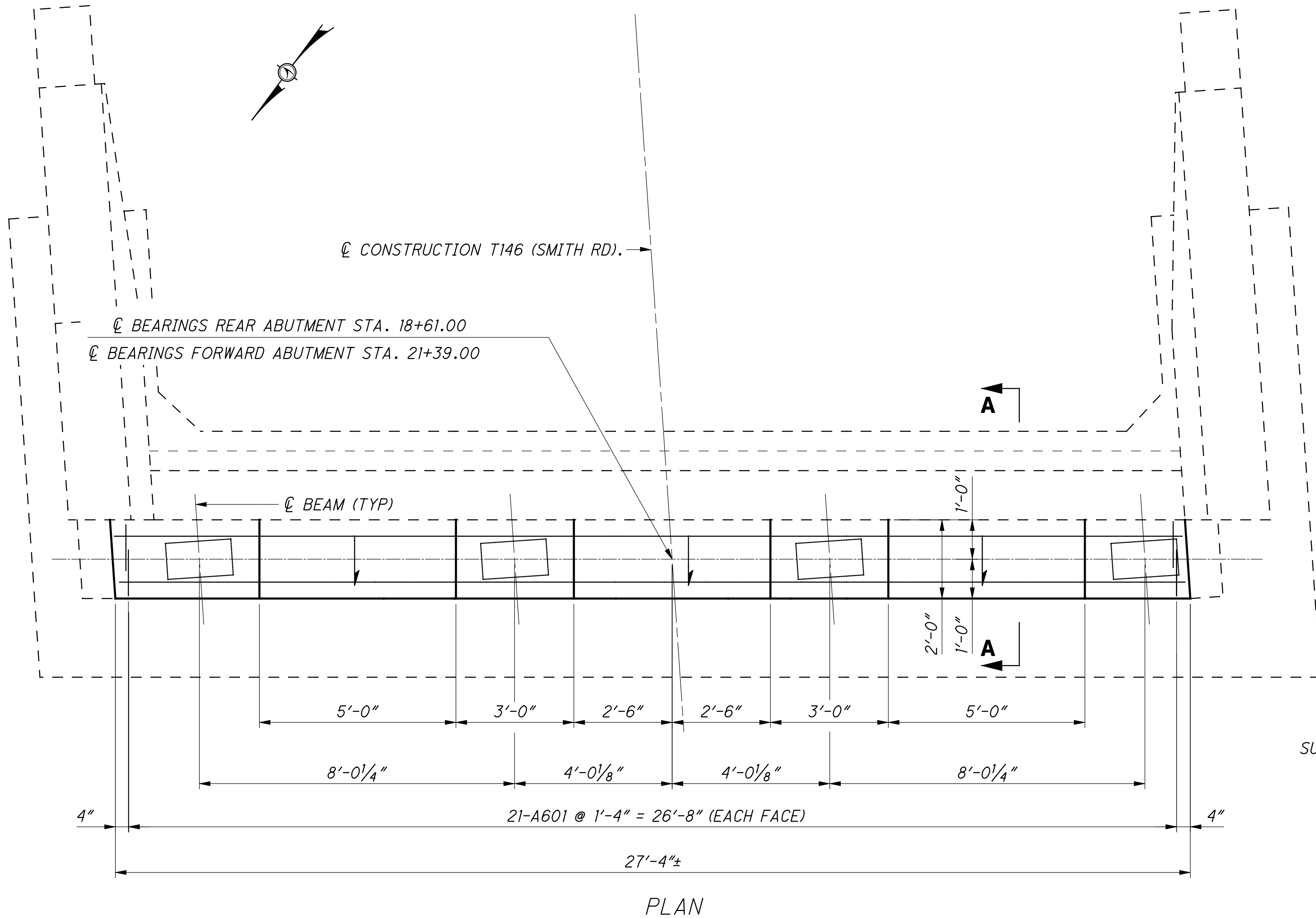
ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER STRUCT.	GENERAL	SHEET REF.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					2
509	10000	1512	POUND	EPOXY COATED REINFORCING STEEL	569	943			
510	10000	210	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	84	126			
511	42500	6	CU YD	CLASS C CONCRETE, PIER CAP		6			
511	44100	3	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	3				
512	10100	1140	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	140	277	723		
516	11211	61	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	61				2
516	31000	55	FT	JOINT SEALER	55				
516	45305	8	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	8				2
516	46001	4	EACH	BEARING DEVICE, BOLSTER, AS PER PLAN		4			7
516	46201	8	EACH	BEARING DEVICE, ROCKER, AS PER PLAN		8			6
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					2
519	11101	81	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN		31		50	2
SPECIAL	53000800	145	SQ YD	SPECIAL - STRUCTURE MISC.: COMPOSITE FIBER WRAP SYSTEM		145			3
SPECIAL	53000800	36	SQ YD	SPECIAL - STRUCTURE MISC.: URETHANE TOP COAT SEALER		36			3
601	20001	92	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN				92	2
SPECIAL	60740300	556	FT	SPECIAL - VANDAL PROTECTION FENCE REMOVED AND REBUILT			556		
848	10000	813	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2.25" NOMINAL THICKNESS)			813		
848	20000	813	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION			813		
848	30000	56	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			56		
848	50000	81	SQ YD	HAND CHIPPING			81		
848	50100	LUMP		TEST SLAB					
848	50200	5	CU YD	FULL-DEPTH REPAIR			5		
848	50320	813	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (2.25" NOMINAL THICKNESS)			813		
848	50340	81	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY			81		

DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901803	

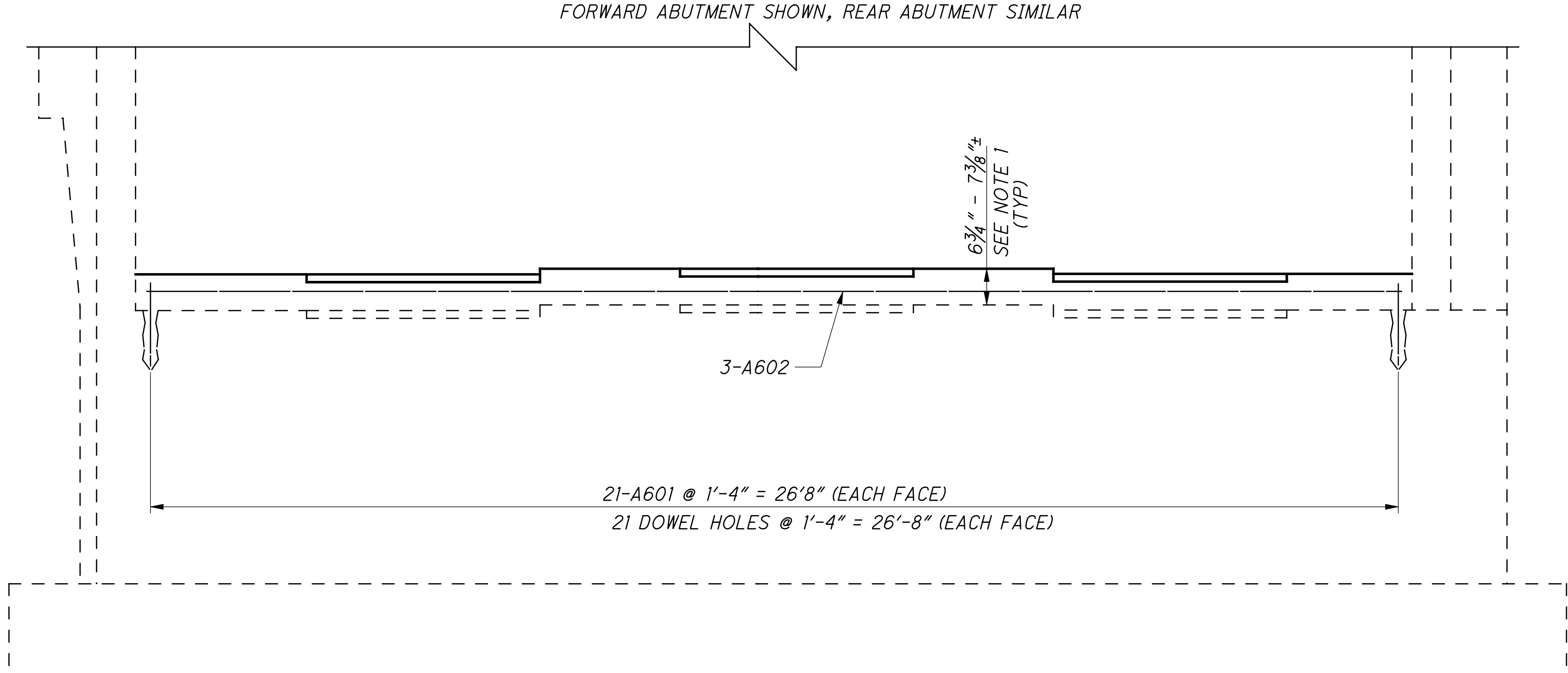
GENERAL SUMMARY
BRIDGE NO. GRE-71-0299
T146 (SMITH ROAD) OVER I-71

CLI/GRE-
71-7.26/ 0.00
PID No. 75745

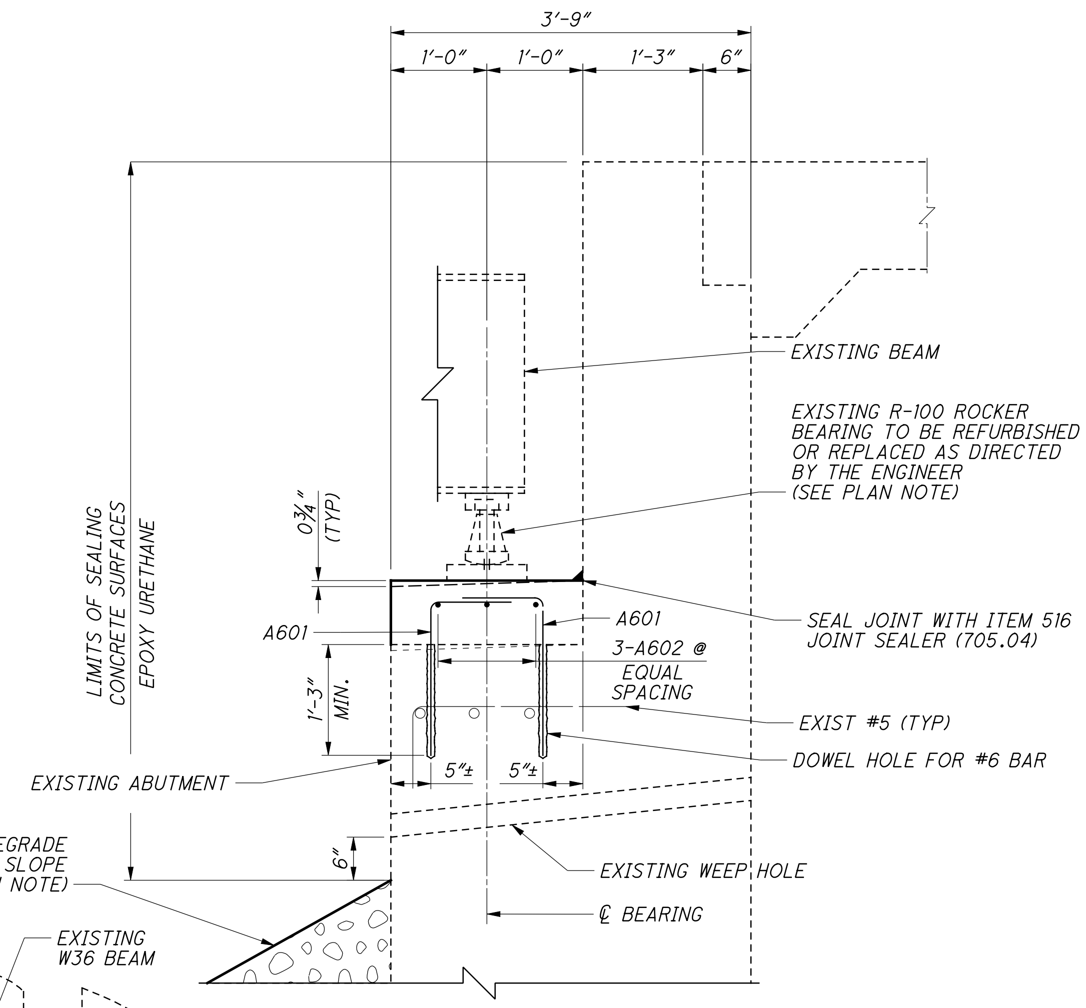


PLAN

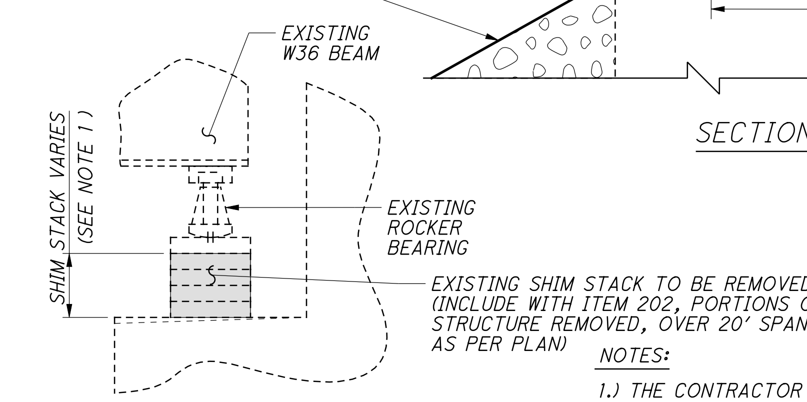
FORWARD ABUTMENT SHOWN, REAR ABUTMENT SIMILAR



ELEVATION OF ABUTMENTS



SECTION A-A



EXISTING SHIM REMOVAL

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED ABUTMENT CAP EXTENSION SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 7.5" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).

3.) PEDESTALS OR SHIMS SHALL NOT BE ALLOWED TO BE CAST INTO THE ABUTMENT BEAMS SEATS.

4.) SEE SHEET 9/10 FOR EXPANSION JOINT DETAILS.

5.) SEE SHEET 2/10 FOR GENERAL NOTES.

5.) PROPOSED ABUTMENT CONCRETE SHALL BE CLASS C CONCRETE, ABUTMENT.

DESIGN AGENCY: PALMER ENGINEERING, 1500 CORNELL PARK DR, CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED MLJ	REVISED	STRUCTURE FILE NUMBER 2901803	

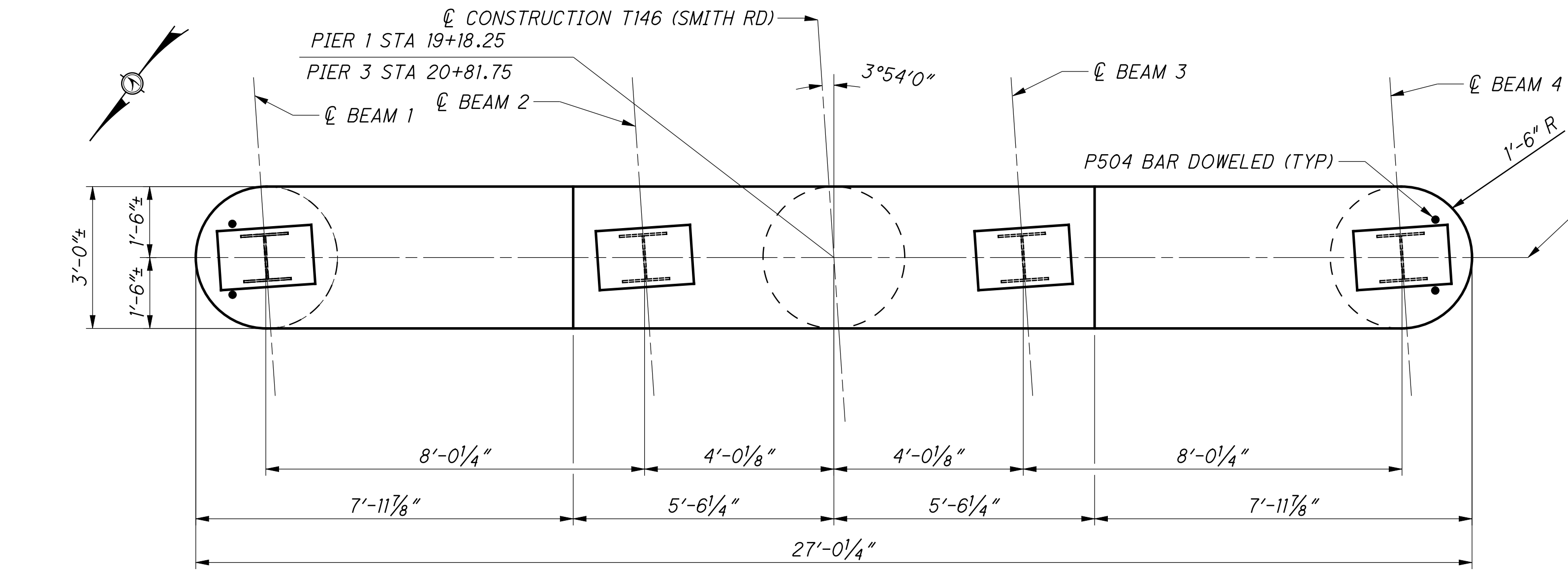
ABUTMENT MODIFICATION DETAILS

BRIDGE NO. GRE-71-0299

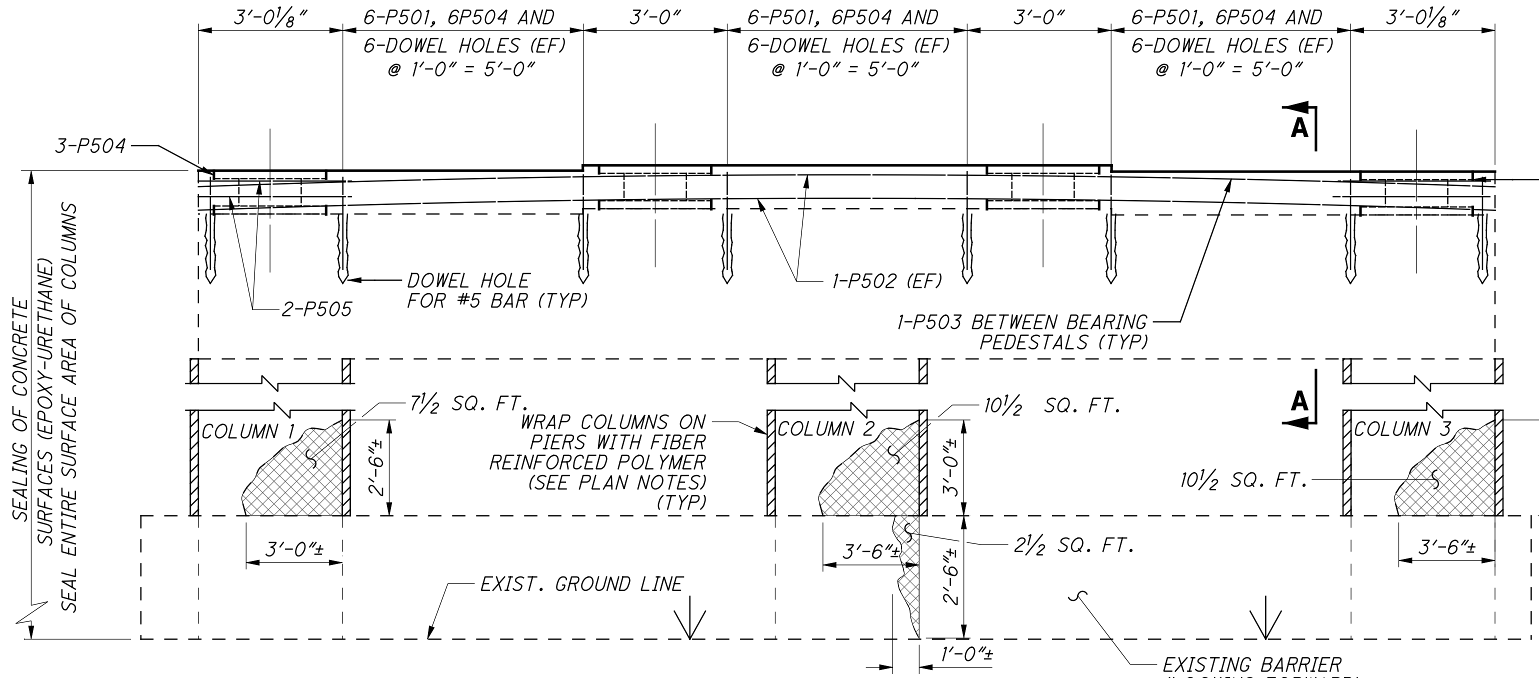
T146 (SMITH ROAD) OVER I-71

CLI/GRE-71-7.26/0.00

PID No. 75745

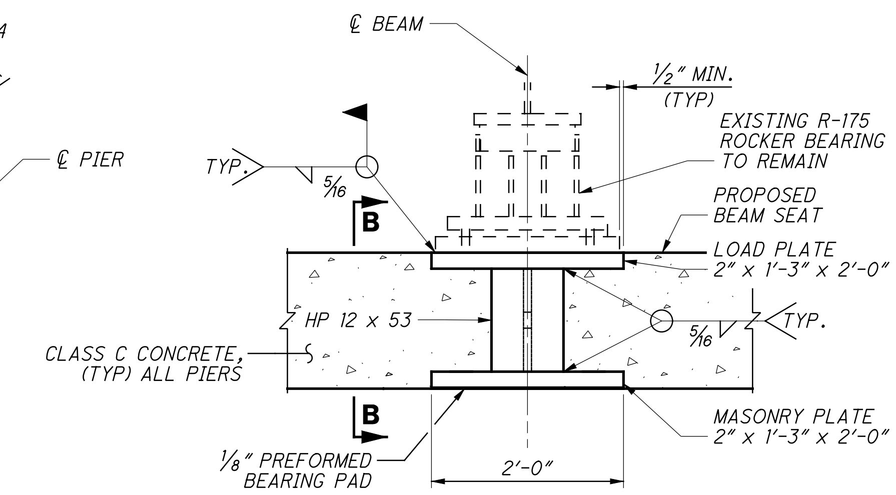


PLAN



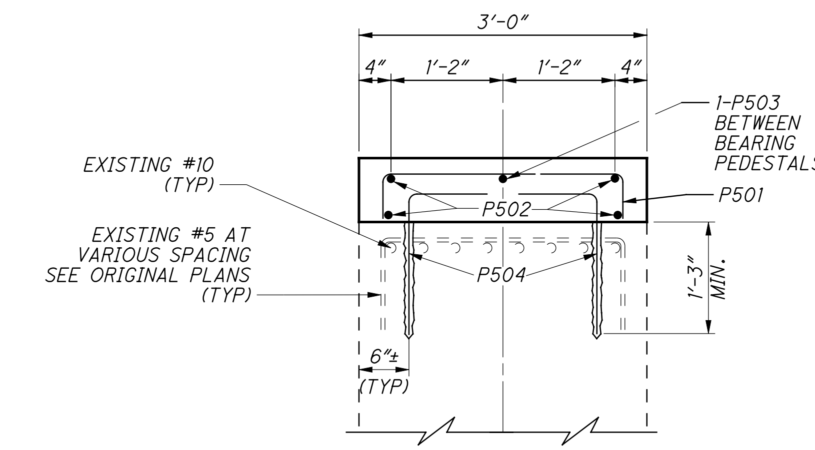
ELEVATION

PIER 3 SHOWN FOR PATCHING DETAIL

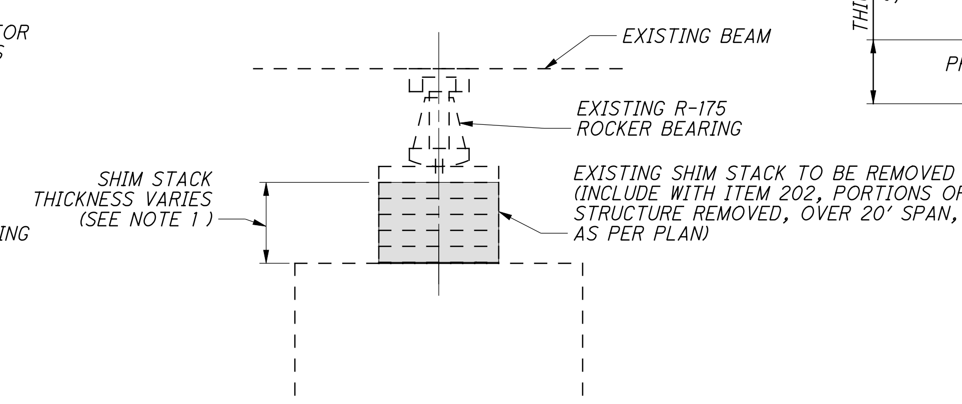


BEARING MODIFICATIONS AT PIERS 1 & 3

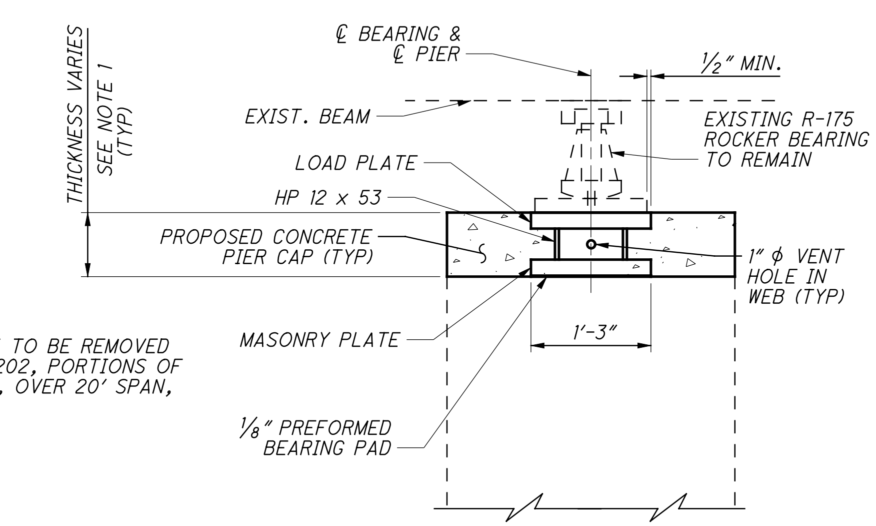
(VIEW NOT TO SCALE)



SECTION A-A



EXISTING BEARING CONFIGURATION



SECTION B-B

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED PIER CAP AND HP SECTIONS SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 8" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, BEARING DEVICE ROCKER, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

4.) LAP SPLICE LENGTH: #5 BARS = 26 INCHES.

5.) HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

6.) THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

7.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).

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DESIGN AGENCY: Palmer ENGINEERING

DESIGNED JPR | CHECKED MLJ | DRAWN SDW | REVISED | REVIEWED BJF | DATE 1/09 | STRUCTURE FILE NUMBER 2901803

PIER MODIFICATION PLAN FOR PIERS 1 AND 3

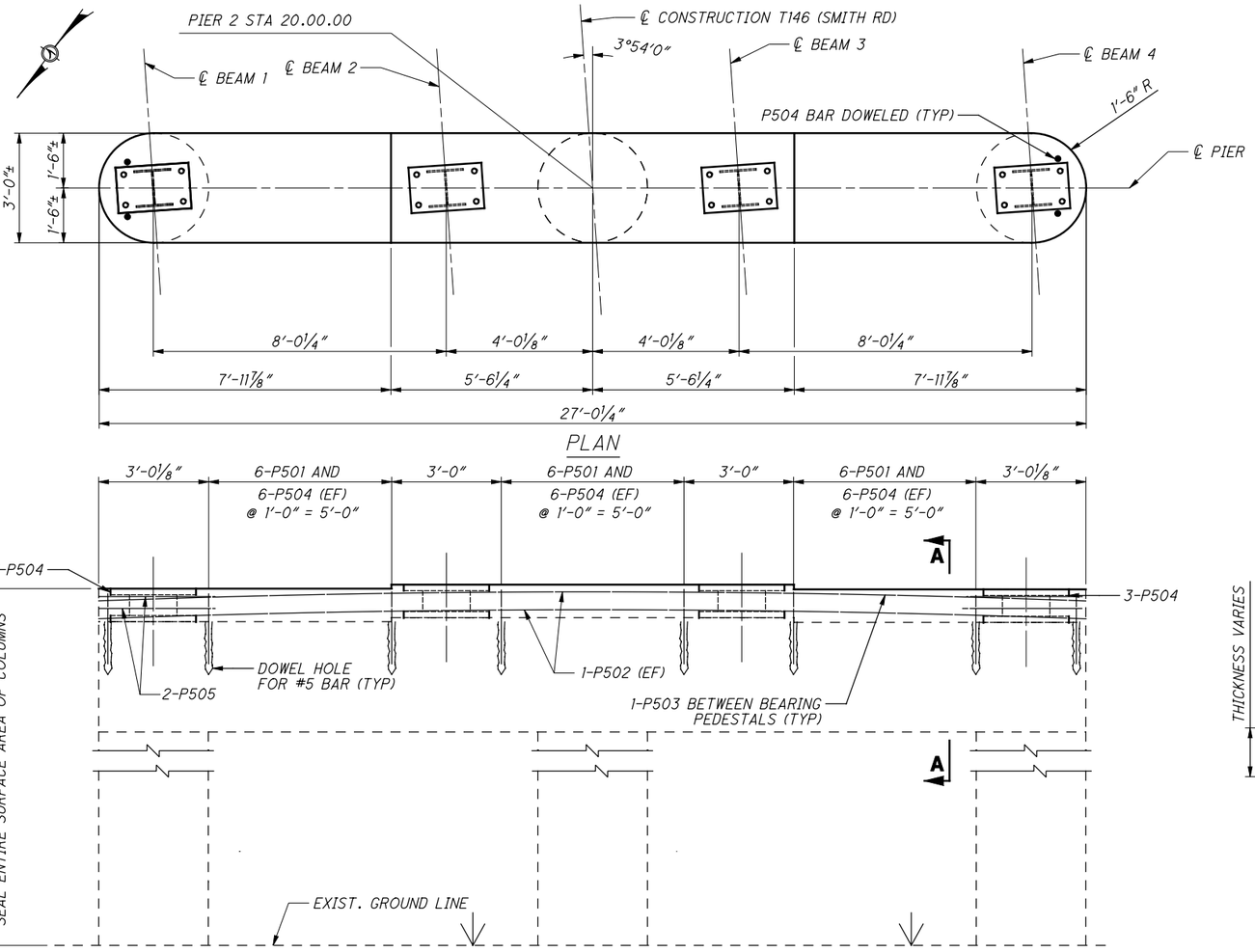
BRIDGE NO. GRE-71-0299

T146 (SMITH ROAD) OVER I-71

CLI/GRE-71-7.26/0.00

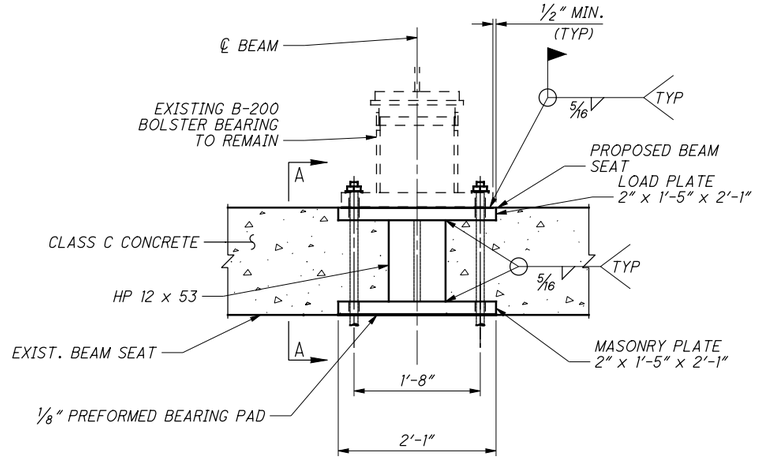
PID No. 75745

6 / 10



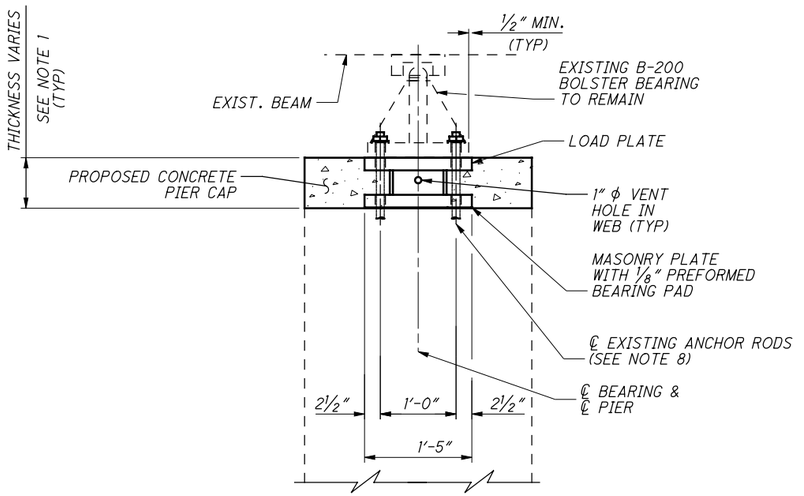
PLAN

ELEVATION

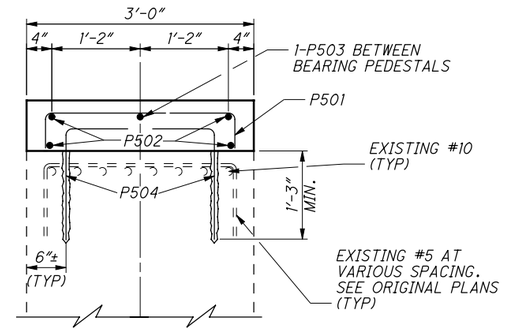


BEARING MODIFICATIONS AT PIER 2

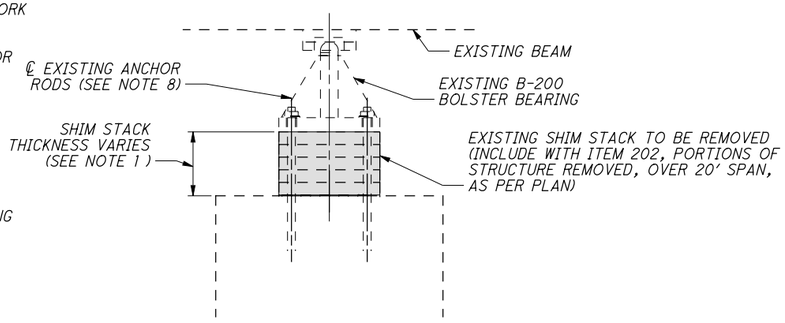
(VIEW NOT TO SCALE)



SECTION A-A



SECTION B-B



EXISTING BEARING CONFIGURATION

NOTES:

1.) THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE DIMENSIONS OF THE EXISTING SHIM STACKS AND THE BOTTOM OF BEAM ELEVATIONS. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE HEIGHT OF THE PROPOSED PIER CAP AND HP SECTIONS SO THAT THE FINAL BOTTOM OF BEAM ELEVATIONS, AFTER WORK IS COMPLETED, ARE THE SAME AS THE EXISTING. THE CONTRACTOR SHALL SUBMIT THE DIMENSIONS AND ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE FINAL BOTTOM OF BEAM ELEVATIONS ARE CONTRACTOR CALCULATED ELEVATIONS AND ANY SHIMS NEEDED TO MAINTAIN THE EXISTING BOTTOM OF BEAM ELEVATIONS WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. AN ESTIMATED CAP HEIGHT OF 8" WAS USED TO DETERMINE CONCRETE QUANTITIES AND REINFORCING STEEL DIMENSIONS.

2.) ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

3.) ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS, ANCHOR RODS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, BEARING DEVICE BOLSTER, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

4.) LAP SPLICE LENGTH: #5 BARS = 26 INCHES.

5.) HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

6.) THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

7.) FINAL BOTTOM OF BEAM ELEVATIONS SHOULD EQUAL EXISTING (BEAMS WILL NOT BE RAISED OR LOWERED).

8.) EXISTING ANCHOR RODS ARE TO REMAIN AND BE USED TO ANCHOR NEW BEARING AND PEDESTAL ASSEMBLY. IF NECESSARY, THE CONTRACTOR MAY CUT EXISTING ANCHOR RODS TO FACILITATE CONSTRUCTION. NEW ANCHOR RODS CAN THEN BE WELDED TO THE EXISTING ANCHOR RODS TO COMPLETE THE ASSEMBLY.

DESIGN AGENCY
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OHIO 45242

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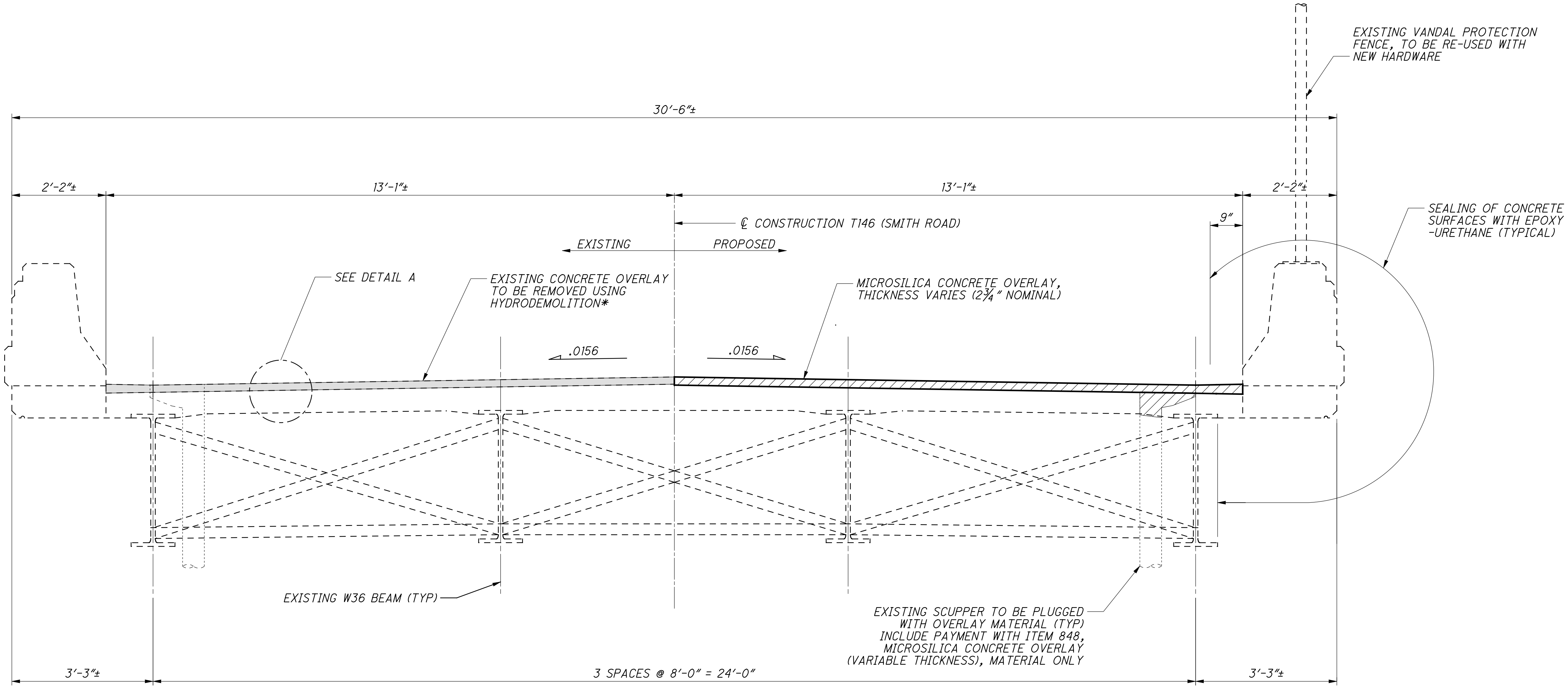
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901803	

PIER MODIFICATION PLAN FOR PIER 2
BRIDGE NO. GRE-71-0299
T146 (SMITH ROAD) OVER I-71

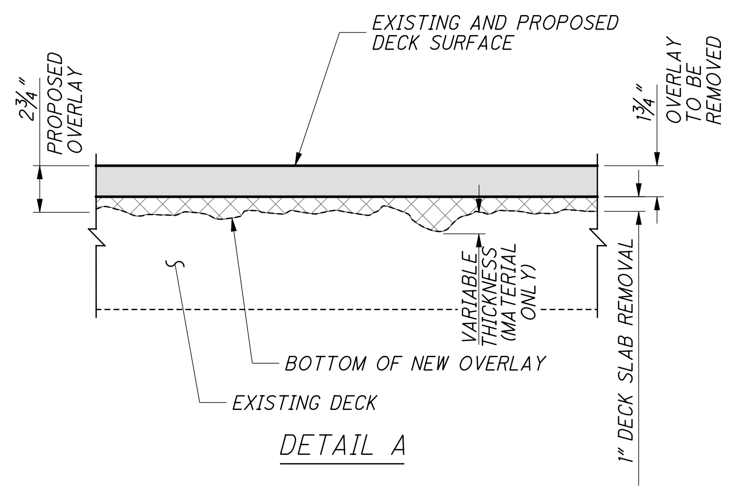
CLI/GRE-71-7.26/0.00
PID No. 75745



* DEPTH OF HYDRODEMOLITION WILL BE 2¼", INCLUDING 1¾" OF EXISTING OVERLAY AND ½" OF EXISTING CONCRETE DECK

TRANSVERSE SECTION

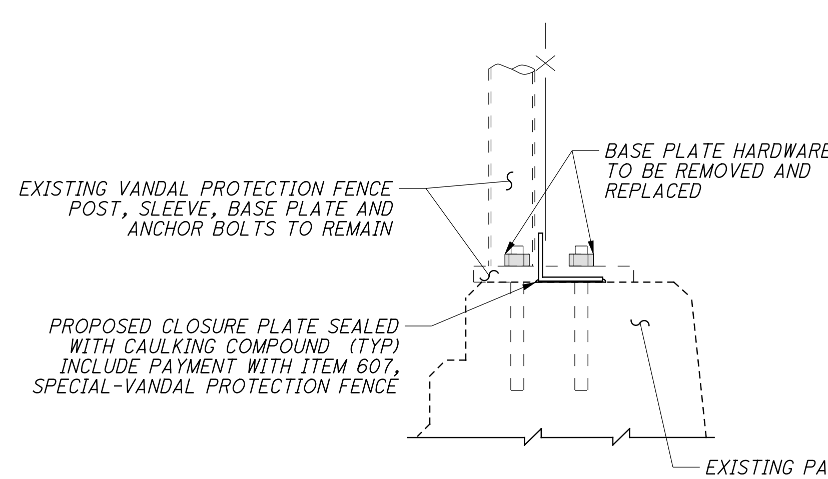
REMOVAL OF EXISTING RIGID CONCRETE OVERLAY, REFER TO SUPPLEMENTAL SPECIFICATION 848.



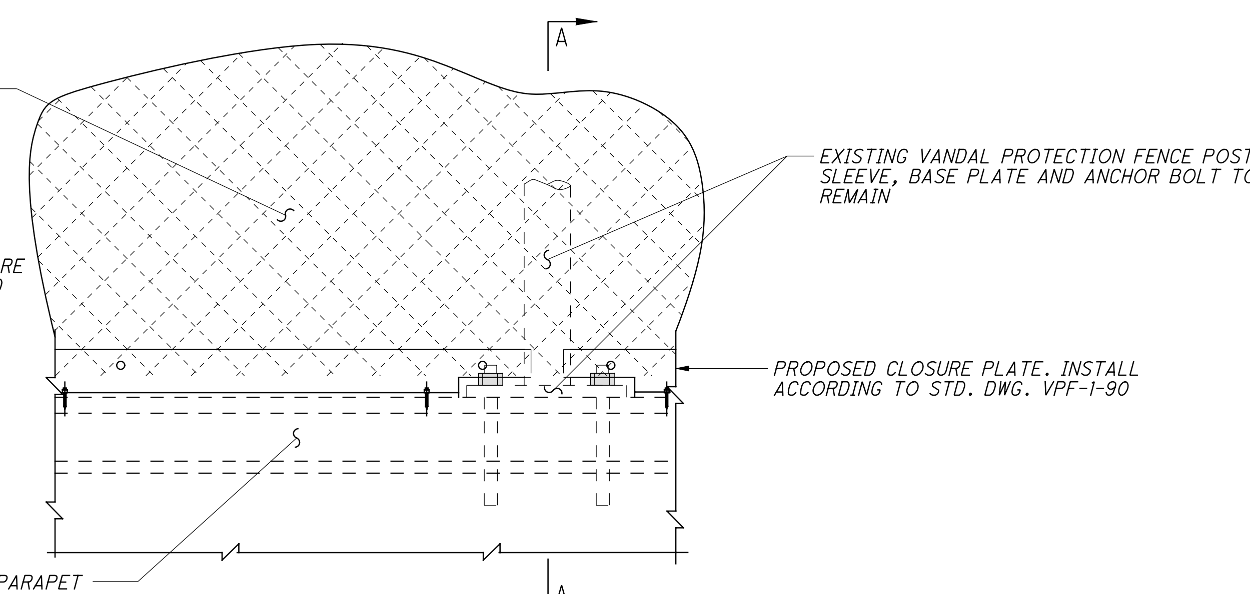
DETAIL A

EXISTING OVERLAY TO BE REMOVED USING HYDRODEMOLITION

PORTION OF EXISTING DECK AND VARIABLE THICKNESS TO BE REMOVED USING HYDRODEMOLITION



SECTION A-A



CLOSURE PLATE INSTALLATION DETAIL

SEE STANDARD DRAWING VPF-1-90 FOR ADDITIONAL DETAILS

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DESIGN AGENCY
Palmer ENGINEERING
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242
WINCHESTER ■ NASHVILLE ■ LOUISVILLE ■ CINCINNATI ■ HURRICANE

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
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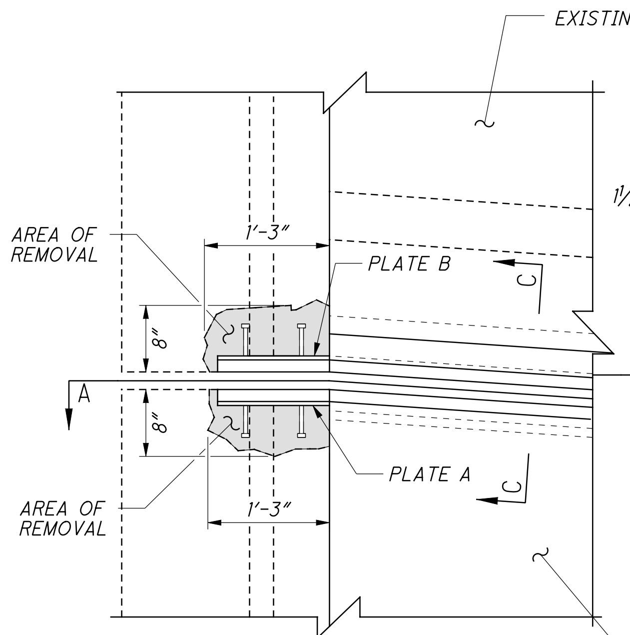
MLJ		2901803	

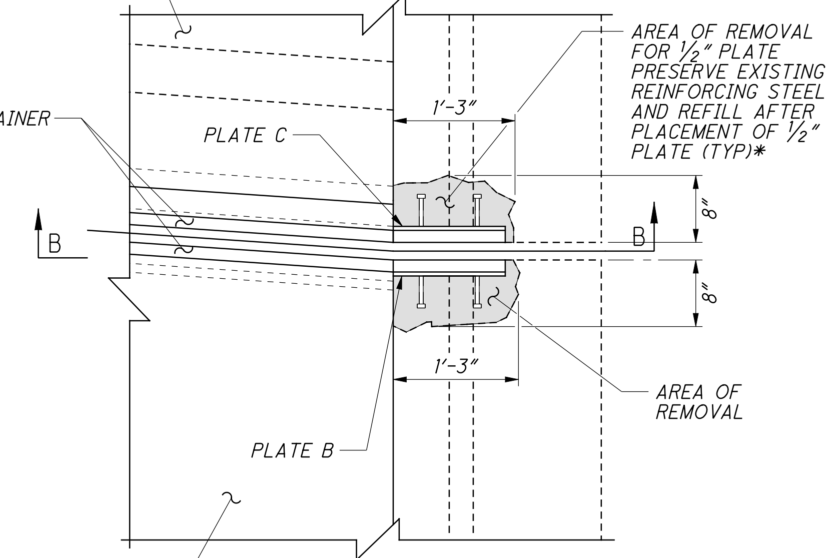
TRANSVERSE SECTION
BRIDGE NO. GRE-71-0299
T146 (SMITH ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745



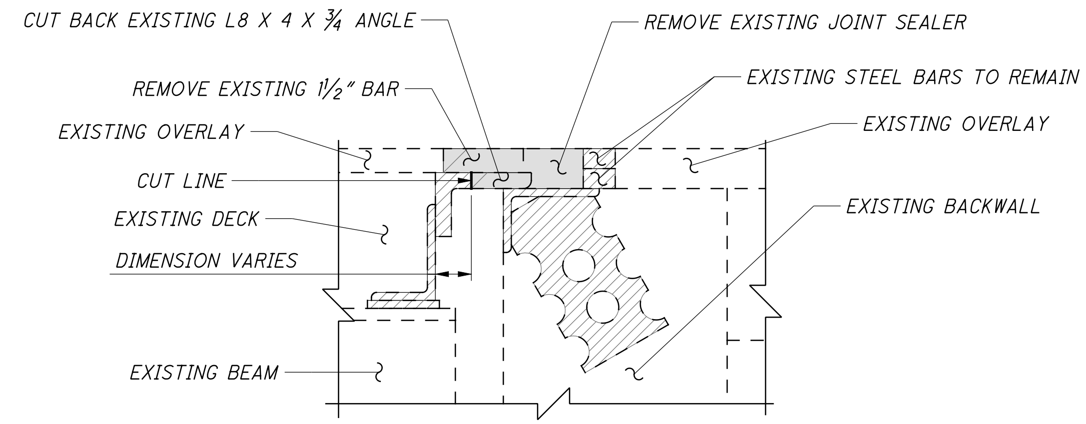
EXPANSION JOINT PLAN

(LEFT FORWARD ABUTMENT SHOWN RIGHT REAR ABUTMENT SIMILAR)



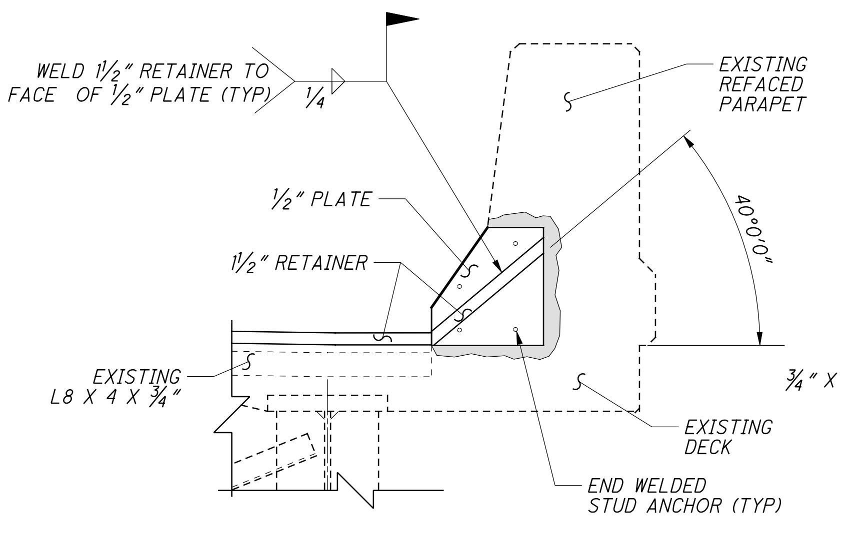
EXPANSION JOINT PLAN

(RIGHT FORWARD ABUTMENT SHOWN LEFT REAR ABUTMENT SIMILAR)

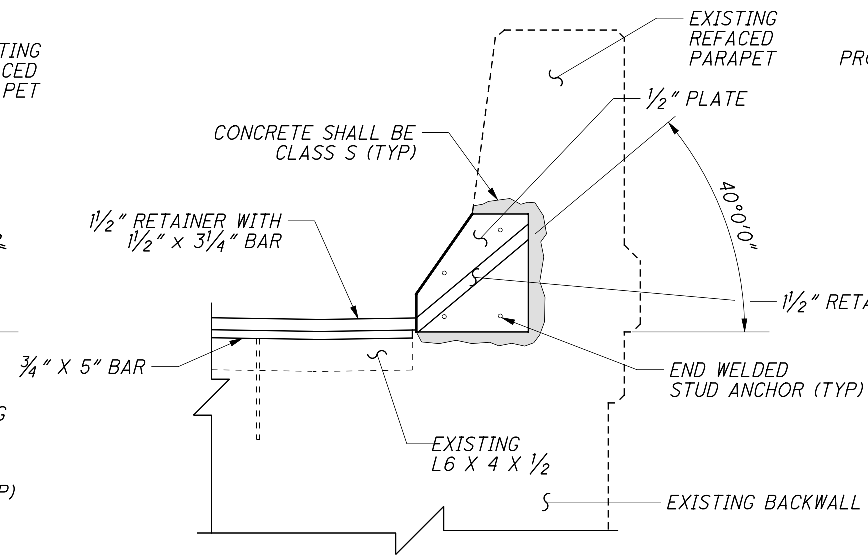


TYPICAL EXPANSION JOINT REMOVAL DETAIL

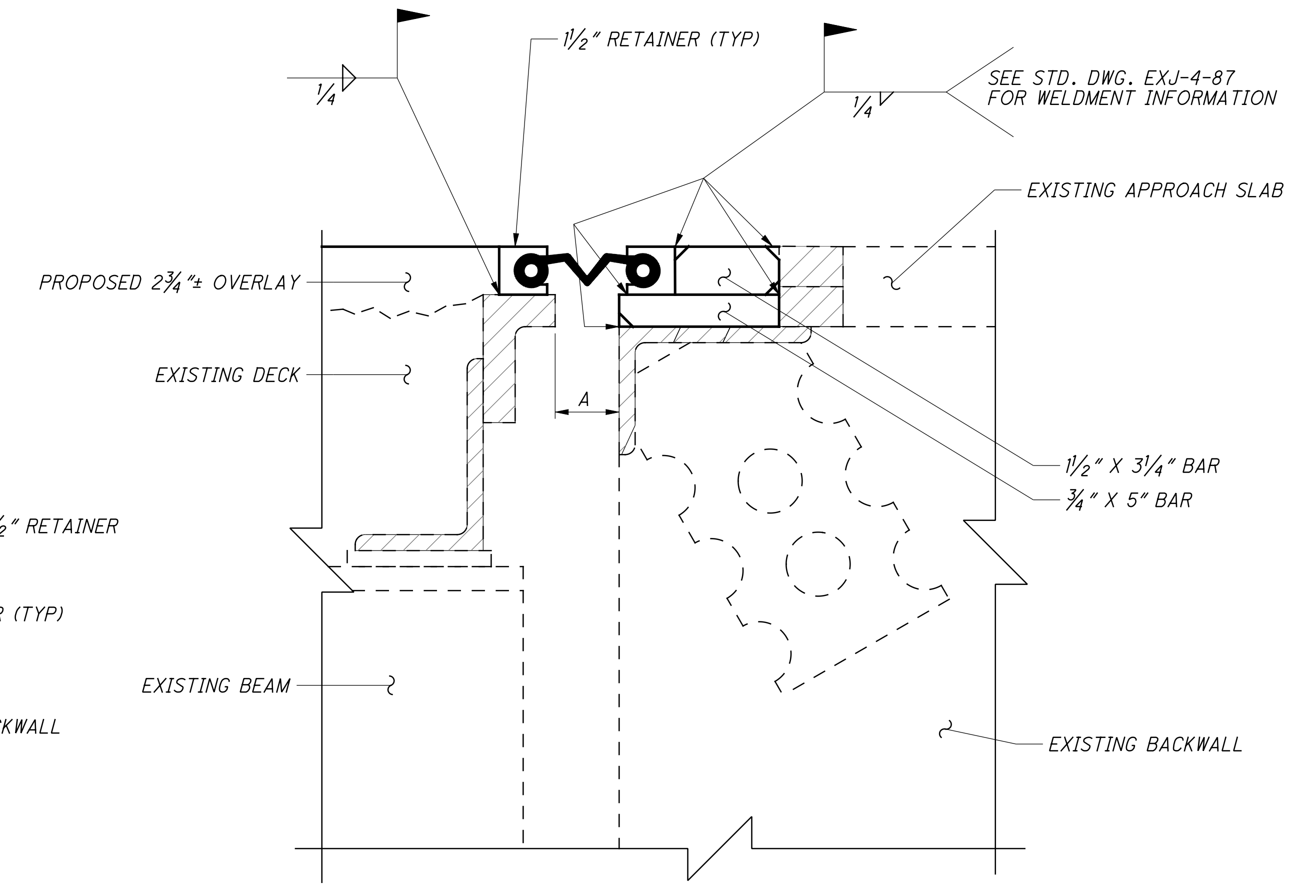
SEE NOTES THIS SHEET



VIEW A-A



VIEW B-B



SECTION C-C

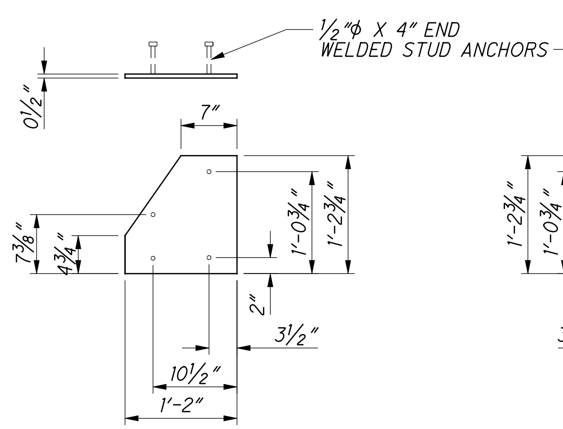


PLATE A

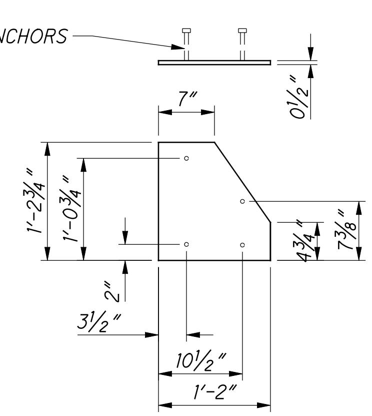


PLATE B

NOTES

1.) INCLUDE EXISTING JOINT REMOVALS WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

2.) NEW STEEL BARS SHALL BE ASTM A709 GRADE 50 AND SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

3.) CLASS S CONCRETE IS INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

4.) COSTS ASSOCIATED WITH CONNECTION RETAINERS AT THE CROWN, INCLUDING COMPLETE PENETRATION WELDS AND GRINDING SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

5.) SEE STD. DWG. EXJ-4-87 FOR ADDITIONAL NOTES.

6.) SEE SHEET 2/10 FOR GENERAL NOTES.

DIMENSION "A"
2⅜" @ 30°
2¼" @ 40°
2¼" @ 50°
2⅛" @ 60°
2" @ 70°
1⅞" @ 80°
1¾" @ 90°

PORTIONS OF STRUCTURE TO BE REMOVED*

*PAYMENT FOR REMOVAL AND PATCHING OF CONCRETE INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

EXISTING EXPANSION JOINT STEEL TO REMAIN

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DESIGN AGENCY: PALMER ENGINEERING, 1550 CORNELL PARK DR, CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901803	

EXPANSION JOINT MODIFICATION DETAILS

BRIDGE NO. GRE-71-0299

T146 (SMITH ROAD) OVER I-71

CLI/GRE-71-7.26/0.00

PID No. 75745

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL		(LBS.)		A	B	C	D	E	R	INC.
PIERS													
P501			54	3′ - 3 ″	183	2	6″	2′ - 6″	6″				
P502			12	24′ - 0 ″	300	STR							
P503			9	5′ - 0 ″	47	STR							
P504			120	2′ - 6 ″	313	1	10″	1′ - 9″					
P505			12	8′ - 0 ″	100	24	2′ - 4″	2′ - 2″					
SUBTOTAL					943								
ABUTMENTS													
A601	42	42	84	2′ - 7 ″	326	1	1′ - 0″	1′ - 9″					
A602	3	3	6	27′ - 0 ″	243	STR							
SUBTOTAL					569								
TOTAL REINFORCING STEEL					1512								

NOTES

1) THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. 'R' INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

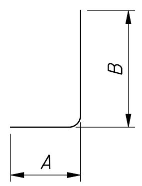
2) ALL REINFORCING STEEL SHALL BE EPOXY COATED. PAYMENT FOR REINFORCING BARS SHALL BE INCLUDED WITH ITEM 509.

3) 'STR' IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

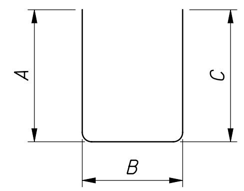
4) HOOKS AND BENDS SHOWN ON THE BENDING DIAGRAMS THAT ARE NOT DIMENSIONED SHALL BE AS SPECIFIED IN THE C.M.S. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

5) ALL REINFORCING STEEL CLEARANCES ARE 2″ UNLESS OTHERWISE NOTED.

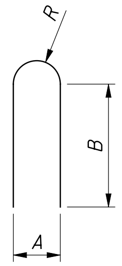
6) FOR GENERAL NOTES, SEE SHEET 2/10 .



TYPE-1



TYPE-2



TYPE-24

DESIGN AGENCY
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242

DESIGNED	DRAWN	REVIEWED	DATE
JPR	SDW	BJF	1/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901803	

REINFORCEMENT STEEL LIST

BRIDGE NO. GRE-71-0299
T146 (SMITH ROAD) OVER I-71

CLI/GRE-71-7.26/0.00
PID No. 75745

10/10

218/218

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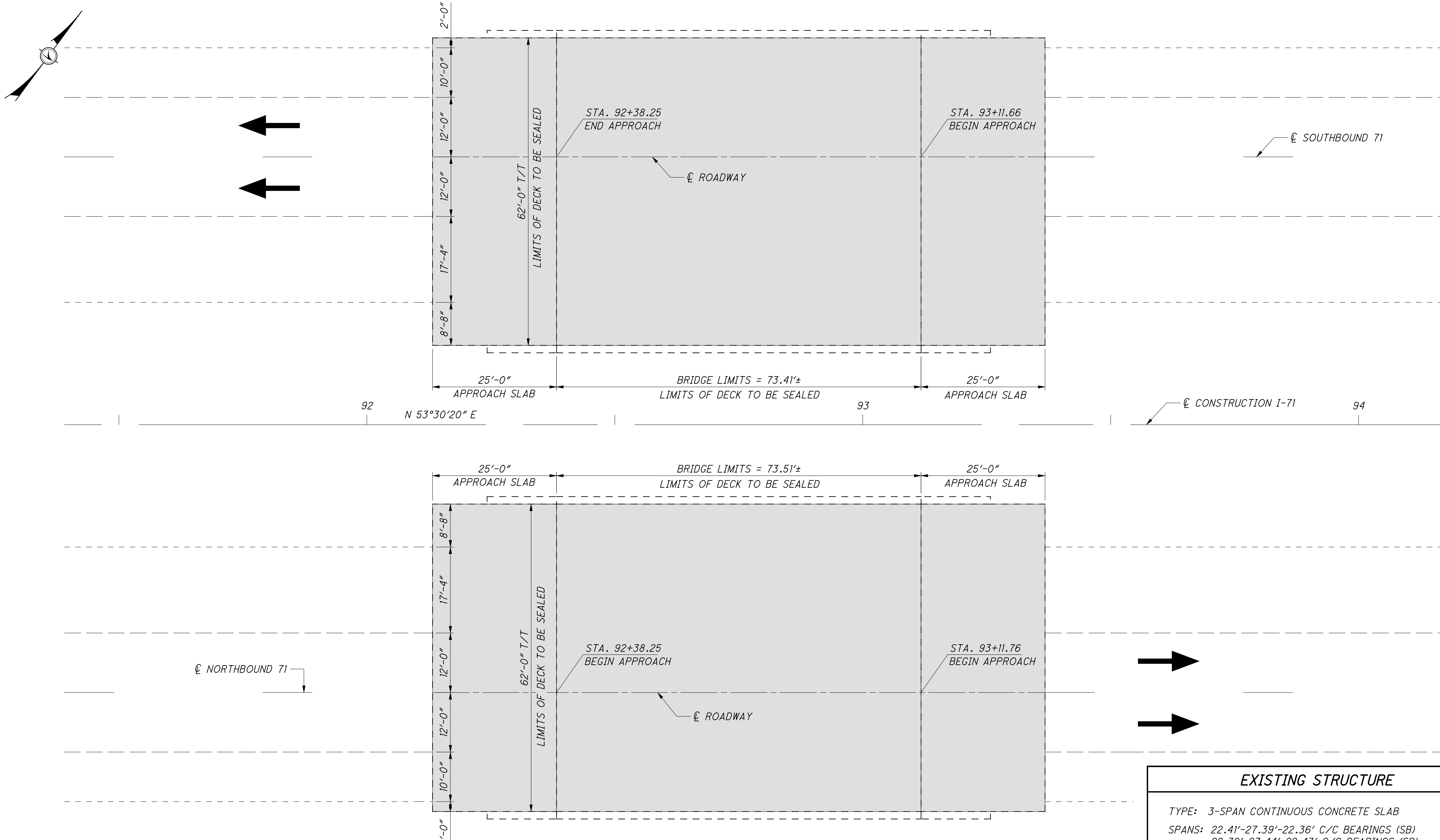

GENERAL PLAN

NOTE:

EXISTING PVEMENT MARKINGS (CENTER LINE AND EDGE LINES) ON THE BRIDGE DECKS AND APPROACH SLABS SHALL BE REMOVED PRIOR TO PLACEMENT OF GRAVITY FED RESIN AND THEN REPLACED ONCE THE RESIN HAS PROPERLY CURED.

SURFACE OF DECK AND APPROACH SLABS TO BE SEALED WITH ITEM-512 [TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN].

ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
512	73500	1702	SQ YD	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN

EXISTING STRUCTURE

TYPE: 3-SPAN CONTINUOUS CONCRETE SLAB

SPANS: 22.41'-27.39'-22.36' C/C BEARINGS (SB)
22.39'-27.44'-22.43' C/C BEARINGS (SB)

ROADWAY: 62'-0" TOE/TOE PARAPET

LOADING: HS25 AND ALTERNATE MILITARY LOADING

SKEW: NONE

APPROACH SLABS: AS-1-81, 25' LONG

ALIGNMENT: TANGENT

CROWN: .0156 FT/FT

WEARING SURFACE: 1" MONOLITHIC CONCRETE

COORDINATES: LATITUDE 39° 34' 30" N
LONGITUDE 83° 41' 24" W

DESIGN AGENCY
PALMER ENGINEERING
11300 CORNELL PARK DR
CINCINNATI, OH 45242
WINCHESTER ■ NASHVILLE ■ LOUISVILLE ■ CINCINNATI ■ HURRICANE

DESIGNED	DRAWN	REVIEWED	DATE
SDW	SDW	BJF	2/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLJ		2901749/2901773	

SOUTHBOUND IR 71
STA. 92+38.25
STA. 93+11.66

NORTHBOUND IR 71
STA. 92+38.25
STA. 93+11.76

GENERAL PLAN
BRIDGE NO. GRE-71-0253 L & R
OVER RATTLESNAKE CREEK

CLI/GRE-71-7.26/0.00
PID No. 75745

1/1