

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

WAY-21-(0.87) (0.94) (1.24) PART I CHIPPEWA TOWNSHIP WAYNE COUNTY

FHWA REGION	STATE	PROJECT
5	OHIO	

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24) PART I
FOR PART 2 SEE WAY-21-(1.39) (1.80)
NH-BHF-48(21)

DESIGN DESIGNATION

CURRENT ADT (1996)	=	6,970
DESIGN ADT (2016)	=	9,760
DHV (10%)	=	976
D	=	55%
T	=	11%
DESIGN SPEED (V)	=	55 MPH
LEGAL SPEED	=	55 MPH
FUNCTIONAL CLASSIFICATION	=	RURAL PRINCIPAL ARTERIAL
DESIGN EXCEPTION	=	NONE REQUIRED

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGN 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 REVISED CODE OF OHIO.

1995 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.

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 AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED: *Mary Ellen G. ...*
DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION
DATE: 12-4-96

B & N REVIEW

APPROVED: *[Signature]*
DIRECTOR, DEPARTMENT OF TRANSPORTATION
DATE: 1-10-97

UNDERGROUND UTILITIES
TWO WORKING DAYS BEFORE YOU DIG
CALL
OHIO UTILITIES PROTECTION SERVICE
1-800-362-2764 (TOLL FREE)
NON-MEMBERS MUST BE CALLED DIRECTLY

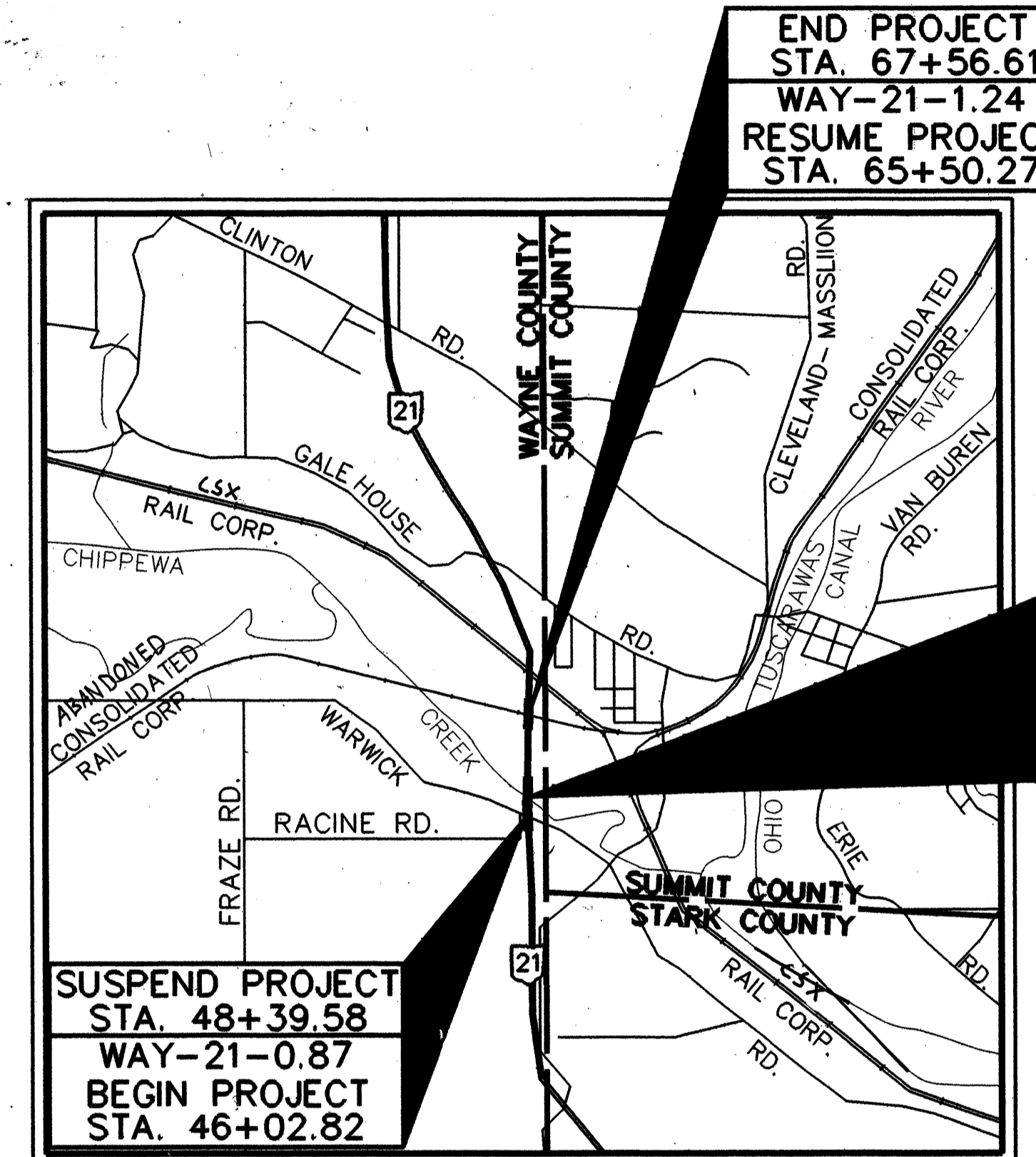
**DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION**
APPROVED: _____
DIVISION ADMINISTRATOR DATE

INDEX OF SHEETS

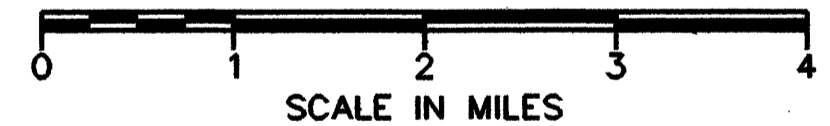
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CONVENTIONAL SIGNS

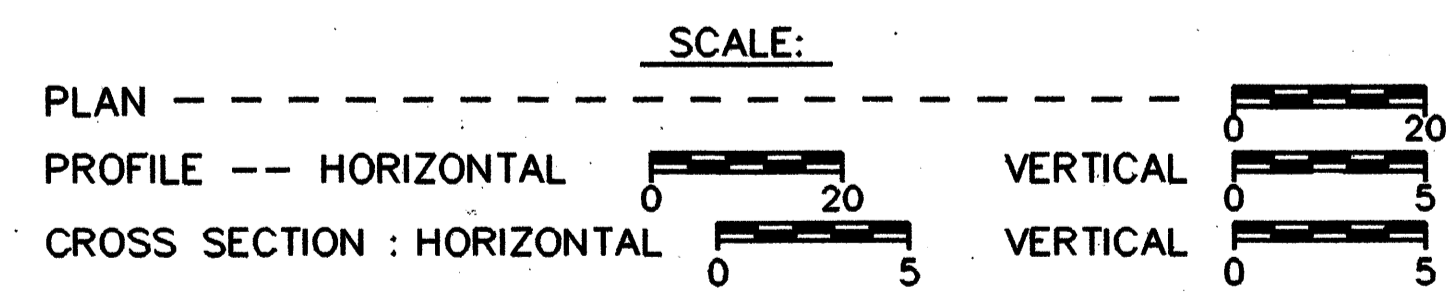
TOWNSHIP LINE	---
SECTION LINE	---
CORPORATION LINE	
FENCE LINE EXIST. x-x-x-x	PROP. x-x-x-x
TREES STUMPS (TO BE REMOVED)	⊗ ⊗
CENTERLINE	10+00 11+00
SANITARY SEWER	SAN.
STORM SEWER	STM.
MANHOLES	MH
EXISTING	○
ADJUSTED	○
PROPOSED	●
CATCH BASINS OR INLETS	CB
POLES: TELEPHONE ♂ POWER ♂ LIGHT ♀	
RIGHT-OF-WAY	R/W
EXIST. RIGHT-OF-WAY	R/W
LIMITED ACCESS	L/A
EXIST. LIMITED ACCESS	L/A
PROPERTY LINE	P
RAILROAD	==== OR =====
GUARDRAIL	EXIST. --- PROP. ---
WATER LINE	12" W
GAS LINE	4" G
MONUMENTS: EXIST. [] PROP. []	



LOCATION MAP



PORTION TO BE IMPROVED -----
STATE AND FEDERAL ROUTES -----
OTHER ROADS -----



SUPPLEMENTAL SPECIFICATIONS PART 112

802	3-23-95
815	7-17-95
820	6-14-95
910	7-17-95
931	7-17-95
942	6-14-95
944	12-7-95

STANDARD CONSTRUCTION DRAWINGS - Parts 1 & 2

BP-1.1	2-21-92	BP-3.1	2-21-92	GR-3.2	5-6-91	MT-97.10	4-29-88	AS-1-81	9-15-94
BP-2.2	10-28-94	BP-5.1	10-28-94	GR-7.1	10-30-92			EXJ-1-87	1-20-94
GR-1.3	2-21-92	CB-2-2A&B	5-1-79	MC-1	6-13-69	MT-100.00	2-23-90	RB-1-55	2-2-59
GR-4.2	5-6-91	CB-3A	5-1-79	MC-4	7-26-76	MT-101.60	7-1-92	SD-1-69	6-12-69
GR-4.3	2-21-92	CB-8	11-10-83	MC-7	10-15-76	MT-105.10	7-1-92	BR-1	12-15-94
GR-4.4	2-21-92	GR-1.1	5-6-91	MC-9.1	10-30-92	MT-105.11	7-1-92	BS-1-93	12-19-94
HV-4A	4-1-80	GR-1.2	10-30-92	MC-9.2	5-6-91	TC-35.10	8-29-84		
F-1	11-10-83	GR-2.1	5-6-91	MC-10	5-1-76	TC-41.10	8-29-84	PCB1	4-24-92
F-2	5-1-76	GR-3B	1-21-85	MC-11	8-1-78	TC-41.20	6-21-94		
F-3	5-1-76	GR-3.1	5-6-91	MT-95.30	10-10-88	TC-52.10	4-3-79		
				MT-95.70	2-23-90	TC-52.20	4-3-79		

STRUCTURE PLANS REVIEWED BY
**BURGESS
KNIPLE**
ENGINEERS
ARCHITECTS

LINE DATA

BEGIN PROJECT	STA. 46+02.82	
SUSPEND PROJECT	STA. 48+39.58	
RESUME PROJECT	STA. 49+52.63	
SUSPEND PROJECT	STA. 54+75.00	
RESUME PROJECT	STA. 65+50.27	
END PROJECT	STA. 67+56.61	
TOTAL PROJECT LENGTH	965.47 LIN. FT.	0.183 MILES
BEGIN WORK	STA. 16+65.00	
END WORK	STA. 70+00.00	
TOTAL WORK LENGTH	5,335.00 LIN. FT.	1.010 MILES

PLANS PREPARED BY:

FINKBEINER, PETTIS & STROUT, INC.
Consulting Engineers
Akron, Toledo & Greensboro

PROJECT: WAY-21-(0.87) (0.94) (1.24) PART I
WAYNE COUNTY
DATE OF LETTING: 19____, CONTRACT No. _____

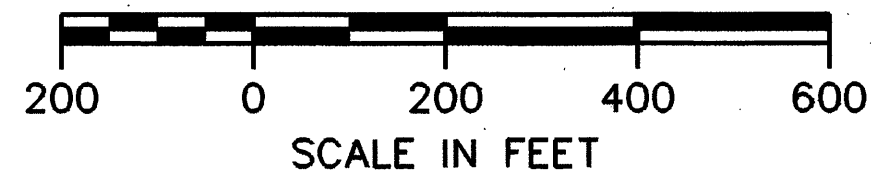
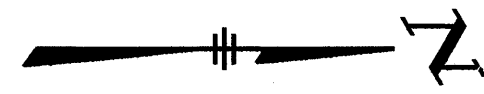
WAY-21-(0.87) (0.94) PART 1&2
970275 04-23-97
98&100PCS DIST. 03

SCHEMATIC PLAN

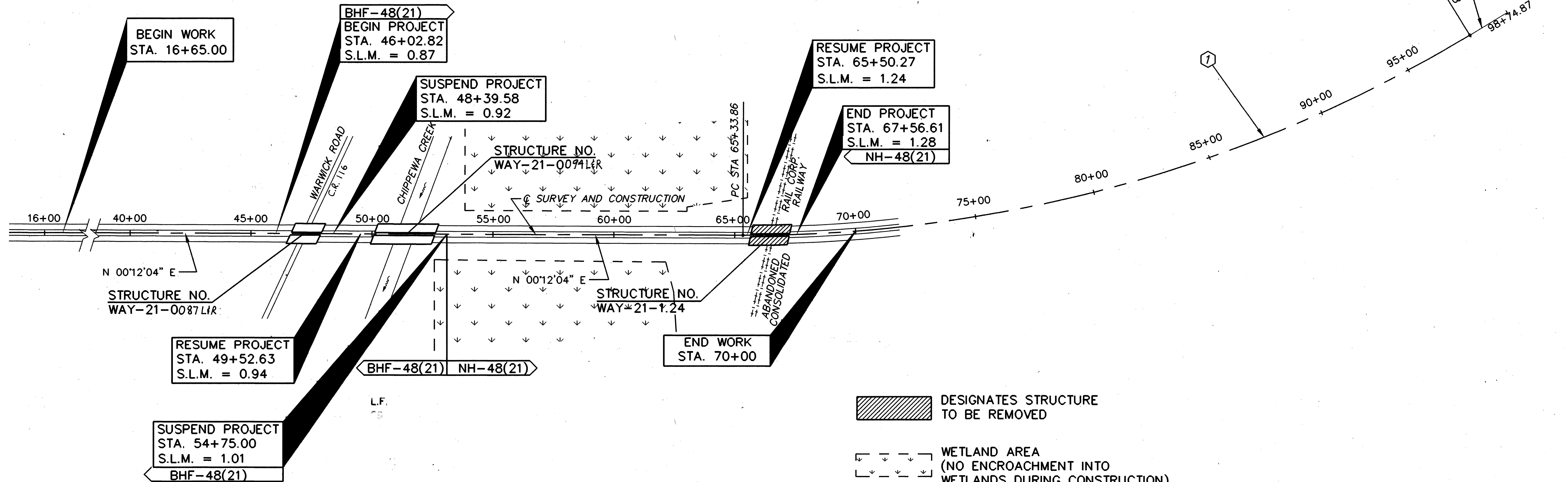
FHWA REGION	STATE	PROJECT
5	OHIO	

2
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



① ☉ SURVEY, CONST. & R/W
EXIST. CURVE DATA
 $\Delta = 31^{\circ}35'50''$
 $D_c = 01^{\circ}00'00''$
 $R = 5,729.58$
 $T = 1,621.16$
 $L = 3,159.72$
 $CH = 3,114.84$
 $PI \text{ STA.} = 81+55.02$
 $PC \text{ STA.} = 65+33.86$
 $PT \text{ STA.} = 96+93.58$



DESIGNATES STRUCTURE TO BE REMOVED

WETLAND AREA (NO ENCROACHMENT INTO WETLANDS DURING CONSTRUCTION)

CAD FILE: WASCHEM
DATE: 1/10/95
OPERATOR: JJE/PJP
PLOT SCALE: 1"=200'

TYPICAL SECTIONS

TYPE 404

FHWA REGION	STATE	PROJECT	
5	OHIO		

3
98

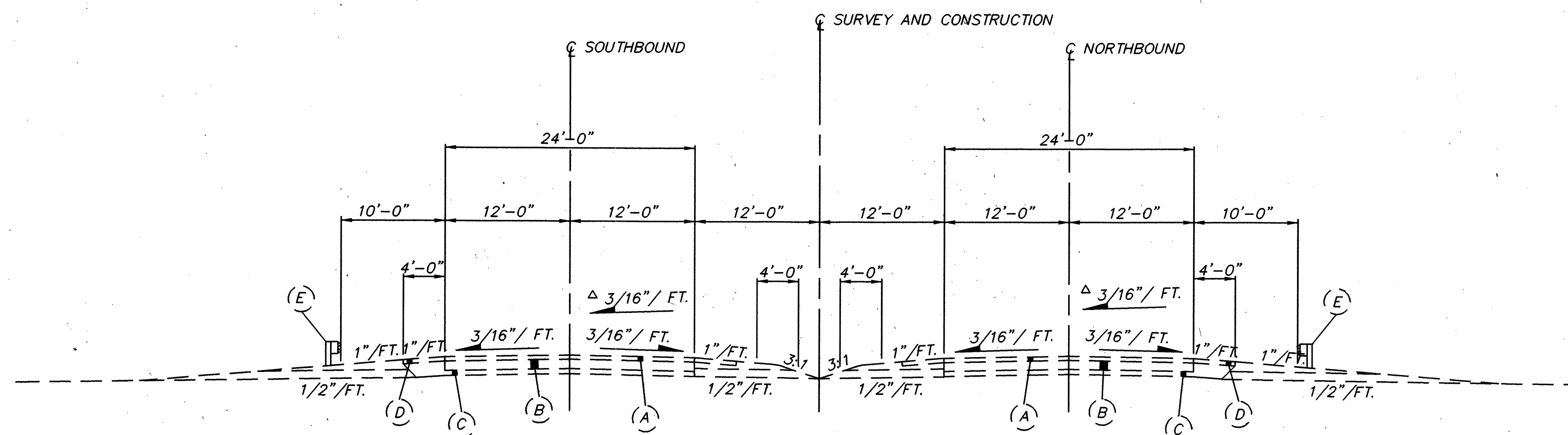
WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

PROPOSED LEGEND

- ① ITEM 203 - SUBGRADE COMPACTION
- ② ITEM 301 - 8" BITUMINOUS AGGREGATE BASE, AC-20
- ③ ITEM 304 - 6" AGGREGATE BASE
- ④ ITEM 402 - 1 3/4" ASPHALT CONCRETE, AC-20
- ⑤ ITEM 404 - 1 1/4" ASPHALT CONCRETE, AC-20
- ⑥ ITEM 408 - BITUMINOUS PRIME COAT (0.4 GAL/S.Y.)
- ⑦ ITEM 606 - GUARDRAIL, TYPE 5
- ⑨ ITEM 659 - SEEDING AND MULCHING (SEE GENERAL NOTE)
- ⑩ ITEM 605 - AGGREGATE DRAINS
- ⑫ ITEM 304 - 8" AGGREGATE BASE
- ⑬ ITEM 402 - 4" ASPHALT CONCRETE, AC-20

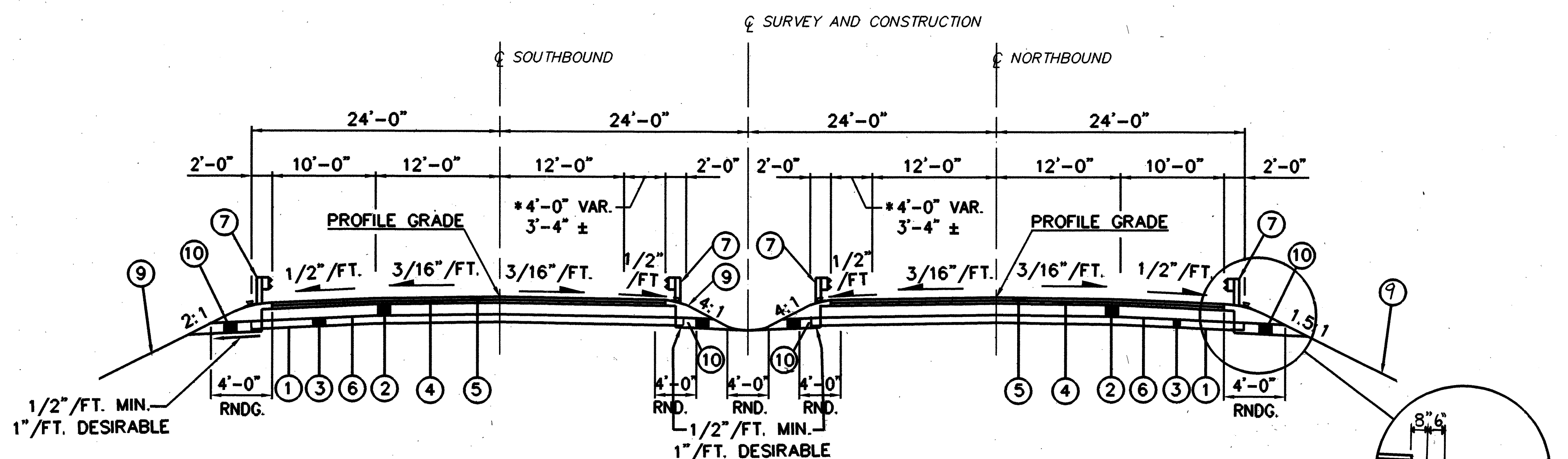
EXISTING LEGEND

- (A) ± 1 1/2" EXISTING ASPHALT SURFACE COURSE
- (B) 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- (C) EXISTING VAR. DEPTH GRANULAR SUBBASE
- (D) EXISTING STABILIZED SHOULDER
- (E) EXISTING GUARDRAIL, TYPE 5



EXISTING TYPICAL SECTION

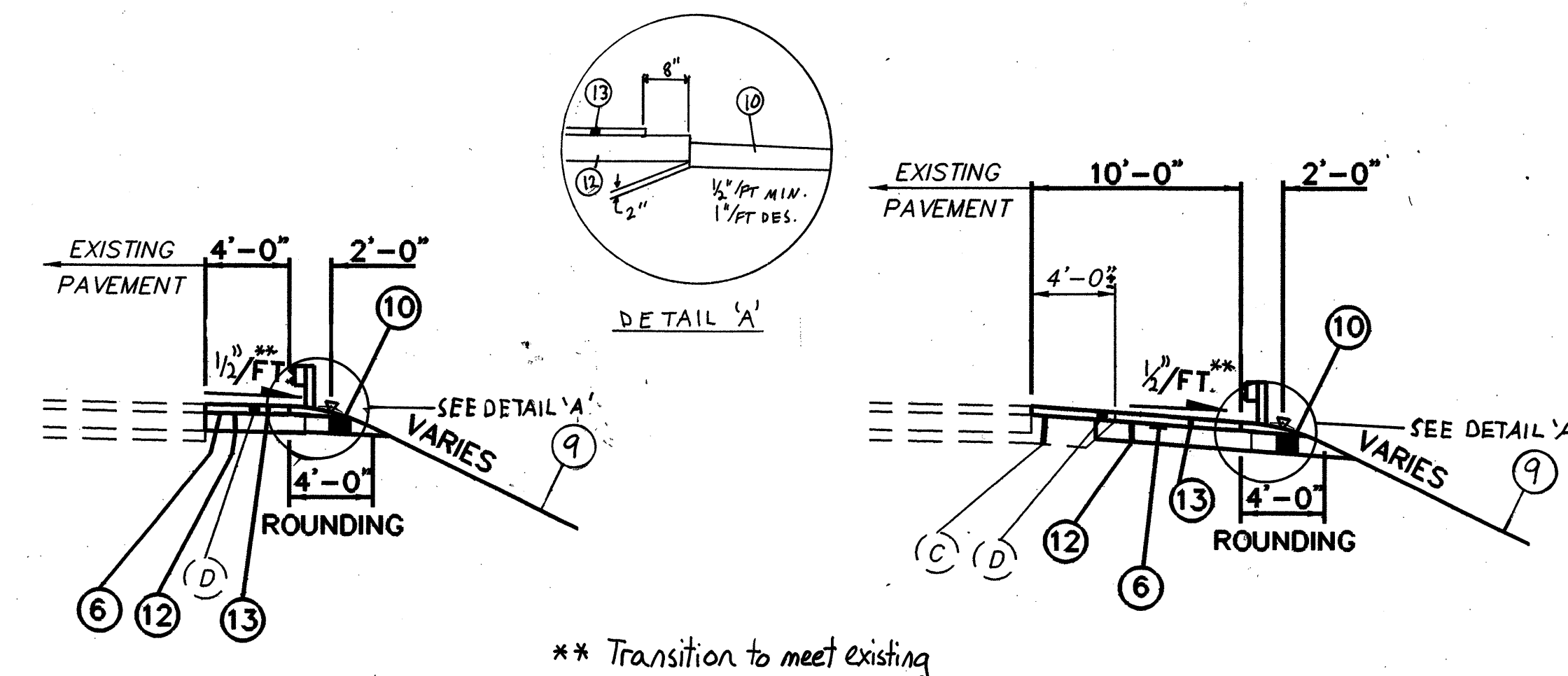
△ SUPERELEVATED SECTION
STA. 65+50.27 TO STA. 67+44.62 NORTHBOUND
STA. 65+50.70 TO STA. 67+56.61 SOUTHBOUND



PROPOSED TYPICAL SECTION - PAVEMENT REPLACEMENT

SOUTHBOUND		NORTHBOUND	
STA. 46+25.14 TO STA. 46+45.14 = 20 L.F.		STA. 46+02.82 TO STA. 46+22.82 = 20 L.F.	
STA. 48+19.58 TO STA. 48+39.58 = 20 L.F.		STA. 47+97.56 TO STA. 48+17.56 = 20 L.F.	
STA. 49+78.46 TO STA. 49+98.46 = 20 L.F.		STA. 49+52.63 TO STA. 49+72.63 = 20 L.F.	
STA. 52+89.11 TO STA. 54+75.00 = 185.89 L.F.		STA. 52+63.82 TO STA. 53+35.00 = 71.18 L.F.	
TOTAL = 245.89 LIN. FT.		TOTAL = 131.18 LIN. FT.	

* SHOULDER WIDTH VARIES FROM 4'-0" TO 3'-4" ± FOR THE FOLLOWING LIMITS
STA. 46+25.14 TO STA. 46+45.14 (SOUTHBOUND)
STA. 52+63.82 TO STA. 52+83.22 (NORTHBOUND)
STA. 53+15.00 TO STA. 53+35.00 (NORTHBOUND)
STA. 54+55.00 TO STA. 54+75.00 (SOUTHBOUND)



SOUTHBOUND - (RIGHT SIDE)
STA. 48+39.58 TO STA. 49+78.46 = 138.88
TOTAL = 138.88

SOUTHBOUND - (LEFT SIDE)
STA. 45+64.23 TO STA. 46+25.14 = 60.91
STA. 48+39.58 TO STA. 49+78.46 = 138.88
STA. 54+75.00 TO STA. 55+00.00 = 25.00
STA. 64+52.60 TO STA. 65+50.70 = 98.10
STA. 67+56.61 TO STA. 68+52.13 = 95.52
TOTAL = 418.41

NORTHBOUND - (LEFT SIDE)
STA. 44+68.68 TO STA. 46+02.82 = 134.14
STA. 48+17.56 TO STA. 49+52.63 = 135.07
TOTAL = 269.21

NORTHBOUND - (RIGHT SIDE)
STA. 45+23.63 TO STA. 46+02.82 = 79.19
STA. 48+17.56 TO STA. 49+52.63 = 135.07
STA. 53+35.00 TO STA. 53+60.00 = 25.00
STA. 64+49.90 TO STA. 65+50.27 = 100.37
STA. 67+44.62 TO STA. 68+47.78 = 103.16
TOTAL = 442.79

PROPOSED SHOULDER - TYPICAL SECTIONS

CAD FILE : WAZ1TYP1
DATE: 12/5/94
OPERATOR: JJE/DLW
PLOT SCALE: 1"=8'

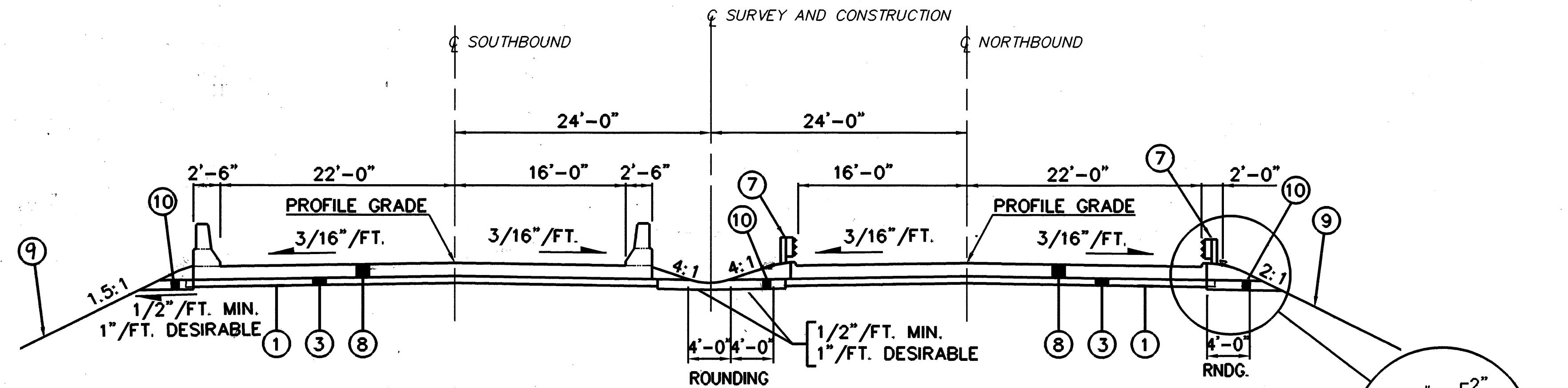
TYPICAL SECTIONS

TYPE 404

FHWA REGION	STATE	PROJECT	
5	OHIO		

4
98

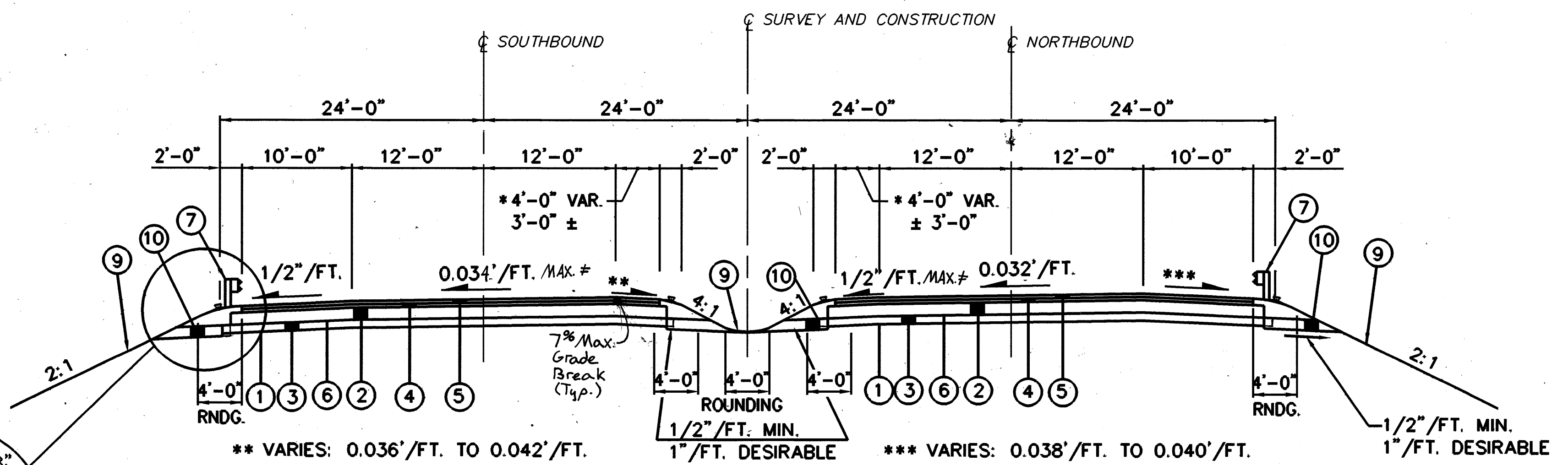
WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



APPROACH SLAB TYPICAL SECTION

SOUTHBOUND		NORTHBOUND	
STA. 46+45.14 TO STA. 46+65.14 = 20 L.F.	STA. 46+65.14 TO STA. 47+99.58 = BRIDGE LIMITS	STA. 46+22.82 TO STA. 46+42.82 = 20 L.F.	STA. 46+42.82 TO STA. 47+77.56 = BRIDGE LIMITS
STA. 47+99.58 TO STA. 48+19.58 = 20 L.F.		STA. 47+77.56 TO STA. 47+97.56 = 20 L.F.	
STA. 49+98.46 TO STA. 50+18.46 = 20 L.F.		STA. 49+72.63 TO STA. 49+92.63 = 20 L.F.	
STA. 50+18.46 TO STA. 52+69.11 = BRIDGE LIMITS		STA. 49+92.63 TO STA. 52+43.82 = BRIDGE LIMITS	
STA. 52+69.11 TO STA. 52+89.11 = 20 L.F.		STA. 52+43.82 TO STA. 52+63.82 = 20 L.F.	
TOTAL = 80 LIN. FT.		TOTAL = 80 LIN. FT.	

REFER TO SHEET 51 OF 98, MISCELLANEOUS CONSTRUCTION
DETAILS FOR ADDITIONAL APPROACH SLAB PLAN & SECTIONS.



SUPERELEVATED TYPICAL SECTION

STA. 65+50.70 TO STA. 67+56.61 (SOUTHBOUND) = 205.91 LIN. FT.	STA. 65+50.27 TO STA. 67+44.62 (NORTHBOUND) = 194.35 LIN. FT.
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* SHOULDER WIDTH VARIES FROM 4'-0" TO 3'-0" ± AT STATIONS
 STA. 65+50.70 TO STA. 65+75.70 (SOUTHBOUND)
 STA. 67+31.61 TO STA. 67+56.61 (SOUTHBOUND)
 STA. 65+50.27 TO STA. 65+75.27 (NORTHBOUND)
 STA. 67+19.62 TO STA. 67+44.62 (NORTHBOUND)

* NOTE: SEE SUPERELEVATION TABLES
ON SHEET 52

- #### PROPOSED LEGEND
- ① ITEM 203 - SUBGRADE COMPACTION
 - ② ITEM 301 - 8" BITUMINOUS AGGREGATE BASE, AC-20
 - ③ ITEM 304 - 6" AGGREGATE BASE
 - ④ ITEM 402 - 1 3/4" ASPHALT CONCRETE, AC-20
 - ⑤ ITEM 404 - 1 1/4" ASPHALT CONCRETE, AC-20
 - ⑥ ITEM 408 - BITUMINOUS PRIME COAT (0.4 GAL/S.Y.)
 - ⑦ ITEM 606 - GUARDRAIL, TYPE 5
 - ⑧ ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T=13"), AS PER PLAN - SEE SHEET 51
 - ⑨ ITEM 659 - SEEDING AND MULCHING
 - ⑩ ITEM 605 - AGGREGATE DRAINS

CAD FILE: WAZ1TYP2
DATE: 10/05/95
DRAWN BY: ME/RJP
PLOT SCALE: 1"=8'

GENERAL NOTES

QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: RLA	5	OHIO	
DATE: 3/94	DATE: 3/94			

5
98

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:

TELEPHONE:	GAS:
AT & T 15821 COUNTY ROAD 15 BLUFFTON, OHIO 45817 (419) 859-2196	U.S. SPRINT 120 NORTH BROADWAY AKRON, OHIO 44304 (216) 376-3019
	EAST OHIO GAS CO. 7015 FREEDOM AVENUE N.W. NORTH CANTON, OHIO 44720-7381 (513) 436-3350

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.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ITEM 659. SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL AND WITHIN THE CONSTRUCTION LIMITS. QUANTITIES FOR ITEM 659, SEEDING AND MULCHING, ARE DETERMINED FROM AREAS TAKEN FROM CAD OFF OF THE PLAN AND PROFILE. THESE QUANTITIES ARE THEN SHOWN ON THE PLAN AND PROFILE SHEETS.

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR PERMANENT SEEDED AREAS PER 659.09:

ITEM 659 - WATER	13 M. - GAL-BHF
	11 M. - GAL-NH

ITEM 407 TACK COAT (FOR FINAL SURFACE COURSE)

TACK COAT SHALL BE APPLIED AT AN AVERAGE APPLICATION RATE OF 0.05 GALLONS PER SQUARE YARD BETWEEN THE ASPHALT CONCRETE SURFACE COURSE AND THE INTERMEDIATED COURSE. AN ESTIMATED QUANTITY OF 165* GALLONS OF ITEM 704 TACK COAT IS PROVIDED TO BE USED AS DIRECTED BY THE ENGINEER FOR THIS PURPOSE.

* 81 GAL BHF
84 GAL NH

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATION IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.09. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.09.

REFERENCE MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. 97 AND 98 OF 98.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

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 ON STANDARD CONSTRUCTION DRAWING GR-1.1. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=13), AS PER PLAN:

THE REINFORCING STEEL FOR THE APPROACH SLABS OF THIS STRUCTURE SHALL BE EPOXY COATED IN CONFORMANCE WITH 509.

TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LENGTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB. MATERIALS, LABOR AND INSTALLATION, INCLUDING THE PARAPET, SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR ITEM 611 REINFORCED APPROACH SLAB (T=13"), AS PER PLAN.

ITEM SPECIAL. IMPACT ATTENUATOR. TYPE 1 BIDIRECTIONAL

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING ONE OF THE FOLLOWING TYPES OF IMPACT ATTENUATOR SYSTEMS:

1. THE BRAKEMASTER IMPACT ATTENUATING SYSTEM MANUFACTURED BY ENERGY-ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, ILLINOIS 60601 (TELEPHONE 312-467-6750)
2. THE C.A.T. IMPACT ATTENUATING SYSTEM MANUFACTURED BY SYRO STEEL CO., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE 216-545-4373).

THE ATTENUATOR SHALL BE DESIGNED FOR BIDIRECTIONAL IMPACTS AND SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATION SHOWN ON THE PLANS.

THE NOSE OF THE ATTENUATOR SHALL BE MARKED WITH THREE, EVENLY SPACED, FOUR (4) INCH WIDE HORIZONTAL STRIPES OF WHITE REFLECTIVE MATERIAL MEETING THE REQUIREMENTS OF CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE CONTRACT PRICE FOR ITEM SPECIAL, EACH, IMPACT ATTENUATOR TYPE 1 BIDIRECTIONAL. THIS ITEM SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM IN PLACE, INCLUDING ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

	BHF	NH	
207, STRAW OR HAY BALES	100	50	EACH
207, FILTER FABRIC FENCE	200	400	LIN. FT.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	5	0	5

ITEM 407. TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.10 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

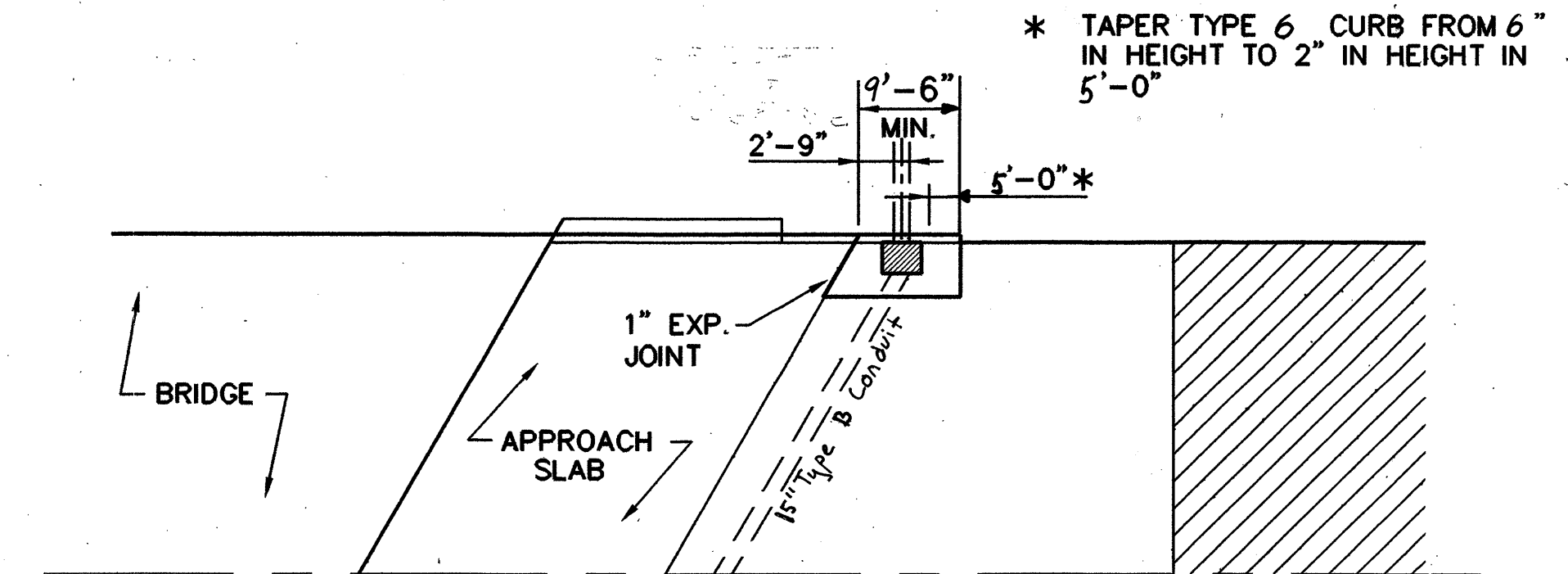
EROSION CONTROL

ITEMS 601, AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE EITHER OF THESE ITEMS AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE 670. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATION AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THESE ITEMS SHALL MEET THE REQUIREMENT OF 108.04.

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

ITEM 604 CATCH BASIN. NO. 3A. AS PER PLAN

IN ADDITION TO THE PROVISIONS OF ITEM 604 AND STANDARD DRAWING CB-3A, THE CONCRETE APRON SHALL BE CONSTRUCTED TO THE DIMENSIONS DETAILED FOR THE LOCATION SHOWN IN THE PLAN. THE COST OF THE ADDITIONAL MATERIALS, LABOR AND INCIDENTALS SHALL BE INCLUDED FOR PAYMENT IN THE CONTRACT UNIT PRICE PER EACH ITEM 604 CATCH BASIN, NO. 3A, AS PER PLAN, COMPLETE IN PLACE.

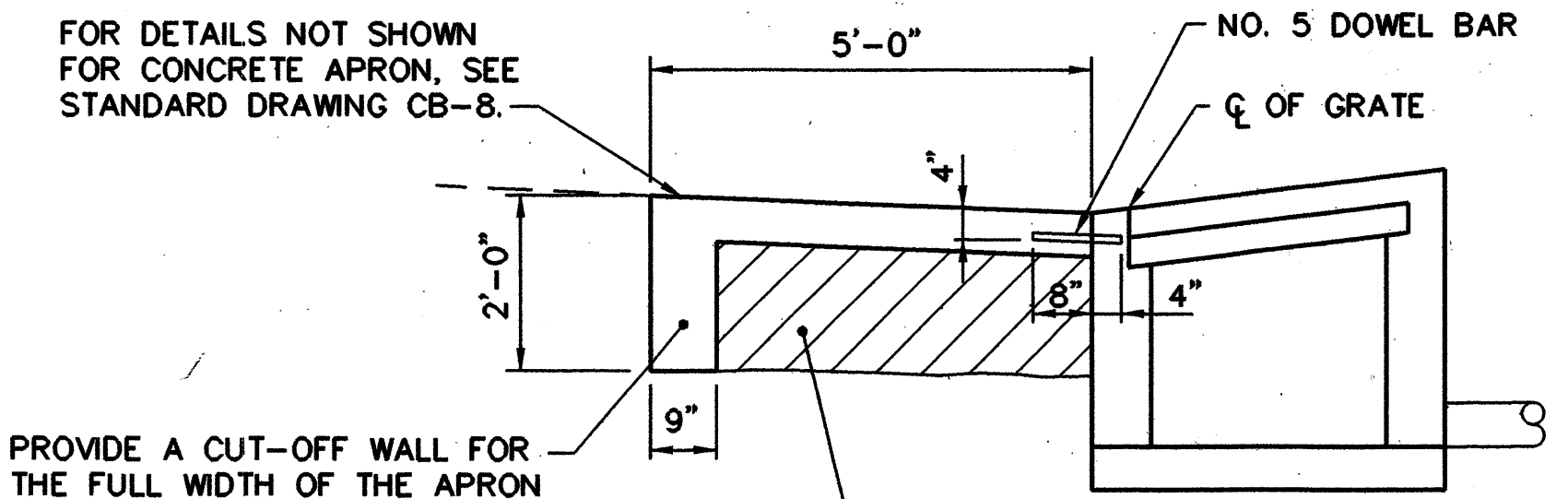


CATCH BASIN NO. 3A, AS PER PLAN DETAIL

NOTE: FOR ADDITIONAL DETAILS REFER TO STANDARD CONSTRUCTION DRAWING CB-3A
N.T.S.

ITEM 604 CATCH BASIN. NO. 8. AS PER PLAN

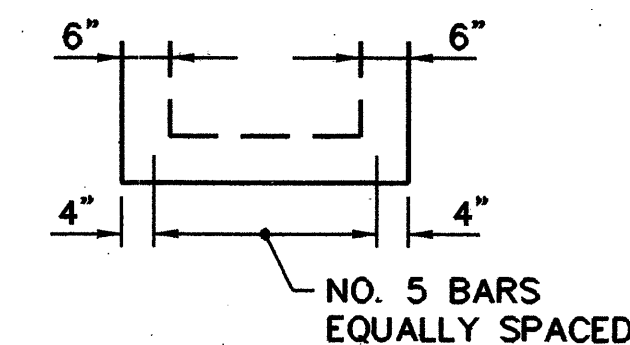
IN ADDITION TO THE PROVISIONS OF ITEM 604 AND STANDARD DRAWING CB-8, THE CONCRETE APRON SHALL BE CONSTRUCTED TO THE DIMENSIONS DETAILED FOR THE LOCATION SHOWN IN THE PLAN. THE COST OF THE ADDITIONAL MATERIALS, LABOR AND INCIDENTALS SHALL BE INCLUDED FOR PAYMENT IN THE CONTRACT UNIT PRICE PER EACH ITEM 604 CATCH BASIN, NO. 8, AS PER PLAN, COMPLETE IN PLACE.



FOR DETAILS NOT SHOWN FOR CONCRETE APRON, SEE STANDARD DRAWING CB-8.
PROVIDE A CUT-OFF WALL FOR THE FULL WIDTH OF THE APRON ALONG THE UPSTREAM SIDE ONLY. TWO CUT-OFF WALLS WILL BE REQUIRED FOR CATCH BASINS IN SAGS.

THE REQUIREMENTS IF ITEM 604 SHALL GOVERN THE REPLACEMENT OF THE EXISTING CATCH BASIN. THE WORK SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE EXISTING CATCH BASIN AND ITS SUBSEQUENT REPLACEMENT. THE CONCRETE APRON SHALL BE REPLACED AND BACKFILLED AS SHOWN HERE AND IN THE PERTINENT STANDARD DRAWING.

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 604 CATCH BASIN, NO. 8, AS PER PLAN AND SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, TOOLS, AND EQUIPMENT INCIDENTAL TO COMPLETE THIS ITEM OF WORK.



FOR NO. 8 CATCH BASIN THE NUMBER OF BARS NEEDED ALONG EACH SIDE WITH A CONCRETE APRON IS 4.

CATCH BASIN NO.	TOTAL # OF BARS FOR A	
	STD. APRON	SAG APRON
8	12	16

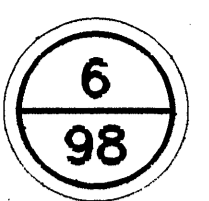
THE FURNISHING AND PLACING OF STEEL FOR THE 5/8" x 12" DOWEL BARS SHALL BE PER 509 REINFORCING STEEL. THE DOWEL BARS SHALL BE EPOXY COATED PER 509.10. THE DOWEL BARS SHALL BE INSTALLED PER 510 OR CAST INTO THE BASIN. BOLT OR INSERTS MAY BE USED. THE CATCH BASIN SHALL BE PRECAST OR CAST-IN-PLACE. BRICK OF CONCRETE BLOCK WILL NOT BE PERMITTED THE 6" CONCRETE APRON SHALL BE REINFORCED PER 601.04 (3).

CATCH BASIN NO. 8, AS PER PLAN

THIS DETAIL SHALL BE USED FOR NO. 8 CATCH BASIN, AS PER PLAN. FOR DETAILS NOT SHOWN, SEE STD. DWG. CB-8

MAINTENANCE OF TRAFFIC NOTES

QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: RAK	5	OHIO	
DATE: 3/93	DATE: 4/93			



WAYNE COUNTY
WAY-21- (0.87) (0.94) (1.24)

ITEM 614 - MAINTAINING OF TRAFFIC

- THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS, 615 TEMPORARY PAVEMENT AND 615 TEMPORARY ROADS IN ACCORDANCE WITH THE PLAN DETAILS AND WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING.
- AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE OPEN AT ALL TIMES.
- IN THE AREAS OF LANE CLOSURES THE CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING THE EXISTING SHOULDER NEXT TO THE TRAVELED LANE, TO AN ELEVATION NOT MORE THAN ONE (1) INCH BELOW EXISTING PAVEMENT ELEVATION AND MAINTAINING THE SHOULDERS IN A SAFE CONDITION FOR THE DURATION OF THE PROJECT.
- PAYMENT FOR MAINTENANCE OF TRAFFIC ITEMS, UNLESS SPECIFIED SEPARATELY SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT AND INCIDENTALS TO COMPLETE THE WORK AS DETAILED IN THE PLANS.

ITEM 614 - BARRIER REFLECTORS (SEE PROPOSAL NOTE)

REFLECTORS AND THEIR MOUNTING SHALL CONFORM TO SUPPLEMENTAL SPECIFICATION 802 EXCEPT THAT SPACING SHALL BE AT 12'-6" INCREMENTS

ITEM 615 - TEMPORARY PAVEMENTS

ON THIS PROJECT THE TEMPORARY CLASS A PAVEMENT FOR THE MEDIAN CROSSEOVERS SHALL BE 18 FEET WIDE AND THE ROADWAY WIDTH SHALL NOT BE LESS THAN 22 FEET OUT TO OUT OF EDGES OF SHOULDER. THE ALIGNMENTS AND PAVEMENT TYPICAL SECTION SHALL BE AS DETAILED ON SHEETS 12-14 OF 98.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED IN CONSTRUCTING THE TEMPORARY CLASS A PAVEMENT:

ITEM 411 - STABILIZED CRUSHED AGGREGATE	51 C.Y.
ITEM 615 - TEMPORARY ROADS	LUMP SUM
ITEM 615 - TEMPORARY PAVEMENT, CLASS A	1000 S.Y. BHF Funds
ITEM 616 - WATER	10 M-GAL.

TEMPORARY PAVEMENTS SHALL NOT BE OPENED TO TRAFFIC UNTIL ALL TEMPORARY TRAFFIC CONTROL DEVICES, SIGNS, PAVEMENT MARKINGS AND PORTABLE CONCRETE BARRIERS HAVE BEEN ERECTED AND APPROVED BY THE ENGINEER.

TEMPORARY EXCAVATION, EMBANKMENT AND TEMPORARY DRAINAGE FACILITIES SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED WITH PAYMENT FOR ITEM 615 - TEMPORARY ROADS.

UPON COMPLETION OF PHASE 2 OF THE MAINTENANCE OF TRAFFIC, THE CONTRACTOR SHALL REMOVE THE TEMPORARY MEDIAN CROSSEOVER PAVEMENT INCLUDING ANY TEMPORARY DRAINAGE FACILITIES. THE AFFECTED EXISTING EARTH MEDIAN AND PAVED SHOULDERS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AS DIRECTED BY THE ENGINEER AND AS PER 615.08.

INSTALLATION AND RESETTING CONSTRUCTION PHASES

ONLY DURING OFF-PEAK PERIODS (ie. ANY PERIOD OTHER THAN 7-9 A.M. AND 4-6 P.M.) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL DEVICES NECESSARY FOR MAINTAINING TRAFFIC FOR EACH CONSTRUCTION PHASE.

TEMPORARY CROSSEOVER LIGHTING SYSTEM

A TEMPORARY CROSSEOVER LIGHTING SYSTEM SHALL BE INSTALLED AT THE MEDIAN CROSSEOVER AS PER STANDARD DRAWING MT-100.00. THE WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, ELECTRICAL ENERGY AND PAYMENT OF FEES NECESSARY TO ARRANGE AND INSTALL THE ELECTRICAL SERVICE, AND TO ERECT, MAINTAIN, OPERATE AND SUBSEQUENTLY REMOVE THE LIGHTING. THIS ITEM WILL BE PAID FOR UNDER THE UNIT PRICE BID FOR EACH, ITEM 614 - TEMPORARY CROSSEOVER LIGHTING SYSTEM FOR A PAIR OF CROSSEOVER RAMPS. THE FOLLOWING QUANTITY IS CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - TEMPORARY CROSSEOVER LIGHTING SYSTEM	1 EACH-BHF
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TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS

REFERENCES TO SUPPLEMENTAL SPECIFICATIONS 857, 858, 861, 847, 957, 958, 961, 947 AND ITEM 621 ON THE TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS 630, 631, 633, 645, 730, 731, 733, 740 AND 641.

CONTRACTORS EQUIPMENT-OPERATION AND STORAGE

IN ADDITION TO THE REQUIREMENTS OF SECTION 614.03a OF THE CONSTRUCTION & MATERIAL SPECIFICATIONS THE FOLLOWING SHALL APPLY.

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC WHERE PRACTICAL. A FLAGGER SHALL BE USED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S VEHICLES AND EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT.

EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN VARIOUS OPERATIONS ARE SCHEDULED TO CONTINUE THE NEXT WORKDAY. ON WEEKENDS OR AT OTHER TIMES OF SUSPENSIONS OF WORK, THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA REMOVED FROM THE INTERSTATE RIGHT-OF-WAY. THE LOCATION SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. NO EQUIPMENT SHALL BE IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTORS STORAGE AREA.

LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS) SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING 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.
- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

THE STATE HIGHWAY PATROL HEADQUARTERS
660 EAST MAIN STREET
COLUMBUS, OHIO 43205
PHONE (216) 466-2300

LAW ENFORCEMENT OFFICERS (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). THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 100 HOURS - BHF

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC - MAINLINE OVER SIDE ROADS

TWO-WAY TRAFFIC ON WARRICK ROAD SHALL BE MAINTAINED AT ALL TIMES DURING REPLACEMENT OF BEARINGS AND REHABILITATION OF MAINLINE BRIDGES EXCEPT DURING THE FOLLOWING OPERATIONS OR AS DIRECTED BY THE ENGINEER:

- DEMOLITION OF THE EXISTING BRIDGE PARAPETS
- DURING THE CONSTRUCTION OF THE PROPOSED PARAPET OVER THE LOCAL ROAD WHERE THE ENGINEER BELIEVES TEMPORARY CLOSURE OF A TRAFFIC LANE IS WARRANTED.

A SAFETY NET OR PLATFORM SHALL BE REQUIRED TO PROTECT THE UNDERPASS ROADWAY DURING REMOVAL OF EXISTING AND CONSTRUCTION OF NEW CONCRETE PARAPETS. THE DESIGN OF THE NET OR PLATFORM SHALL CONFORM WITH OSHA REQUIREMENTS, SHALL HAVE APPROVAL FROM THE ODOT BUREAU OF BRIDGES AND STRUCTURAL DESIGN, AND SHALL REMAIN IN PLACE UNTIL WORK HAS BEEN COMPLETED. THE EXISTING VERTICAL CLEARANCE OVER THE UNDERPASS ROADWAY SHALL BE MAINTAINED AT ALL TIMES.

IN THE EVENT A LANE RESTRICTION IS NECESSARY, THE METHOD OF INSTALLATION AND DESIGN OF THE TEMPORARY LANE CLOSURE SHALL CONFORM TO STANDARD DRAWING MT-97.10. COST FOR THE ABOVE WORK SHALL BE CONSIDERED INCIDENTAL TO AND SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM - 622 PORTABLE CONCRETE BARRIER 50"

IT IS ANTICIPATED THAT THE SAME BARRIER WILL BE USED IN VARIOUS PHASES OF CONSTRUCTION. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETE.

TONGUE AND GROOVE SECTIONS SHALL NOT BE PERMITTED ON THIS PROJECT. SURFACE PREPARATION FOR ALL PCB INSTALLATION SHALL BE AS PER STANDARD CONSTRUCTION DRAWING PCB-91

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

TEMPORARY WORK ZONE SIGNS AND MARKINGS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE PAVEMENT MARKINGS, AND SIGNS PER THE REQUIREMENTS OF THE STANDARD CONSTRUCTION DRAWING MT-99.10.

ITEM 614 - WORK ZONE MARKING SIGN (No Edge Lines)	BHF	NH
ITEM 614 - TEMPORARY LANE LINES, CLASS II	2 EACH	2 EACH
	032 MILE	0.09 MILE

MAINTENANCE OF TRAFFIC NOTES

QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: RAK	5	OHIO	
DATE: 3/93	DATE: 4/93			

WAYNE COUNTY
WAY-21- (0.87) (0.94) (1.24)

TEMPORARY GUARDRAIL & BRIDGE TERMINAL ASSEMBLIES

THIS WORK SHALL CONSIST OF THE FURNISHING, INSTALLATION, MAINTENANCE, GRADING AND SUBSEQUENT REMOVAL OF GUARDRAIL, TYPE 5, GUARDRAIL, TYPE 5 BARRIER DESIGN BRIDGE TERMINAL ASSEMBLY, TYPE H AND TYPE 1, AND ANCHOR ASSEMBLIES B&T.

GUARDRAIL AND/OR BRIDGE TERMINAL ASSEMBLIES WHICH HAVE BEEN DAMAGED BEYOND REPAIR BY TRAFFIC SHALL BE REPLACED BY THE CONTRACTOR WITHIN TWENTY-FOUR (24) HOURS OF THE INCIDENT WHICH CAUSED THE DAMAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, REPAIRING AND OTHERWISE RESTORING ANY DAMAGED GUARDRAIL AND/OR BRIDGE TERMINAL ASSEMBLY IN ACCORDANCE WITH ITEM 606.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID PER LINEAR FOOT - ITEM SPECIAL - TEMPORARY GUARDRAIL FOR GUARDRAIL TYPE 5 AND GUARDRAIL, TYPE 5, BARRIER DESIGN INSTALLATIONS AND PER EACH - ITEM SPECIAL - GUARDRAIL MISCELLANEOUS TEMPORARY BRIDGE TERMINAL ASSEMBLIES, AND ANCHOR ASSEMBLY INSTALLATIONS. PAYMENT SHALL INCLUDE THE FURNISHING, INSTALLATION, MAINTENANCE, GRADING AND THE SUBSEQUENT REMOVAL FOR EACH ITEM AT THE SPECIFIED LOCATIONS LISTED BELOW:

GUARDRAIL, TYPE 5

PHASE I - STA. 45+12.68 TO STA. 46+64.00 (BRIDGE 0.87 L) = 150 L.F. BHF
 STA. 48+00.98 TO STA. 50+17.06 (BRIDGE 0.87 L) = 225 L.F. BHF
 STA. 64+28.62 TO STA. 65+66.12 (BRIDGE 1.24 L) = 137.5 L.F. NH

PHASE II - STA. 52+66.92 TO STA. 53+96.77 (BRIDGE 0.94 R) = 137.5 L.F. BHF
 STA. 64+67.50 TO STA. 68+67.50 (BRIDGE 1.24 R) = 400 L.F. NH

TOTAL = 512.5 L.F. BHF
 537.5 L.F. NH

GUARDRAIL, TYPE 5, BARRIER DESIGN

PHASE I - STA. 64+53.62 TO STA. 64+66.12 (BRIDGE 1.24 L) = 12.5 L.F. NH

BRIDGE TERMINAL ASSEMBLY, TYPE H

PHASE I - STA. 46+61.00 TO STA. 46+86.00 (BRIDGE 0.87 L) = 1 EACH BHF
 STA. 50+17.06 TO STA. 50+42.06 (BRIDGE 0.87 L) = 1 EACH BHF
 STA. 65+66.16 TO STA. 65+91.16 (BRIDGE 1.24 L) = 1 EACH NH

TOTAL = 2 EACH BHF
 1 EACH NH

BRIDGE TERMINAL ASSEMBLY, TYPE 1

PHASE II - STA. 52+66.92 (BRIDGE 0.94 R) = 1 EACH BHF

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED IN CONSTRUCTING THE TEMPORARY GUARDRAIL, TYPE 5, GUARDRAIL, TYPE 5, BARRIER DESIGN AND BRIDGE TERMINAL ASSEMBLIES, TYPE H AND TYPE 1, AND ANCHOR ASSEMBLIES TYPE B&T

ITEM SPECIAL - TEMPORARY GUARDRAIL (GUARDRAIL, TYPE 5) =	BHF	NH
ITEM SPECIAL - TEMPORARY GUARDRAIL (GUARDRAIL, TYPE 5, BARRIER DESIGN) =	512.5 L.F.	537.5 L.F.
ITEM SPECIAL - GUARDRAIL MISCELLANEOUS TEMPORARY BRIDGE TERMINAL ASSEMBLY, TYPE H =	2 EA	1 EA
ITEM SPECIAL - GUARDRAIL MISCELLANEOUS TEMPORARY BRIDGE TERMINAL ASSEMBLY, TYPE 1 =	1 EA	
ITEM SPECIAL - ANCHOR ASSEMBLY, TYPE B =		2 EA
ITEM SPECIAL - ANCHOR ASSEMBLY, TYPE T =		2 EA

ANCHOR ASSEMBLY TYPE B

PHASE I - STA. 64+16.12 TO STA. 64+28.62 = 1 EACH NH
 PHASE II - STA. 68+67.50 TO STA. 68+80.00 = 1 EACH NH
 TOTAL = 2 EACH NH

ANCHOR ASSEMBLY TYPE T

PHASE II - STA. 64+55.00 TO STA. 64+67.50 = 1 EACH NH

WINTER TRAFFIC LIMITATIONS

ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 THRU APRIL 6. NOVEMBER 15 SHALL BE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH 108.07 FOR EACH CALENDAR DAY THAT ALL LANES ARE NOT OPEN AND AVAILABLE TO TRAFFIC.

SEQUENCE OF CONSTRUCTION

PHASE I

PRIOR TO THE BEGINNING OF ANY REHABILITATION/RECONSTRUCTION WHICH WILL REQUIRE THE CLOSING OF EITHER THE NORTHBOUND OR SOUTHBOUND LANES TO TRAFFIC, BOTH TEMPORARY CROSSOVERS WILL BE CONSTRUCTED AS PER MT-95.70 AND PLAN DETAILS. TEMPORARY PAVEMENT MARKINGS & RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON THE CROSSOVERS PRIOR TO ANY EXISTING PAVEMENT BEING CLOSED TO TRAFFIC. THE SECOND CROSSOVER IS LOCATED ON WAY-21-1.41 PART 2.

UPON COMPLETION OF BOTH CROSSOVERS, TEMPORARY PAVEMENT MARKINGS, RAISED PAVEMENT MARKERS, PLACEMENT OF DRUMS, TEMPORARY SIGNING, TEMPORARY GUARDRAIL AND PORTABLE CONCRETE BARRIER WILL BE INSTALLED AND CONSTRUCTED AS DETAILED PER MT-95.70, MT-95.30 AND AS SHOWN ON PHASE I MAINTENANCE OF TRAFFIC PLANS.

WHEN THE ABOVE REQUIREMENTS HAVE BEEN SATISFIED, THE NORTHBOUND LANES WILL BE CLOSED FOR REHABILITATION AND RECONSTRUCTION TO THE FOLLOWING BRIDGES:

WAY-21-0.87 R WAY-21-0.94 R WAY-21-1.24 R

FOR BRIDGES WAY-21-0.87 R AND WAY-21-0.94 R THE EXISTING PARAPET WALLS, BRIDGE DECK & APPROACH SLABS WILL BE REMOVED AND REPLACED. PORTIONS OF THE EXISTING WING WALLS, GUARDRAIL & PAVEMENT WILL BE REMOVED AND RECONSTRUCTED.

FOR BRIDGE WAY-21-1.24 R THE EXISTING PARAPET WALLS, BRIDGE DECK, AND APPROACH SLAB WILL BE REMOVED. PORTIONS OF THE EXISTING WING WALLS, ABUTMENTS AND PIERS WILL BE REMOVED. THE AREA UNDER THE BRIDGE WILL BE BACKFILLED WITH SUITABLE MATERIAL AND A NEW PAVEMENT SURFACE WILL BE CONSTRUCTED.

PHASE II

UPON COMPLETION OF PHASE I CONSTRUCTION (NORTHBOUND CONSTRUCTION), PLACEMENT OF TEMPORARY PAVEMENT MARKINGS, RAISED PAVEMENT MARKERS, PLACEMENT OF DRUMS, TEMPORARY SIGNING, TEMPORARY GUARDRAIL AND PORTABLE CONCRETE BARRIER WILL BE INSTALLED AND CONSTRUCTED AS PER MT-95.70, MT-95.30 AND AS SHOWN ON PHASE II MAINTENANCE OF TRAFFIC PLANS.

WHEN THE ABOVE REQUIREMENTS HAVE BEEN SATISFIED, THE SOUTHBOUND LANES WILL BE CLOSED FOR REHABILITATION AND RECONSTRUCTION TO THE FOLLOWING BRIDGES:

WAY-21-0.87 L WAY-21-0.94 L WAY-21-1.24 L

FOR BRIDGES WAY-21-0.87 L AND WAY-21-.094 L THE EXISTING PARAPET WALLS, BRIDGE DECK & APPROACH SLABS WILL BE REMOVED AND REPLACED. PORTIONS OF THE EXISTING WING WALLS, GUARDRAIL & PAVEMENT WILL BE REMOVED AND RECONSTRUCTED.

FOR BRIDGE WAY-21-1.24 L THE EXISTING PARAPET WALLS, BRIDGE DECK, AND APPROACH SLAB WILL BE REMOVED. PORTIONS OF THE EXISTING WING WALLS, ABUTMENTS AND PIERS WILL BE REMOVED. THE AREA UNDER THE BRIDGE WILL BE BACKFILLED WITH SUITABLE MATERIAL AND A NEW PAVEMENT SURFACE WILL BE CONSTRUCTED.

ONCE PHASE II HAS BEEN COMPLETED, THE TEMPORARY MEDIAN CROSSOVER PAVEMENT WILL BE REMOVED AND THE MEDIAN AREA WILL BE EITHER RETURNED TO ITS ORIGINAL CONDITION OR RECONSTRUCTED AS SHOWN ON THE ROADWAY PLANS.

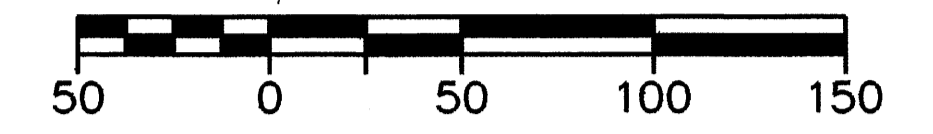
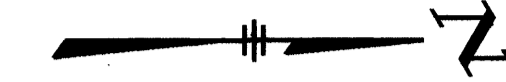
ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED AND PERMANENT MARKINGS PLACED AS SHOWN ON SHEET 54 OF 98.

MAINTENANCE OF TRAFFIC PHASE 1

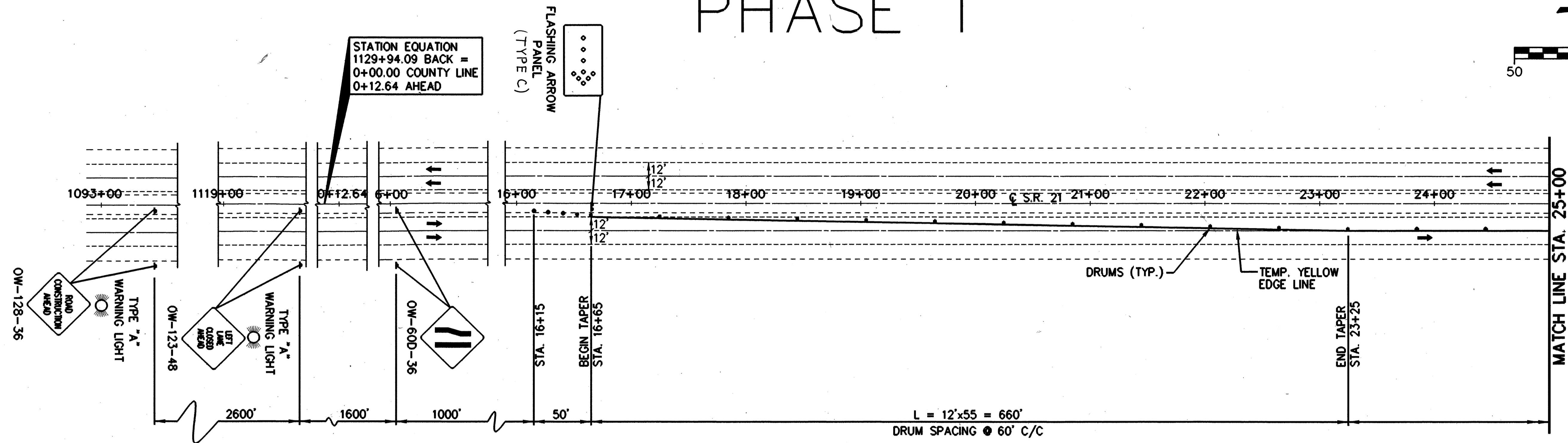
QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: RAK	5	OHIO	
DATE: 3/93	DATE: 3/93			

8
98

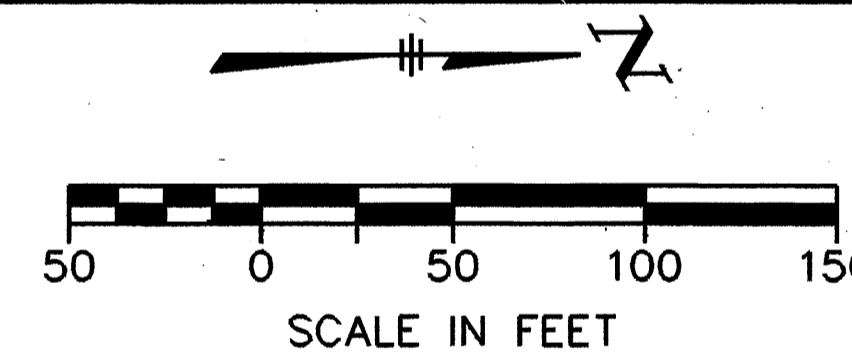
WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



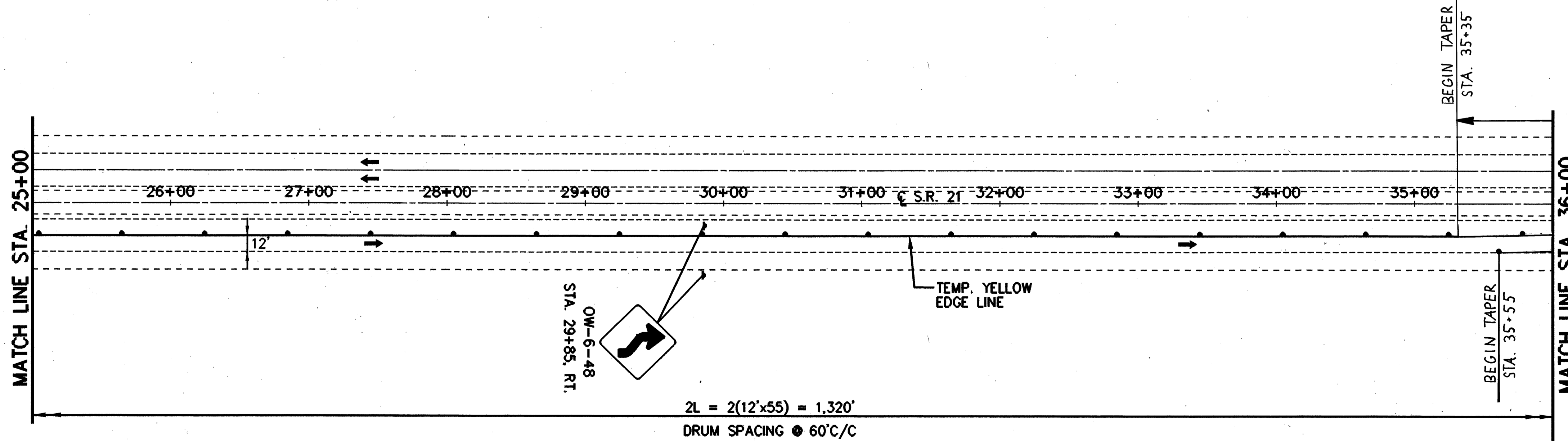
SCALE IN FEET



NOTES:
REFER TO MT-95.30 & MT-95.70
FOR ADDITIONAL DETAILS.



SCALE IN FEET



MAINTENANCE OF TRAFFIC QUANTITIES - PHASE I

BHF Funds

ITEM 622 - PORTABLE CONCRETE BARRIER 50"

STA. 40+50 TO STA. 70+00 = 2,950 LIN. FT.

ITEM 614 - BARRIER REFLECTORS, TYPE B

SOUTHBOUND TRAVEL
STA. 70+00 TO STA. 40+50 +1 = 237 EACH
12'-6"

NORTHBOUND TRAVEL
STA. 70+00 TO STA. 43+50 +1 = 213 EACH
12'-6"

TOTAL = 450 EACH

ITEM 614 - OBJECT MARKERS

2x (STA. 70+00 TO STA. 43+50 +2) = 426 EACH
12'-6"

NOTE:
THE QUANTITIES LISTED ABOVE ALONG WITH THE CALCULATIONS FOR THE TEMPORARY PAVEMENT, STABILIZED CRUSHED AGGREGATE AND TEMPORARY PAVEMENT MARKINGS ARE SHOWN ON THE MAINTENANCE OF TRAFFIC NOTES SHEET 14. REFER TO SHEET 15 FOR TEMPORARY RAISED PAVEMENT MARKERS.

"PAVEMENT MARKINGS REMOVED FOR MAINTENANCE OF TRAFFIC PURPOSES BEYOND THE LIMITS OF THE BUTT JOINTS SHALL BE RESTORED AND PAID FOR UNDER THE LUMP SUM ITEM 614 MAINTAINING TRAFFIC."

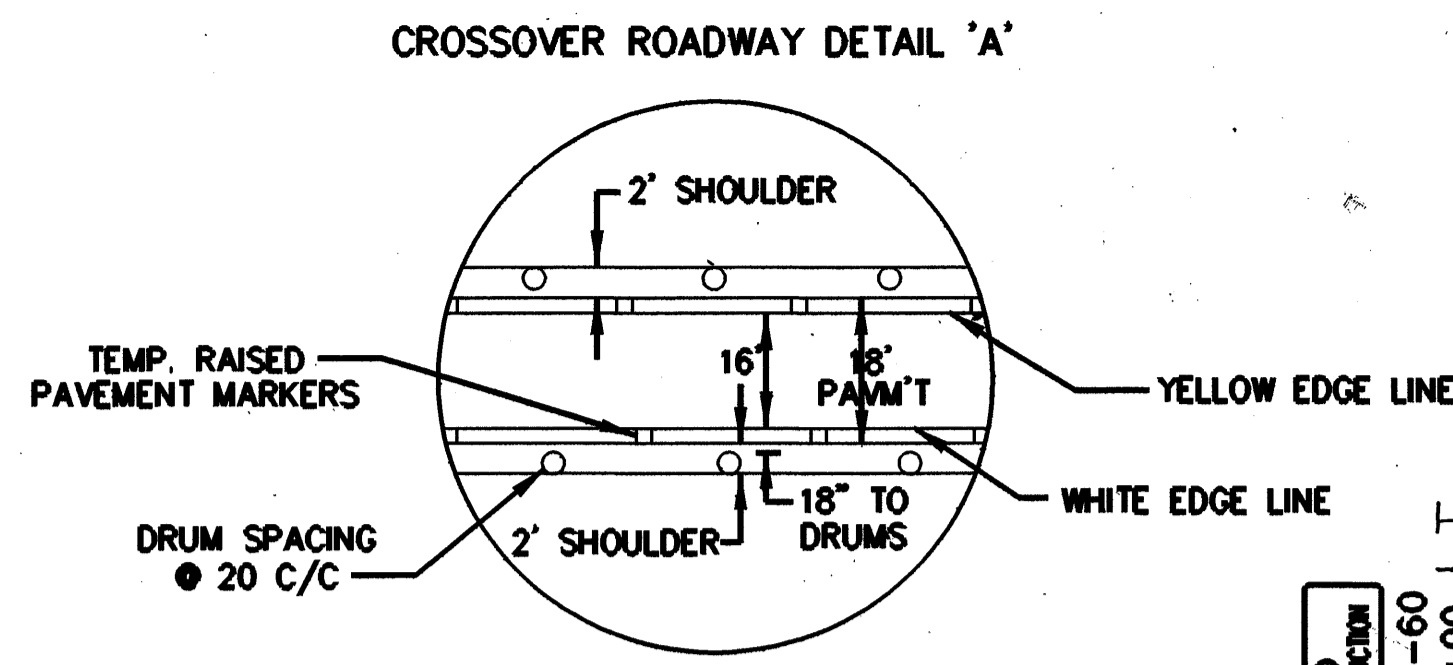
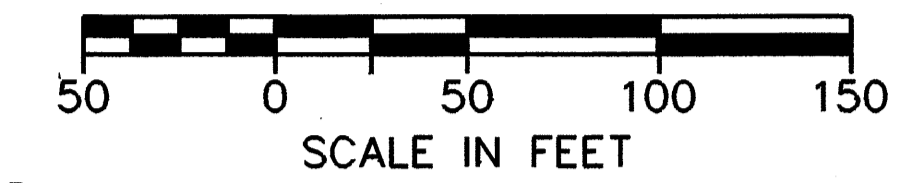
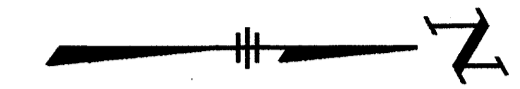
CAD FILE: WAYMOT1
DATE: 12/5/94
OPERATOR: MPB/JUE
PLOT SCALE: 1"=50'

MAINTENANCE OF TRAFFIC PHASE 1

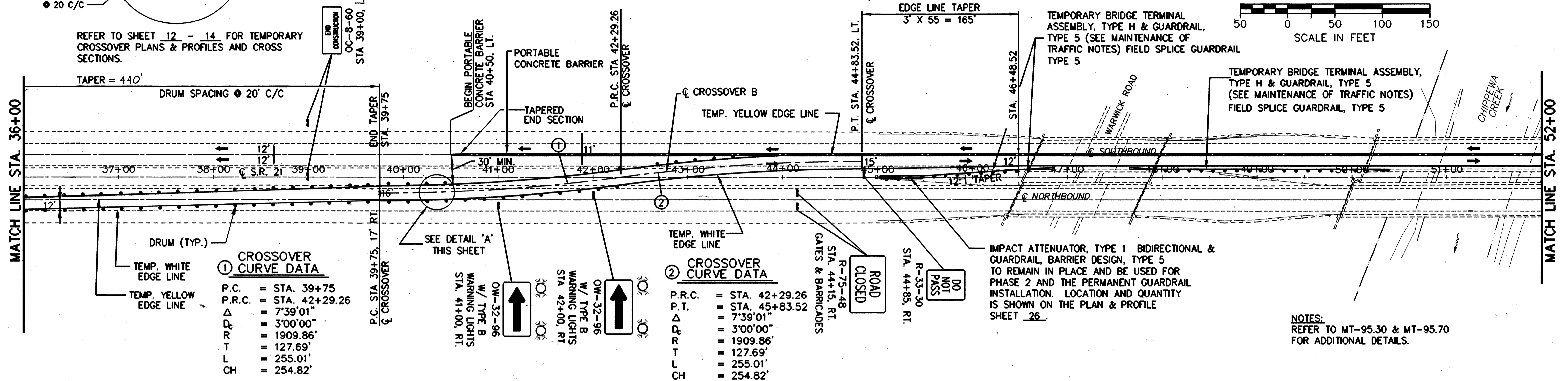
FHWA REGION	STATE	PROJECT	
5	OHIO		

9
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



REFER TO SHEET 12 - 14 FOR TEMPORARY CROSSOVER PLANS & PROFILES AND CROSS SECTIONS.



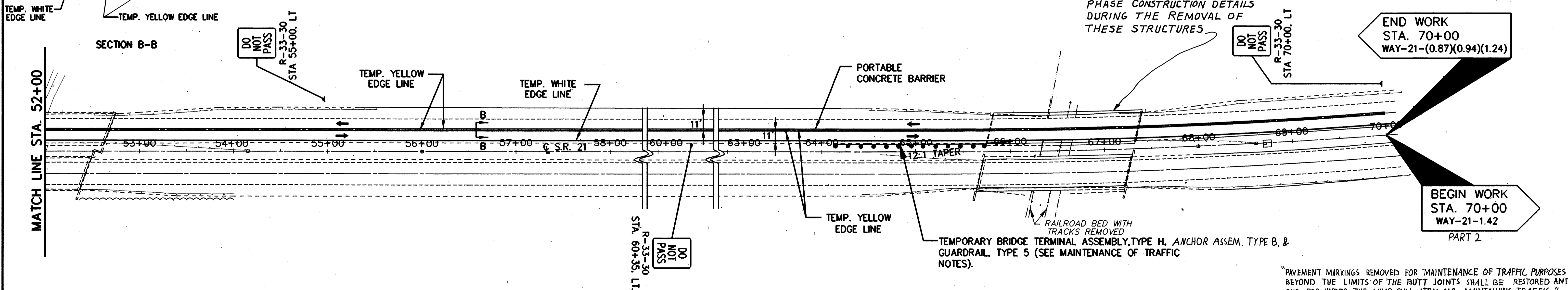
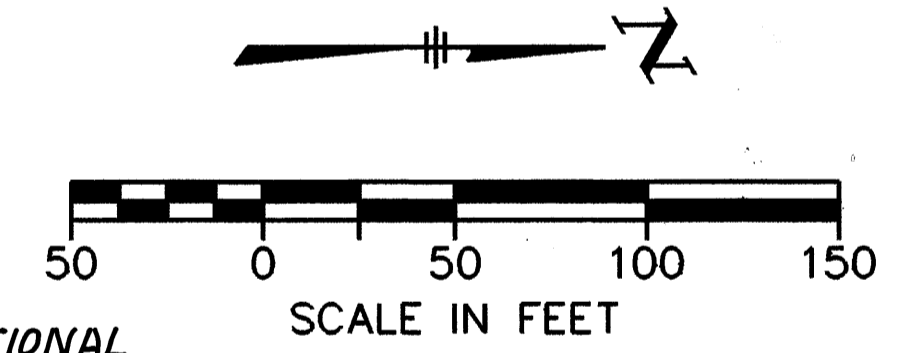
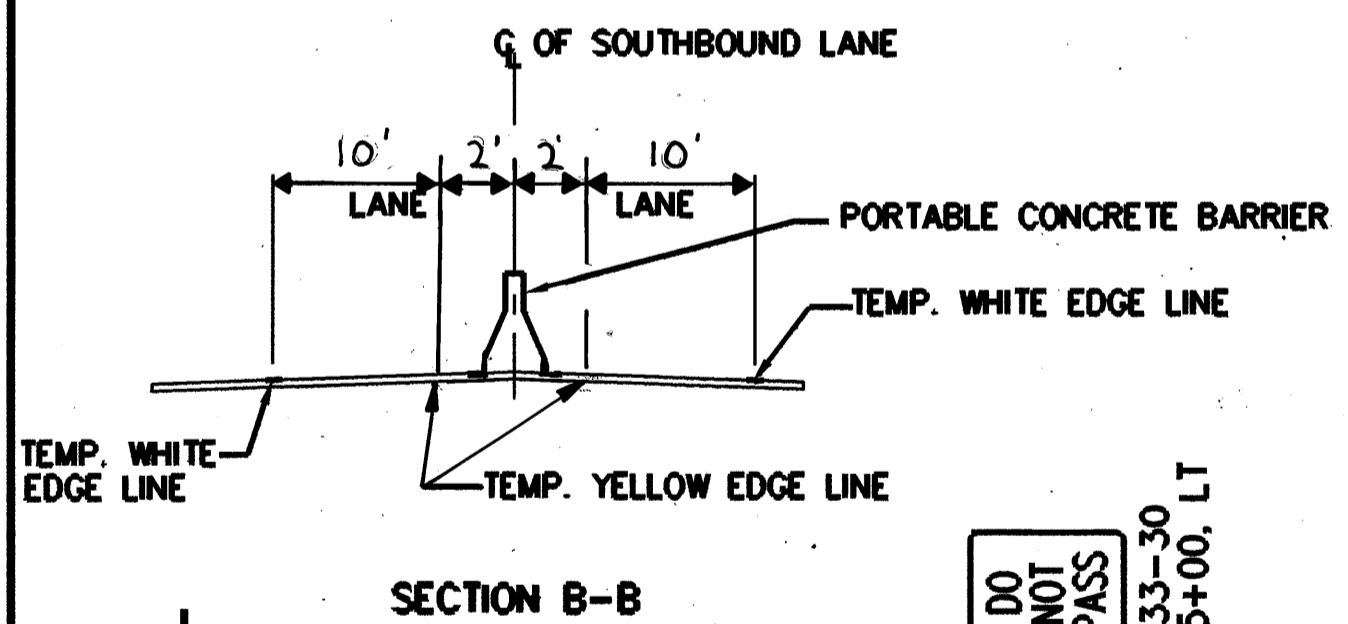
① CROSSOVER CURVE DATA

P.C.	=	STA. 39+75
P.R.C.	=	STA. 42+29.26
Δ	=	7°39'01"
D	=	3'00'00"
R	=	1909.86'
T	=	127.69'
L	=	255.01'
CH	=	254.82'

② CROSSOVER CURVE DATA

P.C.	=	STA. 42+29.26
P.T.	=	STA. 45+83.52
Δ	=	7°39'01"
D	=	3'00'00"
R	=	1909.86'
T	=	127.69'
L	=	255.01'
CH	=	254.82'

NOTES:
REFER TO MT-95.30 & MT-95.70 FOR ADDITIONAL DETAILS.



SEE SHEET 53 FOR ADDITIONAL PHASE CONSTRUCTION DETAILS DURING THE REMOVAL OF THESE STRUCTURES.

END WORK
STA. 70+00
WAY-21-(0.87)(0.94)(1.24)

BEGIN WORK
STA. 70+00
WAY-21-1.42
PART 2

"PAVEMENT MARKINGS REMOVED FOR MAINTENANCE OF TRAFFIC PURPOSES BEYOND THE LIMITS OF THE BUTT JOINTS SHALL BE RESTORED AND PAID FOR UNDER THE LUMP SUM ITEM 614 MAINTAINING TRAFFIC."

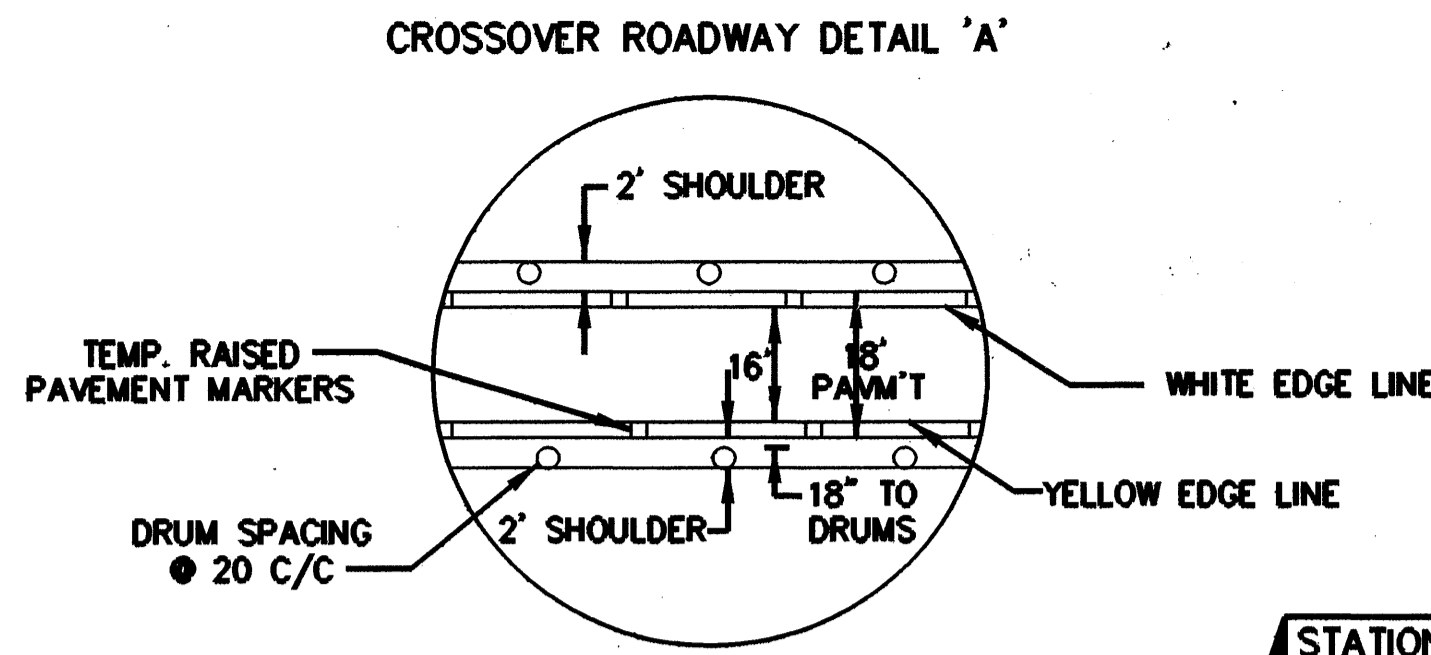
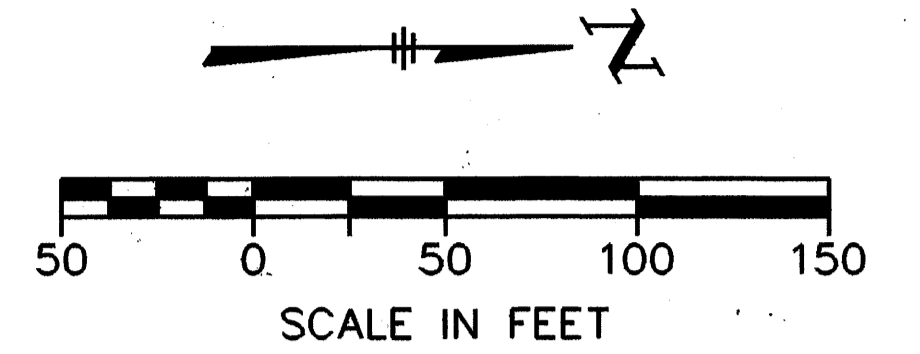
CAD FILE: WAYM012
DATE: 1/10/95
OPER: MFB/PJP
PLOT SCALE: 1"=50'

MAINTENANCE OF TRAFFIC PHASE 2

FHWA REGION	STATE	PROJECT	
5	OHIO		

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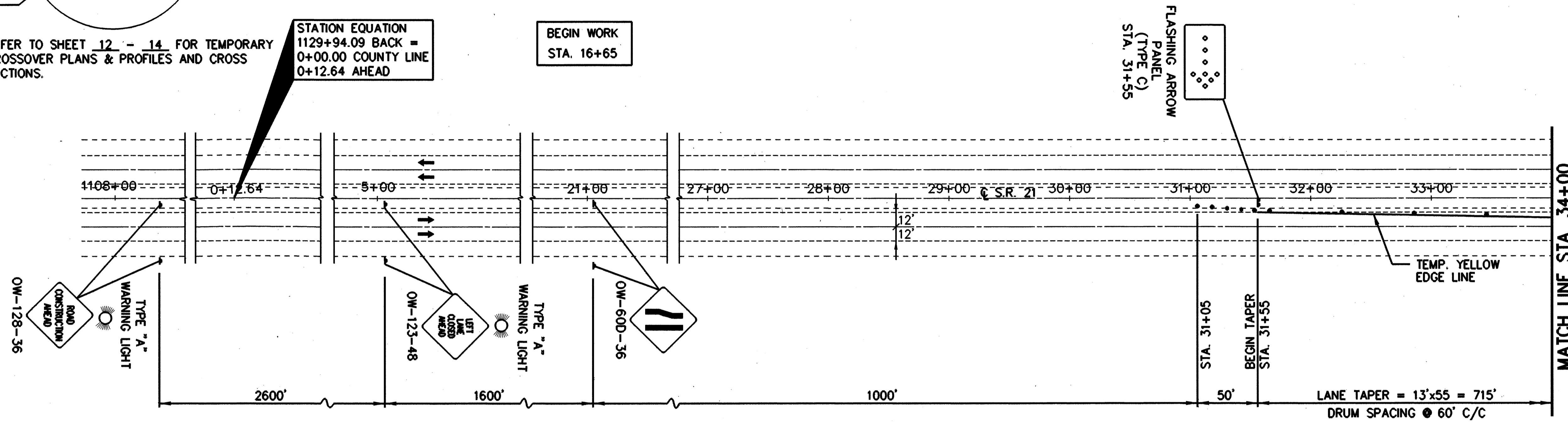
WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



REFER TO SHEET 12 - 14 FOR TEMPORARY CROSSOVER PLANS & PROFILES AND CROSS SECTIONS.

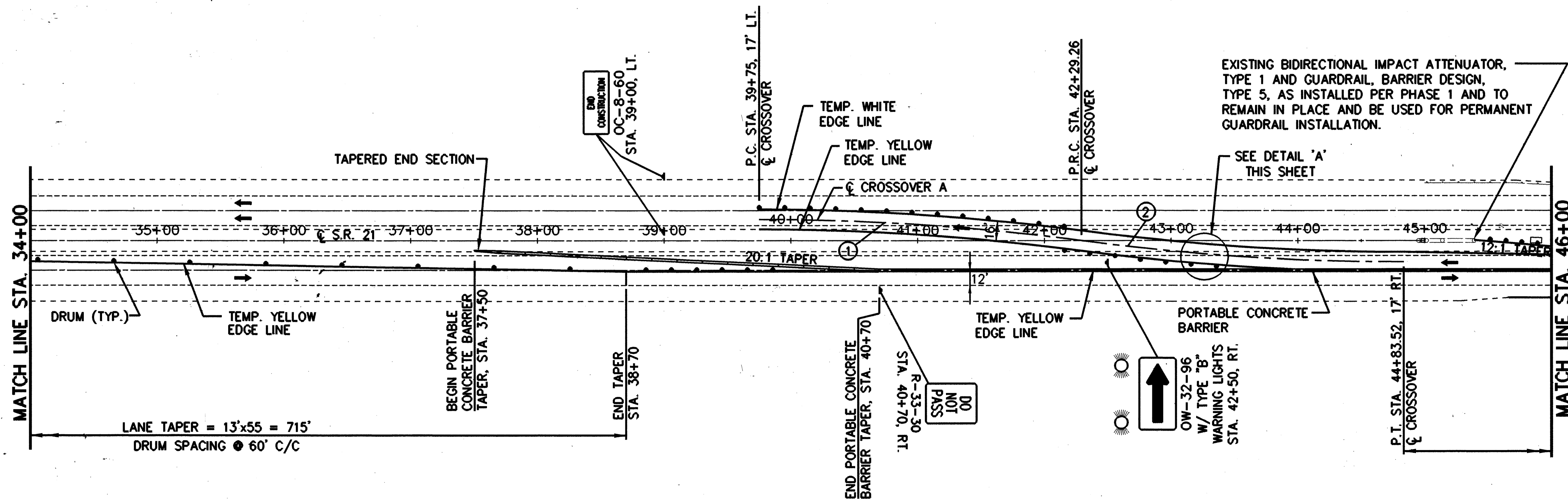
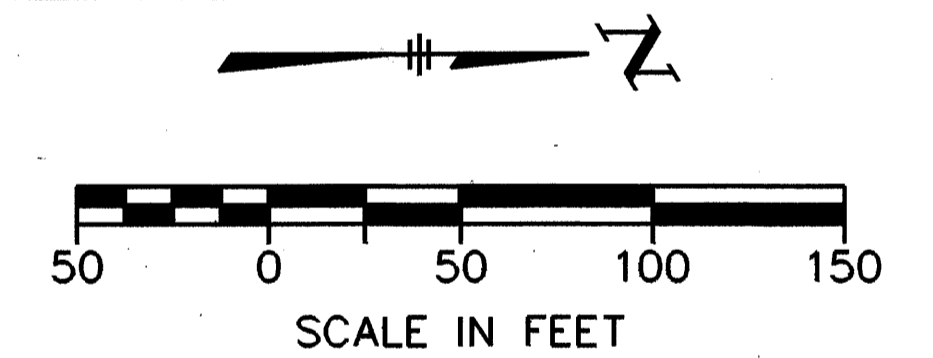
STATION EQUATION
1129+94.09 BACK =
0+00.00 COUNTY LINE
0+12.64 AHEAD

BEGIN WORK
STA. 16+65



PAVEMENT MARKINGS REMOVED FOR MAINTENANCE OF TRAFFIC PURPOSES BEYOND THE LIMITS OF THE BUTT JOINTS SHALL BE RESTORED AND PAID FOR UNDER THE LUMP SUM ITEM 614 MAINTAINING TRAFFIC."

NOTES:
REFER TO MT-95.30 & MT-95.70 FOR ADDITIONAL DETAILS.



② CROSSOVER CURVE DATA

P.R.C. = STA. 42+29.26
P.T. = STA. 44+83.52
Δ = 7°39'01"
D_c = 3'00'00"
R = 1909.86'
T = 127.69'
L = 255.01'
CH = 254.82'

① CROSSOVER CURVE DATA

P.C. = STA. 39+75
P.R.C. = STA. 42+29.26
Δ = 7°39'01"
D_c = 3'00'00"
R = 1909.86'
T = 127.69'
L = 255.01'
CH = 254.82'

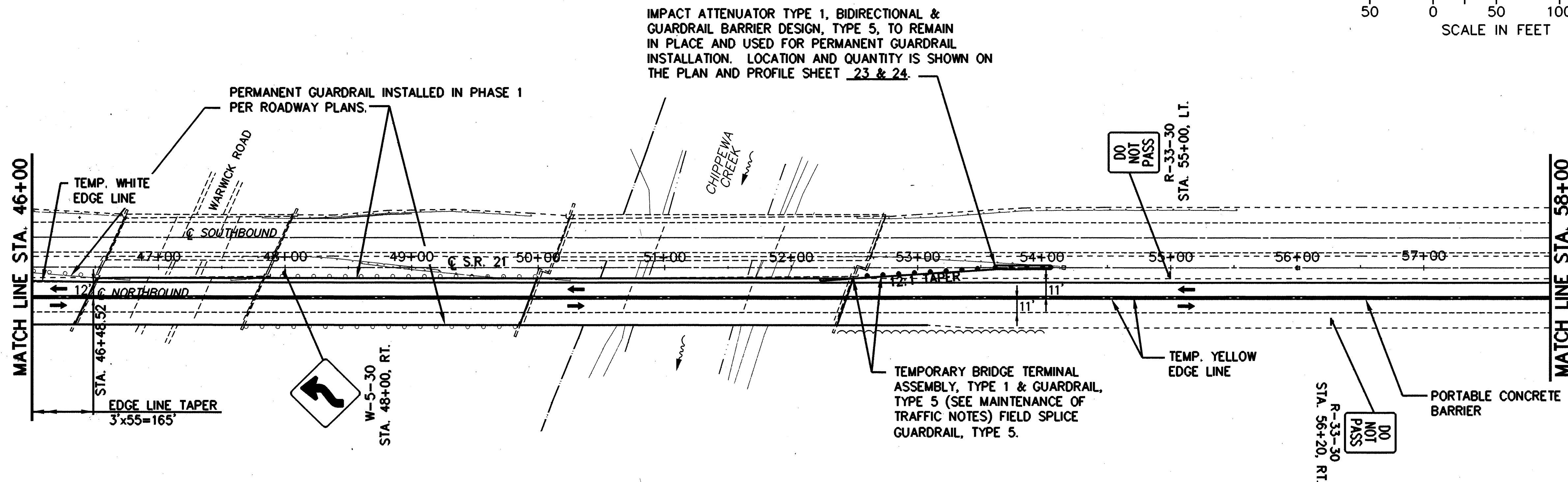
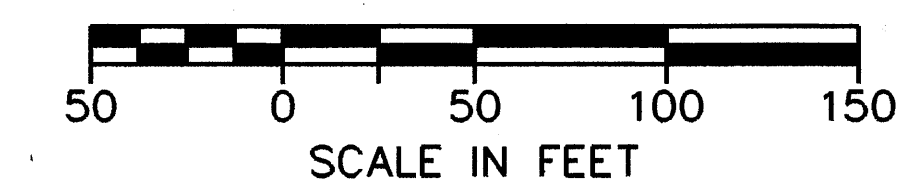
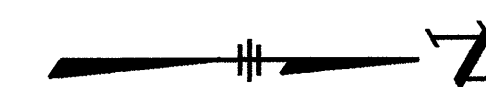
CAD FILE: WYMOT3
DATE: 7/28/94
OPER: JOR, MPB/AJE
PLOT SCALE: 1"=50'

MAINTENANCE OF TRAFFIC PHASE 2

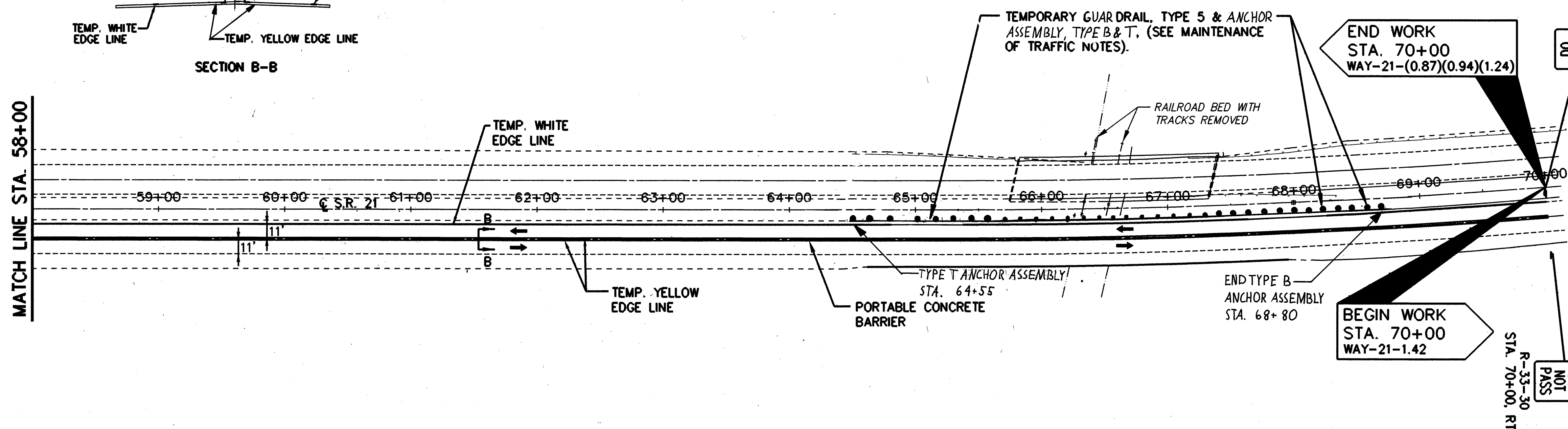
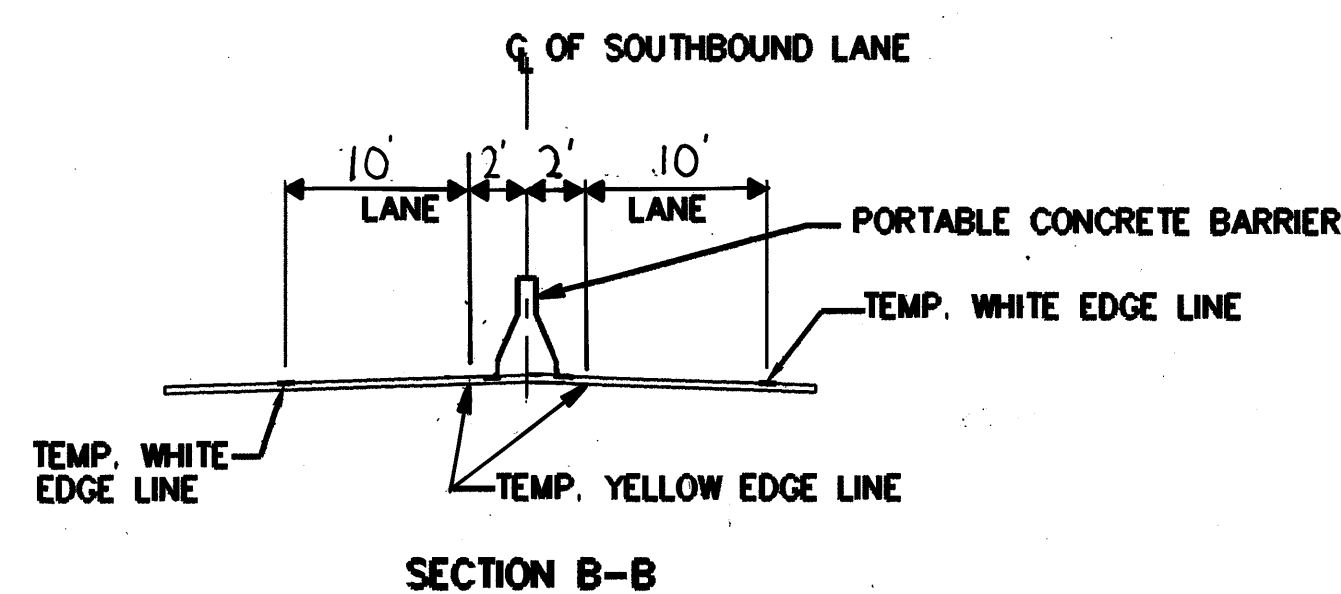
QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: RAK	5	OHIO	
DATE: 3/93	DATE: 3/93			

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WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



NOTES:
REFER TO MT-95.30 & MT-95.70
FOR ADDITIONAL DETAILS.



MAINTENANCE OF TRAFFIC QUANTITIES - PHASE II

BHF Funds

ITEM 622 - PORTABLE CONCRETE BARRIER 50'			
STA. 37+50 TO STA. 70+00	=	3250 LIN. FT.	
ITEM 614 - BARRIER REFLECTORS, TYPE B			
SOUTHBOUND TRAVEL			
STA. 70+00 TO STA. 43+50	+1	=	213 EACH
12'-6"			
NORTHBOUND TRAVEL			
STA. 70+00 TO STA. 40+00	+1	=	241 EACH
12'-6"			
TOTAL			454 EACH
ITEM 614 - OBJECT MARKERS			
2x (STA. 70+00 TO STA. 43+50	+2)	=	426 EACH
12'-6"			

NOTE:
THE QUANTITIES LISTED ABOVE ALONG WITH THE CALCULATIONS FOR THE TEMPORARY PAVEMENT, STABILIZED CRUSHED AGGREGATE AND TEMPORARY PAVEMENT MARKINGS ARE SHOWN ON THE MAINTENANCE OF TRAFFIC NOTES SHEET 14. REFER TO SHEET 15 FOR TEMPORARY RAISED PAVEMENT MARKERS.
PAVEMENT MARKINGS REMOVED FOR MAINTENANCE OF TRAFFIC PURPOSES BEYOND THE LIMITS OF THE BUTT JOINTS SHALL BE RESTORED AND PAID FOR UNDER THE LUMP SUM ITEM 614 MAINTAINING TRAFFIC."

CAD FILE: WAYM014
DATE: 1/10/95
OPERATOR: MPB/PJP
PLOT SCALE: 1"=50'

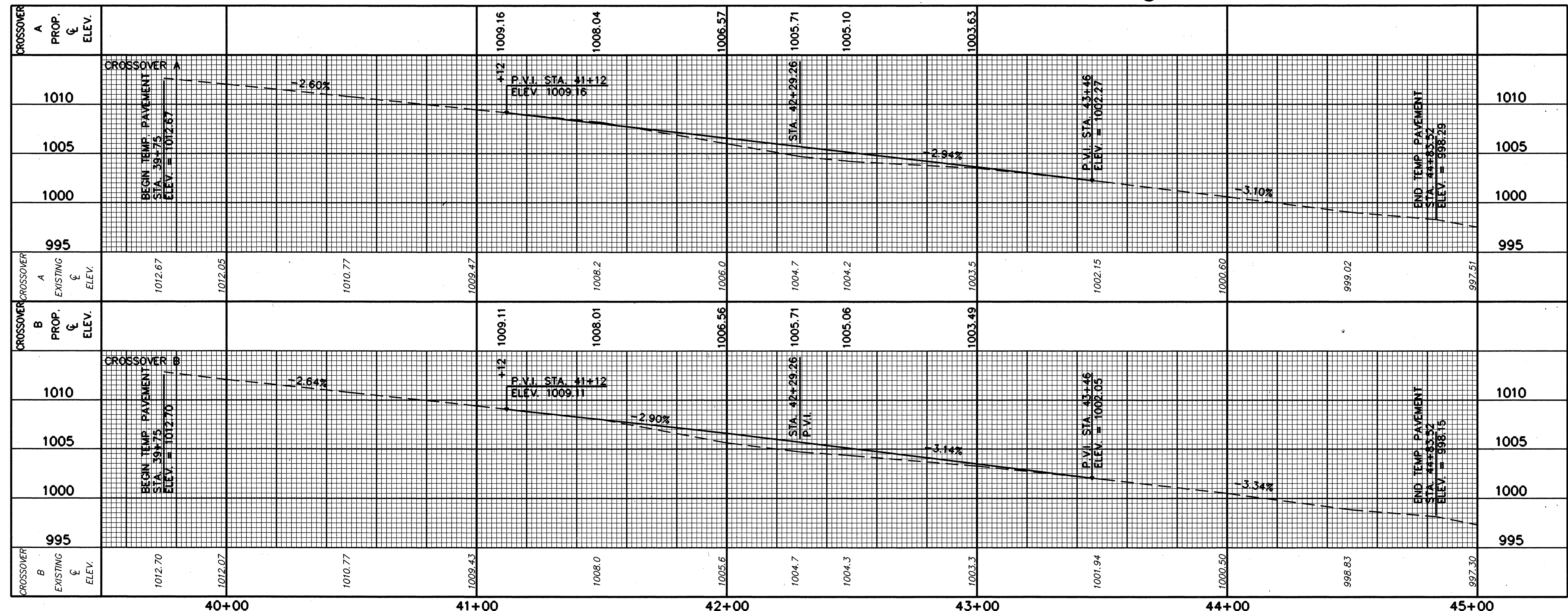
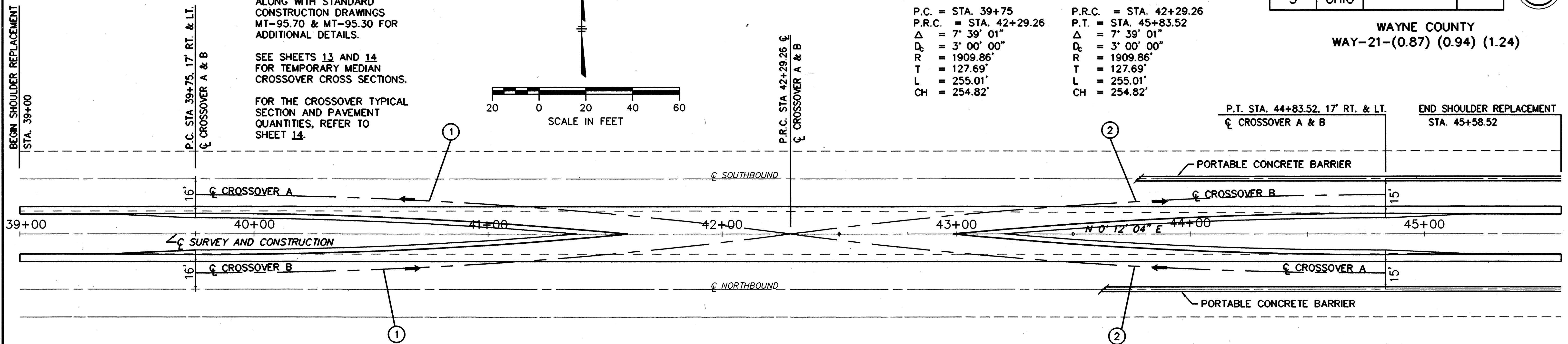
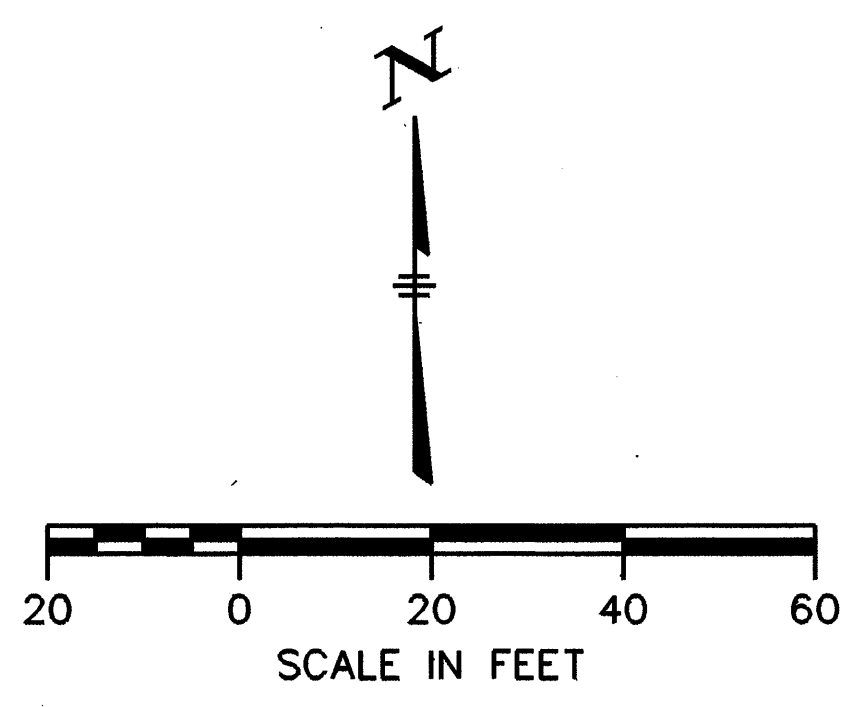
FHWA REGION	STATE	PROJECT
5	OHIO	

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

CROSSOVER CURVE DATA

①	②
P.C. = STA. 39+75	P.R.C. = STA. 42+29.26
P.R.C. = STA. 42+29.26	P.T. = STA. 45+83.52
Δ = 7° 39' 01"	Δ = 7° 39' 01"
D _c = 3' 00' 00"	D _c = 3' 00' 00"
R = 1909.86'	R = 1909.86'
T = 127.69'	T = 127.69'
L = 255.01'	L = 255.01'
CH = 254.82'	CH = 254.82'

NOTES:
REFER TO THE MAINTENANCE OF TRAFFIC PLANS PHASE I & II ALONG WITH STANDARD CONSTRUCTION DRAWINGS MT-95.70 & MT-95.30 FOR ADDITIONAL DETAILS.
SEE SHEETS 13 AND 14 FOR TEMPORARY MEDIAN CROSSOVER CROSS SECTIONS.
FOR THE CROSSOVER TYPICAL SECTION AND PAVEMENT QUANTITIES, REFER TO SHEET 14.

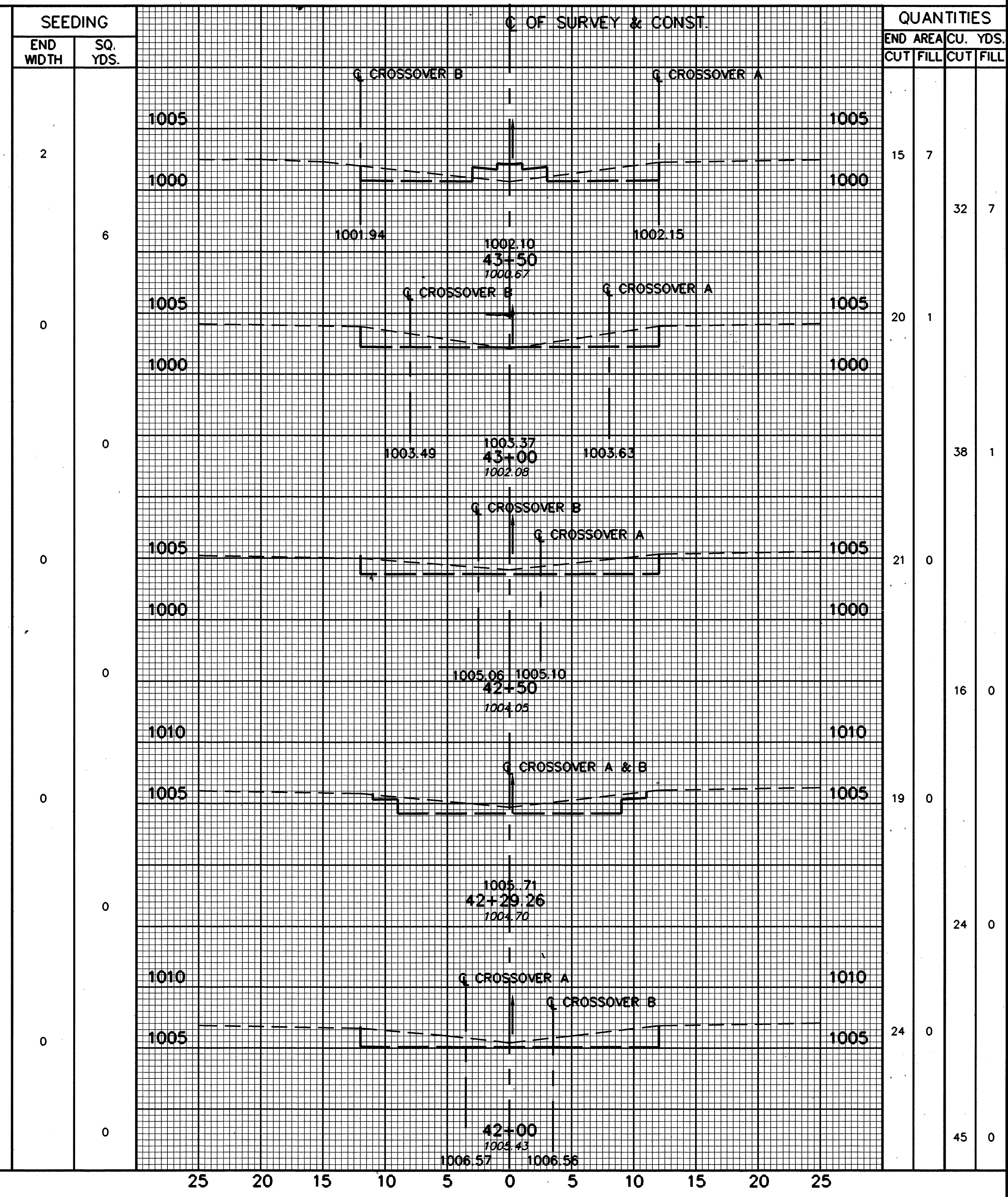
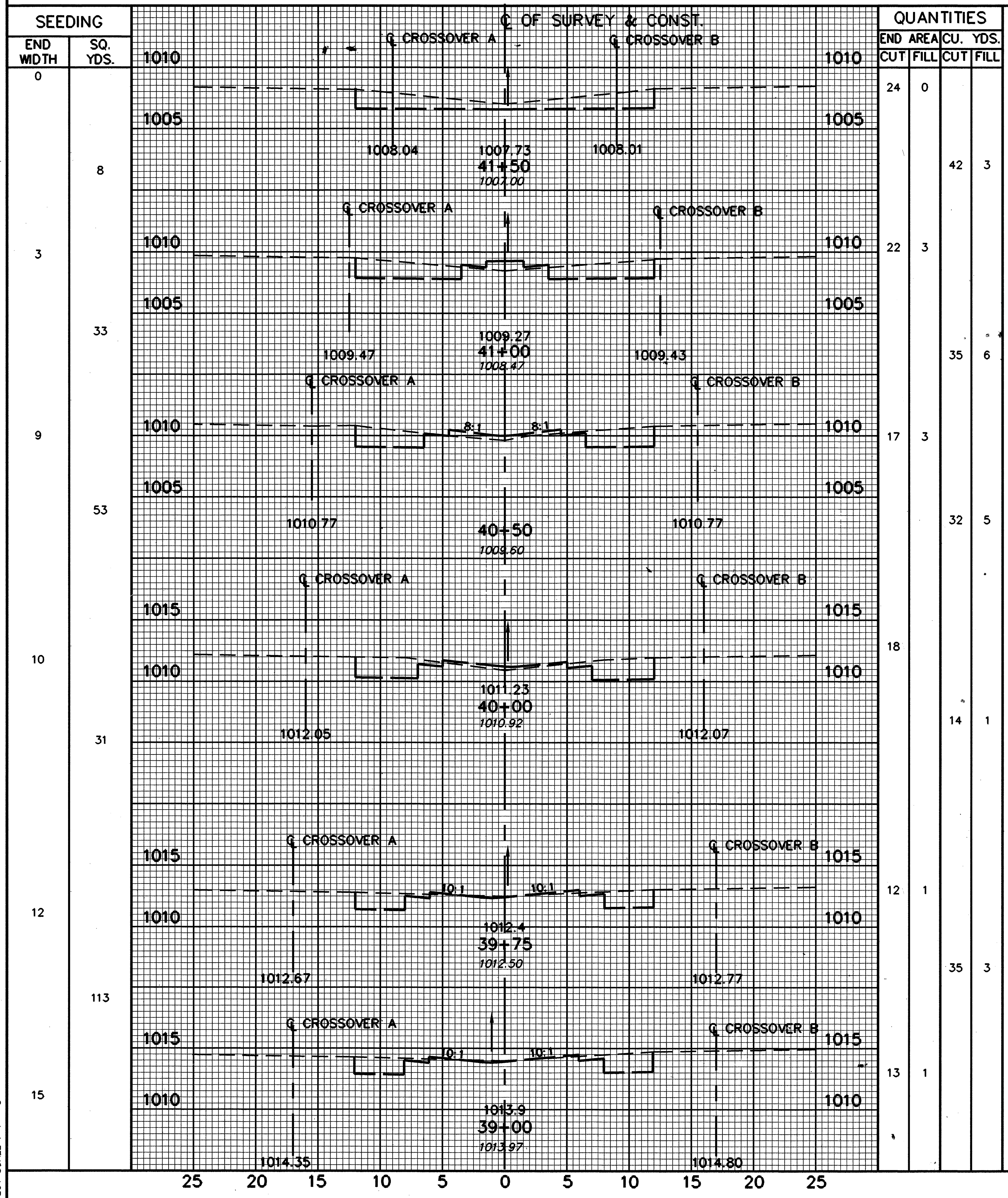


CROSSOVER PLAN AND PROFILE STA. 39+75 TO STA. 45+00

QUANTITIES
 CALC. BY: JJE CHKD. BY: DLW
 DATE: 4/93 DATE: 4/93

FHWA REGION: 5 STATE: OHIO PROJECT: WAYNE COUNTY
 WAY-21-(0.87)(0.94)(1.24)

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98



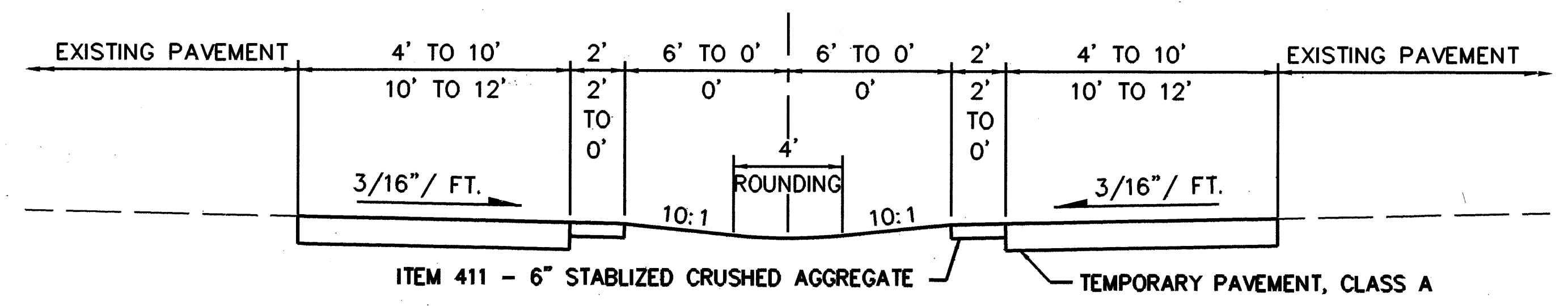
QUANTITIES			
END	AREA	CU. YDS.	
CUT	FILL	CUT	FILL
24	0		
42	3		
22	3		
35	6		
17	3		
32	5		
18			
14	1		
12	1		
35	3		
13	1		

SEEDING	
END WIDTH	SQ. YDS.
2	
6	
0	
0	
0	
0	
0	
0	
0	
0	
0	
0	
0	
0	
0	
0	

QUANTITIES			
END	AREA	CU. YDS.	
CUT	FILL	CUT	FILL
15	7		
32	7		
20	1		
38	1		
21	0		
16	0		
19	0		
24	0		
24	0		
45	0		

CAD FILE: WAXSECK1
 DATE: 1/11/95
 OPERATOR: MPB/PJP
 PLOT SCALE: 1"=5'

WAY-21-(0.87)(0.94)(1.24) CROSSOVER CROSS SECTIONS STA. 39+50 TO STA. 43+50



TYPICAL SECTION - MEDIAN CROSSOVER
SCALE: 1"=4'

SEEDING	END WIDTH	SQ. YDS.	C OF SURVEY & CONST.		QUANTITIES										
			CUT	FILL	CUT	FILL									
1	324	TOTAL	C OF CROSSOVER B		C OF CROSSOVER A										
		1000			1000										
		995			995										
54	990	996.65	45+58.52	996.64											
		990			990										
		1000			1000										
12	995	C OF CROSSOVER B		C OF CROSSOVER A		TOTAL									
		1000			1000										
		995			995										
41	990	998.15	44+83.52	998.29											
		990			990										
		1000			1000										
10	995	C OF CROSSOVER B		C OF CROSSOVER A		TOTAL									
		1000			1000										
		995			995										
50	990	998.83	44+50	999.02											
		990			990										
		1000			1000										
8	995	C OF CROSSOVER B		C OF CROSSOVER A		TOTAL									
		1000			1000										
		995			995										
28	990	1000.50	44+00	1000.60											
		990			990										
		1000			1000										
			25	20	15	10	5	0	5	10	15	20	25		

MAINTENANCE OF TRAFFIC - SUBSUMMARY
(CARRIED TO GENERAL SUMMARY)

BHF Funds

ITEM 622 - PORTABLE CONCRETE BARRIER 50"

PHASE I - STA. 40+50 TO STA. 70+00 = 2,950 LIN. FT.
 PHASE II - STA. 37+50 TO STA. 70+00 = 3,250 LIN. FT.
 TOTAL = 6,200 LIN. FT.

ITEM 614 - BARRIER REFLECTORS, TYPE B

PHASE I - STA. 40+00 TO STA. 70+00 S.B. = 450 EACH
 - STA. 43+50 TO STA. 70+00 N.B.
 PHASE II - STA. 43+50 TO STA. 70+00 S.B. = 454 EACH
 - STA. 40+00 TO STA. 70+00 N.B.
 TOTAL = 904 EACH

ITEM 614 - OBJECT MARKERS

PHASE I - STA. 43+50 TO STA. 70+00 = 426 EACH
 PHASE II - STA. 43+50 TO STA. 70+00 = 426 EACH
 TOTAL = 852 EACH

ALL THE QUANTITIES LISTED BELOW HAVE BEEN CARRIED TO THE MAINTENANCE OF TRAFFIC NOTES.

ITEM 411 - STABILIZED CRUSHED AGGREGATE AREA & LENGTHS OBTAINED FROM CAD

PHASE I & PHASE II
 2 x [(371.07' + 317.51') x 2' WIDE x 6"/12" x 1/27] = 51 CU. YD.

ITEM 615 - TEMPORARY PAVEMENT, CLASS A
 AREA OBTAINED FROM CAD

PHASE I & PHASE II
 8952.20 S.F. x 1 S.Y./ 9 S.F. = 995 SQ. YD. USE = 1000 SQ. YD.

ITEM 615 - TEMPORARY ROADS

THE QUANTITIES LISTED BELOW ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT LISTED IN THE GENERAL SUMMARY. THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED WITH PAYMENT FOR ITEM 615 - TEMPORARY ROADS. SEE MAINTENANCE OF TRAFFIC NOTES.

ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION 437 CU. YD.
 ITEM 203 - EMBANKMENT 54 CU. YD.
 ITEM 659 - SEEDING & MULCHING 324 SQ. YD.

TEMPORARY PAVEMENT MARKINGS SUB-SUMMARY
(CARRIED TO GENERAL SUMMARY)

FROM	TO	DIRECTION OF TRAVEL	SIDE	614			
				TEMPORARY EDGE LINES, CLASS I, (YELLOW)	TEMPORARY EDGE LINES, CLASS I, (WHITE)	TEMPORARY EDGE LINES, CLASS I, (YELLOW) 740.05, TYPE C (YELLOW)	TEMPORARY EDGE LINES, CLASS I, (WHITE) 740.05, TYPE C (WHITE)
				LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
PHASE 1							
16+65	39+75	NORTHBOUND	RT.			2310	
39+75	42+63	CROSSOVER	L/RT.	288			
42+63	46+00.14	NORTHBOUND	LT.			338	
46+00.14	55+00	NORTHBOUND	LT.			900	
55+00	65+25.70	NORTHBOUND	LT.			1026	
65+25.70	67+81.61	NORTHBOUND	LT.	256			
67+81.61	70+00	NORTHBOUND	LT.			218	
36+45	39+75	NORTHBOUND	RT.				330
39+75	41+96	CROSSOVER	L/RT.				221
41+96	44+83.52	CROSSOVER	RT.		288		
44+83.52	46+00.14	NORTHBOUND	LT.				117
46+00.14	55+00	NORTHBOUND	LT.			900	
55+00	65+25.70	NORTHBOUND	LT.				1026
65+25.70	67+81.61	NORTHBOUND	LT.	256			
67+81.61	70+00	NORTHBOUND	LT.				218
40+50	46+00.14	SOUTHBOUND	LT.			550	
46+00.14	55+00	SOUTHBOUND	LT.			900	
55+00	65+25.70	SOUTHBOUND	LT.			1026	
65+25.70	67+81.61	SOUTHBOUND	LT.	256			
67+81.61	70+00	SOUTHBOUND	LT.				218
40+50	70+00	SOUTHBOUND	LT.		2950		
PHASE 2							
31+55	45+77.82	NORTHBOUND	RT.			1423	
45+77.82	53+60	NORTHBOUND	RT.	782			
53+60	65+25.27	NORTHBOUND	RT.			1165	
65+25.27	67+69.62	NORTHBOUND	RT.	244			
67+69.62	70+00	NORTHBOUND	RT.			230	
39+75	41+99	CROSSOVER	LT				224
41+99	44+68.68	CROSSOVER	LT/RT		270		
44+68.68	45+77.82	SOUTHBOUND	RT.				109
45+77.82	53+60	SOUTHBOUND	RT.		782		
53+60	65+25.27	SOUTHBOUND	RT.			1165	
65+25.27	67+69.62	SOUTHBOUND	RT.		244		
67+69.62	70+00	SOUTHBOUND	RT.			230	
39+75	42+63	CROSSOVER	LT.	288			
42+63	44+83.52	CROSSOVER	RT				221
44+83.52	45+77.82	SOUTHBOUND	RT.				94
45+77.82	53+60	SOUTHBOUND	RT.	782			
53+60	65+25.27	SOUTHBOUND	RT.			1165	
65+25.27	67+69.62	SOUTHBOUND	RT.	244			
67+69.62	70+00	SOUTHBOUND	RT.				230
31+55	70+00	NORTHBOUND	RT.		3845		
TOTAL (LIN. FT.) (BHF Funds)				3140	11515	12014	3640
TOTAL (MILES)				2.78		2.96	

CAD FILE: WAXSECX2
 DATE: 11/95
 OPERATOR: MPD/PJP
 PLOT SCALE: 1"=5'

614 TEMPORARY RAISED PAVEMENT MARKERS

QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: CKN	5	OHIO	
DATE: 4/93	DATE: 4/93			

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WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING, INSTALLING, MAINTAINING, AND SUBSEQUENTLY REMOVING TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S). THE TRPM'S SHALL BE YELLOW OR WHITE, AS DESCRIBED IN THE PLAN.

MATERIAL

ALL UNITS SHALL BE OF SUFFICIENT STRENGTH AND PROPERLY SHAPED SO AS NOT TO BE DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR DAMAGED BY IMPACTS FROM VEHICLES TIRES, INCLUDING THOSE OF HIGH PRESSURE TRUCK TIRES LOADED TO 4500 POUNDS.

RETROREFLECTORS SHALL BE PROVIDED IN ONE OR TWO DIRECTIONS ON EACH UNIT AS REQUIRED BY THE USAGE AND SHALL RETURN WHITE OR YELLOW LIGHT AS IS APPROPRIATED FOR THE APPLICATION.

THE REFLECTOR SHALL HAVE AN EFFECTIVE AREA OF 0.35 SQUARE INCH FOR TYPE A OR 3.0 SQUARE INCH FOR TYPE B. ITS BRIGHTNESS OR SPECIFIC INTENSITY (WHEN TESTED AT 0.2 DEGREE ANGLE OF OBSERVATION AND THE FOLLOWING ANGLES OF INCIDENCE) SHALL MEET OR EXCEED THE FOLLOWING:

INCIDENCE ANGLE (DEGREES)	SPECIFIC INTENSITY	
	WHITE	YELLOW
TYPE A		
0	1.0	0.6
20	0.4	0.24
45	-	-
TYPE B		
WHITE		
0	3.0	1.8
20	1.2	0.72
45	0.3	0.2

ANGLE OF INCIDENCE FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE NORMAL TO THE LEADING EDGE OF THE MARKER FACE (ALSO HORIZONTAL ENTRANCE ANGLE).

ANGLE OF OBSERVATION FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE RETURNED RAY FROM THE MARKER TO THE MEASURING RECEPTOR.

SPECIFIC INTENSITY IS THE MEAN CANDLEPOWER OF THE REFLECTED LIGHT (AT GIVEN INCIDENCE AND DIVERGENCE ANGLES) FOR EACH FOOT-CANDLE AT THE REFLECTOR (ON A PLANE PERPENDICULAR TO THE INCIDENT LIGHT).

TYPE A UNITS ARE INTENDED TO PROVIDE HIGH VISIBILITY BOTH AT NIGHT AND DURING DAYLIGHT. THEIR DAY TIME VISIBILITY SHALL BE ASSURED BY SIZE, SHAPE AND COLOR AS FOLLOWS:

- 1) THE UNITS SHALL BE A HIGH VISIBILITY YELLOW OR WHITE COLOR WHICH WILL NOT DEGRADE SUBSTANTIALLY DUE TO TRAFFIC WEAR AND WHICH WILL MATCH THE COLOR OF THE REFLECTOR.
- 2) WHEN VIEWED FROM ABOVE, THE UNITS SHALL HAVE A VISIBLE AREA OF NOT LESS THAN 14 SQUARE INCHES.
- 3) WHEN VIEWED FROM THE FRONT, PARALLEL TO THE PAVEMENT, AS FROM APPROACHING TRAFFIC, THE UNIT SHALL HAVE A WIDTH OF APPROXIMATELY 4 INCHES AND A VISIBLE AREA OF NOT LESS THAN 1.5 SQUARE INCHES.

TYPE B UNITS ARE INTENDED TO PROVIDE HIGH VISIBILITY AT NIGHT BY RETRO-REFLECTING AUTOMOTIVE HEADLIGHT BACK TO THE DRIVER.

INSTALLATION: THEY SHALL BE ATTACHED TO CLEAN, DRY PAVEMENT BY A BUTYL ADHESIVE PAD, A BITUMINOUS ADHESIVE OR OTHER CONSTRUCTION GRADE ADHESIVES (SUCH AS FRANKLIN PANEL AND METAL ADHESIVE) SUITABLE TO ANCHOR THE UNIT UNDER THE ABOVE CONDITIONS. WHEN IT IS NECESSARY TO ATTACH UNITS TO NEW CONCRETE WITH CURING COMPOUND REMAINING, THE CURING COMPOUND MEMBRANE SHALL BE REMOVED BY SANDBLASTING OR OTHER MECHANICAL CLEANING METHOD. THEY SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL IMMEDIATELY REPLACE, AT HIS COST, ANY UNITS WHICH FAIL (BROKEN HOUSING, HOUSING WORN TO THE EXTENT THAT DAYTIME VISIBILITY IS SIGNIFICANTLY DIMINISHED OR OF AN UNACCEPTABLE COLOR, DETACHED OR BROKEN REFLECTOR, HOUSING DETACHED FROM ADHESIVE).

TRPM'S ARE LIKELY TO BE REMOVED BY SNOW PLOWING OPERATIONS, THUS THEY ARE NOT CONSIDERED SUITABLE FOR USE DURING THE PERIOD FROM OCTOBER 15 UNTIL APRIL 30. THE CONTRACTOR IS ADVISED TO SCHEDULE HIS WORK AND/OR THE USE OF THESE DEVICES TO AVOID THIS PERIOD. SHOULD THE CONTRACTOR CHOOSE TO USE TRPM'S DURING THIS PERIOD AND THEY ARE SUBSEQUENTLY REMOVED OR DESTROYED BY SNOW AND ICE CONTROL ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY, AT HIS COST, PROVIDE A SUBSTITUTE TRAFFIC GUIDANCE SYSTEM EFFECTIVE DURING LIGHT AND DARK AND WHICH IS ACCEPTABLE TO THE ENGINEER.

THE UNITS SHALL BE PLACED ACCURATELY TO DEPICT STRAIGHT OR UNIFORMLY CURVING LINES. WHEN USED TO SUPPLEMENT TEMPORARY PAVEMENT MARKINGS, THEY MAY BE PLACED ON OR IMMEDIATELY ADJACENT TO THE PAVEMENT MARKING. LOCATIONS SHALL BE ADJUSTED UP TO ONE FOOT LONGITUDINALLY OR SIX INCHES LATERALLY TO AVOID PLACEMENT ON JOINTS, CRACKED OR DETERIORATED PAVEMENT. THEY SHALL NOT BE PLACED DIRECTLY ON PAVEMENT MARKINGS IF THIS WILL DETRACT FROM THEIR ABILITY TO REMAIN ATTACHED TO THE PAVEMENT.

APPLICATION

1) WHEN REQUIRED TO SUPPLEMENT PAVEMENT MARKING; THEY SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A OR B	20' C/C
LANE LINE	A OR B	40' C/C*
CENTER LINE (SINGLE/BROKEN)	A OR B	40' C/C *
CENTER LINE (DOUBLE/SOLID)	A OR B	2 UNITS SIDE BY SIDE 4 INCHES APART 20' C/C
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A OR B	10' C/C

* CENTERED IN GAP

2) WHEN USED TO SIMULATE (REPLACE) PAVEMENT MARKING THEY SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A	5' C/C
LANE LINE	A	4@3.33' C/C 30' GAP (40' CYCLE)
CENTER LINE (DOUBLE SOLID)	A	2 UNITS SIDE BY SIDE 5' C/C
CENTER LINE (SINGLE BROKEN)	A	4@3.33' C/C 30' GAP (40' CYCLE)
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A	5' C/C
EDGE LINE (TWO COLOR) (WHITE/YELLOW)	A	BACK TO BACK 5' C/C

YELLOW TRPM'S USED TO SEPARATE OPPOSITE FLOWS OF TRAFFIC (CENTER LINES) SHALL INCLUDE REFLECTIONS FOR BOTH DIRECTIONS. ALL OTHER YELLOW TRPM'S AND WHITE TRPM'S SHALL PROVIDE RETROREFLECTIVITY FOR ONE DIRECTION.

REMOVAL

REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT LITTLE OR NONE OF THE ADHESIVE REMAINS ON THE PAVEMENT AND PERMANENT PAVEMENT SURFACES SHALL NOT BE SCARRED, BROKEN OR ROUGHENED SIGNIFICANTLY.

PAYMENT

BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH TRPM AND SHALL INCLUDE ALL LABOR, EQUIPMENT, HARDWARE AND INCIDENTALS REQUIRED TO PERFORM THE WORK. IT SHALL ALSO INCLUDE REPLACEMENT AT NO ADDITIONAL COST OF ALL TRPM'S WHICH, IN THE JUDGEMENT OF THE ENGINEER, FAIL FOR ANY REASON, EXCEPT DUE TO FAILURE OF THE PAVEMENT TO WHICH THEY ARE ATTACHED.

ITEM 614 UNIT EACH DESCRIPTION TEMPORARY RAISED PAVEMENT MARKERS

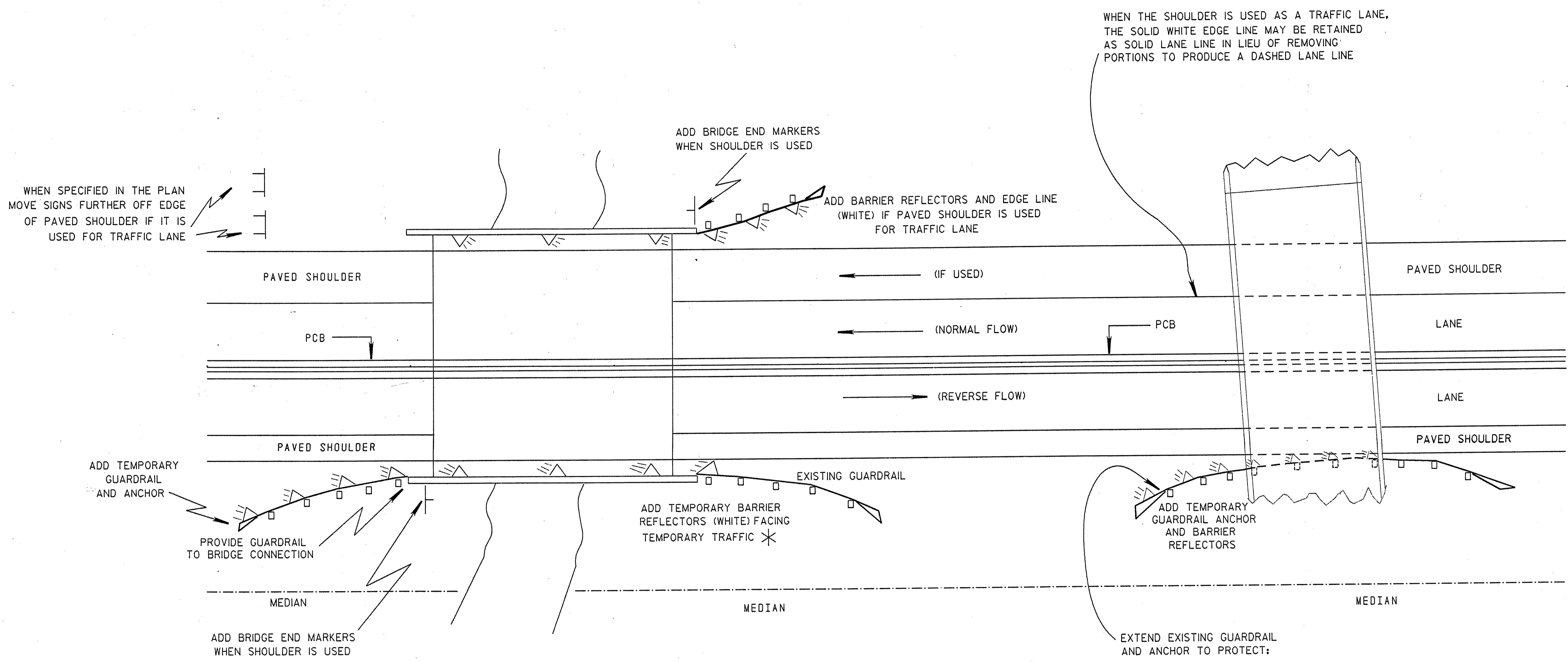
STATIONING (FROM-TO)	SIDE	SPACING	TYPE A			TYPE B			REMARKS (LINE TYPE)
			W	Y	Y/Y	W	Y	Y/Y	
PHASE I									
36+45.00 - 44+83.52	RT. & LT.	20' C/C					42		EDGE LINE
36+45.00 - 44+83.52	RT. & LT.	20' C/C					42		EDGE LINE
PHASE II									
39+75.00 - 46+48.52	RT. & LT.	20' C/C					34		EDGE LINE
39+75.00 - 46+48.52	RT. & LT.	20' C/C					34		EDGE LINE
TOTALS - BHF							76	76	
(CARRIED TO GENERAL SUMMARY)							152		

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT THREE					
614 TEMPORARY RAISED PAVEMENT MARKERS					
STANDARD NO. D3-2D D					
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
					5-87

CAD FILE: RPNNOTE
 DATE: 8/01/94
 OPERATOR: MPB/AJE/PJP
 PLOT SCALE: 1"=1'

Calc. by _____
 Date _____
 Chk' d by _____
 Date _____

WAY-21-(0.87)(0.94)(1.24)



WHEN SPECIFIED IN THE PLAN
 MOVE SIGNS FURTHER OFF EDGE
 OF PAVED SHOULDER IF IT IS
 USED FOR TRAFFIC LANE

WHEN THE SHOULDER IS USED AS A TRAFFIC LANE,
 THE SOLID WHITE EDGE LINE MAY BE RETAINED
 AS SOLID LANE LINE IN LIEU OF REMOVING
 PORTIONS TO PRODUCE A DASHED LANE LINE

ADD TEMPORARY
 GUARDRAIL
 AND ANCHOR

PROVIDE GUARDRAIL
 TO BRIDGE CONNECTION

ADD TEMPORARY BARRIER
 REFLECTORS (WHITE) FACING
 TEMPORARY TRAFFIC *

ADD TEMPORARY
 GUARDRAIL ANCHOR
 AND BARRIER
 REFLECTORS

EXTEND EXISTING GUARDRAIL
 AND ANCHOR TO PROTECT:
 1. BRIDGE PIERS
 2. OVERHEAD SIGN SUPPORT
 3. OTHER OBSTRUCTION

* TEMPORARY BARRIER REFLECTORS SHALL BE LOCATED TO
 ASSURE THEY DO NOT BLOCK VISIBILITY, NOR ARE THEY
 BLOCKED BY EXISTING PERMANENT BARRIER REFLECTORS.
 REFLECTORS FACING REVERSE FLOW TRAFFIC SHALL BE
 REMOVED AT THE END OF THE PROJECT.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL
 BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE
 PORTIONS OF THE C & M SPECIFICATIONS AS WELL
 AS IN ACCORDANCE WITH PART 7 OF OMTCD. PAYMENT
 FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE
 THIS METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED
 IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC,
 UNLESS SEPARATELY ITEMIZED IN THE PLAN.

DESIGN FILE: c:\dgn\mot\209582.dgn
 WORKSTATION: D3_386F DATE: 30-MAR-1993

REVISED BY:	DATE:	DATE
209582		DATE 05/01/90
TWO-LANE, TWO-WAY OPERATION FOR USE ON FOUR LANE DIVIDED ROADWAYS PORTABLE CONCRETE BARRIER (PCB)		
PLAN INSERT SHEET		

614 WORK ZONE PAVEMENT MARKINGS

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND WHEN NECESSARY, REMOVE WORK ZONE RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE EVALUATED BY THE ENGINEER IN ACCORDANCE WITH THE THREE PERFORMANCE PARAMETERS CONTAINED IN SUPPLEMENT 1047. THE MARKINGS SHALL BE REPAIRED OR REPLACED WHEN THE NUMERICAL RATING OF A PARAMETER IS (a) SIX OR LOWER FOR DURABILITY, (b) FOUR OR LOWER FOR VISUAL EFFECTIVENESS AND (c) FOUR OR LOWER FOR NIGHT VISIBILITY. THE CONTRACTOR SHALL REPAIR OR REPLACE UNSATISFACTORY MARKINGS IMMEDIATELY AND AT NO ADDITIONAL COST TO THE STATE.

TEMPORARY PAVEMENT MARKING MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE EITHER 621.02 PAINT OR 947.03 TYPE B OR TYPE C PREFORMED MATERIAL.

PAINT

PAINTED MARKINGS SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT (a) PARAGRAPH 621.14 SHALL NOT APPLY, (b) WHERE THE MARKINGS ARE NOT LIABLE TO BE TRACKED, EITHER CONVENTIONAL OR FAST DRY PAINT MAY BE USED FOR 621.02 AND (c) WHEN APPLIED TO NEW ASPHALT PAVEMENT SURFACES PLACED BY THIS PROJECT, THE SPECIFIED APPLICATION RATE SHALL BE AS FOLLOWS:

GALLONS PER MILE OF LINE	WIDTH OF LINE (INCHES)				
	4	8	12	-	-
SOLID LINE	20	40	60	-	-
10 FOOT DASHED LINE	5	-	-	-	-
4 FOOT DASHED LINE	2	-	-	-	-
DOTTED LINE	6.7	-	-	-	-

(d) WHEN APPLIED TO PLANNED ASPHALT PAVEMENT SURFACES THE SPECIFIED APPLICATION RATE SHALL BE AS FOLLOWS:

GALLONS PER MILE OF LINE	WIDTH OF LINE (INCHES)				
	4	8	12	-	-
SOLID LINE	24	48	72	-	-
10 FOOT DASHED LINE	6	-	-	-	-
4 FOOT DASHED LINE	2.4	-	-	-	-
DOTTED LINE	8	-	-	-	-

TYPE B AND TYPE C PREFORMED MATERIAL

PREFORMED MATERIAL SHALL COMPLY WITH 947.03 EXCEPT THAT NO PREFORMED MATERIAL CONTAINING METAL SHALL BE PLACED ON ANY SURFACE UNLESS IT WILL BE REMOVED LATER BY THE CONTRACTOR. TEMPORARY PAVEMENT MARKINGS OF 947.03 PREFORMED MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF 621 OR 847 SURFACE COURSE MARKINGS AT THAT LOCATION. PREFORMED MATERIAL SHALL BE IN ACCORDANCE WITH 847 EXCEPT AS MODIFIED HEREIN.

PLACEMENT

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT, INCLUDING RAMPS, PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS CONFLICT WITH THE TRAFFIC PATTERN, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134.

LINE PLACEMENT TOLERANCE FOR FINAL SURFACES SHALL BE IN ACCORDANCE WITH 621.052. ON SURFACES OTHER THAN THE FINAL, THE TOLERANCE PERMITTED SHALL BE TWICE THAT IN 621.052. LAYOUT AND PREMARKING SHALL BE IN ACCORDANCE WITH 621.051.

TEMPORARY MARKING CLASSES

CLASS I MARKINGS

CLASS I MARKINGS SHALL BE APPLIED TO THE STANDARD DIMENSIONS AS DEFINED IN 621 WITH THE FOLLOWING EXCEPTION:

1. TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
2. STOP LINES SHALL BE 12-INCHES IN WIDTH.
3. CROSSWALK LINES SHALL BE 8-INCHES IN WIDTH.

CLASS I I MARKINGS

CLASS I I MARKINGS (ABBREVIATED) SHALL BE DEFINED AS FOLLOWS:

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 4-INCH WIDE BY A MINIMUM OF 4 FOOT LONG DASHES SPACED AT A MAXIMUM OF 40 FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 4-INCH WIDE BY A MINIMUM OF 4 FOOT LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

GORE MARKINGS SHALL BE CONTINUOUS, WHITE 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

CONFLICTING EXISTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL CONFLICTING EXISTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SPECIFICALLY ITEMIZED.

THE CONTRACTOR SHALL ALSO REMOVE THE PRISMATIC RETRO-REFLECTOR WITHIN ANY RAISED PAVEMENT MARKER (RPM) WHICH IS IN CONFLICT WITH THE TEMPORARY PAVEMENT MARKINGS. WHEN THE TEMPORARY PAVEMENT MARKINGS ARE REMOVED AND THE RPM IS NO LONGER IN CONFLICT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE RECESSED REFLECTOR ATTACHMENT AREA OF THE CASTING AND INSTALL A NEW PRISMATIC RETRO-REFLECTOR OF THE SAME KIND AND COLOR. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

ALLOWABLE DURATION OF CLASS II CENTER LINES

EXCEPT AS NOTED BELOW, ANYTIME EXISTING PERMANENT NO PASSING ZONE MARKINGS HAVE BEEN REMOVED OR OBLITERATED AS THE RESULT OF A CONSTRUCTION OPERATION (PAVEMENT GRINDING, ASPHALT PAVEMENT OVERLAYS, ETC.) AND THE SECTION OF PAVEMENT CONTINUES TO BE USED BY THE TRAVELING PUBLIC, THE CONTRACTOR MUST WITHIN 3 CALENDAR DAYS PLACE FINAL CENTER LINE MARKINGS AS SPECIFIED BY THE PLAN. EQUIVALENT 614 CLASS I CENTER LINE MARKINGS MAY BE USED IN LIEU OF FINAL MARKINGS. IN THIS EVENT, THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I MARKINGS AS PART OF THE LUMP SUM BID FOR MAINTAINING TRAFFIC.

IF AFTER THE ORIGINAL MARKINGS ARE REMOVED OR OBLITERATED, THE CONTRACTOR RETURNS TO THE SUBJECT NO PASSING ZONE AND PLACES A PLAN SPECIFIED PAVEMENT COURSE WITHIN THE 3 CALENDAR DAY LIMIT, OR PERFORMS WORK IN PREPARATION FOR A SUBSEQUENT PAVEMENT COURSE, THE CONTRACTOR WILL HAVE TEMPORARILY SATISFIED THE CONDITIONS OF THE PREVIOUS PARAGRAPH. IN THIS EVENT THE 3 CALENDAR DAY LIMIT WILL BEGIN AGAIN.

SECTIONS OF PAVEMENT WHERE PASSING IS PERMITTED IN BOTH DIRECTIONS SHALL BE GOVERNED BY THE 21 DAY LIMIT DESCRIBED BELOW IN THE PARAGRAPH ENTITLED "ALLOWABLE DURATION OF CLASS II LANE LINES, GORE MARKINGS AND ABSENCE OF EDGE LINES."

FOR EACH CALENDAR DAY BEYOND 3 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE SUM OF \$200 PER CALENDAR DAY WILL BE DEDUCTED FROM ANY MONEY DUE THE CONTRACTOR, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES.

ALLOWABLE DURATION OF CLASS II LANE LINES AND GORE MARKINGS AND ABSENCE OF EDGE LINES

ANYTIME EXISTING PERMANENT LANE LINES, GORE MARKINGS OR EDGE LINES HAVE BEEN REMOVED OR OBLITERATED AS THE RESULT OF A CONSTRUCTION OPERATION (PAVEMENT GRINDING, ASPHALT PAVEMENT OVERLAYS, PAVEMENT WIDENING, ETC.) AND THE SECTION OF PAVEMENT CONTINUES TO BE USED BY THE TRAVELING PUBLIC, THE CONTRACTOR MUST WITHIN 21 CALENDAR DAYS PLACE FINAL PAVEMENT MARKINGS AS SPECIFIED BY THE PLAN. EQUIVALENT 614 CLASS I MARKINGS MAY BE USED IN LIEU OF FINAL MARKINGS. IN THIS EVENT, THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I MARKINGS AS PART OF THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC.

IF, AFTER THE ORIGINAL MARKINGS ARE REMOVED OR OBLITERATED, THE CONTRACTOR RETURNS TO THE SUBJECT SECTION OF PAVEMENT AND PLACES A PLAN SPECIFIED PAVEMENT COURSE WITHIN THE 21 CALENDAR DAY LIMIT, OR PERFORMS SPECIFIED WORK WHICH REQUIRES A LANE CLOSURE, EXCEPT ROUTINE MAINTENANCE REQUIRED BY 614.02, THE CONTRACTOR WILL HAVE TEMPORARILY SATISFIED THE CONDITIONS OF THE PREVIOUS PARAGRAPH. IN THIS EVENT, THE 21 CALENDAR DAY LIMIT WILL BEGIN AGAIN.

FOR EACH CALENDAR DAY BEYOND 21 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE SUM OF \$200 PER CALENDAR DAY WILL BE DEDUCTED FROM ANY MONEY DUE THE CONTRACTOR, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES.

IF A SECTION OF PAVEMENT IS IN A CONTINUOUS PART OF THE PROJECT THEN A NEW 21 DAY LIMIT FOR RENEWED WORK ON A SECTION SHALL APPLY TO ALL SECTIONS IN THAT PART. IF THE PROJECT IS IN PARTS AND THE TRAVELING PUBLIC WOULD NOT DISCERN THE PARTS AS ONE CONTINUOUS PROJECT, THEN A NEW 21 DAY LIMIT IN ONE PART WILL NOT APPLY TO THE OTHER PARTS. THE TWO DIRECTIONAL SIDES OF A FREEWAY SHALL BE TREATED AS SEPARATE PARTS. WORK ON ONE SIDE OF A FREEWAY SHALL NOT CREATE A NEW 21 DAY LIMIT FOR THE OTHER SIDE.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF MARKINGS.

ITEM	UNIT	DESCRIPTION
614	MILE	TEMPORARY LANE LINES, CLASS _____, *
614	MILE	TEMPORARY CENTER LINES, CLASS _____, *
614	LINE FT.	TEMPORARY CHANNELIZING LINES, CLASS I, _____ *
614	MILE	TEMPORARY EDGE LINES, CLASS I, _____ *
614	LINE FT.	TEMPORARY GORE MARKINGS, CLASS I I, _____ *
614	LINE FT.	TEMPORARY STOP LINES, CLASS I, _____ *
614	LINE FT.	TEMPORARY CROSSWALK LINES, CLASS I, _____ *
614	LINE FT.	TEMPORARY DOTTED LINES, CLASS I, _____ *

* TYPE MATERIAL (621 PAINT, 947.03 TYPE B OR 947.03 TYPE C OR LEFT BLANK TO PERMIT ANY OF THE THREE)

614 WORK ZONE MARKING SIGNS

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE WORK ZONE MARKING SIGNS (OW-167, R-33 AND R-34) AND THEIR SUPPORTS WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR SHALL, IN ADVANCE OF ANY SECTION OF ROADWAY LACKING OMTCD STANDARD EDGE LINE MARKINGS, ERECT A "NO EDGE LINES" (OW-167-36) SIGN. ON FREEWAYS AND EXPRESSWAYS AN OW-167-48 SIGN SHALL BE USED. THESE SIGNS SHALL BE IN PLACE PRIOR TO EXPOSING THE ROADWAY TO TRAFFIC. THESE SIGNS SHALL ALSO BE ERECTED ON EACH ENTRANCE RAMP, AT INTERSECTIONS OF THROUGH ROADS TO WARN ENTERING OR TURNING TRAFFIC OF THE CONDITIONS AND AT LEAST ONCE EVERY 2 MILES ALONG THE ROADWAY. THESE SIGNS SHALL BE REMOVED WHEN THEY DO NOT APPLY.

THE CONTRACTOR SHALL AT THE BEGINNING OF EACH NO-PASSING ZONE LACKING OMTCD STANDARD CENTER LINE MARKINGS, ERECT A "DO NOT PASS" (R-33-30) SIGN AND AT THE END OF EACH NO-PASSING ZONE, ERECT A "PASS WITH CARE" (R-34-30) SIGN.

MATERIALS

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19. WORK ZONE MARKING SIGNS SHALL BE PROVIDED WITH SUITABLE YIELDING SUPPORTS OF SUFFICIENT STRENGTH AND STABILITY.

METHOD OF MEASUREMENT

WORK ZONE MARKING SIGNS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN, NECESSARY SUPPORTS AND ALL ATTACHMENT HARDWARE. ALL OTHER WORK ZONE SIGNS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND REMOVAL OF THE SIGNS.

ITEM	UNIT	DESCRIPTION
614	EACH	WORK ZONE MARKING SIGNS

REVISED BY:	DATE:
209910A.DGN	DATE 11/14/86
WORK ZONE PAVEMENT MARKINGS AND SIGNS	03/03/88
PLAN INSERT SHEET	

CALCULATIONS

QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: CKN	5	OHIO	
DATE: 3/94	DATE: 3/94			

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

ITEM 203 - SUBGRADE COMPACTION

WAY-21-0.87- BHF

NORTHBOUND	STA. 46+02.82 TO STA. 46+22.82 (20x38)(1/9) =	84.44 S.Y.
	STA. 46+22.82 TO STA. 46+42.82 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 47+77.56 TO STA. 47+97.56 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 47+97.56 TO STA. 48+17.56 (20x38)(1/9) =	84.44 S.Y.
SOUTHBOUND	STA. 46+25.14 TO STA. 46+45.14 (20x38)(1/9) =	84.44 S.Y.
	STA. 46+45.14 TO STA. 46+65.14 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 47+99.58 TO STA. 48+19.58 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 48+19.58 TO STA. 48+39.58 (20x38)(1/9) =	84.44 S.Y.

WAY-21-0.94- BHF

NORTHBOUND	STA. 49+52.63 TO STA. 49+72.63 (20x38)(1/9) =	84.44 S.Y.
	STA. 49+72.63 TO STA. 49+92.62 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 52+43.82 TO STA. 52+63.82 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 52+63.82 TO STA. 53+35.00 (71.8x38)(1/9) =	303.16 S.Y.
SOUTHBOUND	STA. 49+78.46 TO STA. 49+98.46 (20x38)(1/9) =	84.44 S.Y.
	STA. 49+98.46 TO STA. 50+18.46 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 52+69.11 TO STA. 52+89.11 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 52+89.11 TO STA. 54+75.00 (185.89x38)(1/9) =	784.87 S.Y.

WAY-21-1.24- NH

NORTHBOUND	STA. 65+50.27 TO STA. 67+44.62 (194.35x38)(1/9) =	820.59 S.Y.
SOUTHBOUND	STA. 65+50.70 TO STA. 67+56.61 (205.91x38)(1/9) =	869.40 S.Y.

TOTALS = 2,338 S.Y. BHF
1,690 S.Y. NH

ITEM 301 - 8" BITUMINOUS AGGREGATE BASE, AC-20

WAY-21-0.87- BHF

NORTHBOUND	STA. 46+02.82 TO STA. 46+22.82 (20x39.33)(8/12)(1/27) =	19.42 C.Y.
	STA. 47+97.56 TO STA. 48+17.56 (20x39.33)(8/12)(1/27) =	19.42 C.Y.
SOUTHBOUND	STA. 46+25.14 TO STA. 46+45.14 (20x39.33)(8/12)(1/27) =	19.42 C.Y.
	STA. 48+19.58 TO STA. 48+39.58 (20x39.33)(8/12)(1/27) =	19.42 C.Y.

WAY-21-0.94- BHF

NORTHBOUND	STA. 49+52.63 TO STA. 49+72.63 (20x39.33)(8/12)(1/27) =	19.42 C.Y.
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STA. 52+63.82 TO STA. 53+35.00 (71.18x39.33)(8/12)(1/27) =	69.12 C.Y.
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SOUTHBOUND	STA. 49+78.46 TO STA. 49+98.46 (20x39.33)(8/12)(1/27) =	19.42 C.Y.
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STA. 52+89.11 TO STA. 54+75.00 (185.89x39.33)(8/12)(1/27) =	180.52 C.Y.
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WAY-21-1.24- NH

NORTHBOUND	STA. 65+50.27 TO STA. 67+44.62 (194.35x39.33)(8/12)(1/27) =	188.74 C.Y.
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SOUTHBOUND	STA. 65+50.70 TO STA. 67+56.61 (205.91x39.33)(8/12)(1/27) =	199.96 C.Y.
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ITEM 304 - 6" AGGREGATE BASE

WAY-21-0.87- BHF

NORTHBOUND	STA. 46+02.82 TO STA. 46+22.82 (20x40.33)(6/12)(1/27) =	14.94 C.Y.
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STA. 46+22.82 TO STA. 46+42.82 (14'x44')(6/12)(1/27) =	11.41 C.Y.
(6'x40')(6/12)(1/27) =	4.44 C.Y.

STA. 47+77.56 TO STA. 47+97.56 (14'x44')(6/12)(1/27) =	11.41 C.Y.
(6'x40')(6/12)(1/27) =	4.44 C.Y.

STA. 47+97.56 TO STA. 48+17.56 (20x40.33)(6/12)(1/27) =	14.94 C.Y.
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SOUTHBOUND	STA. 46+25.14 TO STA. 46+45.14 (20x40.33)(6/12)(1/27) =	14.94 C.Y.
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STA. 46+45.14 TO STA. 46+65.14 (14'x44')(6/12)(1/27) =	11.41 C.Y.
(6'x40')(6/12)(1/27) =	4.44 C.Y.

STA. 47+99.58 TO STA. 48+19.58 (14'x44')(6/12)(1/27) =	11.41 C.Y.
(6'x40')(6/12)(1/27) =	4.44 C.Y.

STA. 48+19.58 TO STA. 48+39.58 (20x40.33)(6/12)(1/27) =	14.94 C.Y.
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WAY-21-0.94- BHF

NORTHBOUND	STA. 49+52.63 TO STA. 49+72.63 (20x40.33)(6/12)(1/27) =	14.94 C.Y.
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STA. 49+72.62 TO STA. 49+92.62 (14'x44')(6/12)(1/27) =	11.41 C.Y.
(6'x40')(6/12)(1/27) =	4.44 C.Y.

STA. 52+43.82 TO STA. 52+63.82 (14'x44')(6/12)(1/27) =	11.41 C.Y.
(6'x40')(6/12)(1/27) =	4.44 C.Y.

STA. 52+63.82 TO STA. 53+35.00 (71.18x40.33)(6/12)(1/27) =	53.17 C.Y.
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SOUTHBOUND	STA. 49+78.46 TO STA. 49+98.46 (20x40.33)(6/12)(1/27) =	14.94 C.Y.
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STA. 49+98.46 TO STA. 50+18.46 (14'x44')(6/12)(1/27) =	11.41 C.Y.
(6'x40')(6/12)(1/27) =	4.44 C.Y.

STA. 52+69.11 TO STA. 52+89.11 (14'x44')(6/12)(1/27) =	11.41 C.Y.
(6'x40')(6/12)(1/27) =	4.44 C.Y.

STA. 52+89.11 TO STA. 54+75.00 (185.89x40.33)(6/12)(1/27) =	138.83 C.Y.
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WAY-21-1.24- NH

NORTHBOUND	STA. 65+50.27 TO STA. 67+44.62 (194.35 x 40.33)(6/12)(1/27) =	145.15 C.Y.
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SOUTHBOUND	STA. 65+50.70 TO STA. 67+56.61 (205.91x40.33)(6/12)(1/27) =	153.78 C.Y.
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ITEM 304 - 8" AGGREGATE BASE

SHOULDER AREA	STA. 44+68.68 TO STA. 46+02.82 (134.14x4.67)(8/12)(1/27) =	15.47 C.Y. BHF
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STA. 45+23.63 TO STA. 46+02.82 (79.19x10.67)(8/12)(1/27) =	20.86 C.Y. BHF
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STA. 45+64.23 TO STA. 46+25.14 (60.91x10.67)(8/12)(1/27) =	16.05 C.Y. BHF
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STA. 48+17.56 TO STA. 49+52.63 (135.07x4.67)(8/12)(1/27) =	15.57 C.Y. BHF
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STA. 48+17.56 TO STA. 49+52.63 (135.07x10.67)(8/12)(1/27) =	35.59 C.Y. BHF
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STA. 53+35.00 TO STA. 53+60.00 (25.0 x10.67)(8/12)(1/27) =	6.59 C.Y. BHF
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STA. 48+39.58 TO STA. 49+78.46 (138.88x4.67)(8/12)(1/27) =	16.01 C.Y. BHF
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STA. 48+39.58 TO STA. 49+78.46 (138.88x10.67)(8/12)(1/27) =	36.59 C.Y. BHF
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STA. 54+75.00 TO STA. 55+00.00 (25.0 x10.67)(8/12)(1/27) =	6.59 C.Y. BHF
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STA. 64+52.60 TO STA. 65+50.70 (98.1x10.67)(8/12)(1/27) =	25.85 C.Y. NH
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STA. 67+56.61 TO STA. 68+52.13 (95.52x10.67)(8/12)(1/27) =	25.17 C.Y. NH
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STA. 64+49.90 TO STA. 65+50.27 (100.37x10.67)(8/12)(1/27) =	26.44 C.Y. NH
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STA. 67+44.62 TO STA. 68+47.78 (103.16x10.67)(8/12)(1/27) =	27.18 C.Y. NH
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TOTALS = 169 C.Y. BHF
105 C.Y. NH

ITEM 402 - 1-3/4" ASPHALT CONCRETE, AC-20

WAY-21-0.87- BHF

NORTHBOUND	STA. 46+02.82 TO STA. 46+22.82 (20x38)(1-3/4/12)(1/27) =	4.10 C.Y.
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STA. 47+97.56 TO STA. 48+17.56 (20x38)(1-3/4/12)(1/27) =	4.10 C.Y.
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SOUTHBOUND	STA. 46+25.14 TO STA. 46+45.14 (20x38)(1-3/4/12)(1/27) =	4.10 C.Y.
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STA. 48+19.58 TO STA. 48+39.58 (20x38)(1-3/4/12)(1/27) =	4.10 C.Y.
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WAY-21-0.94- BHF

NORTHBOUND	STA. 49+52.63 TO STA. 49+72.63 (20x38)(1-3/4/12)(1/27) =	4.10 C.Y.
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STA. 52+63.82 TO STA. 53+35.00 (71.18x38)(1-3/4/12)(1/27) =	14.61 C.Y.
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SOUTHBOUND	STA. 49+78.46 TO STA. 49+98.46 (20x38)(1-3/4/12)(1/27) =	4.10 C.Y.
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CALCULATIONS

QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: CKN	5	OHIO	
DATE: 3/94	DATE: 3/94			

WAYNE COUNTY WAY-21-(0.87) (0.94) (1.24)

ITEM 402 - 1-3/4" ASPHALT CONCRETE, AC-20 (CONTINUED)

	STA. 52+89.11 TO STA. 54+75.00 (185.89x38)(1-3/4/12)(1/27) =	38.15 C.Y.
WAY-21-1.24-NH		
NORTHBOUND	STA. 65+50.27 TO STA. 67+44.62 (194.35x38)(1-3/4/12)(1/27) =	39.89 C.Y.
SOUTHBOUND	STA. 65+50.70 TO STA. 67+56.61 (205.91x38)(1-3/4/12)(1/27) =	42.26 C.Y.

TOTALS = 78 C.Y.-BHF
82 C.Y.-NH

ITEM 404 - 1-1/4" ASPHALT CONCRETE, AC-20

WAY-21-0.87-BHF		
NORTHBOUND	STA. 46+02.82 TO STA. 46+22.82 (20x38)(1-1/4/12)(1/27) =	2.93 C.Y.
	STA. 47+97.56 TO STA. 48+17.56 (20x38)(1-1/4/12)(1/27) =	2.93 C.Y.
SOUTHBOUND	STA. 46+25.14 TO STA. 46+45.14 (20x38)(1-1/4/12)(1/27) =	2.93 C.Y.
	STA. 48+19.58 TO STA. 48+39.58 (20x38)(1-1/4/12)(1/27) =	2.93 C.Y.
WAY-21-0.94-BHF		
NORTHBOUND	STA. 49+52.63 TO STA. 49+72.63 (20x38)(1-1/4/12)(1/27) =	2.93 C.Y.
	STA. 52+63.82 TO STA. 53+35.00 (71.18x38)(1-1/4/12)(1/27) =	10.44 C.Y.
SOUTHBOUND	STA. 49+78.46 TO STA. 49+98.46 (20x38)(1-1/4/12)(1/27) =	2.93 C.Y.
	STA. 52+89.11 TO STA. 54+75.00 (185.89x38)(1-1/4/12)(1/27) =	27.25 C.Y.
WAY-21-1.24-NH		
NORTHBOUND	STA. 65+50.27 TO STA. 67+44.62 (194.35x38)(1-1/4/12)(1/27) =	28.49 C.Y.
SOUTHBOUND	STA. 65+50.70 TO STA. 67+56.61 (205.91x38)(1-1/4/12)(1/27) =	30.19 C.Y.

SUB TOTALS = 55 C.Y.-BHF
59 C.Y.-NH

ITEM 404 - 1-1/4" ASPHALT CONCRETE, AC-20

TRANSITION AREAS

SOUTHBOUND	46+00.14 TO 46+25.14 (25)(27)(1.25/12)(1/27)	2.60 C.Y. BHF	NORTHBOUND	45+77.82 TO 46+02.82 (25)(24)(1.25/12)(1/27)	2.31 C.Y. BHF
	48+39.58 TO 48+64.58 (25)(24)(1.25/12)(1/27)	2.31 C.Y. BHF		48+17.56 TO 48+42.56 (25)(24)(1.25/12)(1/27)	2.31 C.Y. BHF
	49+53.46 TO 49+78.46 (25)(24)(1.25/12)(1/27)	2.31 C.Y. BHF		49+27.63 TO 49+52.63 (25)(24)(1.25/12)(1/27)	2.31 C.Y. BHF
	54+75.00 TO 55+00.00 (25)(27)(1.25/12)(1/27)	2.60 C.Y. BHF		53+35.00 TO 53+60.00 (25)(27)(1.25/12)(1/27)	2.60 C.Y. BHF
	65+25.70 TO 65+50.70 (25)(27)(1.25/12)(1/27)	2.60 C.Y. NH		65+25.27 TO 65+50.27 (25)(27)(1.25/12)(1/27)	2.60 C.Y. NH
	67+56.61 TO 67+81.61 (25)(27)(1.25/12)(1/27)	2.60 C.Y. NH		67+44.62 TO 67+69.62 (25)(27)(1.25/12)(1/27)	2.60 C.Y. NH

TOTALS = 78 C.Y.-BHF
69 C.Y.-NH

ITEM 408 - BITUMINOUS PRIME COAT (.4 GAL/S.Y.)

WAY-21-0.87-BHF		
NORTHBOUND	STA. 46+02.82 TO STA. 46+22.82 (20x40)(1/9)(0.4 GAL/S.Y.) =	35.56 GAL.
	STA. 47+97.56 TO STA. 48+17.56 (20x40)(1/9)(0.4 GAL/S.Y.) =	35.56 GAL.
SHOULDER AREA:		
	STA. 44+68.68 TO STA. 46+02.82 (134.14x4)(1/9)(0.4 GAL/S.Y.) =	23.85 GAL.
	STA. 45+23.63 TO STA. 46+02.82 (79.19x10)(1/9)(0.4 GAL/S.Y.) =	35.20 GAL.
SOUTHBOUND	STA. 46+25.14 TO STA. 46+45.14 (20x40)(1/9)(0.4 GAL/S.Y.) =	35.56 GAL.
	STA. 48+19.58 TO STA. 48+39.58 (20x40)(1/9)(0.4 GAL/S.Y.) =	35.56 GAL.
SHOULDER AREA:		
	STA. 45+64.23 TO STA. 46+25.14 (60.91x10)(1/9)(0.4 GAL/S.Y.) =	27.07 GAL.
WAY-21-0.94-BHF		
NORTHBOUND	STA. 49+52.63 TO STA. 49+72.63 (20x40)(1/9)(0.4 GAL/S.Y.) =	35.56 GAL.
	STA. 52+63.82 TO STA. 53+35.00 (71.18x40)(1/9)(0.4 GAL/S.Y.) =	126.54 GAL.
SHOULDER AREA:		
	STA. 48+17.56 TO STA. 49+52.63 (135.07x4)(1/9)(0.4 GAL/S.Y.) =	24.01 GAL.
	STA. 48+17.56 TO STA. 49+52.63 (135.07x10)(1/9)(0.4 GAL/S.Y.) =	60.03 GAL.
	STA. 53+35.00 TO STA. 53+60.00 (2500x10)(1/9)(0.4 GAL/S.Y.) =	11.11 GAL.
SOUTHBOUND	STA. 49+78.46 TO STA. 49+98.46 (20x40)(1/9)(0.4 GAL/S.Y.) =	35.56 GAL.
	STA. 52+89.11 TO STA. 54+75.00 (185.89x40)(1/9)(0.4 GAL/S.Y.) =	330.47 GAL.
SHOULDER AREA:		
	STA. 48+39.58 TO STA. 49+78.46 (138.88x4)(1/9)(0.4 GAL/S.Y.) =	24.69 GAL.
	STA. 48+39.58 TO STA. 49+78.46 (138.88x10)(1/9)(0.4 GAL/S.Y.) =	61.72 GAL.
	STA. 54+75.00 TO STA. 55+00.00 (2500x10)(1/9)(0.4 GAL/S.Y.) =	11.11 GAL.

WAY-21-1.24-NH

NORTHBOUND	STA. 65+50.27 TO STA. 67+44.62 (194.35x40)(1/9)(0.4 GAL/S.Y.) =	345.51 GAL.
SHOULDER AREA:		
	STA. 64+49.90 TO STA. 65+50.27 (100.37x10)(1/9)(0.4 GAL/S.Y.) =	44.61 GAL.
	STA. 67+44.62 TO STA. 68+47.78 (103.16x10)(1/9)(0.4 GAL/S.Y.) =	45.85 GAL.

ITEM 659 - WATER

(95.F/S.Y.)(5876 S.Y.) (240 GAL/1000 S.F.) (MGAL/1000 GAL) =	13 M. GAL. - BHF
(THE QUANTITY FOR ITEM 659 WATER IS CARRIED TO THE GENERAL NOTES	
(95.F/S.Y.)(5031 S.Y.) (240 GAL/1000 S.F.) (MGAL/1000 GAL) =	11 M. GAL. - NH

ITEM 659 - COMMERCIAL FERTILIZER

(95.F/S.Y.)(5876/S.Y.) (20 LBS./1000 S.F.) (1 TON/2000 LBS) =	0.53 TON - BHF
(95.F/S.Y.)(5031/S.Y.) (20 LBS./1000 S.F.) (1 TON/2000 LBS) =	0.46 TON - NH

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER

WAY-21-0.94-BHF		
((12392.58)(2.5) / (27)) =	1147 C.Y.	
	TOTAL = 1147 C.Y. - BHF	

ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T = 13"), AS PER PLAN

WAY-21-0.87-BHF		
NORTHBOUND	STA. 46+22.82 TO STA. 46+42.82 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 47+77.56 TO STA. 47+97.56 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
SOUTHBOUND	STA. 46+45.14 TO STA. 46+65.14 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 47+99.58 TO STA. 48+19.58 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
WAY-21-0.94-BHF		
NORTHBOUND	STA. 49+72.63 TO STA. 49+92.63 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 52+43.82 TO STA. 52+63.82 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
SOUTHBOUND	STA. 49+98.46 TO STA. 50+18.46 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.
	STA. 52+69.11 TO STA. 52+89.11 ((6)(39)+(14)(43))(1/9) =	92.89 S.Y.

TOTAL = 743 S.Y. - BHF

ITEM 402 - 4" ASPHALT CONCRETE, AC-20

WAY-21-0.87-BHF		
NORTHBOUND - SHOULDER		
	STA. 44+68.68 TO STA. 46+02.82 (134.14)(4)(1/12)(1/27)	6.62 C.Y.
	STA. 45+23.63 TO STA. 46+02.82 (79.19)(10)(4/12)(1/27)	9.78 C.Y.
SOUTHBOUND - SHOULDER		
	STA. 45+64.23 TO STA. 46+25.14 (60.91)(10)(4/12)(1/27)	7.52 C.Y.

CALCULATIONS

QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: CKN	5	OHIO	
DATE: 3/94	DATE: 3/94			

ITEM 402 - 4" ASPHALT CONCRETE, AC-20 (CONTINUED)

WAY-21-0.94 - BHF

NORTHBOUND - SHOULDER

STA. 48+17.56 TO STA. 49+52.63
(135.07)(4)(4/12)(1/27) 6.67 C.Y.

STA. 48+17.56 TO STA. 49+52.63
(135.07)(10)(4/12)(1/27) 16.68 C.Y.

STA. 53+35.00 TO STA. 53+60.00
(25.00)(10)(4/12)(1/27) 3.08 C.Y.

SOUTHBOUND - SHOULDER

STA. 48+39.58 TO STA. 49+78.46
(138.88)(4)(4/12)(1/27) 6.86 C.Y.

STA. 48+39.58 TO STA. 49+78.46
(138.88)(10)(4/12)(1/27) 17.15 C.Y.

STA. 54+75.00 TO STA. 55+00.00
(25.00)(10)(4/12)(1/27) 3.08 C.Y.

WAY-21-1.24 - NH

NORTHBOUND - SHOULDER

STA. 64+49.90 TO STA. 65+50.27
(100.37)(10)(4/12)(1/27) 12.39 C.Y.

STA. 67+44.62 TO STA. 68+47.78
(103.16)(10)(4/12)(1/27) 12.74 C.Y.

STA. 64+52.60 TO STA. 65+50.70
(98.10)(10)(4/12)(1/27) 12.11 C.Y.

STA. 67+56.61 TO STA. 68+52.13
(95.52)(10)(4/12)(1/27) 11.79 C.Y.

TOTALS = 77 C.Y. - BHF
49 C.Y. - NH

ITEM 202 - WEARING COURSE REMOVED

NORTHBOUND

45+77.82 TO 46+02.82
(25)(24)(1/9) 66.67 S.Y. BHF

48+17.56 TO 48+42.56
(25)(24)(1/9) 66.67 S.Y. BHF

49+27.63 TO 49+52.63
(25)(24)(1/9) 66.67 S.Y. BHF

53+35.00 TO 53+60.00
(25)(27)(1/9) 75.00 S.Y. BHF

65+25.27 TO 65+50.27
(25)(27)(1/9) 75.00 S.Y. NH

67+44.62 TO 67+69.62
(25)(27)(1/9) 75.00 S.Y. NH

SOUTHBOUND

46+00.14 TO 46+25.14
(25)(27)(1/9) 75.00 S.Y. BHF

48+39.58 TO 48+64.58
(25)(24)(1/9) 66.67 S.Y. BHF

49+53.46 TO 49+78.46
(25)(24)(1/9) 66.67 S.Y. BHF

54+75.00 TO 55+00.00
(25)(27)(1/9) 75.00 S.Y. BHF

65+25.70 TO 65+50.70
(25)(27)(1/9) 75.00 S.Y. NH

67+56.61 TO 67+81.61
(25)(27)(1/9) 75.00 S.Y. NH

TOTALS = 558 S.Y. - BHF
300 S.Y. - NH

ITEM 407 - TACK COAT (0.10 GAL./S.Y.)

NORTHBOUND

45+77.82 TO 46+02.82
(25)(24)(1/9)(0.10 GAL./S.Y.) 6.67 GAL. BHF

48+17.56 TO 48+42.56
(25)(24)(1/9)(0.10 GAL./S.Y.) 6.67 GAL. BHF

49+27.63 TO 49+52.63
(25)(24)(1/9)(0.10 GAL./S.Y.) 6.67 GAL. BHF

53+35.00 TO 53+60.00
(25)(27)(1/9)(0.10 GAL./S.Y.) 7.50 GAL. BHF

65+25.27 TO 65+50.27
(25)(27)(1/9)(0.10 GAL./S.Y.) 7.50 GAL. NH

67+44.62 TO 67+69.62
(25)(27)(1/9)(0.10 GAL./S.Y.) 7.50 GAL. NH

SOUTHBOUND

46+00.14 TO 46+25.14
(25)(27)(1/9)(0.10 GAL./S.Y.) 7.50 GAL. BHF

48+39.58 TO 48+64.58
(25)(24)(1/9)(0.10 GAL./S.Y.) 6.67 GAL. BHF

49+53.46 TO 49+78.46
(25)(24)(1/9)(0.10 GAL./S.Y.) 6.67 GAL. BHF

54+75.00 TO 55+00.00
(25)(27)(1/9)(0.10 GAL./S.Y.) 7.50 GAL. BHF

65+25.70 TO 65+50.70
(25)(27)(1/9)(0.10 GAL./S.Y.) 7.50 GAL. NH

67+56.61 TO 67+81.61
(25)(27)(1/9)(0.10 GAL./S.Y.) 7.50 GAL. NH

TOTALS = 56 GAL. - BHF
30 GAL. - NH

ITEM 605 - AGGREGATE DRAINS

NORTHBOUND

STA. 46+10
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 46+32
(4'-0"+5'-0") x 1 = 9.0 L.F. BHF

STA. 47+87
(4'-0"+5'-0") x 1 = 9.0 L.F. BHF

STA. 48+07
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 49+62
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 49+82
(4'-0"+5'-0") x 1 = 9.0 L.F. BHF

STA. 52+53
(4'-0"+5'-0") x 1 = 9.0 L.F. BHF

STA. 52+73
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 53+23
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 65+76
(6'-0") x 1 = 6.0 L.F. NH

STA. 66+00
(6'-0") x 1 = 6.0 L.F. NH

STA. 66+25
(6'-0") x 1 = 6.0 L.F. NH

STA. 66+40
(6'-0") x 1 = 6.0 L.F. NH

STA. 46+35
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 46+55
(4'-0"+5'-0") x 1 = 9.0 L.F. BHF

STA. 48+09
(4'-0"+5'-0") x 1 = 9.0 L.F. BHF

STA. 48+29
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 49+88
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 50+08
(4'-0"+5'-0") x 1 = 9.0 L.F. BHF

STA. 52+79
(4'-0"+5'-0") x 1 = 9.0 L.F. BHF

STA. 52+99
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 53+49
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 53+99
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 54+49
(4'-6"+7'-0") x 1 = 11.5 L.F. BHF

STA. 65+76
(5'-0") x 1 = 5.0 L.F. NH

STA. 66+00
(5'-0") x 1 = 5.0 L.F. NH

STA. 66+25
(5'-0") x 1 = 5.0 L.F. NH

STA. 66+40
(5'-0") x 1 = 5.0 L.F. NH

TOTALS = 210 L.F. - BHF
34 L.F. - NH

**WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)**

ITEM 202 - PAVEMENT REMOVED

WAY-21-0.87 - BHF

NORTHBOUND
STA. 46+02.82 TO STA. 46+17.82
(15')(24')(1/9) 40 S.Y.

STA. 48+02.56 TO STA. 48+17.56
(15')(24')(1/9) 40 S.Y.

SOUTHBOUND
STA. 46+25.14 TO STA. 46+50.14
(25')(24')(1/9) 67 S.Y.

STA. 48+14.58 TO STA. 48+39.58
(25')(24')(1/9) 67 S.Y.

WAY-21-0.94 - BHF

NORTHBOUND
STA. 49+52.63 TO STA. 49+67.62
(15')(24')(1/9) 40 S.Y.

STA. 52+68.82 TO STA. 53+35.00
(66.18')(24')(1/9) 177 S.Y.

SOUTHBOUND
STA. 49+78.46 TO STA. 50+03.46
(25')(24')(1/9) 67 S.Y.

STA. 52+84.11 TO STA. 54+75.00
(190.89')(24')(1/9) 509 S.Y.

WAY-21-1.24 - NH

NORTHBOUND
STA. 65+50.27 TO STA. 65+71.71
(21.44')(24')(1/9) 57 S.Y.

STA. 67+30.18 TO STA. 67+44.62
(14.44')(24')(1/9) 39 S.Y.

SOUTHBOUND
STA. 65+50.70 TO STA. 65+71.71
(21')(24')(1/9) 56 S.Y.

STA. 67+30.18 TO STA. 67+56.61
(26.43')(24')(1/9) 71 S.Y.

TOTALS = 1007 S.Y. - BHF
223 S.Y. - NH

ITEM 202 - APPROACH SLAB REMOVED

WAY-21-0.87 - BHF

NORTHBOUND
STA. 46+17.82 TO STA. 46+42.82
(25')(24')(1/9) 67 S.Y.

STA. 47+77.56 TO STA. 48+02.56
(25')(24')(1/9) 67 S.Y.

SOUTHBOUND
STA. 46+50.14 TO STA. 46+65.14
(15')(24')(1/9) 40 S.Y.

STA. 47+99.58 TO STA. 48+14.58
(15')(24')(1/9) 40 S.Y.

WAY-21-0.94 - BHF

NORTHBOUND
STA. 49+67.62 TO STA. 49+92.62
(25')(24')(1/9) 67 S.Y.

STA. 52+43.82 TO STA. 52+68.82
(25')(24')(1/9) 67 S.Y.

SOUTHBOUND
STA. 50+03.46 TO STA. 50+18.46
(15')(24')(1/9) 40 S.Y.

STA. 52+69.11 TO STA. 52+84.11
(15')(24')(1/9) 40 S.Y.

WAY-21-1.24 - NH

NORTHBOUND & SOUTHBOUND
STA. 65+71.71 TO STA. 67+30.18
2(25')(24')(1/9) 134 S.Y.

2(15')(24')(1/9) 80 S.Y.

TOTALS = 428 S.Y. - BHF
214 S.Y. - NH

GENERAL SUMMARY

QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: JJE	5	OHIO	
DATE: 5/94	DATE: 5/94			

20
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

ITEM	BHF Funds										NH Funds						Fund		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	REF. SHEET NO.														
	5	17	18	19	22	23	24	26	27		5	17	18	19	25	28	53	BHF							NH													
	Lump										Lump						Lump																					
101																				201	11000	LUMP		CLEARING AND GRUBBING														
202																				202	11000	LUMP		STRUCTURE REMOVED														
202				128										214				428	214	202	22900	642	S.Y.	APPROACH SLAB REMOVED														
202				1007										223				7007	223	202	23000	1230	S.Y.	PAVEMENT REMOVED														
202					338	264	314			503	329			362	368			1748	730	202	38000	2478	L.F.	GUARDRAIL REMOVED														
202				558										300				558	300	202	23500	858	S.Y.	WEARING COURSE REMOVED														
203										930	654				614			1584	614	203	12000	2198	C.Y.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION														
203										748	73				18,595			821	18,595	203	20000	1916	C.Y.	EMBANKMENT														
203				2338														2338	1690	203	50000	4028	S.Y.	SUBGRADE COMPACTION														
604															2				2	604	40500	2	EACH	REFERENCE MONUMENT														
606					210	233.5	215.5			352.25	271				400	400		342.25	800	606	13000	2142.25	L.F.	GUARDRAIL, TYPE 5														
606					2	1	1			3	2							4		606	35000	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1														
606					1	2				1	1							5		606	35100	5	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2														
606							112.5			112.5								2.25		606	15500	225	L.F.	GUARDRAIL BARRIER DESIGN, TYPE 5														
607															140	152			292	607	15000	292	L.F.	FENCE, TYPE 47														
607					40	60				24	24							168		607	35000	168	L.F.	FENCE REMOVED AND, REBUILT	5													
SPECIAL											1							2		SPECIAL	49010360	2	EACH	IMPACT ATTENUATOR, TYPE 1, BIDIRECTIONAL														
EROSION CONTROL																																						
207	200																	200	400	207	30000	600	L.F.	FILTER FABRIC FENCE (SEE PROPOSAL NOTE)														
207	100																	100	50	207	70000	150	EACH	STRAW OR HAY BALES														
601				1147														1147		601	32100	1147	C.Y.	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER														
601										2	2							4		601	32200	4	C.Y.	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER														
659										2163	3713				5031			5876	5031	659	10000	10907	S.Y.	SEEDING AND MULCHING														
659				0.53														0.53	0.46	659	20000	0.99	TON	COMMERCIAL FERTILIZER														
659	13														11			73	11	659	35000	24	M GAL	WATER														
670							100	100										200		670	40000	200	S.Y.	DITCH EROSION PROTECTION														
DRAINAGE																																						
602										0.30	0.30							0.60		602	20000	0.60	C.Y.	CONCRETE MASONRY														
603					42	41				46	40							168		603	05900	169	L.F.	15" CONDUIT, TYPE B														
603					19	28	145											192		603	06100	192	L.F.	15" CONDUIT, TYPE C														
603						20				77	76							173		603	06700	173	L.F.	15" CONDUIT, TYPE F, 707.05, TYPE C														
604					2	2				2	1							7		604	00800	7	EACH	CATCH BASIN, NO. 3A														
604											1							1		604	00801	1	EACH	CATCH BASIN, NO. 3A, AS PER PLAN	5													
604						1	1											2		604	02801	2	EACH	CATCH BASIN, NO. 8, AS PER PLAN	5													
604					1													1		604	09000	1	EACH	CATCH BASIN ADJUSTED TO GRADE														
605				210										44				210	44	605	31100	254	L.F.	AGGREGATE DRAIN														
PAVEMENT																																						
301				366											387			366	387	301	10002	755	C.Y.	BITUMINOUS AGGREGATE BASE, AC-20														
304				577											404			577	404	304	20000	981	C.Y.	AGGREGATE BASE (SEE PROPOSAL NOTE)														
402				78	77									82	49			155	131	402	20000	286	C.Y.	ASPHALT CONCRETE, AC-20														
404				75										69				75	69	404	20000	144	C.Y.	ASPHALT CONCRETE, AC-20														
407	81			56										84	30			137	114	407	10000	251	GAL.	TACK COAT														

CAD FILE : WAZISUM1
DATE : 12/5/94
OPERATOR : WKL/PJP

GENERAL SUMMARY

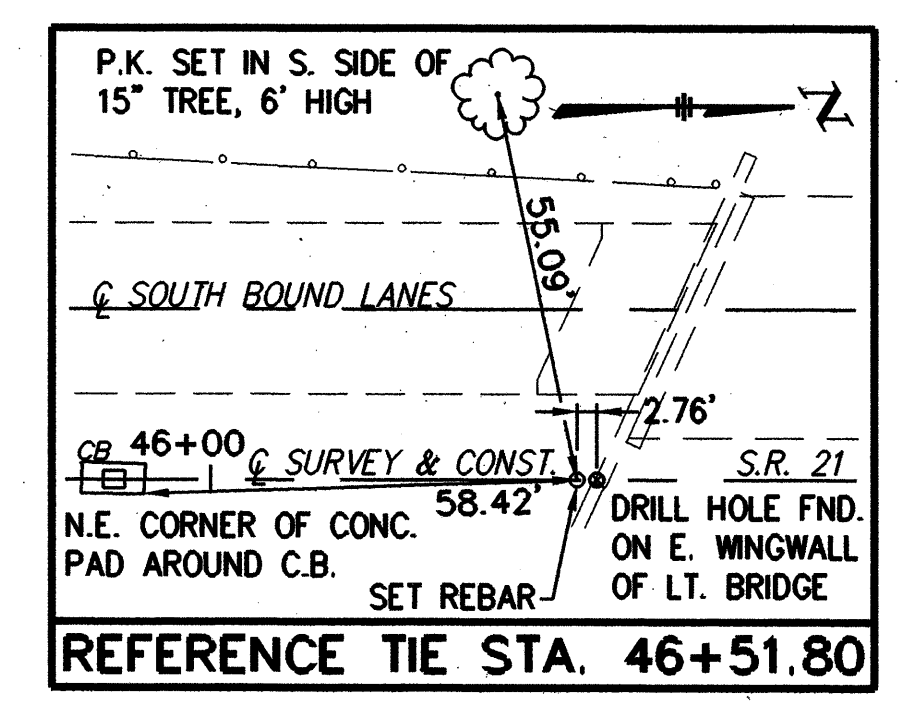
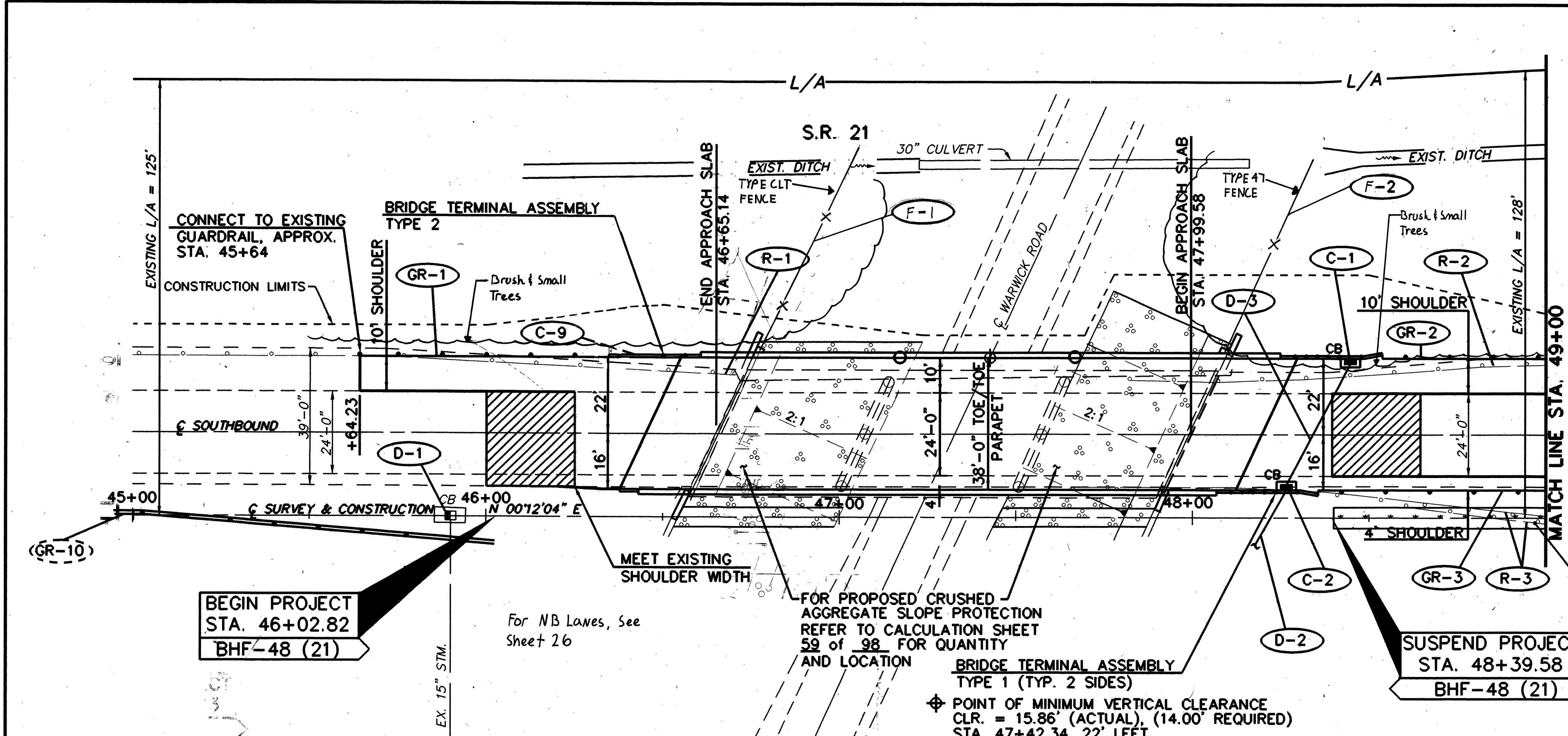
QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW DATE: 5/94	CHKD. BY: JJE DATE: 5/94	5	OHIO	

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

ITEM	BHF Funds														NH Funds										FUNDS		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	REF. SHEET NO.		
	SHEET NUMBER																								SUB-TOTALS									
	6	7	14	15	18	22	23	24	26	27	54	6	7	18	25	28	53	54	BHF	NH														
408					999														998						999	898	408	10000	1837	GAL	BITUMINOUS PRIME COAT			
609						69	71		63	48															251	-	609	26000	251	L.F.	CURB, TYPE 6			
611					743																				743	-	611	15001	743	S.Y.	REINFORCED CONCRETE APPROACH SLAB (T=13"), AS PER PLAN	51		
TRAFFIC CONTROL																																		
642																									0.25	0.68	0.25	642	00102	0.93	MILE	EDGE LINE, TYPE 2		
642																									0.09	0.32	0.09	642	00202	0.41	MILE	LANE LINE, TYPE 2		
802						3	1	5	4	3									4	4					16	8	802	00100	24	EACH	BARRIER REFLECTOR, TYPE A			
802						5	6		4	6															21	-	802	00200	21	EACH	BARRIER REFLECTOR, TYPE B			
MAINTENANCE OF TRAFFIC																																		
SPECIAL			1																						1	-	SPECIAL	60698100	1	EACH	GUARDRAIL MISC: TEMPORARY BRIDGE TERMINAL ASSEMBLY, TYPE 1	7		
SPECIAL			2																						2	1	SPECIAL	60698100	3	EACH	GUARDRAIL MISC: TEMPORARY BRIDGE TERMINAL ASSEMBLY, TYPE H	7		
614		100																						100	-	614	11100	100	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	7			
SPECIAL			512.5																					512.5	537.5	SPECIAL	61412200	1050	L.F.	TEMPORARY GUARDRAIL (GUARDRAIL, TYPE 5)	7			
SPECIAL																									-	12.5	SPECIAL	61412200	12.5	L.F.	TEMPORARY GUARDRAIL (GUARDRAIL, TYPE 5 BARRIER DESIGN)	7		
SPECIAL																									-	2	SPECIAL	60626000	2	EACH	ANCHOR ASSEMBLY, TYPE B	7		
SPECIAL																									-	1	SPECIAL	60626500	1	EACH	ANCHOR ASSEMBLY, TYPE T	7		
411		51																							51	-	411	10000	51	C.Y.	STABILIZED CRUSHED AGGREGATE			
503																																		
LUMP																																		
614		2																							2	2	614	12460	4	EACH	WORK ZONE MARKING SIGN			
614		1																							1	-	614	12756	1	EACH	TEMPORARY CROSSOVER LIGHTING SYSTEM			
614					152																				152	-	614	12800	152	EACH	TEMPORARY RAISED PAVEMENT MARKERS			
614					904																				904	-	614	13300	904	EACH	BARRIER REFLECTOR, TYPE B			
614					852																				852	-	614	13350	852	EACH	OBJECT MARKERS			
614		0.32																							0.32	0.09	614	20400	0.41	MILE	TEMPORARY LANE LINE, CLASS II			
614					2.78																				2.78	-	614	22000	2.78	MILE	TEMPORARY EDGE LINE, CLASS I			
614					2.96																				2.96	-	614	22300	2.96	MILE	TEMPORARY EDGE LINE, CLASS I, 740.05, TYPE C			
615		LUMP																							LUMP	-	615	10000	LUMP					
615		1800																							1000	-	615	20000	1000	S.Y.	TEMPORARY PAVEMENT, CLASS A			
616		10																							10	-	616	10000	10	MGAL	WATER			
622					6200																				6200	-	622	40030	6200	L.F.	PORTABLE CONCRETE BARRIER, 50"			
STRUCTURES OVER 20' ESTIMATED QUANTITIES: For Structure No. WAY-21-0087 L/R SEE SHEET 59 For Structure No. WAY-21-0094 L/R SEE SHEET 78																																		
614		LUMP																							LUMP	LUMP	614	11000	LUMP					
619		LUMP																							LUMP	LUMP	619	15010	LUMP					
SPECIAL		LUMP																							LUMP	LUMP	SPECIAL	61925010	LUMP					
623		LUMP																							LUMP	LUMP	623	10000	LUMP					
624		LUMP																							LUMP	LUMP	624	10000	LUMP					
MOBILIZATION																																		

CAD FILE : WAZISUM2
 DATE : 1/11/95
 OPERATOR : PJP/DLW

CAD FILE: 87LTPP
 DATE: 1/11/95
 OPERATOR: CKC/RP
 PLOT SCALE: 1"=20'



BENCH MARK No. 4, S.W. ANCHOR BOLT AT S. END OF E. GUARDRAIL, ON CONC. PAD, S. OF BRIDGE 0.87 STA. 40+11.39, 48' LT. EL. 1011.18

ITEM 802 BARRIER REFLECTORS
 STA. 45+64 TO STA. 49+00 LT/O/S
 336'/100+1 = 4 Reg'd
 TYPE A = 2 EACH
 TYPE B = 2 EACH

STA. 46+43± TO STA. 49+00 MEDIAN
 257'/100+1 = Reg'd
 TYPE A = 1 EACH
 TYPE B = 3 EACH

25' TRANSITION AREA TO MATCH EXISTING GRADE AND CROSS SLOPE.
 ITEM 201 - WEARING COURSE REMOVED, 0" MINIMUM AND ITEM 407 - TACK COAT.

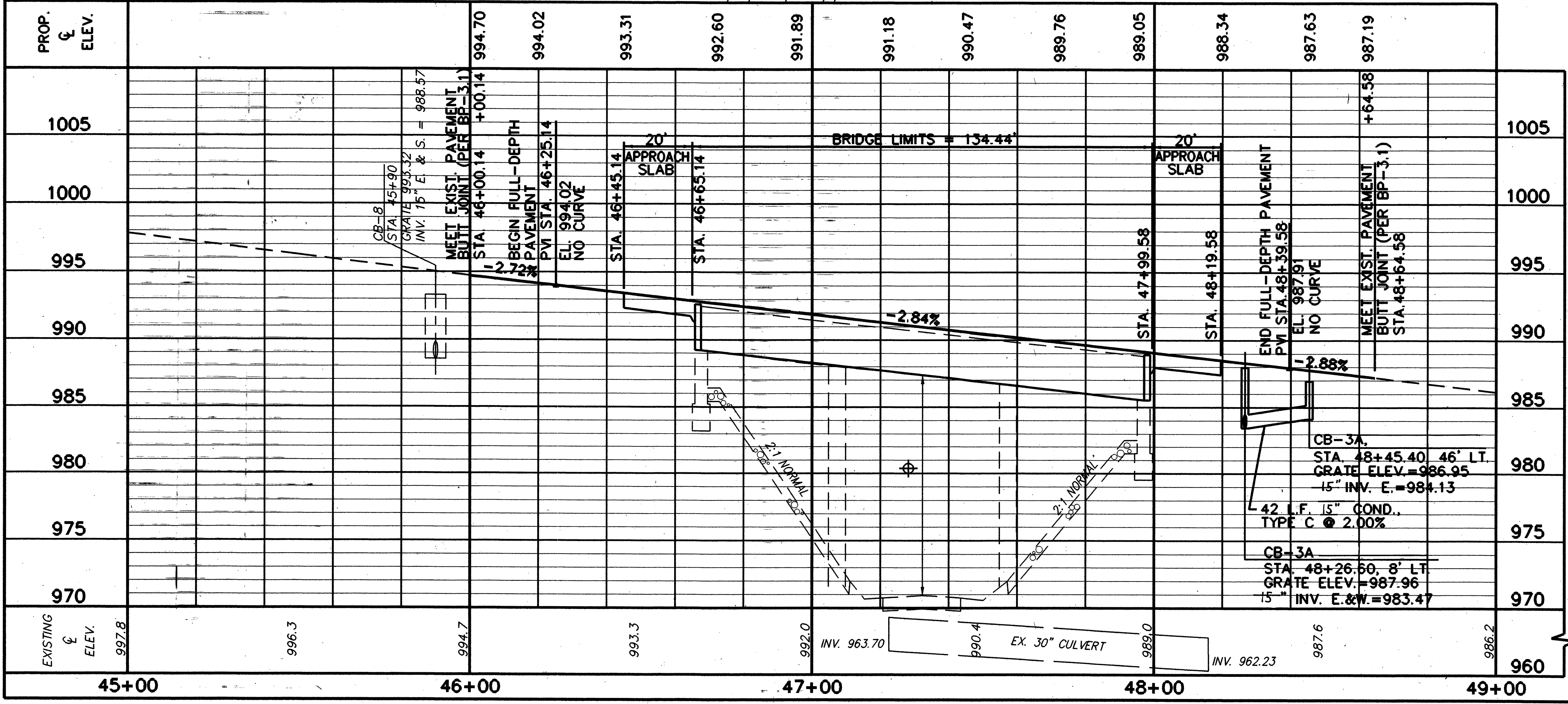
FHWA REGION	STATE	PROJECT
5	OHIO	

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98

**WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)**

EXISTING STRUCTURE
 TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
 SPAN: 39'-10"±, 49'-11 1/2"±, 39'-11 5/8"±
 C/C BEARINGS (LEFT)
 ROADWAY: 30'-0"± F/F W/ 2'-0"± SAFETY CURBS
 ALIGNMENT: TANGENT
 SKEW: 24' 32' 30"± L.F.
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: 15'-0"± (AS-1-54)
 CONDITION: GOOD
 STRUCTURE FILE NUMBER: 8501149

PROPOSED STRUCTURE
 PROPOSED WORK: NEW COMPOSITE REINFORCED CONCRETE DECK, WIDENED SUPERSTRUCTURE ON WIDENED REINFORCED CONCRETE SUBSTRUCTURE
 SPAN: 39'-10"±, 49'-11 1/2"±, 39'-11 5/8"±
 C/C BEARINGS (LEFT)
 ROADWAY: 38'-0" TOE/TOE PARAPET
 LOADING: HS20-44 & ALTERNATE MILITARY LOADING (SUPERSTRUCTURE AND WIDENED SUBSTRUCTURE)
 ALIGNMENT: TANGENT
 SKEW: 24' 32' 30"± L.F.
 WEARING SURFACE: MONOLITHIC CONCRETE
 CROWN: 3/16"/FT.
 APPROACH SLABS: 20'-0" (AS-1-81), AS PER PLAN



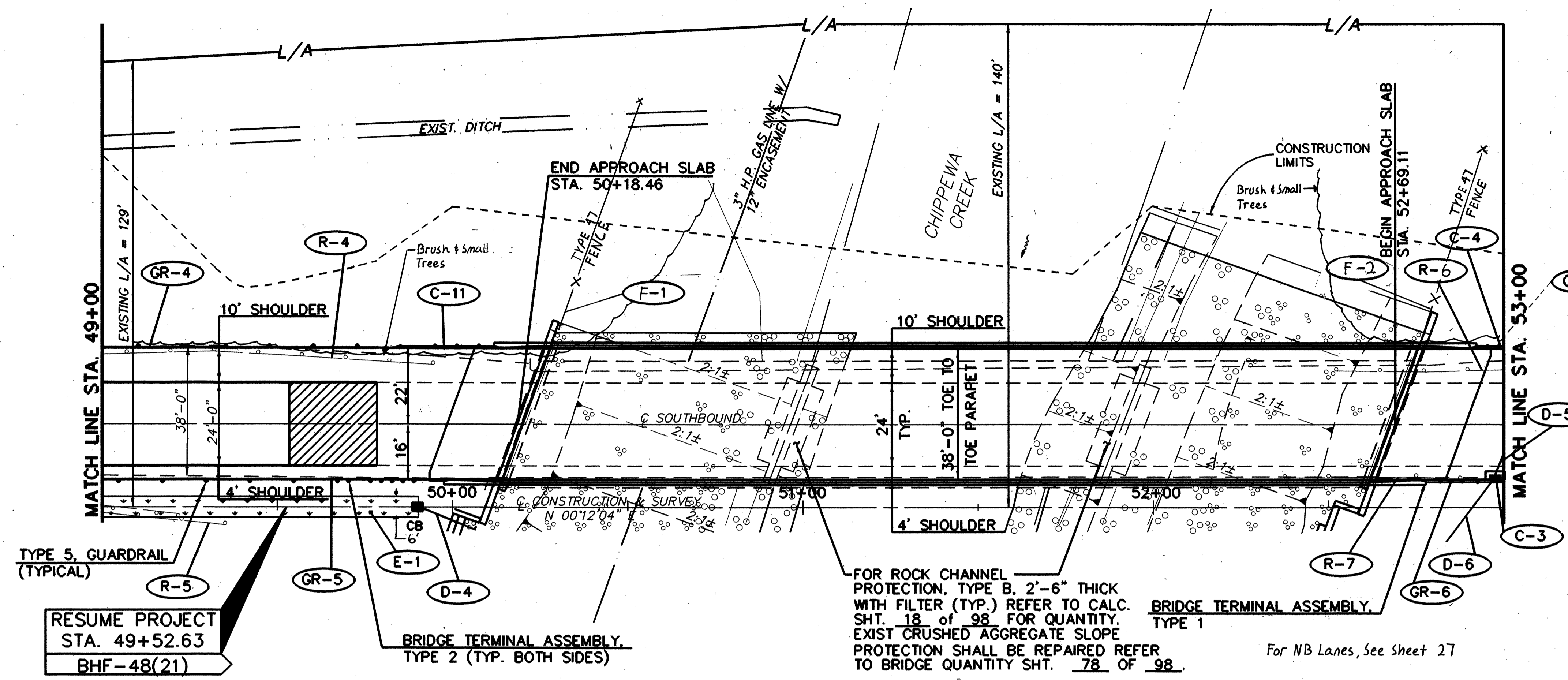
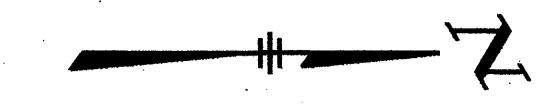
* REMOVE THE EXISTING FENCE (TYPE CLT OR 47) TO BEYOND THE WORK LIMITS AND REBUILD TO RECONNECT TO THE NEW ABUTMENT WINGWALL. THE ADDITIONAL LENGTH OF FENCE REMOVED AND NOT REUSED SHALL BE REMOVED UNDER ITEM 201. (TYPICAL)

REF. No.	SIDE	STATION		LIN. FT.	ESTIMATED QUANTITIES			
		FROM	TO		ITEM 202	ITEM 603	ITEM 604	ITEM 604
R-1	LT.	45+64.23	46+76.00	110	1	1	1	1
R-2	LT.	48+06.00	49+00	118				
R-3	LT./RT.	47+90.00	49+00	110				
D-1	CL	45+90.00			42	19	1	1
D-2	RT.	48+26.60						
D-3	LT./RT.	48+45.40						
TOTALS - BHF				338	42	19	1	2
GR-1	LT.	45+64.23	46+62.64	100				
GR-2	LT.	48+22.85	49+00	76				
GR-3	LT.	48+04.72	49+00	94				
C-1	LT.	48+29.62	48+54.44	25				
C-2	LT.	48+12.35	48+35.64	24				
C-9	LT.	46+34.78	46+55.19	20				
F-1	LT.	46+78±	46+85±	16				
F-2	LT.	48+10±	48+18±	2.9				
TOTALS - BHF				270	2	1	69	40

FHWA REGION	STATE	PROJECT
5	OHIO	

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98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



25' TRANSITION AREA TO MATCH EXISTING GRADE AND CROSS SLOPE. ITEM 202 - WEARING COURSE REMOVED, 0" MINIMUM AND ITEM 407 - TACK COAT.

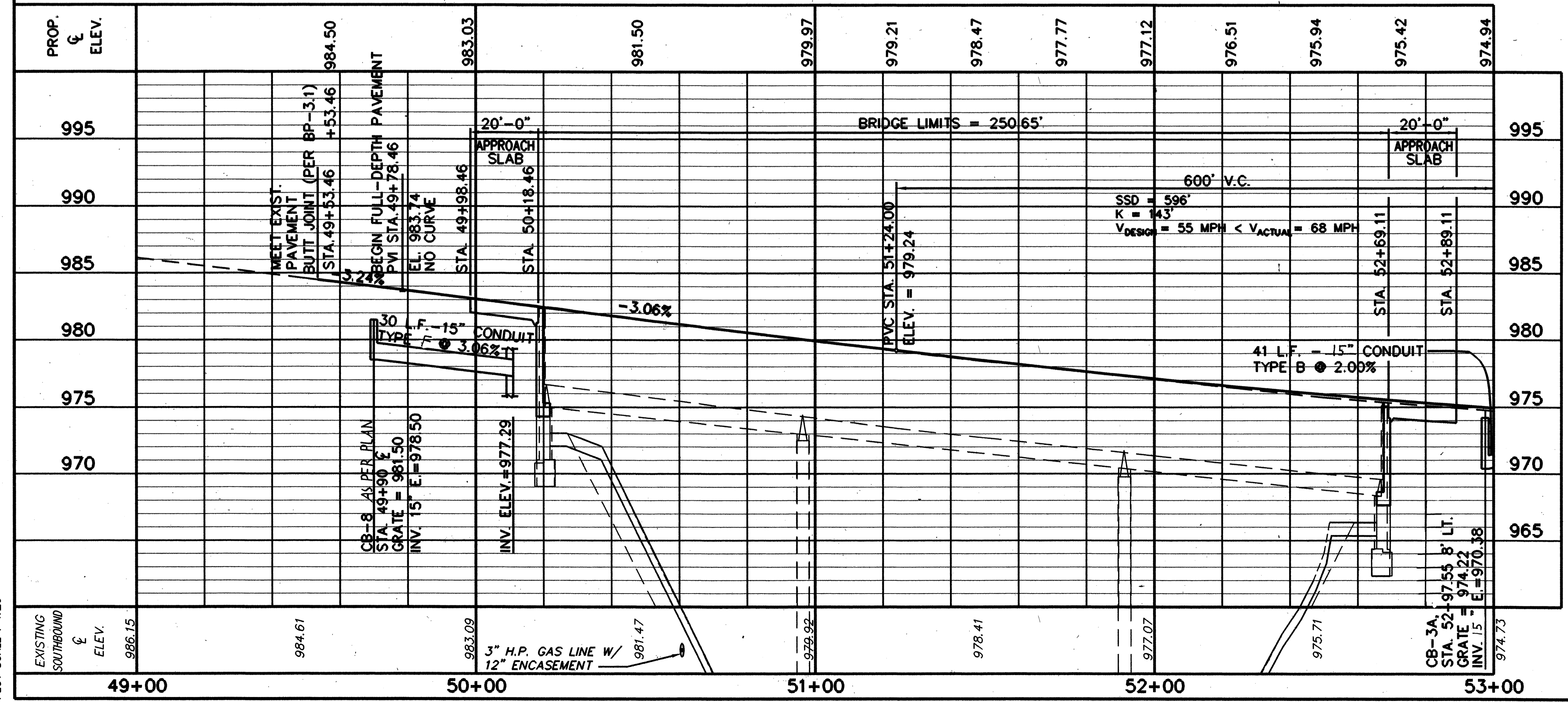
PROPOSED STRUCTURE
 PROPOSED WORK: NEW COMPOSITE REINFORCED CONCRETE DECK, WIDENED SUPERSTRUCTURE ON WIDENED REINFORCED CONCRETE SUBSTRUCTURE
 SPAN: 75'-7 3/8" ±, 94'-9 5/8" ±, 75'-9 1/2" ±
 CENTER TO CENTER BEARINGS
 ROADWAY: 38'-0" TOE/TOE PARAPET
 LOADING: HS20-44 & ALTERNATE MILITARY LOADING (CONCRETE DECK, WIDENED SUPERSTRUCTURE) AND SUBSTRUCTURE)
 ALIGNMENT: TANGENT
 SKEW: 20° ± L.F.
 WEARING SURFACE: MONOLITHIC CONCRETE
 CROWN: 3/16"/FT.
 APPROACH SLABS: 20'-0" (AS-1-81), AS PER PLAN

EXISTING STRUCTURE
 TYPE: CONTINUOUS STEEL BEAMS W/ REINFORCED CONCRETE DECK AND SUBSTRUCTURE
 SPAN: 75'-7 3/8" ±, 94'-9 5/8" ±, 75'-9 1/2" ±
 C/C BEARINGS (LEFT)
 BEARINGS
 ROADWAY: 30'-0" FACE/FACE, 2'-0" SAFETY CURBS
 ALIGNMENT: TANGENT
 SKEW: 20° ± L.F.
 WEARING SURFACE: MONOLITHIC CONCRETE
 APPROACH SLABS: 15' LONG
 STRUCTURAL FILE NO.: 8501203

RESUME PROJECT STA. 49+52.63
BHF-48(21)

FOR ROCK CHANNEL PROTECTION, TYPE B, 2"-6" THICK WITH FILTER (TYP.) REFER TO CALC. SHT. 18 OF 98 FOR QUANTITY. EXIST CRUSHED AGGREGATE SLOPE PROTECTION SHALL BE REPAIRED REFER TO BRIDGE QUANTITY SHT. 78 OF 98.

For NB Lanes, See Sheet 27



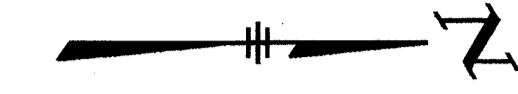
REF. No.	SIDE	STATION	ESTIMATED QUANTITIES			
			ITEM 603		ITEM 604	
			15" CONDUIT, TYPE B	15" CONDUIT, TYPE C	CATCH BASIN, NO. 8, AS PER PLAN	CATCH BASIN, NO. 3A
D-4	CL	49+90.00 TO 50+10	20	1	1	1
D-5	LT	53+12.86	41	1	1	1
D-6	LT	52+97.55	28			
E-1	CL	48+40 TO 49+90				100
C-3	LT	52+83.29 TO 53+06.59				24
C-4	LT	52+97.12 TO 53+21.90				25
C-11	LT	49+82.33 TO 50+04.33				22
TOTALS - BHF			41	20	1	71

REF. No.	SIDE	STATION	ESTIMATED QUANTITIES			
			ITEM 606		ITEM 607	
			BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	GUARDRAIL TYPE 5	FENCE REMOVED AND REBUILT*
GR-4	LT	49+00 TO 50+11.91	1	1	111.50	1
GR-5	LT	49+00 TO 50+00	1	1	100	1
GR-6	LT	52+78.02 TO 53+00	1		2.2	36/2.4
F-1	LT	50+30.7 TO 52+81.50				113
R-4	LT	49+00 TO 50+12.5				40
R-5	LT	49+00 TO 53+00				48
R-7	LT	52+37 TO 53+00	1	2	63	60
TOTALS - BHF			1	2	264	60

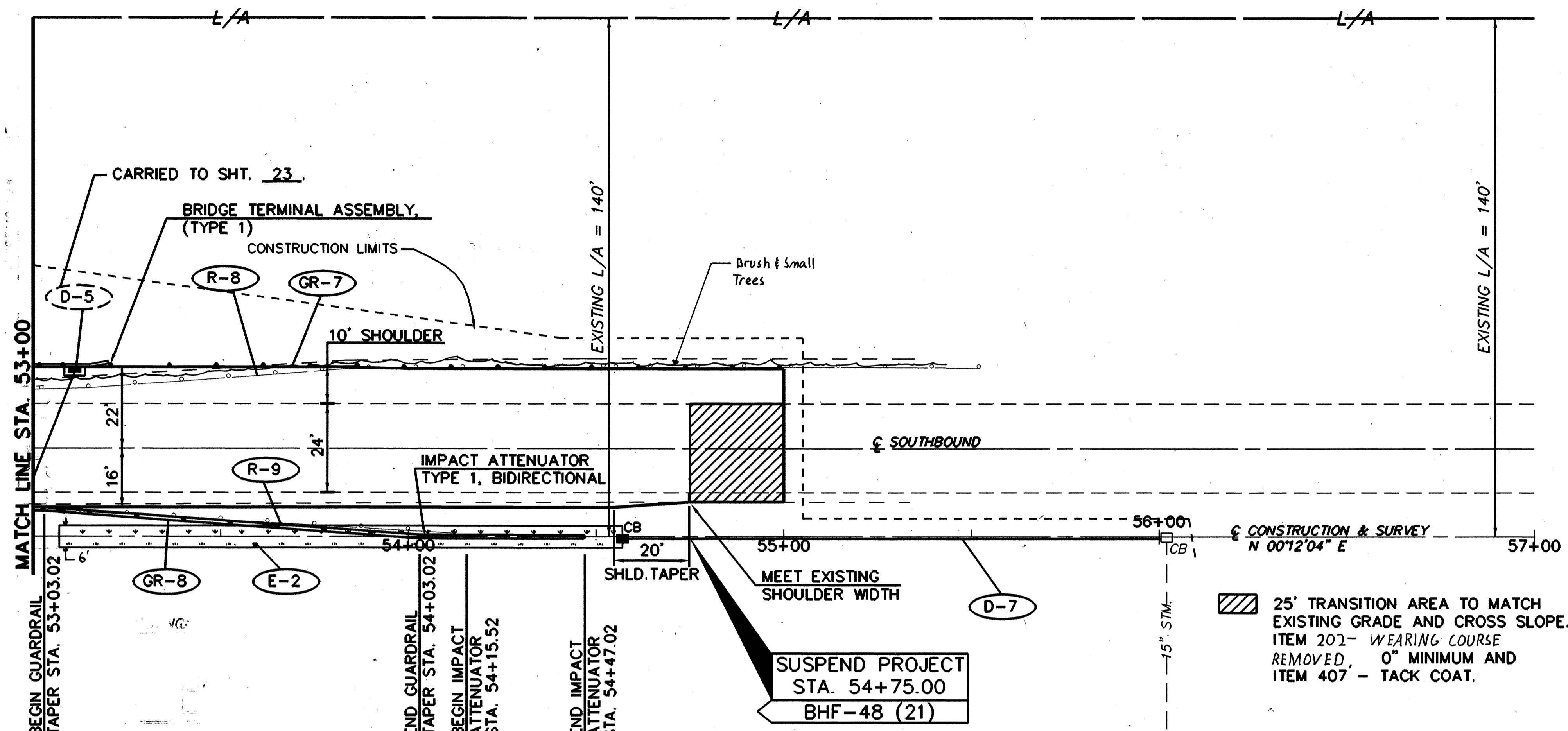
* See Note on Sheet 22

CAD FILE: 94LTPP1
DATE: 11/1/95
OPERATOR: CKC/RJP
PLOT SCALE: 1:20

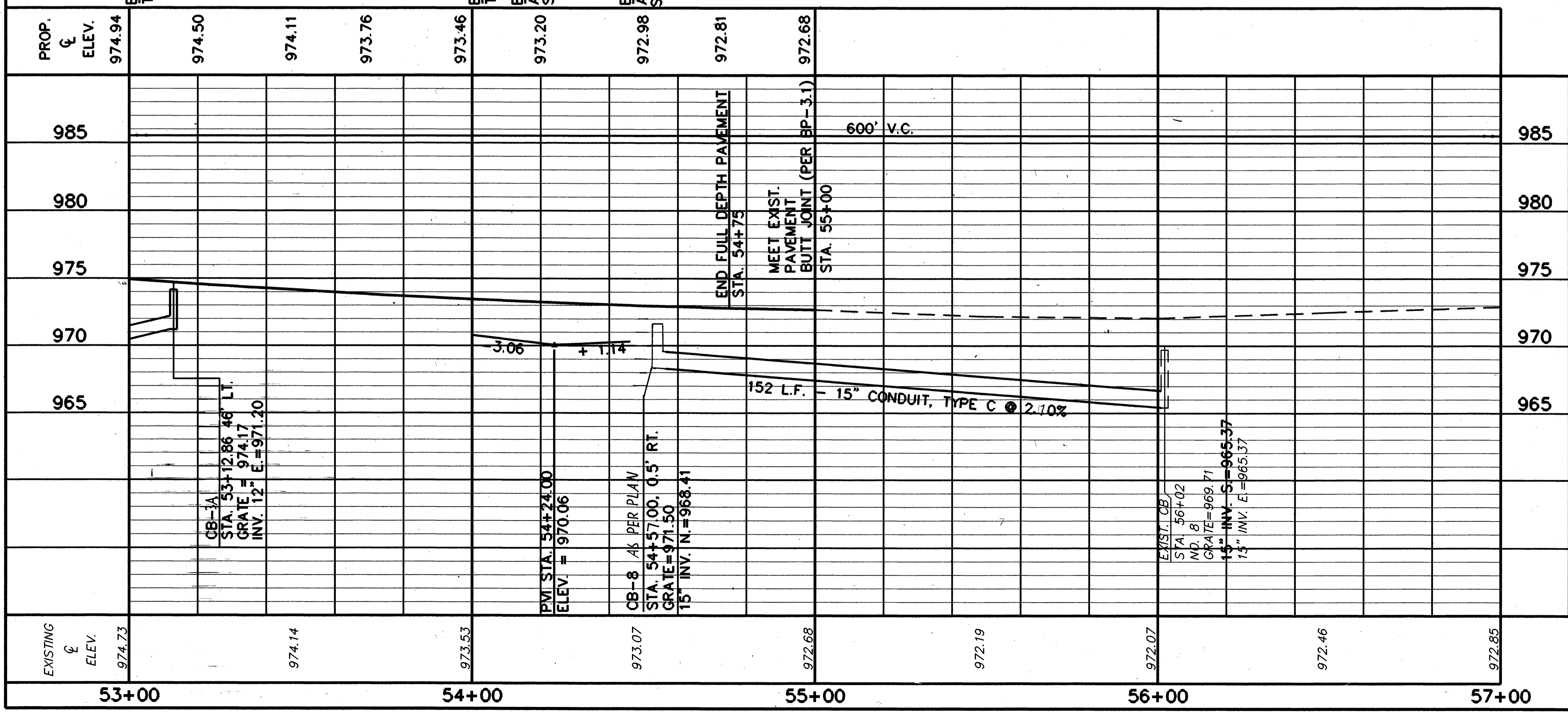
WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



BENCH MARK No. 1, SPINDLE SET IN N. SIDE OF GUARDRAIL POST ON E. SIDE OF ROAD, N. OF BRIDGE 0.94 STA. 54+84, 48' RT. EL. 972.51



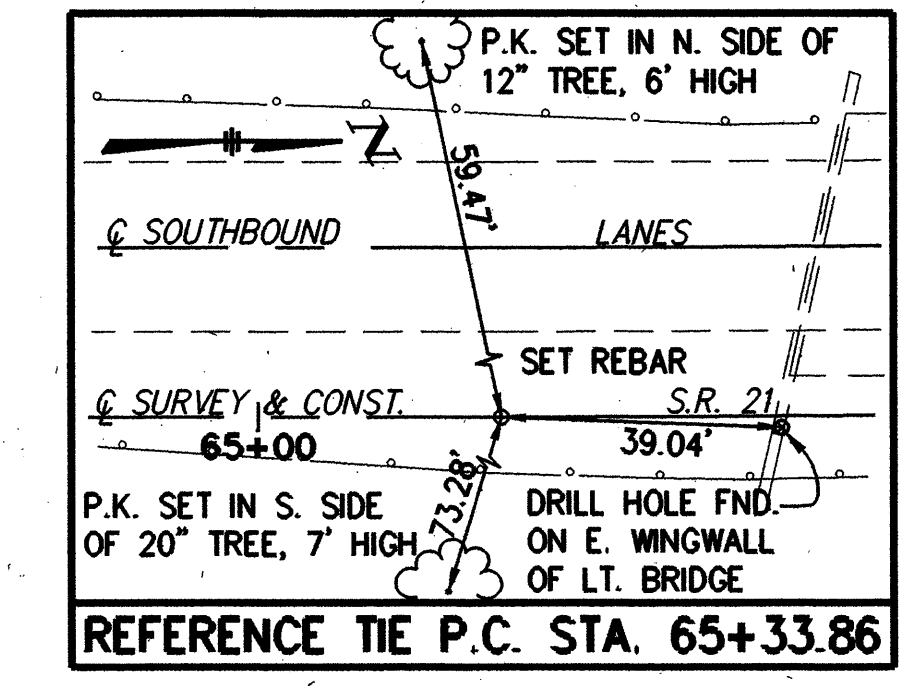
25' TRANSITION AREA TO MATCH EXISTING GRADE AND CROSS SLOPE.
ITEM 202 - WEARING COURSE REMOVED, 0" MINIMUM AND ITEM 407 - TACK COAT.



REF. No.	SIDE	STATION		ESTIMATED QUANTITIES												
		FROM	TO	ITEM 202	ITEM 606	ITEM 606	ITEM 606	ITEM 603	ITEM 604	SPECIAL	ITEM 670	ITEM 802				
R-8	L.T.	53+00	55+01.94	202												
R-9	L.T.	53+00	54+12.00	112												
D-7	℄	54+57	56+02													
GR-7	L.T.	52+90	55+01.94													3
GR-8	L.T.	53+00	54+47.77													2
E-2	℄	53+07	54+57													
TOTALS - BHF				314	215.5	112.5	1	145	1	1	100	5				

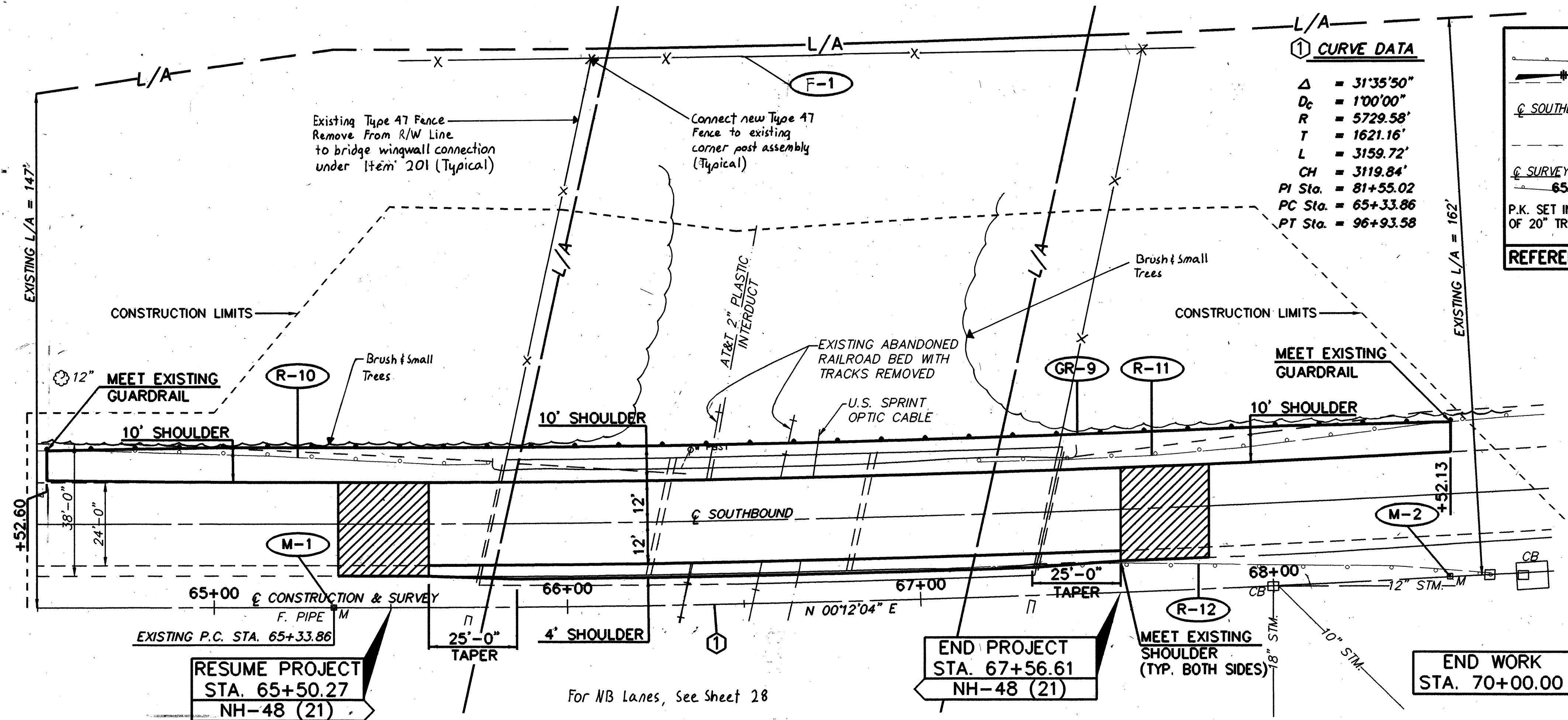
CAD FILE: 94LTPP2
DATE: 1/11/95
OPERATOR: KCC/PJP
PLOT SCALE: 1:20

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



① CURVE DATA

Δ	= 31°35'50"
D _c	= 1'00'00"
R	= 5729.58'
T	= 1621.16'
L	= 3159.72'
CH	= 3119.84'
PI Sta.	= 81+55.02
PC Sta.	= 65+33.86
PT Sta.	= 96+93.58



25' TRANSITION AREA TO MATCH EXISTING GRADE AND CROSS SLOPE. ITEM 202 - WEARING COURSE REMOVED, 0" MINIMUM AND ITEM 407 - TACK COAT.

EXISTING STRUCTURE
TYPE: STEEL BEAMS W/ REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPAN: 48'-0"±, 60'-0"±, 48'-0"± c/c BEARINGS
ROADWAY: 30'-0"± FACE/FACE, 2'-0" SAFETY CURBS
ALIGNMENT: TANGENT
SKEW: 13°13'30" L.F.
WEARING SURFACE: 1 1/2" ± ASPHALT CONCRETE
STRUCTURAL FILE NO.: 8501262

RESUME PROJECT
STA. 65+50.27
NH-48 (21)

END PROJECT
STA. 67+56.61
NH-48 (21)

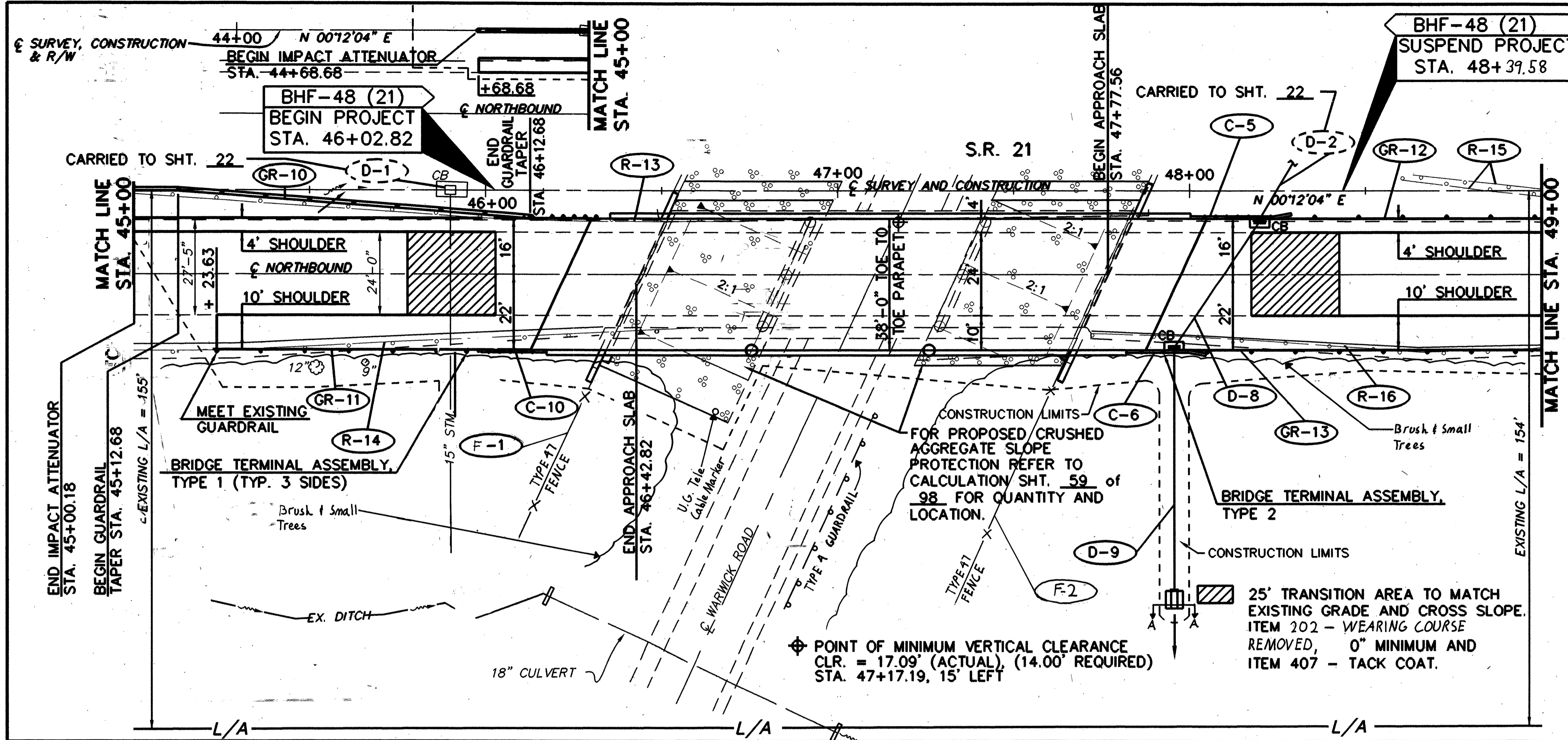
END WORK
STA. 70+00.00

EXISTING ELEV.	PROP. ELEV.	STATION	DESCRIPTION
978.5	978.82	65+00	MEET EXIST. PAVEMENT BUTT JOINT (PER BP-3.1) STA. 65+25.70
978.8	978.93	65+00	BEGIN FULL-DEPTH PAVEMENT PMI STA. 65+50.70
978.9	979.34	66+00	0.45% GRADE
979.2	979.75	67+00	0.83% GRADE
979.8	980.16	68+00	0.82% GRADE
980.3	980.57	68+00	END FULL-DEPTH PAVEMENT PMI STA. 67+56.61
980.6	980.85	68+00	MEET EXIST. PAVEMENT BUTT JOINT (PER BP-3.1) STA. 67+81.61
981.0		68+00	12" STM. S
981.4		68+00	18" INV. E. = 975.32

REF. No.	SIDE	STATION		ESTIMATED QUANTITIES		TOTALS - NH
		FROM	TO	ITEM	QUANTITY	
R-10	LT.	64+52.60	65+80.00	ITEM 607 FENCE TYPE 47	140	140
R-11	LT.	67+40.00	68+52.13	ITEM 802 BARRIER REFLECTOR TYPE A	4	4
R-12	LT.	67+32.00	68+61.00	ITEM 604 REFERENCE MONUMENT	2	2
GR-9	LT.	64+52.60	68+52.13	ITEM 606 GUARDRAIL TYPE 5	400	400
M-1	CTR.	65+33.86			1	
M-2	CTR.	68+50.00			1	
F-1	LT.	66+08.00	67+53.00	ITEM 202 GUARDRAIL REMOVED	362	362
				TOTALS - NH		

CAD FILE: 124L.TPP
DATE: 11/11/05
OPERATOR: JSE/RJP
PLOT SCALE: 1:20

CAD FILE: 87RTPP
 OPERATOR: CMC/RJP
 PLOT SCALE: 1:20



FHWA REGION	STATE	PROJECT	
5	OHIO		

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WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
 SPAN: 40'-0 1/4" ±, 50'-0 3/4" ±, 39'-9 1/8" ± C/C BEARINGS (RIGHT)
 ROADWAY: 38'-0" TOE/TOE PARAPET CURBS
 ALIGNMENT: TANGENT
 SKEW: 24° 32' 30" ± L.F.
 LOADING: C.F. 2000 (51)
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: 25'-0" ± (AS-1-54)
 CONDITION: GOOD
 STRUCTURE FILE NUMBER: 8501173

PROPOSED STRUCTURE

PROPOSED WORK: NEW COMPOSITE REINFORCED CONCRETE DECK, WIDENED SUPERSTRUCTURE ON WIDENED SUBSTRUCTURE
 SPAN: 40'-0 1/4" ±, 50'-0 3/4" ±, 39'-9 1/8" ± C/C BEARINGS (RIGHT)
 ROADWAY: 38'-0" TOE/TOE PARAPET CURBS & ALTERNATE MILITARY LOADING (SUPERSTRUCTURE AND WIDENED SUBSTRUCTURE)
 ALIGNMENT: TANGENT
 SKEW: 24° 32' 30" ± L.F.
 WEARING SURFACE: MONOLITHIC CONCRETE
 CROWN: 3/16"/FT.
 APPROACH SLABS: 20'-0" (AS-1-81), AS PER PLAN

BARRIER REFLECTORS, TYPE B:
 Bridge Parapet, Inside = 1 EACH
 Bridge Parapet, Outside = 2 EACH
 Bridge Parapet, Total = 4 EACH

EXISTING ELEV.	PROP. ELEV.	STATION	DESCRIPTION	STATION	PROP. ELEV.
998.0	998.0	45+00		45+00	998.0
996.5	995.61	46+00	MEET EXIST. PAVEMENT BUTT JOINT (PER BP-3-1) STA. 45+77.82 +77.82	46+00	995.61
994.9	995.00	46+00	BEGIN FULL-DEPTH PAVEMENT P.M.I. STA. 46+02.82 ELEV. 994.92 NO CURVE	46+00	995.00
993.6	994.26	47+00	STA. 46+22.82	47+00	994.26
992.1	993.52	47+00	STA. 46+42.82	47+00	993.52
990.5	992.78	48+00		48+00	992.78
989.0	992.04	48+00	BRIDGE LIMITS = 154.74'	48+00	992.04
987.7	991.30	48+00	STA. 47+77.56	48+00	991.30
986.2	990.56	48+00	STA. 47+97.56	48+00	990.56
	989.82	49+00	END FULL-DEPTH PAVEMENT STA. 48+17.56 NO CURVE	49+00	989.82
	989.08	49+00	STA. 47+97.56	49+00	989.08
	987.89	49+00	END FULL-DEPTH PAVEMENT STA. 48+17.56 NO CURVE	49+00	987.89
		49+00	BUTT JOINT (PER BP-3-1) STA. 48+42.56	49+00	

REF. No.	SIDE	STATION	ITEM 202 GUARDRAIL REMOVED		ITEM 606 GUARDRAIL, BARRIER DESIGN, TYPE 5		ITEM 606 BRIDGE TERMINAL ASSEMBLY, TYPE 1		ITEM 606 BRIDGE TERMINAL ASSEMBLY, TYPE 2		ITEM 606 IMPACT ATTENUATOR, TYPE 1		ITEM 606 IMPACT ATTENUATOR, TYPE 2		ITEM 607 FENCE REMOVED AND W/ FILTER		ITEM 607 ROCK CHANNEL PROTECTION TYPE C	
			FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
R-13	RT.	45+00.00	46+52.00	152														
R-14	RT.	45+23.63	46+60.00	146														
R-15	RT.	48+60.00	49+00.00	75														
R-16	RT.	47+70.00	49+00.00	130														
GR-10	RT.	44+68.68	46+37.68	31.25	112.5													
GR-11	RT.	45+23.63	46+19.57	100														
GR-12	RT.	47+98.07	49+00.00	101														
GR-13	RT.	47+80.06	49+00.00	120														
TOTALS - BHF				503	357.25	112.5	3	1	1	1	1	1	1	1	1			

BHF-48 (21)
RESUME PROJECT
STA. 49+52.63

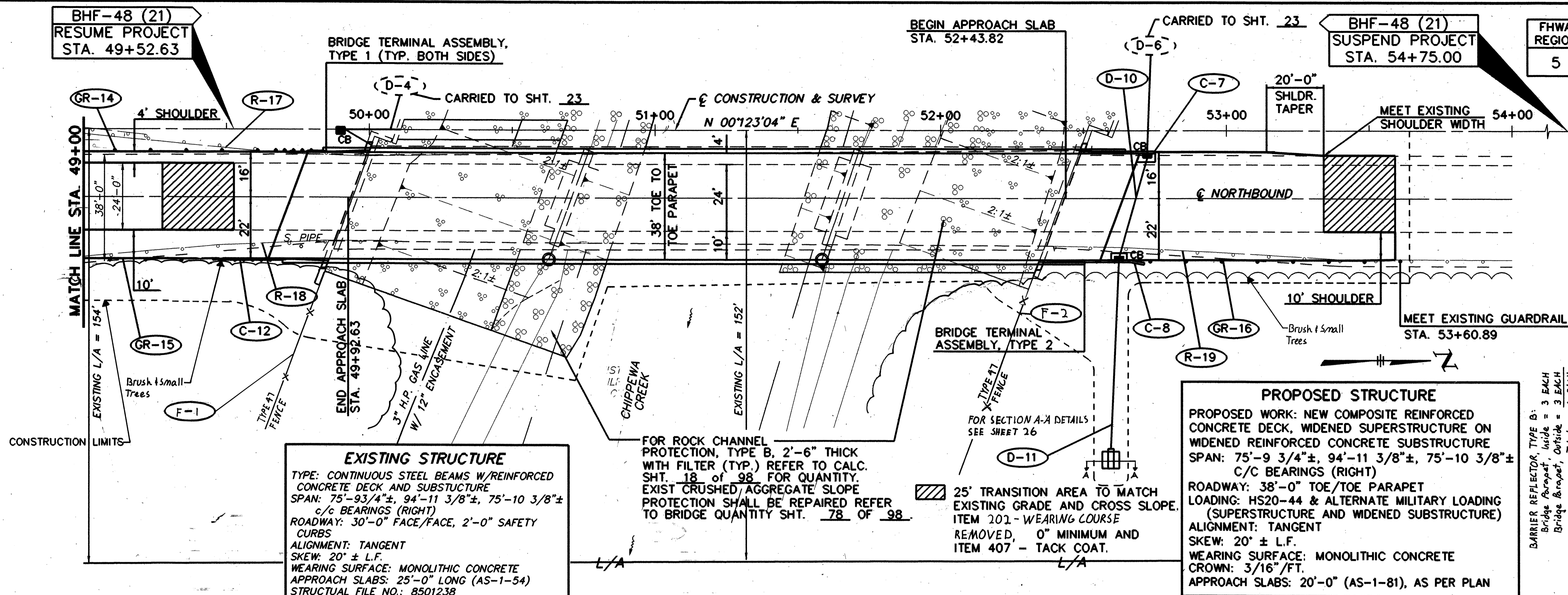
BEGIN APPROACH SLAB
STA. 52+43.82

BHF-48 (21)
SUSPEND PROJECT
STA. 54+75.00

FHWA REGION	STATE	PROJECT
5	OHIO	

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98

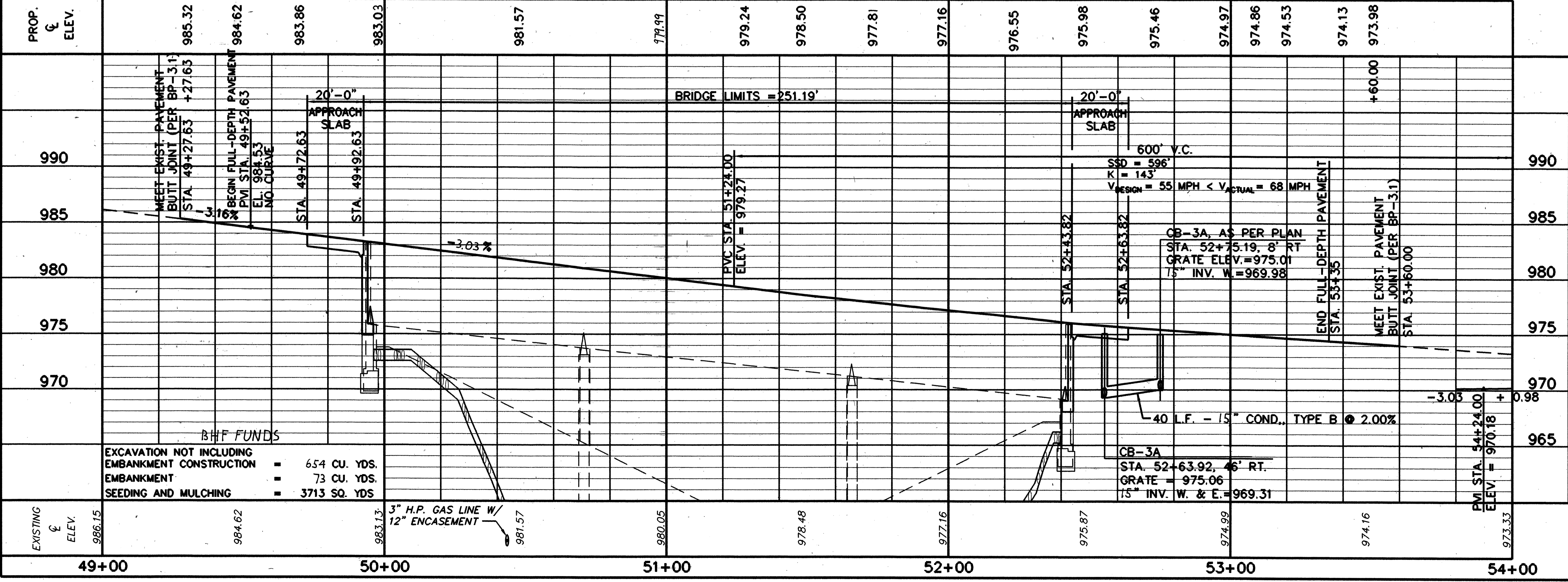
WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



EXISTING STRUCTURE
TYPE: CONTINUOUS STEEL BEAMS W/REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPAN: 75'-93/4"±, 94'-11 3/8"±, 75'-10 3/8"±
C/C BEARINGS (RIGHT)
ROADWAY: 30'-0" FACE/FACE, 2'-0" SAFETY CURBS
ALIGNMENT: TANGENT
SKEW: 20° ± L.F.
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0" LONG (AS-1-54)
STRUCTURAL FILE NO.: 8501238

FOR ROCK CHANNEL PROTECTION, TYPE B, 2'-6" THICK WITH FILTER (TYP.) REFER TO CALC. SHT. 18 OF 98 FOR QUANTITY. EXIST CRUSHED AGGREGATE SLOPE PROTECTION SHALL BE REPAIRED REFER TO BRIDGE QUANTITY SHT. 78 OF 98

PROPOSED STRUCTURE
PROPOSED WORK: NEW COMPOSITE REINFORCED CONCRETE DECK, WIDENED SUPERSTRUCTURE ON WIDENED REINFORCED CONCRETE SUBSTRUCTURE
SPAN: 75'-9 3/4"±, 94'-11 3/8"±, 75'-10 3/8"±
C/C BEARINGS (RIGHT)
ROADWAY: 38'-0" TOE/TOE PARAPET
LOADING: HS20-44 & ALTERNATE MILITARY LOADING (SUPERSTRUCTURE AND WIDENED SUBSTRUCTURE)
ALIGNMENT: TANGENT
SKEW: 20° ± L.F.
WEARING SURFACE: MONOLITHIC CONCRETE
CROWN: 3/16"/FT.
APPROACH SLABS: 20'-0" (AS-1-81), AS PER PLAN

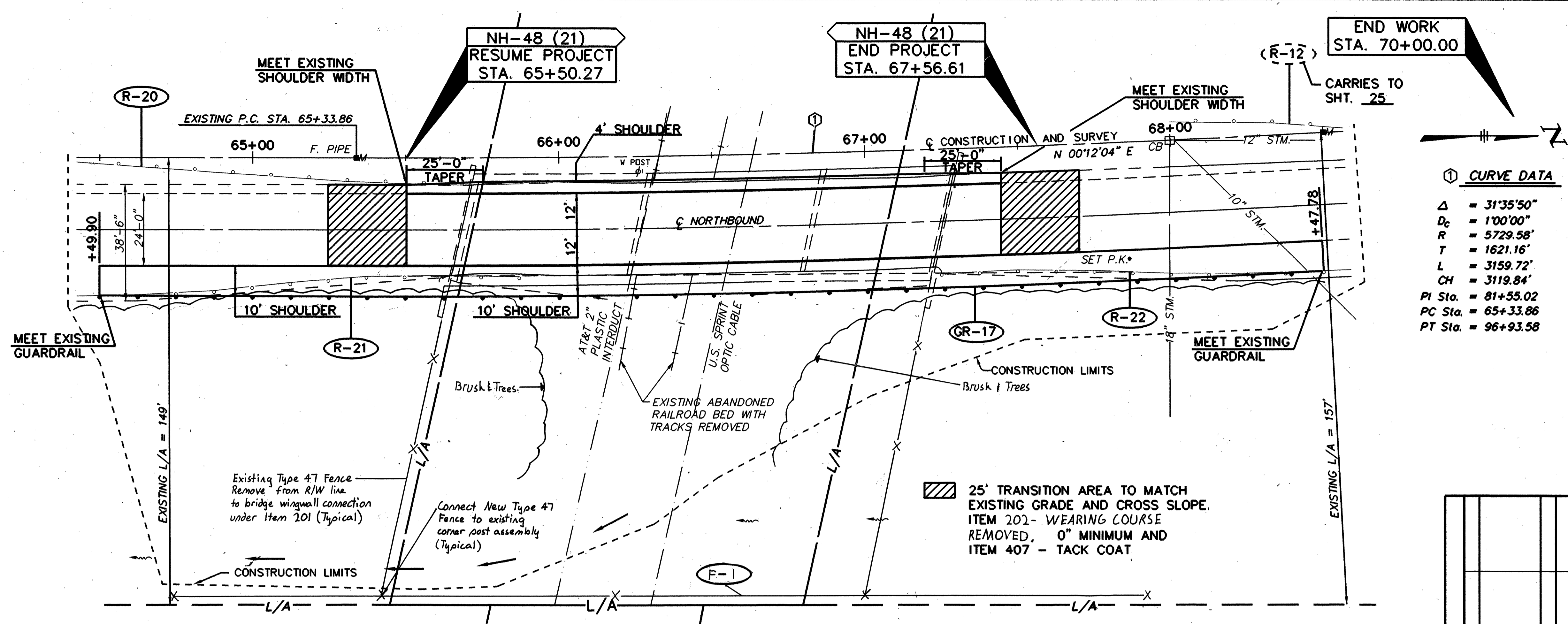


* See Note on Sheet 22

REF. No.	SIDE	STATION		ESTIMATED QUANTITIES	
		FROM	TO	ITEM	QUANTITY
C-7	RT.	52+69.64	52+75.19	ITEM 607	10
C-8	RT.	52+55.81	52+72.97	ITEM 606	18
C-12	RT.	49+43.63	49+63.63	ITEM 606	20
R-17	RT.	49+00.00	50+00.00	ITEM 606	100
R-18	RT.	49+00.00	50+09.95	ITEM 606	109
R-19	RT.	52+38.00	53+59.13	ITEM 606	120
F-1	RT.	49+76.00	49+85.00	ITEM 606	9
D-10	RT.	52+75.19	52+75.19	ITEM 606	1
D-11	RT.	52+63.92	52+75.19	ITEM 606	1
F-2	RT.	52+26.00	52+34.00	ITEM 606	8
GR-14	RT.	49+00.00	49+88.97	ITEM 606	88.97
GR-15	RT.	49+00.00	49+66.07	ITEM 606	66.07
GR-16	RT.	52+44.12	53+59.13	ITEM 606	115.01
TOTALS - BHF				ITEM 604	271
				ITEM 605	1
				ITEM 606	2
				ITEM 607	44
				ITEM 608	1
				ITEM 609	48
				ITEM 610	3

CAD FILE: 94BTPPT
DATE: 11/1/95
OPERATOR: MPB/CKC/RJP
PLOT SCALE: 1:20

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



CURVE DATA

Δ = 31°35'50"
Dc = 100'00"
R = 5729.58'
T = 1621.16'
L = 3159.72'
CH = 3119.84'
PI Sta. = 81+55.02
PC Sta. = 65+33.86
PT Sta. = 96+93.58

EXISTING STRUCTURE

TYPE: STEEL BEAMS W/ REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPAN: 48'-0"±, 60'-0"±, 48'-0"± c/c BEARINGS
ROADWAY: 30'-0"± FACE/FACE, 2'-0"± SAFETY CURBS
ALIGNMENT: TANGENT
SKEW: 13'13"30" L.F.
WEARING SURFACE: 1 1/2" ASPHALT CONCRETE
STRUCTURAL FILE NO.: 8501297

25' TRANSITION AREA TO MATCH EXISTING GRADE AND CROSS SLOPE.
ITEM 202 - WEARING COURSE REMOVED, 0" MINIMUM AND ITEM 407 - TACK COAT

EXISTING & ELEV.	65+00	66+00	67+00	68+00	68+50
978.9					
979.3					
979.7					
980.1					
980.5					
981.0					
981.5					
982.0					
982.5					
990					
985					
980					
975					
970					

0.88%

1.08%

0.92%

0.88%

1.08%

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION		ITEM 202 GUARDRAIL REMOVED	ITEM 606 GUARDRAIL TYPE 5	ITEM 607 FENCE TYPE 47	ITEM 802 BARRIER REFLECTOR, TYPE A
		FROM	TO				
R-20	RT.	64+40.00	65+70.00	130			4
R-21	RT.	64+49.90	65+64.00	114			
R-22	RT.	67+24.00	68+47.78	124			
GR-17	RT.	64+49.90	68+47.78		400		4
F-1	RT.	65+43.3	66+93.3			152	
TOTALS - NH				368	400	152	4

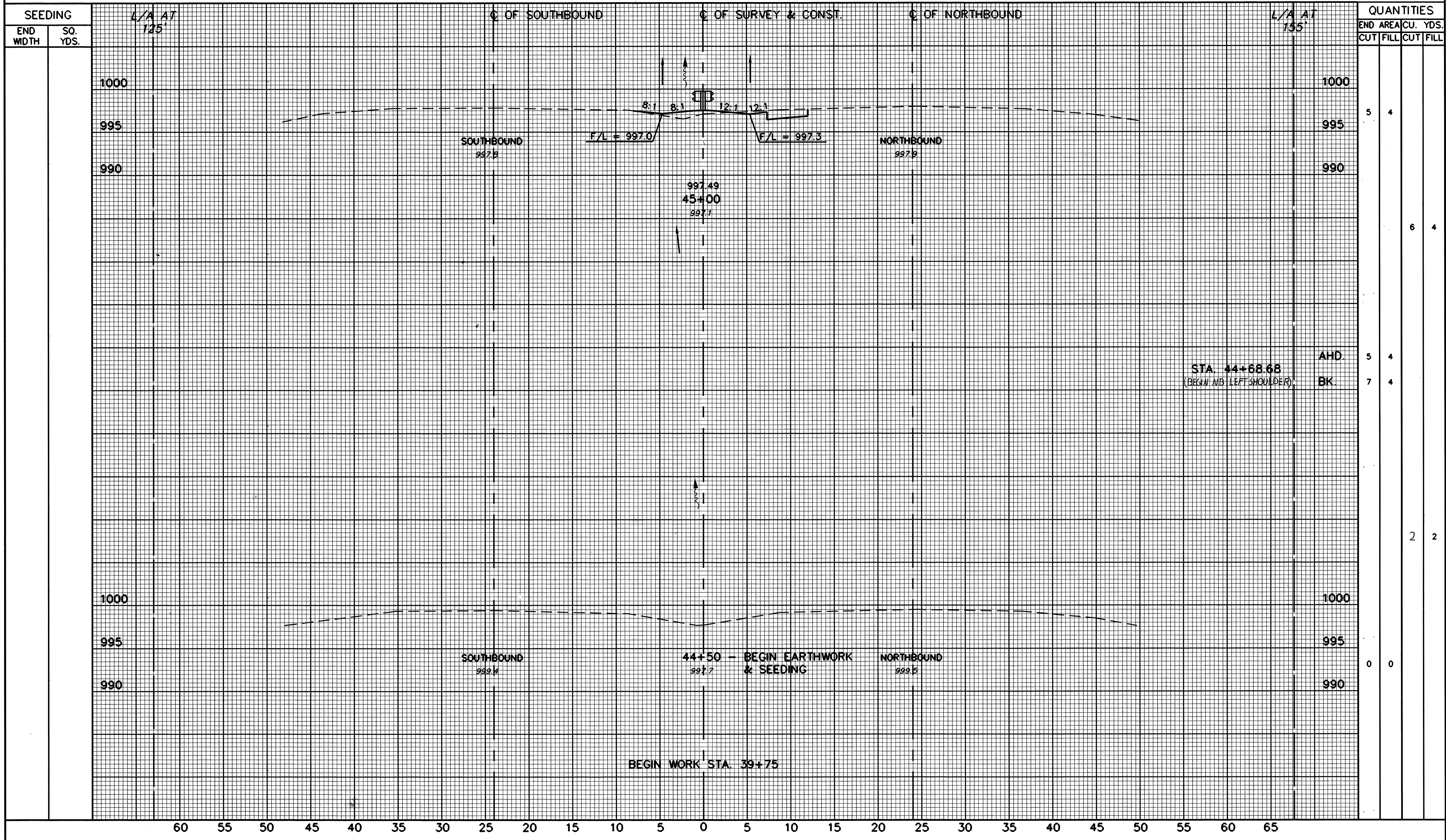
CAD FILE: 124RTPP
DATE: 1/11/05
OPERATOR: CKC/PJP
PLOT SCALE: 1:20

QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

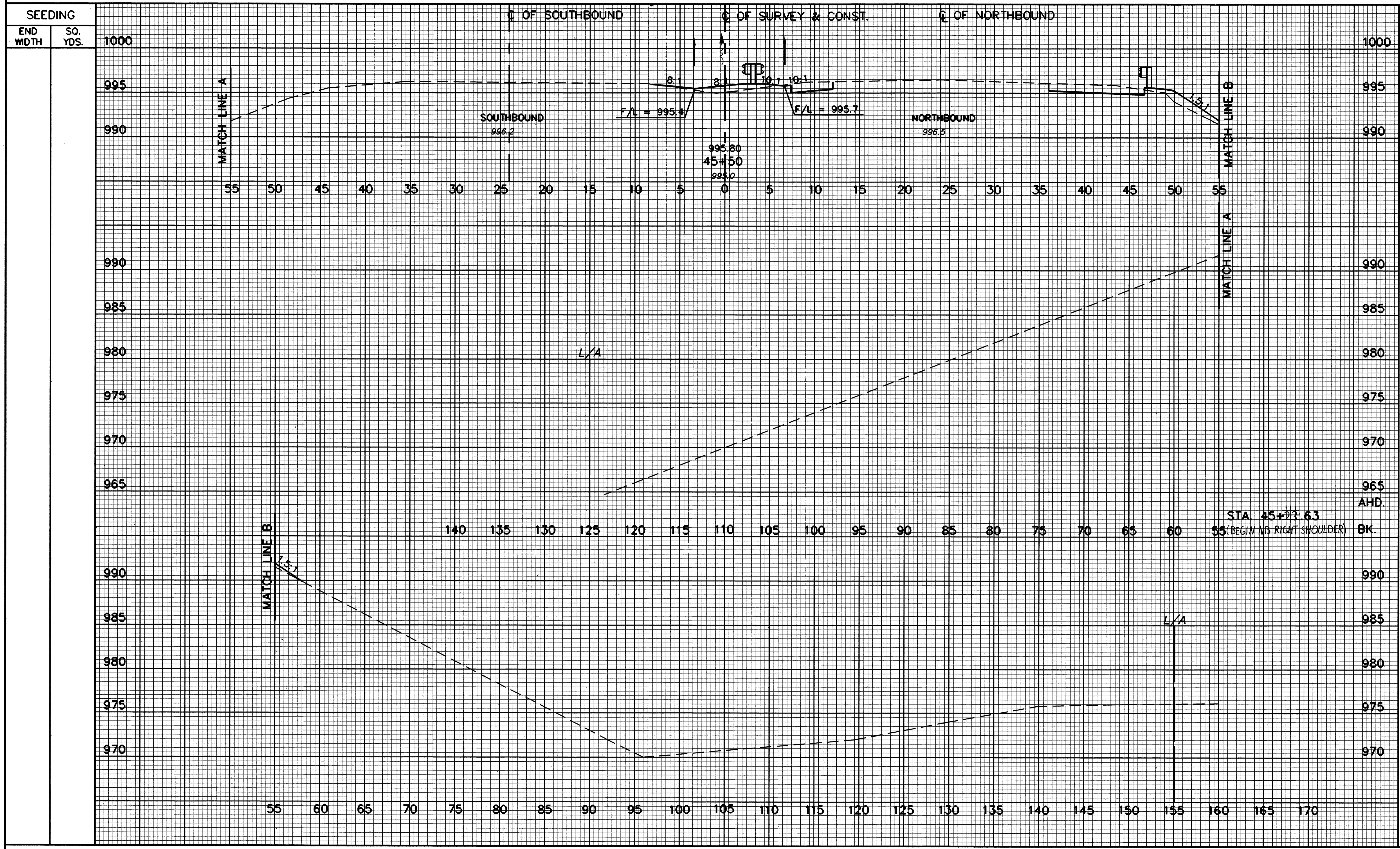
FHWA REGION	STATE	PROJECT
5	OHIO	

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98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

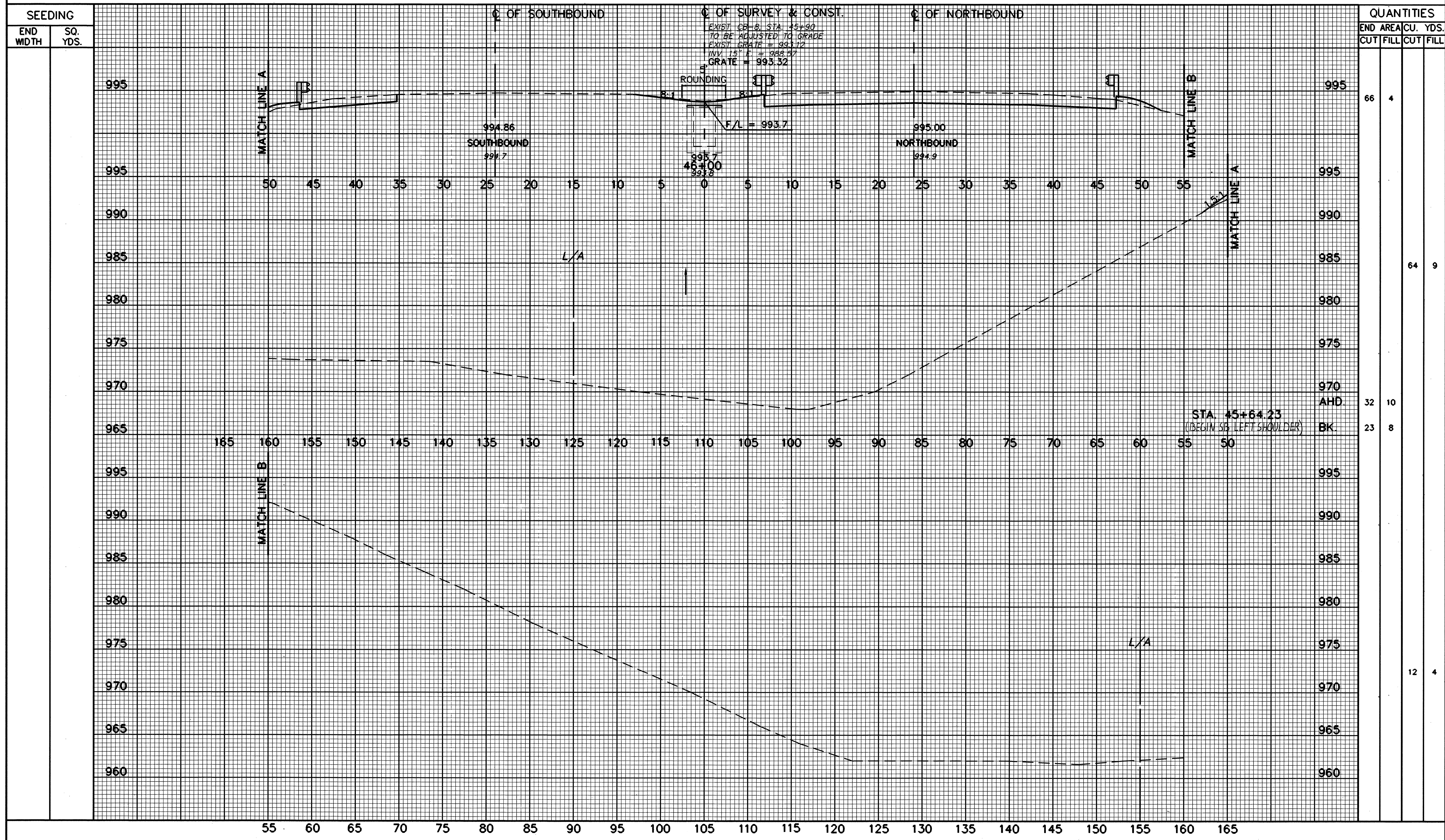


CAD FILE: WAXSEC1
DATE: 1/11/95
OPERATOR: J.J.E./PJP
PLOT SCALE: 1:5



SEEDING		QUANTITIES	
END WIDTH	SQ. YDS.	END AREA	CU. YDS.
		CUT	FILL
1000			
995		23	8
990			
990			
985			
980			
975			
970			
965			
AHD.		23	8
BK		5	8
990			
985			
980			
975			
970			
		5	4

CAD FILE: WAXSEC2
DATE: 1/11/95
OPERATOR: J.J.E./PJP
PLOT SCALE: 1:5



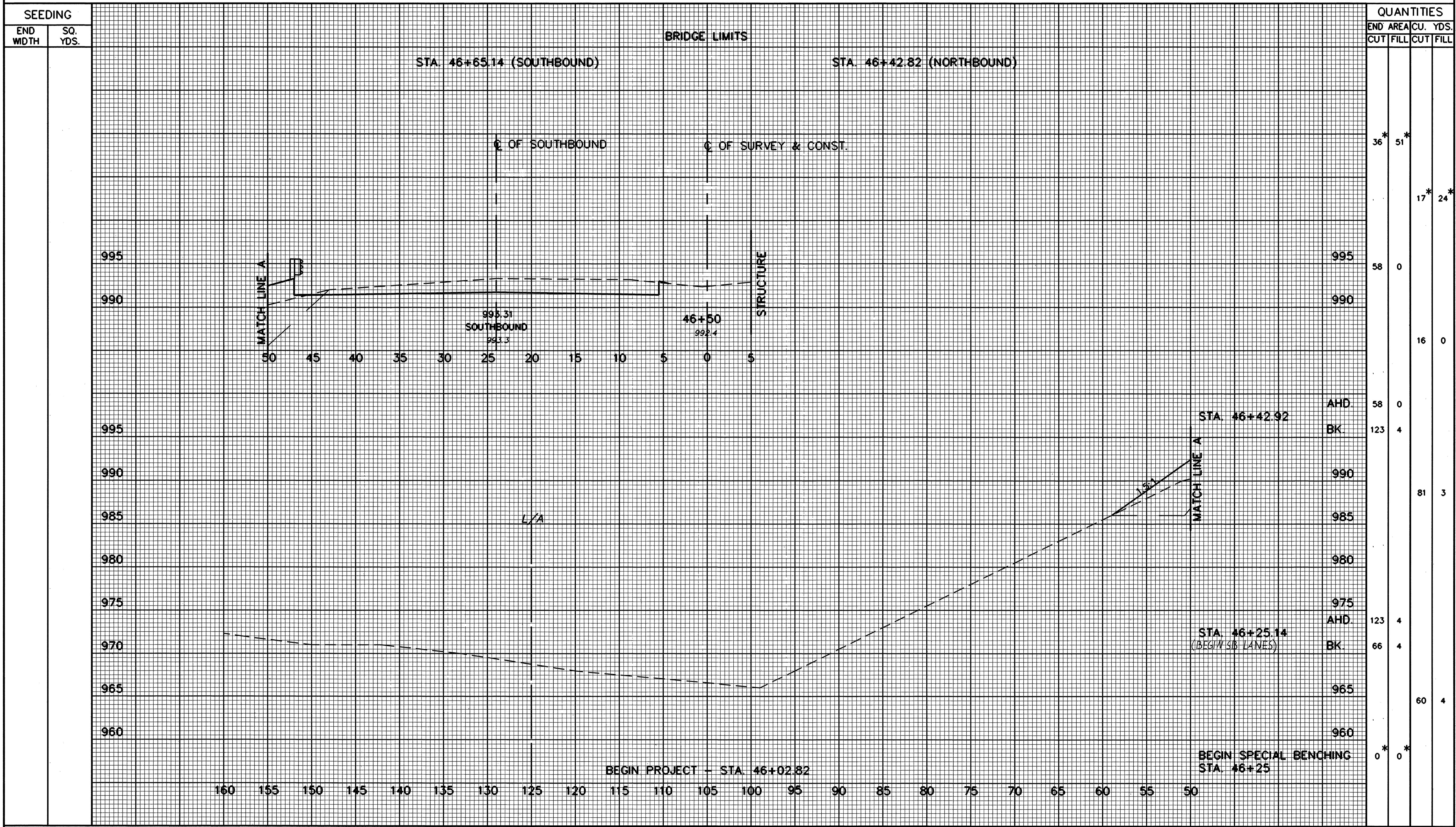
CAD FILE: WAXSEC3
DATE: 1/11/95
OPERATOR: J.J.E./PJP
PLOT SCALE: 1:5

NOTE:
 QUANTITIES MARKED WITH AN ASTERISK ARE
 FOR THE SPECIAL BENCHING AREAS ONLY.
 THESE AREAS ARE SHOWN DASHED ON THE
 CROSS SECTIONS WHERE NEEDED.

QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	WAYNE COUNTY WAY-21-(0.87) (0.94) (1.24)

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CAD FILE: WAXSEC4
 DATE: 1/11/95
 OPERATOR: J.J.E./PJP
 PLOT SCALE: 1:5

NOTE:
 QUANTITIES MARKED WITH AN ASTERISK ARE
 FOR THE SPECIAL BENCHING AREAS ONLY.
 THESE AREAS ARE SHOWN DASHED ON THE
 CROSS SECTIONS WHERE NEEDED.

QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

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98

WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)



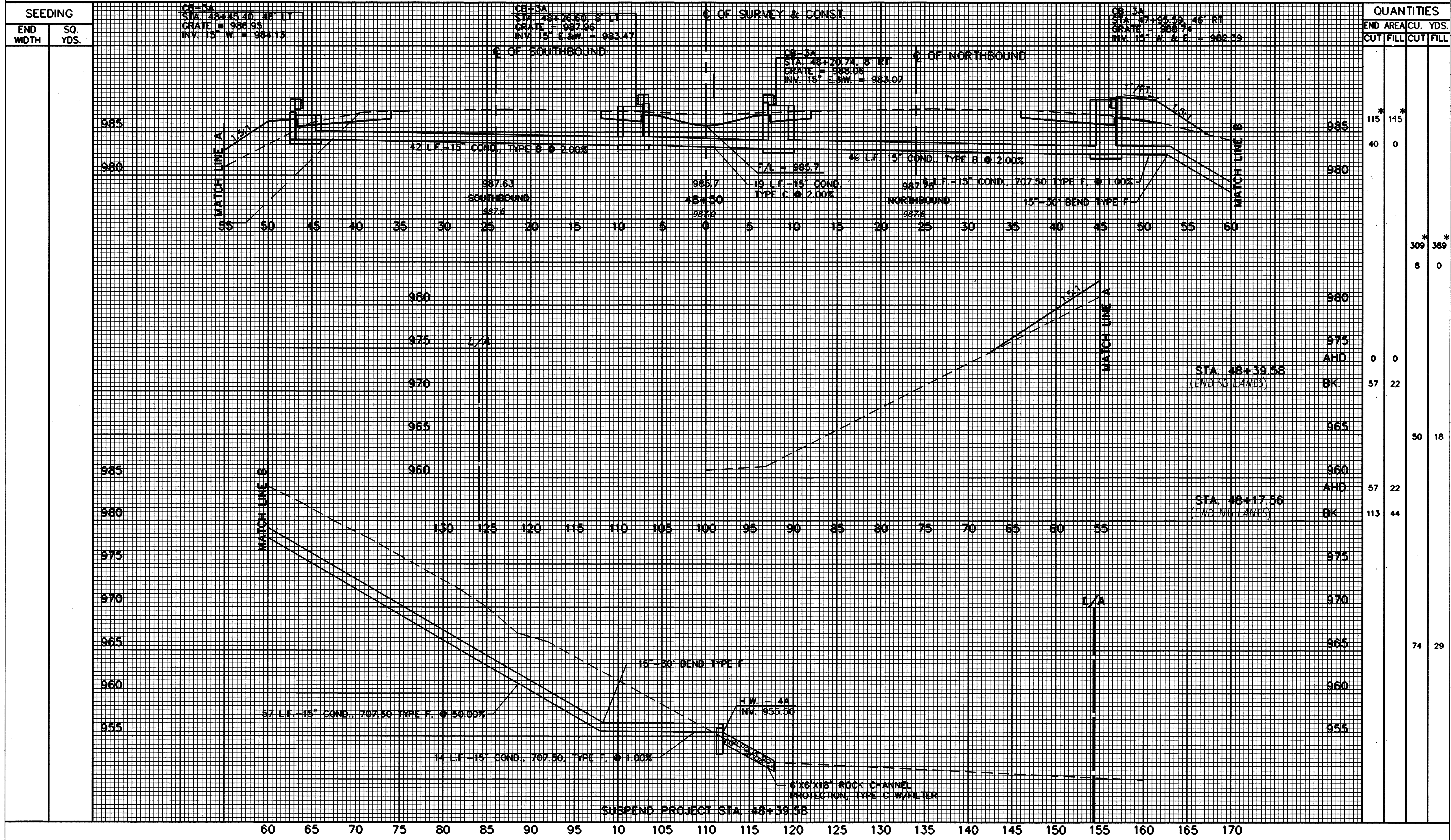
CAD FILE: WAYSECS
 DATE: 1/11/95
 OPERATOR: J.J.E./PJP
 PLOT SCALE: 1:5

NOTE:
 QUANTITIES MARKED WITH AN ASTERISK ARE
 FOR THE SPECIAL BENCHING AREAS ONLY.
 THESE AREAS ARE SHOWN DASHED ON THE
 CROSS SECTIONS WHERE NEEDED.

QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: J.J.E.	CHKD. BY: D.L.W.	5	OHIO	
DATE: 6/93	DATE: 3/94			

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98

WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)



SEEDING	
END WIDTH	SQ. YDS.

QUANTITIES			
END AREA	CUT	FILL	CU. YDS.

	115*	145*	
	40	0	
			309*
			8 0
			50 18
			74 29

CAD FILE: WAXSEC6
 DATE: 1/11/95
 OPERATOR: GKC/PJP
 PLOT SCALE: 1:5

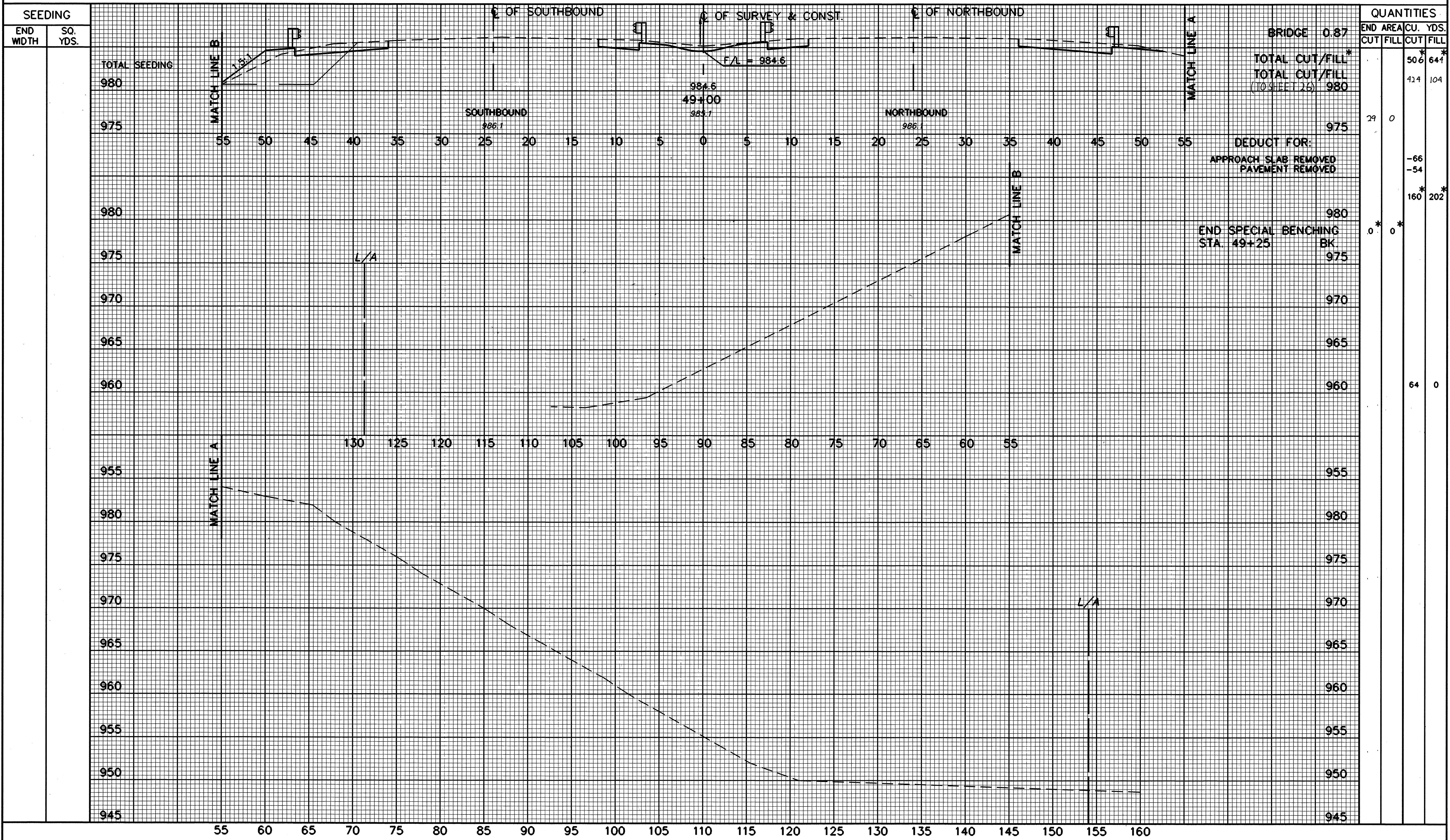
NOTE:
 QUANTITIES MARKED WITH AN ASTERISK ARE
 FOR THE SPECIAL BENCHING AREAS ONLY.
 THESE AREAS ARE SHOWN DASHED ON THE
 CROSS SECTIONS WHERE NEEDED.

QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)

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98



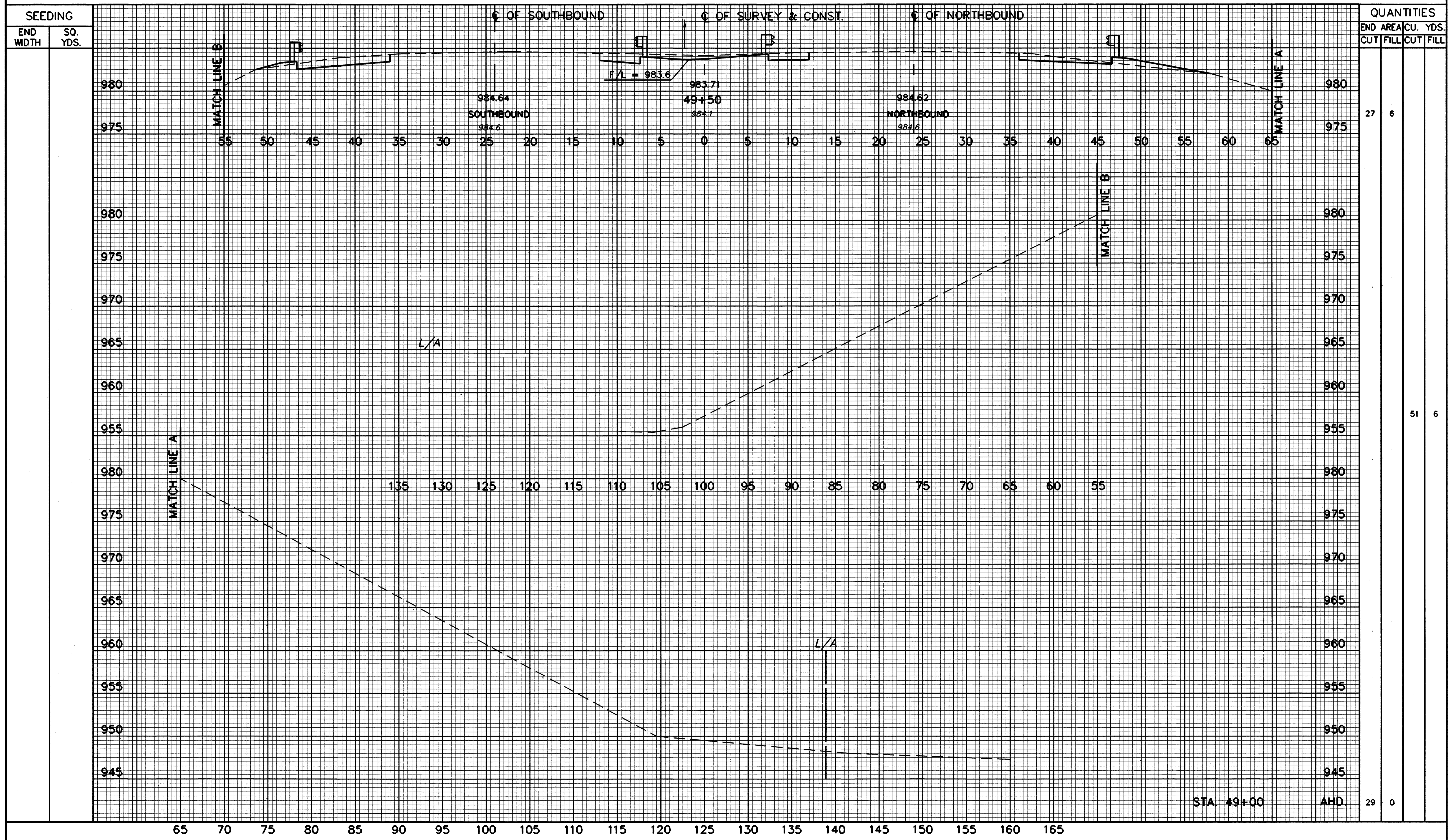
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 DATE: 1/11/95
 J.J.E./PJP
 PLOT SCALE: 1:5

QUANTITIES
 CALC. BY: J.J.E. CHKD. BY: D.L.W.
 DATE: 6/93 DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)

36
98



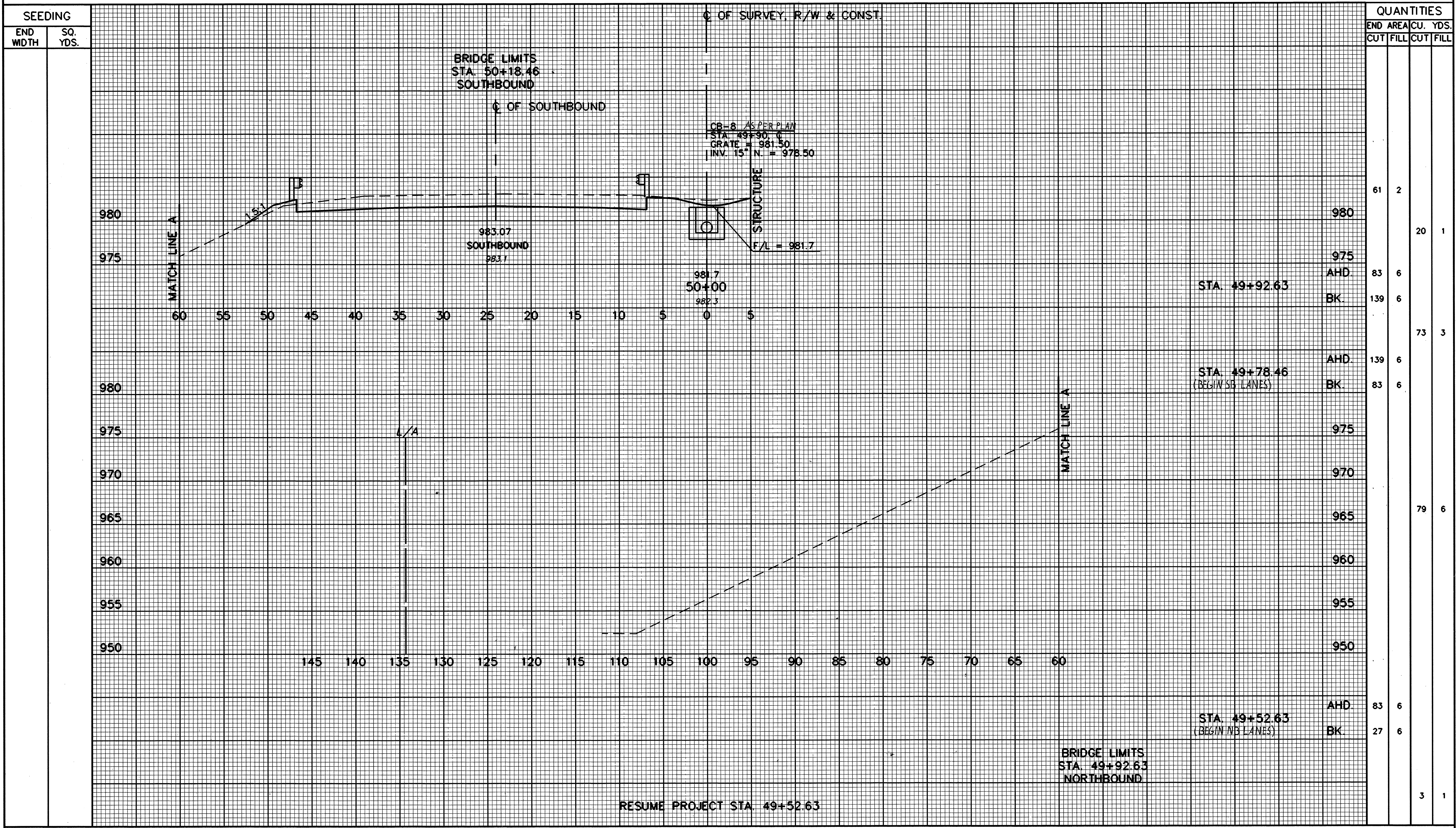
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 DATE: 1/11/95
 OPERATOR: CAC/PJP
 PLOT SCALE: 1:5

QUANTITIES
 CALC. BY: J.J.E. CHKD. BY: D.L.W.
 DATE: 6/93 DATE: 3/94

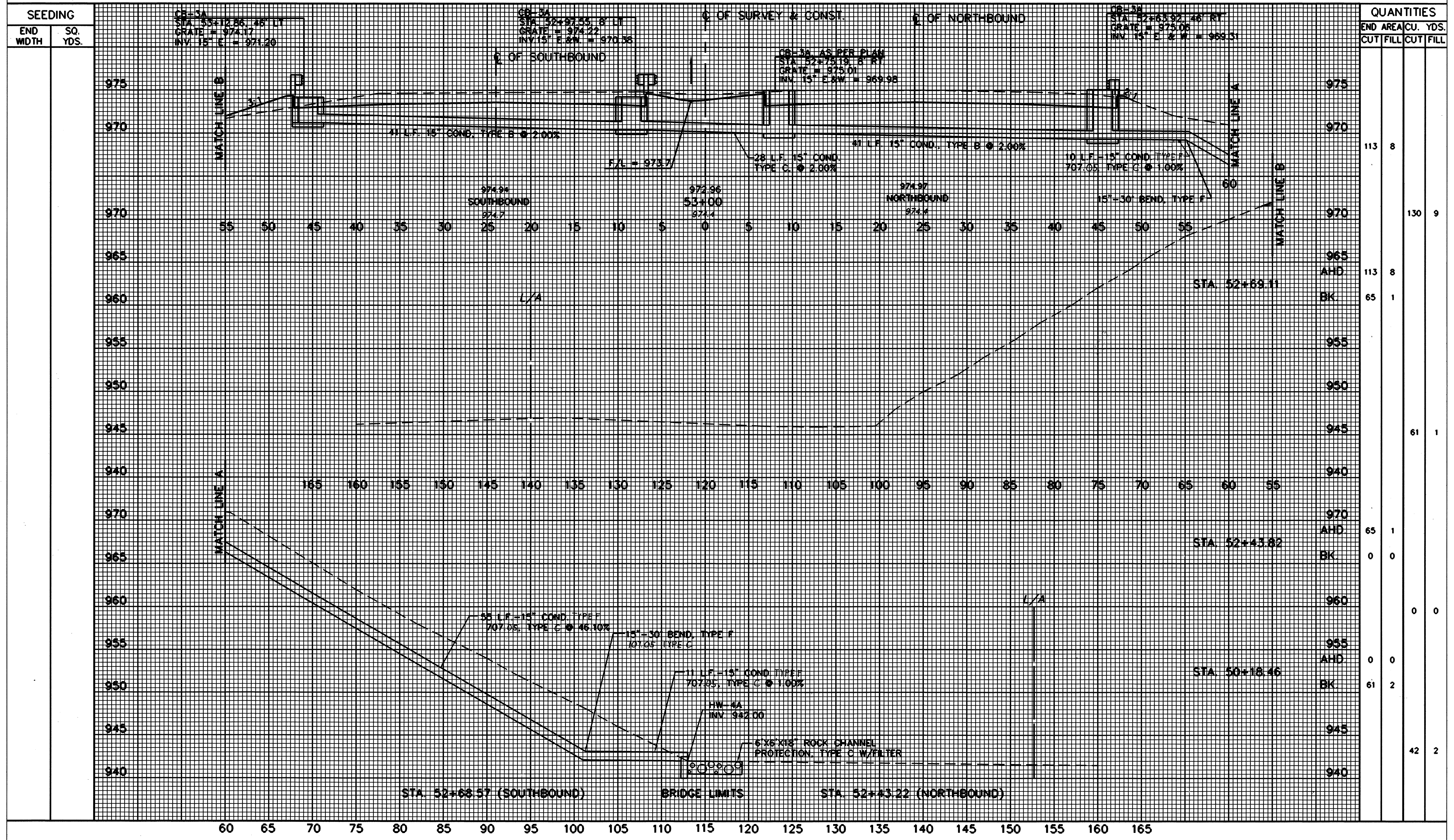
FHWA REGION	STATE	PROJECT
5	OHIO	

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98

WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)



CAD FILE: WAXSECSA
 DATE: 12/5/94
 OPERATOR: PJP
 PLOT SCALE: 1:5



QUANTITIES			
END	AREA	CUT	FILL
WIDTH	SQ. YDS.		
113	8		
130	9		
113	8		
65	1		
61	1		
65	1		
0	0		
0	0		
61	2		
42	2		

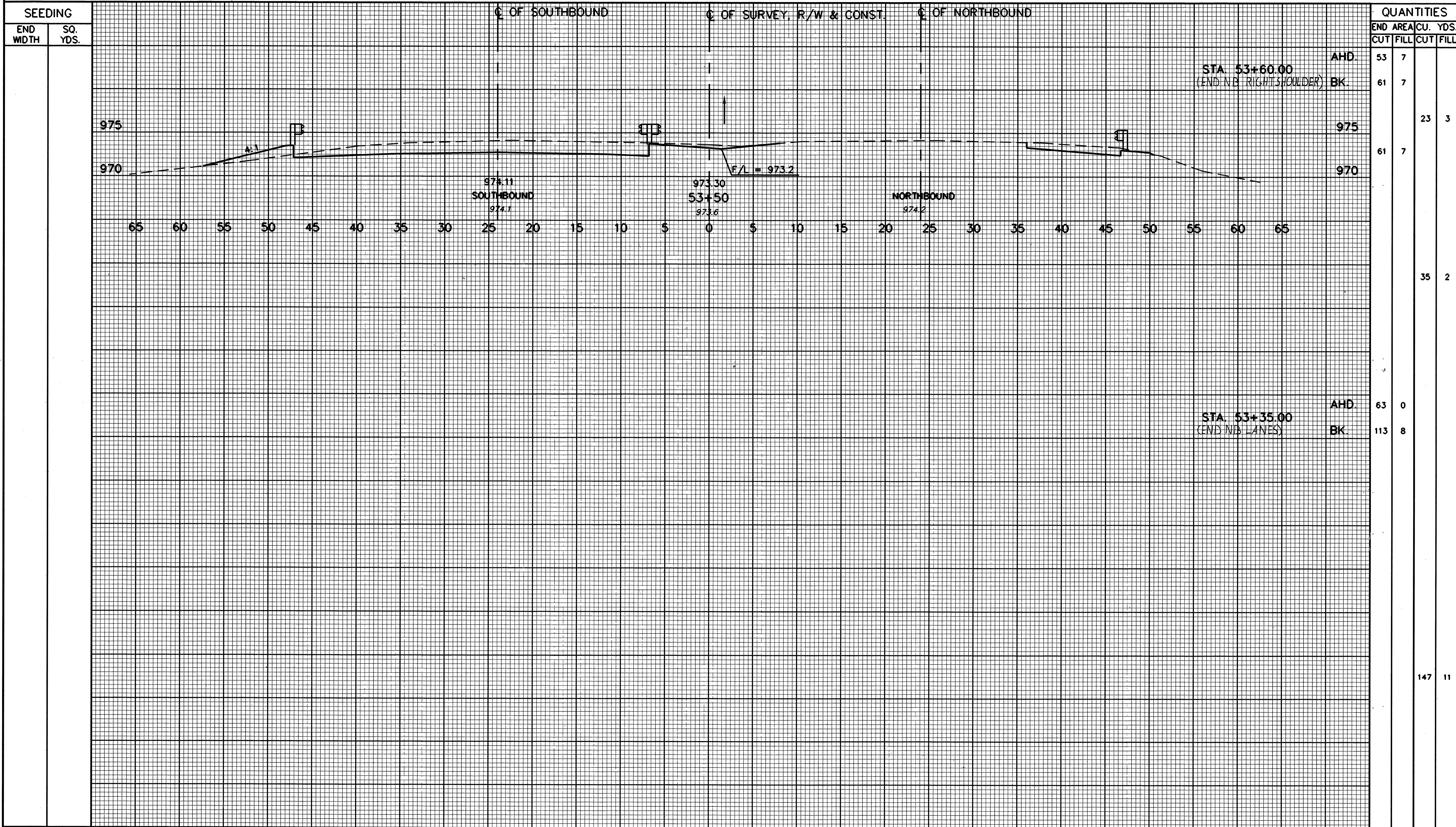
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DATE: 1/11/95
OPERATOR: CXC/PJP
PLOT SCALE: 1:5

QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

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98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



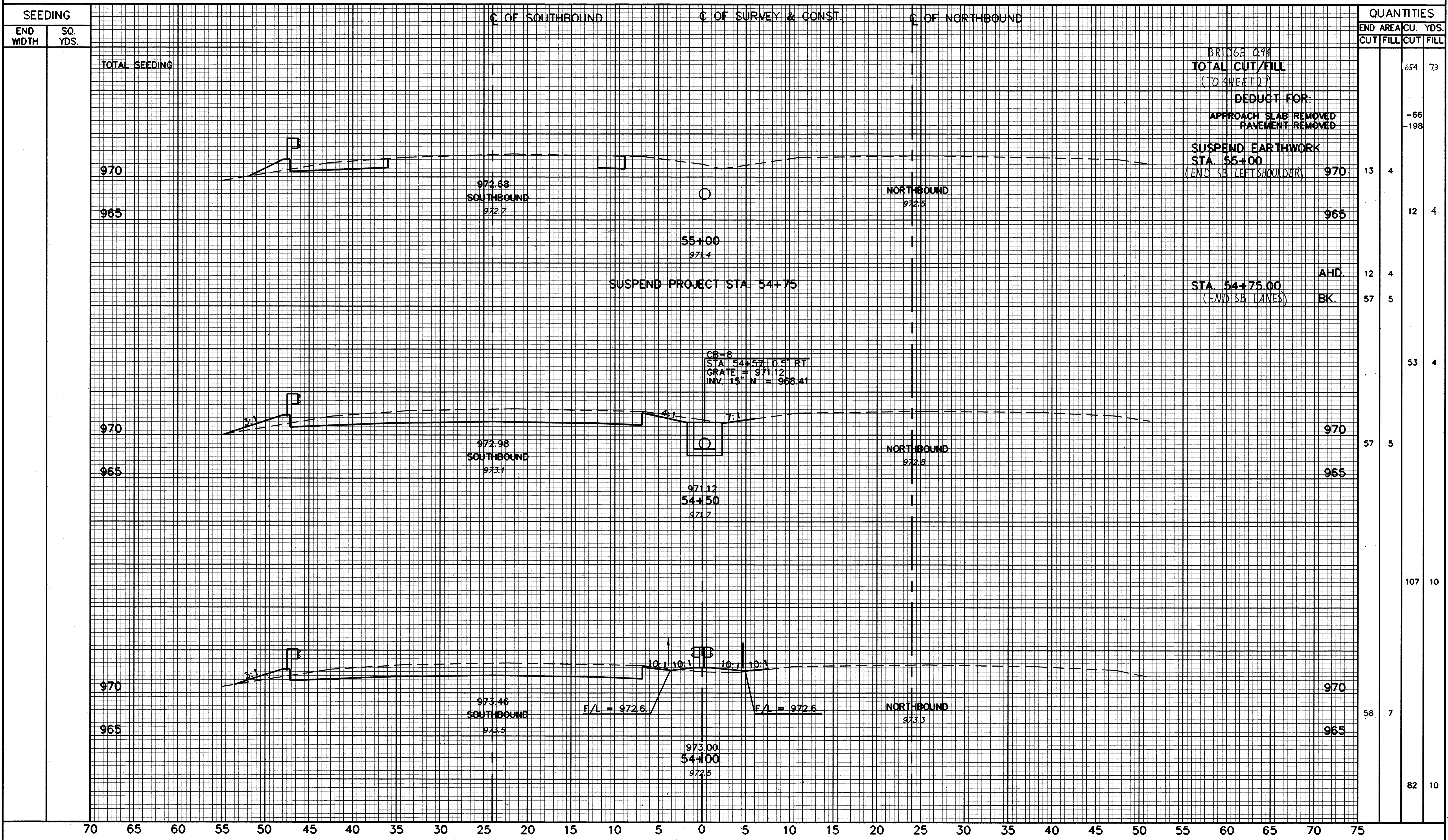
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DATE: 12/5/94
OPERATOR: CKC/RJP
PLOT SCALE: 1:5

QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

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98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



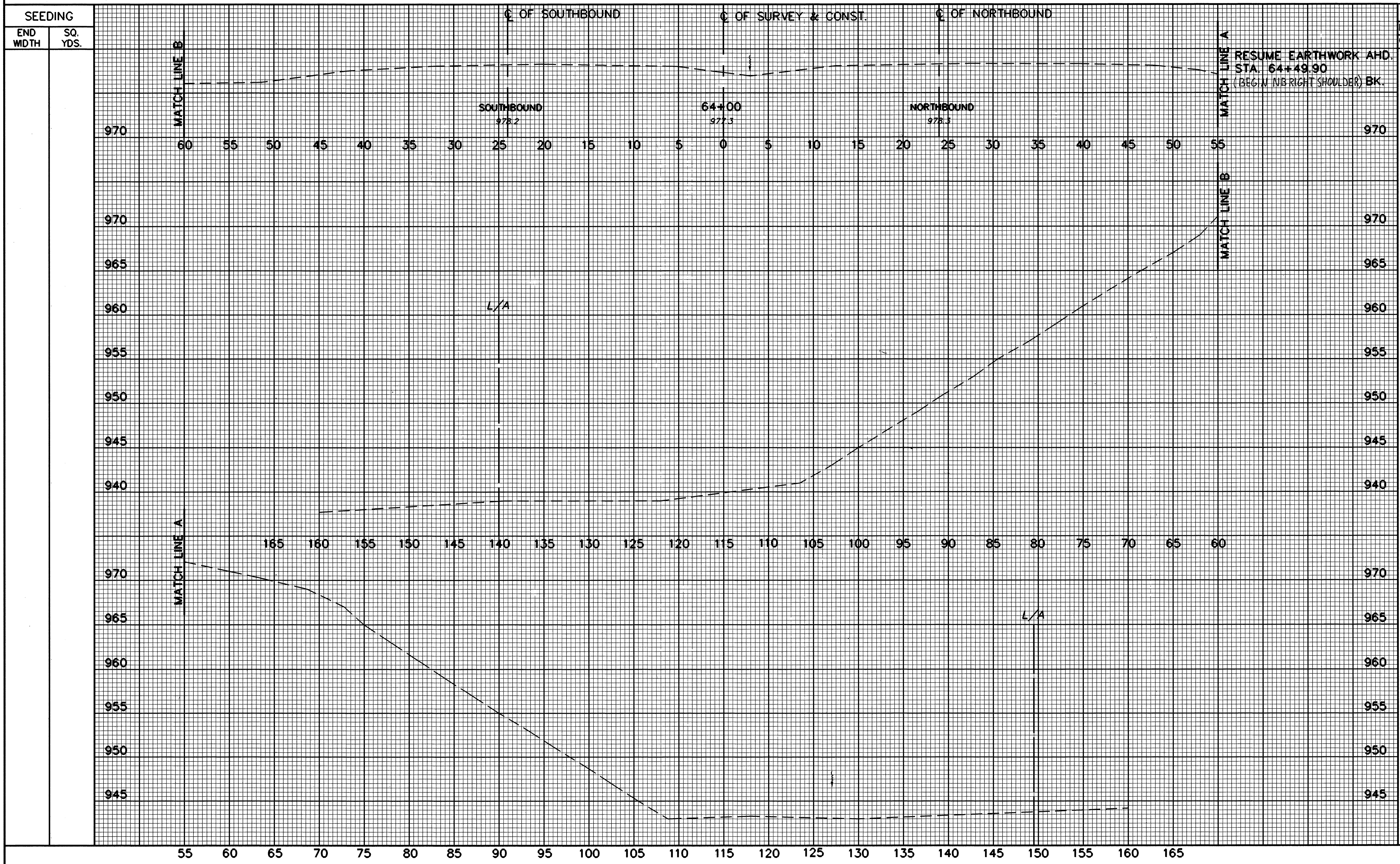
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DATE: 1/11/95
OPERATOR: CKC/PJP
PLOT SCALE: 1:5

QUANTITIES
 CALC. BY: J.J.E. CHKD. BY: D.L.W.
 DATE: 6/93 DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

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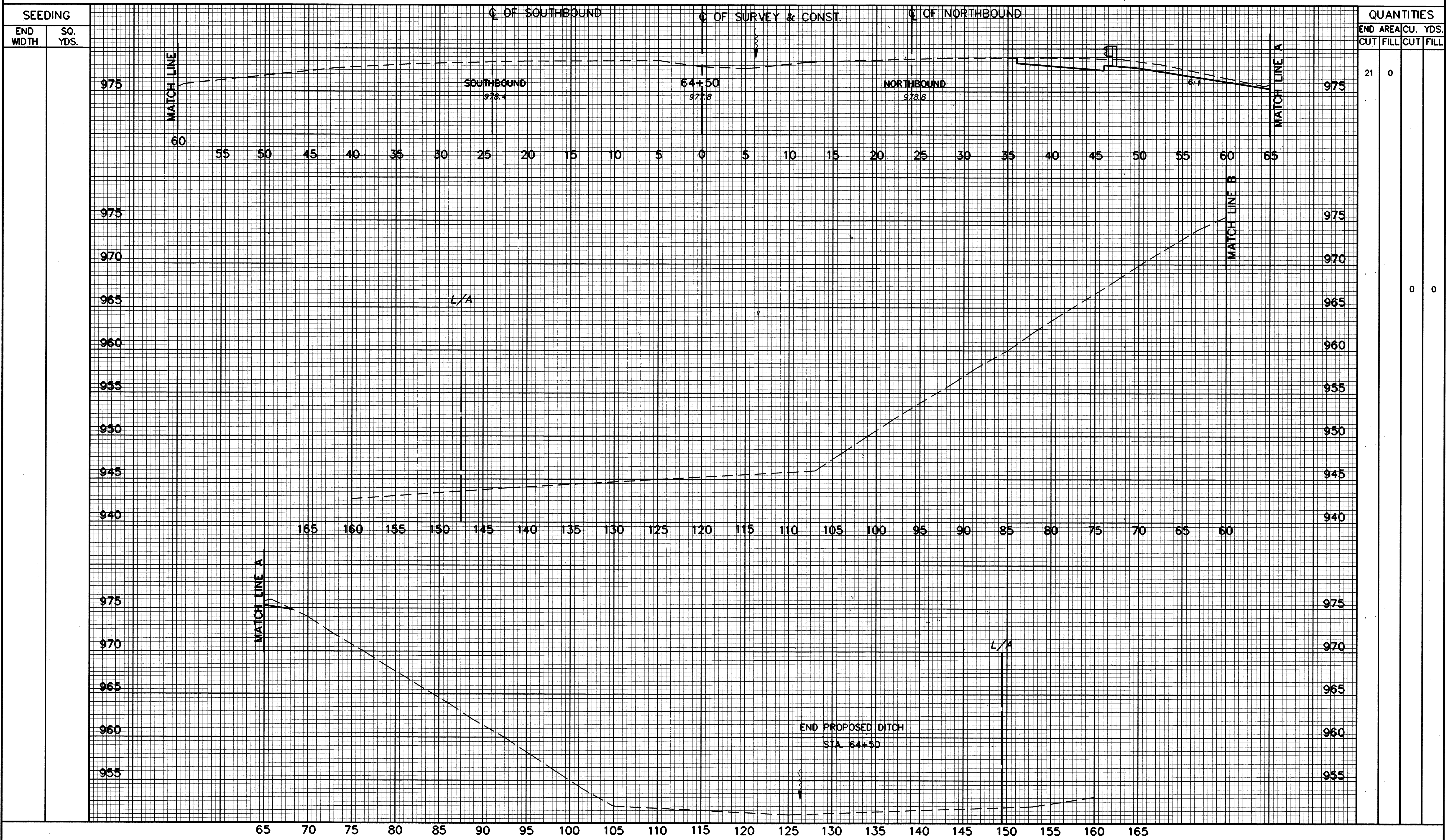
WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)



QUANTITIES		QUANTITIES	
END	AREA	CU.	YDS.
CUT	FILL	CUT	FILL
21	0		
0	0		

CAD FILE: WAXSECT1
 DATE: 1/11/95
 OPERATOR: CRC/JE/PJP
 PLOT SCALE: 1:5

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



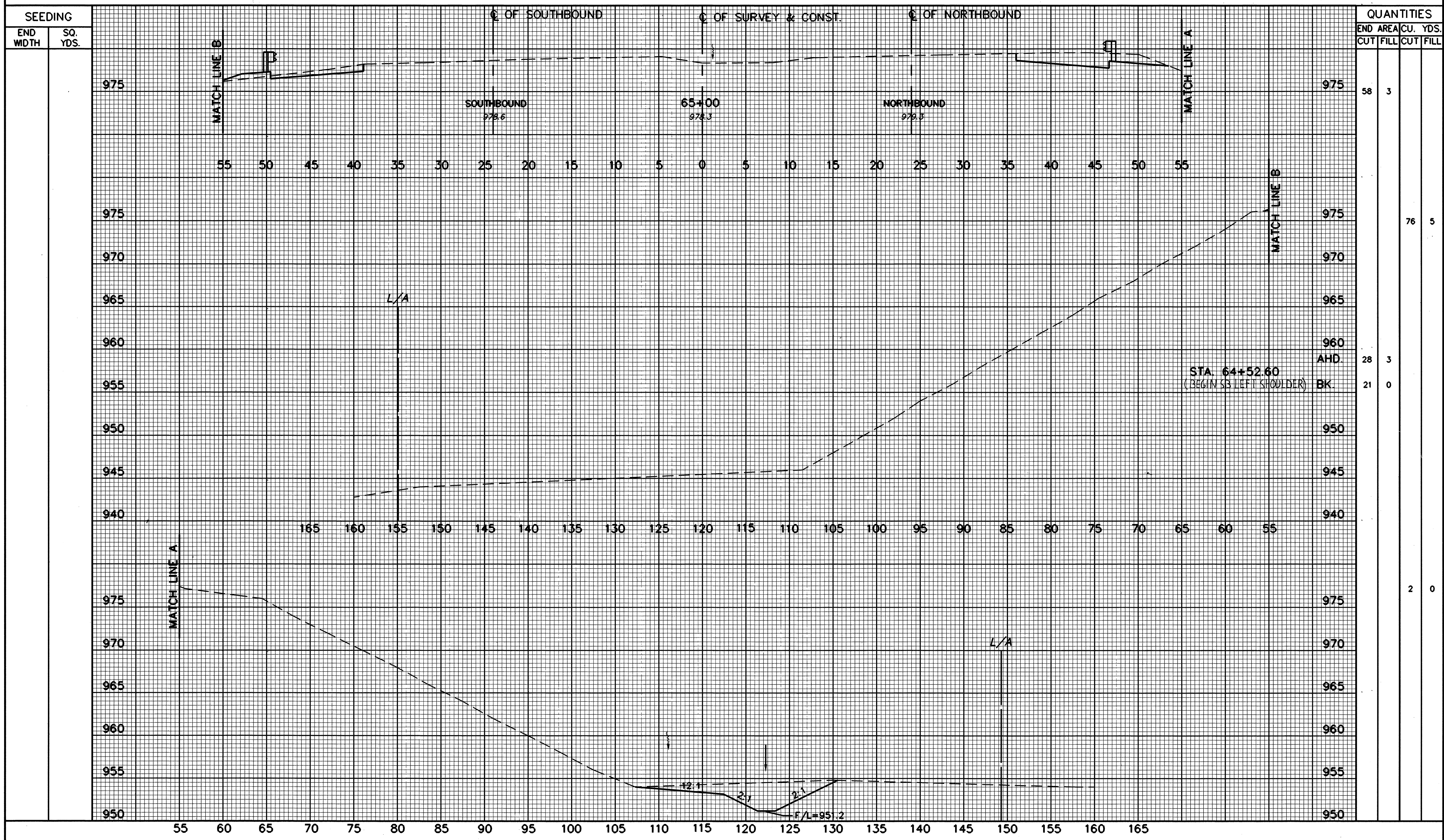
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DATE: 1/11/95
OPERATOR: CKC/WE/PJP
PLOT SCALE: 1:5

QUANTITIES
 CALC. BY: J.J.E. CHKD. BY: D.L.W.
 DATE: 6/93 DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)

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SEEDING	
END WIDTH	SQ. YDS.

QUANTITIES			
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

975	58	3		
975			76	5
970				
965				
960				
955	28	3		
950				
945				
940				
975			2	0
970				
965				
960				
955				
950				

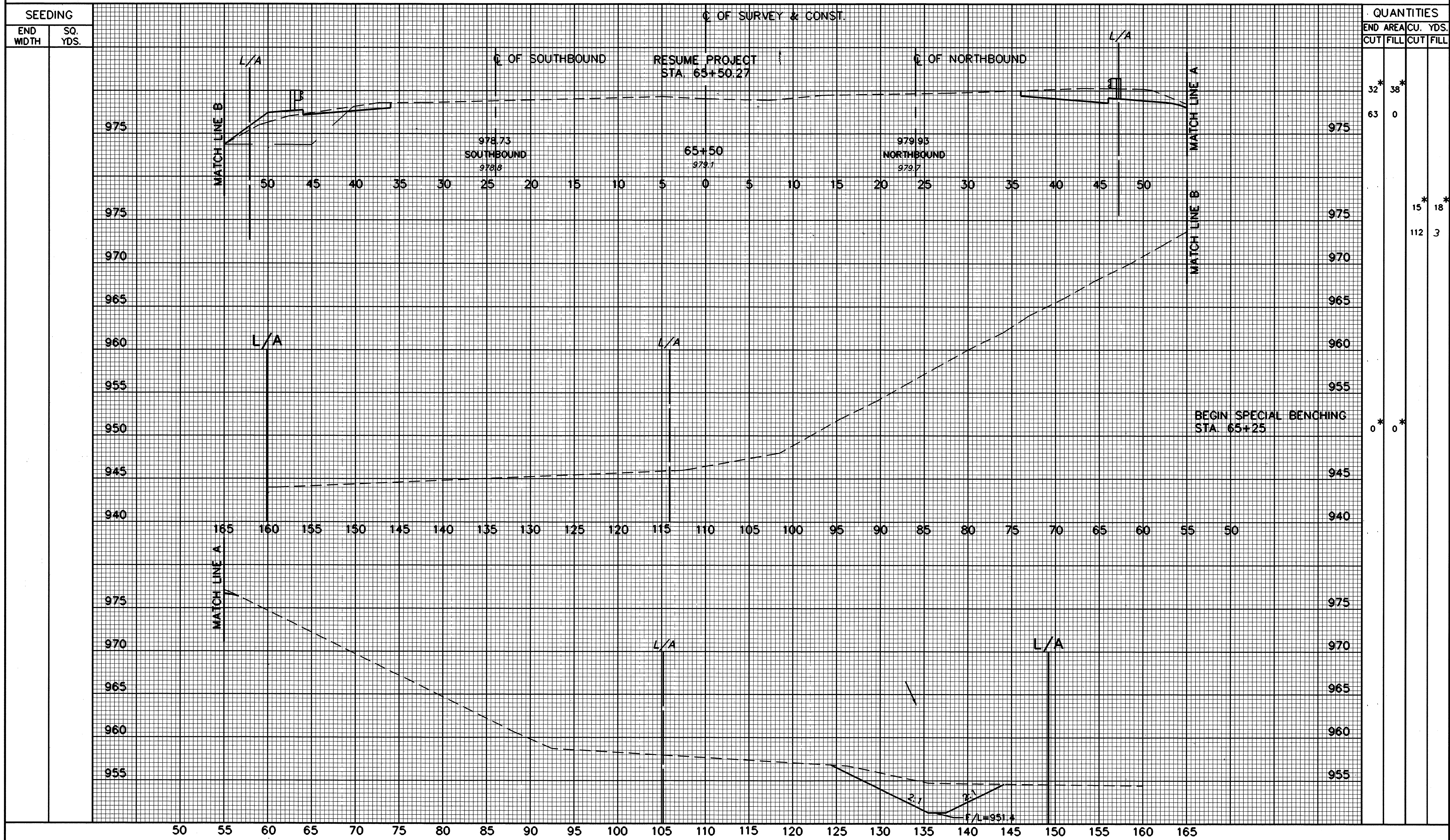
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 DATE: 1/11/95
 OPERATOR: CKC/PJP
 PLOT SCALE: 1:5

NOTE:
 QUANTITIES MARKED WITH AN ASTERISK ARE
 FOR THE SPECIAL BENCHING AREAS ONLY.
 THESE AREAS ARE SHOWN DASHED ON THE
 CROSS SECTIONS WHERE NEEDED.

QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	WAYNE COUNTY WAY-21-(0.87) (0.94) (1.24)

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98

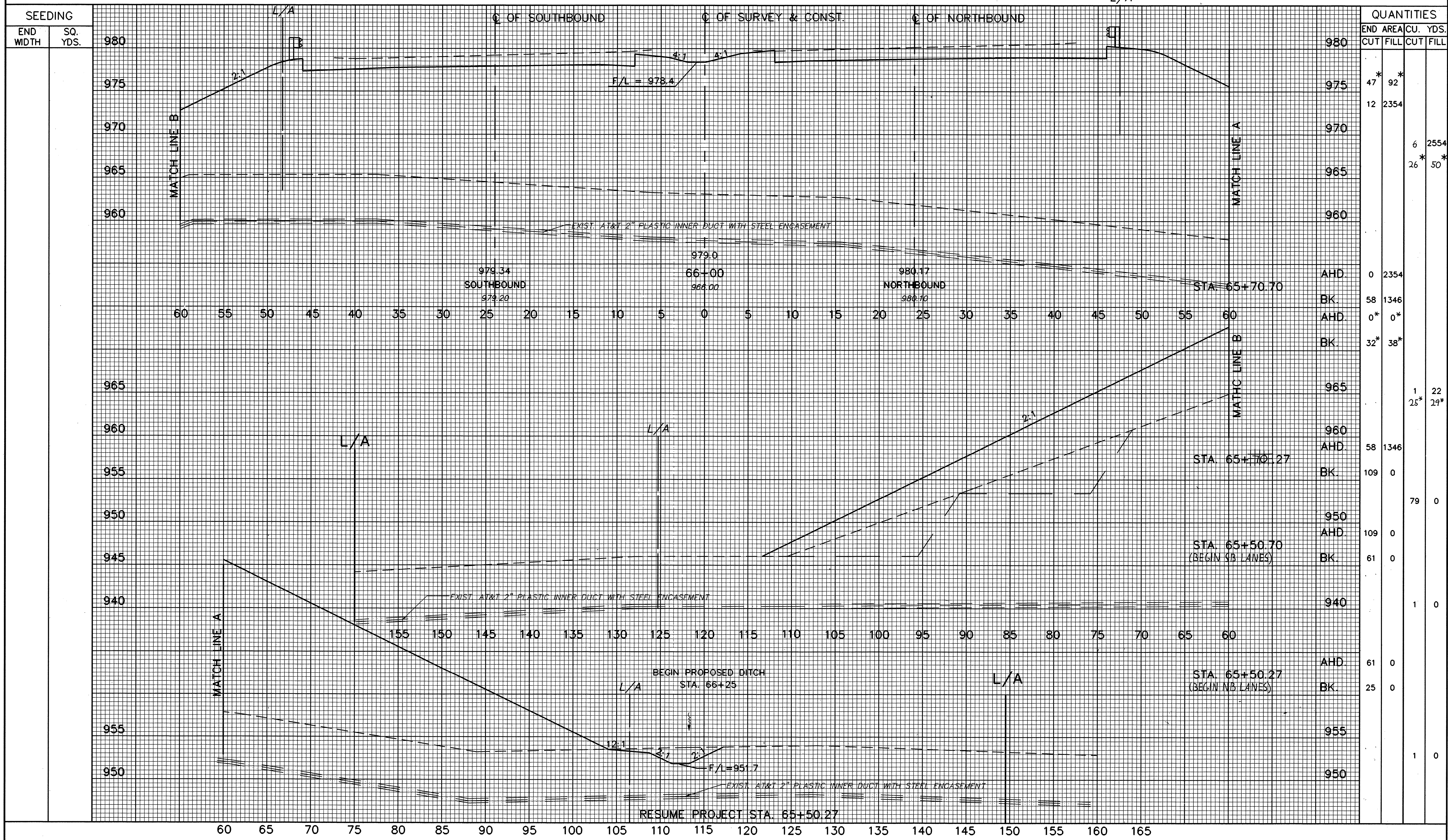


CAD FILE: WAXSEC14
 DATE: 1/11/95
 OPERATOR: JJE/PJP
 PLOT SCALE: 1:5

NOTE:
 QUANTITIES MARKED WITH AN ASTERISK ARE
 FOR THE SPECIAL BENCHING AREAS ONLY.
 THESE AREAS ARE SHOWN DASHED ON THE
 CROSS SECTIONS WHERE NEEDED.

QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

FHWA REGION 5	STATE OHIO	PROJECT WAYNE COUNTY WAY-21-(0.87) (0.94) (1.24)	45 98
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SEEDING		QUANTITIES	
END WIDTH	SQ. YDS.	END AREA	CU. YDS.
		CUT	FILL
980		47*	92*
975		12	2354
970			6
965		26*	50*
960			
AHD	0	2354	
BK	58	1346	
AHD	0*	0*	
BK	32*	38*	
965		1	22
960		25*	29*
AHD	58	1346	
BK	109	0	
955			79
950		109	0
AHD	109	0	
BK	61	0	
945			
940		1	0
AHD	61	0	
BK	25	0	
955			
950		1	0

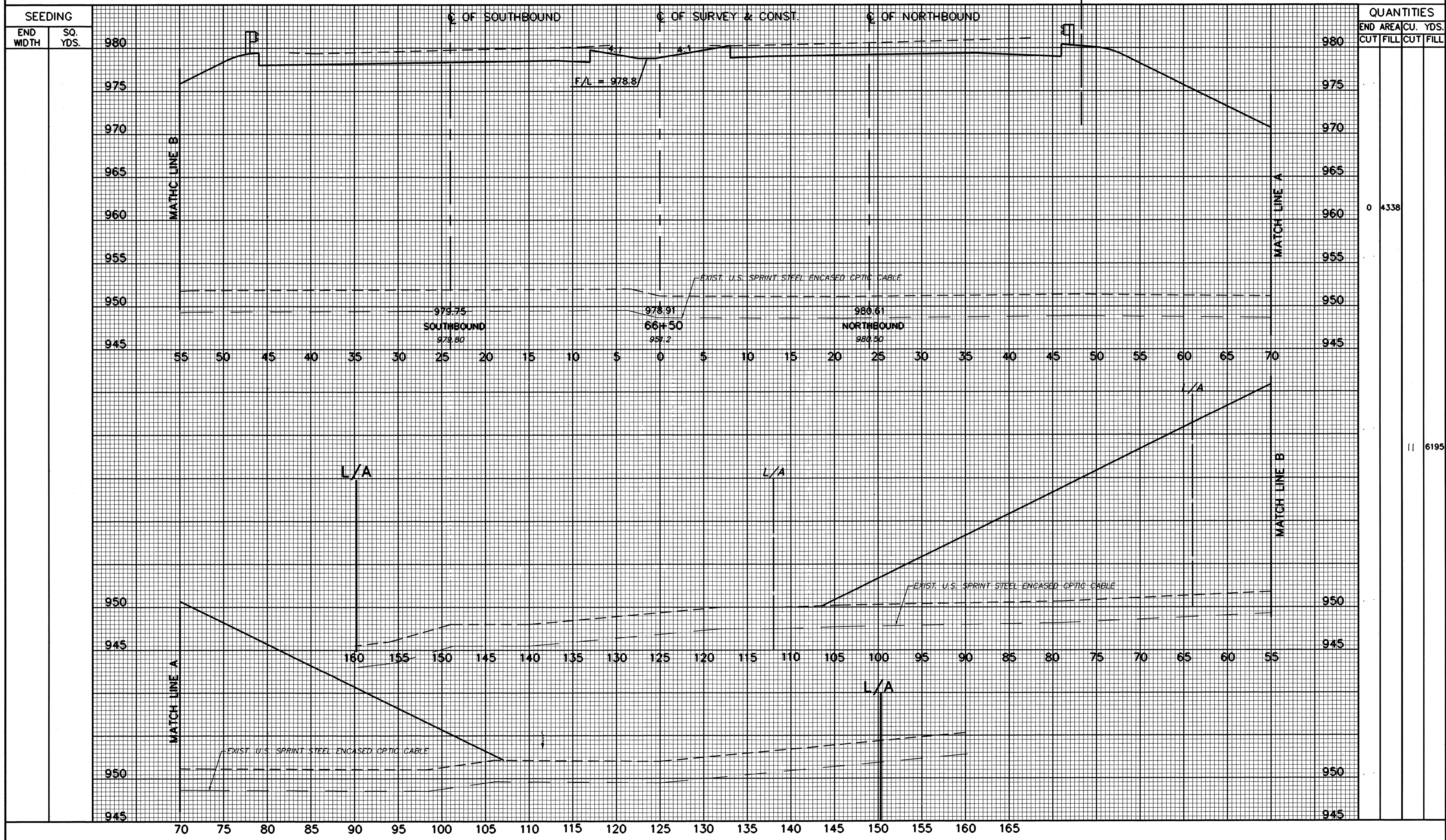
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 DATE: 1/11/95
 OPERATOR: LLE/PJP
 PLOT SCALE: 1:5

QUANTITIES
 CALC. BY: J.J.E. CHKD. BY: D.L.W.
 DATE: 6/93 DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)

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98



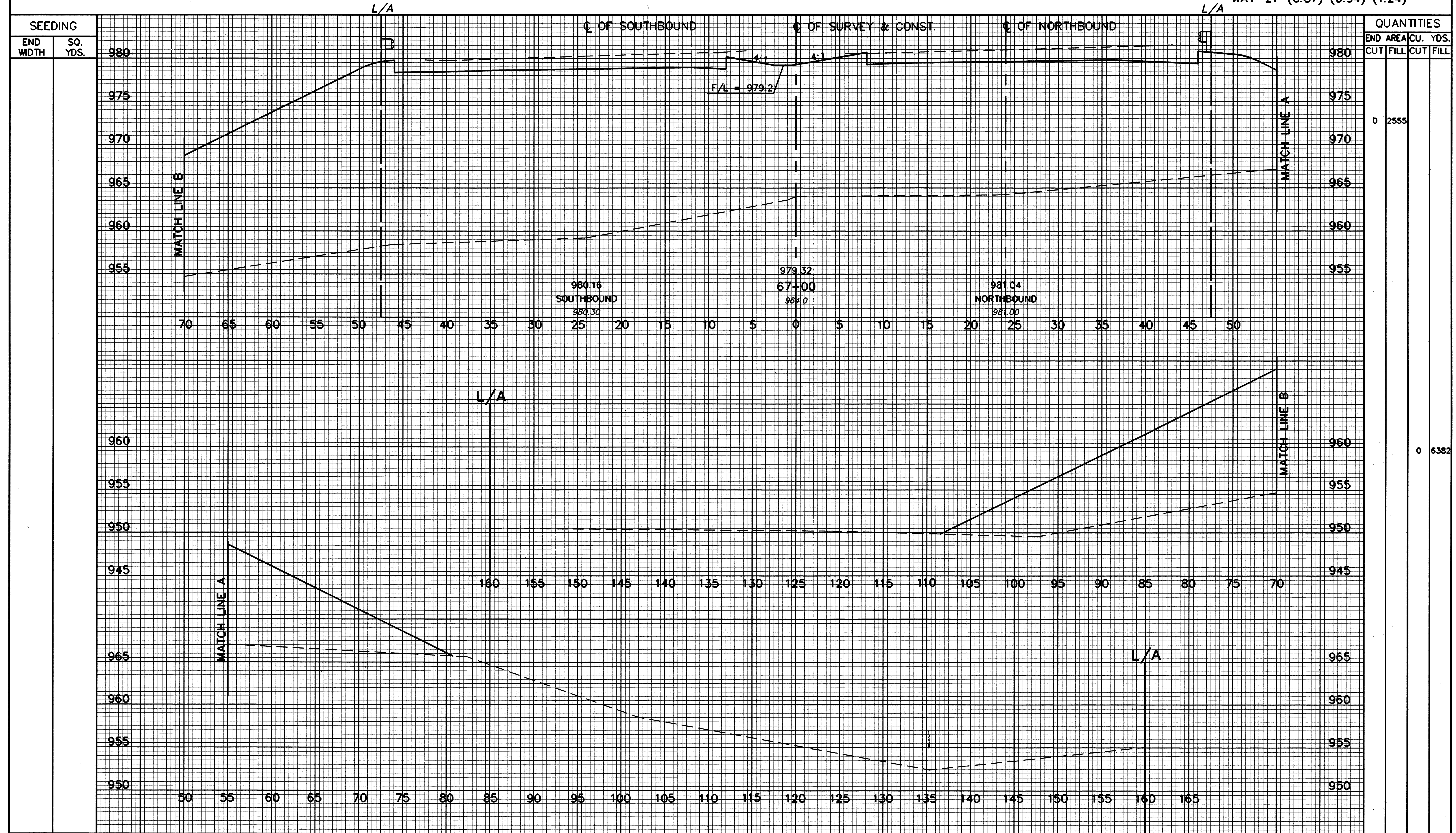
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 DATE: 1/11/95
 OPERATOR: PJP
 PLOT SCALE: 1:5

QUANTITIES
 CALC. BY: J.J.E. CHKD. BY: D.L.W.
 DATE: 6/93 DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

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98

WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)



CAD FILE: WAYSECT17
 DATE: 1/98
 OPERATOR: JJP/JP
 PLOT SCALE: 1:5

NOTE:
 QUANTITIES MARKED WITH AN ASTERISK ARE
 FOR THE SPECIAL BENCHING AREAS ONLY.
 THESE AREAS ARE SHOWN DASHED ON THE
 CROSS SECTIONS WHERE NEEDED.

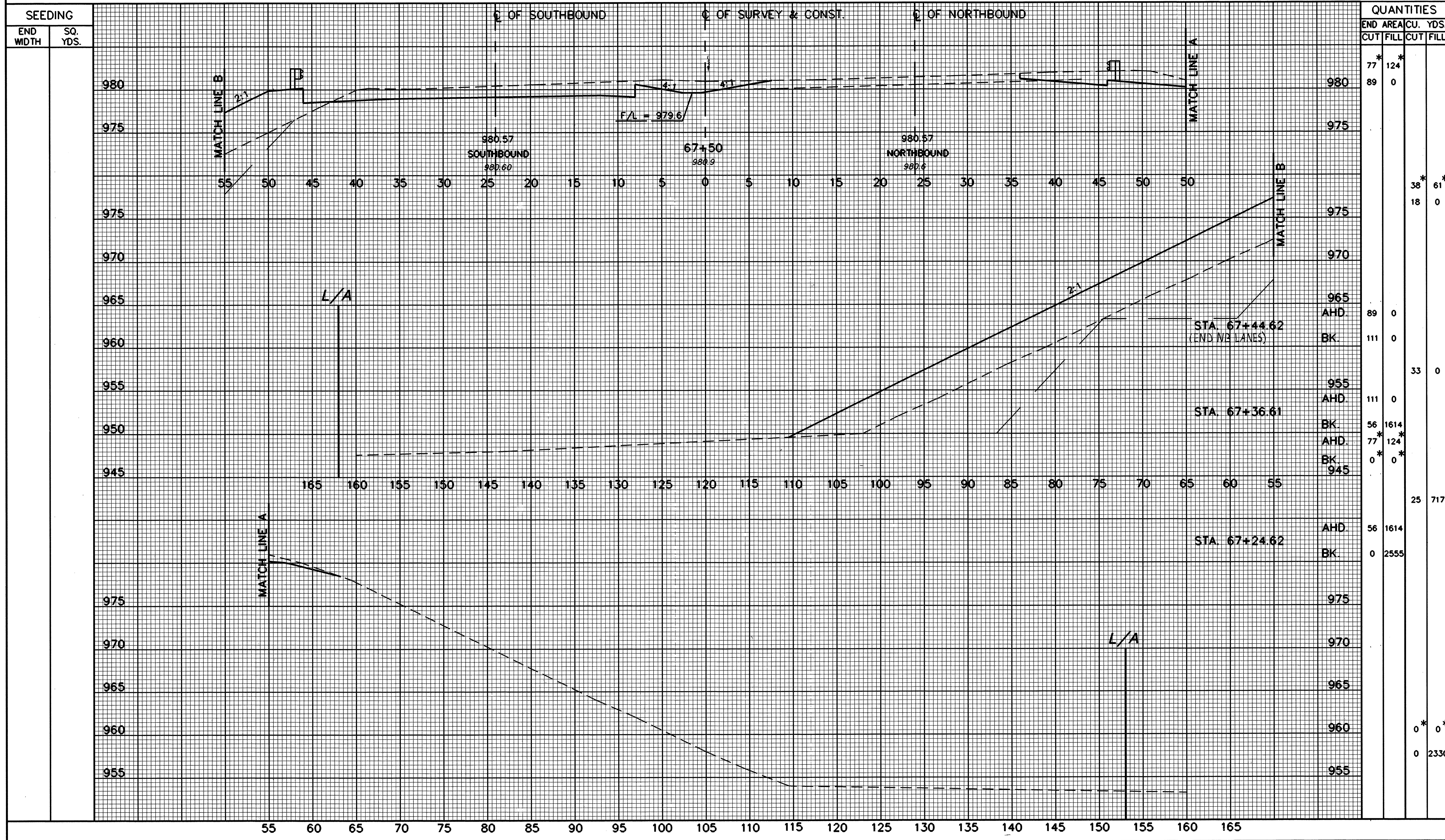
QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

48
98

END PROJECT STA. 67+56.61



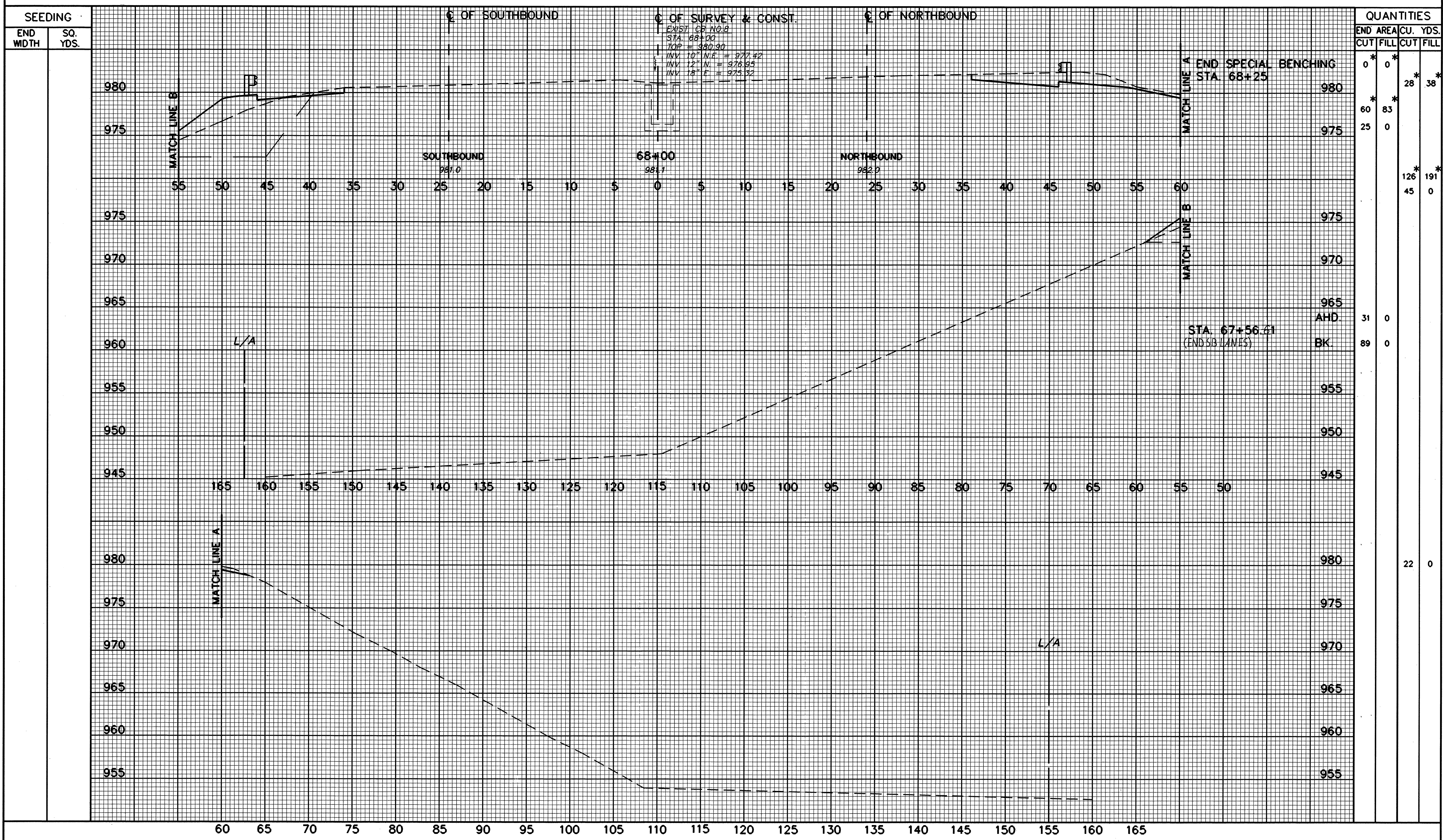
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 DATE: 7/1/95
 PLOTTER: JJE/PJP
 PLOT SCALE: 1:5

NOTE:
 QUANTITIES MARKED WITH AN ASTERISK ARE
 FOR THE SPECIAL BENCHING AREAS ONLY.
 THESE AREAS ARE SHOWN DASHED ON THE
 CROSS SECTIONS WHERE NEEDED.

QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	WAYNE COUNTY WAY-21-(0.87) (0.94) (1.24)

49
98



CAD FILE: WAXSC19
 DATE: 1/11/95
 OPERATOR: J.J.E./PJP
 PLOT SCALE: 1:5

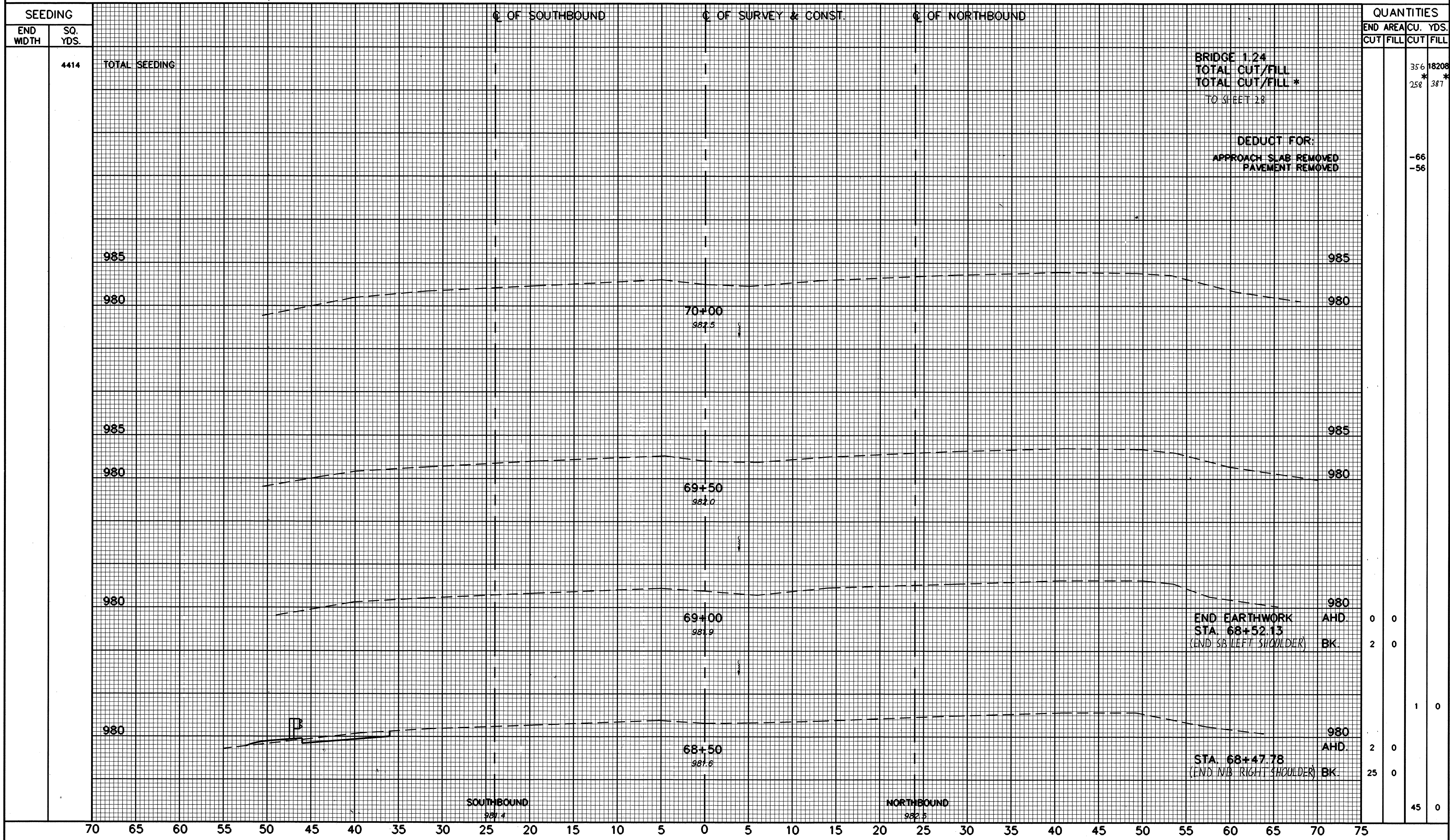
NOTE:
 QUANTITIES MARKED WITH AN ASTERISK ARE
 FOR THE SPECIAL BENCHING AREAS ONLY.
 THESE AREAS ARE SHOWN DASHED ON THE
 CROSS SECTIONS WHERE NEEDED.

QUANTITIES	
CALC. BY: J.J.E.	CHKD. BY: D.L.W.
DATE: 6/93	DATE: 3/94

FHWA REGION	STATE	PROJECT
5	OHIO	

50
98

WAYNE COUNTY
 WAY-21-(0.87) (0.94) (1.24)



CAD FILE: WAXSEC20
 DATE: 1/11/95
 OPERATOR: J.J.E./P.J.P.
 PLOT SCALE: 1:5

WAY-21-1.24 CROSS SECTIONS STA. 68+50 TO STA. 70+50

FHWA REGION	STATE	PROJECT
5	OHIO	

51
98

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)

* AS PER STD. DWG. AS-1-81

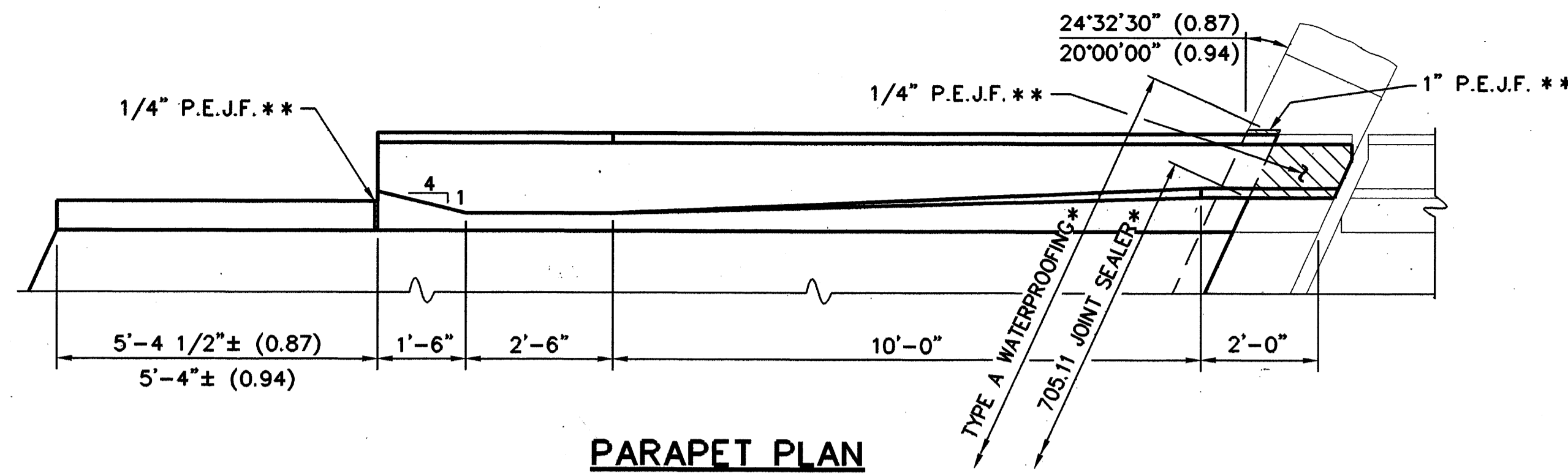
** TO BE INCLUDED WITH ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T=13"), AS PER PLAN, FOR PAYMENT.

NOTES

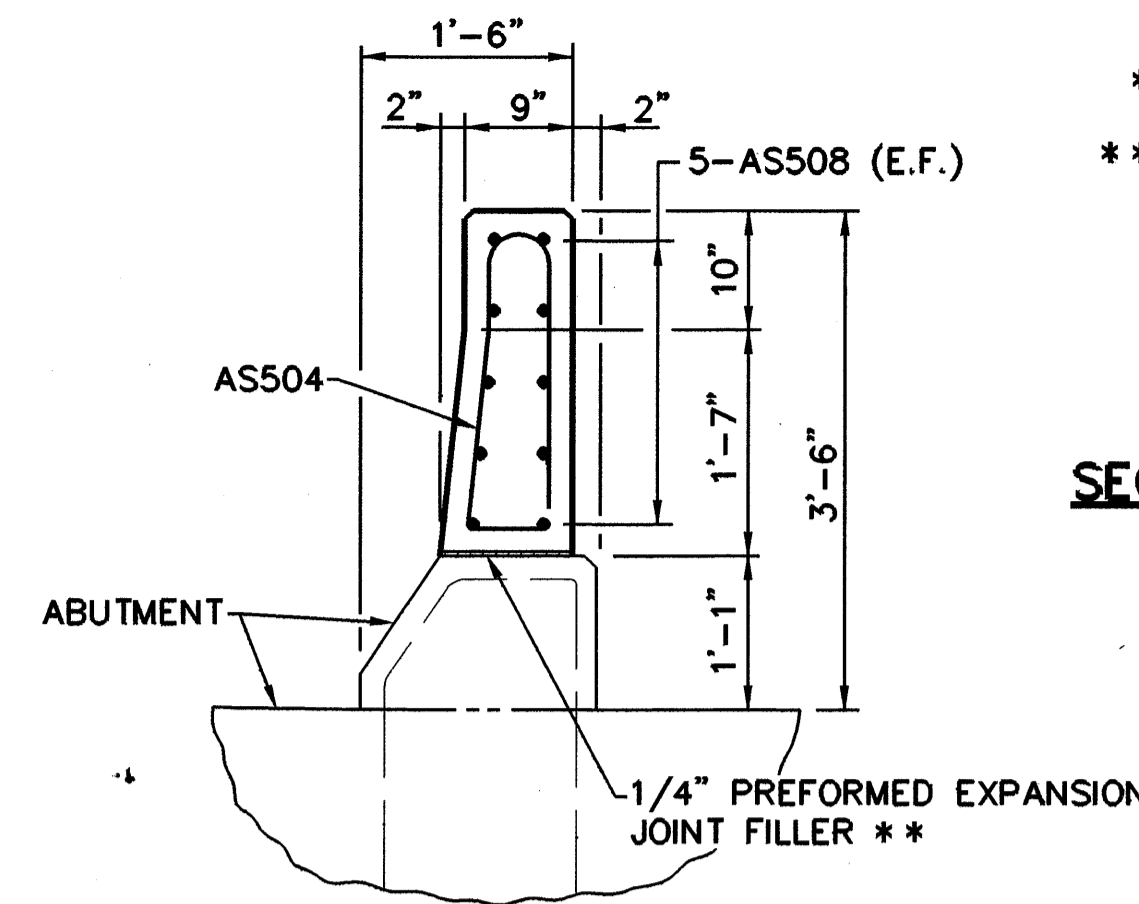
- FOR ADDITIONAL NOTES, DETAILS AND REINFORCING NOT SHOWN, SEE STD. DWG. AS-1-81, SHEETS 1 THRU 3.
- MINIMUM BAR LAP IS AS FOLLOWS: #5 BAR = 15"
- ITEM 611, REINFORCED CONCRETE APPROACH SLAB (T=13"), AS PER PLAN: THE REINFORCING STEEL FOR THE APPROACH SLABS OF THIS STRUCTURE SHALL BE EPOXY COATED IN CONFORMANCE WITH 509.

TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LENGTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB.

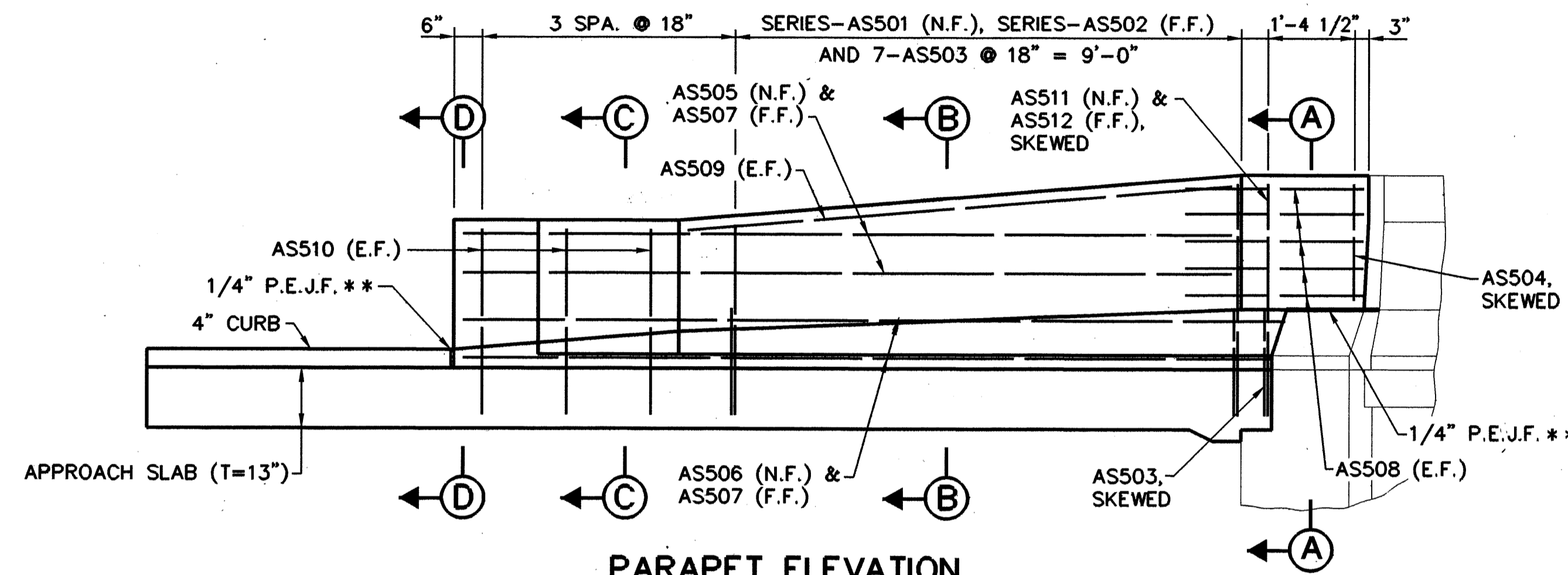
MATERIALS, LABOR AND INSTALLATION, INCLUDING THE PARAPET, SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=13"), AS PER PLAN.
- ABBREVIATIONS: N.F. - NEAR FACE
F.F. - FAR FACE
E.F. - EACH FACE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER



PARAPET PLAN

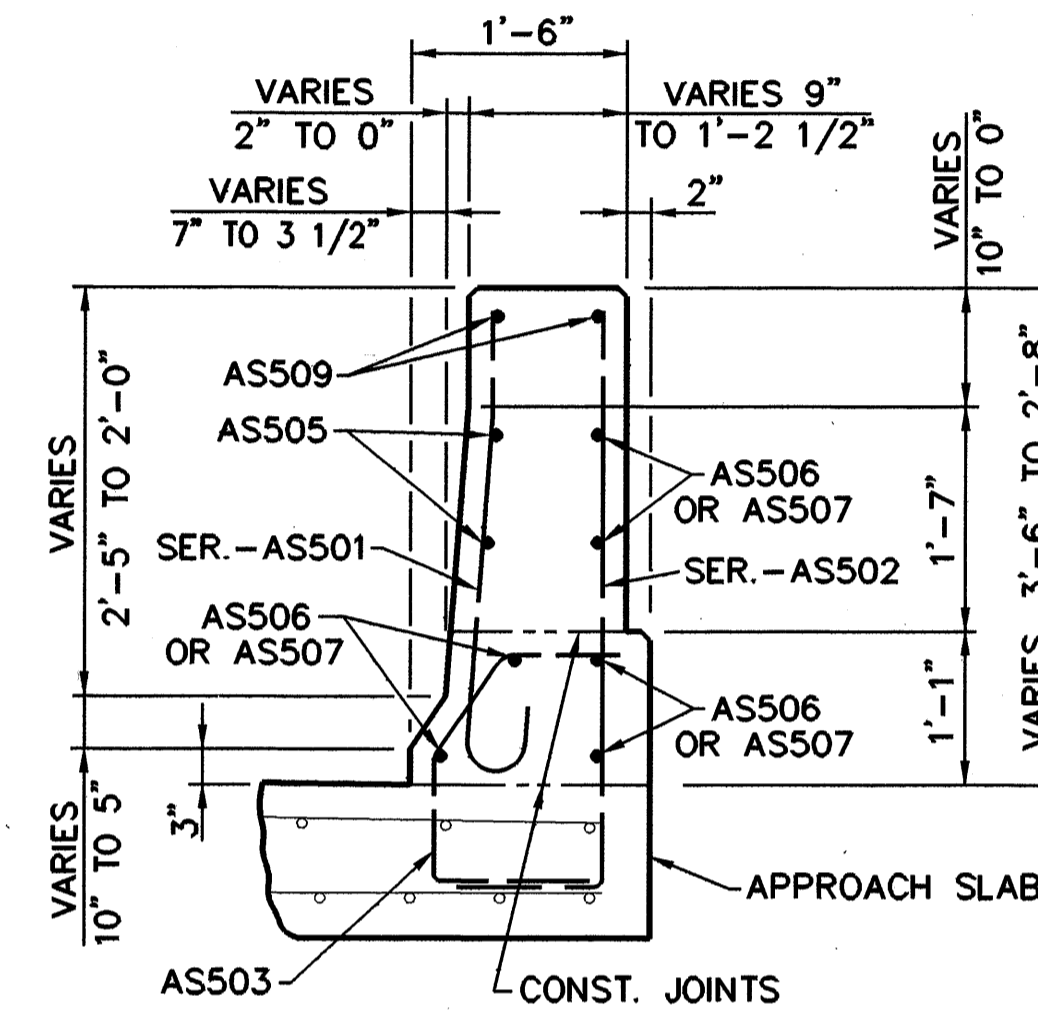


SECTION A-A

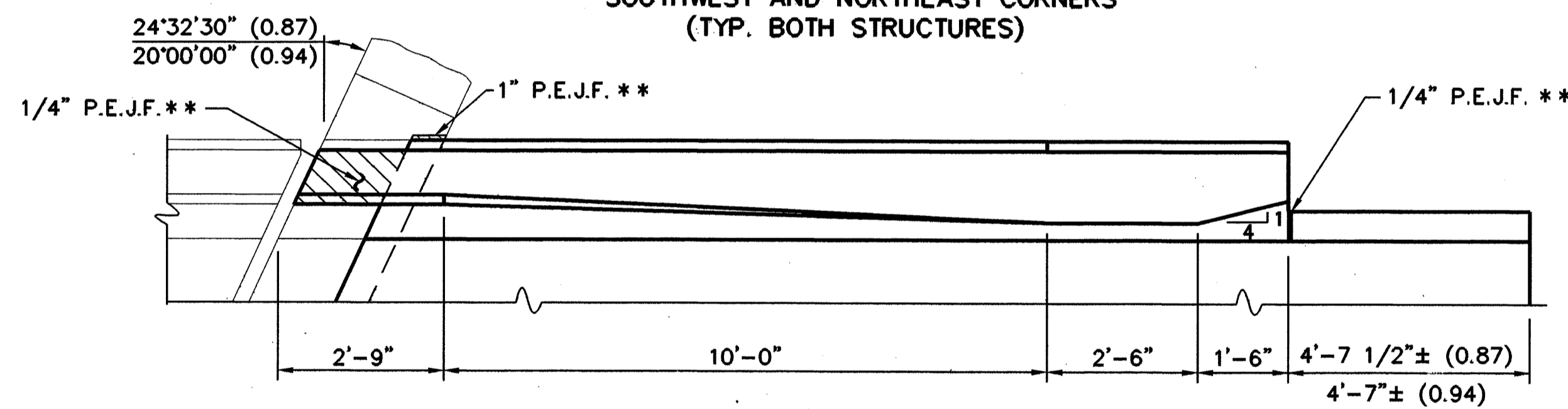


PARAPET ELEVATION

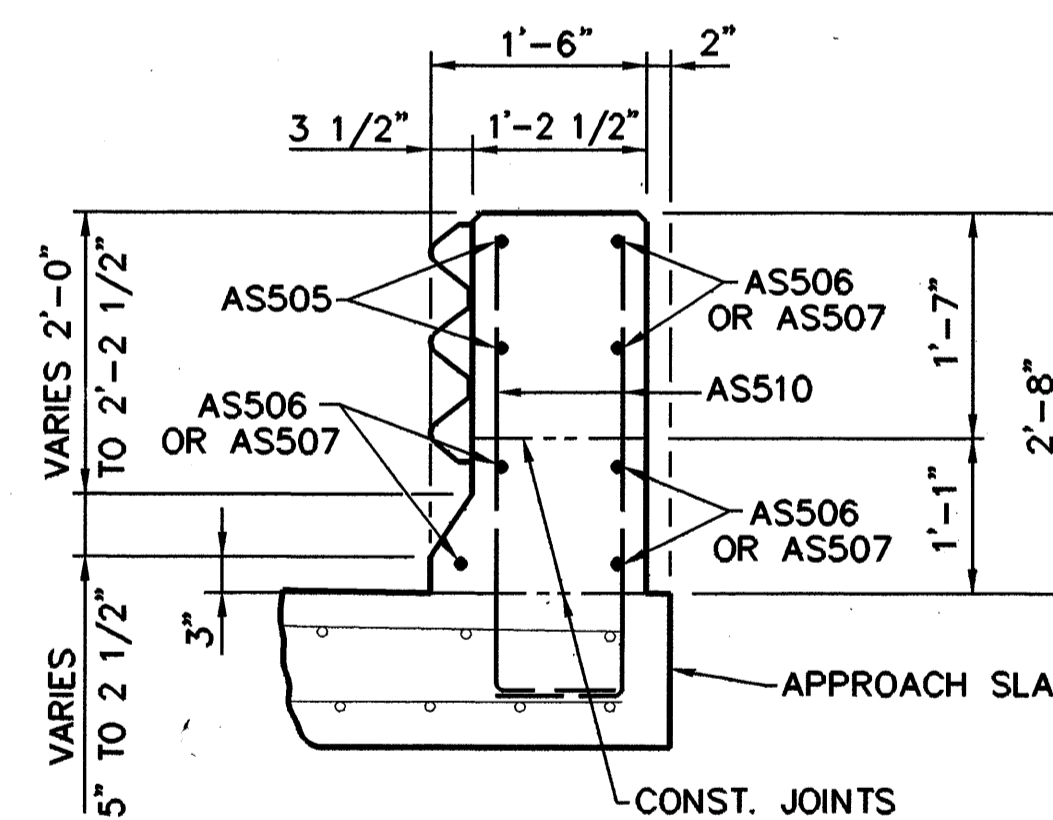
SOUTHWEST AND NORTHEAST CORNERS
(TYP. BOTH STRUCTURES)



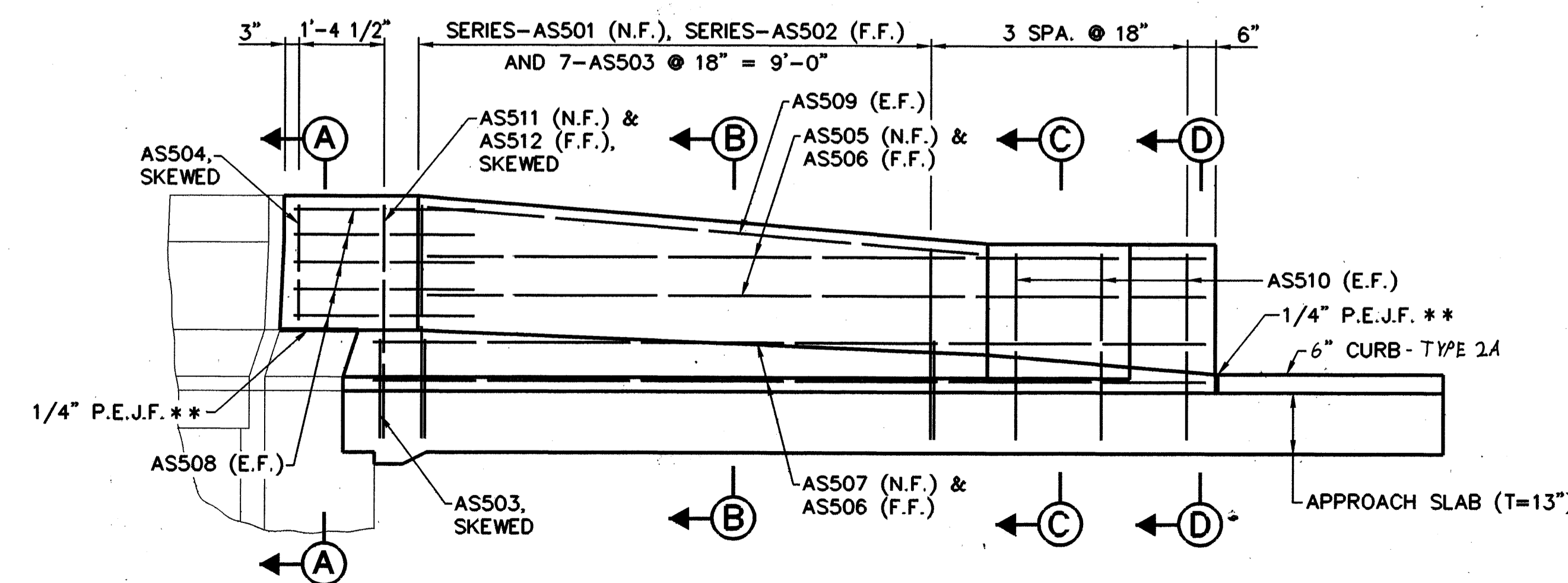
SECTION B-B



PARAPET PLAN

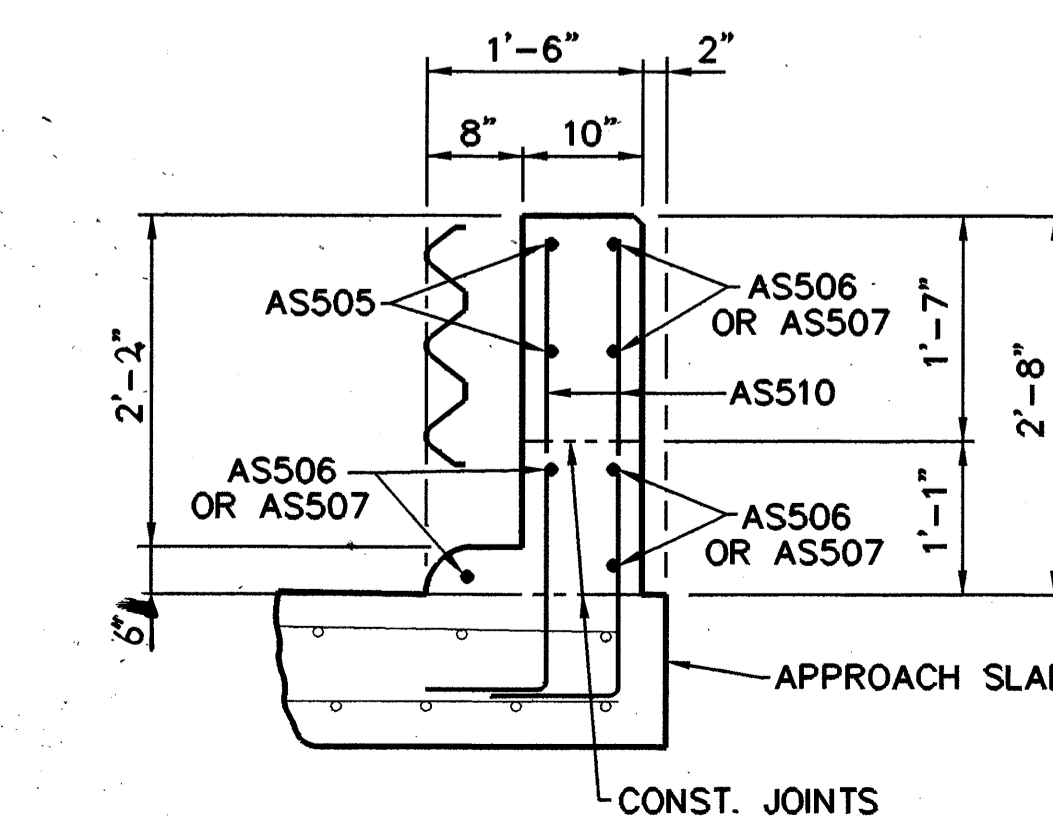


SECTION C-C



PARAPET ELEVATION

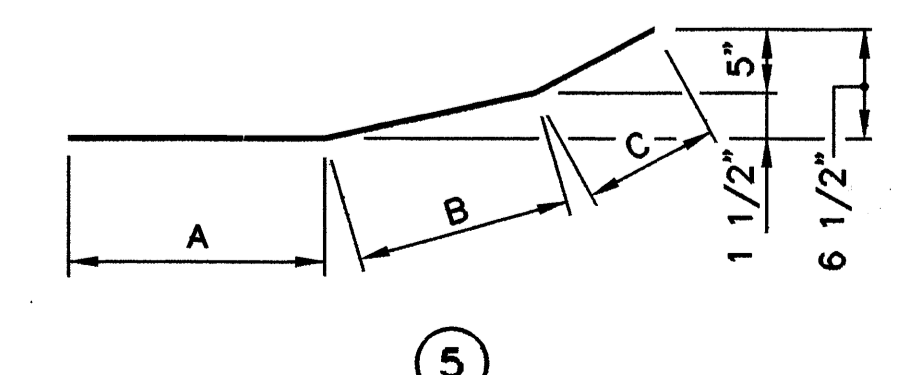
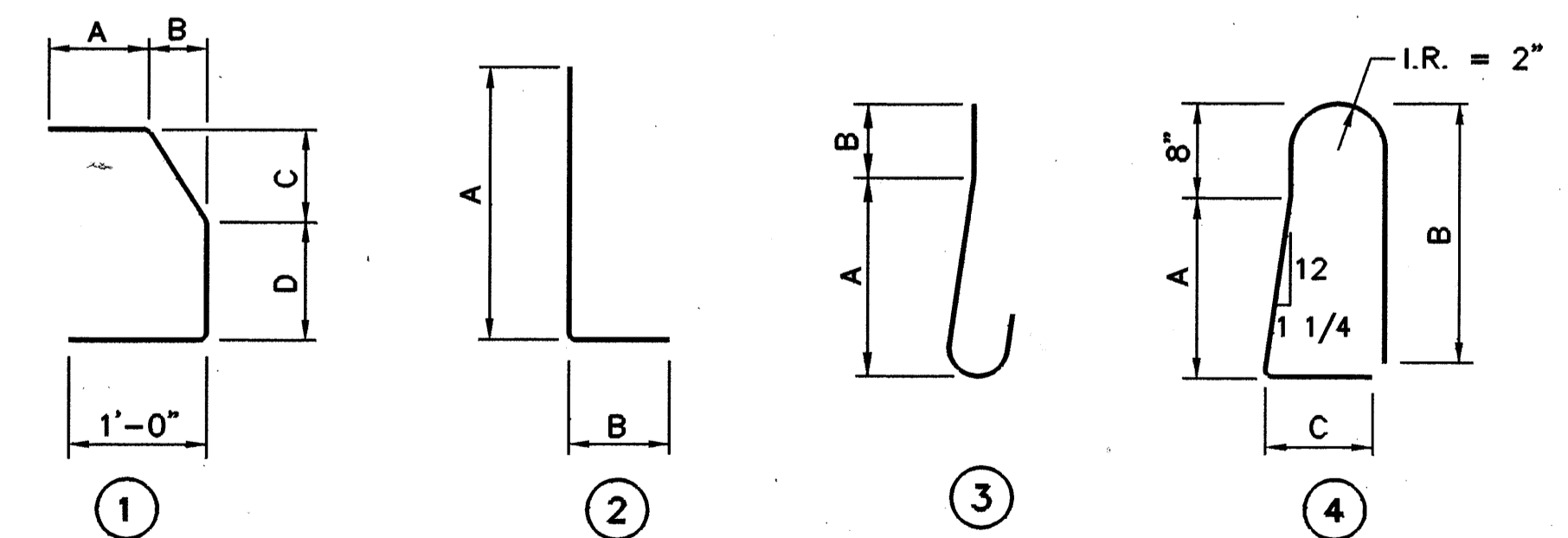
SOUTHEAST AND NORTHWEST CORNERS
(TYP. BOTH STRUCTURES)



SECTION D-D

REINFORCING STEEL TABLE										
MARK	NO. (0.87)	NO. (0.94)	NO. TOTAL	LENGTH	TYPE	DIM A	DIM B	DIM C	DIM D	INCR.
SERIES ASS01	8 SETS OF 7	8 SETS OF 7	16 SETS OF 7	3'-2" TO 3'-10"	3	2'-6"	1"			1 3/8"
SERIES ASS02	8 SETS OF 7	8 SETS OF 7	16 SETS OF 7	4'-2" TO 4'-10"	2	3'-6"	10"			1 3/8"
ASS03	64	64	128	3'-5"	1	9"	6"	9"	10"	
ASS04	4	4	8	4'-4"	4	1'-5"	1'-11"	6"		
ASS05	16	16	32	13'-8"	5	9'-11"	2'-4"	1'-5"		
ASS06	24	24	48	14'-4"	ST					
ASS07	24	24	48	14'-8"	ST					
ASS08	80	80	160	3'-2"	ST					
ASS09	16	16	32	9'-8"	ST					
ASS10	48	48	96	4'-0"	2	3'-4"	10"			
ASS11	8	8	16	3'-10"	3	2'-6"	9"			
ASS12	8	8	16	4'-10"	2	4'-2"	10"			

Included in Item 611 for Payment



APPROACH SLAB DETAILS (0.87) (0.94)

SUPERELEVATION TABLES

CALC. BY: DLW	CHKD. BY: JSB	FHWA REGION	STATE	PROJECT
DATE: 1-93	DATE: 1-93	5	OHIO	

52
98

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)

WAY-21-1.24 SOUTHBOUND SUPERELEVATION TABLE											
STATION	SHOULDER WIDTH LEFT	LEFT SHOULDER SLOPE	LEFT EDGE OF PAVEMENT ELEVATION	PAVEMENT WIDTH LEFT	SUPER RATE LEFT	CENTER LINE ELEVATION	SUPER RATE RIGHT	PAVEMENT WIDTH RIGHT	RIGHT EDGE OF PAVEMENT ELEVATION	RIGHT SHOULDER SLOPE	SHOULDER WIDTH RIGHT
	(FT.)	(IN./FT.)		(FT.)	(FT./FT.)		(FT./FT.)	(FT.)		(FT./FT.)	(FT.)
65+50.70	10	1/2	978.71	12	(0.018)	978.93	0.026	12	979.24	0.042	4
65+75	10	1/2	977.83	12	(0.025)	978.13	0.032	12	978.51	0.038	4
66+00	10	1/2	978.96	12	(0.032)	979.34	0.032	12	979.72	0.038	4
66+25	10	1/2	979.17	12	(0.032)	979.55	0.032	12	979.93	0.038	4
66+50	10	1/2	979.37	12	(0.032)	979.75	0.032	12	980.13	0.038	4
66+75	10	1/2	979.58	12	(0.032)	979.96	0.032	12	980.34	0.038	4
67+00	10	1/2	979.78	12	(0.032)	980.16	0.032	12	980.54	0.038	4
67+25	10	1/2	979.99	12	(0.032)	980.37	0.032	12	980.75	0.038	4
67+50	10	1/2	980.16	12	(0.034)	980.57	0.034	12	980.98	0.036	4
67+56.61	10	1/2	980.21	12	(0.034)	980.62	0.034	12	981.03	0.036	4

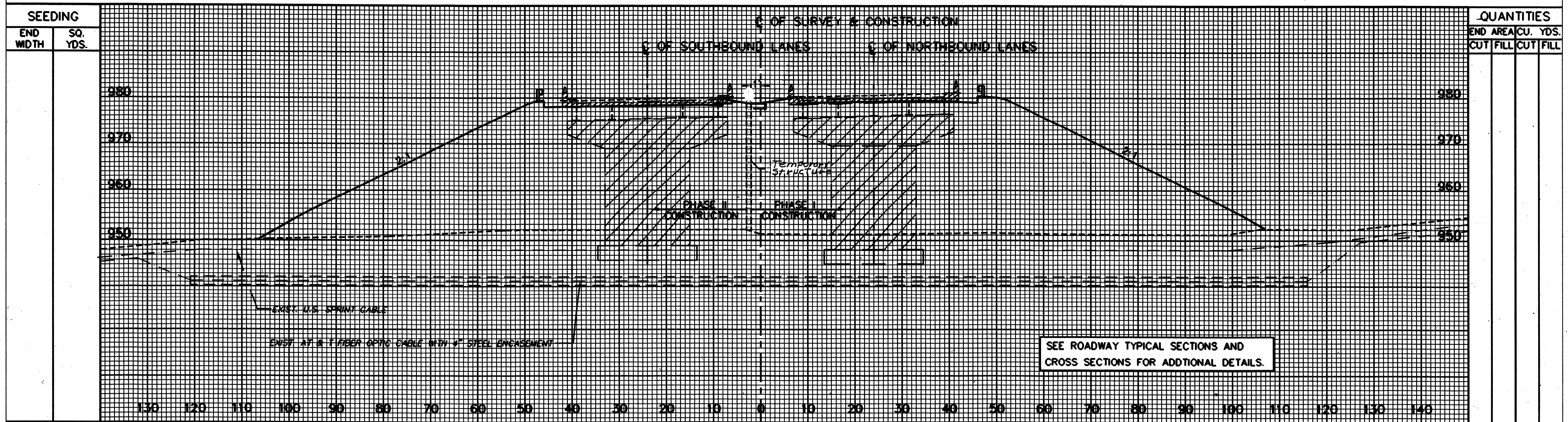
WAY-21-1.24 NORTHBOUND SUPERELEVATION TABLE											
STATION	SHOULDER WIDTH LEFT	LEFT SHOULDER SLOPE	LEFT EDGE OF PAVEMENT ELEVATION	PAVEMENT WIDTH LEFT	SUPER RATE LEFT	CENTER LINE ELEVATION	SUPER RATE RIGHT	PAVEMENT WIDTH RIGHT	RIGHT EDGE OF PAVEMENT ELEVATION	RIGHT SHOULDER SLOPE	SHOULDER WIDTH RIGHT
	(FT.)	(IN./FT.)		(FT.)	(FT./FT.)		(FT./FT.)	(FT.)		(FT./FT.)	(FT.)
65+50.27	4	1/2	979.53	12	(0.017)	979.73	0.030	12	980.09	0.040	10
65+75	4	1/2	979.65	12	(0.025)	979.95	0.032	12	980.33	0.038	10
66+00	4	1/2	979.79	12	(0.032)	980.17	0.032	12	980.55	0.038	10
66+25	4	1/2	980.01	12	(0.032)	980.39	0.032	12	980.77	0.038	10
66+50	4	1/2	980.23	12	(0.032)	980.61	0.032	12	980.99	0.038	10
66+75	4	1/2	980.45	12	(0.032)	980.83	0.032	12	981.21	0.038	10
67+00	4	1/2	980.67	12	(0.032)	981.05	0.032	12	981.43	0.038	10
67+25	4	1/2	980.89	12	(0.032)	981.27	0.032	12	981.65	0.038	10
67+44.62	4	1/2	991.05	12	(0.032)	991.43	0.032	12	991.81	0.038	10

DATE: 12/15/94
CAD FILE: SUPRTABL
CIR FOR: GNC/POP
PLOT SCALE: 1"=1'

PHASED EMBANKMENT CONSTRUCTION TYPICAL CROSS SECTION

FHWA REGION	STATE	PROJECT			
5	OHIO			53	98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



SEE ROADWAY TYPICAL SECTIONS AND
CROSS SECTIONS FOR ADDITIONAL DETAILS.

PHASED EMBANKMENT CONSTRUCTION NOTES

PHASE I

1. NORTHBOUND TRAFFIC WILL BE DIVERTED TO THE SOUTHBOUND LANES IN ORDER TO MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION (SEE MAINTENANCE OF TRAFFIC PLANS, PHASE 1).

ONCE THE TRAFFIC HAS BEEN REROUTED, THE CONTRACTOR SHALL THEN REMOVE THE EXISTING NORTHBOUND BRIDGE DECK, BEAMS, PARAPETS, RAILINGS AND THE PIERS AND ABUTMENT WALLS DOWN TO THEIR FOUNDATIONS FOR BRIDGE WAY-21-1.24R. PAYMENT FOR THE ABOVE DESCRIBED WORK SHALL BE INCLUDED UNDER ITEM 202 - STRUCTURES REMOVED, LUMP SUM. (NH FUNDS)
2. UPON REMOVAL OF THE STRUCTURE, SUITABLE EMBANKMENT MATERIALS AS PER 203.08 SHALL BE PLACED IN THE AREA DESIGNATED ON THE PLANS UP TO AN ELEVATION TO WHICH THE NEW PAVEMENT FOR THE NORTHBOUND LANES CAN BE CONSTRUCTED. THE LIMITS OF PHASED EMBANKMENT CONSTRUCTION ARE FROM STATION 65+50 TO STATION 67+50.

DURING THE PLACEMENT OF THE EMBANKMENT MATERIAL A TEMPORARY STRUCTURE SHALL BE CONSTRUCTED 1' LEFT OF THE CENTERLINE OF SURVEY AND RIGHT-OF-WAY CONSTRUCTION. THE TYPE AND SIZE OF THE STRUCTURE IS THE RESPONSIBILITY OF THE CONTRACTOR BUT THE REQUIREMENTS AS SPECIFIED BELOW SHALL BE CONSIDERED.
3. THE PROPOSED NORTHBOUND PAVEMENT SHALL BE CONSTRUCTED ALONG WITH PORTIONS OF THE PROPOSED GUARDRAIL AND PAVEMENT MARKINGS AS PER THE CONSTRUCTION PLANS.

PHASE II

1. ONCE THE NORTHBOUND LANES ARE COMPLETED, TRAFFIC SHALL BE SHIFTED TO THE NORTHBOUND LANES IN ORDER TO MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION.

ONCE THE TRAFFIC HAS BEEN REROUTED, THE CONTRACTOR SHALL THEN REMOVE THE EXISTING SOUTHBOUND BRIDGE DECK, BEAMS, PARAPETS, RAILINGS AND THE PIERS AND ABUTMENT WALLS DOWN TO THEIR FOUNDATIONS FOR BRIDGE WAY-21-1.24L. PAYMENT FOR THE ABOVE DESCRIBED WORK SHALL BE INCLUDED UNDER ITEM 202 - STRUCTURES REMOVED, LUMP SUM. (NH FUNDS)
2. UPON REMOVAL OF THE STRUCTURE, SUITABLE EMBANKMENT MATERIALS AS PER 203.08 SHALL BE PLACED ADJACENT TO THE TEMP. STRUCTURE PLACED DURING PHASE I AND TO AN ELEVATION AT WHICH THE NEW PAVEMENT FOR THE SOUTHBOUND LANES CAN BE CONSTRUCTED. THE LIMITS OF PHASED EMBANKMENT CONSTRUCTION ARE FROM STATION 65+50 TO STATION 67+50.
3. THE PROPOSED SOUTHBOUND PAVEMENT SHALL BE CONSTRUCTED ALONG WITH THE PROPOSED GUARDRAIL AND PAVEMENT MARKINGS AS PER THE CONSTRUCTION PLANS.
4. UPON COMPLETION OF PHASE II EMBANKMENT CONSTRUCTION, THE EXISTING TEMPORARY STRUCTURE MAY BE REMOVED.

502 TEMPORARY STRUCTURE, AS PER PLAN.
A MECHANICALLY STABILIZED EARTH WALL WITH A TEMPORARY FACE (FOR EXAMPLE: WIRE, FABRIC, BLOCK OR REINFORCED CONCRETE) IS RECOMMENDED FOR THIS RETAINING STRUCTURE. A WALL USING EITHER METALLIC OR POLYMERIC SOIL REINFORCEMENT SHALL BE DESIGNED ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1992, INTERIM 1993 AND OHIO BRIDGE DESIGN MANUAL, MARCH 1993. THE PROPRIETARY WALL COMPANIES APPROVED FOR THE DESIGN OF THIS WALL ARE:

- GENESIS HIGHWAY WALL SYSTEM.
- RETAINED EARTH WALLS BY VSL CORPORATION.
- REINFORCED EARTH WALLS OR THE PYRAMID SYSTEM BY REINFORCED EARTH COMPANY.
- REINFORCED SOIL EMBANKMENTS BY HILFIKER-TEXAS CORP.

IF THE CONTRACTOR ELECTS TO CONSTRUCT THIS TYPE OF WALL, AFTER AWARD OF THIS CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE DIRECTOR TWO COMPLETE SETS OF CALCULATIONS AND DESIGN PLANS FOR THE RETAINING WALL TYPE TO BE CONSTRUCTED. THE CONTRACTOR SHALL ALLOW FOR 21 DAYS OF REVIEW TIME BY THE DIRECTOR. ADDITIONAL REVIEW TIME MAY BE NECESSARY IF THE PLANS ARE NOT IN COMPLIANCE WITH THE ABOVE REQUIREMENTS AND THEREFORE NOT ACCEPTABLE.
ONE COMPLETE COPY OF ALL SUBMITTALS SHALL BE SENT DIRECTLY TO THE BUREAU OF BRIDGES, ROOM 516, 25 SOUTH FRONT STREET, COLUMBUS, OHIO 43215 (ATTN: FOUNDATION ENGINEER).
PAYMENT FOR THE ABOVE WORK SHALL BE MADE UNDER ITEM 502, TEMPORARY STRUCTURE, AS PER PLAN. (NH FUNDS)

NOTE: IN THE FUTURE A PRECAST BOX MAY BE INSTALLED THRU THIS AREA BY BORING/JACKING. THE CONTRACTOR SHALL AVOID PLACING EMBANKMENT MATERIAL, WHICH WOULD INTERFERE WITH THE CONSTRUCTION OF THIS FUTURE STRUCTURE, WITHIN 20 FEET ON EITHER SIDE OF A LINE PROJECTED ALONG EACH OF THE OLD RAILWAY BEDS.

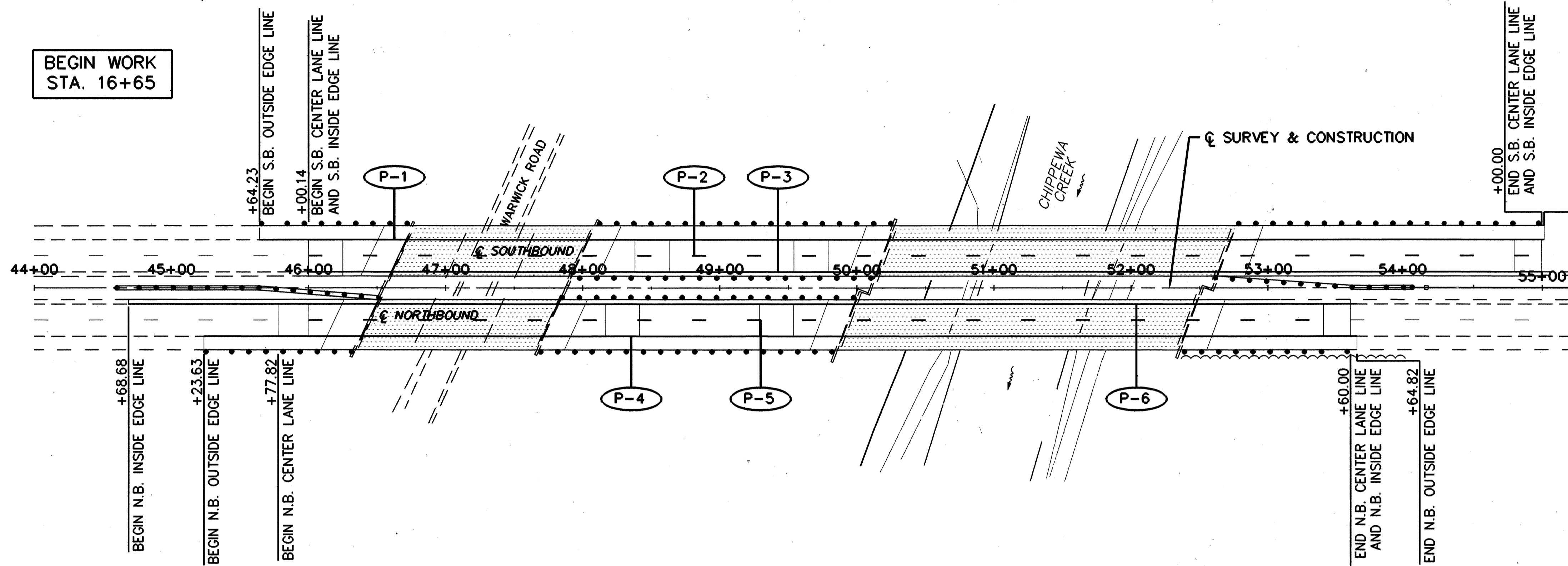
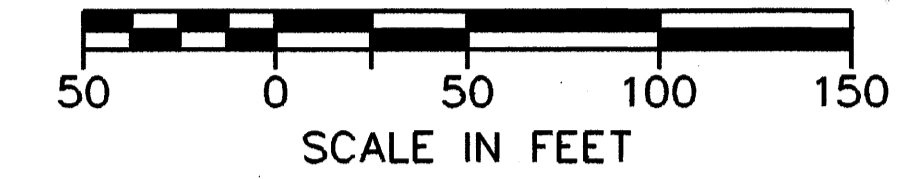
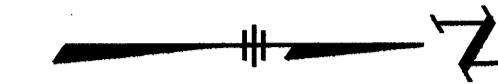
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DATE: 1/11/95
OPERATOR: DLW/PJP
PLOT SCALE: 1:5

PAVEMENT MARKINGS

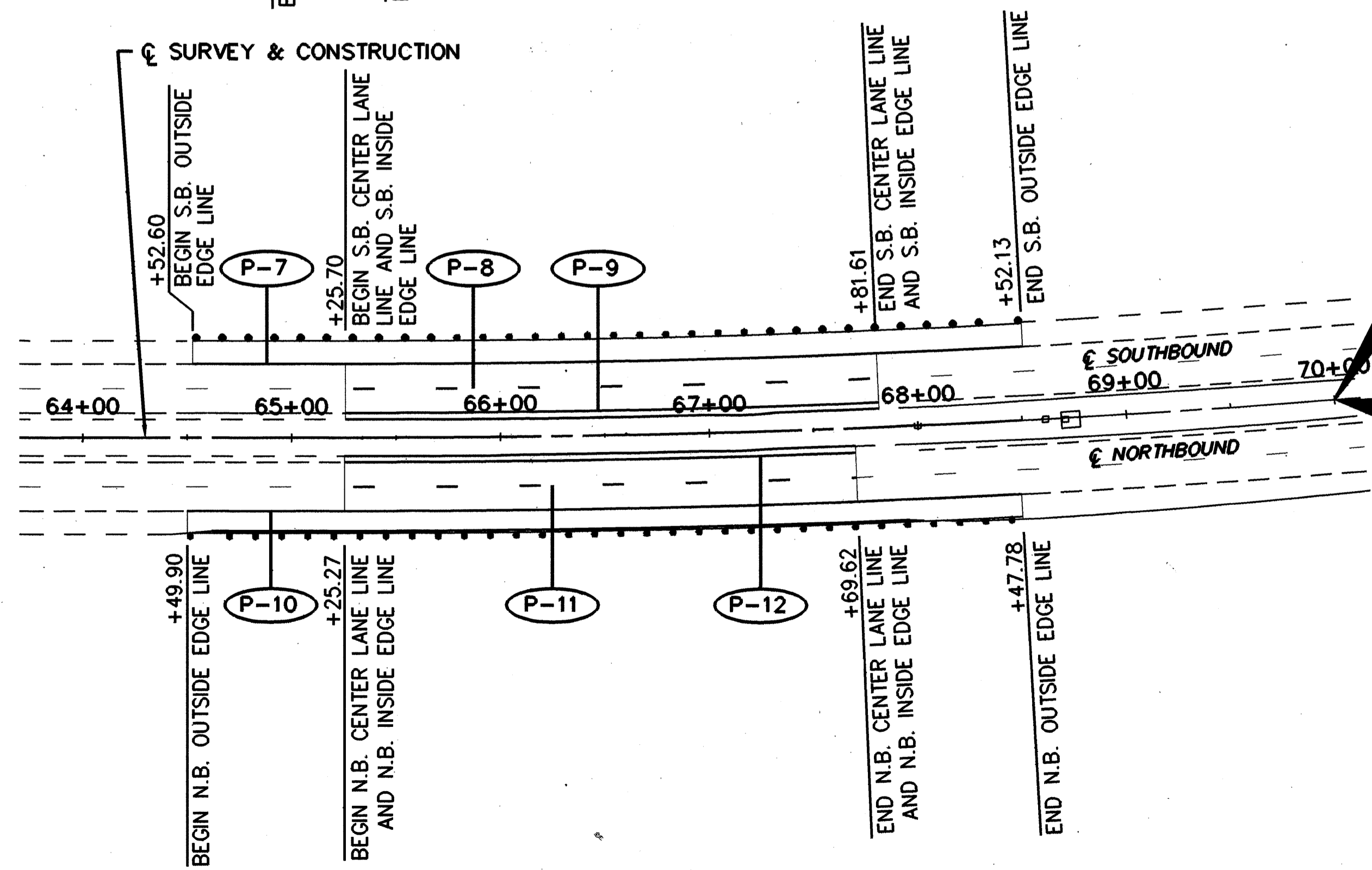
QUANTITIES		FHWA REGION	STATE	PROJECT
CALC. BY: DLW	CHKD. BY: CWF	5	OHIO	
DATE: 5/94	DATE: 5/94			

54
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



BEGIN WORK
STA. 16+65

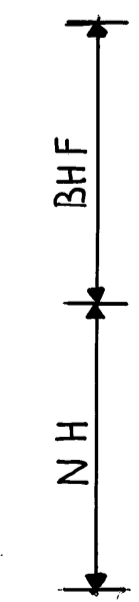


END WORK
STA. 70+00
WAY-21-(0.87)(0.94)(1.24)

BEGIN WORK
STA. 70+00
WAY-21-1.42

NOTE:
QUANTITIES ARE LISTED IN LIN. FT. AND THEN CONVERTED TO MILES

REF. No.	SIDE	STATION		ESTIMATED QUANTITIES			
				642	642	642	
		FROM	TO	EDGE LINE, TYPE 2 (WHITE) LIN. FT.	EDGE LINE, TYPE 2 (YELLOW) LIN. FT.	LANE LINE, TYPE 2 LIN. FT.	
P-1	LT.	45+64.23	55+01.94	938			
P-2	LT.	46+00.14	55+00.00			900	
P-3	LT.	46+00.14	55+00.00		900		
P-4	RT.	45+23.63	53+64.82	841			
P-5	RT.	45+77.82	53+60.00			782	
P-6	RT.	44+68.68	53+60.00		891		
P-7	LT.	64+52.60	68+52.13	400			
P-8	LT.	65+25.70	67+81.61			256	
P-9	LT.	65+25.70	67+81.61		256		
P-10	RT.	64+49.90	68+47.78	398			
P-11	RT.	65+25.27	67+69.62			244	
P-12	RT.	65+25.27	67+69.62		244		
TOTALS (LIN. FT.)				BHF	1779	1791	1682
				NH	798	500	500
TOTALS (MILES)				BHF	0.68	0.32	
				NH	0.25	0.09	



CAD FILE: WAYPAVMT
DATE: 1/11/95
OPERATOR: PJP/DLW
PLOT SCALE: 1"=50'

FHWA REGION	STATE	PROJECT
5	OHIO	

55
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

NOTES:

- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- BEGIN AND END APPROACH SLAB STATIONS ARE CALCULATED NORMAL TO CENTERLINE OF SURVEY AND RIGHT-OF-WAY.

 - 25' TRANSITION AREA TO MATCH EXISTING GRADE AND CROSS SLOPE.

DESIGN DESIGNATION

DESIGN ADT (2014) = 9,760
ADTT (ONE DIRECTION) = 590

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 40'-0 1/4"±, 50'-0 3/4"±, 39'-9 1/8"±
C/C BEARINGS (RIGHT)
ROADWAY: 30'-0"± F/F W/ 2'-0"± SAFETY CURBS
ALIGNMENT: TANGENT
SKEW: 24' 32' 30"± L.F.
WEARING SURFACE: 1"± MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0"± (AS-1-54)
CONDITION: GOOD
STRUCTURE FILE NUMBER: 8501173

PROPOSED STRUCTURE

PROPOSED WORK: NEW COMPOSITE REINFORCED CONCRETE DECK, WIDENED SUPERSTRUCTURE ON WIDENED SUBSTRUCTURE
SPANS: 40'-0 1/4"±, 50'-0 3/4"±, 39'-9 1/8"±
C/C BEARINGS (RIGHT)
ROADWAY: 38'-0" TOE/TOE PARAPET
LOADING: HS20-44 (CASE II) & ALTERNATE MILITARY LOADING (SUPERSTRUCTURE AND WIDENED SUBSTRUCTURE)
ALIGNMENT: TANGENT
SKEW: 24' 32' 30"± L.F.
WEARING SURFACE: MONOLITHIC CONCRETE
CROWN: 3/16"/FT.
APPROACH SLABS: 20'-0" (AS-1-81), AS PER PLAN
LONGITUDE: 81° 38' 50"
LATITUDE: 40° 55' 05"

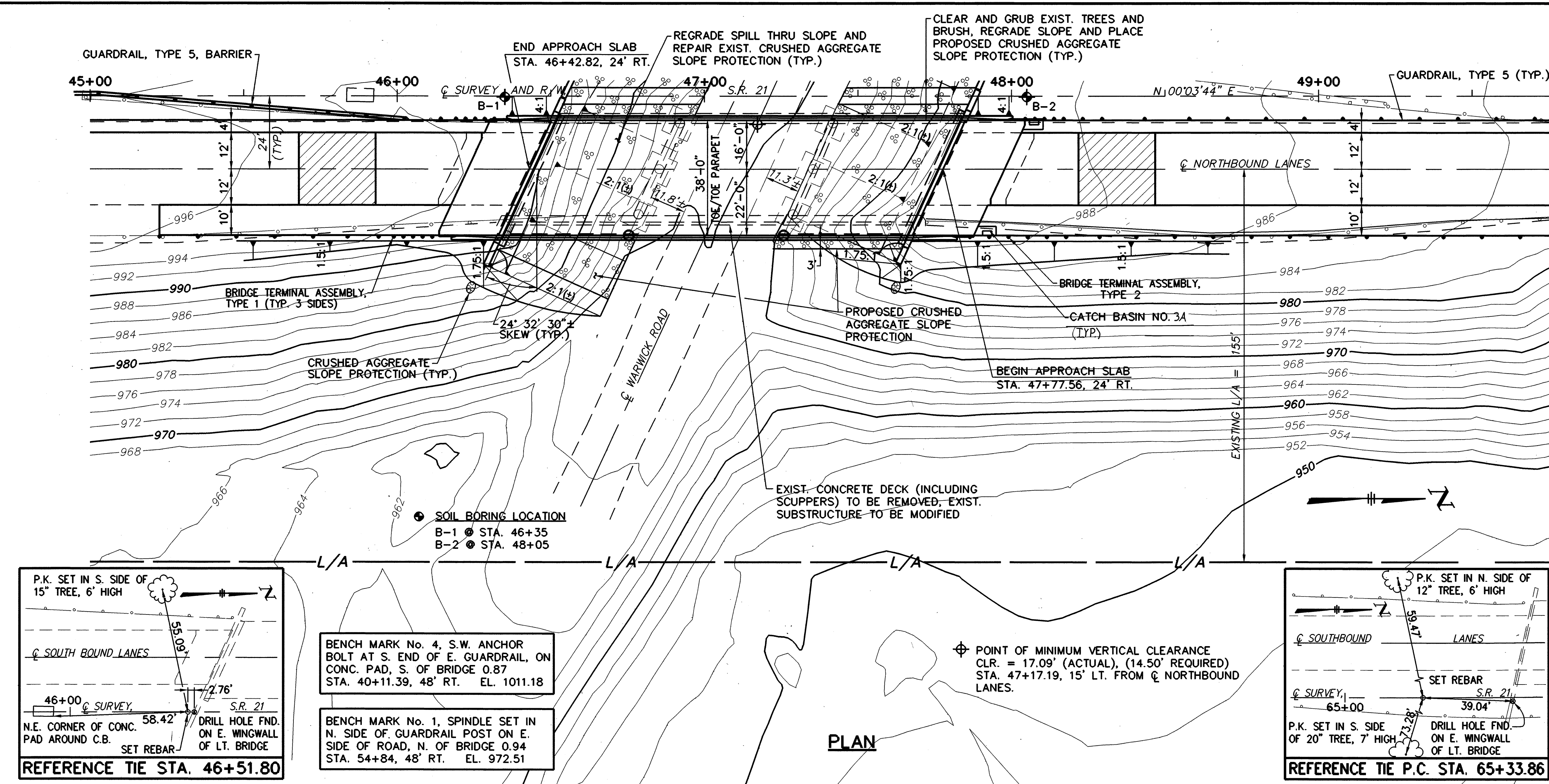
FINKBEINER, PETTIS & STROUT, INC. 1 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

SITE PLAN

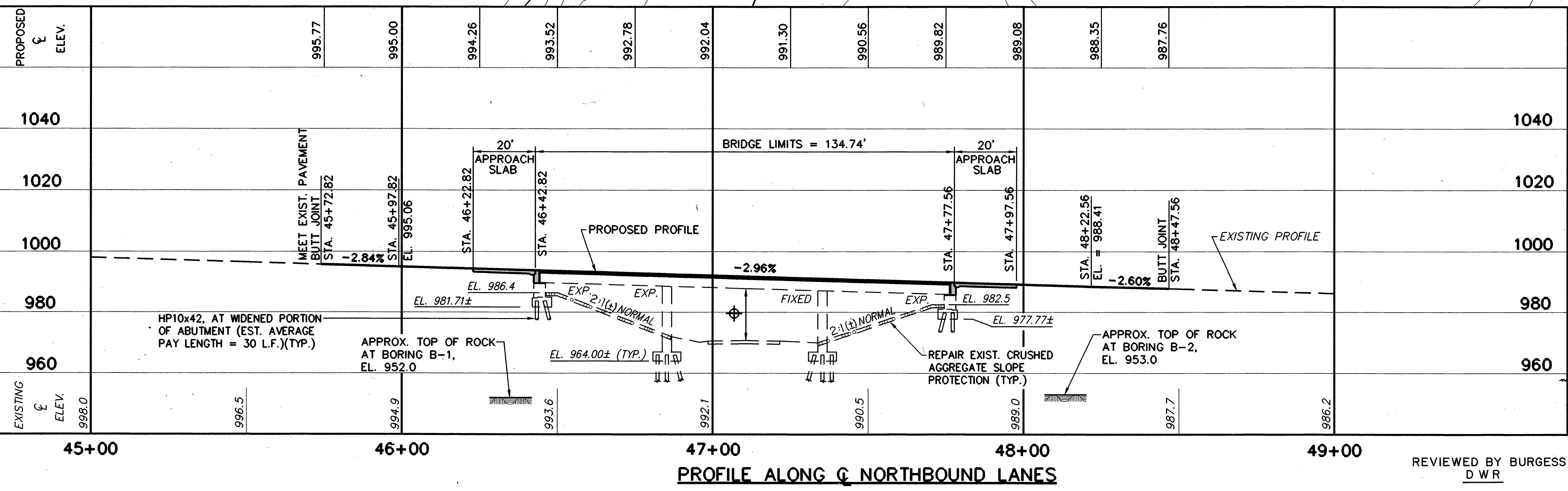
RIGHT STRUCTURE
BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

WAYNE COUNTY
STA. 46+42.82
TO STA. 47+77.56

PRESENT TOPOGRAPHY	PROPOSED WORK				
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED DATE
C.W.F.	C.A.F.	R.B.B.	C.A.F.	J.C.C.	T.E.N. 1/95



PLAN



PROFILE ALONG C/NORTHBOUND LANES

REVIEWED BY BURGESS & NIPLE, LTD.
D W R 2-2-95

CAD FILE: 087RSITE
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=20'

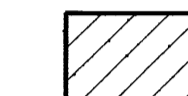
FHWA REGION	STATE	PROJECT	
5	OHIO		

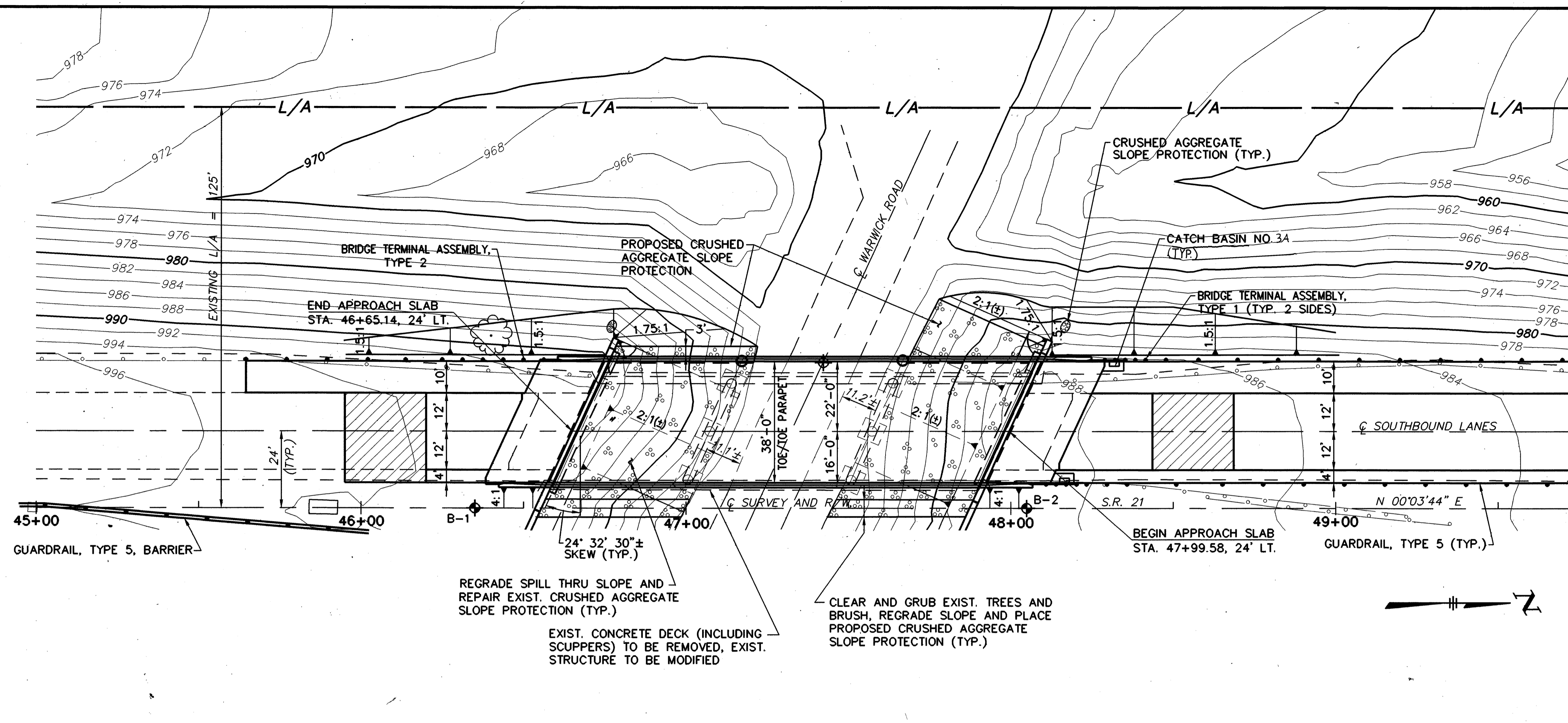
56
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

NOTES:

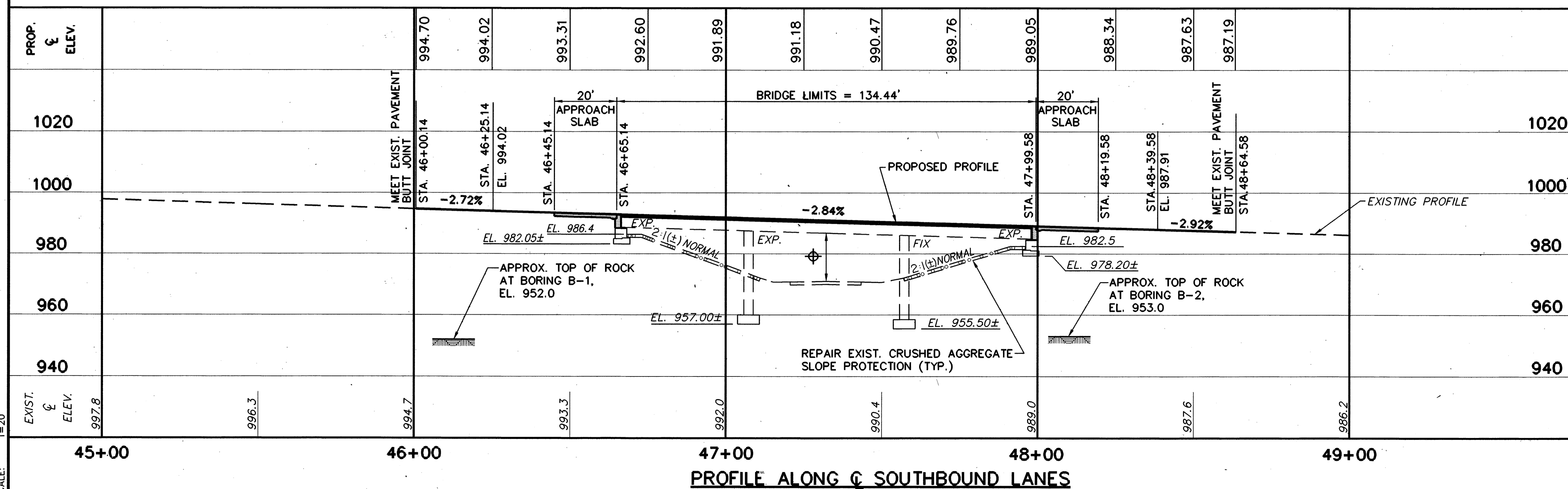
- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- BEGIN AND END APPROACH SLAB STATIONS ARE CALCULATED NORMAL TO CENTERLINE OF SURVEY AND RIGHT-OF-WAY.
- SEE SHEET 1/21 FOR BENCHMARKS, REFERENCE TIES AND SOIL BORING LOCATIONS.

 - 25' TRANSITION AREA TO MATCH EXISTING GRADE AND CROSS SLOPE.



PLAN

◆ POINT OF MINIMUM VERTICAL CLEARANCE
CLR. = 15.86' (ACTUAL), (14.50' REQUIRED)
STA. 47+42.34, 22' LEFT FROM Q SOUTHBOUND LANES



CAD FILE: 087LSITE
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=20'

DESIGN DESIGNATION	
DESIGN ADT (2007)	= 9,760
ADTT (ONE DIRECTION)	= 590
EXISTING STRUCTURE	
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE	
SPAN: 39'-10"±, 49'-11 1/2"±, 39'-11 5/8"±	
C/C BEARINGS (LEFT)	
ROADWAY: 30'-0"± F/F W/ 2'-0"± SAFETY CURBS	
ALIGNMENT: TANGENT	
SKEW: 24° 32' 30"± L.F.	
WEARING SURFACE: 1"± MONOLITHIC CONCRETE	
APPROACH SLABS: 15'-0"± (AS-1-54)	
CONDITION: GOOD	
STRUCTURE FILE NUMBER: 8501149	

PROPOSED STRUCTURE	
PROPOSED WORK: NEW COMPOSITE REINFORCED CONCRETE DECK, WIDENED SUPERSTRUCTURE ON WIDENED SUBSTRUCTURE	
SPAN: 39'-10"±, 49'-11 1/2"±, 39'-11 5/8"±	
C/C BEARINGS (LEFT)	
ROADWAY: 38'-0" TOE/TOE PARAPET	
LOADING: HS20-44 (CASE II) & ALTERNATE MILITARY LOADING (SUPERSTRUCTURE AND WIDENED SUBSTRUCTURE)	
ALIGNMENT: TANGENT	
SKEW: 24° 32' 30"± L.F.	
WEARING SURFACE: MONOLITHIC CONCRETE	
CROWN: 3/16"/FT.	
APPROACH SLABS: 20'-0" (AS-1-81), AS PER PLAN	
LONGITUDE: 81° 38' 50"	
LATITUDE: 40° 55' 05"	

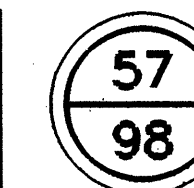
FINKBEINER, PETTIS & STROUT, INC.		2 / 21
CONSULTING ENGINEERS		
AKRON	TOLEDO	GREENSBORO
SITE PLAN		
LEFT STRUCTURE		
BRIDGE NO. WAY-21-0087 L/R		
OVER WARWICK ROAD (C.H. 116)		
WAYNE COUNTY	TO STA. 47+99.58	STA. 46+65.14
PRESENT TOPOGRAPHY		PROPOSED WORK
SURVEYED	DRAWN	DESIGNED
C.W.F.	C.A.F.	R.B.B.
DRAWN	CHECKED	REVIEWED
C.A.F.	J.G.C.	T.E.N.
		DATE
		1/95

THE GENERAL NOTES ARE TYPICAL FOR BOTH 0.87 AND 0.94 STRUCTURES UNLESS DESIGNATED BY THE FOLLOWING:

- ① WAY-21-0.87 L & R
- ② WAY-21-0.94 L & R

STRUCTURAL GENERAL NOTES

FHWA REGION	STATE	PROJECT
5	OHIO	



WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	DATED 9-15-94
EXJ-4-87	DATED 1-20-94
RB-1-55	DATED 2-2-59
SD-1-69	DATED 6-12-69

AND TO SUPPLEMENTAL SPECIFICATIONS:

815	DATED 7-17-95
910	DATED 7-17-95
944	DATED 12-7-95

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE 1993, 1994, 1995 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

DESIGN LOADING - HS20-44 CASE II AND THE ALTERNATE MILITARY LOADING (SUPERSTRUCTURE ONLY)

PROPOSED STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20,000 P.S.I. CONCRETE, HIGH PERFORMANCE - COMPRESSIVE STRENGTH 4,500 P.S.I. (SUPERSTRUCTURE)

- COMPRESSIVE STRENGTH 4,000 P.S.I. (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, A616 OR A617
- GRADE 60, MINIMUM YIELD STRENGTH 60,000 P.S.I.
- SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615.

DECK PROTECTION METHOD - EPOXY COATED REINFORCING STEEL, TOP AND BOTTOM MAT
- 2 1/2" CONCRETE COVER
- AND SEALING CONCRETE SURFACES.

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

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 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

STATE SAFETY REQUIREMENTS:

THE CONTRACTOR IS REQUIRED TO MEET THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION.

UTILITY LINES:

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITIES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

PLANS OF THE EXISTING BRIDGES

PLANS OF THE EXISTING BRIDGES MAY BE EXAMINED AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION:

906 NORTH CLARK ST.,
ASHLAND, OHIO 44805

PORTIONS OF STRUCTURES REMOVED

AS PER PLAN (DECK AND PARAPET)

DESCRIPTION: THIS WORK SHALL CONSIST PRIMARILY OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSSFRAMES, ETC.). CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS, ROCK CRUSHERS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF VEHICULAR TRAFFIC ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF THE DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 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. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS: CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS ABOVE STEEL MEMBERS, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER, TO ENSURE ADEQUATE DEPTH CONTROL AND TO PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS: DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE DIRECTOR.

EXTRANEOUS MEMBERS: EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO PORTIONS OF THE TOP FLANGES DESIGNATED "TENSION" SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT: THIS WORK WILL BE PAID FOR AT THE CONTRACT SQUARE YARD PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

INSPECTION OF STRUCTURAL STEEL:

THE ENGINEER SHALL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THAT THEY ARE FREE OF DEFECTS. THE DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS SHALL NOT BE ERECTED UNTIL AFTER THE ENGINEER HAS COMPLETED THIS INSPECTION. THIS INSPECTION SHALL NOT TAKE PLACE UNTIL AFTER THE TOP FLANGES ARE CLEANED AS SPECIFIED IN 511.08, BUT IT SHALL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE COST ASSOCIATED WITH THIS INSPECTION SHALL BE INCLUDED WITH ITEM SPECIAL, HIGH PERFORMANCE CONCRETE SUPERSTRUCTURE FOR PAYMENT.

ITEM 202 - PORTIONS OF STRUCTURES REMOVED, ABUTMENT

AS PER PLAN:

THIS ITEM OF WORK SHALL BE USED TO REMOVE PORTIONS OF THE ABUTMENTS AS DESIGNATED IN THE PLAN. THE CONCRETE SHALL BE REMOVED BY A HYDRAULIC SPLITTING METHOD. A LINE OF HOLES SHALL BE DRILLED ALONG THE REMOVAL LINE AND A HYDRAULIC SPLITTER USED AS PER MANUFACTURERS RECOMMENDATIONS. SIXTEEN (16) kg AND SEVEN (7) kg JACKHAMMERS SHALL BE USED FOR THE FINAL FINISH WORK. A HOE RAM, CONCRETE CRUSHER, OR OTHER SIMILAR IMPACT DEVICES WILL NOT BE PERMITTED TO DO ANY OF THE WORK. CONCRETE SHALL BE REMOVED IN A MANNER THAT PREVENTS CUTTING, ELONGATING, OR DAMAGING OF THE EXISTING REINFORCING STEEL TO BE PRESERVED. IF THE EXISTING REINFORCING STEEL DESIGNATED FOR PRESERVATION IS DAMAGED DURING REMOVAL OPERATIONS, DOWELLED REINFORCING STEEL SHALL BE ADDED AT THE CONTRACTOR'S EXPENSE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 202, PORTIONS OF STRUCTURES REMOVED, ABUTMENT, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 503 - UNCLASSIFIED EXCAVATION:

STRUCTURE EXCAVATION IN ADDITION TO THAT NECESSARY TO REMOVE PORTIONS OF THE EXISTING STRUCTURE, AND ALL NECESSARY BACKFILL, IS INCLUDED IN THE LUMP SUM BID ITEM, "UNCLASSIFIED EXCAVATION", FOR PAYMENT.

① ITEM 507 - STEEL POINTS, AS PER PLAN:

STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFTON, NEW JERSEY 07014; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC., 301 WAREHOUSE DRIVE, MATHEWS, NORTH CAROLINA 28015; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL INC., 3601 N.W. YEON AVE., P.O. BOX 10559, PORTLAND, OREGON 97210 OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE DIRECTOR.

① PILE DRIVING CONSTRAINTS:

PRIOR TO DRIVING PILES, THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE ELEVATION. THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES SHALL NOT BEGIN UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

① PILES:

RIGHT STRUCTURE

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH, OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

THE DESIGN LOAD IS 28 TONS PER PILE FOR THE ABUTMENT PILES.

① PREBORED HOLES:

PREBORED HOLES OF THE LENGTH SPECIFIED ON THE PLANS SHALL BE PROVIDED TO HELP ACHIEVE AN APPROPRIATE PILE LENGTH (507.04), AFTER PLACING PILES IN PREBORED HOLES, THE REMAINING VOIDS SHALL BE FILLED WITH DRY SAND PRIOR TO DRIVING PILES AS SPECIFIED. COST FOR PROVIDING PREBORED HOLES SHALL BE INCLUDED IN THE PRICE BID FOR "PREBORED HOLES, AS PER PLAN."

FOUNDATION BEARING PRESSURE

① LEFT STRUCTURE

ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 1.2 TONS PER SQ. FT. THE ALLOWABLE BEARING PRESSURE IS 1.5 TONS PER SQUARE FOOT.

② LEFT & RIGHT STRUCTURE

ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 1.5 TONS PER SQ. FT. THE ALLOWABLE BEARING PRESSURE IS 1.5 TONS PER SQUARE FOOT.

REPLACEMENT OF EXISTING REINFORCEMENT STEEL:

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THEIR COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 500 POUNDS IS INCLUDED IN ITEM 509 AND 40 DOWEL HOLES IN ITEM 510 FOR THIS PURPOSE, LISTED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE.

ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT

ALL DOWEL HOLES SHALL BE GROUTED WITH AN EPOXY MORTAR.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT UNIT PRICE BID PER EACH FOR ITEM 510 DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 518 - 6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN:

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE SIX (6) INCH DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE SP.

ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN:

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE SIX (6) INCH DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M 294, TYPE S. THIS ITEM SHALL INCLUDE ALL ELBOWS, TEES, COUPLINGS AND END CAPS REQUIRED TO COMPLETE THE ABUTMENT DRAINAGE SYSTEM.

FINKBEINER, PETTIS & STROUT, INC. 3 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

STRUCTURAL GENERAL NOTES

BRIDGE NO. WAY-21-0087 L/R
BRIDGE NO. WAY-21-0094 L/R

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

STRUCTURAL GENERAL NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

58
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

ITEM 518 - POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN:

THE POROUS BACKFILL MATERIAL SHALL BE #57 GRAVEL.

CUT LINE CONSTRUCTION JOINT PREPARATION:

REMOVE CONCRETE TO A ROUGH SURFACE AS PER ITEM 202. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET THOROUGHLY SATURATED WITHOUT FREE WATER AS CONCRETE IS PLACED.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO JACK AND ADEQUATELY SUPPORT THE EXISTING SUPERSTRUCTURE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS TO PERFORM THE WORK DESCRIBED IN THE PROJECT PLANS. THREE (3) SETS OF JACKING AND SUPPORT PLANS, PROCEDURES AND LOADING CALCULATIONS, PERFORMED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL AT LEAST (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

- PHYSICAL DIMENSIONS AND CAPACITY OF THE JACKING SYSTEMS ALONG WITH THE ACTUAL POSITIONS, INCLUDING DIMENSIONS, DEFINING WHERE THE JACKING SYSTEMS WILL BE PHYSICALLY LOCATED ON THE STRUCTURE TO PERFORM THE REQUIRED LIFTS.
- PHYSICAL DIMENSIONS, MATERIALS, FABRICATION DETAILS AND DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS ALONG WITH ACTUAL DETAILS OF THEIR INSTALLED LOCATIONS ON THE STRUCTURE. HORIZONTAL MOVEMENT RESTRAINTS SHALL BE DESIGNED AND DETAILED. LATERAL AND LONGITUDINAL DESIGN AND SUPPORTING DESIGN CALCULATIONS SHALL BE INCLUDED.
- A JACKING PLAN SHEET SHALL LAYOUT, WITH ADEQUATE DETAILS TO SHOW ALL JACKING POINTS, CALCULATED LOADINGS AT THOSE POINTS, LOCATIONS OF JACKING EQUIPMENT AND TEMPORARY OR PERMANENT SUPPORTS SHALL BE INCLUDED IN THE SUBMITTAL. ANY PHASED CONSTRUCTION, SPECIAL TRAFFIC REQUIREMENTS, CLEARANCE REQUIREMENTS, RAILROAD DETAILS OR SPECIAL CONSTRUCTION DETAILS THAT AFFECT THE JACKING OPERATION AND ANY OTHER DETAILS THE CONTRACTOR DEEMES NECESSARY TO ADEQUATELY VISUALLY DESCRIBE THE JACKING OPERATION, SHALL ALSO BE INCLUDED IN THE JACKING PLAN SHEET.
- THE PLAN SHEET SHALL INCLUDE A STEP BY STEP JACKING PROCEDURE DETAILING ALL STEPS IN THE OPERATION INCLUDING THE REQUIRED WORK DESCRIBED IN THE PROJECT PLANS.

JACKING OPERATIONS ARE LIMITED TO A MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ADJACENT BEARINGS OF 1/4 INCH.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEARINGS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE LIMITED BY STRESSES INDUCED IN THE AFFECTED STRUCTURAL MEMBERS. CALCULATIONS DETAILING ALL STRESSES INDUCED IN THE AFFECTED MEMBERS AND LIMITED BY ALLOWABLE STRESSES OF 136.5% OF NORMAL DESIGN STRESSES, SHALL BE INCLUDED IN THE JACKING PROCEDURE SUBMITTAL. THE ONLY EXCEPTION TO THE SIMULTANEOUS JACKING REQUIREMENT IS WHEN ACTUAL PROJECT WORK REQUIRES INDIVIDUAL BEARINGS TO BE REPLACED OR REHABILITATED, NO PERMANENT SHIMMING IS REQUIRED AND THE HEIGHT OF THE TOTAL LIFT DOES NOT EXCEED 1/4 INCH.

ALL LABOR, TOOLS, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK ARE INCLUDED UNDER ITEM 516, LUMP SUM, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE.

CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN:

AFTER COMPLETION OF MAJOR MODIFICATION ITEMS, EXISTING EMBANKMENT SURFACES SHALL BE RESTORED TO A UNIFORM PLANE SURFACE WITH CRUSHED AGGREGATE SLOPE PROTECTION. NEW EMBANKMENT SURFACES SHALL BE PROTECTED AS SPECIFIED IN 601.05. PROTECTION SHALL EXTEND LONGITUDINALLY FROM FACE OF ABUTMENTS TO THE ELEVATION SHOWN ON THE PLANS AND LATERALLY TO AT LEAST 3'-0" BEYOND DECK FASCIAS. THE MINIMUM TOTAL THICKNESS OF PROPOSED PROTECTION RESTORED AND NEW SHALL BE 1'-0" THICK.

ITEM SPECIAL-HIGH PERFORMANCE CONCRETE SUBSTRUCTURE

EITHER CONCRETE MIX #2 OR #4 SHALL BE USED FOR THE SUBSTRUCTURES. COARSE AGGREGATE SHALL BE # 8 LIMESTONE.

ITEM SPECIAL - HIGH PERFORMANCE CONCRETE SUPERSTRUCTURE, DECK:

CONCRETE MIX #4 SHALL BE USED FOR THE DECK. COARSE AGGREGATE SHALL BE # 8 LIMESTONE.

ITEM SPECIAL - HIGH PERFORMANCE CONCRETE SUPERSTRUCTURE, PARAPET:

CONCRETE MIX #4 SHALL BE USED FOR THE PARAPETS. COARSE AGGREGATE SHALL BE # 8 LIMESTONE.

CONCRETE PARAPETS:

AFTER CURING IS COMPLETE SAWCUT ONE INCH DEEP JOINTS INTO THE CONCRETE PARAPET AT LOCATIONS AS DETAILED IN THE PLANS. THE SAWCUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE LOCATION SHOWN, AND THE COMPLETED SAWCUT SHALL BE FILLED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT-S-00227E, TYPE 1, CLASS A.

① ITEM 513 - STRUCTURAL STEEL MISCELLANEOUS, REHABILITATE COVER PLATE ENDS:

WORK PERFORMED UNDER THIS ITEM SHALL CONSIST OF THE INSTALLATION OF SPICE PLATES AT THE ENDS OF EXISTING COVER PLATES AT THE LOCATIONS INDICATED ON THE PLANS. WORK SHALL BE AS DETAILED IN THE PLANS AND CONFORM TO THE REQUIREMENTS OF ITEM 513 STRUCTURAL STEEL.

THE REHABILITATION WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

1. EXISTING COVER PLATE AND BEAM FLANGE SURFACES SHALL BE CLEANED BY ABRASIVE BLASTING.
 2. FIELD DRILLING OF BEAM FLANGES AND COVER PLATES MAY BE ACCOMPLISHED USING MAGNETIC DRILLS EITHER BY DRILLING ASSEMBLED OR THROUGH THE USE OF A TEMPLATE. AS REQUIRED IN SECTION 513.14, MULTIPLE PLIES MUST BE HELD TIGHTLY TOGETHER WITH BOLTS OR CLAMPS WHEN BEING DRILLED.
 3. AFTER DRILLING, PLATES SHALL BE DISASSEMBLED AND ALL FINNS AND BURRS SHALL BE REMOVED AND SURFACES CLEANED.
 4. BOLTS OF THE SIZE AND TYPE SPECIFIED ON THE PLANS SHALL BE PROPERLY INSTALLED ACCORDING TO SECTION 513.15.
 5. ALL STRUCTURAL STEEL FOR THE SPLICE AND FILL PLATES SHALL BE ASTM A-36.
 6. UNLESS OTHERWISE NOTED, EXPOSED SURFACES SHALL BE PAINTED WITH SYSTEM OZEU. PAINTING TO BE INCLUDED WITH OZEU ITEMS FOR PAYMENT.
- THE COST OF ALL MATERIAL, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS OUTLINED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 513 - STRUCTURAL STEEL MISCELLANEOUS, REHABILITATE COVER PLATE ENDS (EXCEPT FOR PAINTING).

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

THIS ITEM SHALL BE USED TO REPAIR THE EXISTING ABUTMENTS AND PIERS. WITHIN TWENTY-FOUR (24) HOURS BEFORE PLACING CONCRETE, THE EXISTING SURFACE AGAINST WHICH THE CONCRETE SHALL BE PLACED AND EXISTING REINFORCING STEEL, SHALL BE THOROUGHLY CLEANED BY SANDBLASTING. SANDBLASTING SHALL BE AT LEAST EQUAL TO SA2 "COMMERCIAL BLAST CLEANING" AS OUTLINED IN ASTM D-2200 OR SSPC-SP6. ALL LOOSE AND DETERIORATED CONCRETE AND CALCIUM CARBONATE DEPOSITS SHALL BE REMOVED WITH HAND TOOLS BEFORE SANDBLASTING.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 519 PATCHING CONCRETE STRUCTURES, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

① ITEM SPECIAL - SEALING OF CONCRETE SURFACES:

A CONCRETE SEALER SHALL BE APPLIED TO THE CONCRETE SURFACES AS SHOWN ON THE PARAPET DETAILS ON SHEET [21/21] AND TO THE ABUTMENTS AS SHOWN ON SHEETS [12/21] THRU [15/21] AND TO THE PIERS AS SHOWN ON SHEETS [16/21] AND [17/21]. SEE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

② ITEM SPECIAL - SEALING OF CONCRETE SURFACES:

A CONCRETE SEALER SHALL BE APPLIED TO THE CONCRETE SURFACES AS SHOWN ON THE PARAPET DETAILS ON SHEET [19/21] AND TO THE ABUTMENTS AS SHOWN ON SHEETS [12/21] AND [15/21]. SEE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

DECK JOINT MATERIALS:

STEEL FOR DECK JOINTS THAT IS TO BE FULLY ENCASED IN CONCRETE MAY BE UNPAINTED ASTM A36 OR A588. ALL OTHER STEEL PORTIONS OF THE JOINTS SHALL BE ASTM A588. STEEL SHALL BE ABRASIVELY CLEANED IN THE SHOP PRIOR TO FINAL ASSEMBLY. STEEL RETAINERS AND ELASTOMERIC STRIP SEALS SHALL BE PROVIDED BY THE SAME MANUFACTURER. A CLOSED-CELL ELASTOMERIC BACKER ROD SHALL BE INSTALLED IN RETAINERS BY THE JOINT FABRICATOR AFTER STEEL CLEANING TO PROTECT GROOVE SURFACES FROM CONTAMINATION PRIOR TO SEAL INSTALLATION OR FIELD PAINTING. SHOP PAINTING IS NOT REQUIRED.

DECK JOINT PAINTING:

AFTER CLEANING IN THE FIELD AS DIRECTED, AND PREFERABLY AFTER INSTALLATION OF JOINT SEALS, ALL UPPER EXPOSED STEEL SURFACES EXCLUDING ROADWAY SURFACES IN TRAVELED LANES SHALL BE PAINTED WITH A SYSTEM OZEU PRIME, INTERMEDIATE, AND FINISH COAT OF PAINT AS DESCRIBED IN THE SUPP. SPEC. 815. COST FOR FIELD CLEANING AND PAINTING SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT FOR THE DECK EXPANSION JOINTS.

PAINTING OF STRUCTURAL STEEL:

NEW STEEL SHALL BE CLEANED AND PRIME PAINTED IN THE SHOP AND FIELD PAINTED WITH AN INTERMEDIATE AND FINISH COAT OF PAINT USING SYSTEM OZEU. EXISTING STEEL SHALL BE FIELD CLEANED AND PAINTED WITH A PRIME, INTERMEDIATE, AND FINISH COAT OF PAINT USING SYSTEM OZEU. FOR PAY PURPOSES, CLEANING AND PRIME PAINTING NEW STEEL IS INCLUDED IN 513, INTERMEDIATE AND FINISH PAINTING OF NEW STEEL IN 514, AND FIELD CLEANING AND PAINTING EXISTING STEEL IN THE SEVERAL OZEU ITEMS. THE SURFACE AREA PAY QUANTITIES ARE BASED ON THE SURFACE AREA OF MAIN MEMBERS INCREASED BY 25 PERCENT TO ACCOUNT FOR THE AREA OF CROSSFRAMES, BEARINGS, AND OTHER STEEL INCIDENTALS BEING CLEANED AND PAINTED.

ITEM 611 - APPROACH SLAB, AS PER PLAN:

FOR DETAILS OF THE APPROACH SLABS REFER TO SHEET 51 OF 78.

ITEM SPECIAL - GRAFFITI REMOVAL:

ALL GRAFFITI AREAS AS DIRECTED BY THE ENGINEER SHALL BE PREPARED AND SEALED WITH AN EPOXY SEALER MEETING THE PROPOSAL NOTE FOR SEALING OF CONCRETE SURFACES (EPOXY). SEE THE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

COLOR OF EPOXY SEALER TO MATCH EXISTING COLOR OF CONCRETE BY MIXING APPROVED GRAY PAINT.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM SPECIAL - GRAFFITI REMOVAL, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

① MAINTENANCE OF TRAFFIC:

TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL LANE WIDTH OF 10'-0" AND A MINIMUM VERTICAL CLEARANCE OF 13'-8" SHALL BE MAINTAINED ON C.H. 116 AT ALL TIMES. EXCEPT AS NOTED ON SHEET 6/98.

CAD FILE: 87NOTES2
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=1'

FINKBEINER, PETTIS & STROUT, INC. 4 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

STRUCTURAL GENERAL NOTES

BRIDGE NO. WAY-21-0087 L/R
BRIDGE NO. WAY-21-0094 L/R

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.C.C.	T.E.N.	1/95	

FHWA REGION	STATE	PROJECT	
5	OHIO		

59
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

ESTIMATED QUANTITIES
BHF FUNDS

CALC. BY: C.A.F. DATE: 05/93
CHKD. BY: R.B.B. DATE: 05/93

AS BUILT

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER	GEN'L.	ABUTS.	PIERS	SUPER
202	11301	71	CU.YD.	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (ABUTMENTS)	71						
202	11305	1078	SQ.YD.	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (DECK AND PARAPET)			1078				
202	98100	20	EACH	REMOVAL MISC.: BEARING DEVICES			20				
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING	LUMP	LUMP					
503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP			
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP			
507	11100	120	LIN.FT.	STEEL PILES, HP10x42	120						
507	92201	120	LIN.FT.	PREBORED HOLES, AS PER PLAN	120						
507	93301	4	EACH	STEEL POINT (OR SHOE), AS PER PLAN	4						
SPECIAL	50794704	14	LIN.FT.	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK		14					
SPECIAL	50794802	57	LIN.FT.	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK		57					
509	15840	101,448	LB.	EPOXY COATED REINFORCING STEEL, GRADE 60	10,203		90,745	500			
510	10000	233	EACH	DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT	193			40			
SPECIAL	51148000	272	CU.YD.	HIGH PERFORMANCE CONCRETE SUPERSTRUCTURE (DECK) MIX 4 (SEE PROPOSAL NOTE)			272				
SPECIAL	51148020	69	CU.YD.	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET) MIX 4 (SEE PROPOSAL NOTE)			69				
SPECIAL	51148040	113	CU.YD.	HIGH PERFORMANCE CONCRETE, SUBSTRUCTURE (SEE PROPOSAL NOTE)	96	17					
SPECIAL	51149000	LUMP		HIGH PERFORMANCE CONCRETE, TRIAL MIX (SEE PROPOSAL NOTE)				LUMP			
SPECIAL	51149010	LUMP		HIGH PERFORMANCE CONCRETE TESTING (SEE PROPOSAL NOTE)				LUMP			
511	81100	71	LIN.FT.	CONCRETE MISC.: CONCRETE PUMPING, AS PER PLAN		71					
512	44400	3	SQ.YD.	TYPE B WATERPROOFING	3						
SPECIAL	51267502	241	SQ.YD.	SEALING OF CONCRETE SURFACES, (EPOXY) (SEE PROPOSAL NOTE)	241						
SPECIAL	51267504	945	SQ.YD.	SEALING OF CONCRETE SURFACES, (NON-EPOXY) (SEE PROPOSAL NOTE)		290	655				
513	11100	47,400	LB.	STRUCTURAL STEEL, AISC CATEGORY I			47,400				
513	15901	48	LB.	STRUCTURAL STEEL, REPLACEMENT OF DETERIORATED END CROSSFRAMES, AS PER PLAN			48				
513	16800	20	EACH	STRUCTURAL STEEL, MISC.: REHABILITATE COVER PLATE ENDS			20				
513	20000	3,348	EACH	WELDED STUD SHEAR CONNECTOR			3,348				
513	21000	10	EACH	TRIMMING OF BEAM END			10				
513	16800	20	EACH	STRUCTURAL STEEL, MISC.: WELDED SPLICE RETROFIT			20				
815	00050	14,915	SQ.FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU			14,915				
815	00056	14,915	SQ.FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU			14,915				
815	00060	14,915	SQ.FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU			14,915				

ESTIMATED QUANTITIES (CONTINUED)

CALC. BY: C.A.F. DATE: 05/93
CHKD. BY: R.B.B. DATE: 05/93

AS BUILT

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER	GEN'L.	ABUTS.	PIERS	SUPER
815	00066	14,915	SQ.FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU			14,915				
815	00500	21	LIN.FT.	CAULKING			21				
815	00504	16	MANHR.	GRINDING FINS, TEARS, SLIVERS			16				
516	13600	3	SQ.FT.	1" PREFORMED EXPANSION JOINT FILLER	3						
516	11210	178	LIN.FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL (SEE PROPOSAL NOTE)			178				
516	47000	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE			LUMP				
518	21201	127	CU.YD.	POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN	127						
518	40001	236	LIN.FT.	6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN	236						
518	40011	45	LIN.FT.	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	45						
519	11101	345	SQ.FT.	PATCHING CONCRETE STRUCTURE, AS PER PLAN	294	51					
SPECIAL	53000600	586	SQ.FT.	STRUCTURE, MISC.: GRAFFITI REMOVAL	20	566					
601	20001	227	SQ.YD.	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN	227						
SPECIAL	85050070	1053	SQ.YD.	BRIDGE DECK GROOVING (SEE PROPOSAL NOTE)			1053				

CAD FILE: 87QUANTITY
DATE: 01/05/94
OPERATOR: C.A.F.
SCALE: 1"=1'

FINKBEINER, PETTIS & STROUT, INC. 5 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

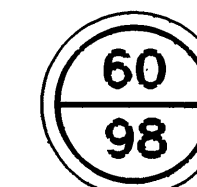
ESTIMATED QUANTITIES

BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

DRILLED SHAFT NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		



WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

ITEM SPECIAL - DRILLED SHAFTS

DESCRIPTION

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING DRILLED SHAFTS OF THE TYPE AND SIZE SPECIFIED IN THE PLANS. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, AND APPURTENANCES REQUIRED TO COMPLETE THE WORK AS SPECIFIED. THE LENGTH(S) OF THE DRILLED SHAFTS SHOWN IN THESE PLANS HAS BEEN ESTIMATED FROM AVAILABLE SUBSURFACE INFORMATION. THE CONTRACTOR IS EXPECTED TO FURNISH THE PROPOSED DRILLED SHAFTS AS PER THESE PLAN REQUIREMENTS, WITH THE UNDERSTANDING THAT THE ACTUAL LENGTH REQUIRED BASED ON CONDITIONS ENCOUNTERED DURING CONSTRUCTION, MAY DIFFER FROM THE ESTIMATED LENGTH SHOWN IN THE PLANS.

THE LIMITS OF EACH DRILLED SHAFT SHALL BE DEFINED AT THE TOP BY THE PLAN ELEVATION AND AT THE BOTTOM BY THE ELEVATION OF THE BOTTOM OF THE BEDROCK SOCKET AS APPROVED BY THE ENGINEER.

A CASING WILL BE NECESSARY FOR THE CONSTRUCTION OF EACH PIER DRILLED SHAFT. CASINGS MAY BE REMOVED PROVIDED ALL PLAN REQUIREMENTS ARE SATISFIED.

CONTRACTOR QUALIFICATION

THE CONTRACTOR SHALL SUBMIT INFORMATION TO THE ENGINEER TO DOCUMENT THAT HIS PERSONNEL ARE EXPERIENCED IN THE CONSTRUCTION OF DRILLED SHAFTS OF THE TYPE AND SIZE SPECIFIED ON THE PLANS. THIS INFORMATION SHALL BE SUBMITTED AT THE PRECONSTRUCTION CONFERENCE. THE PROJECT ENGINEER IS REQUESTED TO INFORM BUREAU OF BRIDGES, ATTENTION: FOUNDATION ENGINEER (TEL. 614-466-2399) OF THE DATES WHEN THE CONTRACTOR WILL BE CONSTRUCTING THE DRILLED SHAFTS.

CASING

THE CASINGS SHALL BE MADE OF STEEL, SHALL BE WATER TIGHT AND SHALL BE OF AMPLE STRENGTH TO WITHSTAND HANDLING STRESSES AND EXTERNAL SUBSURFACE PRESSURES. THE CASINGS SHALL BE SEATED INTO THE BEDROCK, THUS ATTEMPTING TO SEAL OUT INCOMING WATER. THE CASING LENGTH SHALL BE AS NECESSARY TO CONSTRUCT EACH DRILLED SHAFT. THE DIAMETER OF THE CASING SHALL BE NO LESS THAN THE DIAMETER OF THE DRILLED SHAFT BEING CONSTRUCTED.

THE DIAMETER OF THE FURNISHED CASING(S) SHALL BE LARGE ENOUGH TO ALLOW THE CONSTRUCTION OF A BEDROCK SOCKET WITH A DIAMETER EQUAL TO OR GREATER THAN THE PLAN DIAMETER.

EXCAVATION

WHEN OBJECTS SUCH AS LARGE BOULDERS ARE ENCOUNTERED, THEY SHALL BE REMOVED. BLASTING METHODS MAY BE USED, AND WHEN USED, SHALL BE CONDUCTED SO AS TO AVOID DISTURBANCE TO THE BEDROCK FORMATION BELOW AND OUTSIDE THE LIMITS OF THE PROPOSED DRILLED SHAFT EXCAVATION. THE DRILLED SHAFTS SHALL PENETRATE INTO BEDROCK TO A DEPTH THAT PROVIDES A BEDROCK SOCKET LENGTH THAT IS NOT LESS THAN THE BEDROCK SOCKET SHOWN IN THE PLANS. WHEN A CASING WHICH EXTENDS DOWN TO BEDROCK IS USED, THE BEDROCK SOCKET SHALL BE MEASURED FROM THE BOTTOM OF THE CASING TO THE BOTTOM OF THE DRILLED BEDROCK EXCAVATION. WHEN THE ENGINEER IS ASSURED THAT A PORTION OF THE METAL CASING IS EMBEDDED IN BEDROCK, UPON THE ENGINEER'S CONCURRENCE, THE EMBEDDED DISTANCE MAY BE INCLUDED AS A PART OF THE BEDROCK SOCKET.

DEWATERING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING ANY INCOMING WATER TO THE EXTENT THAT THE SHAFT EXCAVATION IS MAINTAINED DRY ENOUGH FOR PERFORMANCE OF THE REQUIRED INSPECTION OPERATION. THE PREFERRED METHOD OF CONSTRUCTION IS TO PLACE THE CONCRETE IN A CLEAN, DRY EXCAVATION. THE CONTRACTOR IS EXPECTED TO MAKE A REASONABLE ATTEMPT TO SEAL WATER OUT OF THE DRILLED SHAFT EXCAVATION.

BOTTOM CLEANOUT

THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE AS CLEAN AS IS PRACTICABLE (NO MORE THAN ONE INCH OF LOOSE MATERIAL ON THE BOTTOM) PRIOR TO CONCRETE PLACEMENT. DRILLING SPOILS THAT ADHERE TO THE VERTICAL SIDES OF THE BEDROCK SOCKETS ARE TO BE REMOVED.

APPROVAL BEFORE CONCRETE PLACEMENT

THE CONTRACTOR SHALL SUBMIT TO THE PROJECT ENGINEER FOR APPROVAL A WRITTEN PLAN OF STEPS AND PROCEDURES HE PROPOSES TO FOLLOW WHEN PLACING AND MONITORING THE CONCRETE PLACEMENT. CONCRETE SHALL NOT BE PLACED IN ANY DRILLED SHAFT EXCAVATION WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE DRILLED SHAFT EXCAVATION SHALL BE INSPECTED IMMEDIATELY BEFORE THE CONCRETE IS PLACED. A LIGHT POWERFUL ENOUGH TO THOROUGHLY INSPECT THE SIDES, BOTTOM AND REINFORCING STEEL CAGE OF THE DRILL SHAFT IS REQUIRED.

CONCRETE PLACEMENT

THE CONCRETE FOR THE DRILLED SHAFT SHALL BE PLACED AS PER ITEM 511 EXCEPT AS MODIFIED BY THE PLANS. IF THE DRILLED SHAFT HAS A BEDROCK SOCKET, THE CONCRETE FOR THE BEDROCK SOCKET SHALL BE PLACED AGAINST THE IN-SITU BEDROCK. THE CONCRETE FOR THE DRILLED SHAFT SHALL BE PLACED PROMPTLY AFTER THE FINAL INSPECTION OF THE SHAFT. IF PRACTICABLE, THE CONCRETE SHALL BE PLACED IN A CLEAN DRY EXCAVATION, HOWEVER, NO MORE THAN 2 INCHES OF STANDING WATER WILL BE PERMITTED. THE DRY CONSTRUCTION METHOD CAN ONLY BE USED WHEN LESS THAN 12 INCHES OF WATER ACCUMULATES ABOVE THE BASE OF THE HOLE DURING A ONE HOUR PERIOD WHEN NO PUMPING IS PERMITTED. CARE SHALL BE TAKEN TO ENSURE THAT CONCRETE IS NOT BEING PLACED IN MOVING WATER. THE CONCRETE MAY BE PLACED IN A DRY DRILLED SHAFT EXCAVATION BY THE FREE FALL METHOD PROVIDED THE CONCRETE FALLS TO ITS FINAL POSITION THROUGH AIR WITHOUT STRIKING THE SIDES OF THE HOLE, THE REINFORCING STEEL CAGE OR ANY OTHER OBSTRUCTION. THE FREE FALL METHOD ALLOWS THE CONCRETE TO BE DROPPED FROM THE TOP THROUGH A CENTERING CHUTE TO THE CONCRETE'S FINAL POSITION. USE FREE FALL PLACEMENT WITH A 25 FOOT MAXIMUM HEIGHT OF FREE FALL. SUPPORT THE DROP CHUTE SO THAT THE MAXIMUM HEIGHT OF FREE FALL OF THE CONCRETE MEASURED FROM THE BOTTOM OF THE CHUTE IS 25 FEET.

IF THE ENGINEER DETERMINES THAT DEWATERING IS NOT PRACTICABLE THE ENGINEER SHALL REQUIRE THAT THE CONCRETE BE PLACED UNDER WATER BY MEANS OF CONCRETE PUMP. PAYMENT FOR PUMPING THE CONCRETE WILL BE MADE UNDER ITEM SPECIAL - CONCRETE, MISC.: CONCRETE PUMPING.

TOLERANCES

THE CONTRACTOR SHALL LOCATE AND CONSTRUCT THE TOP CENTER OF THE PIER DRILLED SHAFTS WITHIN A TWO-INCH RADIUS OF THE POSITION INDICATED BY THE PLANS. THE SHAFTS ARE TO BE INSTALLED VERTICALLY AND MUST BE WITHIN 1.0 PERCENT OF PLUMB FOR THE TOTAL LENGTH OF THE DRILLED SHAFT.

CONCRETE

CONCRETE FOR ALL DRILLED SHAFTS SHALL BE CLASS S CONCRETE AND SHALL BE IN ACCORDANCE WITH ITEM 511 EXCEPT AS MODIFIED AND SUPPLEMENTED HEREIN. THE REQUIRED SLUMP IS SIX (6) INCHES, PLUS OR MINUS ONE (1) INCH. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.50. IF CONCRETE IS PLACED UNDER WATER, THE REQUIREMENTS OF ADDING 10 PERCENT MORE CEMENT TO THE CONCRETE MIX SHALL BE WAIVED. THE MAXIMUM COARSE AGGREGATE SIZE SHALL BE NO. 8. THE TOP 3 TO 5 FEET OF CONCRETE IN THE DRILLED SHAFTS ARE REQUIRED TO BE VIBRATED. ONLY A MINIMAL VIBRATORY EFFORT IS NECESSARY. SPECIAL CARE SHALL BE TAKEN NOT TO OVER-VIBRATE THE DRILLED SHAFT CONCRETE. NOTE: IF THE CASING IS REMOVED USING A VIBRATORY HAMMER, NO OTHER VIBRATORY EFFORT IS NEEDED.

IF THE CASINGS FOR THE DRILLED SHAFTS ARE TO BE WITHDRAWN, THE CONCRETE SHALL NOT BE VIBRATED UNTIL THE CASING IS COMPLETELY REMOVED AND THE SHAFT TOP IS FORMED TO THE PLAN CROSS-SECTION. CARE SHALL BE TAKEN WHEN REMOVING THE CASING SO THAT THE REINFORCING STEEL CAGE IS NOT DEFORMED BY THE FORCE OF THE DOWNWARD FLOWING CONCRETE. THE CONTRACTOR SHALL FURNISH A PRECONSTRUCTED TOP FORM FOR USE IN ACCURATELY CONFINING THE CONCRETE AT THE TOP OF THE DRILLED SHAFT WHEN THE CASING IS REMOVED. THE TOP FORM SHALL BE NOT LESS THAN THREE FEET LONG.

REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL MEET THE REQUIREMENTS OF 509. THE REINFORCING STEEL SHALL BE GRADE 60. THE SPIRAL REINFORCING STEEL MAY BE PLAIN BARS ASTM A82 OR A615. THE REINFORCING STEEL CAGE SHALL BE COMPLETELY ASSEMBLED PRIOR TO PLACEMENT AND THE LENGTH SHALL BE AS NECESSARY TO CONSTRUCT EACH DRILLED SHAFT. SEE PLAN SHEETS FOR DETAILS OF REINFORCING STEEL. NOTE THAT THE LENGTHS PROVIDED IN THE REINFORCING STEEL LIST ARE ESTIMATED LENGTHS. THE REINFORCING STEEL SHALL BE PLACED AT PLAN LOCATION.

SPACERS

CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVALS (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 10 FEET) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO INSURE A MINIMUM 3 INCH ANNUAL SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE SIDE OF THE EXCAVATED HOLE. CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORTS) SHALL BE PROVIDED TO INSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED THE PROPER DISTANCE ABOVE THE BASE.

INSPECTION

AN INSPECTION RECORD CHART HAS BEEN INCLUDED WITH THE PLANS ON SHEET [7/21] AND SHOULD BE COMPLETED BY THE ENGINEER. MEASUREMENTS SHOULD BE OBTAINED PRIOR TO PLACING CONCRETE. THE CONTRACTOR SHOULD PROVIDE ALL NECESSARY EQUIPMENT NEEDED TO OBTAIN MEASUREMENTS FOR COMPLETING THE CHART. THE CONTRACTOR SHALL ASSIST THE ENGINEER IN OBTAINING THESE MEASUREMENTS. WHEN THE INSPECTION RECORD CHART IS COMPLETED, THE PROJECT ENGINEER SHOULD SUBMIT A COPY TO THE BUREAU OF BRIDGES: ATTENTION: FOUNDATION ENGINEER.

METHOD OF MEASUREMENT

THE TOTAL PAY LENGTH OF EACH DRILLED SHAFT SHALL BE THE COMPLETED AND ACCEPTED LENGTH MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE BOTTOM OF THE BEDROCK SOCKET TO THE PROPOSED TOP ELEVATION. AS PER PLAN, THE REINFORCING STEEL THAT PROJECTS FROM THE DRILLED SHAFT INTO THE PIER COLUMN OR THE ABUTMENT FOOTING AS SPECIFIED BY THE PLANS IS INCLUDED WITH THE DRILLED SHAFT FOR PAYMENT BUT SHALL NOT BE INCLUDED IN THE MEASURED LENGTH OF THE DRILLED SHAFT.

THE TOTAL LENGTH OF EACH DRILLED SHAFT SHALL BE DIVIDED INTO TWO SEGMENTS. THE LENGTH OF THE LOWER SEGMENT IS THE LENGTH OF THE BEDROCK SOCKET AND THE LENGTH OF THE UPPER SEGMENT IS THE LENGTH OF THE DRILLED SHAFT ABOVE THE BEDROCK SOCKET.

BASIS OF PAYMENT

PAYMENT FOR FURNISHING AND INSTALLING DRILLED SHAFTS WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF ACCEPTED SHAFT LENGTH AS PER ITEM SPECIAL - "DRILLED SHAFTS, 42" DIAMETER ABOVE BEDROCK", AND ITEM SPECIAL - "DRILLED SHAFTS, 36" DIAMETER INTO BEDROCK", WHICH SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE ITEMS AS SPECIFIED.

DESIGN PARAMETERS

THE DESIGN LOAD TO BE SUPPORTED BY EACH PIER DRILLED SHAFT IS 89 TONS. THE ALLOWABLE DESIGN END BEARING PRESSURE IS 25 TONS PER SQUARE FOOT.

ITEM 511 - CONCRETE MISC.: CONCRETE PUMPING, AS PER PLAN

DESCRIPTION

THE DRILLED SHAFT EXCAVATION SHALL BE FILLED WITH WATER TO SUCH A DEPTH THAT ALL WATER MOTION HAS CEASED. THE CONCRETE SHALL THEN BE PLACED BY MEANS OF A CONCRETE PUMP. THE CONCRETE PUMP PIPE SHALL HAVE A DIAMETER THAT IS NOT LESS THAN 4 INCHES. THE CONCRETE PUMP EQUIPMENT SHALL BE SO ARRANGED THAT NO VIBRATIONS RESULT WHICH MIGHT DAMAGE FRESH CONCRETE. PIPES CARRYING CONCRETE FROM THE PUMP TO THE SHAFT SHOULD BE ARRANGED WITH A MINIMUM NUMBER OF BENDS. THE PIPE USED TO CONVEY THE CONCRETE TO THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE ANCHORED TO THE STEEL CASING TO PREVENT THE PIPE FROM UNDULATING DURING THE INITIAL PLACEMENT OF THE CONCRETE.

THE PUMPING EQUIPMENT SHALL BE SUITABLE IN KIND AND ADEQUATE IN CAPACITY FOR THE WORK REQUIRED. THE USE OF ALUMINUM PIPE AS A CONVEYANCE FOR THE CONCRETE WILL NOT BE PERMITTED. AN ADEQUATE QUANTITY OF GROUT, MORTAR OR CONCRETE WITH COARSE AGGREGATE OMITTED SHALL BE PUMPED THROUGH THE EQUIPMENT AHEAD OF THE SPECIFICATION CONCRETE TO PROVIDE LUBRICATION TO THE PUMPING SYSTEM. THE CONCRETE USED FOR LUBRICATION SHALL NOT BE PLACED IN THE SHAFT. THE LUBRICATION PROCESS WILL NOT BE REPEATED AS LONG AS THE PUMPING OPERATIONS ARE CONTINUOUS. THE OPERATION OF THE PUMP SHALL BE SUCH THAT A CONTINUOUS STREAM OF CONCRETE WITHOUT AIR POCKETS IS PRODUCED. IN ORDER TO PREVENT THE CONTAMINATION OF THE CONCRETE PLACED INITIALLY AT THE BOTTOM OF THE SHAFT, THE OUTLET END OF THE PUMPING PIPE SHALL BE SEALED WITH A DIAPHRAGM OR PLUG THAT IS FLUSHED OUT WHEN THE HYDROSTATIC PRESSURE FROM THE COLUMN OF CONCRETE EXCEEDS THAT OF THE WATER IN THE SHAFT. THE INITIAL RATE OF CONCRETE PLACEMENT MUST BE CAREFULLY CONTROLLED SO AS NOT TO LIFT OR DISPLACE THE CAGE OF REINFORCING STEEL. THE CONVEYING SYSTEM SHALL BE WATER TIGHT AND THE OUTLET END SHALL ALWAYS REMAIN WELL BELOW THE TOP OF THE FRESHLY PLACED CONCRETE. THE PREFERRED CONCRETE PLACEMENT PROCEDURE IS TO MAINTAIN THE OUTLET END OF THE PUMPING SYSTEM AT APPROXIMATELY 10 FEET BELOW THE TOP OF THE FRESH CONCRETE. WHEN THE CONCRETE REACHES THE TOP OF THE DRILLED SHAFT COLUMN ALL LAITANCE SHALL BE REMOVED.

PAYMENT FOR PUMPING CONCRETE WILL BE MADE AT CONTRACT UNIT PRICE PER LINEAR FOOT OF ACCEPTED SHAFT LENGTH PUMPED AS PER ITEM 511 - CONCRETE, MISC.: CONCRETE PUMPING, AS PER PLAN

CAD FILE: 87SHAFT2
DATE: 01/31/95
OPERATOR: C.A.F.
SCALE: 1=1

FINKBEINER, PETTIS & STROUT, INC. 6 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

DRILLED SHAFT NOTES

BRIDGE NO. WAY-21-0087 L&R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	M.P.B.		J.G.C.	T.E.N.	1/95	

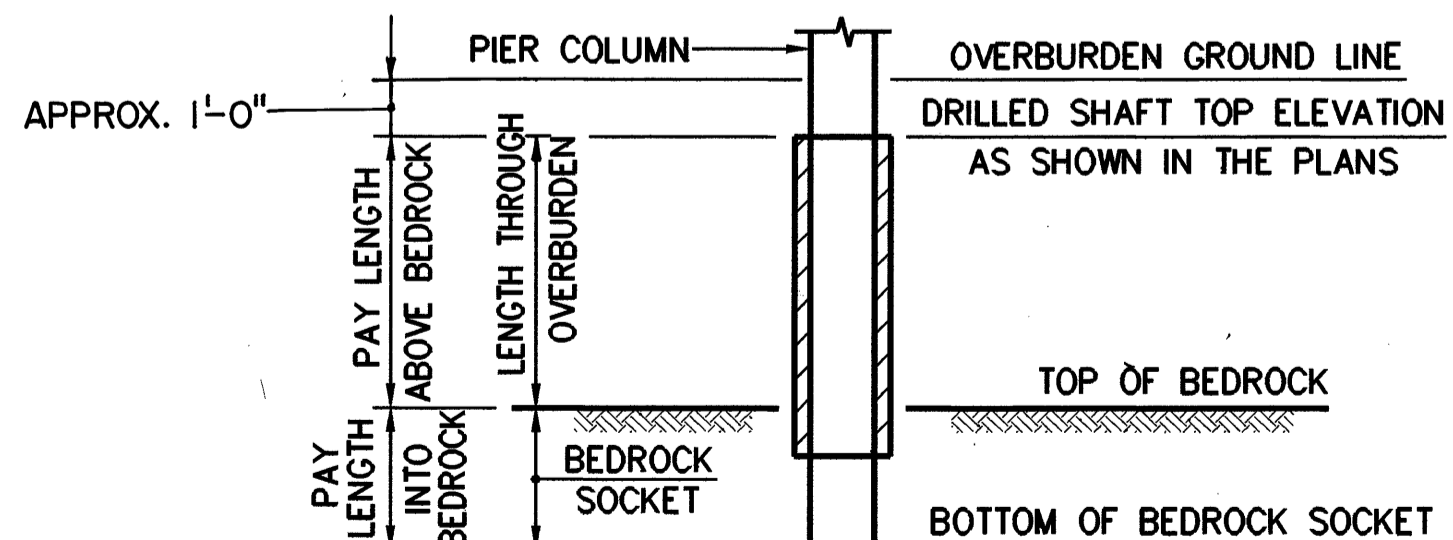
INSPECTION RECORD FOR DRILLED SHAFTS

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

PROJECT NO. WAY-21-(0.87)(0.94)(1.24)	GENERAL CONTRACTOR _____ DRILLING CONTRACTOR _____ PROJECT ENGINEER _____	TYPE & MODEL OF DRILLING MACHINERY _____ MAX. CONTINUOUS TORQUE _____ CROWD (MAX. CONTINUOUS DOWNWARD FORCE) _____	TYPE OF CONCRETE PUMP _____ HOSE DIAMETER _____ CAPACITY _____	COST PER LINEAR FOOT _____ ABOVE THE BEDROCK SOCKET _____ IN BEDROCK SOCKET _____ TYPE OF ROCK _____
---------------------------------------	---	--	--	---

SUBSTRUCTURE UNIT		DATE AND TIME OF DRILLING		APPROX. ELEVATION OF TOP OF OVER BURDEN	LENGTH OF DRILLED SHAFTS ABOVE THE BEDROCK SOCKET				OBSTRUCTIONS ENCOUNTERED		LENGTH OF DRILLED SHAFTS IN BEDROCK SOCKET			STEEL CASING			REINFORCING STEEL				CONCRETE					TOLERANCES		PLAN SHAFT DIA. (INCH)	CONST. SHAFT DIA. (INCH)				
PIER OR ABUT.	SHAFT NO.	STARTED	FINISHED		THROUGH AIR (FEET)	THROUGH WATER (FEET)	THROUGH OVER BURDEN (FEET)	PAY LENGTH (FEET)	NUMBER	SIZE (INCH)	ELAPSED TIME FOR REMOVAL (HR.)	APPROX. ELEV. OF TOP OF BEDROCK	ELEV. OF BOTT. OF BEDROCK SOCKET	LENGTH OF BEDROCK SOCKET (FEET)	LENGTH (FEET)	CASING GAUGE	WAS CASING LEFT IN PLACE ?	VERTICAL		SPIRAL		SLUMP TEST RESULT (INCH)	CYLINDER STRENGTH f _c (P.S.I.)	AIR TEMP. (F°)	TIME NEEDED TO PLACE CONCRETE (HR.)	CASING GAUGE	DEVIATION FROM PLUMB			DEVIATION OF COLUMN TOP CENTER FROM PLAN LOCATION HORIZONTALLY (INCH)			
		DATE	DATE	TIME	TIME	BAR SIZE NO.	NO. OF REBARS	BAR SIZE NO.	PITCH (INCH)	N-S (INCH)	E-W (INCH)																						

PROJECT ENGINEER COMMENTS
1. LOCATION AND EXTENT OF CAVITIES
2. PROCEDURES FOR CONTROLLING WATER
3. WERE UNEXPECTED SUBSURFACE CONDITIONS ENCOUNTERED
4. ANY SUGGESTIONS FOR IMPROVING THE PLANS



SUBMIT A COPY TO BUREAU OF BRIDGES
ATTN: FOUNDATION ENGINEER
THIS SHEET IS TO BE USED ONLY FOR RECORDING "AS BUILT" INFORMATION

FINKBEINER, PETTIS & STROUT, INC. 7 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

DRILLED SHAFT INSPECTION RECORDS

BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

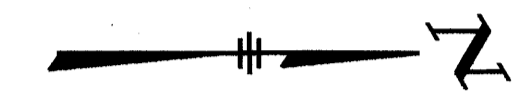
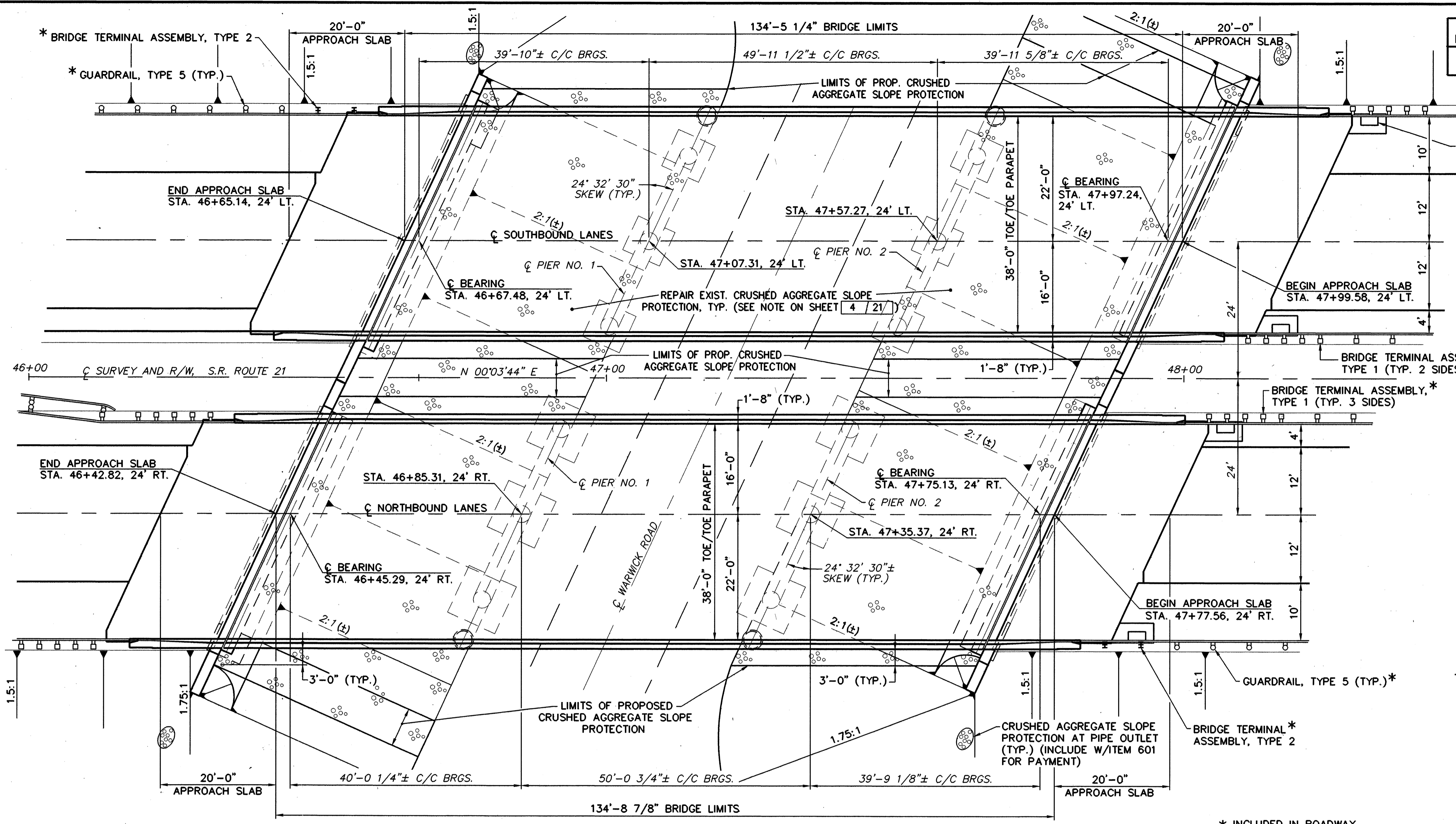
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	M.P.B.		J.G.C.	T.E.N.	1/95	

CAD FILE: 87SHAFT1
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=1'

FHWA REGION	STATE	PROJECT
5	OHIO	

62
98

**WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)**

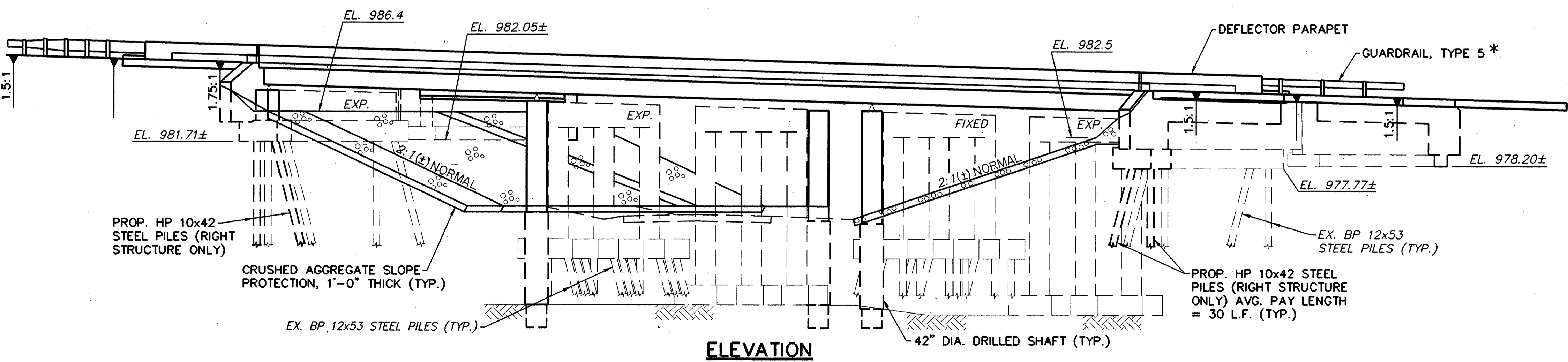


NOTES

- ① **PROPOSED WORK:**
- A) EXISTING ABUTMENTS SHALL BE WIDENED UTILIZING THE SAME ABUTMENT TYPE AS THE EXISTING ABUTMENT FOR EACH STRUCTURE.
 - B) EXISTING PIERS SHALL BE WIDENED BY CONSTRUCTING A COLUMN SUPPORTED ON A DRILLED SHAFT ADJACENT TO THE EXISTING PIERS.
 - C) EXISTING SUPERSTRUCTURES SHALL BE WIDENED BY ERECTING AN ADDITIONAL BEAM ON THE WIDENED SUBSTRUCTURE.
 - D) EXISTING DECKS SHALL BE REPLACED, WIDENED AND MADE COMPOSITE WITH THE BEAMS.

* INCLUDED IN ROADWAY QUANTITIES FOR PAYMENT.

PLAN



ELEVATION

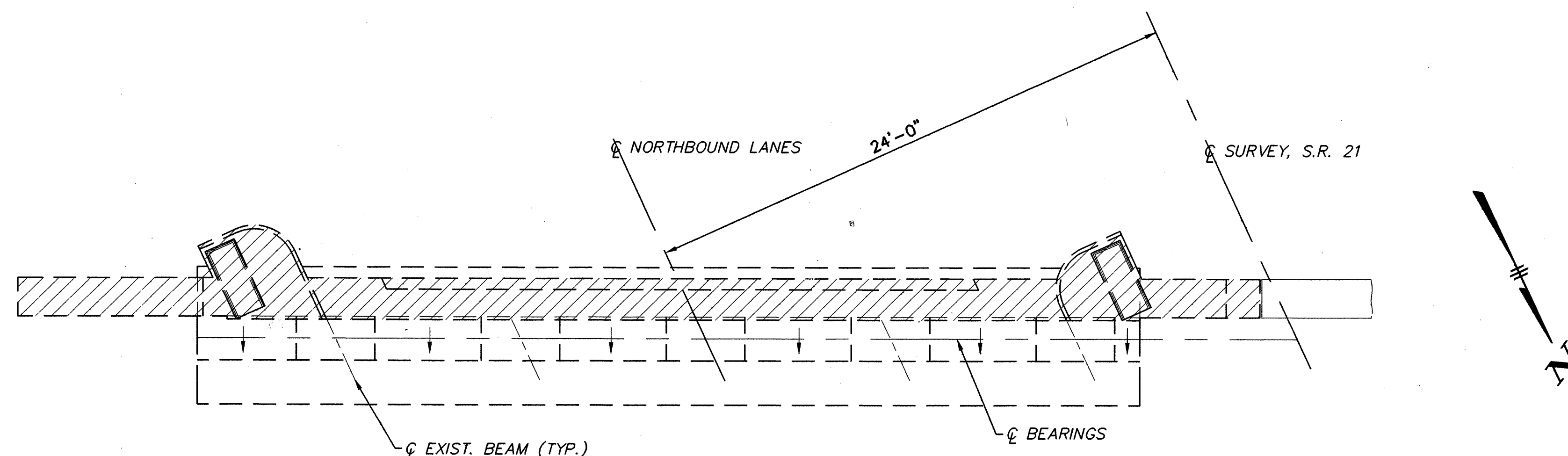
FINKBEINER, PETTIS & STROUT, INC. 8 / 21					
CONSULTING ENGINEERS					
AKRON		TOLEDO GREENSBORO			
GENERAL PLAN AND ELEVATION					
BRIDGE NO. WAY-21-0087 L/R OVER WARWICK ROAD (C.H. 116)					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95

CAD FILE: 87GENPLN
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=10'

FHWA REGION	STATE	PROJECT	
5	OHIO		

63
98

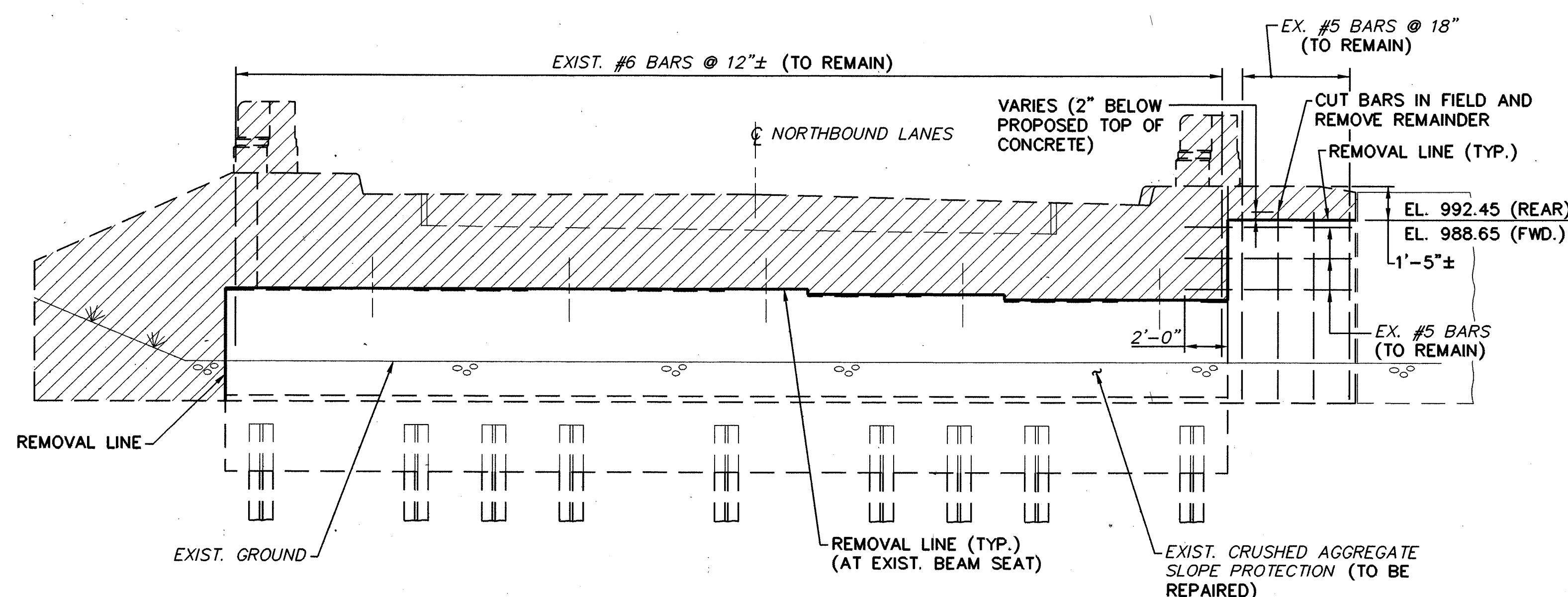
WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



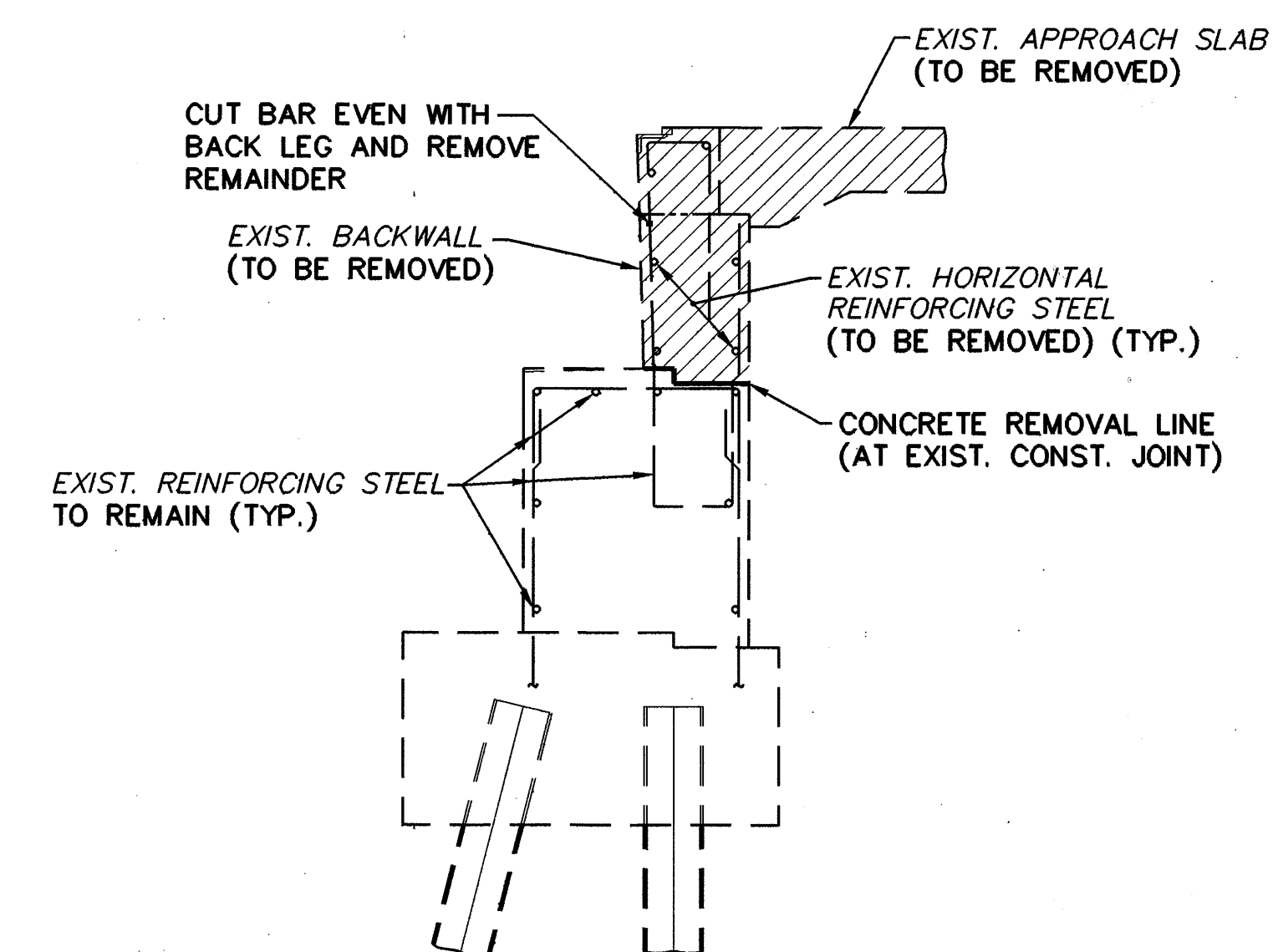
PLAN
RIGHT STRUCTURE

NOTES

- ① CARE SHALL BE TAKEN IN REMOVING EXISTING CONCRETE TO AVOID DAMAGING EXISTING REINFORCEMENT BELOW THE BEAM SEAT. PAYMENT FOR REMOVAL OF EXISTING CONCRETE SHALL BE INCLUDED WITH ITEM 202. PORTIONS OF STRUCTURES REMOVED, AS PER PLAN (ABUTMENTS)
- ② ABUTMENT BEARINGS SHALL BE COMPLETELY REMOVED.
- ③ EXISTING REINFORCING STEEL PARTIALLY EXPOSED BY CONCRETE REMOVAL SHALL BE LEFT IN PLACE EXCEPT THAT IT SHALL BE BENT AS NECESSARY TO CLEAR PROPOSED CONCRETE SURFACES BY AT LEAST 2 INCHES.
- ④ FOR LEFT STRUCTURE AND DECK DEMOLITION DETAILS SEE SHEET 10 / 21 .
- ⑤ FOR EXISTING BEAM SEAT ELEVATIONS SEE SHEETS 12 / 21 AND 13 / 21 .



ELEVATION
RIGHT STRUCTURE
(REAR ABUTMENT SHOWN,
FORWARD ABUTMENT SIMILAR)



SECTION THRU ABUTMENT
RIGHT STRUCTURE

- INDICATES AREAS TO BE REMOVED.

CAD FILE: 87DEMORT
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1=4

FINKBEINER, PETTIS & STROUT, INC. 9 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

DEMOLITION DETAILS

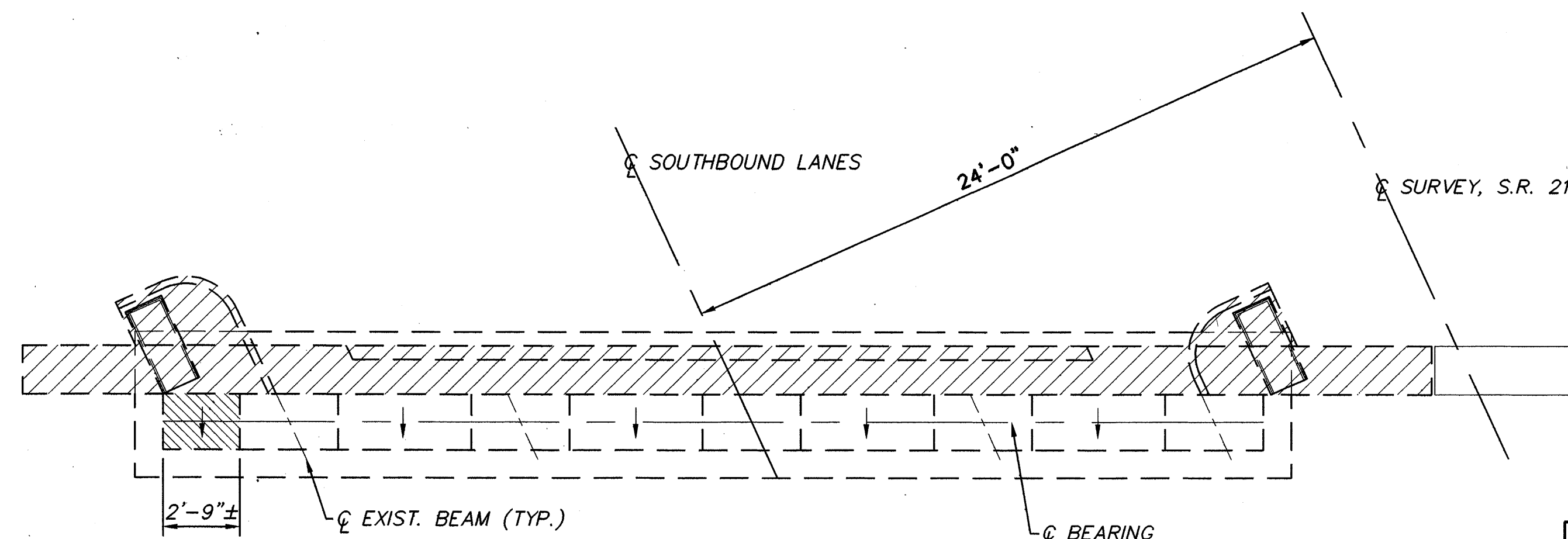
BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

FHWA REGION	STATE	PROJECT	
5	OHIO		

64
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

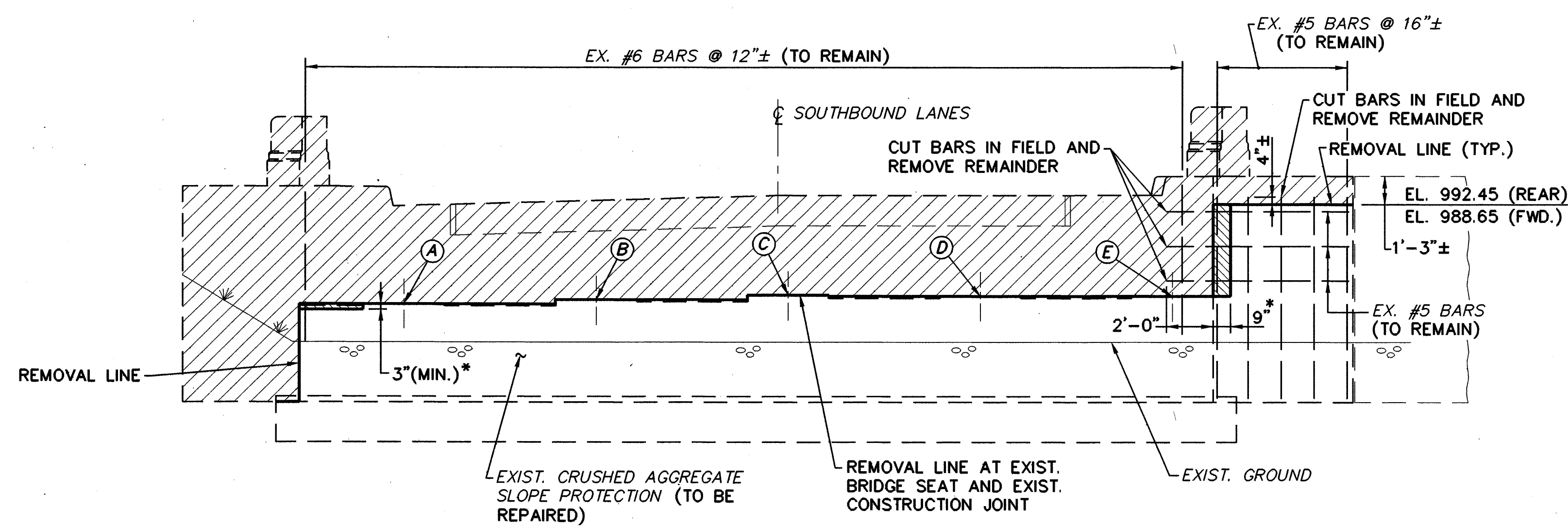


PLAN
LEFT STRUCTURE

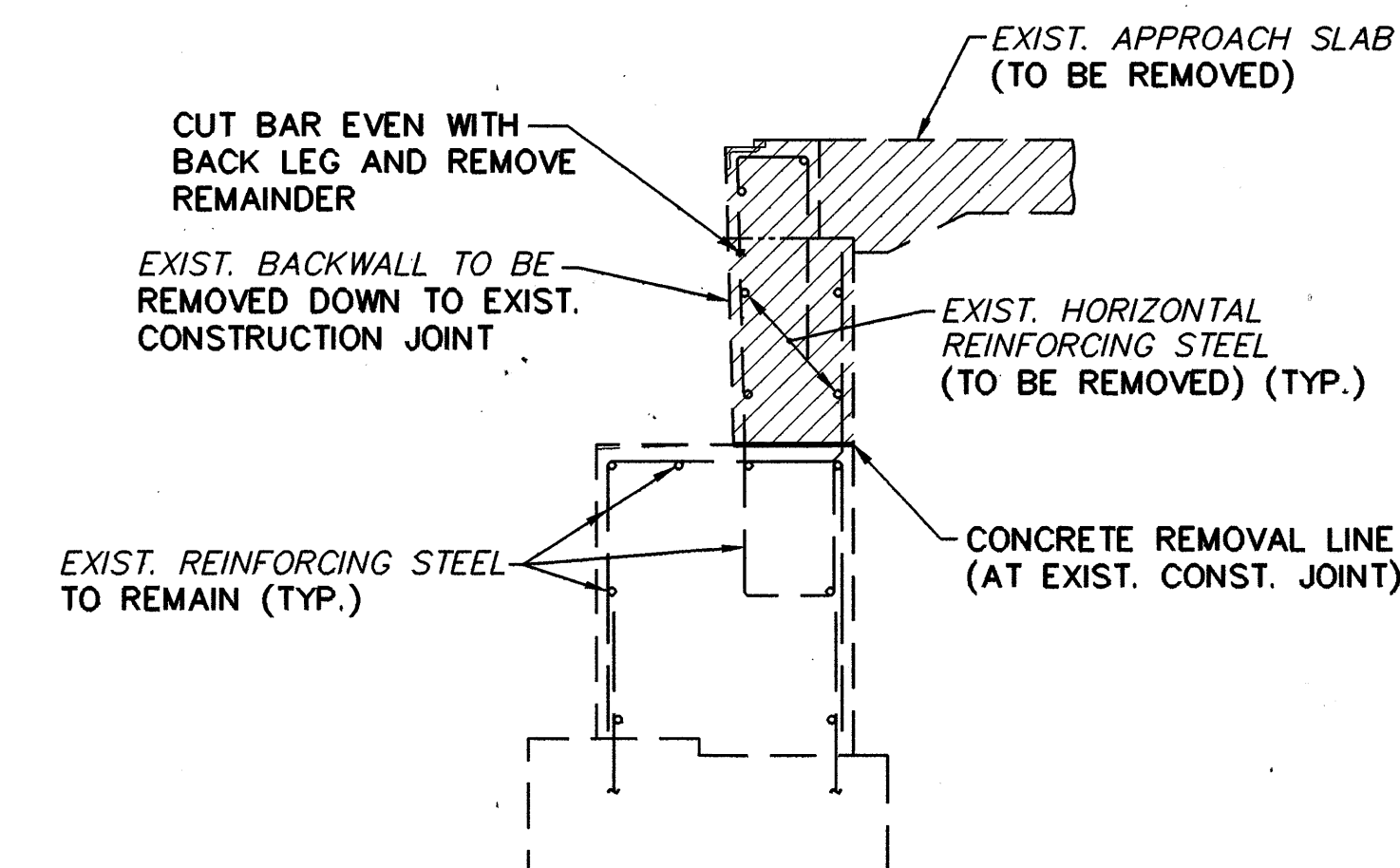
ABUTMENT	A	B	C	D	E
REAR	988.46±	988.46±	988.48±	988.28±	988.25±
FORWARD	984.24±	984.43±	984.63±	984.59±	984.58±

NOTES

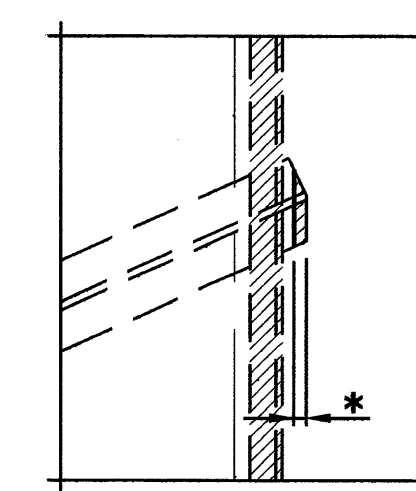
- FOR RIGHT STRUCTURE DEMOLITION DETAILS AND ADDITIONAL NOTES SEE SHEET 9 / 21.
- REMOVE ENTIRE SCUPPER ASSEMBLY AND BULB ANGLE GUTTERS INCLUDING ATTACHMENTS TO THE EXISTING BEAM. GRIND SMOOTH ANY EXISTING WELDS WHERE THE MEMBERS WERE ATTACHED TO THE BEAM.



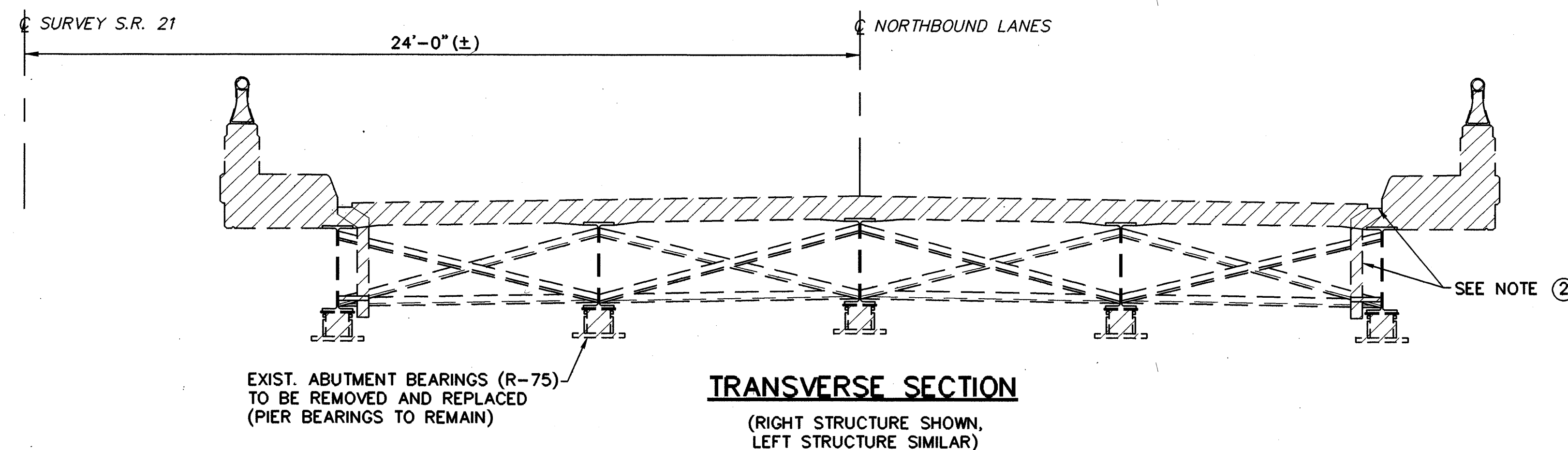
ELEVATION
LEFT STRUCTURE
(FORWARD ABUTMENT SHOWN,
REAR ABUTMENT SIMILAR)



SECTION THRU ABUTMENT
LEFT STRUCTURE

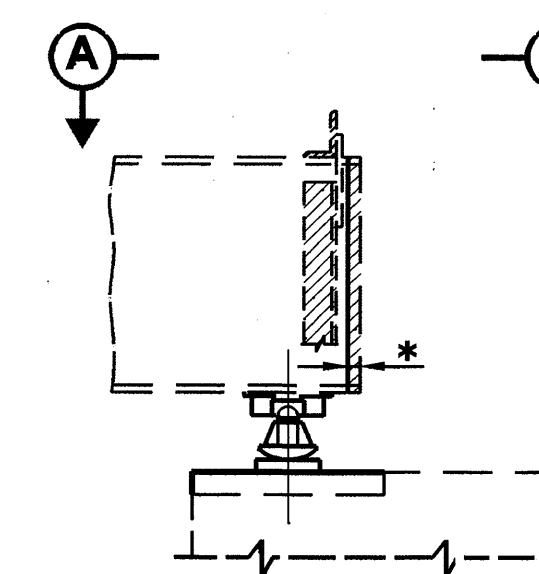


VIEW A-A



TRANSVERSE SECTION
(RIGHT STRUCTURE SHOWN,
LEFT STRUCTURE SIMILAR)

* TRIM TO PROVIDE A MINIMUM OF 2" CLEAR TO BACKWALL @ 60° F



TRIMMING OF BEAM ENDS
(LEFT STRUCTURE ONLY)

LEGEND

- INDICATES AREAS TO BE REMOVED
- INDICATES AREAS TO BE REMOVED (FORWARD ABUTMENT ONLY)

FINKBEINER, PETTIS & STROUT, INC. 10 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

DEMOLITION DETAILS

BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

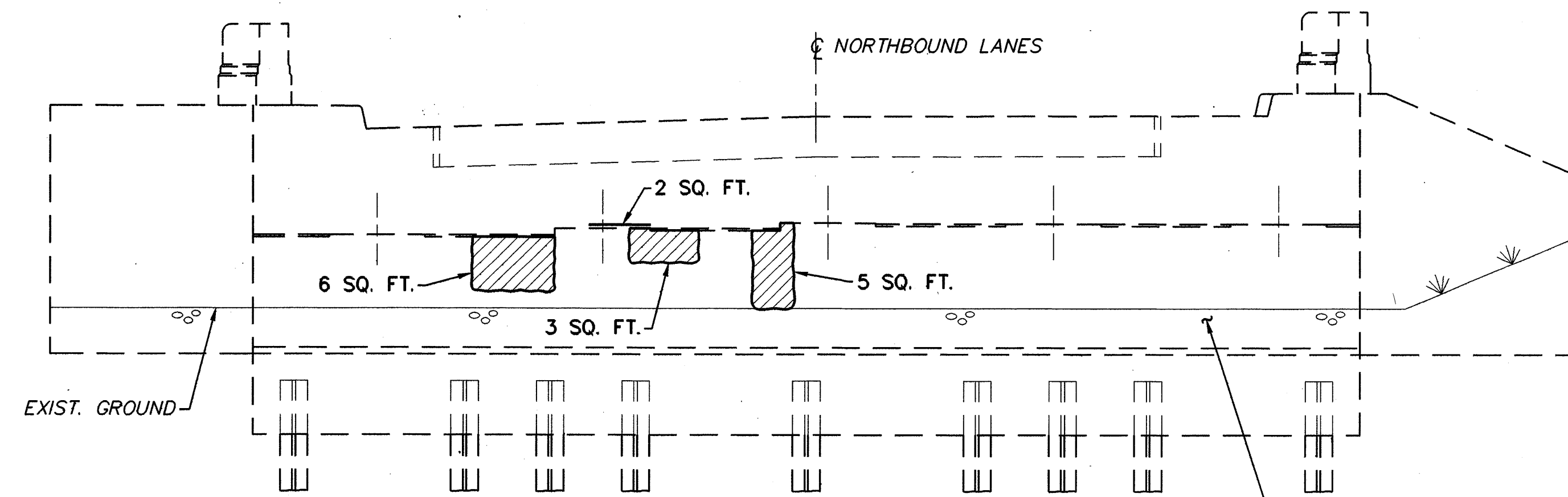
FHWA REGION	STATE	PROJECT	
5	OHIO		

65
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

NOTE

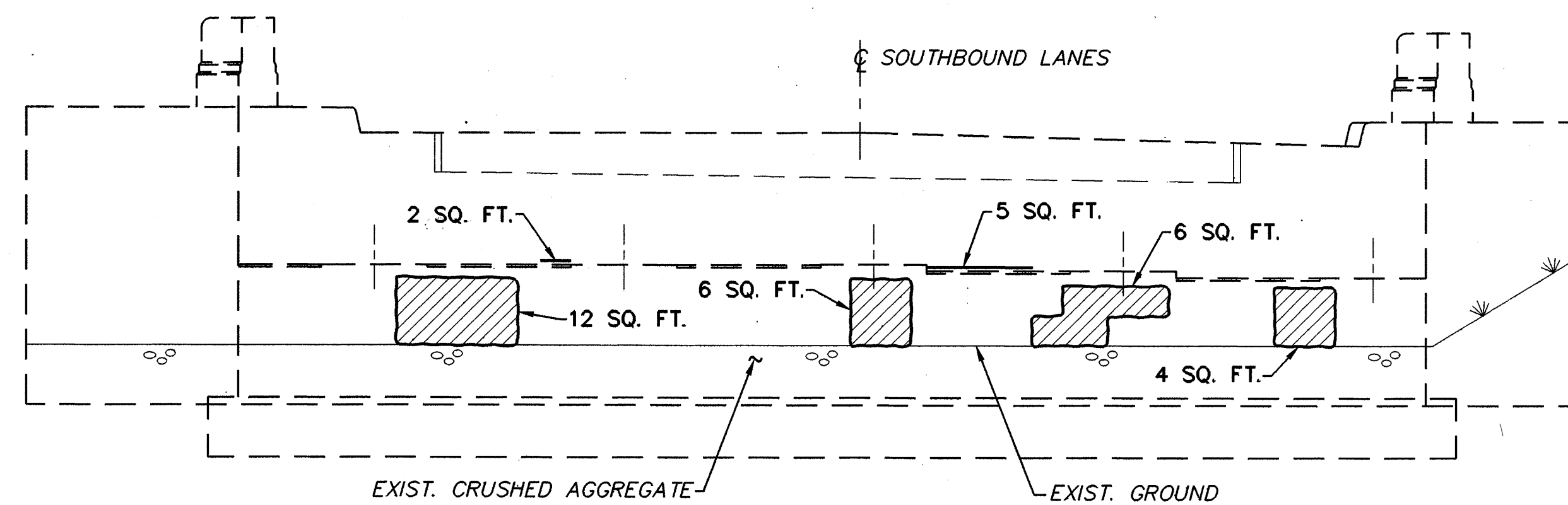
① REPAIR AREAS BASED ON SURVEY DONE MARCH, 1992.



ELEVATION

(RIGHT STRUCTURE, FORWARD ABUTMENT)
TOTAL = 16 SQ. FT. x 3 = 48 SQ. FT.

EXIST. CRUSHED AGGREGATE
SLOPE PROTECTION
(TO BE REPAIRED)

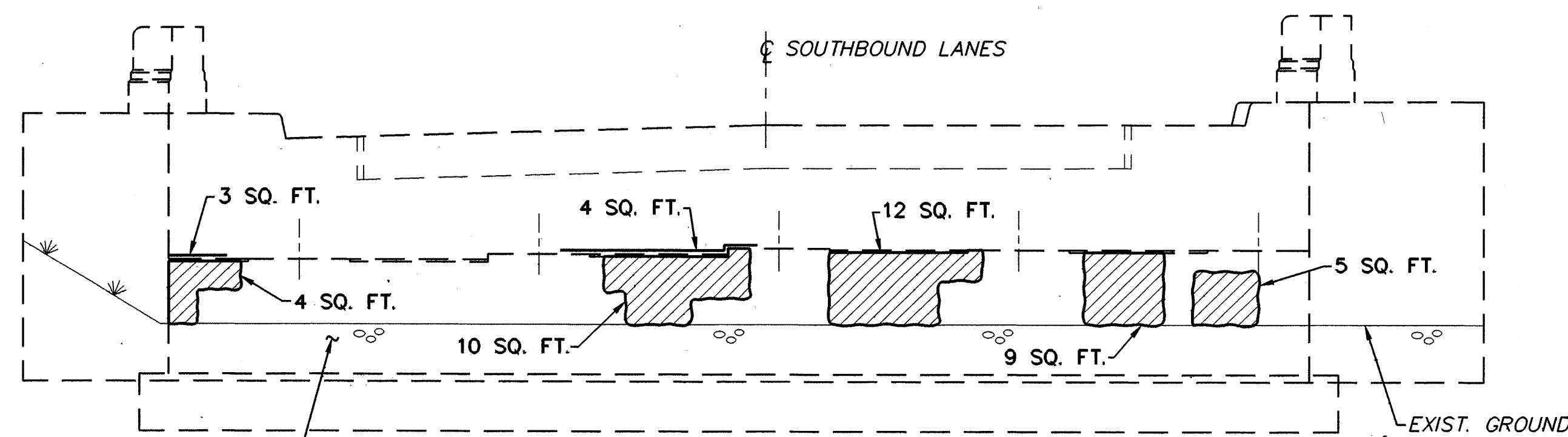


ELEVATION

(LEFT STRUCTURE, REAR ABUTMENT)
TOTAL = 35 SQ. FT. x 3 = 105 SQ. FT.

EXIST. CRUSHED AGGREGATE
SLOPE PROTECTION
(TO BE REPAIRED)

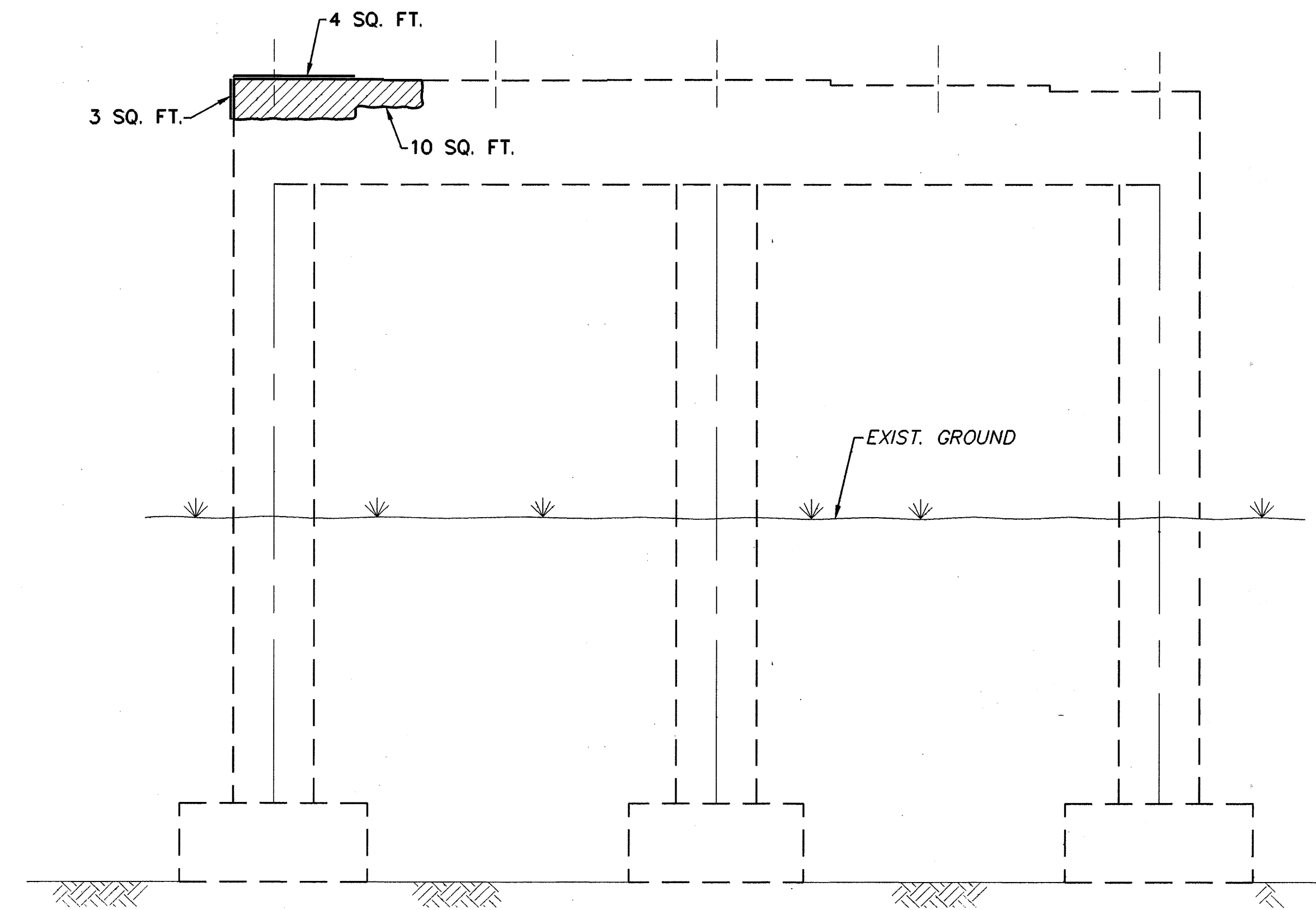
EXIST. GROUND



ELEVATION

(LEFT STRUCTURE, FORWARD ABUTMENT)
TOTAL = 47 SQ. FT. x 3 = 141 SQ. FT.

EXIST. CRUSHED AGGREGATE
SLOPE PROTECTION
(TO BE REPAIRED)



ELEVATION

(LEFT STRUCTURE, PIER NO. 1 NORTH SIDE)
TOTAL = 17 SQ. FT. x 3 = 51 SQ. FT.

▨ - INDICATES AREAS TO BE REPAIRED PER ITEM 519,
PATCHING CONCRETE STRUCTURES. THE AREAS
SHOWN ARE APPROXIMATE. FINAL DETERMINATION
OF THE AREAS TO BE REPAIRED WILL BE MADE
BY THE ENGINEER AT THE TIME OF CONSTRUCTION.

CAD FILE: 87REPAIR
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1=4

FINKBEINER, PETTIS & STROUT, INC. 11 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

REPAIR DETAILS

BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

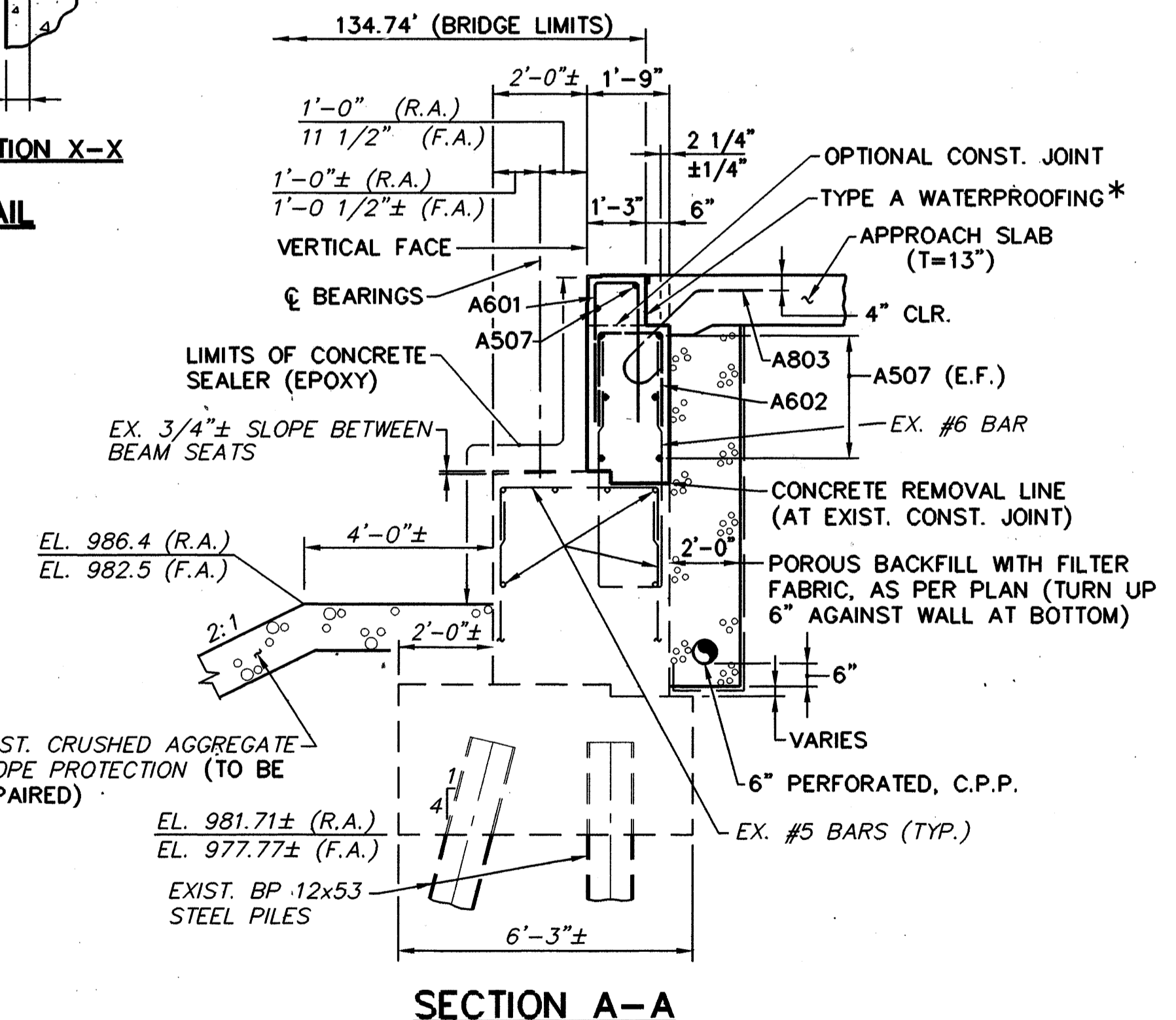
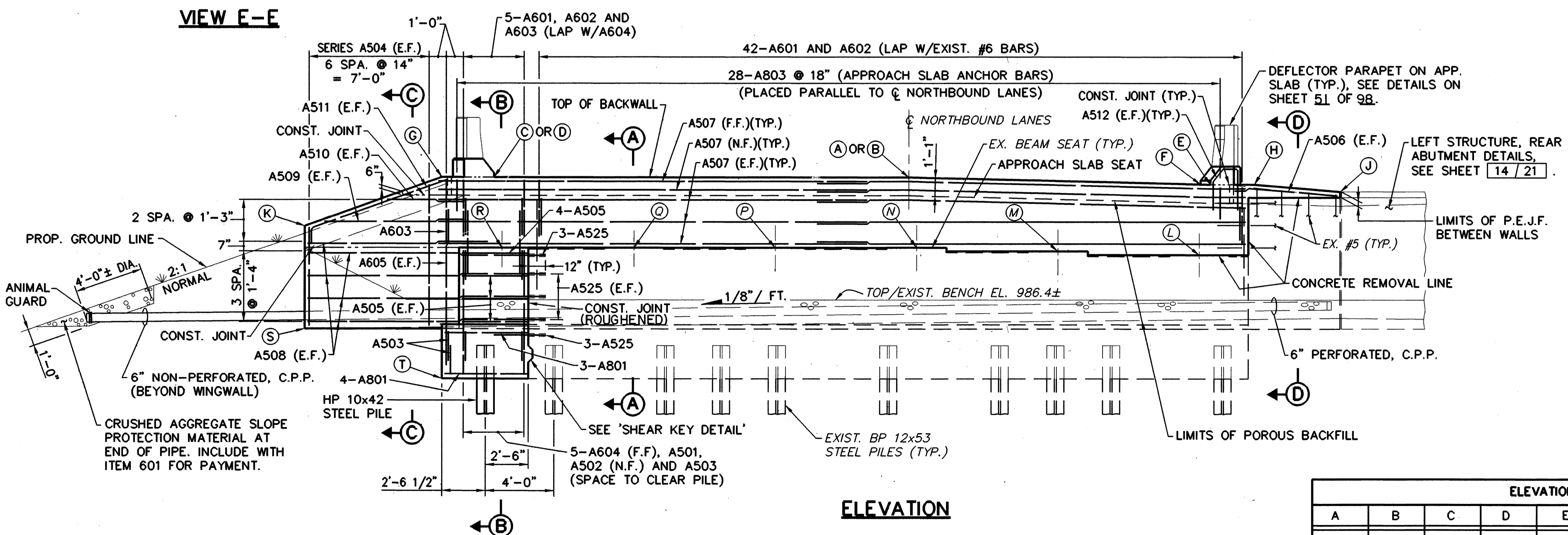
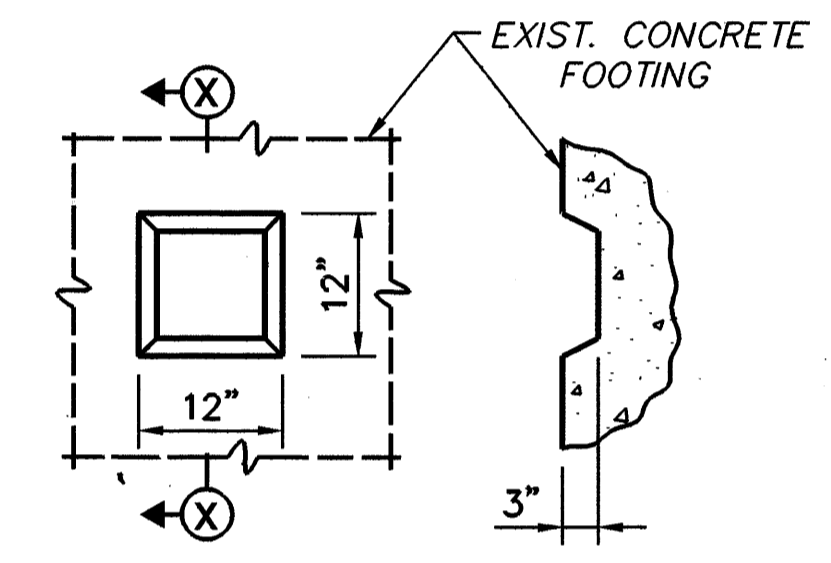
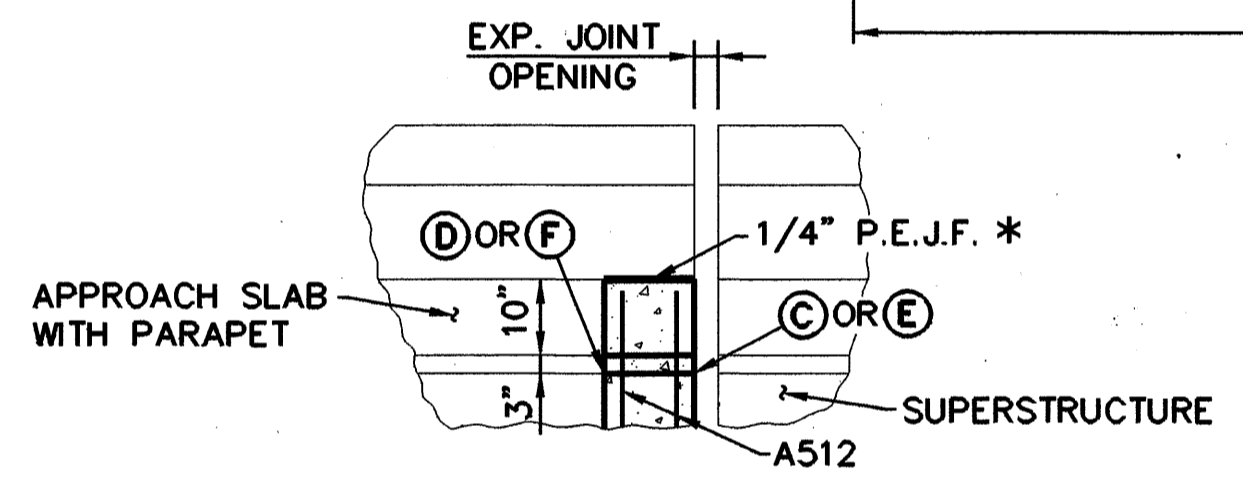
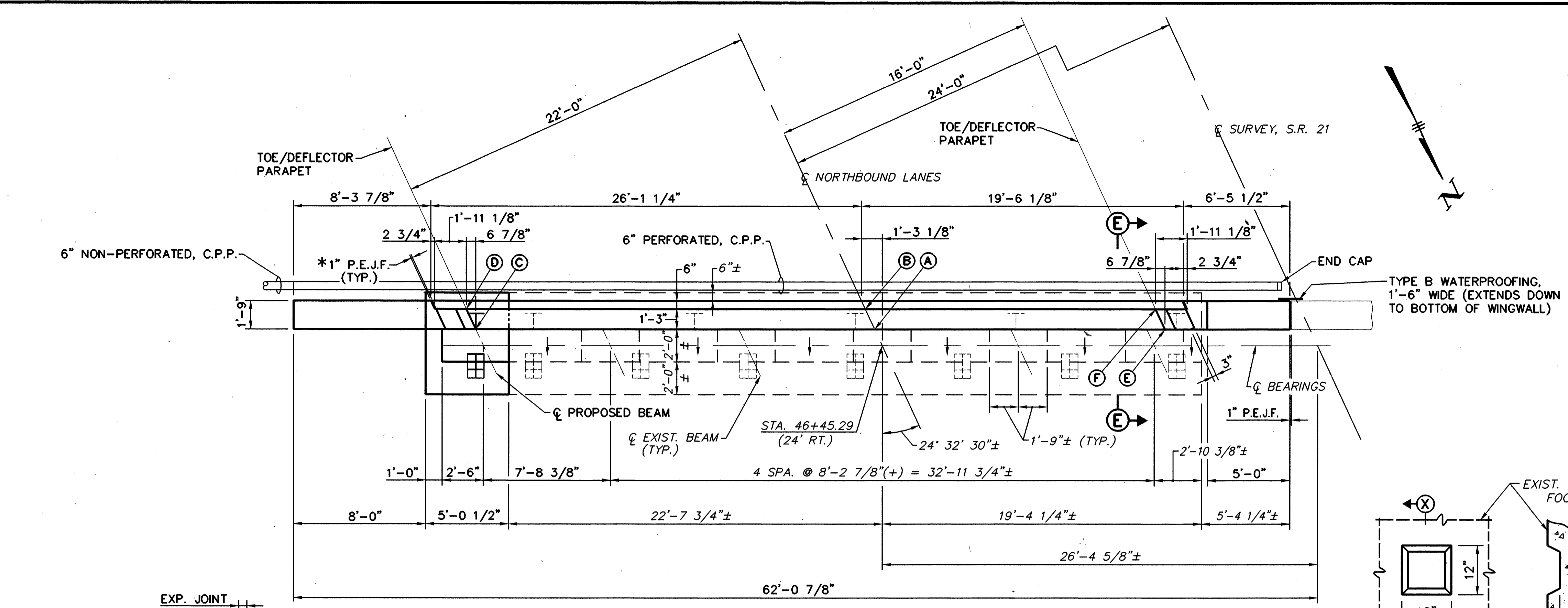
FHWA REGION	STATE	PROJECT	
5	OHIO		

66
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

NOTES

- ABBREVIATIONS:
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
C.P.P. = CORRUGATED PLASTIC PIPE
R.A. = REAR ABUTMENT
F.A. = FORWARD ABUTMENT
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- MINIMUM BAR LAPS ARE AS FOLLOWS:
#5 BAR = 24"
#6 BAR = 24"
- BACKWALL CONCRETE: IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
- ALL EXPOSED CONCRETE OUTSIDE OF FASCIA BEAM SHALL HAVE CONCRETE SEALER APPLIED.
- POROUS BACKFILL, 2 FEET THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE ENDS OF THE WINGWALLS.
- FOR FORWARD ABUTMENT DETAILS, SECTIONS B-B, C-C AND D-D SEE SHEET 13/21.



ELEVATION TABLE

A	B	C	D	E	F	G	H	J
993.69	993.73	993.64	993.68	993.22	993.26	993.70	993.28	992.85
K	L	M	N	P	Q	R	S	T
990.80	989.10±	989.32±	989.54±	989.53±	989.53±	989.52	984.71±	981.71±

± MATCH EXISTING

FINKBEINER, PETTIS & STROUT, INC. 12 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

ABUTMENT DETAILS
RIGHT REAR
BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

CAD FILE: 87ABTRT1
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=4'

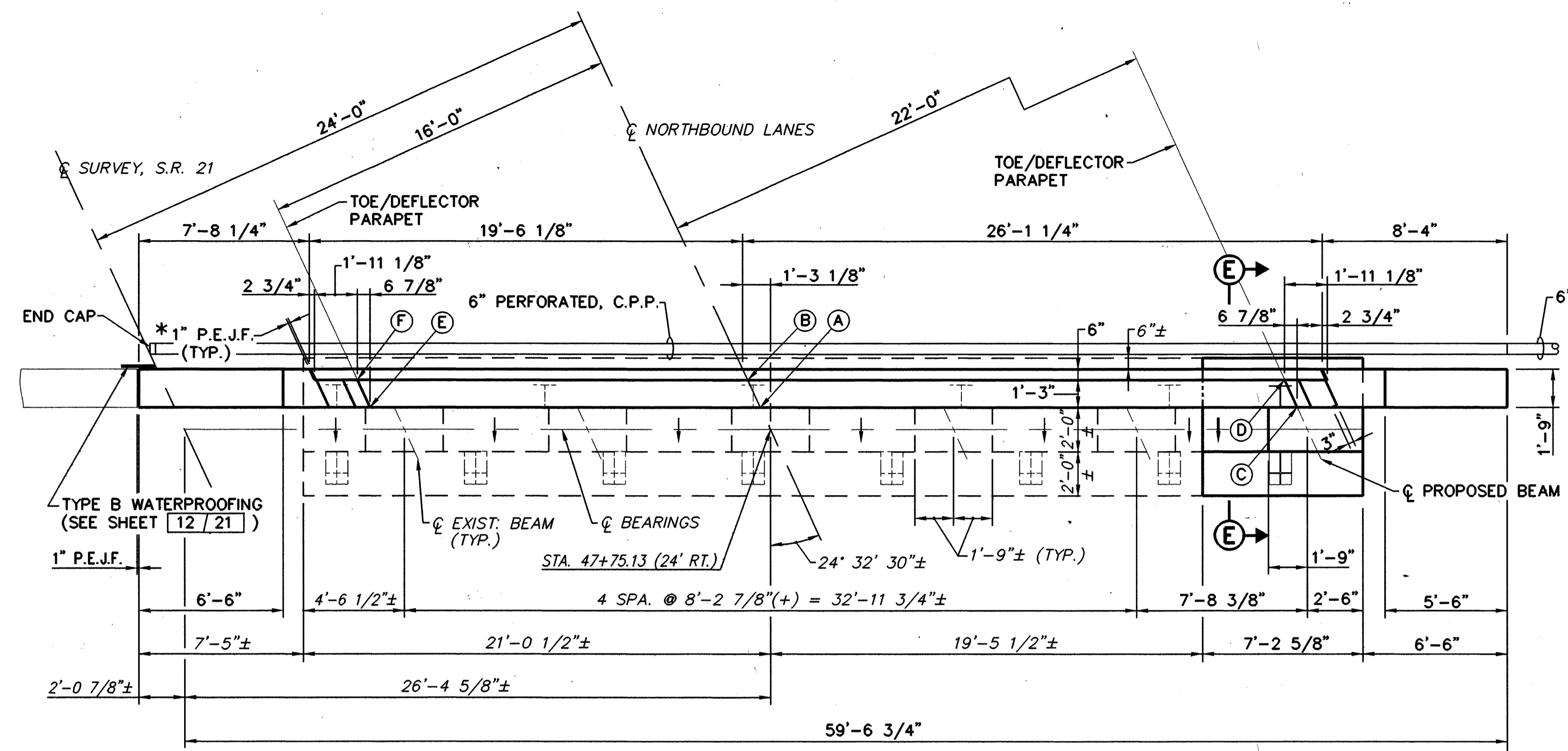
FHWA REGION	STATE	PROJECT
5	OHIO	

67
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

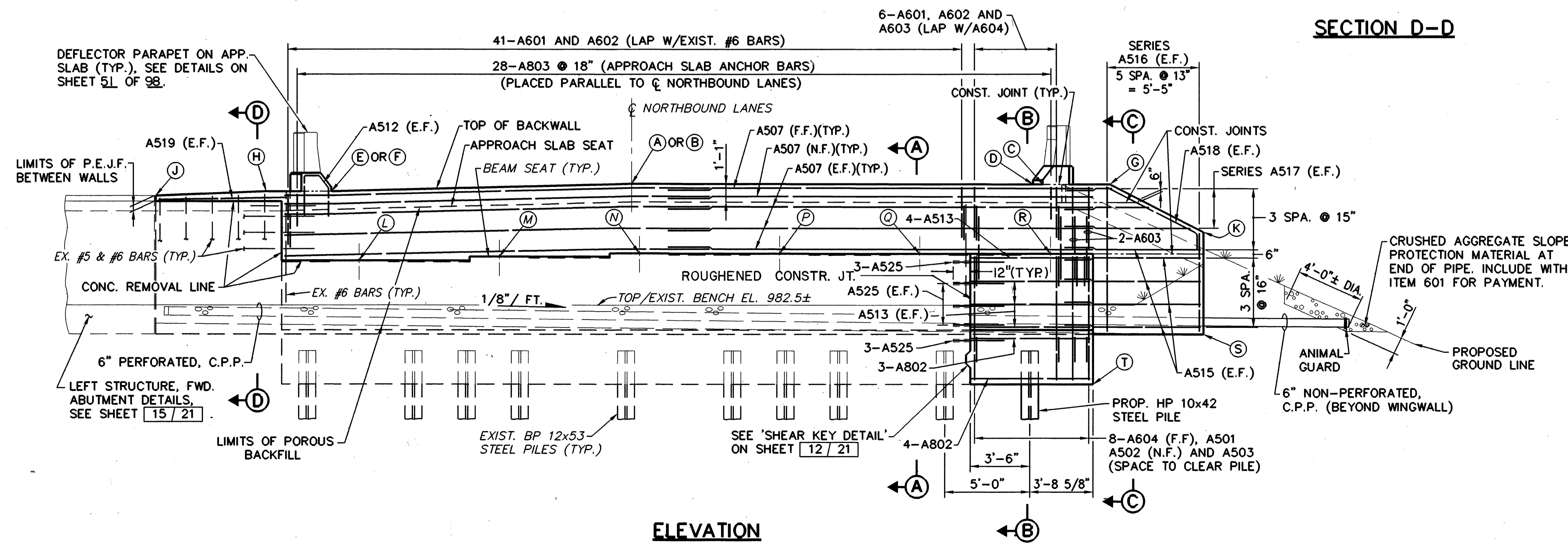
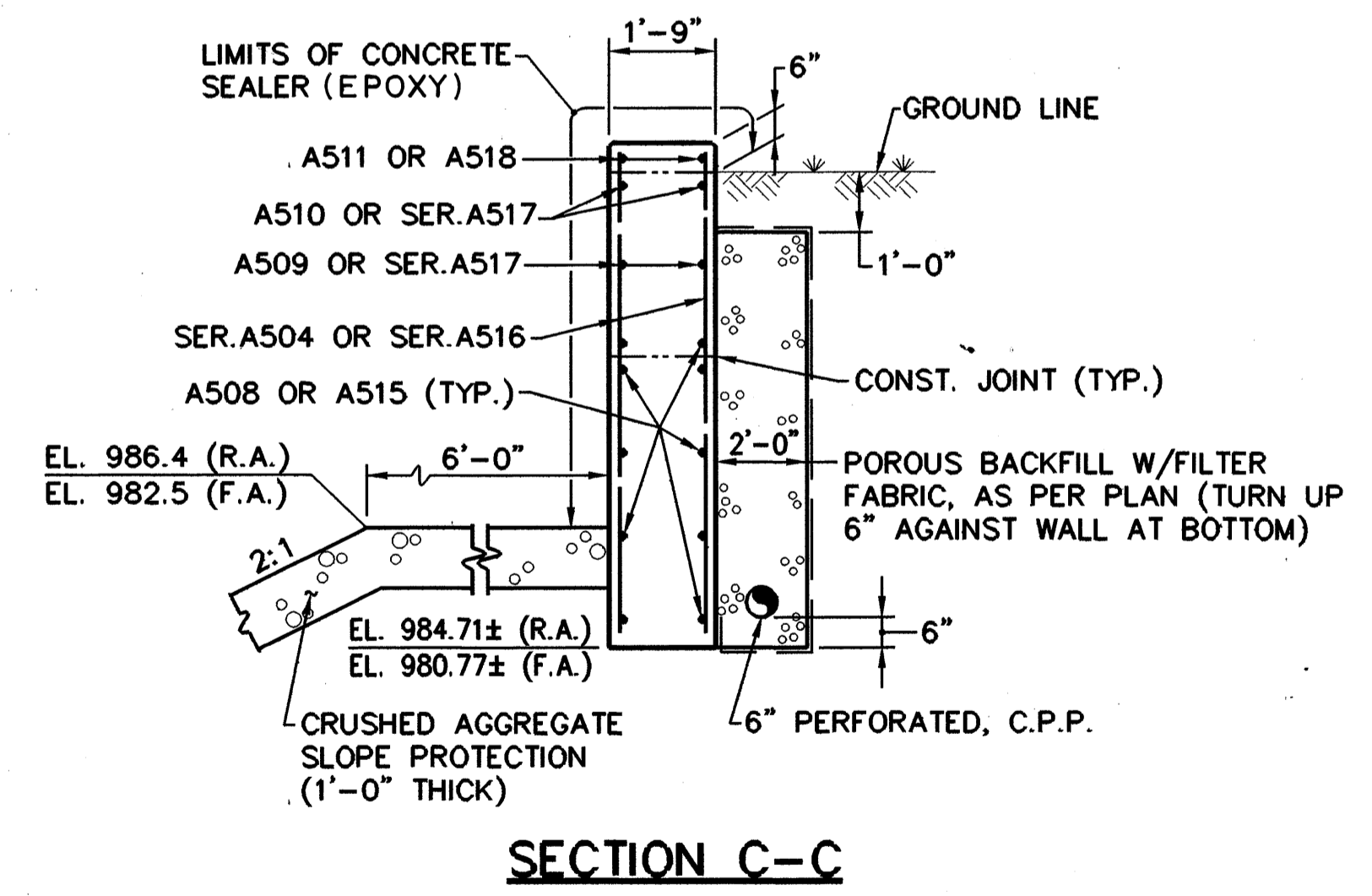
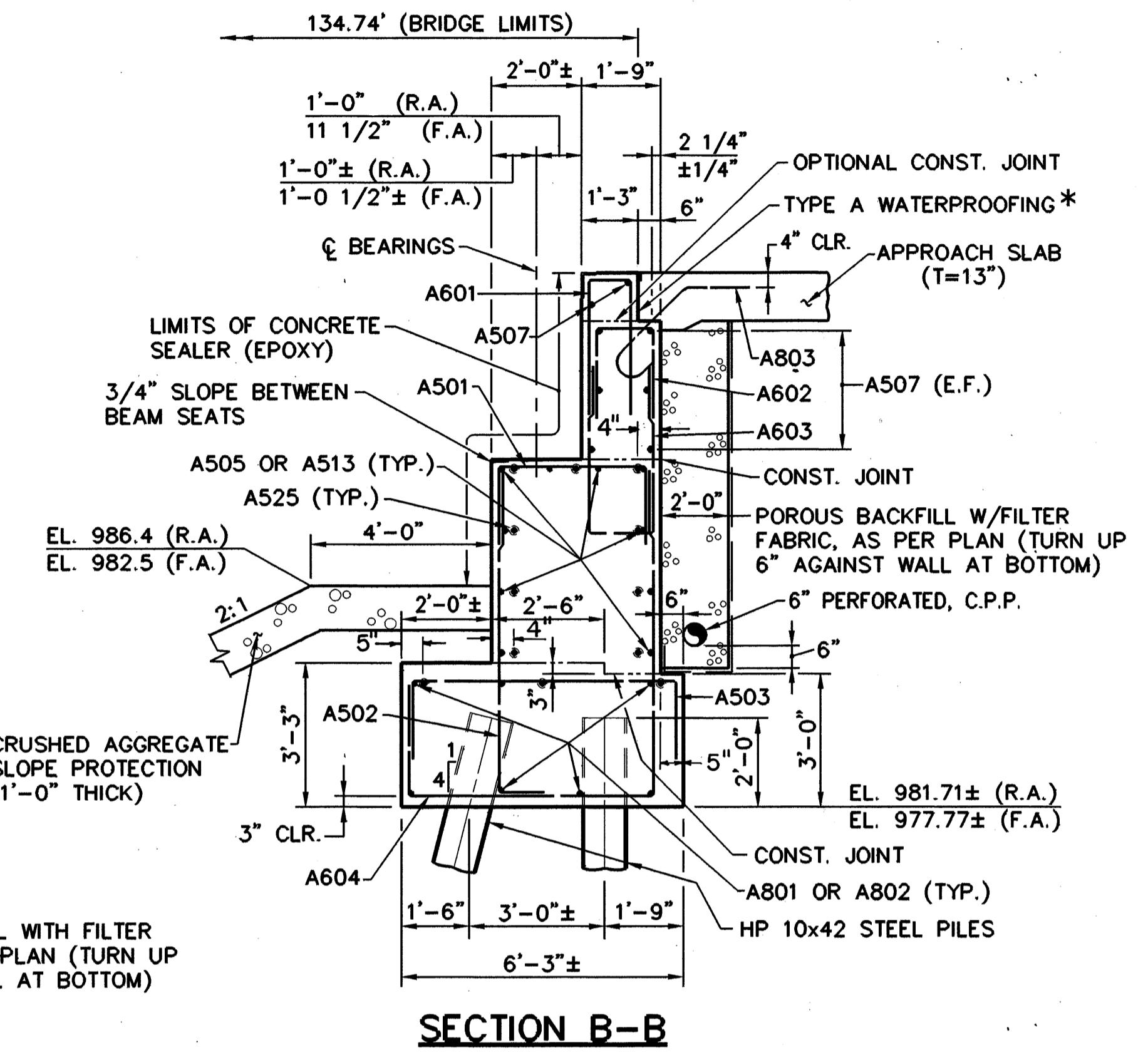
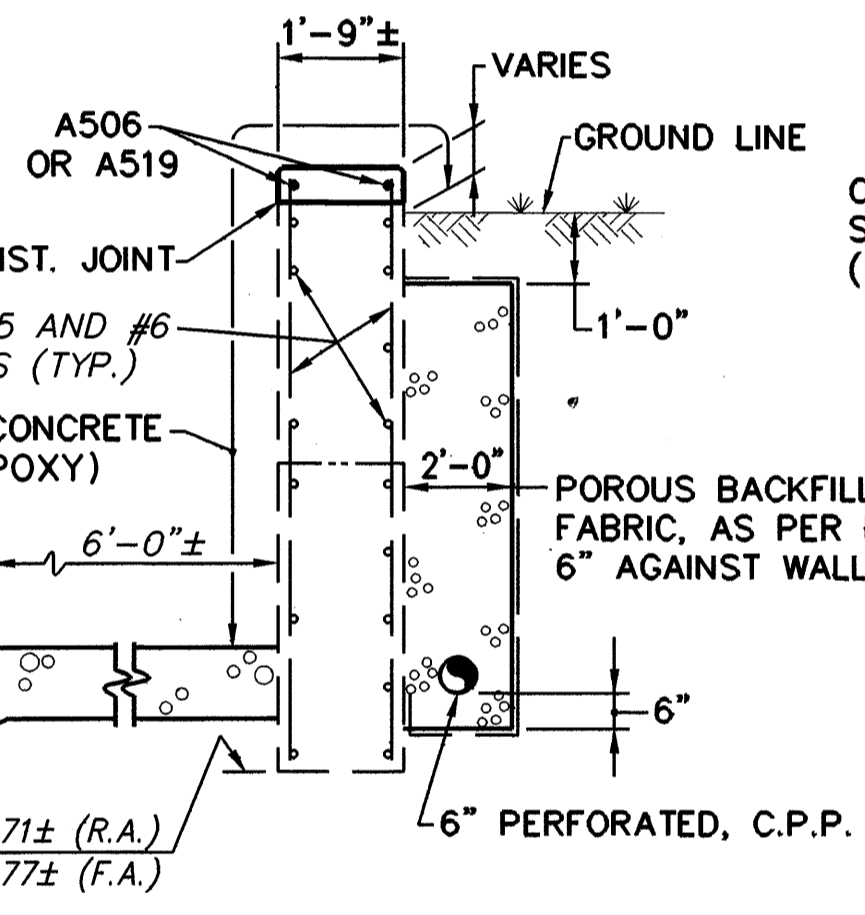
NOTE

① FOR REAR ABUTMENT DETAILS, SECTION A-A, VIEW E-E AND ADDITIONAL NOTES SEE SHEET 12/21.



A	B	C	D	E	F	G	H	J
989.78	989.74	989.73	989.69	989.31	989.27	989.73	989.31	989.06
K	L	M	N	P	Q	R	S	T
986.90	985.20±	985.44±	985.64±	985.62±	985.61±	985.61	980.77±	977.77±

± MATCH EXISTING



FINKBEINER, PETTIS & STROUT, INC. 13/21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

ABUTMENT DETAILS
RIGHT FORWARD
BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

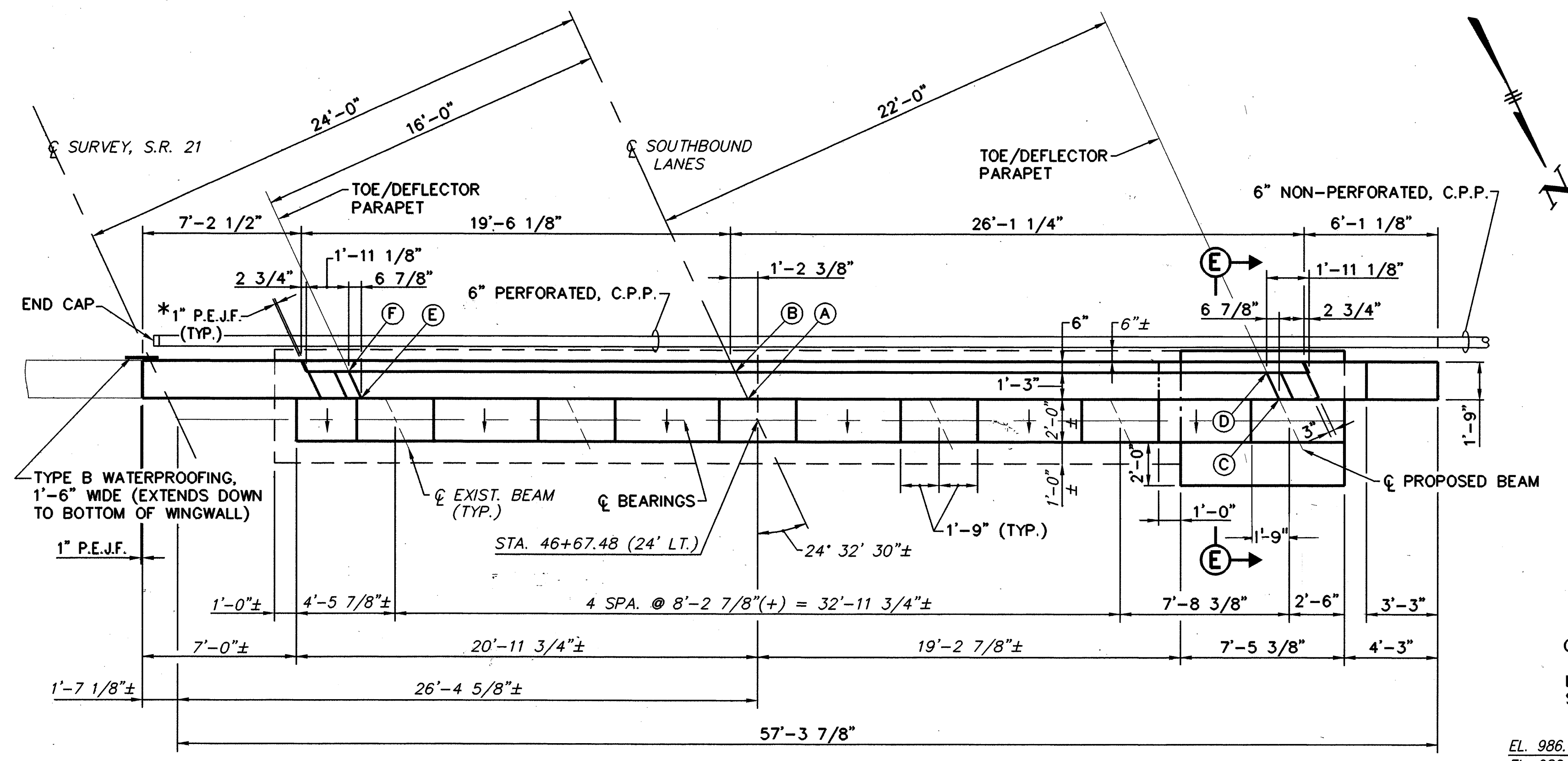
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

CAD FILE: 87ABTR12
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1=4

**WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)**

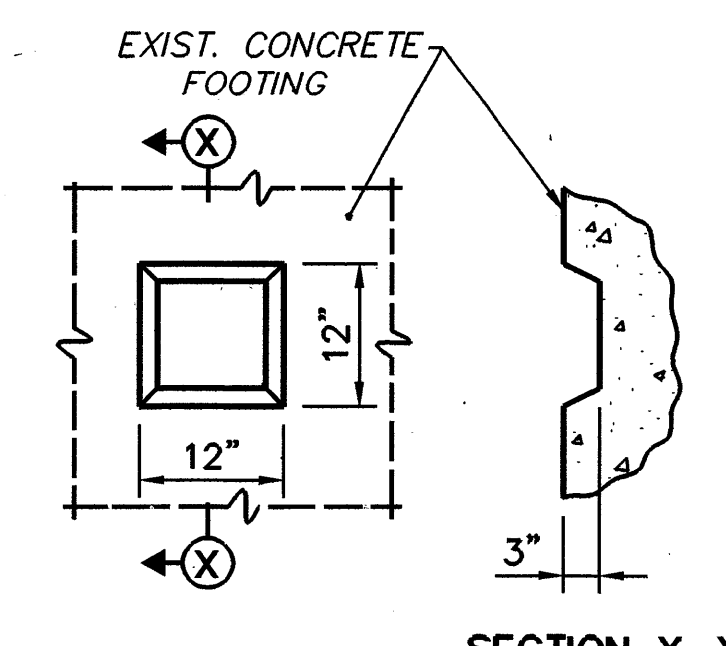
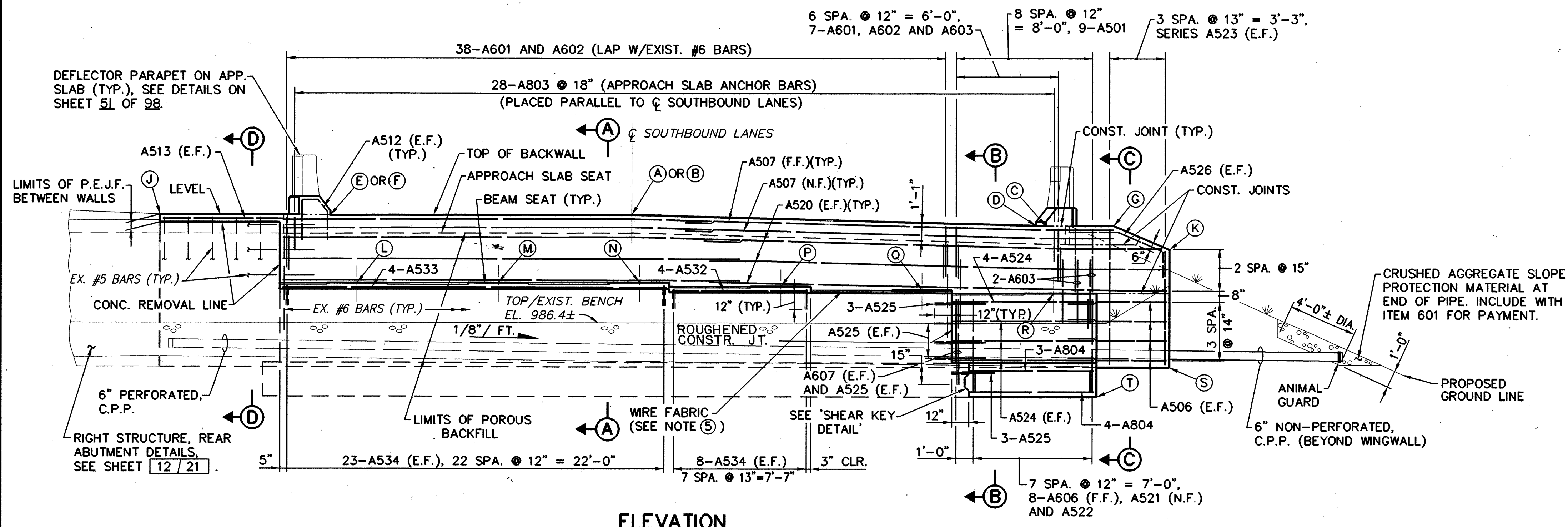
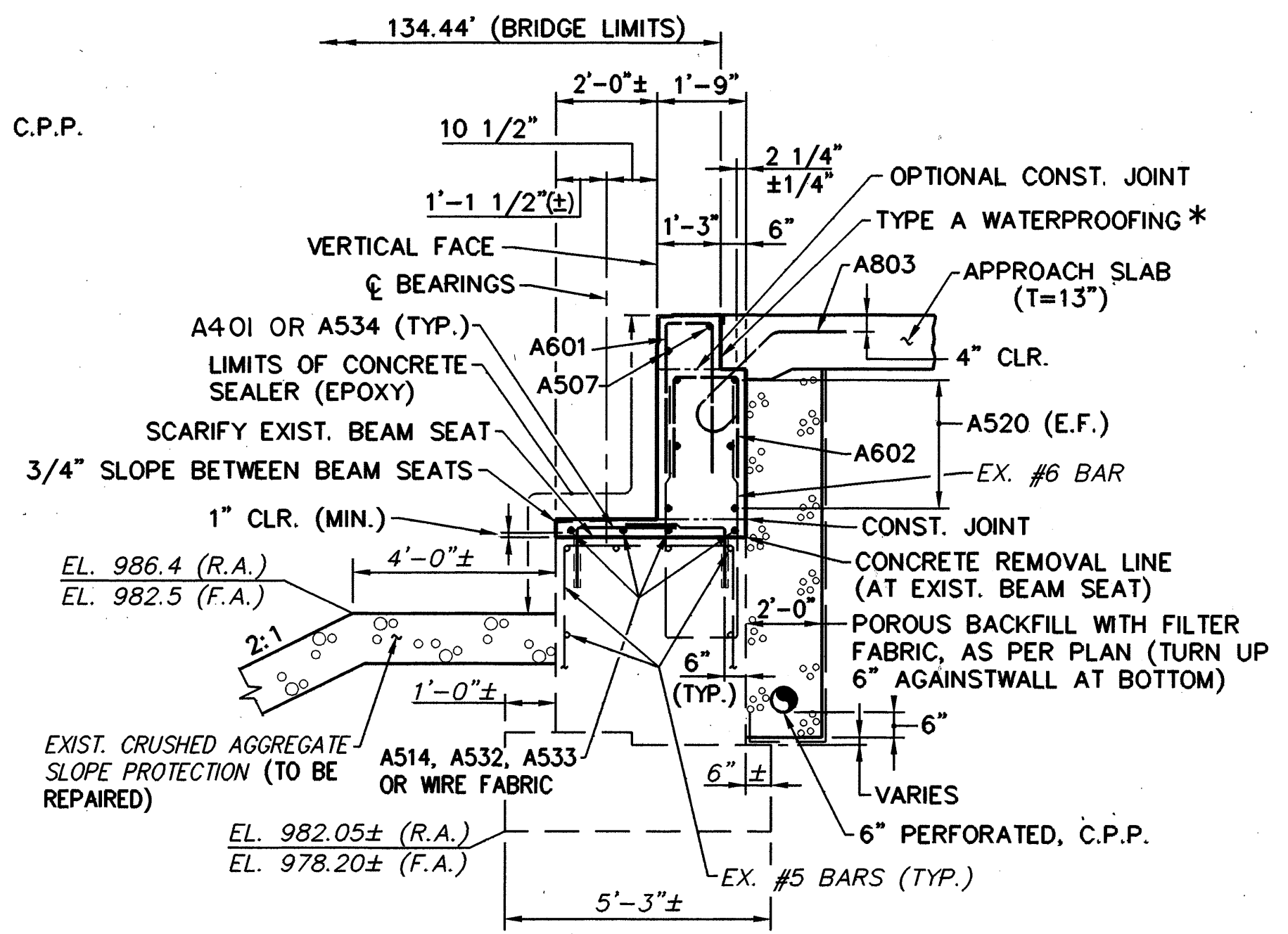
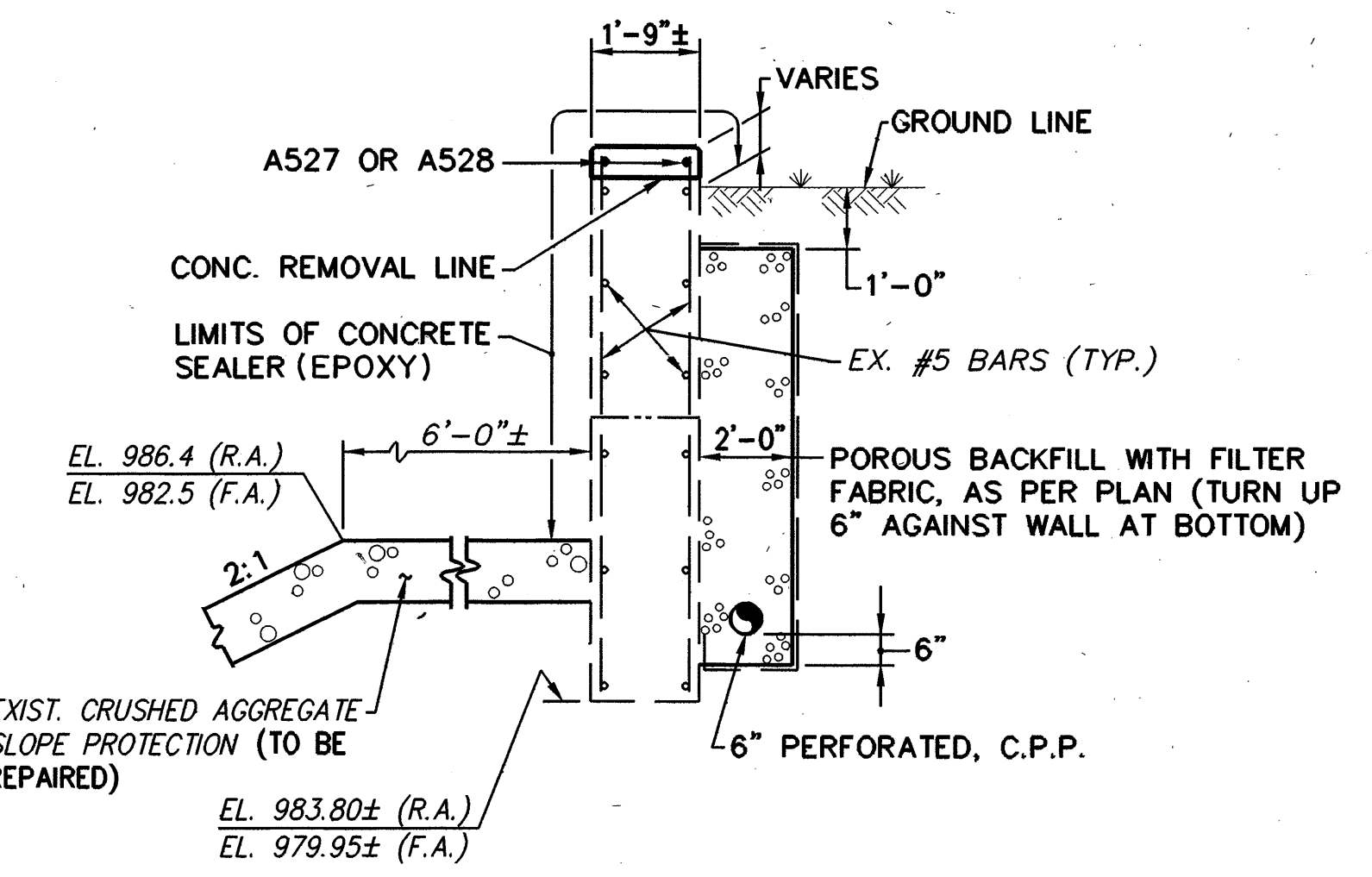
NOTES

- BACKWALL CONCRETE:** IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
- ABBREVIATIONS:**
N.F. = NEAR FACE R.A. = REAR ABUTMENT
F.F. = FAR FACE F.A. = FORWARD ABUTMENT
E.F. = EACH FACE P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
C.P.P. = CORRUGATED PLASTIC PIPE
- MINIMUM BAR LAPS ARE AS FOLLOWS:
#5 BAR = 24"
#6 BAR = 24"
- ALL EXPOSED CONCRETE OUTSIDE OF FASCIA BEAM SHALL HAVE CONCRETE SEALER APPLIED.
- WIRE FABRIC SHALL CONFORM TO ITEM 709.14, (EPOXY COATED) AND SHALL BE SIZED AND PLACED ACCORDING TO ITEM 519, PATCHING CONCRETE STRUCTURES AND INCLUDED FOR PAYMENT UNDER ITEM SPECIAL - HIGH PERFORMANCE CONCRETE, SUBSTRUCTURE.
- EXISTING REINFORCING IN THE ABUTMENT SHALL BE LOCATED AND MARKED PRIOR TO DRILLING OF DOWEL HOLES. DOWEL HOLES SHALL BE SPACED TO AVOID INTERFERENCE WITH EXISTING REINFORCING.
- POROUS BACKFILL,** 2 FEET THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE ENDS OF THE WINGWALLS.
- FOR EXISTING BEAM SEAT ELEVATIONS SEE SHEET **10/21**.
- FOR FORWARD ABUTMENT DETAILS, SECTIONS B-B, C-C AND VIEW E-E SEE SHEET **15/21**.



ELEVATION TABLE								
A	B	C	D	E	F	G	J	K
992.84	992.88	992.21	992.25	992.80	992.84	992.26	992.89	990.80
L	M	N	P	Q	R	S	T	
988.79	988.81	988.83	988.61	988.40	988.21	983.80	982.05	

‡ MATCH EXISTING



FINKBEINER, PETTIS & STROUT, INC. 14 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

**ABUTMENT DETAILS
LEFT REAR
BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

CAD FILE : 87AB1L11
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1=4

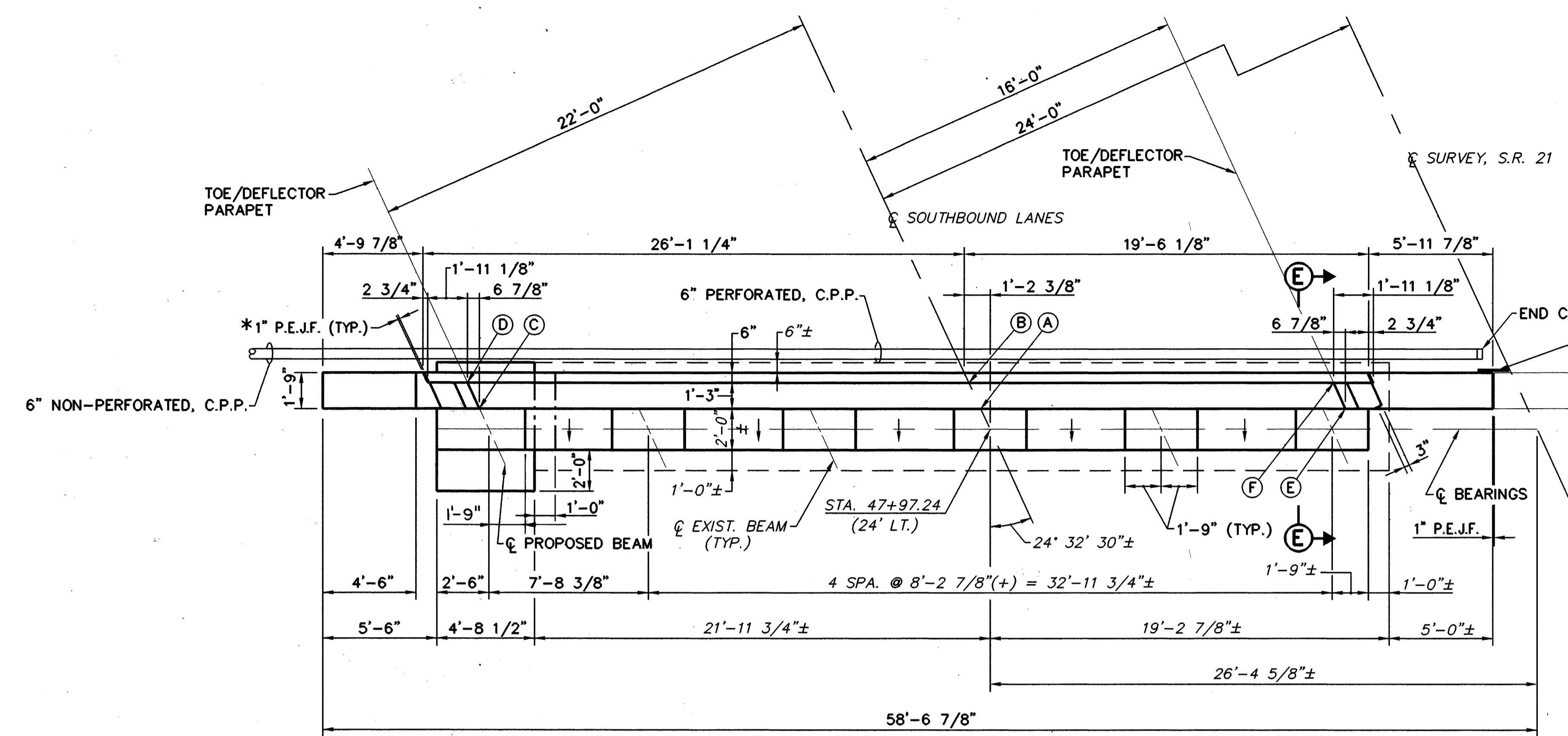
FHWA REGION	STATE	PROJECT
5	OHIO	

69
98

**WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)**

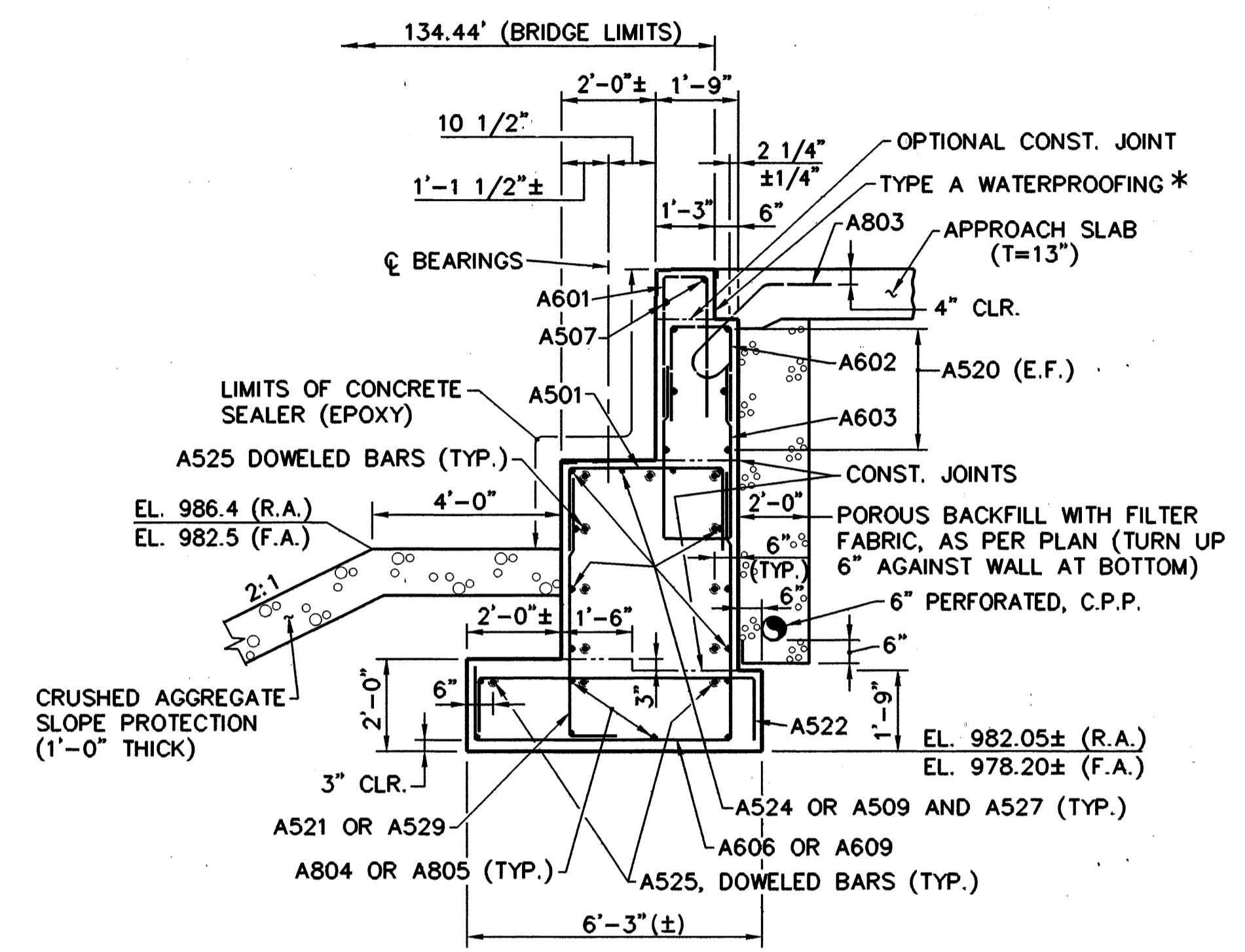
NOTE

① FOR REAR ABUTMENT DETAILS, SECTION A-A AND SECTION D-D AND ADDITIONAL NOTES SEE SHEET 14 / 21

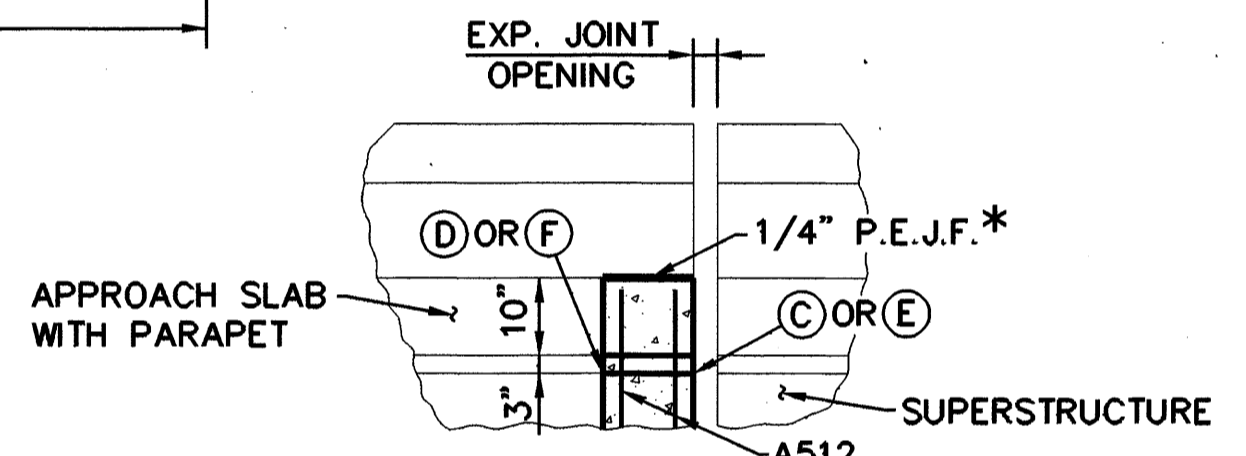


* INCLUDE WITH APPROACH SLAB, AS PER PLAN FOR PAYMENT.

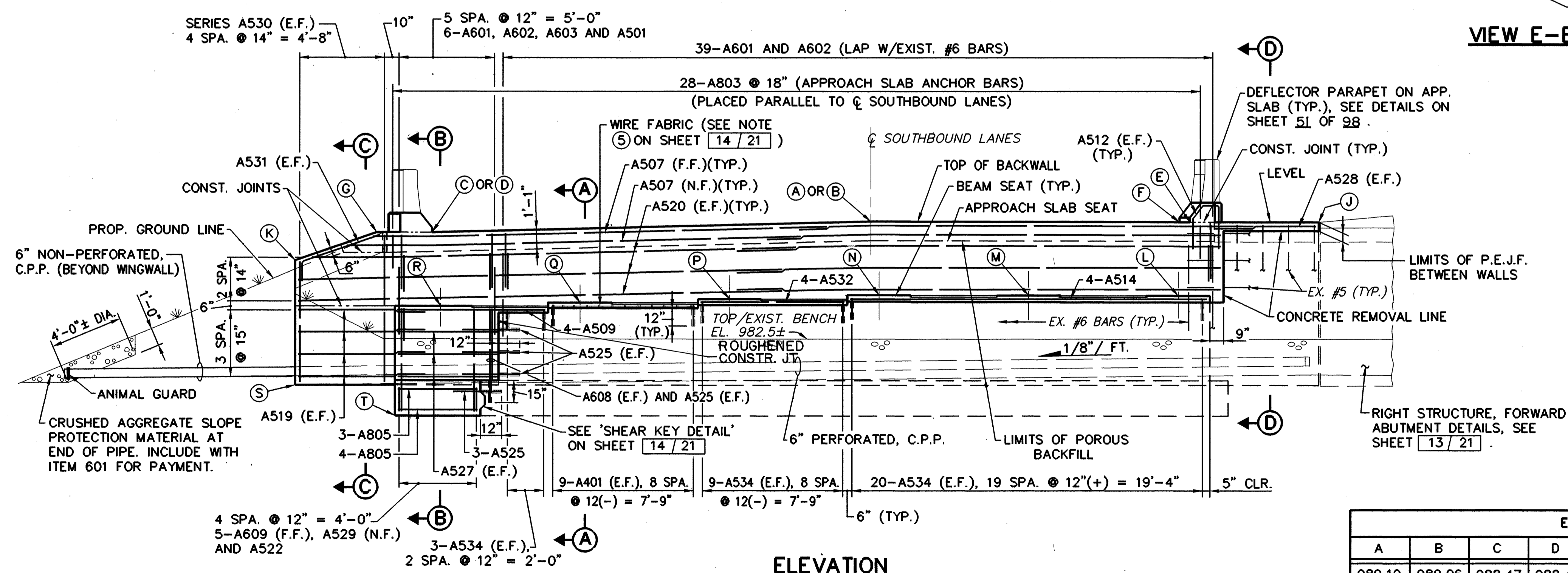
PLAN



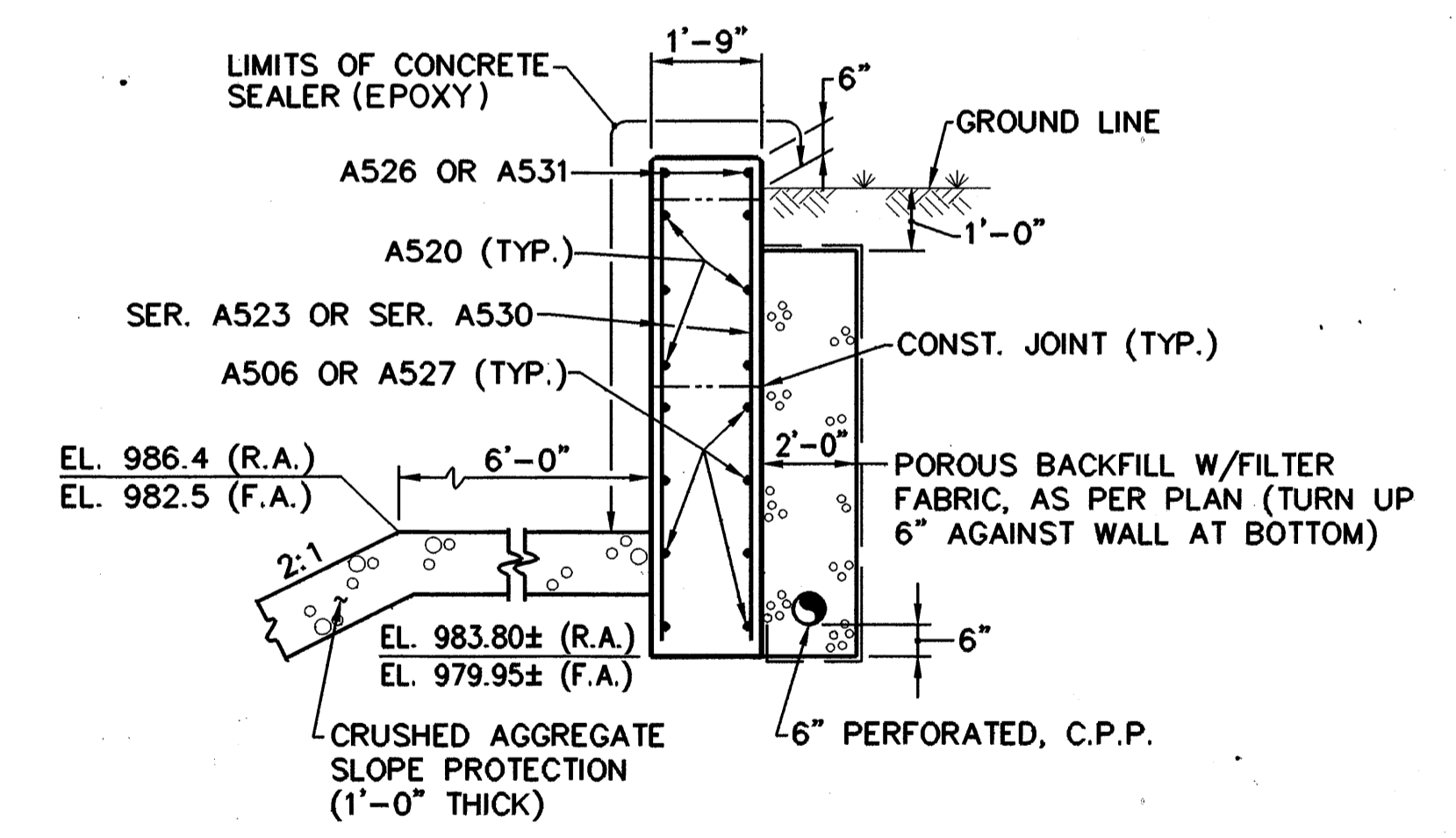
SECTION B-B



VIEW E-E



ELEVATION



SECTION C-C

A	B	C	D	E	F	G	J	K
989.10	989.06	988.47	988.43	989.06	989.02	988.43	989.06	986.90
L	M	N	P	Q	R	S	T	
984.94	984.96	984.98	984.76	984.55	984.36	979.95	978.20	

1/2 MATCH EXISTING

FINKBEINER, PETTIS & STROUT, INC. 15 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

**ABUTMENT DETAILS
LEFT FORWARD
BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)**

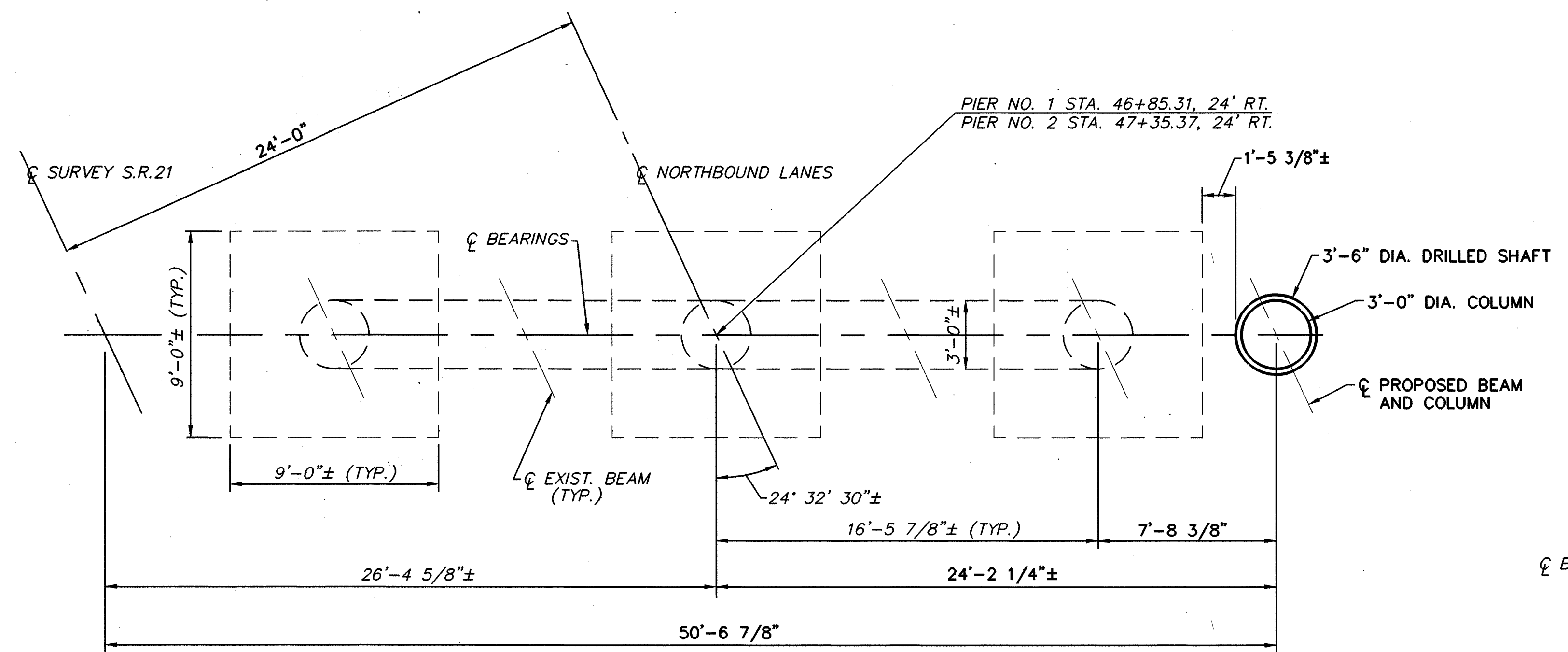
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

CAD FILE: 87ABTL12
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1=4

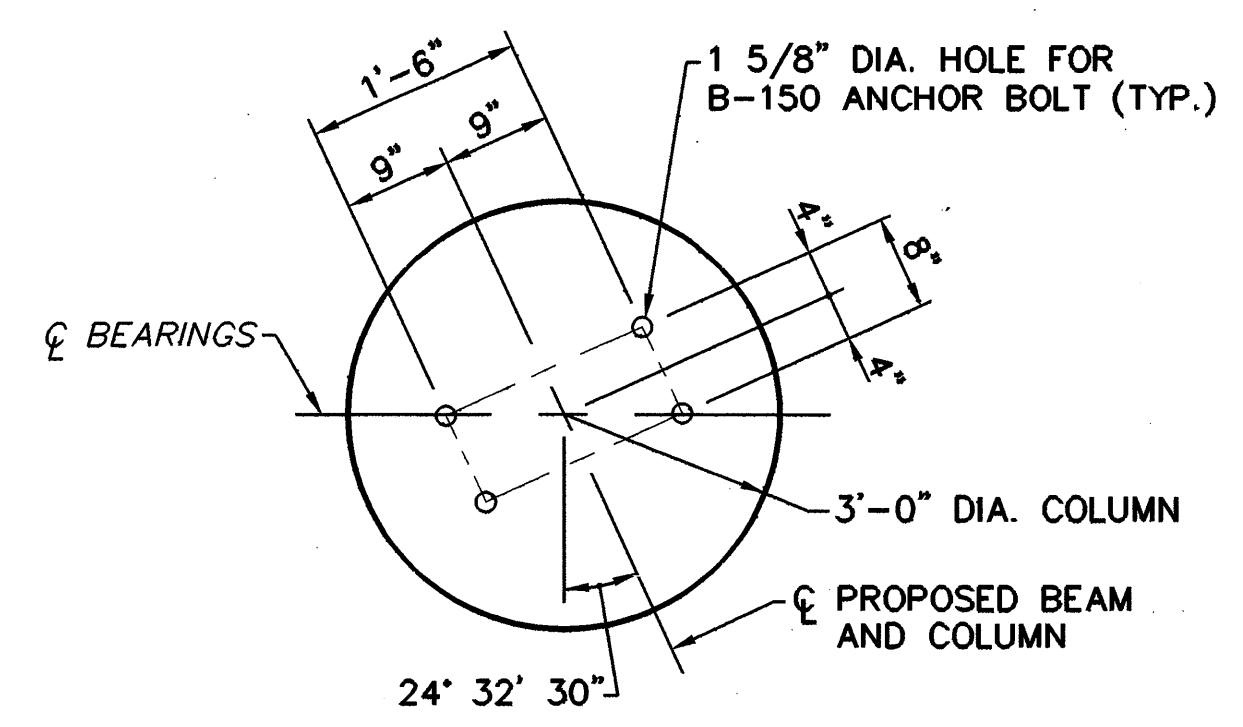
FHWA REGION	STATE	PROJECT	
5	OHIO		

70
98

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)

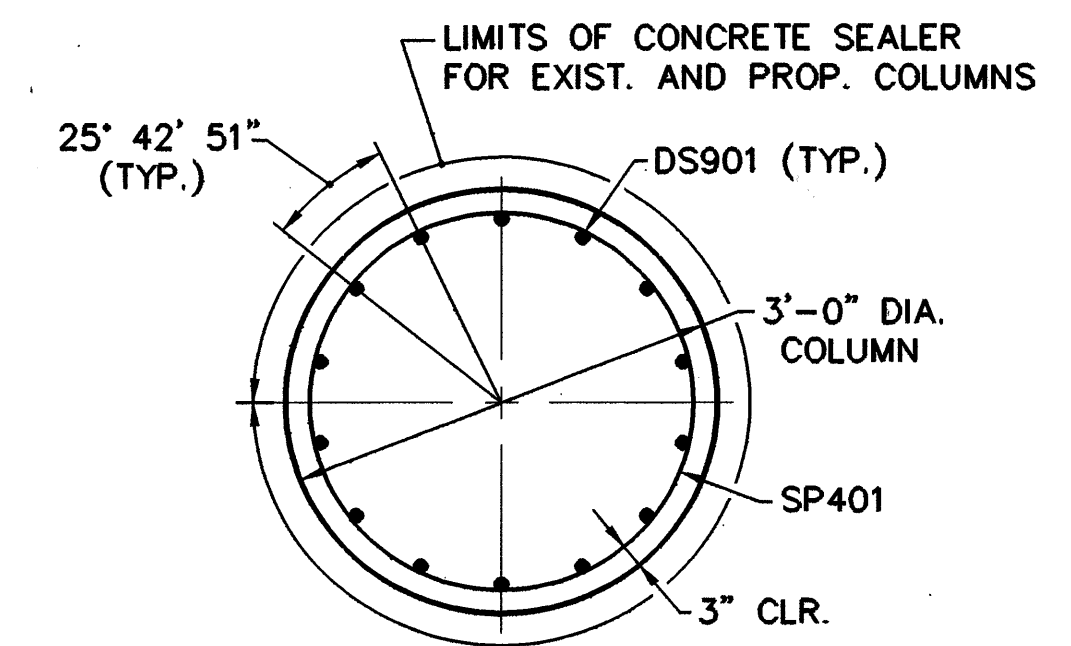


PLAN
(PIER NO. 1 SHOWN,
PIER NO. 2 SIMILAR)

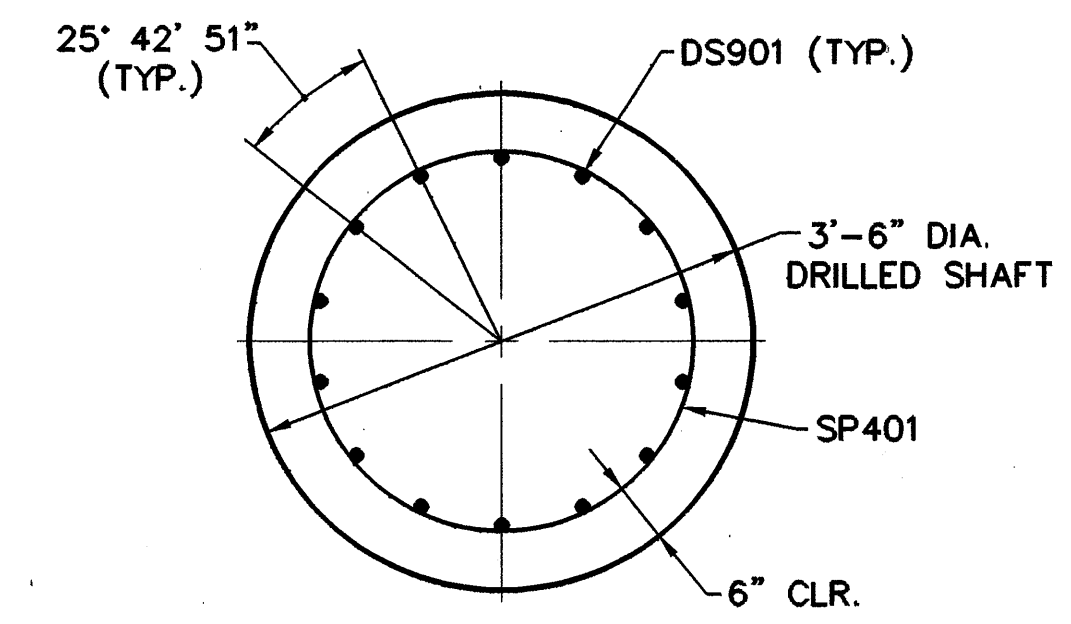


BEARING ANCHOR PLAN

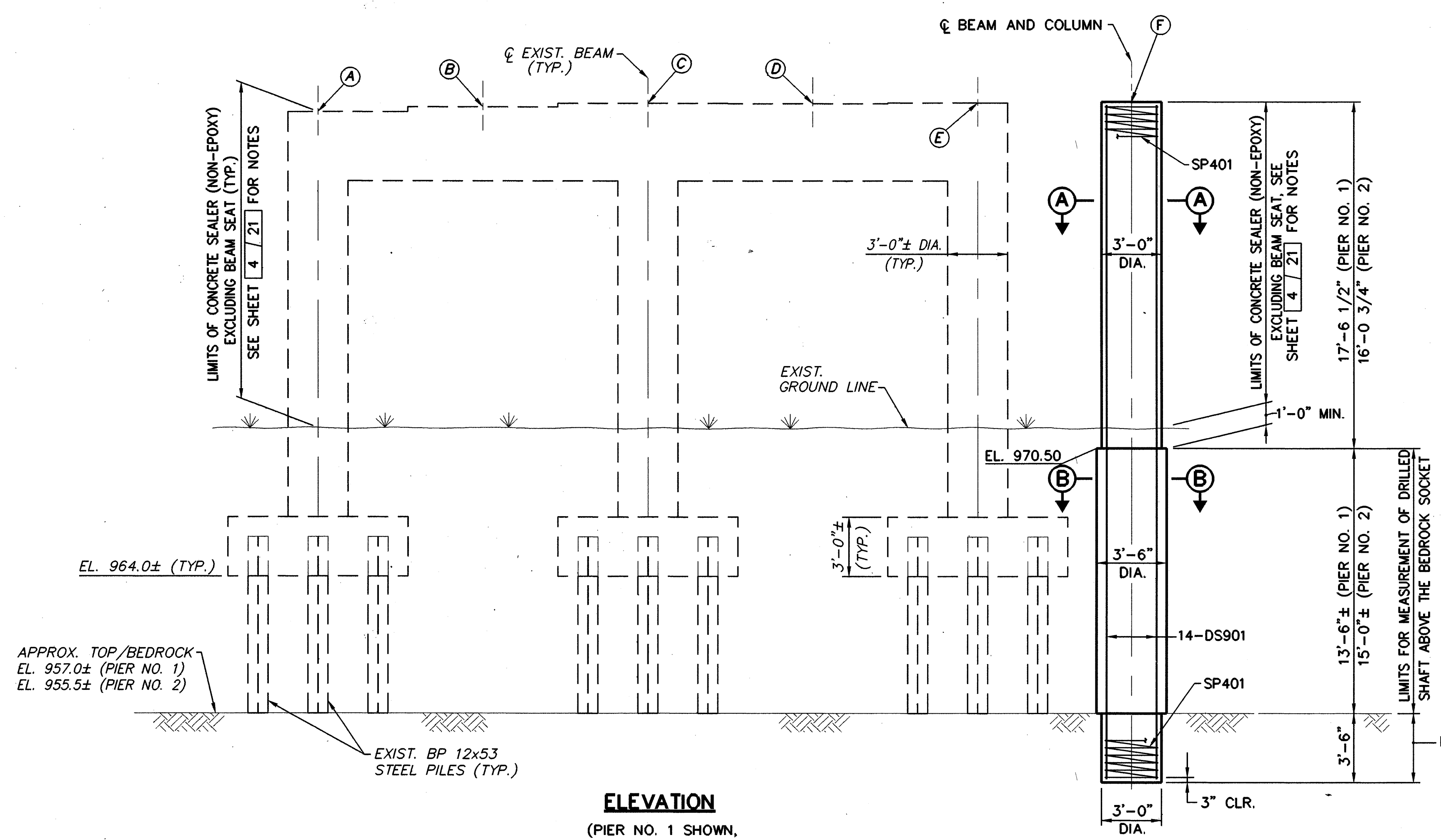
- NOTES**
- FOR LEFT STRUCTURE PIER DETAILS SEE SHEET 17 / 21 .
 - FOR DRILLED SHAFT NOTES SEE SHEET 6 / 21 .
 - AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS OR FORMED HOLES LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.



SECTION A-A



SECTION B-B



ELEVATION
(PIER NO. 1 SHOWN,
PIER NO. 2 SIMILAR)

SHAFT NO. 2

ELEVATION TABLE						
LOCATION	A	B	C	D	E	F
PIER NO. 1	987.58±	987.82±	988.01±	987.99±	988.02±	988.04
PIER NO. 2	986.12±	986.32±	986.55±	986.52±	986.54±	986.56

FINKBEINER, PETTIS & STROUT, INC. 16 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

PIER DETAILS
RIGHT STRUCTURE
BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

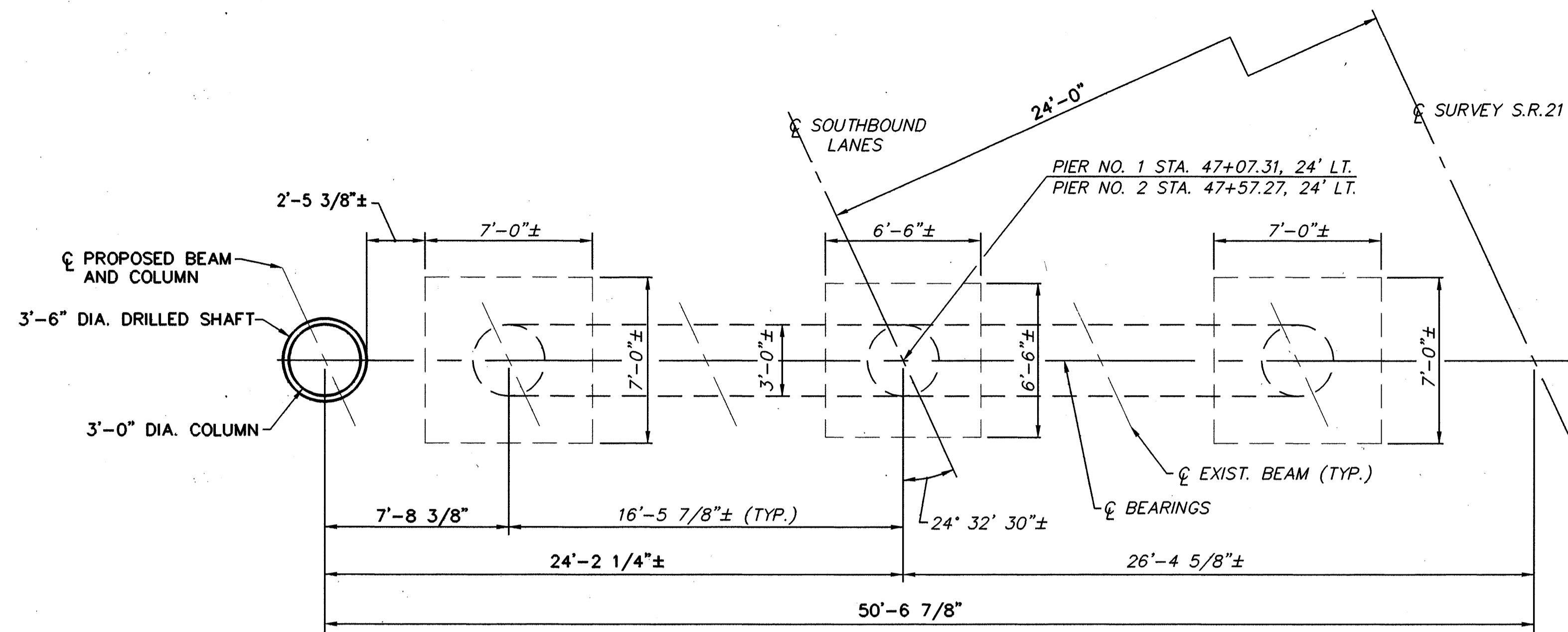
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

CAD FILE: 87PIERT
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=4'

FHWA REGION	STATE	PROJECT	
5	OHIO		

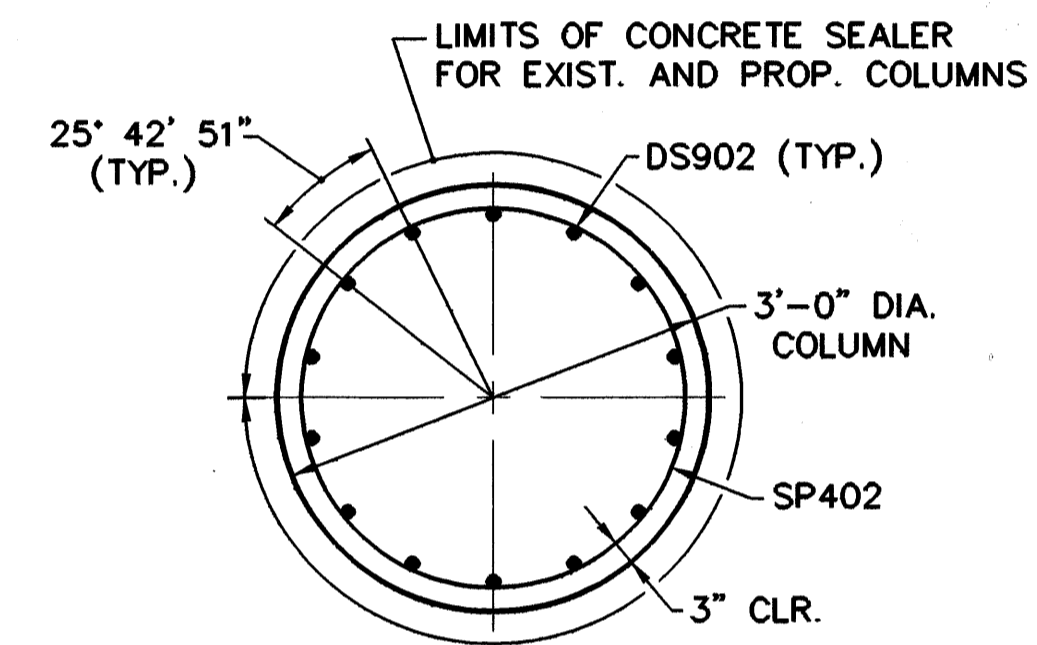
71
98

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)

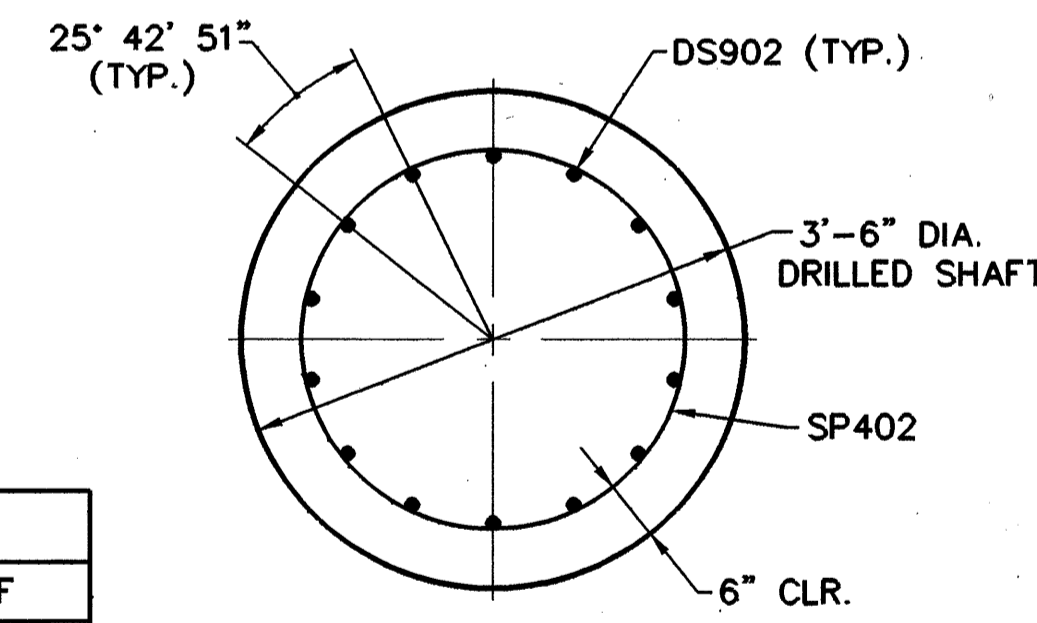


PLAN
(PIER NO. 1 SHOWN,
PIER NO. 2 SIMILAR)

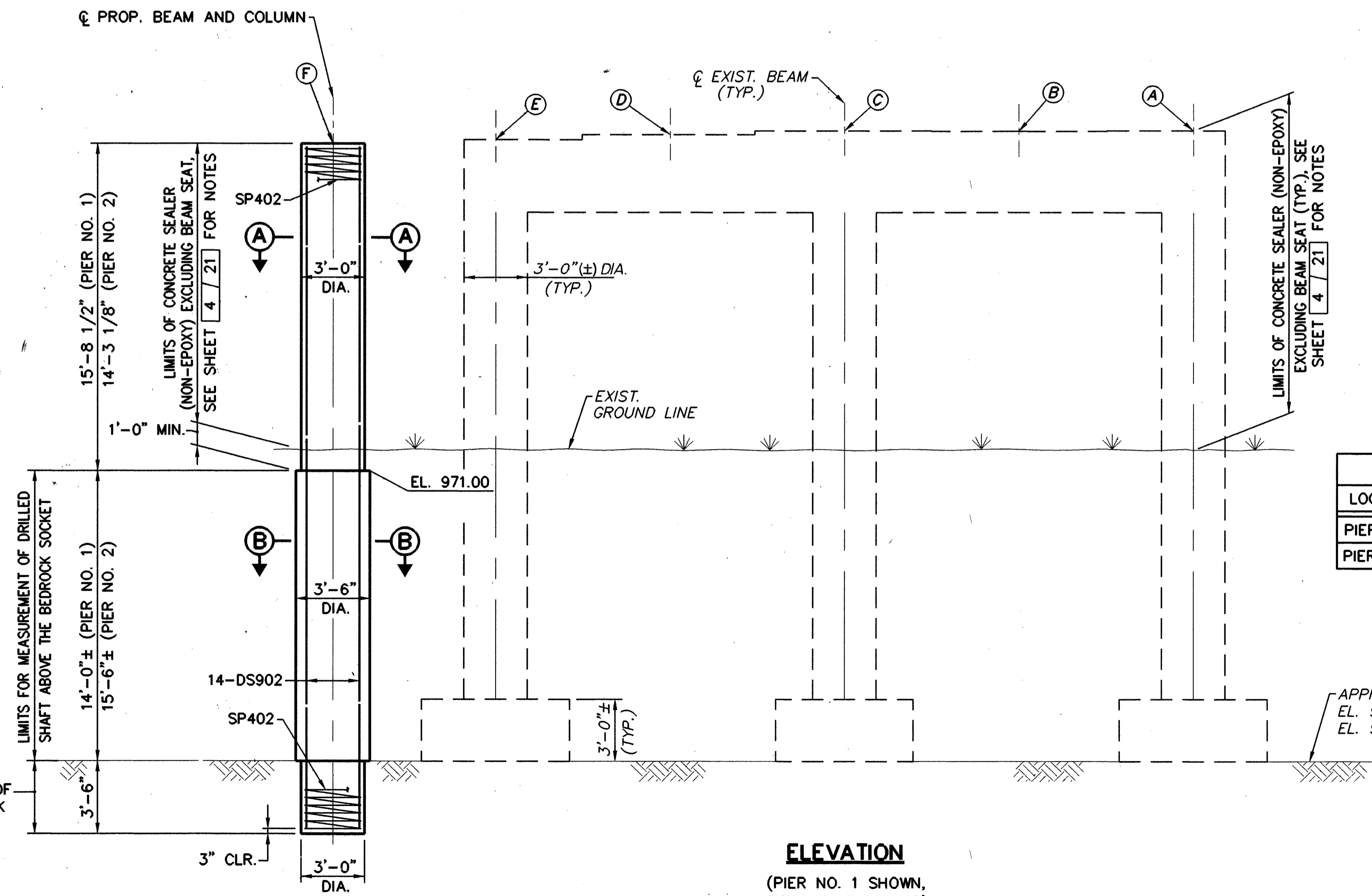
NOTE
① FOR BEARING ANCHOR PLAN AND ADDITIONAL DETAILS, SEE SHEET 16/21.



SECTION A-A



SECTION B-B



SHAFT NO. 1

ELEVATION
(PIER NO. 1 SHOWN,
PIER NO. 2 SIMILAR)

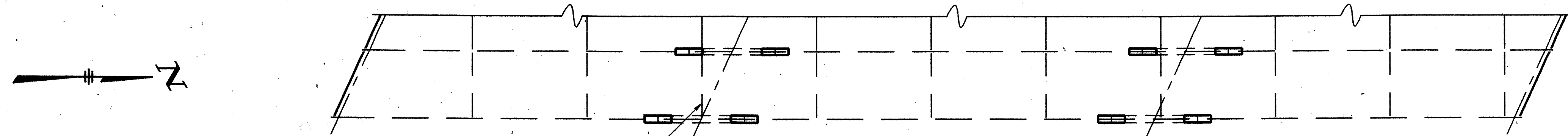
ELEVATION TABLE						
LOCATION	A	B	C	D	E	F
PIER NO. 1	987.31±	987.28±	987.30±	987.11±	986.88±	986.71
PIER NO. 2	985.84±	985.81±	985.82±	985.60±	985.41±	985.26

FINKBEINER, PETTIS & STROUT, INC. 17 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

PIER DETAILS
LEFT STRUCTURE
BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

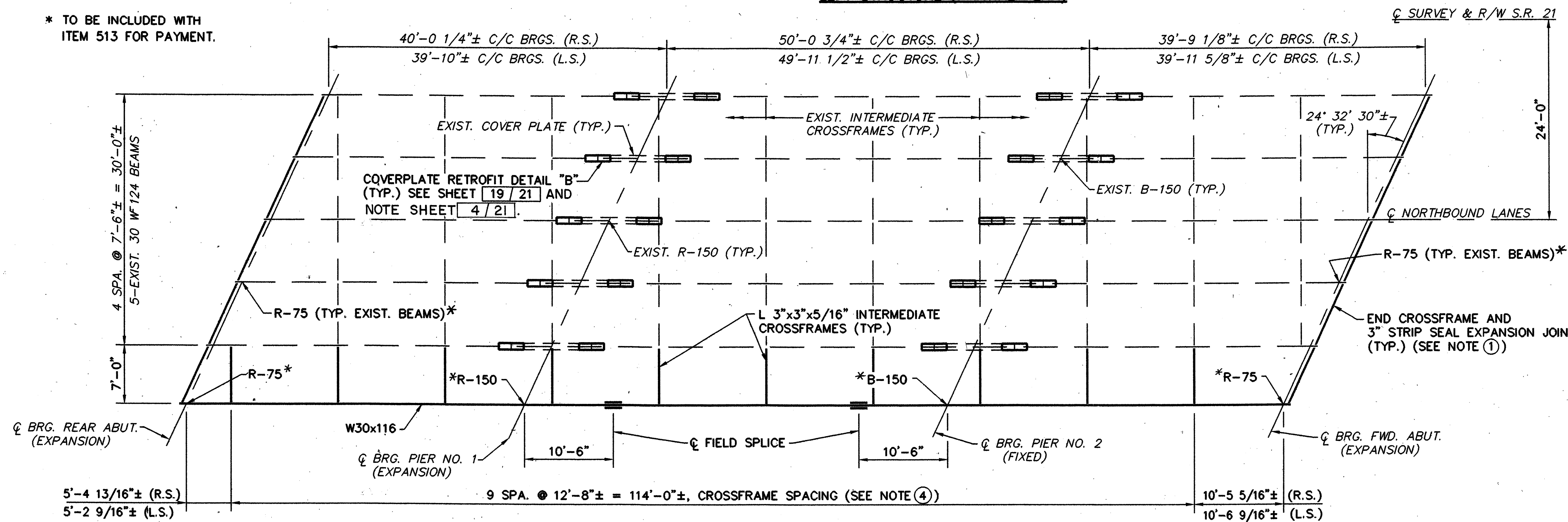
CAD FILE: 87PIERLT
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1/4"



* RE-ATTACH CROSSFRAME ANGLE TO WEB (SEE DETAIL "A")

LEFT STRUCTURE (PARTIAL PLAN)

* TO BE INCLUDED WITH ITEM 513 FOR PAYMENT.

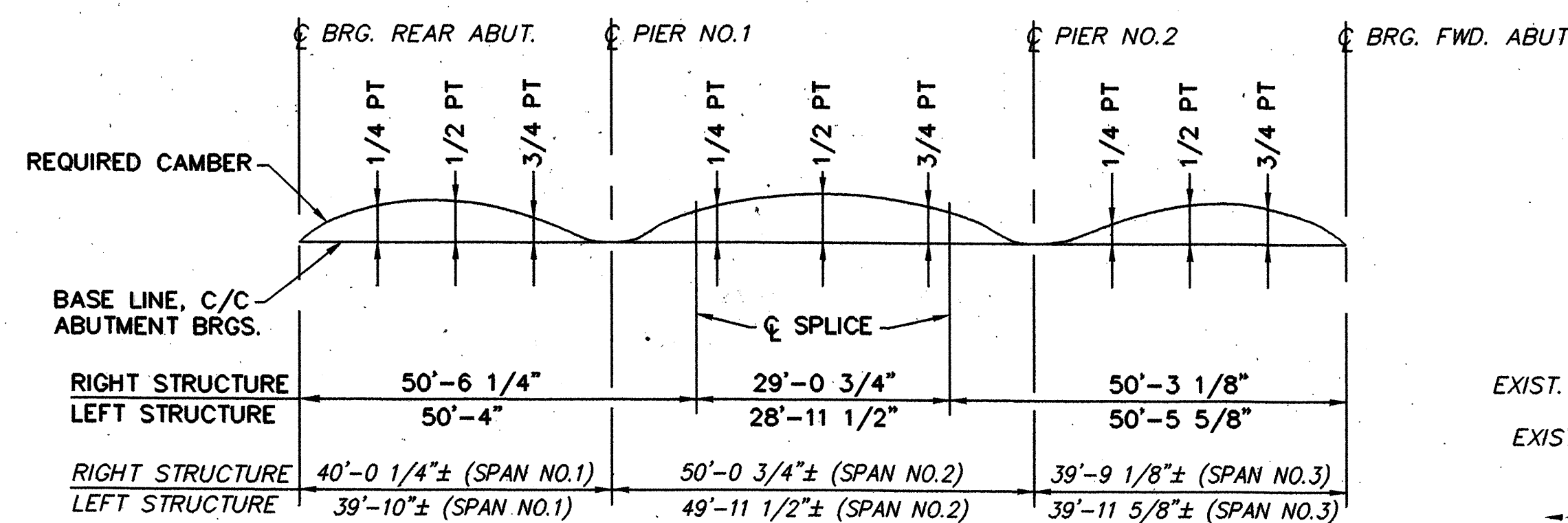


FRAMING PLAN

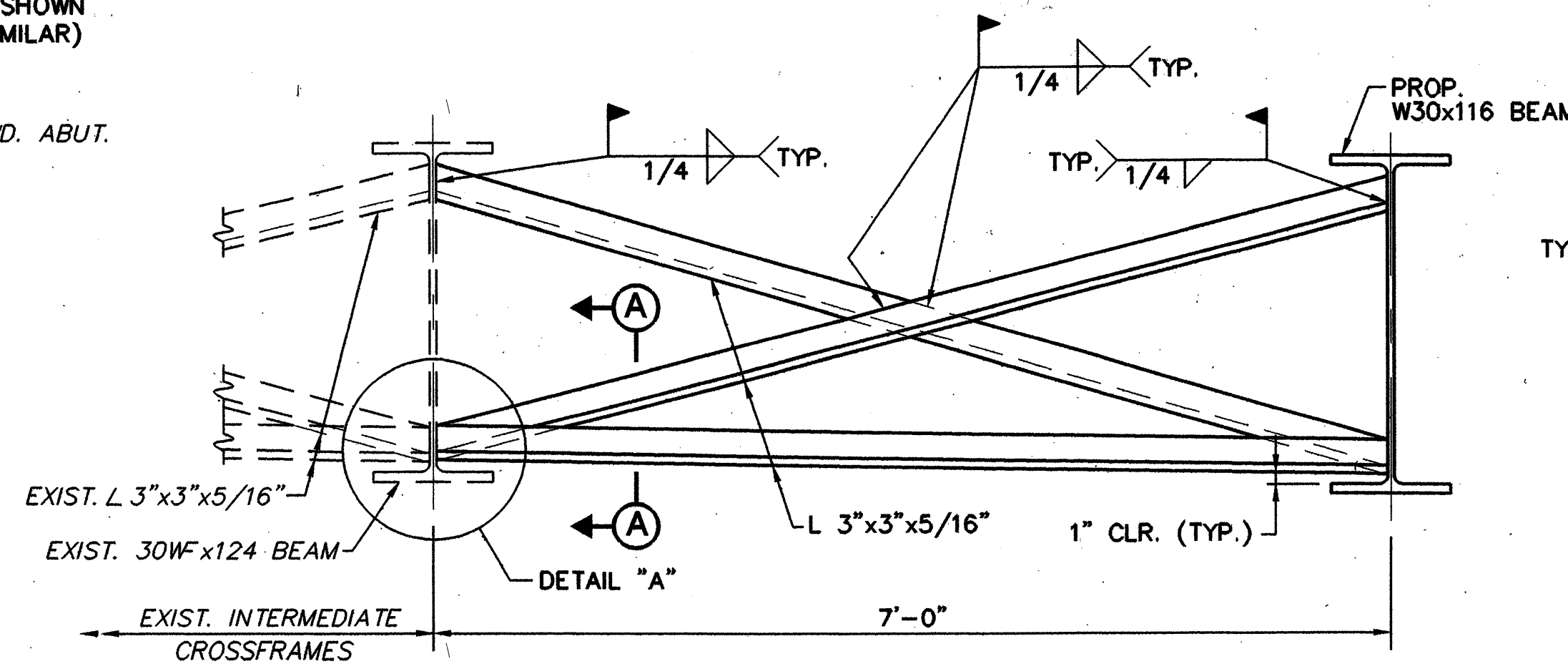
(RIGHT STRUCTURE SHOWN LEFT STRUCTURE SIMILAR)

NOTES

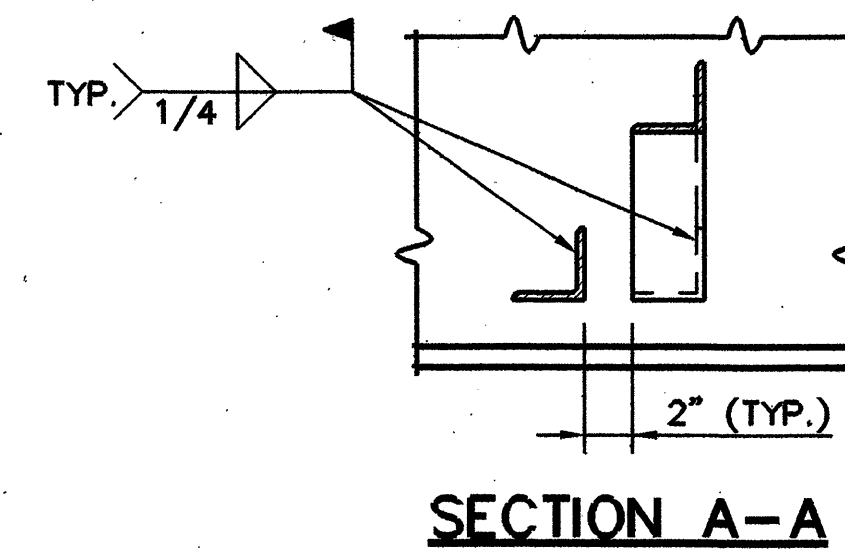
- FOR ADDITIONAL DETAILS AND NOTES SEE SHEET 19/21 AND STANDARD DWGS. EXJ-4-87 AND SD-1-69. MINIMUM JOINT OPENING AT TIME OF SEAL GLAND INSTALLATION SHALL NOT BE LESS THAN 1 1/2". ELASTOMERIC SEALS: THE JOINT SEAL FOR EACH BRIDGE DECK JOINT SHALL BE FURNISHED IN ONE CONTINUOUS PIECE.
- ALL STRUCTURAL STEEL SHALL BE ASTM A36, EXCEPT AS NOTED.
- ABBREVIATIONS:
R.S. = RIGHT STRUCTURE
L.S. = LEFT STRUCTURE
- PROPOSED CROSSFRAME SPACING SHALL MATCH FIELD SPACING OF EXISTING CROSSFRAMES.



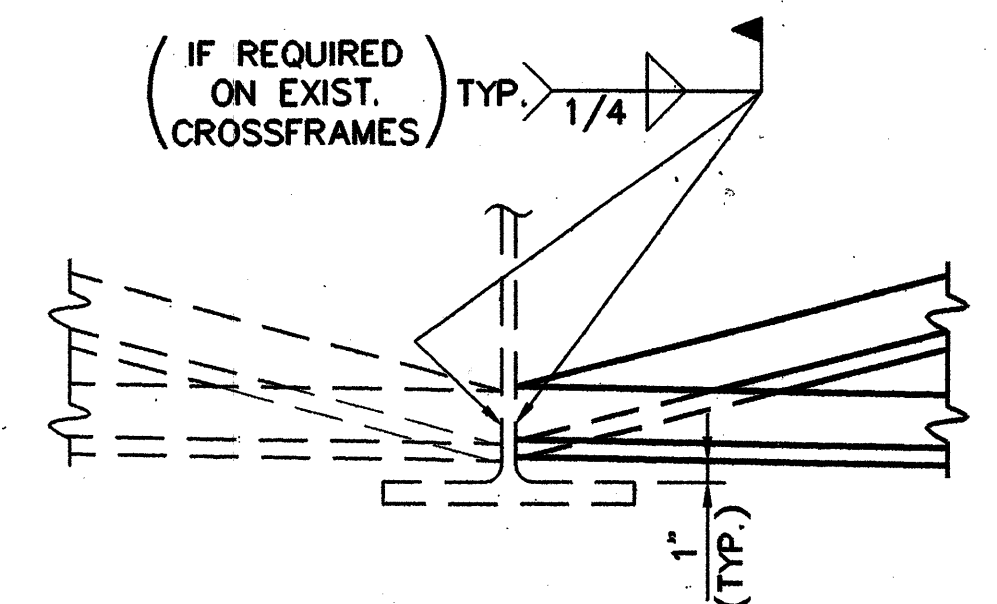
CAMBER DIAGRAM



INTERMEDIATE CROSSFRAME DETAIL



SECTION A-A



DETAIL "A"

DEFLECTION AND CAMBER (PROPOSED BEAMS)											
LOCATION (POINT)	SPAN NO. 1				SPAN NO. 2				SPAN NO. 3		
	1/4	1/2	3/4	SPL.	1/4	1/2	3/4	SPL.	1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	0	0	0	0	0	0	0
DEFLECTION DUE TO REMAINING NON-COMP.	1/16"	1/8"	1/16"	1/16"	1/16"	1/8"	1/16"	1/16"	1/16"	1/8"	1/16"
DEFLECTION DUE TO COMPOSITE	0	0	0	0	0	0	0	0	0	0	0
REQUIRED SHOP CAMBER	1/16"	1/8"	1/16"	1/16"	1/16"	1/8"	1/16"	1/16"	1/16"	1/8"	1/16"

NOTE: CAMBER VALUES ARE THE SAME FOR THE LEFT AND RIGHT STRUCTURES.

DEFLECTION (EXISTING BEAMS)									
LOCATION (POINT)	SPAN NO. 1			SPAN NO. 2			SPAN NO. 3		
	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4
DEFLECTION DUE TO NON-COMPOSITE	1/8"	1/8"	1/16"	1/8"	3/16"	1/8"	1/16"	1/8"	1/8"
DEFLECTION DUE TO COMPOSITE	0	0	0	0	0	0	0	0	0

NOTE: DEFLECTION VALUES ARE THE SAME FOR THE LEFT AND RIGHT STRUCTURES.

DIMENSION "A"	
TEMPERATURE (F)	JOINT OPENING
30°	1 11/16"
40°	1 5/8"
50°	1 9/16"
60°	1 1/2"
70°	1 7/16"
80°	1 3/8"
90°	1 5/16"

EXPANSION JOINT OPENING TABLE

SEE NOTE ①

FINKBEINER, PETTIS & STROUT, INC. 18 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

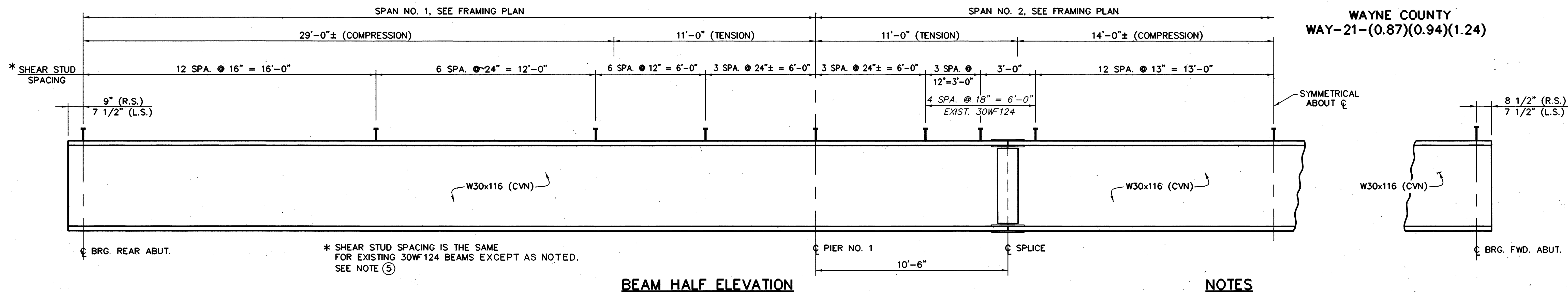
FRAMING PLAN AND CAMBER DETAILS

BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	1-14-97

FHWA REGION	STATE	PROJECT	
5	OHIO		

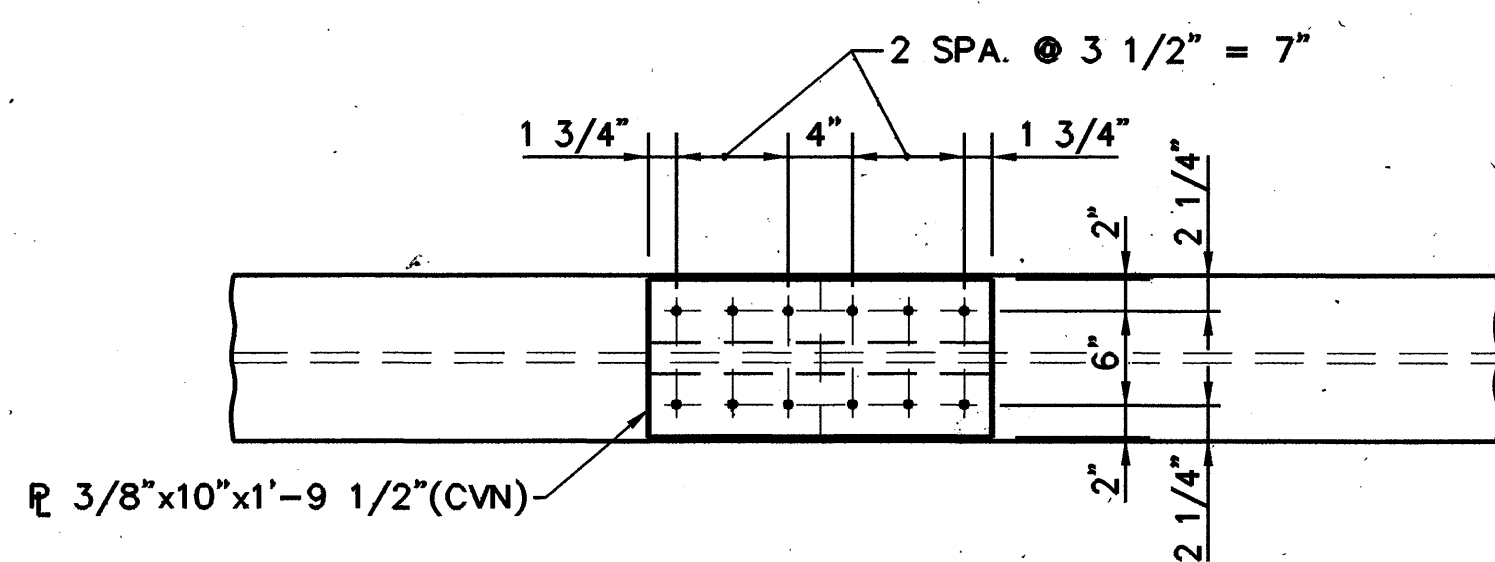
73
98



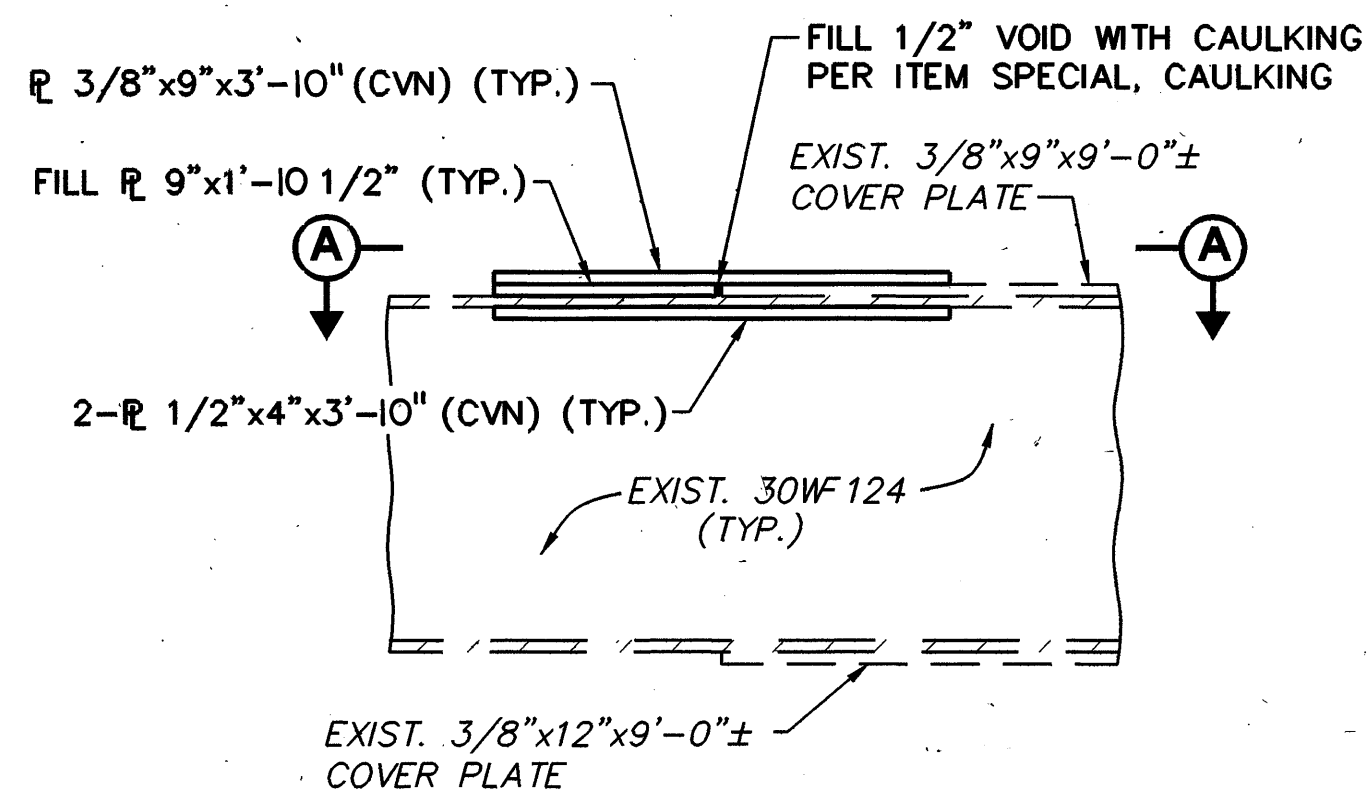
BEAM HALF ELEVATION

NOTES

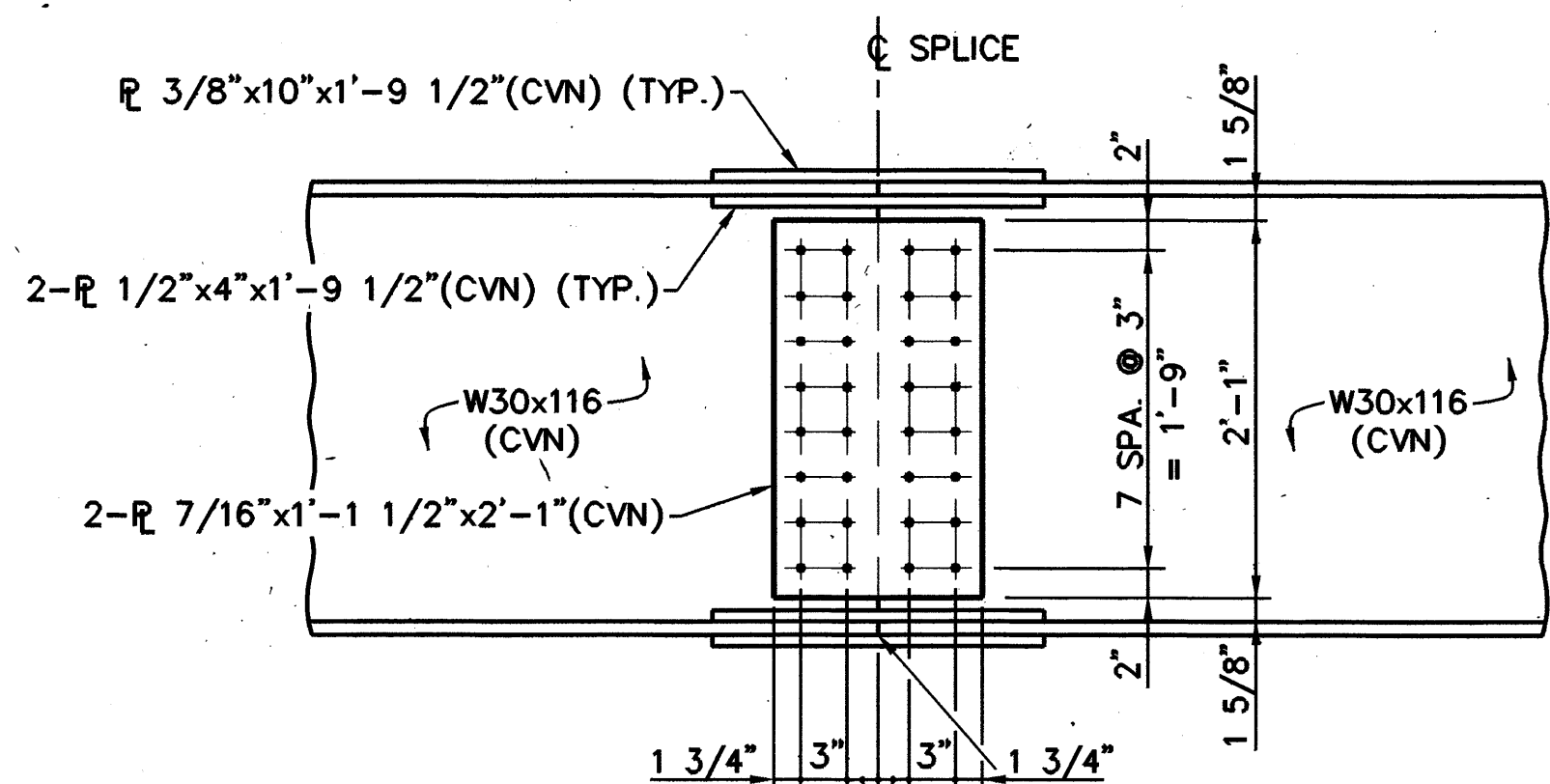
- ALL STRUCTURAL STEEL SHALL BE ASTM A36, EXCEPT AS NOTED IN PLANS.
- WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01. ALL FIELD SPlice MATERIAL SHALL BE (CVN).
- ALL FIELD SPLICES AND COVER PLATE RETROFITS SHALL BE CONNECTED WITH 1" DIAMETER HIGH STRENGTH BOLTS (GALVANIZED) CONFORMING TO ASTM A325. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF THE EXTERIOR BEAM, ON THE BOTTOM OF THE BOTTOM FLANGE PLATES AND TOP OF THE TOP FLANGE PLATES.
- ABBREVIATIONS:
R.S. - RIGHT STRUCTURE
L.S. - LEFT STRUCTURE
- WELDED STUD SHEAR CONNECTORS SHALL BE MOVED TO AVOID INTERFERENCE WITH BOLT HEADS AND PLATE EDGES.
- EXISTING STEEL IN THE VICINITY OF THE COVER PLATE RETROFIT SHALL BE ABRASIVELY CLEANED PRIOR TO ASSEMBLY AND PREPARED AS PER ITEMS 513 AND 514 PRIOR TO ERECTION.
- WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO SHEAR CONNECTORS.
- IF EXISTING CROSSFRAME ANGLES INTERFERE WITH PROPOSED BOLT LOCATIONS, ONE TRANSVERSE LINE OF BOLTS MAY BE ADJUSTED. EDGE DISTANCE SHALL NOT BE GREATER THAN 3 INCHES OR LESS THAN 1 3/4 INCHES. PITCH SHALL NOT BE GREATER THAN 5 1/2 INCHES OR LESS THAN 3 1/2 INCHES. ADJUSTED BOLT SPACING SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY DRILLING OF HOLES.
- FOR ADDITIONAL NOTES AND DETAILS SEE SHEETS 4/21 AND 18/21.



TOP & BOTTOM FLANGE SPlice

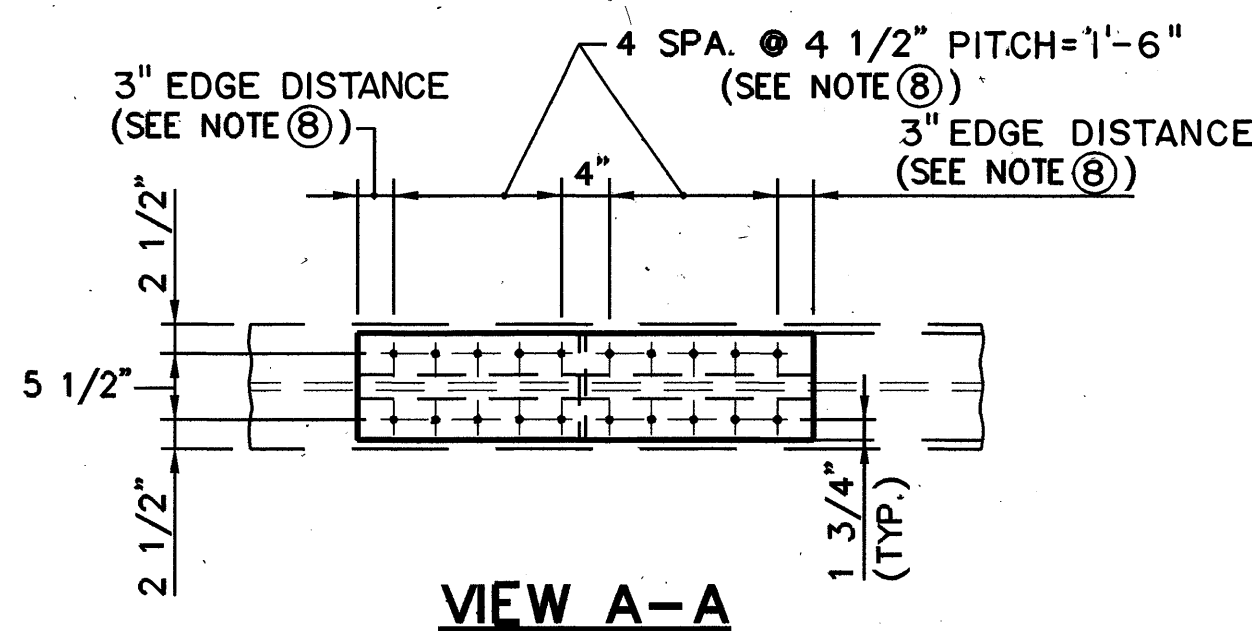


DETAIL "B"

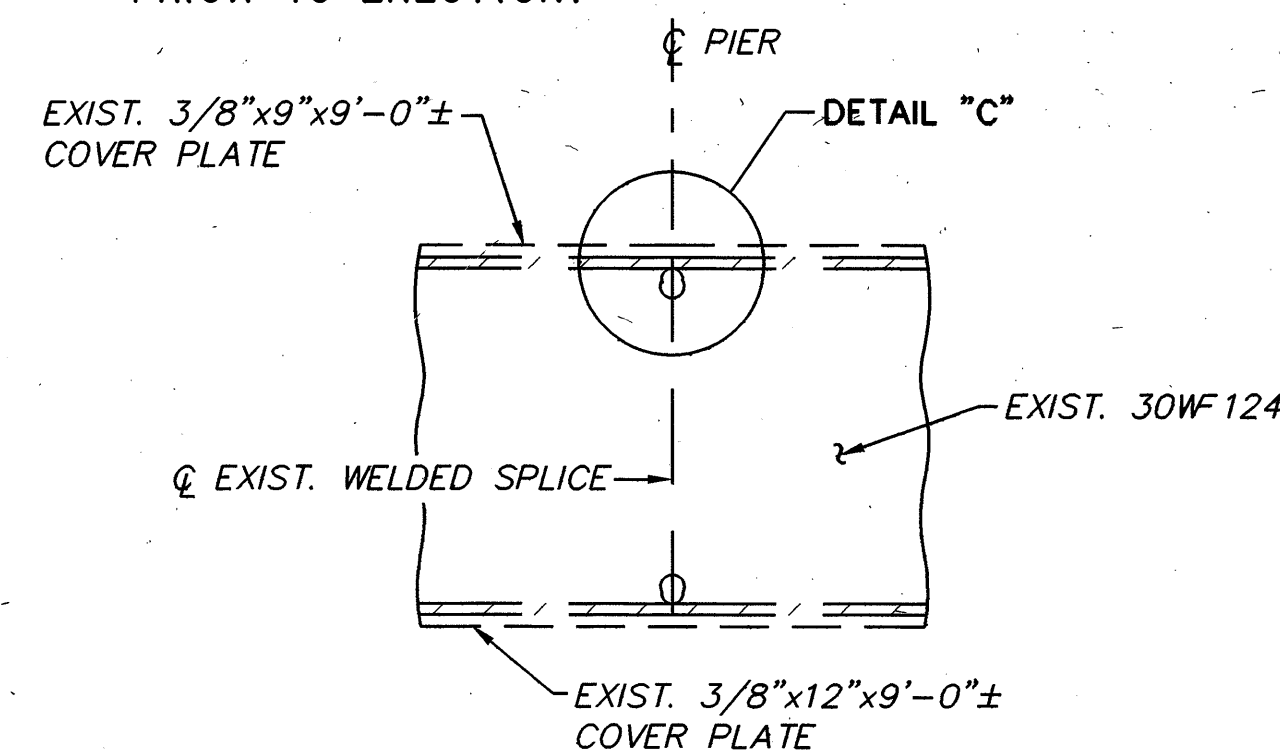


WEB SPlice

CAULK ALL OPENINGS GREATER THAN 1/8" (TYP.) (INCLUDE WITH ITEM SPECIAL-CAULKING FOR PAYMENT)

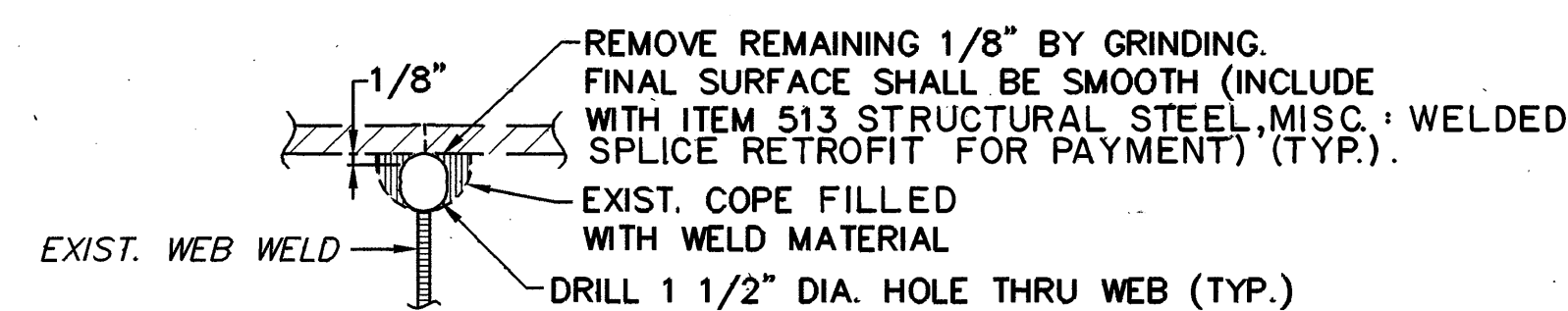


VIEW A-A

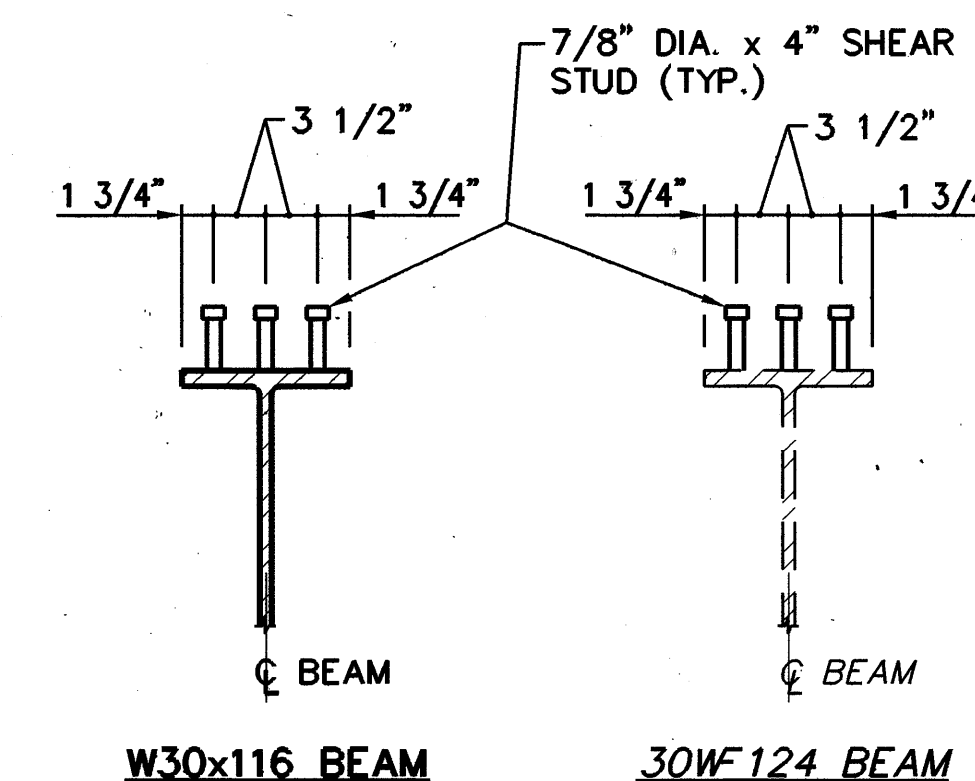


WELDED SPlice RETROFIT DETAIL

(LEFT STRUCTURE ONLY)



DETAIL "C"



SHEAR STUD CONNECTOR DETAILS

FINKBEINER, PETTIS & STROUT, INC. 19 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

FRAMING PLAN DETAILS

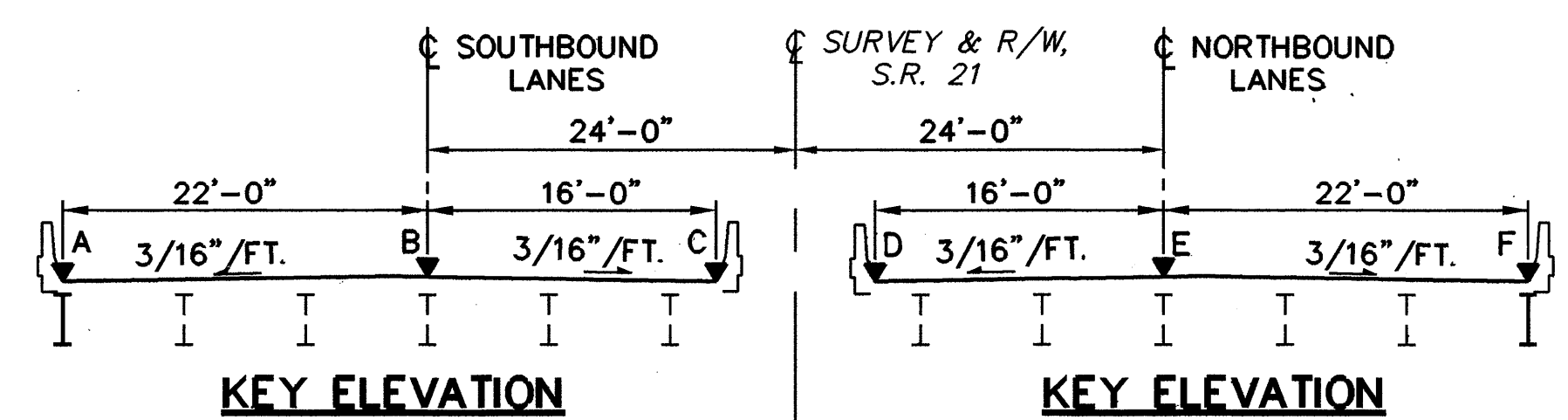
BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

FHWA REGION	STATE	PROJECT
5	OHIO	

74
98

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)



SCREED ELEVATIONS (LEFT STRUCTURE)

LOCATION	POINT-A	POINT-B	POINT-C
ABUT. BRG.	992.19	992.81	992.77
1/4	991.91	992.54	992.49
1/2	991.62	992.25	992.21
3/4	991.34	991.97	991.92
PIER NO.1	991.05	991.68	991.64
1/4	990.70	991.33	991.29
1/2	990.35	990.98	990.94
3/4	989.99	990.62	990.58
PIER NO.2	989.63	990.26	990.22
1/4	989.35	989.98	989.94
1/2	989.07	989.70	989.66
3/4	988.78	989.41	989.37
ABUT. BRG.	988.49	989.12	989.08

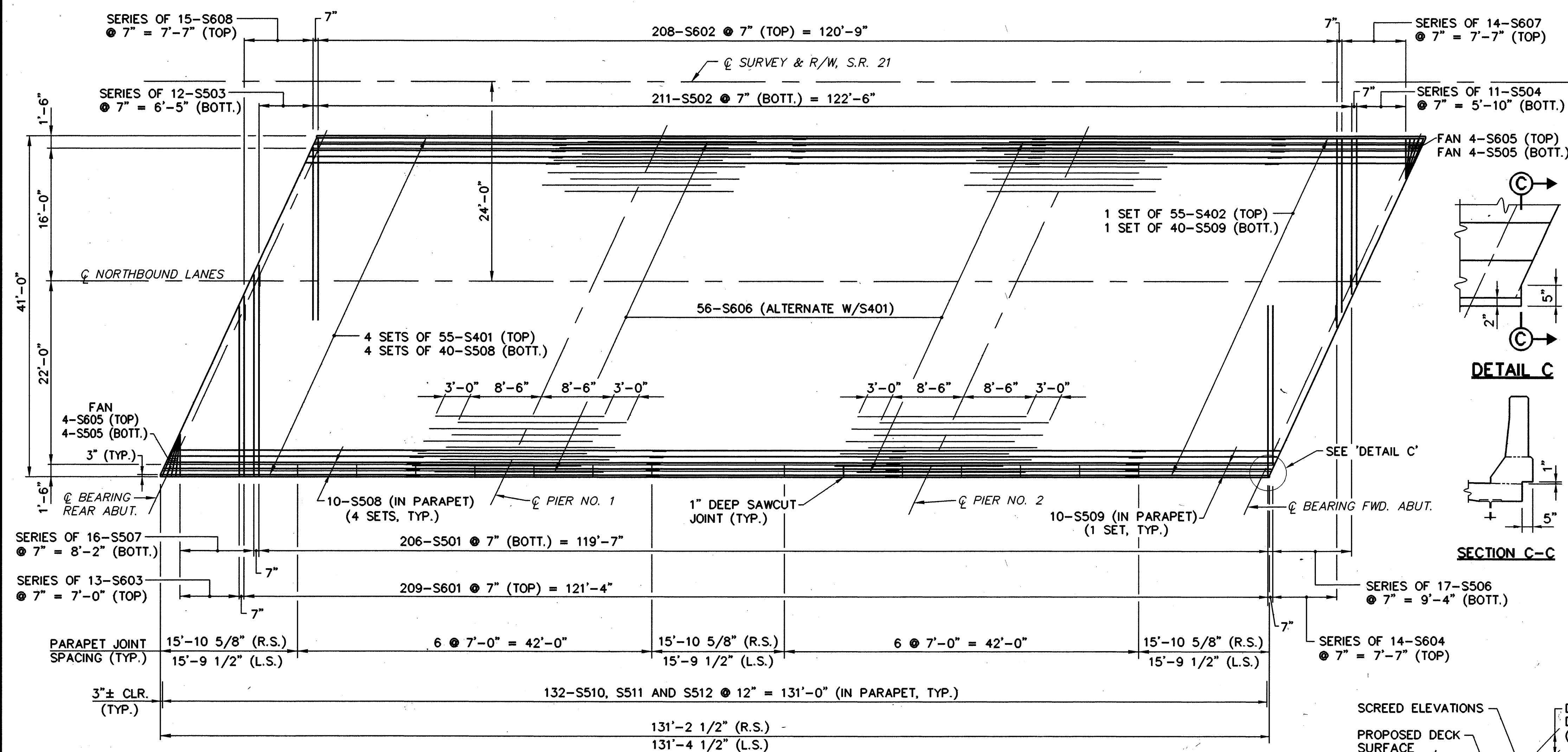
SCREED ELEVATIONS (RIGHT STRUCTURE)

LOCATION	POINT-D	POINT-E	POINT-F
ABUT. BRG.	993.19	993.66	993.61
1/4	992.90	993.37	993.32
1/2	992.61	993.08	993.03
3/4	992.31	992.78	992.73
PIER NO.1	992.01	992.48	992.43
1/4	991.65	992.11	992.07
1/2	991.28	991.75	991.70
3/4	990.91	991.37	991.33
PIER NO.2	990.53	991.00	990.95
1/4	990.24	990.70	990.65
1/2	989.95	990.41	990.36
3/4	989.65	990.11	990.07
ABUT. BRG.	989.35	989.82	989.77

NOTE: THE ELEVATIONS SHOWN ARE ON TOP OF THE PORTLAND CEMENT CONCRETE AND ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTION CAUSED BY THE WEIGHT OF THE CONCRETE.

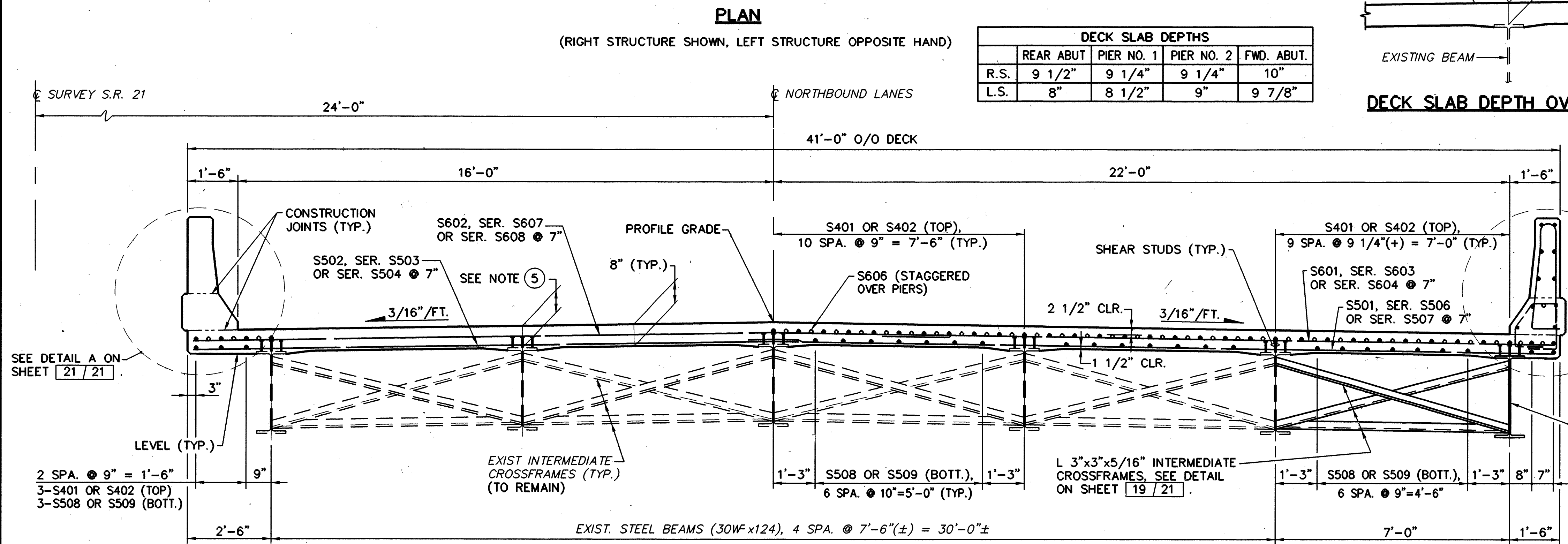
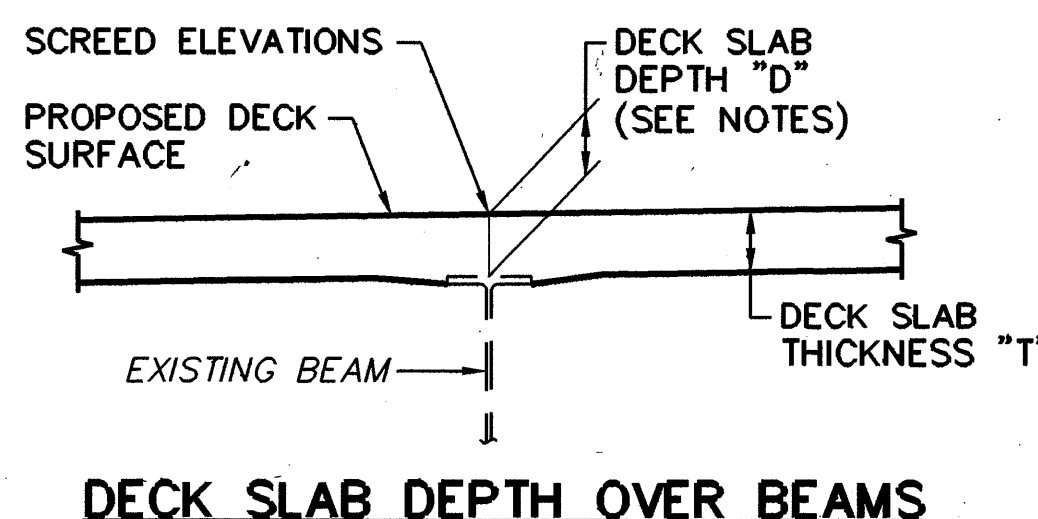
NOTES

- ALL REINFORCING BARS TO BE EPOXY COATED.
- MINIMUM BAR LAPS ARE AS FOLLOWS:
#6 BAR = 24"; #5 BAR = 18"; #4 BAR = 15"
- A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6 AND 12 INCHES.
- THIS NOTE NOT USED
- DECK SLAB DEPTH: THE ANTICIPATED DECK SLAB DEPTHS, D, OVER THE BEAMS ARE GIVEN IN THE TABLE OF DECK SLAB DEPTHS. THE ACTUAL SLAB DEPTHS MAY BE MORE. THEY SHOULD NOT BE LESS THAN THE DECK SLAB THICKNESS, T.
AFTER COMPLETE REMOVAL OF THE EXISTING DECK SLAB, THE CONTRACTOR SHALL DETERMINE AT VARIOUS LOCATIONS ALONG THE SPANS, ACTUAL TOP OF BEAM ELEVATIONS. THESE SHOULD BE DEDUCTED FROM THE SCREED ELEVATIONS FOR THE SAME LOCATIONS (OR PROPOSED SCREED ELEVATIONS DETERMINED FROM ADJACENT SCREED ELEVATIONS) TO OBTAIN ACTUAL SLAB DEPTHS. FOR DEPTHS LESS THAN T, THE DIRECTOR SHALL BE NOTIFIED TO ESTABLISH THE SUITABILITY OF THE PROPOSED WORK PRIOR TO DECK FORMING AND CONCRETE PLACEMENT.
THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THE AVERAGE DECK SLAB DEPTH 9 1/8 ± INCHES.
- ABBREVIATIONS:
R.S. - RIGHT STRUCTURE
L.S. - LEFT STRUCTURE
- FOR ADDITIONAL SUPERSTRUCTURE REINFORCING, SEE SHEET 21 / 21.



DECK SLAB DEPTHS

	REAR ABUT.	PIER NO. 1	PIER NO. 2	FWD. ABUT.
R.S.	9 1/2"	9 1/4"	9 1/4"	10"
L.S.	8"	8 1/2"	9"	9 7/8"



TRANSVERSE SECTION
(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE OPPOSITE HAND)

FINKBEINER, PETTIS & STROUT, INC. 20 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

TRANSVERSE SECTION
AND SLAB PLAN
BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	J.D.P.		J.G.C.	T.E.N.	1/95	

CAD FILE: 87SLAB
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=2'-6"

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)

MARK	LEFT BRIDGE	RIGHT BRIDGE	TOTAL REQUIRED	LENGTH	TYPE	DIMENSIONS					WEIGHT LBS.
						A	B	C	D	INCR.	
						PIERS (CONT.)					
SP401 Δ		2	2	34'-3"	9	2'-6"	4 1/2"				589 Δ
SP402 Δ	2		2	32'-10"	9	2'-6"	4 1/2"				565 Δ
SUPERSTRUCTURE											
S601	210	210	420	20'-6"	ST.						12,932
S602	209	209	418	22'-2"	ST.						13,917
SERIES S603	1 SET OF 13	1 SET OF 13	2 SETS OF 13	4'-5" TO 19'-9"	ST.					1'-3 3/8"	472
SERIES S604	1 SET OF 14	1 SET OF 14	2 SETS OF 14	2'-2" TO 18'-10"	ST.					1'-3 3/8"	442
S605	8	8	16	4'-0"	ST.						96
S606	122	122	244	23'-0"	ST.						8,429
SERIES S607	1 SET OF 14	1 SET OF 14	2 SETS OF 14	4'-3" TO 20'-11"	ST.					1'-3 3/8"	529
SERIES S608	1 SET OF 15	1 SET OF 15	2 SETS OF 15	3'-6" TO 21'-5"	ST.					1'-3 3/8"	561
S501	206	206	412	24'-1"	ST.						10,349
S502	211	211	422	18'-1"	ST.						7,959
SERIES S503	1 SET OF 12	1 SET OF 12	2 SETS OF 12	2'-3" TO 16'-4"	ST.					1'-3 3/8"	233
SERIES S504	1 SET OF 11	1 SET OF 11	2 SETS OF 11	4'-3" TO 17'-3"	ST.					1'-3 5/8"	247
S505	8	8	16	4'-0"	ST.						67
SERIES S506	1 SET OF 17	1 SET OF 17	2 SETS OF 17	2'-0" TO 22'-5"	ST.					1'-3 3/8"	433
SERIES S507	1 SET OF 16	1 SET OF 16	2 SETS OF 16	4'-5" TO 23'-7"	ST.					1'-3 3/8"	467
S508	240	240	480	30'-0"	ST.						15,019
S509	60	60	120	16'-9"	ST.						2,096
S510	264	264	528	3'-1"	8	9"	6"	8 1/2"	10"		1,698
S511	264	264	528	6'-8"	4	3'-0"	2'-7"	8"	7"		3,671
S512	264	264	528	2'-1"	2	1'-5"	10"				1,147
S401	220	220	440	30'-0"	ST.						8,818
S402	55	55	110	15'-10"	ST.						1,163
TOTAL SUPERSTRUCTURE											90,745
TOTAL THIS SHEET											100,948

Δ - BARS INCLUDED WITH DRILLED SHAFT FOR PAYMENT.

NOTES

- ALL REINFORCING BARS ARE EPOXY COATED.
- FOR PARAPET PANEL SPACING SEE SHEET [20/21].
- SPIRAL REINFORCING BARS: THE "LENGTH" SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE LENGTH OF THE SPIRAL ALONG THE AXIS OF THE SPIRAL. ONE AND ONE-HALF CLOSED-COIL TURNS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LINEAR FOOT OF SPACER, SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF THE COILS. THE NUMBER OF POUNDS OF THESE SPACERS, BASED ON 3.20 LBS. PER LINEAR FOOT, WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITIES OF SPIRAL BARS.
- FOR ADDITIONAL NOTES AND DETAILS, SEE SHEET [20/21].

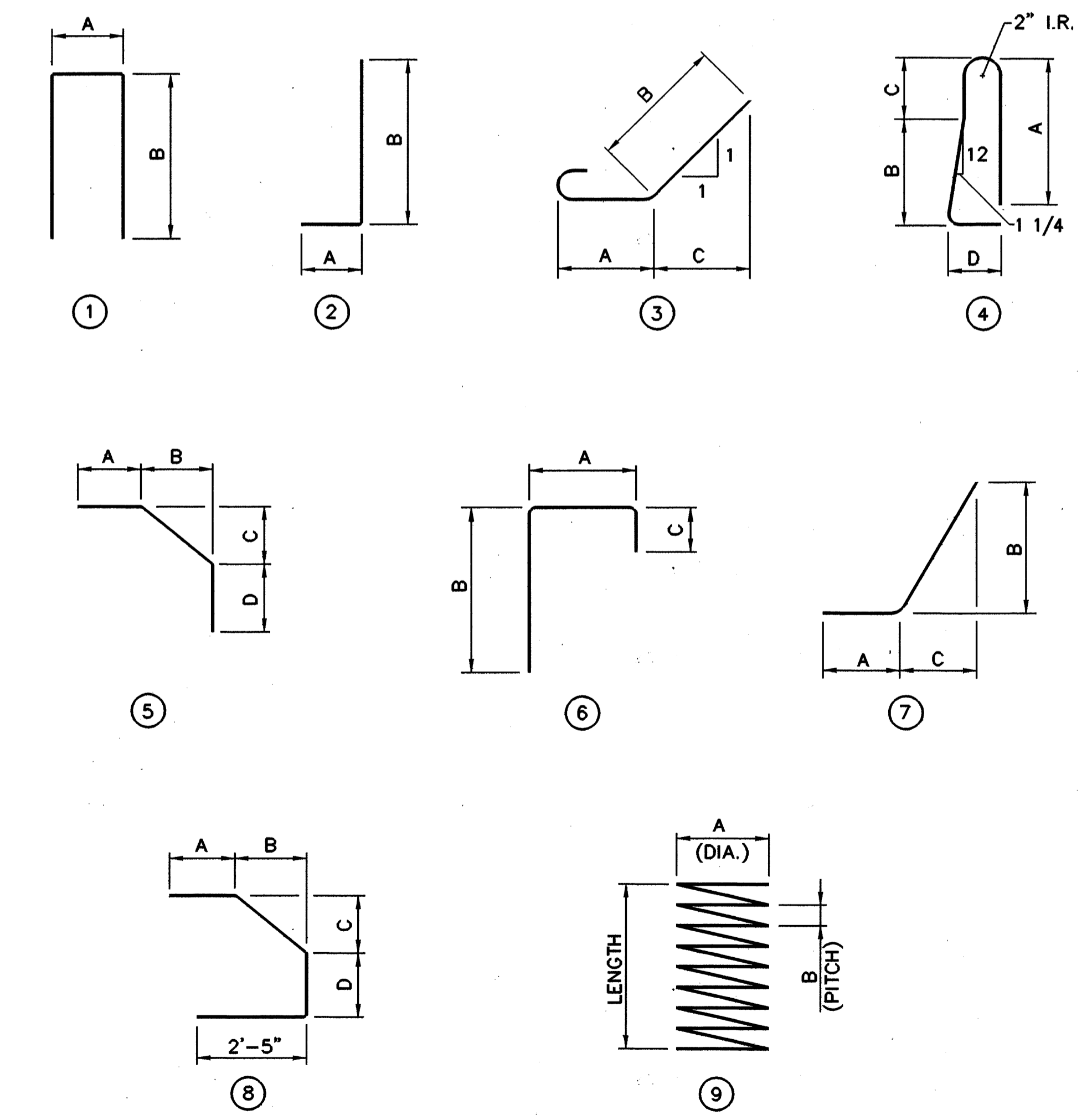
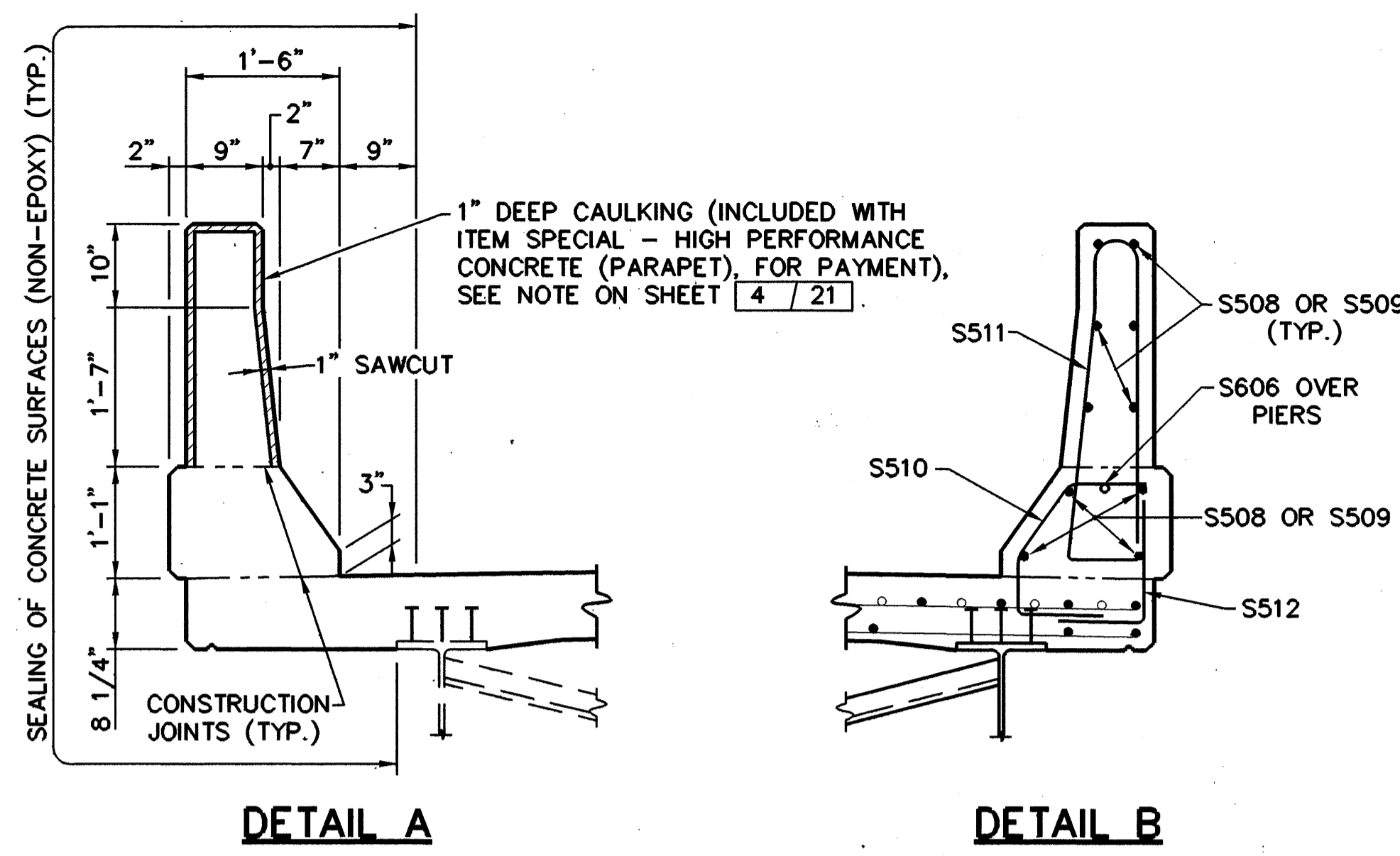
FINKBEINER, PETTIS & STROUT, INC. [21/21]
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

REINFORCING STEEL LIST

BRIDGE NO. WAY-21-0087 L/R
OVER WARWICK ROAD (C.H. 116)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	T.E.N.	1/95	

REINFORCING SCHEDULE											
MARK	LEFT BRIDGE	RIGHT BRIDGE	TOTAL REQUIRED	LENGTH	TYPE	DIMENSIONS					WEIGHT LBS.
						A	B	C	D	INCR.	
ABUTMENTS											
A801		7	7	4'-10"	ST.						90
A802		7	7	7'-0"	ST.						131
A803	56	56	112	4'-6"	3	2'-4"	1'-5"	1'-0"			1,346
A804	7		7	7'-1"	ST.						132
A805		7	7	4'-4"	ST.						81
A601	90	94	184	6'-6"	1	10"	3'-0"				1,796
A602	90	94	184	5'-1"	1	1'-5"	2'-0"				1,405
A603	17	16	33	5'-11"	1	1'-5"	3'-9"				293
A604		13	13	14'-7"	6	5'-4"	7'-1"	2'-6"			285
A605		2	2	9'-3"	ST.						28
A606	8		8	12'-4"	6	5'-5"	5'-8"	1'-7"			148
A607	2		2	5'-1"	ST.						15
A608	2		2	5'-4"	ST.						16
A609	5		5	12'-6"	6	5'-5"	5'-10"	1'-7"			94
A501	9	13	22	6'-8"	1	3'-5"	1'-9"				153
A502		13	13	7'-11"	2	1'-0"	7'-1"				107
A503		15	15	9'-2"	1	5'-11"	1'-9"				143
SERIES A504		2 SETS OF 7	2 SETS OF 7	5'-10" TO 8'-4"	ST.					5"	103
A505		10	10	3'-10"	ST.						40
A506	8	2	10	6'-0"	ST.						63
A507	8	32	40	25'-0"	ST.						1,043
A508		10	10	10'-6"	ST.						110
A509	4	2	6	8'-2"	ST.						51
A510		2	2	5'-0"	ST.						10
A511		2	2	9'-5"	7	1'-0"	2'-11"	8'-1"			20
A512	8	8	16	5'-7"	8	1'-9"	8"	6"	1'-0"		93
A513	2	12	14	7'-0"	ST.						102
A514	4		4	19'-8"	ST.						82
A515		10	10	8'-3"	ST.						86
SERIES A516		2 SETS OF 6	2 SETS OF 6	5'-11" TO 8'-8"	ST.					6 5/8"	91
SERIES A517		2 SETS OF 3	2 SETS OF 3	2'-8" TO 7'-2"	ST.					2'-3"	31
A518		2	2	7'-2"	7	1'-0"	2'-10"	5'-7"			15
A519	8	2	10	7'-6"	ST.						78
A520	24		24	26'-8"	ST.						668
A521	8		8	6'-5"	2	1'-0"	5'-7"				54
A522	13		13	8'-4"	1	5'-11"	1'-4"				113
SERIES A523	2 SETS OF 4		2 SETS OF 4	6'-9" TO 8'-1"	ST.					5 3/8"	62
A524	10		10	8'-0"	ST.						96
A525	26	24	50	3'-0"	ST.						156
A526	2		2	7'-2"	5	2'-6"	3'-1"	1'-4"	1'-6"		15
A527	6		6	5'-6"	ST.						35
A528	2		2	5'-0"	ST.						10
A529	5		5	6'-8"	2	1'-0"	5'-10"				35
SERIES A530	2 SETS OF 5		2 SETS OF 5	6'-8" TO 8'-2"	ST.					4 1/2"	77
A531	2		2	5'-7"	7	1'-0"	1'-6"	4'-5"			12
A532	8		8	7'-11"	ST.						66
A533	4		4	22'-4"	ST.						93
A534	126		126	3'-0"	2	1'-2"	2'-0"				394
A401	18		18	3'-0"	2	1'-2"	2'-0"				36
TOTAL ABUTMENTS											10,203
PIERS											
DS901 Δ		28	28	34'-2"	ST.						3,253 Δ
DS902 Δ		28	28	32'-9"	ST.						3,118 Δ



FHWA REGION	STATE	PROJECT
5	OHIO	

76
98

**WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)**

NOTES:

- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- BOTTOM OF BEAMS CLEAR ESTIMATED DESIGN YEAR HIGH WATER ELEVATION BY APPROXIMATELY 22.0'
- BEGIN AND END APPROACH SLAB STATIONS ARE CALCULATED NORMAL TO CENTERLINE OF SURVEY AND RIGHT-OF-WAY.
- SEE SHEETS 57 AND 58 OF 98 FOR STRUCTURAL GENERAL NOTES.

HYDRAULIC DATA

DRAINAGE AREA: 186.6 SQ. MI.
Q50= 6,785 CFS EL50= 946.66 V50= 6.21 FPS
Q100= 7,800 CFS EL100= 947.25 V100= 6.73 FPS

**DESIGN DESIGNATION
(L/R STRUCTURES)**

DESIGN ADT (2014) = 9,760
DESIGN ADTT = 1,070

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 75'-9 3/4"±, 94'-11 3/8"±, 75'-10 3/8"±
C/C BEARINGS (RIGHT)
ROADWAY: 30'-0" F/F W/ 2'-0" SAFETY CURBS
ALIGNMENT: TANGENT
SKEW: 20' ± L.F.
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0" (AS-1-54)
CONDITION: FAIR
STRUCTURE FILE NUMBER: 8501238
DATE BUILT: 1962

PROPOSED STRUCTURE

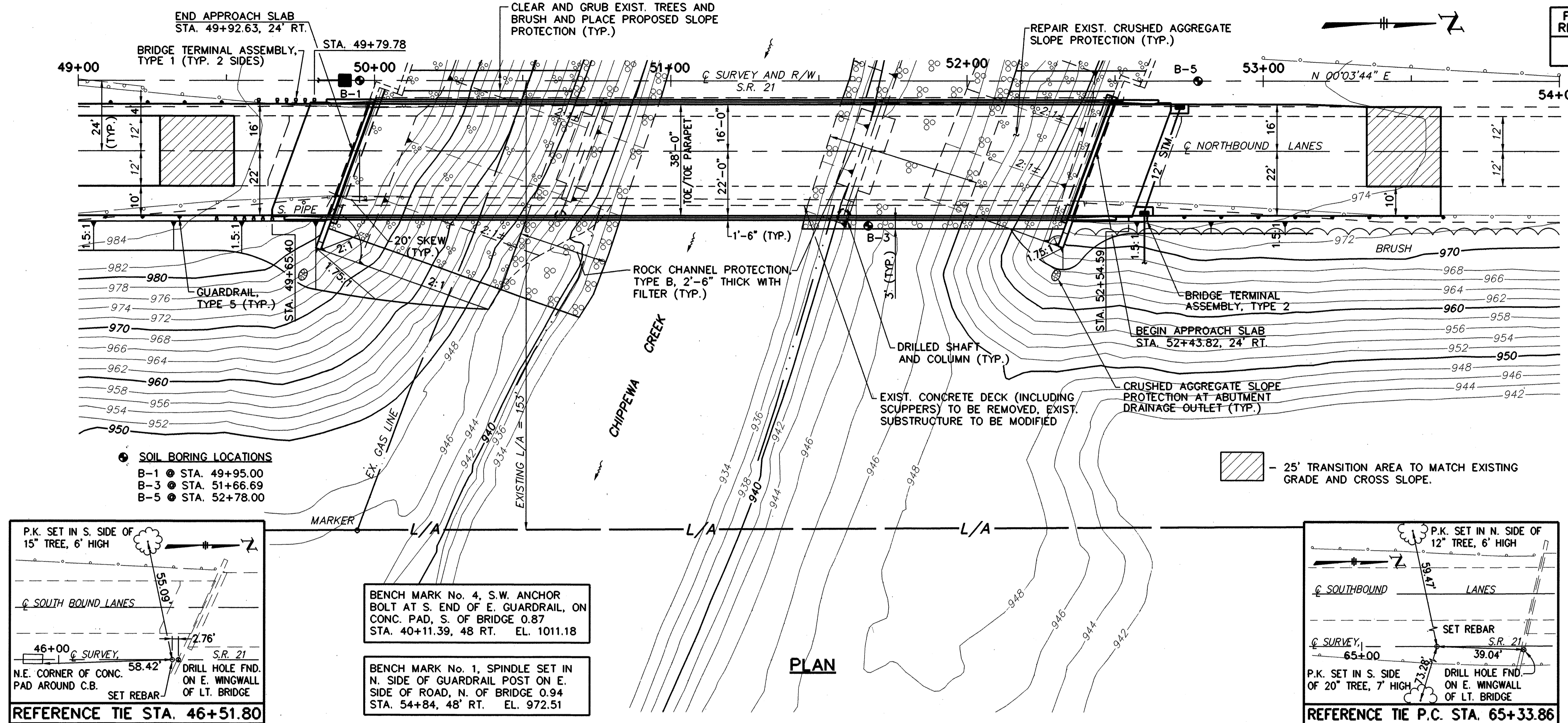
PROPOSED WORK: NEW COMPOSITE REINFORCED CONCRETE DECK, WIDENED SUPERSTRUCTURE ON WIDENED REINFORCED CONCRETE SUBSTRUCTURE
SPANS: 75'-9 3/4"±, 94'-11 3/8"±, 75'-10 3/8"±
C/C BEARINGS (RIGHT)
ROADWAY: 38'-0" TOE/TOE PARAPET
LOADING: HS20-44 (CASE II) & ALTERNATE MILITARY LOADING (CONCRETE DECK, WIDENED SUPERSTRUCTURE AND SUBSTRUCTURE)
ALIGNMENT: TANGENT
SKEW: 20' ± L.F.
WEARING SURFACE: MONOLITHIC CONCRETE
CROWN: 3/16" / FT.
APPROACH SLABS: 20'-0" (AS-1-81), AS PER PLAN
LATITUDE: 40° 55' 08"
LONGITUDE: 81° 39' 05"

FINKBEINER, PETTIS & STROUT, INC. 1 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

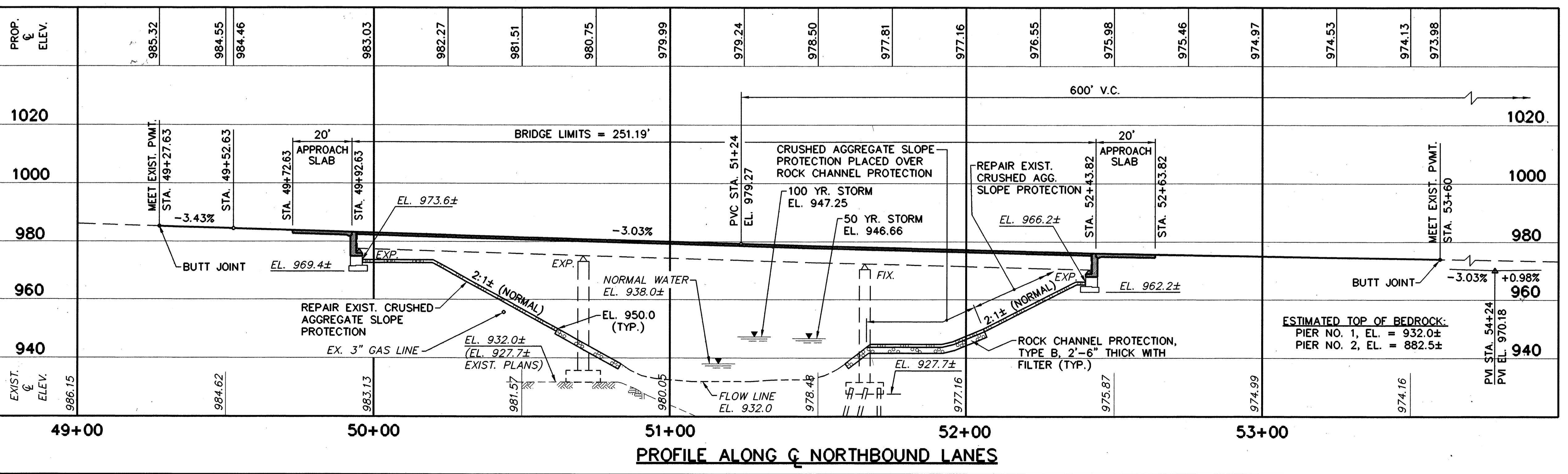
SITE PLAN

RIGHT STRUCTURE
BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK
STA. 49+92.63
TO STA. 52+43.82

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
C.W.F.	C.A.F.	R.B.B.	C.A.F.	J.G.C.	M.R.S. 1/95



PLAN



PROFILE ALONG C NORTHBOUND LANES

CAD FILE: 094RSITE
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=20'

FHWA REGION	STATE	PROJECT
5	OHIO	

77
98

**WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)**

NOTES:

- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- BOTTOM OF BEAMS CLEAR ESTIMATED DESIGN YEAR HIGH WATER ELEVATION BY APPROXIMATELY 22.0'
- BEGIN AND END APPROACH SLAB STATIONS ARE CALCULATED NORMAL TO CENTERLINE OF SURVEY AND RIGHT-OF-WAY.
- SEE SHEET 1/21 FOR BENCHMARKS AND REFERENCE TIES.

HYDRAULIC DATA

DRAINAGE AREA: 186.6 SQ. MI.
 Q50= 6,785 CFS EL50= 946.66 V50= 6.21 FPS
 Q100= 7,800 CFS EL100= 947.25 V100= 6.73 FPS

DESIGN DESIGNATION

(L/R STRUCTURES)
 DESIGN ADT (2014) = 9,760
 DESIGN ADTT = 1,070

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
 SPANS: 75'-7 3/8"±, 94'-9 5/8"±, 75'-9 1/2"±
 C/C BEARINGS (LEFT)
 ROADWAY: 30'-0" F/F W/ 2'-0" SAFETY CURBS
 ALIGNMENT: TANGENT
 SKEW: 20° ± L.F.
 WEARING SURFACE: MONOLITHIC CONCRETE
 APPROACH SLABS: 15'-0" (AS-1-54)
 CONDITION: FAIR
 STRUCTURE FILE NUMBER: 8501203
 DATE BUILT: 1959

PROPOSED STRUCTURE

PROPOSED WORK: NEW COMPOSITE REINFORCED CONCRETE DECK, WIDENED SUPERSTRUCTURE ON WIDENED REINFORCED CONCRETE SUBSTRUCTURE
 SPANS: 75'-7 3/8"±, 94'-9 5/8"±, 75'-9 1/2"±
 C/C BEARINGS (LEFT)
 ROADWAY: 38'-0" TOE/TOE PARAPET
 LOADING: HS20-44 (CASE II) & ALTERNATE MILITARY LOADING (CONCRETE DECK, WIDENED SUPERSTRUCTURE AND SUBSTRUCTURE)
 ALIGNMENT: TANGENT
 SKEW: 20° ± L.F.
 WEARING SURFACE: MONOLITHIC CONCRETE
 CROWN: 3/16"/FT.
 APPROACH SLABS: 20'-0" (AS-1-81), AS PER PLAN
 LATITUDE: 40° 55' 08"
 LONGITUDE: 81° 39' 05"

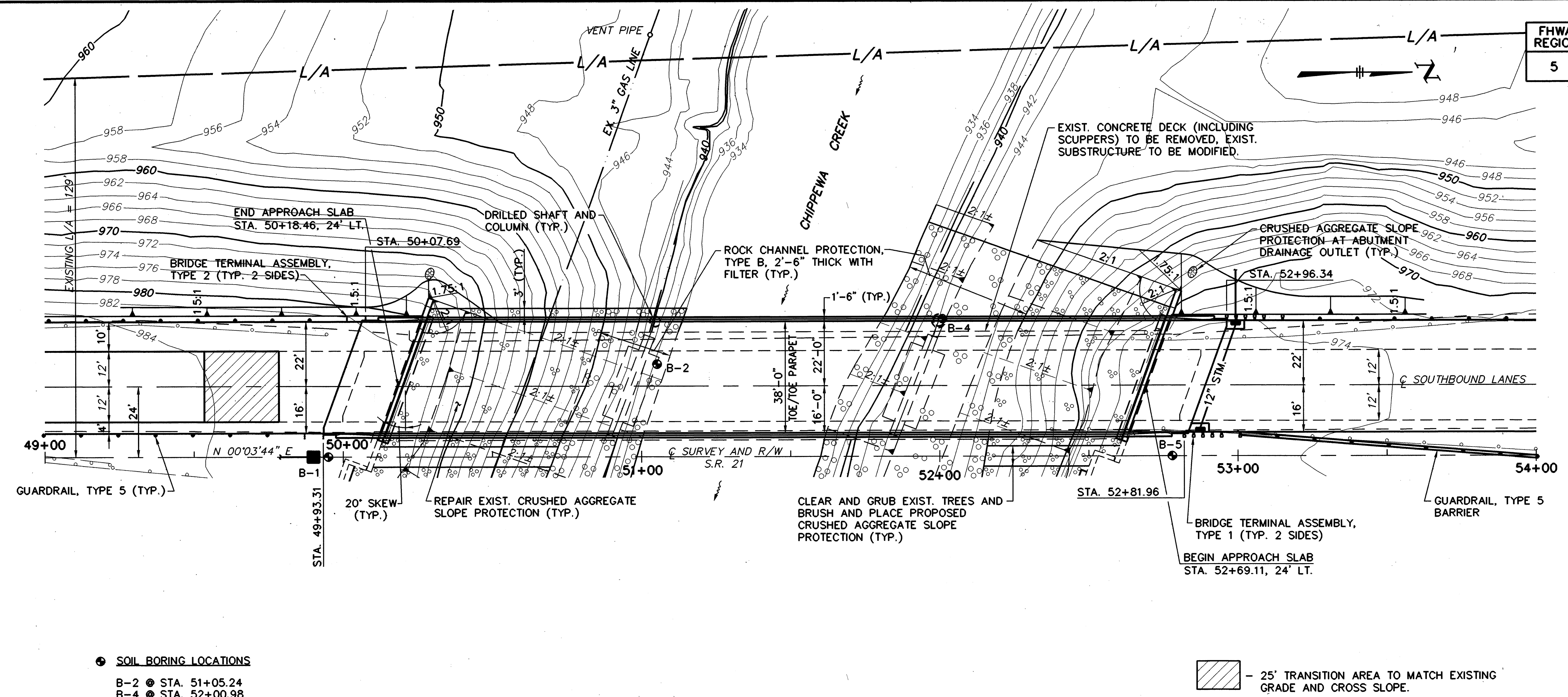
FINKBEINER, PETTIS & STROUT, INC.
 CONSULTING ENGINEERS
 AKRON TOLEDO GREENSBORO

SITE PLAN

LEFT STRUCTURE
 BRIDGE NO. WAY-21-0094 L/R
 OVER CHIPPEWA CREEK

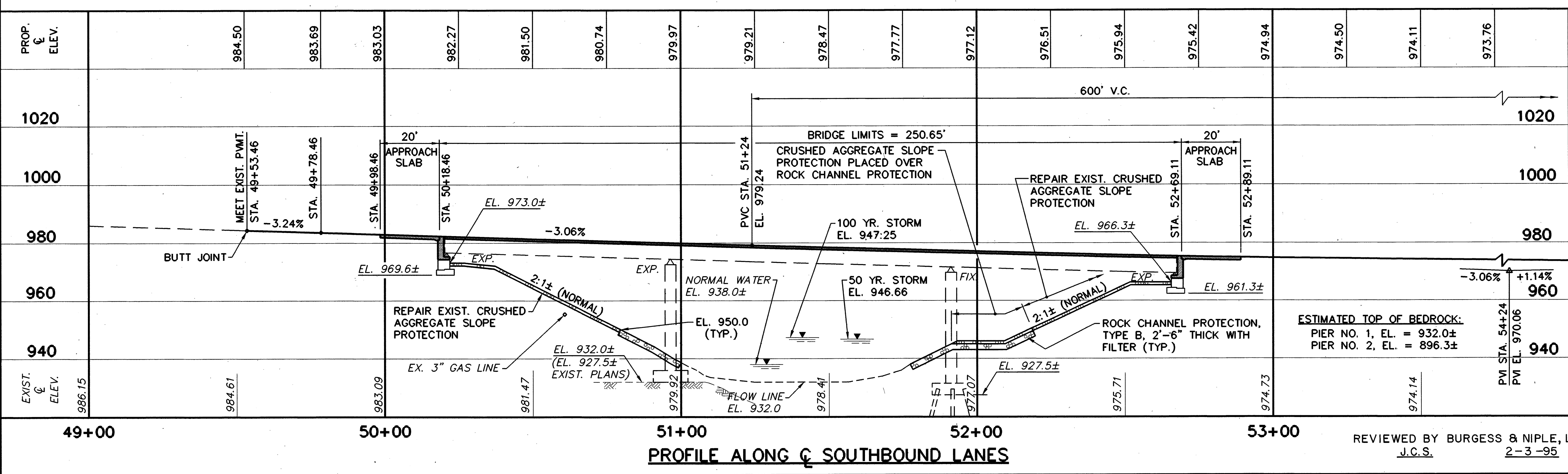
WAYNE COUNTY TO STA. 52+69.11
 STA. 50+18.46

PRESENT TOPOGRAPHY	PROPOSED WORK				
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED DATE
C.W.F.	C.A.F.	R.B.B.	C.A.F.	J.G.C.	M.R.S. 1/95



- SOIL BORING LOCATIONS
- B-2 ● STA. 51+05.24
 - B-4 ● STA. 52+00.98

▨ - 25' TRANSITION AREA TO MATCH EXISTING GRADE AND CROSS SLOPE.



CAD FILE: 09ALSITE
 DATE: 01/05/95
 OPERATOR: C.A.F.
 SCALE: 1"=20'

REVIEWED BY BURGESS & NIPLE, LTD.
 J.C.S. 2-3-95

FHWA REGION	STATE	PROJECT	
5	OHIO		

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98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

ESTIMATED QUANTITIES										CALC. BY: C.A.F. DATE: 06/94		AS BUILT	
DHF FUNDS										CHKD. BY: R.B.B. DATE: 07/94			
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER	GEN'L.	ABUTS.	PIERS	SUPER		
202	11305	2006	SQ.YD.	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (DECK AND PARAPET)			2006						
202	11301	107	CU.YD.	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (ABUTMENTS)	107								
202	98100	16	EACH	REMOVAL MISC.: BEARING DEVICES			16						
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP					
503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP					
SPECIAL	50794804	30	LIN.FT.	DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK		30							
SPECIAL	50794902	116	LIN.FT.	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK		116							
509	15810	199,493	LB.	EPOXY COATED REINFORCING STEEL, GRADE 60	13,474	5,950	179,569	500					
510	10000	420	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	380			40					
511	81100	146	LIN.FT.	CONCRETE, MISC.: CONCRETE PUMPING, AS PER PLAN		146							
SPECIAL	51148000	588	CU.YD.	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE, (DECK) MIX 4 (SEE PROPOSAL NOTE)			588						
SPECIAL	51148020	129	CU.YD.	HIGH PERFORMANCE CONCRETE SUPERSTRUCTURE, (PARAPET) MIX 4 *			129						
SPECIAL	51148040	184	CU.YD.	HIGH PERFORMANCE CONCRETE SUBSTRUCTURE(SEE PROPOSAL NOTE)	139	45							
SPECIAL	51149000	LUMP		HIGH PERFORMANCE CONCRETE TRIAL MIX (SEE PROPOSAL NOTE)			LUMP						
SPECIAL	51149010	LUMP		HIGH PERFORMANCE CONCRETE TESTING (SEE PROPOSAL NOTE)			LUMP						
512	44400	5	SQ.YD.	TYPE B WATERPROOFING		5							
SPECIAL	51267502	325	SQ.YD.	SEALING OF CONCRETE SURFACES, (EPOXY) (SEE PROPOSAL NOTE)	325								
SPECIAL	51267504	1,256	SQ.YD.	SEALING OF CONCRETE SURFACES, (NON-EPOXY) (SEE PROPOSAL NOTE)			1,256						
513	12200	119,319	LBS.	STRUCTURAL STEEL, AISC CATEGORY III			119,319						
513	20000	4,152	EACH	WELDED STUD SHEAR CONNECTOR			4,152						
513	21000	4	EACH	TRIMMING OF BEAM END			4						
815	00050	74,853	SQ.FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU			74,853						
815	00056	74,853	SQ.FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU			74,853						
815	00060	74,853	SQ.FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU			74,853						
815	00066	74,853	SQ.FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU			74,853						
815	00500	11	LIN.FT.	CAULKING			11						
815	00504	16	MAN HR.	GRINDING FINS, TEARS, SLIVERS			16						

ESTIMATED QUANTITIES (CONTINUED)										CALC. BY: C.A.F. DATE: 06/94		AS BUILT	
										CHKD. BY: R.B.B. DATE: 07/94			
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER	GEN'L.	ABUTS.	PIERS	SUPER		
516	11210	173	LIN.FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL (SEE PROPOSAL NOTE)			173						
516	47000	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE			LUMP						
518	21201	194	CU.YD.	POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN	194								
518	40001	260	LIN.FT.	6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN			260						
518	40011	45	LIN.FT.	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN			45						
519	11101	84	SQ.FT.	PATCHING CONCRETE STRUCTURE, AS PER PLAN	72	12							
SPECIAL	53000400	160	EACH	STRUCTURE, MISC.: NON-DESTRUCTIVE TESTING USING MAGNETIC PARTICLE INSPECTION			160						
SPECIAL	53000600	74	SQ.FT.	STRUCTURE, MISC.: GRAFFITI REMOVAL			74						
601	20001	615	SQ.YD.	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN	615								
SPECIAL	85050070	1,980	SQ.YD.	BRIDGE DECK GROOVING (SEE PROPOSAL NOTE)			1,980						

* SEE PROPOSAL NOTE

CAD FILE: QUANTITY
DATE: 05/95
OPERATOR: C.A.F.
SCALE: 1"=1'

FINKBEINER, PETTIS & STROUT, INC. 3 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

ESTIMATED QUANTITIES

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

FHWA REGION	STATE	PROJECT	
5	OHIO		

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98

DRILLED SHAFT NOTES

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

ITEM SPECIAL - DRILLED SHAFTS

DESCRIPTION

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING DRILLED SHAFTS OF THE TYPE AND SIZE SPECIFIED IN THE PLANS. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, AND APPURTENANCES REQUIRED TO COMPLETE THE WORK AS SPECIFIED. THE LENGTH(S) OF THE DRILLED SHAFTS SHOWN IN THESE PLANS HAS BEEN ESTIMATED FROM AVAILABLE SUBSURFACE INFORMATION. THE CONTRACTOR IS EXPECTED TO FURNISH THE PROPOSED DRILLED SHAFTS AS PER THESE PLAN REQUIREMENTS, WITH THE UNDERSTANDING THAT THE ACTUAL LENGTH REQUIRED BASED ON CONDITIONS ENCOUNTERED DURING CONSTRUCTION, MAY DIFFER FROM THE ESTIMATED LENGTH SHOWN IN THE PLANS. THE LIMITS OF EACH DRILLED SHAFT SHALL BE DEFINED AT THE TOP BY THE PLAN ELEVATION AND AT THE BOTTOM BY THE ELEVATION OF THE BOTTOM OF THE BEDROCK SOCKET AS APPROVED BY THE ENGINEER.

A CASING WILL BE NECESSARY FOR THE CONSTRUCTION OF EACH PIER DRILLED SHAFT AND THE CASINGS SHALL BE LEFT IN PLACE.

CONTRACTOR QUALIFICATION

THE CONTRACTOR SHALL SUBMIT INFORMATION TO THE ENGINEER TO DOCUMENT THAT HIS PERSONNEL ARE EXPERIENCED IN THE CONSTRUCTION OF DRILLED SHAFTS OF THE TYPE AND SIZE SPECIFIED ON THE PLANS. THIS INFORMATION SHALL BE SUBMITTED AT THE PRECONSTRUCTION CONFERENCE. THE PROJECT ENGINEER IS REQUESTED TO INFORM BUREAU OF BRIDGES, ATTENTION: FOUNDATION ENGINEER (TEL. 614-466-2399) OF THE DATES WHEN THE CONTRACTOR WILL BE CONSTRUCTING THE DRILLED SHAFTS.

CASING

THE CASINGS SHALL BE MADE OF STEEL, SHALL BE WATER TIGHT AND SHALL BE OF AMPLE STRENGTH TO WITHSTAND HANDLING STRESSES AND EXTERNAL SUBSURFACE PRESSURES. THE CASINGS SHALL BE SEATED INTO THE BEDROCK, THUS ATTEMPTING TO SEAL OUT INCOMING WATER. THE CASING LENGTH SHALL BE AS NECESSARY TO CONSTRUCT EACH DRILLED SHAFT. THE DIAMETER OF THE CASING SHALL BE NO LESS THAN THE DIAMETER OF THE DRILLED SHAFT BEING CONSTRUCTED.

THE DIAMETER OF THE FURNISHED CASING(S) SHALL BE LARGE ENOUGH TO ALLOW THE CONSTRUCTION OF A BEDROCK SOCKET WITH A DIAMETER EQUAL TO OR GREATER THAN THE PLAN DIAMETER.

EXCAVATION

WHEN OBJECTS SUCH AS LARGE BOULDERS ARE ENCOUNTERED, THEY SHALL BE REMOVED. BLASTING METHODS MAY BE USED, AND WHEN USED, SHALL BE CONDUCTED SO AS TO AVOID DISTURBANCE TO THE BEDROCK FORMATION BELOW AND OUTSIDE THE LIMITS OF THE PROPOSED DRILLED SHAFT EXCAVATIONS. THE DRILLED SHAFTS SHALL PENETRATE INTO BEDROCK TO A DEPTH THAT PROVIDES A BEDROCK SOCKET LENGTH THAT IS NOT LESS THAN THE BEDROCK SOCKET SHOWN IN THE PLANS. WHEN A CASING WHICH EXTENDS DOWN TO BEDROCK IS USED, THE BEDROCK SOCKET SHALL BE MEASURED FROM THE BOTTOM OF THE CASING TO THE BOTTOM OF THE DRILLED BEDROCK EXCAVATION. WHEN THE ENGINEER IS ASSURED THAT A PORTION OF THE METAL CASING IS EMBEDDED IN BEDROCK, UPON THE ENGINEER'S CONCURRENCE, THE EMBEDDED DISTANCE MAY BE INCLUDED AS A PART OF THE BEDROCK SOCKET.

DEWATERING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING ANY INCOMING WATER TO THE EXTENT THAT THE SHAFT EXCAVATION IS MAINTAINED DRY ENOUGH FOR PERFORMANCE OF THE REQUIRED INSPECTION OPERATION. THE PREFERRED METHOD OF CONSTRUCTION IS TO PLACE THE CONCRETE IN A CLEAN, DRY EXCAVATION. THE CONTRACTOR IS EXPECTED TO MAKE A REASONABLE ATTEMPT TO SEAL WATER OUT OF THE DRILLED SHAFT EXCAVATION.

BOTTOM CLEANOUT

THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE AS CLEAN AS IS PRACTICABLE (NO MORE THAN ONE INCH OF LOOSE MATERIAL ON THE BOTTOM). PRIOR TO CONCRETE PLACEMENT, DRILLING SPOILS THAT ADHERE TO THE VERTICAL SIDES OF THE BEDROCK SOCKETS ARE TO BE REMOVED.

APPROVAL BEFORE CONCRETE PLACEMENT

THE CONTRACTOR SHALL SUBMIT TO THE PROJECT ENGINEER FOR APPROVAL A WRITTEN PLAN OF STEPS AND PROCEDURES HE PROPOSES TO FOLLOW WHEN PLACING AND MONITORING THE CONCRETE PLACEMENT. CONCRETE SHALL NOT BE PLACED IN ANY DRILLED SHAFT EXCAVATION WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE DRILLED SHAFT EXCAVATION SHALL BE INSPECTED IMMEDIATELY BEFORE THE CONCRETE IS PLACED. A LIGHT POWERFUL ENOUGH TO THOROUGHLY INSPECT THE SIDES, BOTTOM AND REINFORCING STEEL CAGE OF THE DRILL SHAFT IS REQUIRED.

CONCRETE PLACEMENT

THE CONCRETE FOR THE DRILLED SHAFT SHALL BE PLACED AS PER ITEM 511 EXCEPT AS MODIFIED BY THE PLANS. IF THE DRILLED SHAFT HAS A BEDROCK SOCKET, THE CONCRETE FOR THE BEDROCK SOCKET SHALL BE PLACED AGAINST THE IN-SITU BEDROCK. THE CONCRETE FOR THE DRILLED SHAFT SHALL BE PLACED PROMPTLY AFTER THE FINAL INSPECTION OF THE SHAFT. IF PRACTICABLE, THE CONCRETE SHALL BE PLACED IN A CLEAN DRY EXCAVATION, HOWEVER, NO MORE THAN 2 INCHES OF STANDING WATER WILL BE PERMITTED. THE DRY CONSTRUCTION METHOD CAN ONLY BE USED WHEN LESS THAN 12 INCHES OF WATER ACCUMULATES ABOVE THE BASE OF THE HOLE DURING A ONE HOUR PERIOD WHEN NO PUMPING IS PERMITTED. CARE SHALL BE TAKEN TO ENSURE THAT CONCRETE IS NOT BEING PLACED IN MOVING WATER. THE CONCRETE MAY BE PLACED IN A DRY DRILLED SHAFT EXCAVATION BY THE FREE FALL METHOD PROVIDED THE CONCRETE FALLS TO ITS FINAL POSITION THROUGH AIR WITHOUT STRIKING THE SIDES OF THE HOLE, THE REINFORCING STEEL CAGE OR ANY OTHER OBSTRUCTION. THE FREE FALL METHOD ALLOWS THE CONCRETE TO BE DROPPED FROM THE TOP THROUGH A CENTERING CHUTE TO THE CONCRETE'S FINAL POSITION. USE FREE FALL PLACEMENT WITH A 25 FOOT MAXIMUM HEIGHT OF FREE FALL. SUPPORT THE DROP CHUTE SO THAT THE MAXIMUM HEIGHT OF FREE FALL OF THE CONCRETE MEASURED FROM THE BOTTOM OF THE CHUTE IS 25 FEET.

IF THE ENGINEER DETERMINES THAT DEWATERING IS NOT PRACTICABLE THE ENGINEER SHALL REQUIRE THAT THE CONCRETE BE PLACED UNDER WATER BY MEANS OF CONCRETE PUMP. PAYMENT FOR PUMPING THE CONCRETE WILL BE MADE UNDER ITEM SPECIAL - CONCRETE, MISC.: CONCRETE PUMPING.

TOLERANCES

THE CONTRACTOR SHALL LOCATE AND CONSTRUCT THE TOP CENTER OF THE PIER DRILLED SHAFTS WITHIN A TWO-INCH RADIUS OF THE POSITION INDICATED BY THE PLANS. THE SHAFTS ARE TO BE INSTALLED VERTICALLY AND MUST BE WITHIN 1.0 PERCENT OF PLUMB FOR THE TOTAL LENGTH OF THE DRILLED SHAFT.

CONCRETE

CONCRETE FOR ALL DRILLED SHAFTS SHALL BE CLASS S CONCRETE AND SHALL BE IN ACCORDANCE WITH ITEM 511 EXCEPT AS MODIFIED AND SUPPLEMENTED HEREIN. THE REQUIRED SLUMP IS SIX (6) INCHES, PLUS OR MINUS ONE (1) INCH. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.50. IF CONCRETE IS PLACED UNDER WATER, THE REQUIREMENTS OF ADDING 10 PERCENT MORE CEMENT TO THE CONCRETE MIX SHALL BE WAIVED. THE MAXIMUM COARSE AGGREGATE SIZE SHALL BE NO. 8. THE TOP 3 TO 5 FEET OF CONCRETE IN THE DRILLED SHAFTS ARE REQUIRED TO BE VIBRATED. ONLY A MINIMAL VIBRATORY EFFORT IS NECESSARY. SPECIAL CARE SHALL BE TAKEN NOT TO OVER-VIBRATE THE DRILLED SHAFT CONCRETE. NOTE: IF THE CASING IS REMOVED USING A VIBRATORY HAMMER, NO OTHER VIBRATORY EFFORT IS NEEDED.

REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL MEET THE REQUIREMENTS OF ITEM 509. AND REINFORCING STEEL SHALL BE GRADE 60. THE SPIRAL REINFORCING STEEL MAY BE PLAIN BARS ASTM A82 OR A615. THE REINFORCING STEEL CAGE SHALL BE COMPLETELY ASSEMBLED PRIOR TO PLACEMENT AND THE LENGTH SHALL BE AS NECESSARY TO CONSTRUCT EACH DRILLED SHAFT. SEE PLAN SHEETS FOR DETAILS OF REINFORCING STEEL. NOTE THAT THE LENGTHS PROVIDED IN THE REINFORCING STEEL LIST ARE ESTIMATED LENGTHS. THE REINFORCING STEEL SHALL BE PLACED AT PLAN LOCATION.

SPACERS

CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVALS (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 10 FEET) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO INSURE A MINIMUM 3 INCH ANNULAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE SIDE OF THE EXCAVATED HOLE. CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORTS) SHALL BE PROVIDED TO INSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED THE PROPER DISTANCE ABOVE THE BASE.

INSPECTION

AN INSPECTION RECORD CHART HAS BEEN INCLUDED WITH THE PLANS ON SHEET [5 / 21] AND SHOULD BE COMPLETED BY THE ENGINEER. MEASUREMENTS SHOULD BE OBTAINED PRIOR TO PLACING CONCRETE. THE CONTRACTOR SHOULD PROVIDE ALL NECESSARY EQUIPMENT NEEDED TO OBTAIN MEASUREMENTS FOR COMPLETING THE CHART. THE CONTRACTOR SHALL ASSIST THE ENGINEER IN OBTAINING THESE MEASUREMENTS. WHEN THE INSPECTION RECORD CHART IS COMPLETED, THE PROJECT ENGINEER SHOULD SUBMIT A COPY TO THE BUREAU OF BRIDGES. ATTENTION: FOUNDATION ENGINEER.

METHOD OF MEASUREMENT

THE TOTAL PAY LENGTH OF EACH DRILLED SHAFT SHALL BE THE COMPLETED AND ACCEPTED LENGTH MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE BOTTOM OF THE BEDROCK SOCKET TO THE PROPOSED TOP ELEVATION. AS PER PLAN, THE REINFORCING STEEL THAT PROJECTS FROM THE DRILLED SHAFT INTO THE PIER COLUMN AS SPECIFIED BY THE PLANS IS INCLUDED WITH THE DRILLED SHAFT FOR PAYMENT BUT SHALL NOT BE INCLUDED IN THE MEASURED LENGTH OF THE DRILLED SHAFT.

THE TOTAL LENGTH OF EACH DRILLED SHAFT SHALL BE DIVIDED INTO TWO SEGMENTS. THE LENGTH OF THE LOWER SEGMENT IS THE LENGTH OF THE BEDROCK SOCKET AND THE LENGTH OF THE UPPER SEGMENT IS THE LENGTH OF THE DRILLED SHAFT ABOVE THE BEDROCK SOCKET.

BASIS OF PAYMENT

PAYMENT FOR FURNISHING AND INSTALLING DRILLED SHAFTS WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF ACCEPTED SHAFT LENGTH AS PER ITEM SPECIAL - "DRILLED SHAFTS, 48" DIAMETER ABOVE BEDROCK", AND ITEM SPECIAL - DRILLED SHAFTS, 42" DIAMETER INTO BEDROCK", WHICH SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE ITEMS AS SPECIFIED.

DESIGN PARAMETERS

THE DESIGN LOADS TO BE SUPPORTED BY EACH PIER DRILLED SHAFT ARE 112.5 TONS AT PIER 1, AND 157.5 TONS AT PIER 2 WHICH IS ASSUMED TO BE RESISTED BY SHAFT ADHESION AND BY SHAFT END BEARING PRESSURE. THE ALLOWABLE DESIGN END BEARING PRESSURE IS 15 TONS PER SQUARE FOOT AND ALLOWABLE DESIGN SIDE FRICTION RESISTANCE IS 1 TON PER SQUARE FOOT.

ITEM 511 - CONCRETE MISC.: CONCRETE PUMPING, AS PER PLAN

DESCRIPTION

THE DRILLED SHAFT EXCAVATION SHALL BE FILLED WITH WATER TO SUCH A DEPTH THAT ALL WATER MOTION HAS CEASED. THE CONCRETE SHALL THEN BE PLACED BY MEANS OF A CONCRETE PUMP. THE CONCRETE PUMP PIPE SHALL HAVE A DIAMETER THAT IS NOT LESS THAN 4 INCHES. THE CONCRETE PUMP EQUIPMENT SHALL BE SO ARRANGED THAT NO VIBRATIONS RESULT WHICH MIGHT DAMAGE FRESH CONCRETE. PIPES CARRYING CONCRETE FROM THE PUMP TO THE SHAFT SHOULD BE ARRANGED WITH A MINIMUM NUMBER OF BENDS. THE PIPE USED TO CONVEY THE CONCRETE TO THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE ANCHORED TO THE STEEL CASING TO PREVENT THE PIPE FROM UNDULATING DURING THE INITIAL PLACEMENT OF THE CONCRETE.

THE PUMPING EQUIPMENT SHALL BE SUITABLE IN KIND AND ADEQUATE IN CAPACITY FOR THE WORK REQUIRED. THE USE OF ALUMINUM PIPE AS A CONVEYANCE FOR THE CONCRETE WILL NOT BE PERMITTED. AN ADEQUATE QUANTITY OF GROUT, MORTAR OR CONCRETE WITH COARSE AGGREGATE OMITTED SHALL BE PUMPED THROUGH THE EQUIPMENT AHEAD OF THE SPECIFICATION CONCRETE TO PROVIDE LUBRICATION TO THE PUMPING SYSTEM. THE CONCRETE USED FOR LUBRICATION SHALL NOT BE PLACED IN THE SHAFT. THE LUBRICATION PROCESS WILL NOT BE REPEATED AS LONG AS THE PUMPING OPERATIONS ARE CONTINUOUS. THE OPERATION OF THE PUMP SHALL BE SUCH THAT A CONTINUOUS STREAM OF CONCRETE WITHOUT AIR POCKETS IS PRODUCED. IN ORDER TO PREVENT THE CONTAMINATION OF THE CONCRETE PLACED INITIALLY AT THE BOTTOM OF THE SHAFT, THE OUTLET END OF THE PUMPING PIPE SHALL BE SEALED WITH A DIAPHRAGM OR PLUG THAT IS FLUSHED OUT WHEN THE HYDROSTATIC PRESSURE FROM THE COLUMN OF CONCRETE EXCEEDS THAT OF THE WATER IN THE SHAFT. THE INITIAL RATE OF CONCRETE PLACEMENT MUST BE CAREFULLY CONTROLLED SO AS NOT TO LIFT OR DISPLACE THE CAGE OF REINFORCING STEEL. THE CONVEYING SYSTEM SHALL BE WATER TIGHT AND THE OUTLET END SHALL ALWAYS REMAIN WELL BELOW THE TOP OF THE FRESHLY PLACED CONCRETE. THE PREFERRED CONCRETE PLACEMENT PROCEDURE IS TO MAINTAIN THE OUTLET END OF THE PUMPING SYSTEM AT APPROXIMATELY 10 FEET BELOW THE TOP OF THE FRESH CONCRETE. WHEN THE CONCRETE REACHES THE TOP OF THE DRILLED SHAFT COLUMN ALL LAITANCE SHALL BE REMOVED.

PAYMENT FOR PUMPING CONCRETE WILL BE MADE AT CONTRACT UNIT PRICE PER LINEAR FOOT OF ACCEPTED SHAFT LENGTH PUMPED AS PER ITEM 511 - CONCRETE, MISC.: CONCRETE PUMPING, AS PER PLAN

CAD FILE: 94SHAFT2
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=1'

FINKBEINER, PETTIS & STROUT, LTD. 4 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

DRILLED SHAFT NOTES

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

FHWA REGION	STATE	PROJECT	
5	OHIO		

INSPECTION RECORD FOR DRILLED SHAFTS

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

PROJECT NO. WAY-21-(0.87)(0.94)(1.24)	GENERAL CONTRACTOR _____	TYPE & MODEL OF DRILLING MACHINERY _____	TYPE OF CONCRETE PUMP _____	COST PER LINEAR FOOT _____
	DRILLING CONTRACTOR _____	MAX. CONTINUOUS TORQUE _____ FT. LB.	HOSE DIAMETER _____ INCHES	ABOVE THE BEDROCK SOCKET _____
	PROJECT ENGINEER _____	CROWD (MAX. CONTINUOUS DOWNWARD FORCE) _____ LBS.	CAPACITY _____ CU. FT./MIN.	IN BEDROCK SOCKET _____
				TYPE OF ROCK _____

SUBSTRUCTURE UNIT		DATE AND TIME OF DRILLING		APPROX. ELEVATION OF TOP OF OVER BURDEN	LENGTH OF DRILLED SHAFTS ABOVE THE BEDROCK SOCKET				OBSTRUCTIONS ENCOUNTERED		LENGTH OF DRILLED SHAFTS IN BEDROCK SOCKET			STEEL CASING			REINFORCING STEEL				CONCRETE				TOLERANCES		PLAN SHAFT DIA. (INCH)	CONST. SHAFT DIA. (INCH)			
PIER OR ABUT.	SHAFT NO.	STARTED	FINISHED		THROUGH AIR (FEET)	THROUGH WATER (FEET)	THROUGH OVER BURDEN (FEET)	PAY LENGTH (FEET)	NUMBER	SIZE (INCH)	ELAPSED TIME FOR REMOVAL (HR.)	APPROX. ELEV. OF TOP OF BEDROCK	ELEV. OF BOTT. OF BEDROCK SOCKET	LENGTH OF BEDROCK SOCKET (FEET)	LENGTH (FEET)	CASING GAUGE	WAS CASING LEFT IN PLACE ?	VERTICAL		SPIRAL		SLUMP TEST RESULT (INCH)	CYLINDER STRENGTH f _c (P.S.I.)	AIR TEMP. (F)	TIME NEEDED TO PLACE CONCRETE (HR.)	QUANTITY (CU. YD.)			DEVIATION FROM PLUMB		DEVIATION OF COLUMN TOP CENTER FROM PLAN LOCATION HORIZONTALLY (INCH)
				DATE	DATE														BAR SIZE NO.	NO. OF REBARS	BAR SIZE NO.	PITCH (INCH)					N-S (INCH)	E-W (INCH)			

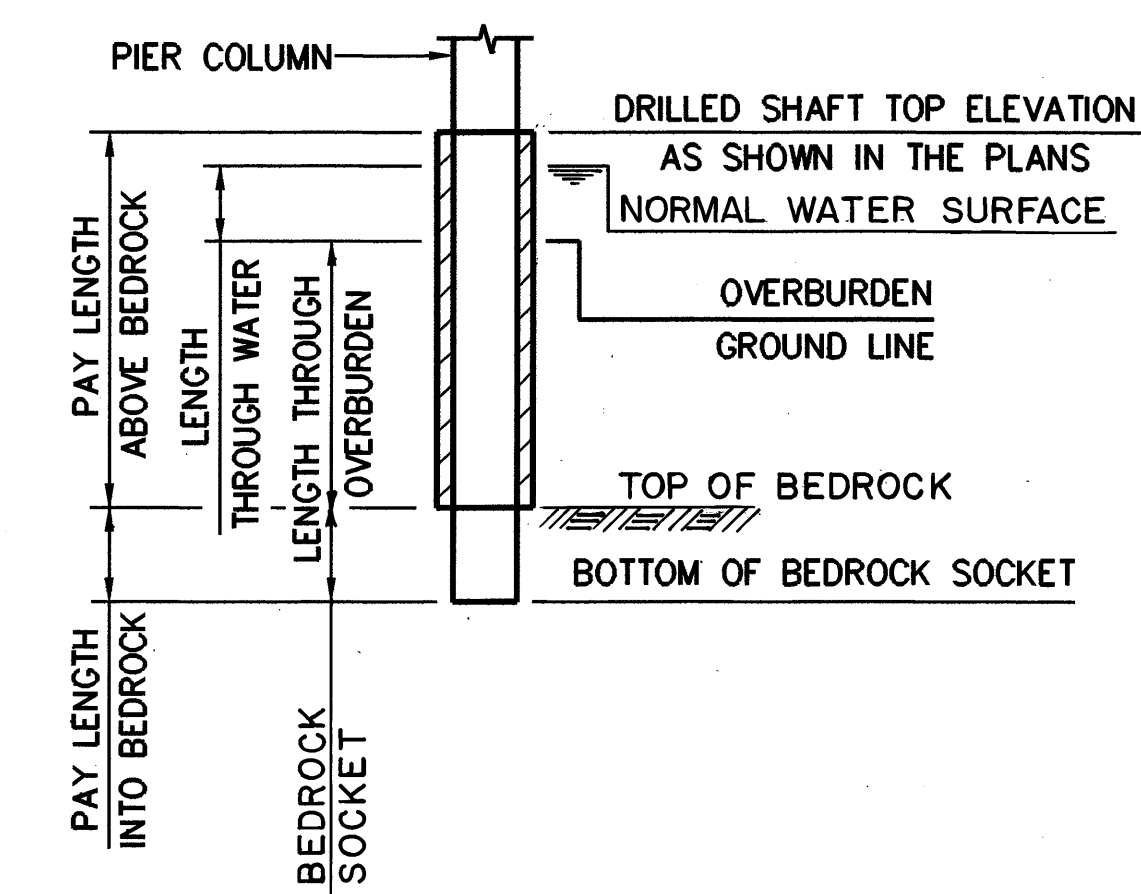
PROJECT ENGINEER COMMENTS

1. LOCATION AND EXTENT OF CAVITIES

2. PROCEDURES FOR CONTROLLING WATER

3. WERE UNEXPECTED SUBSURFACE CONDITIONS ENCOUNTERED

4. ANY SUGGESTIONS FOR IMPROVING THE PLANS



SUBMIT A COPY TO BUREAU OF BRIDGES
ATTN: FOUNDATION ENGINEER
THIS SHEET IS TO BE USED ONLY FOR RECORDING "AS BUILT" INFORMATION

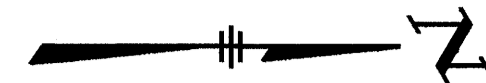
FINKBEINER, PETTIS & STROUT, INC. 5 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

DRILLED SHAFT INSPECTION RECORDS

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	M.P.B.		J.G.C.	M.R.S.	1/95	

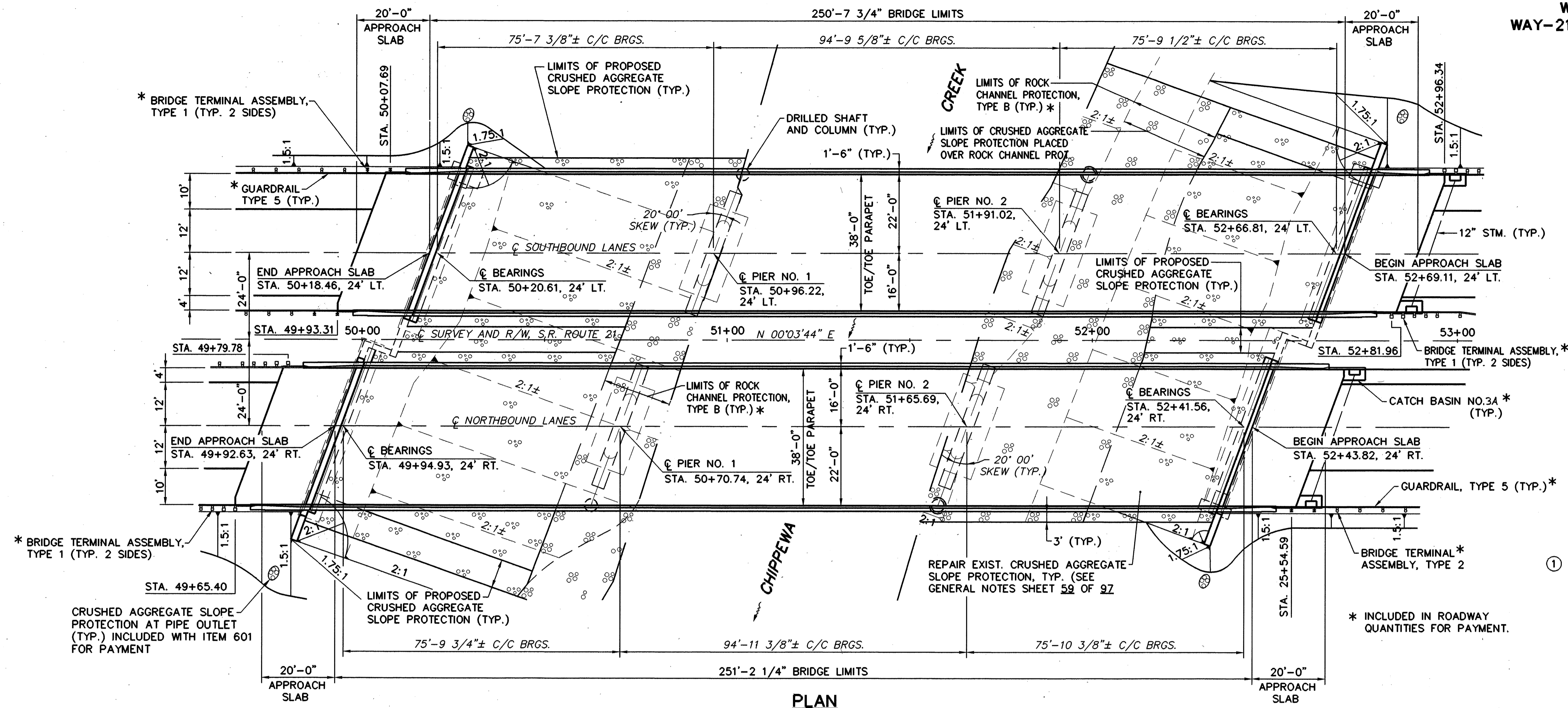
CAD FILE: 94SHAFT1
 DATE: 01/05/95
 OPERATOR: GAF.
 SCALE: 1=1



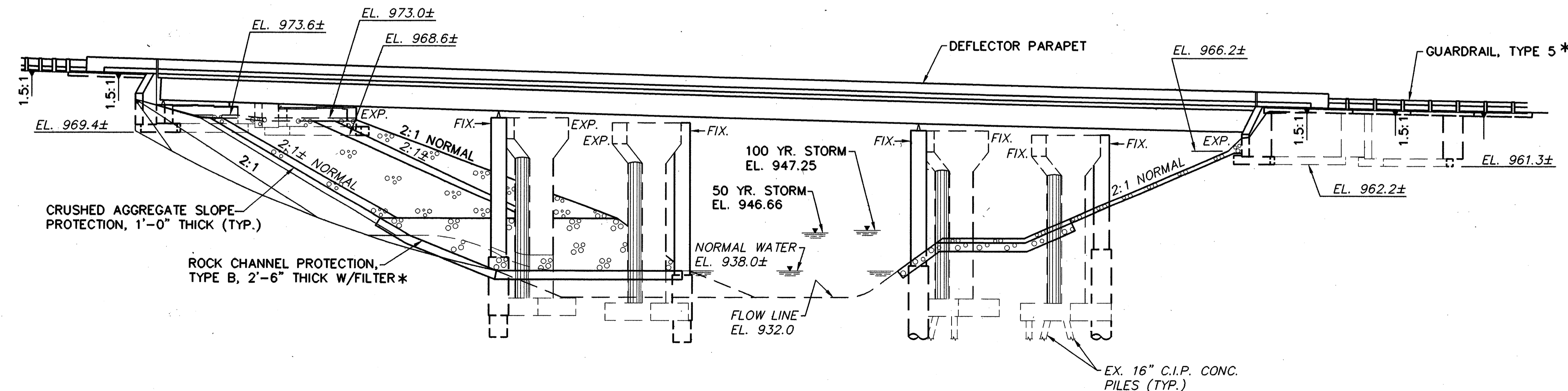
FHWA REGION	STATE	PROJECT	
5	OHIO		

81
98

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)



PLAN



ELEVATION

NOTES

- ① PROPOSED WORK:
 - A) EXISTING ABUTMENTS SHALL BE WIDENED UTILIZING THE SAME ABUTMENT TYPE AS THE EXISTING ABUTMENT FOR EACH STRUCTURE.
 - B) EXISTING PIERS SHALL BE WIDENED BY CONSTRUCTING A COLUMN ON A DRILLED SHAFT ADJACENT TO THE EXISTING PIERS.
 - C) EXISTING SUPERSTRUCTURES SHALL BE WIDENED BY CONSTRUCTING AN ADDITIONAL BEAM ON THE WIDENED SUBSTRUCTURE.
 - D) EXISTING DECKS SHALL BE REPLACED, WIDENED AND MADE COMPOSITE WITH THE BEAMS.

* INCLUDED IN ROADWAY QUANTITIES FOR PAYMENT.

* BRIDGE TERMINAL ASSEMBLY, TYPE 1 (TYP. 2 SIDES).

CRUSHED AGGREGATE SLOPE PROTECTION AT PIPE OUTLET (TYP.) INCLUDED WITH ITEM 601 FOR PAYMENT

FINKBEINER, PETTIS & STROUT, INC. 6 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

GENERAL PLAN AND ELEVATION

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

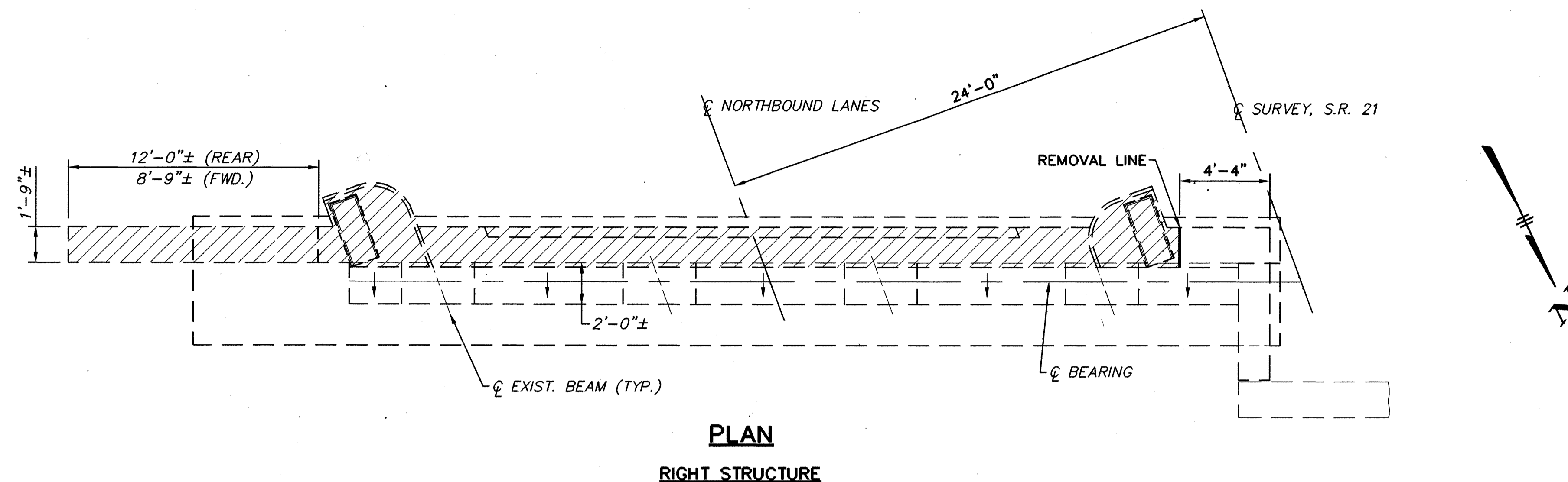
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

CAD FILE: 94GENPLN
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=16'

FHWA REGION	STATE	PROJECT	
5	OHIO		

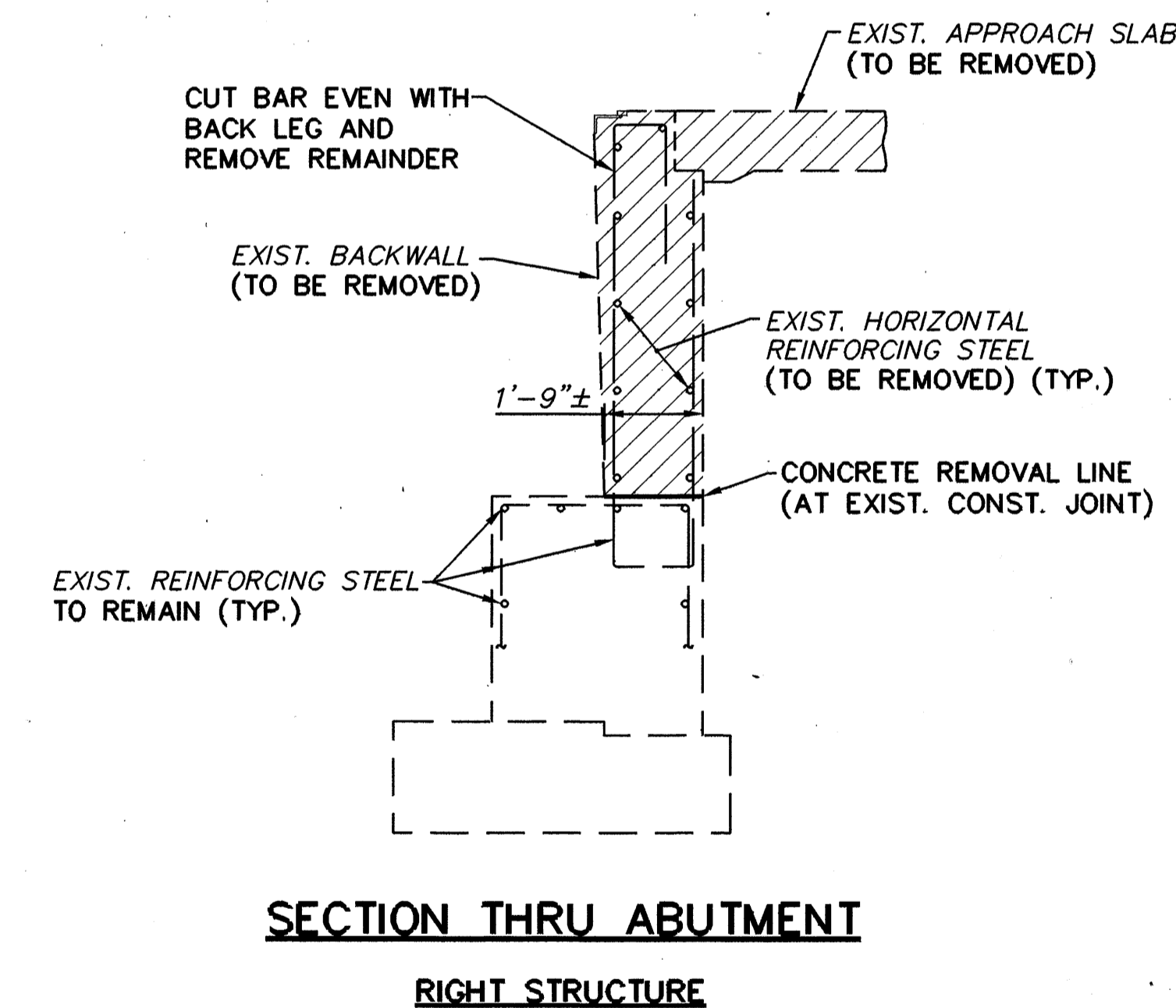
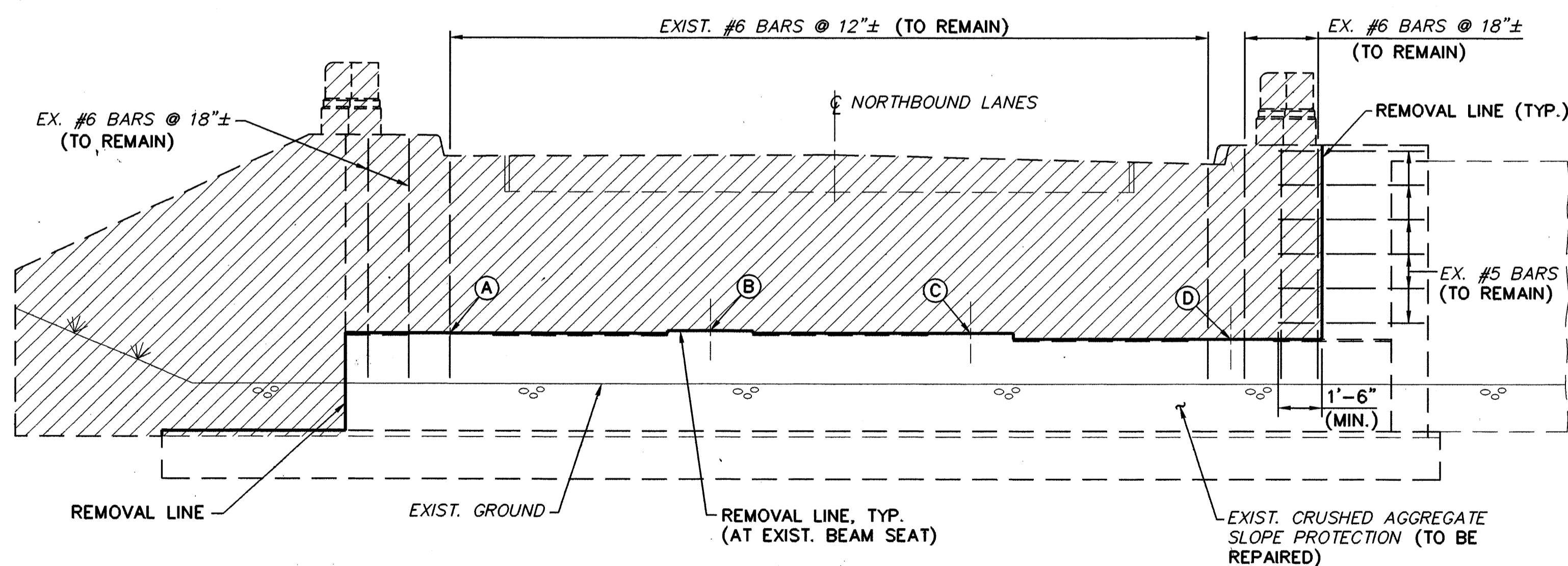
82
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



NOTES

- CARE SHALL BE TAKEN IN REMOVING EXISTING CONCRETE TO AVOID DAMAGING EXISTING REINFORCEMENT BELOW THE BEAM SEAT. PAYMENT FOR REMOVAL OF EXISTING CONCRETE SHALL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURES REMOVED, AS PER PLAN (ABUTMENTS).
- REPLACEMENT OF EXISTING REINFORCING STEEL SHALL BE AT THE DIRECTION OF THE ENGINEER, AND IN ACCORDANCE WITH THE GENERAL NOTES.
- ABUTMENT BEARINGS SHALL BE COMPLETELY REMOVED, REFER TO GENERAL NOTES ON SHEET 51 OF 98.
- EXISTING REINFORCING STEEL PARTIALLY EXPOSED BY CONCRETE REMOVAL SHALL BE LEFT IN PLACE EXCEPT THAT IT SHALL BE BENT AS NECESSARY TO CLEAR PROPOSED CONCRETE SURFACES BY AT LEAST 2 INCHES.
- FOR LEFT STRUCTURE AND DECK DEMOLITION DETAILS SEE SHEET 8 / 21.



CAD FILE: 94DEMORT
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1=4

- INDICATES AREAS TO BE REMOVED.

ELEVATION TABLE (RIGHT STRUCTURE)				
	A	B	C	D
REAR	975.69±	975.80±	975.70±	975.46±
FORWARD	968.18±	968.40±	968.43±	968.34±

FINKBEINER, PETTIS & STROUT, INC. 7 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

DEMOLITION DETAILS

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

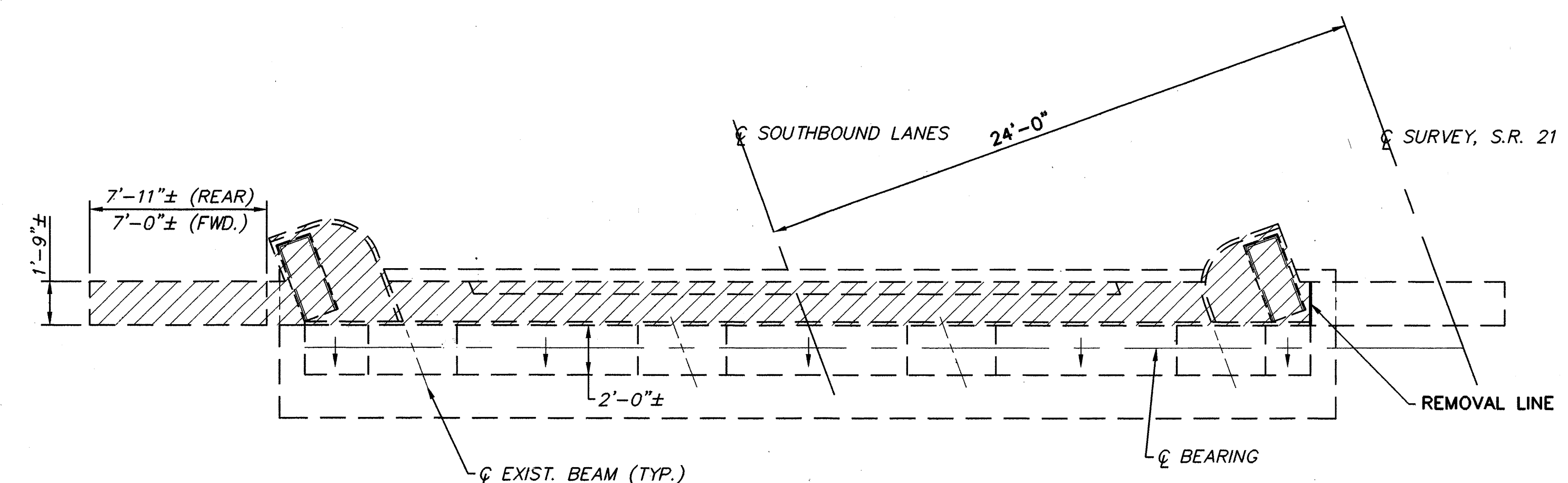
FHWA REGION	STATE	PROJECT	
5	OHIO		

83
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

NOTES

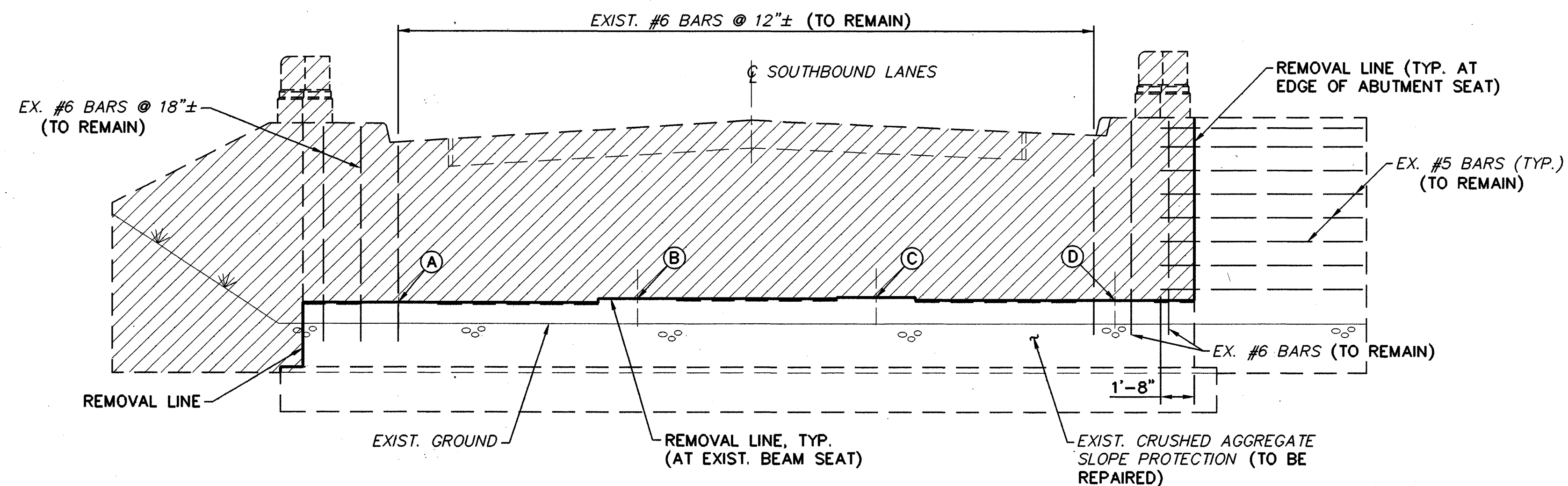
- FOR RIGHT STRUCTURE DEMOLITION DETAILS AND ADDITIONAL NOTES SEE SHEET 7 / 21 .
- REMOVE ENTIRE SCUPPER ASSEMBLY AND BULB ANGLE GUTTERS INCLUDING ATTACHMENTS TO THE EXISTING GIRDER. GRIND SMOOTH ANY EXISTING WELDS WHERE THE MEMBERS WERE ATTACHED TO THE GIRDER.



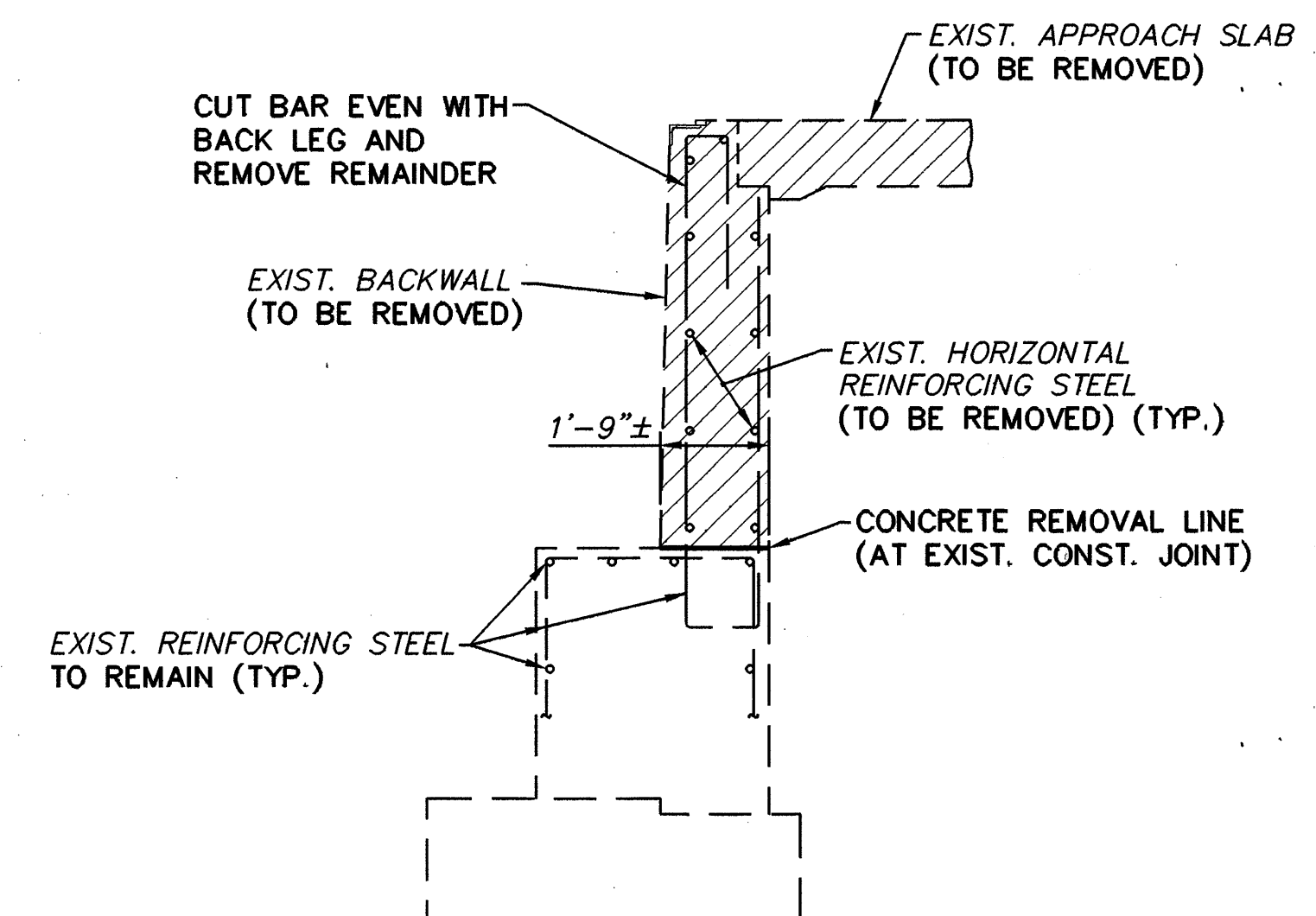
PLAN
LEFT STRUCTURE

ELEVATION TABLE (LEFT STRUCTURE)

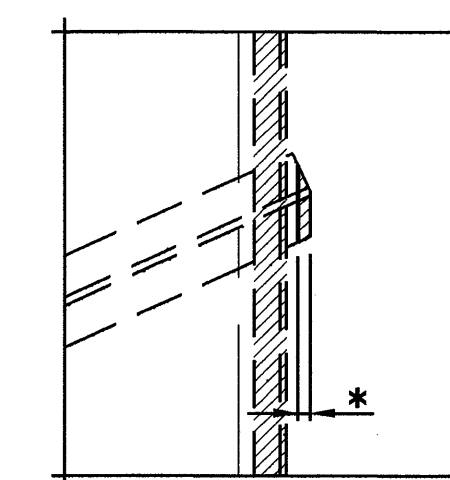
	A	B	C	D
REAR	974.84±	974.89±	974.78±	974.57±
FORWARD	967.27±	967.44±	967.50±	967.38±



ELEVATION
LEFT STRUCTURE
(FORWARD ABUTMENT SHOWN,
REAR ABUTMENT SIMILAR)

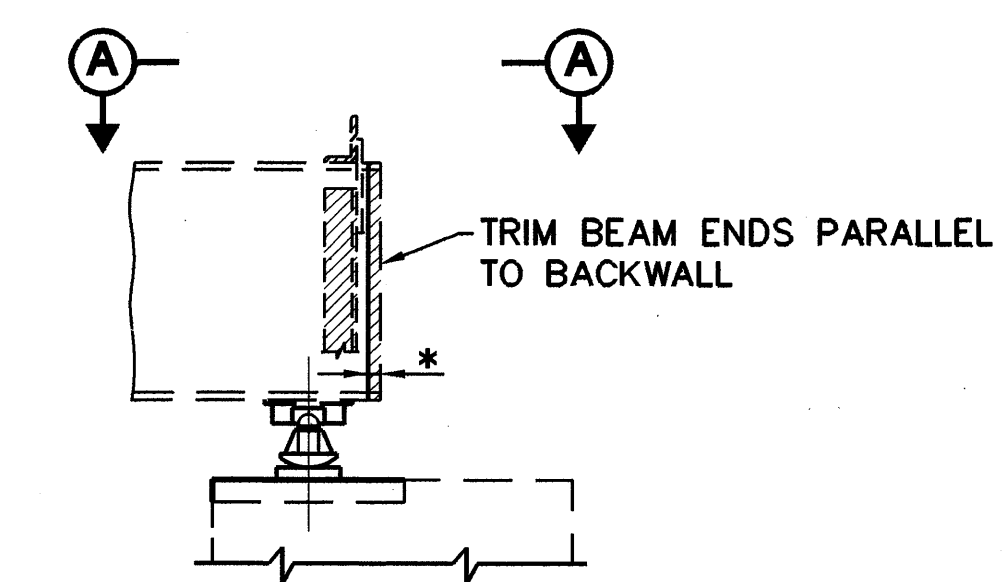


SECTION THRU ABUTMENT
LEFT STRUCTURE



VIEW A-A

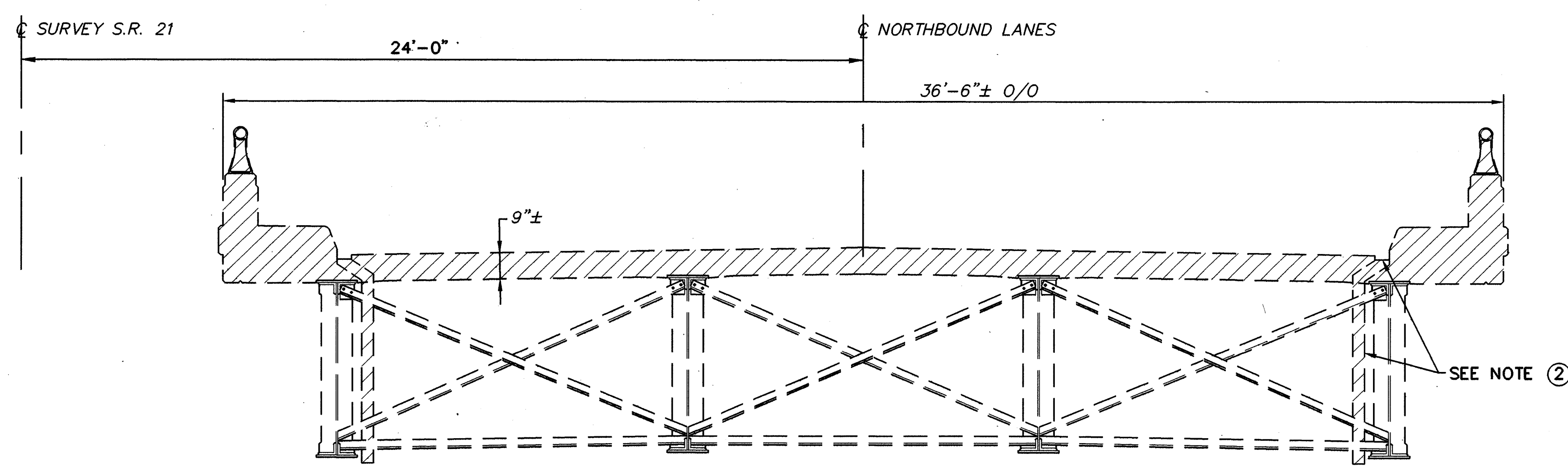
* TRIM TO PROVIDE A MINIMUM OF 2" CLEAR TO BACKWALL @ 60° F



TRIMMING OF BEAM ENDS
(LEFT STRUCTURE REAR ABUTMENT ONLY)

LEGEND

- INDICATES AREAS TO BE REMOVED
- INDICATES AREAS TO BE REMOVED (FORWARD ABUTMENT ONLY)



TRANSVERSE SECTION
(RIGHT STRUCTURE SHOWN,
LEFT STRUCTURE SIMILAR)

FINKBEINER, PETTIS & STROUT, INC. 8 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

DEMOLITION DETAILS

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

CAD FILE: 94DEMOLT
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1=4

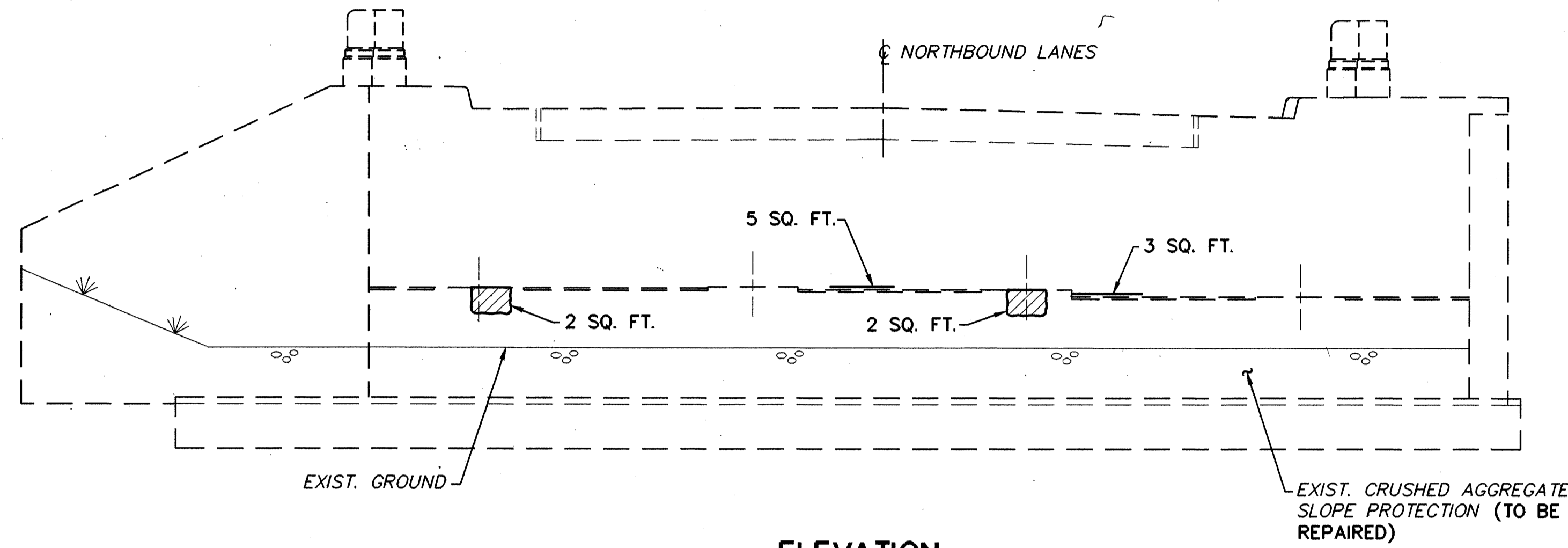
FHWA REGION	STATE	PROJECT	
5	OHIO		

84
98

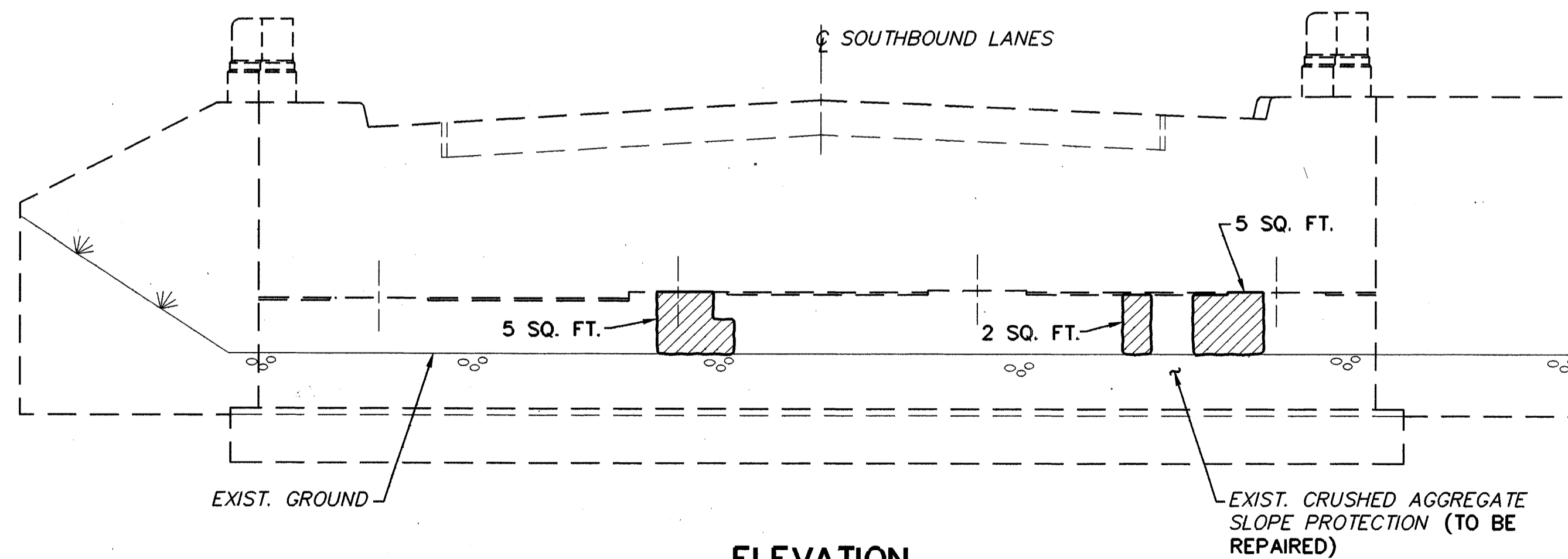
WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

NOTE

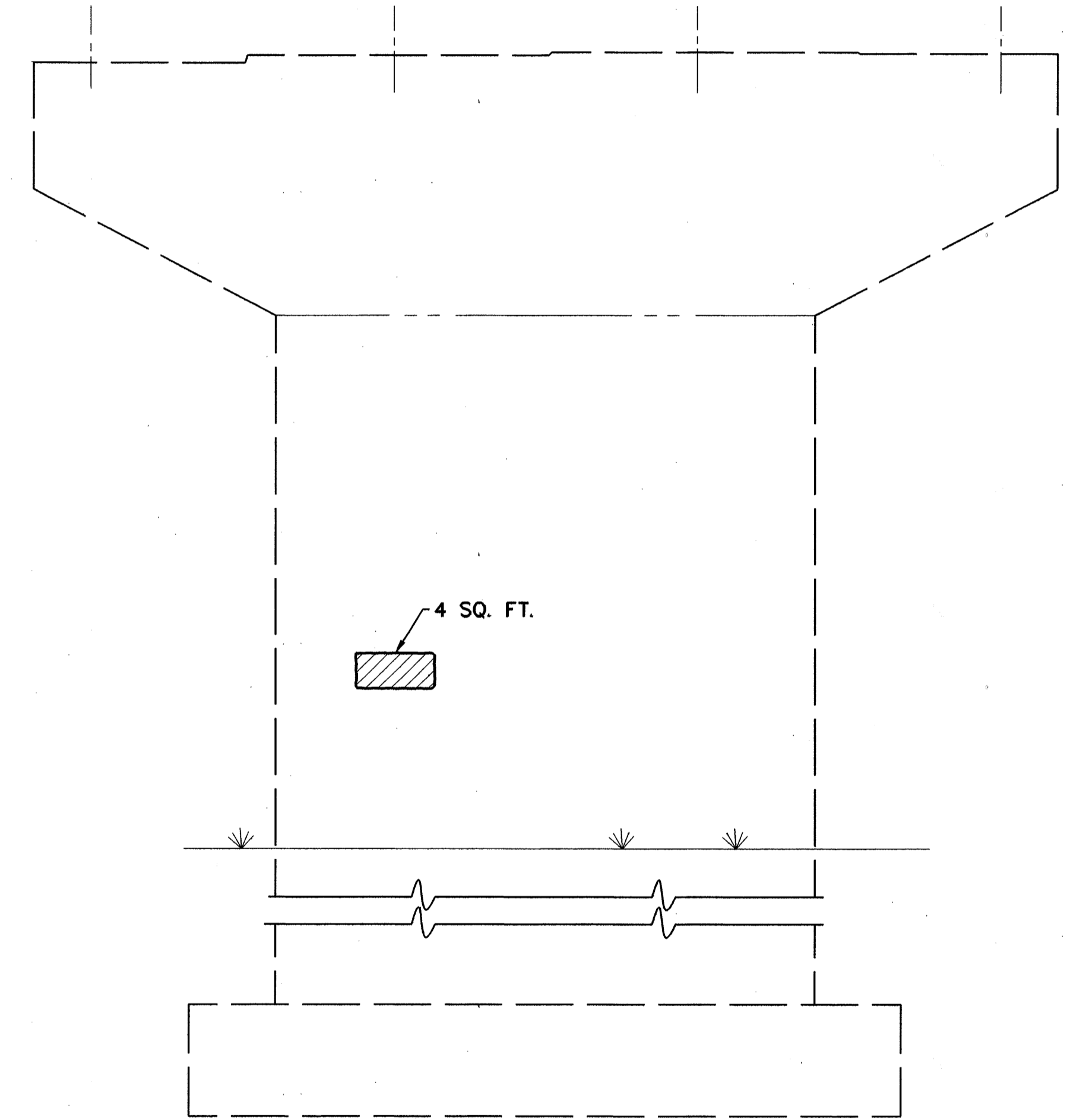
① REPAIR AREAS BASED ON SURVEY DONE MARCH 3 AND 4, 1992.



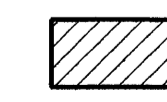
ELEVATION
(RIGHT STRUCTURE, REAR ABUTMENT)
TOTAL = 12 SQ. FT. x 3 = 36 SQ. FT.



ELEVATION
(LEFT STRUCTURE, FORWARD ABUTMENT)
TOTAL = 12 SQ. FT. x 3 = 36 SQ. FT.



ELEVATION
(RIGHT STRUCTURE, PIER NO.1 SOUTH SIDE)
TOTAL = 4 SQ. FT. x 3 = 12 SQ. FT.

 - INDICATES AREAS TO BE REPAIRED PER ITEM 519, PATCHING CONCRETE STRUCTURES. THE AREAS SHOWN ARE APPROXIMATE. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED WILL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.

CAD FILE: 94REPAIR
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1/4"

FINKBEINER, PETTIS & STROUT, INC. 9 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

REPAIR DETAILS

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

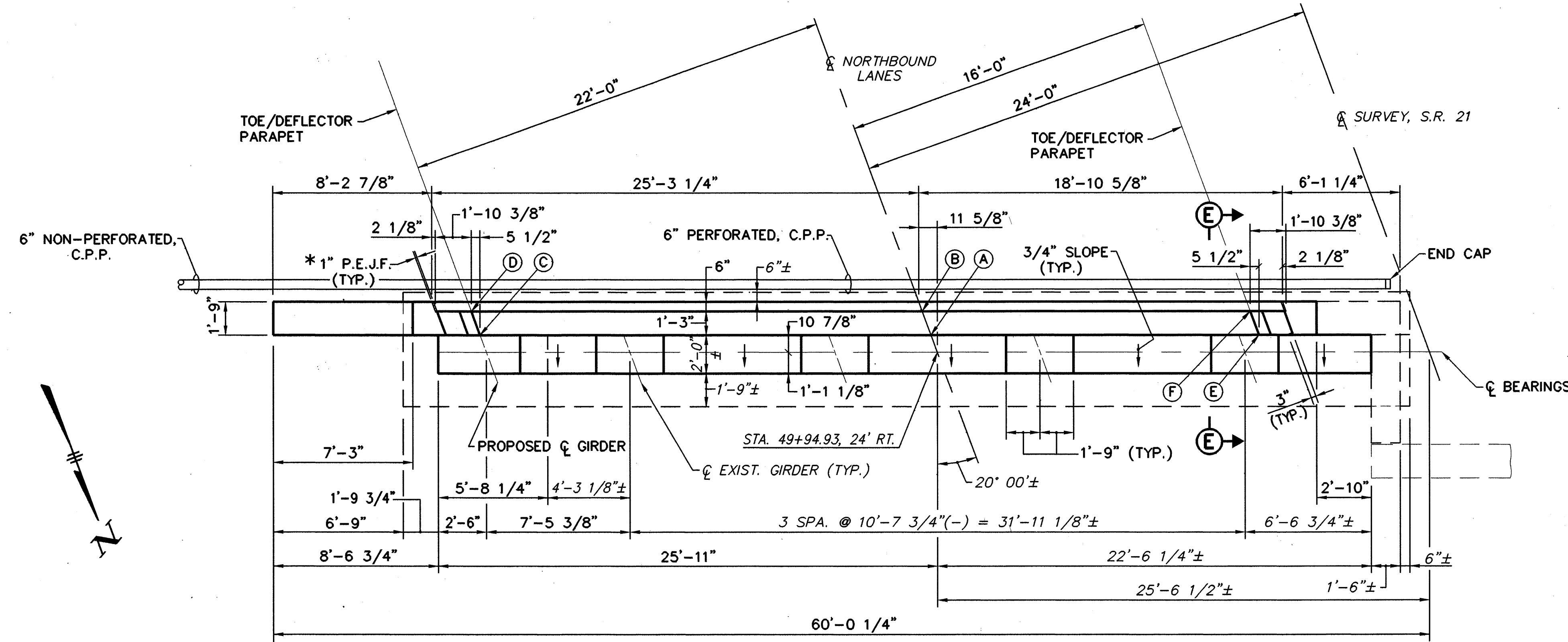
FHWA REGION	STATE	PROJECT	
5	OHIO		

85
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

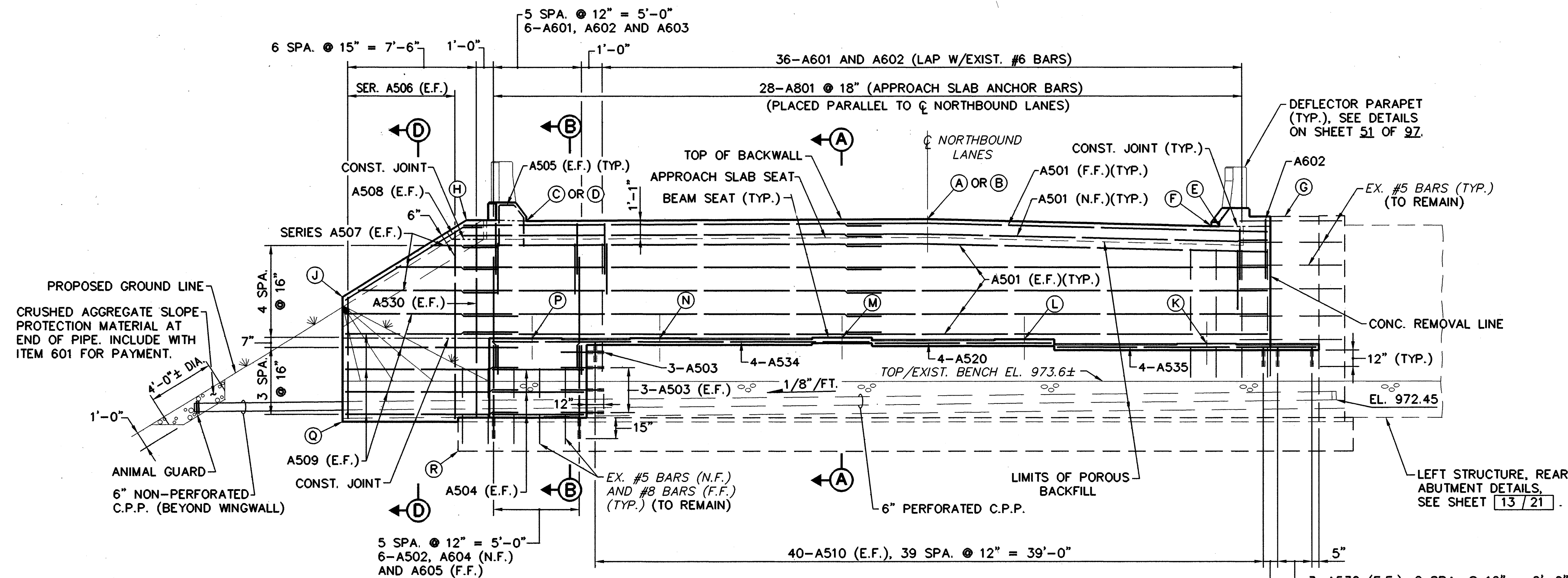
NOTES

- POROUS BACKFILL**, 2 FEET THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE ENDS OF THE WINGWALLS.
- ABBREVIATIONS:**
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
C.P.P. = CORRUGATED PLASTIC PIPE
R.A. = REAR ABUTMENT
F.A. = FORWARD ABUTMENT
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- MINIMUM BAR LAPS ARE AS FOLLOWS:**
#5 BAR = 18"
#6 BAR = 24"
- BACKWALL CONCRETE:** IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
- IN ADDITION TO THE SEALER PLACED ON THE ABUTMENT SEAT, BREASTWALL AND BACKWALL, ALL EXPOSED CONCRETE OUTSIDE OF FASCIA GIRDER SHALL HAVE CONCRETE SEALER APPLIED.
- FOR FORWARD ABUTMENT DETAILS, SECTIONS A-A, B-B, D-D AND VIEW E-E SEE SHEETS 11/21 AND 14/21.



PLAN

* INCLUDE WITH APPROACH SLAB, AS PER PLAN, FOR PAYMENT.



ELEVATION

A	B	C	D	E	F	G	H
983.21	983.25	983.11	983.15	982.78	982.82	983.36±	983.17
J	K	L	M	N	P	Q	R
978.60	975.76	976.02	976.13	976.09	976.04	971.2±	969.4±
	975.46±	975.70±	975.80±	975.69±	EXISTING BEAM SEAT		
	0.30±	0.32±	0.33±	0.40±	REQUIRED RAISING		

FINKBEINER, PETTIS & STROUT, INC. 10 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

ABUTMENT DETAILS
RIGHT REAR
BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

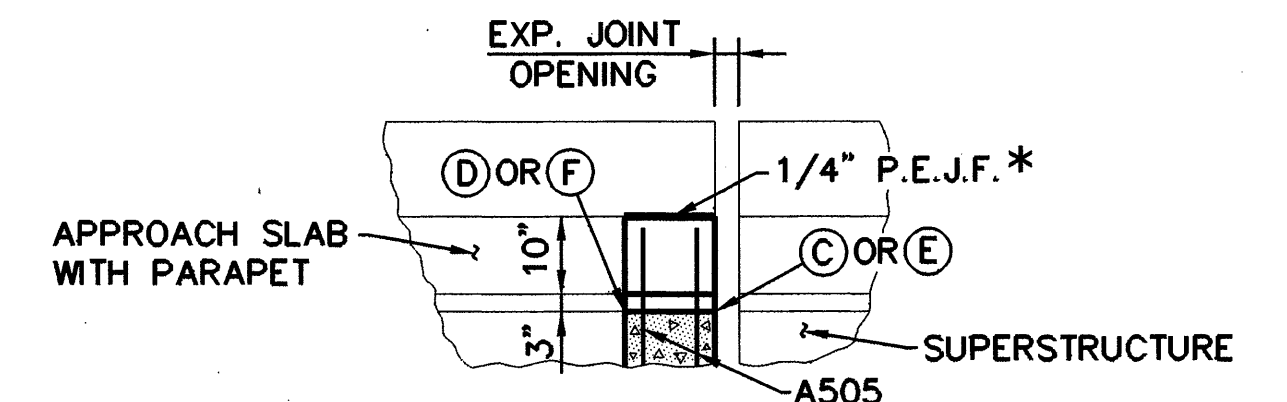
FHWA REGION	STATE	PROJECT	
5	OHIO		

86
98

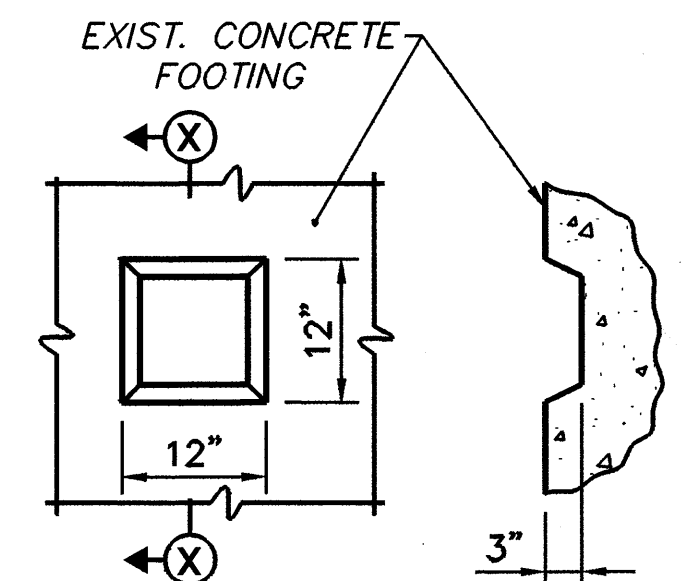
WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

NOTE

① FOR REAR ABUTMENT DETAILS, SECTION A-A, B-B, C-C, AND D-D AND NOTES SEE SHEETS 10/21 AND 12/21.



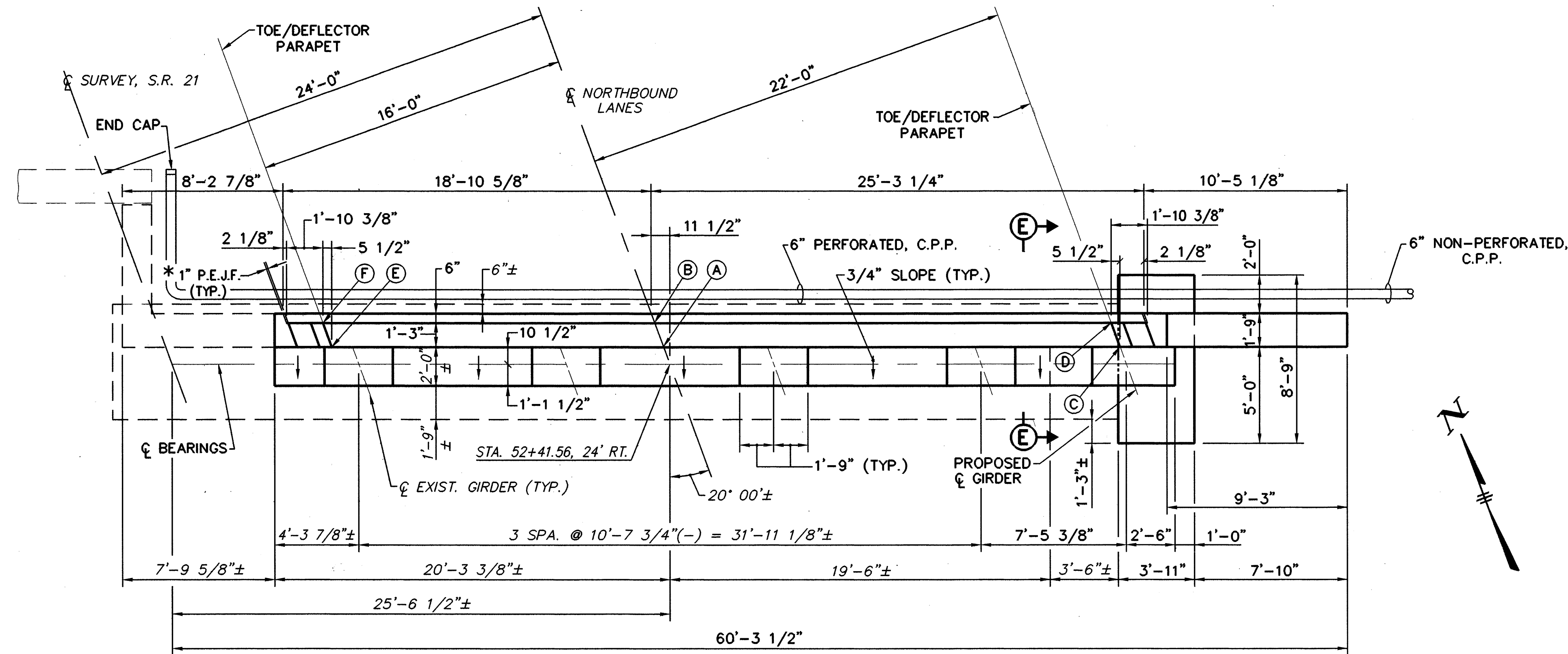
VIEW E-E



SECTION X-X

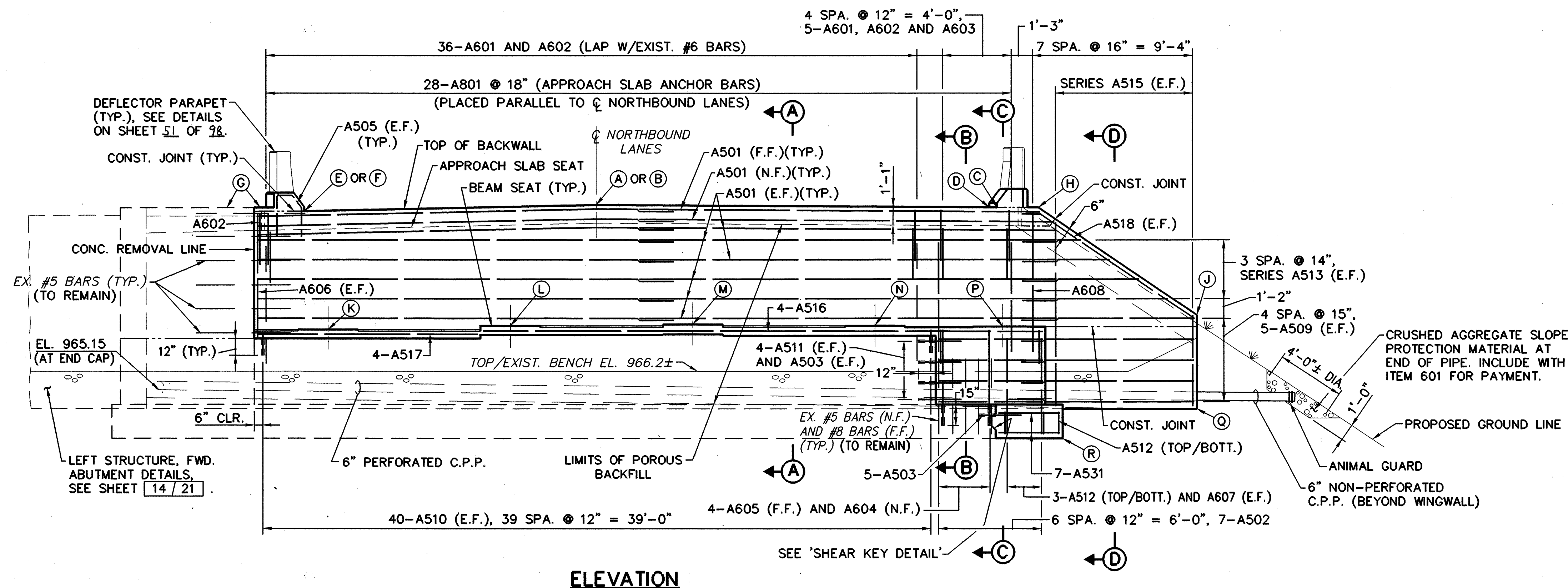
SHEAR KEY DETAIL
(INCLUDE WITH ITEM 511 FOR PAYMENT)

ELEVATION TABLE							
A	B	C	D	E	F	G	H
976.15	976.12	975.99	975.96	975.77	975.74	975.95±	976.01
J	K	L	M	N	P	Q	R
969.58	968.80	969.04	969.13	969.04	968.99	963.9±	962.2±
					968.18± 968.40± 968.43± 968.34± EXISTING BEAM SEAT		
					0.62± 0.64± 0.70± 0.70± REQUIRED RAISING		



PLAN

* INCLUDE WITH APPROACH SLAB, AS PER PLAN, FOR PAYMENT



ELEVATION

SEE 'SHEAR KEY DETAIL'

FINKBEINER, PETTIS & STROUT, INC. 11 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

ABUTMENT DETAILS
RIGHT FORWARD
BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

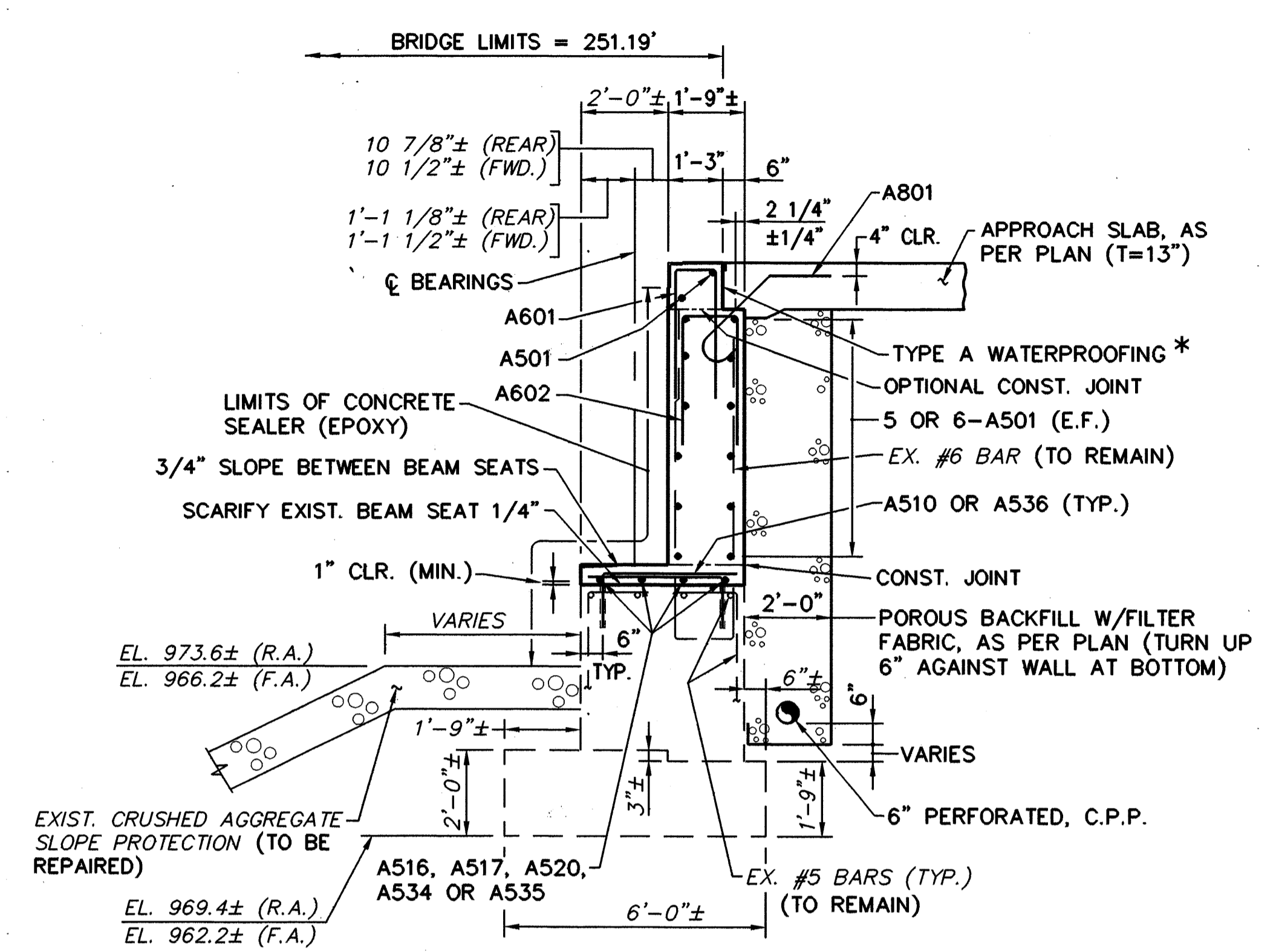
FHWA REGION	STATE	PROJECT	
5	OHIO		

87
98

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

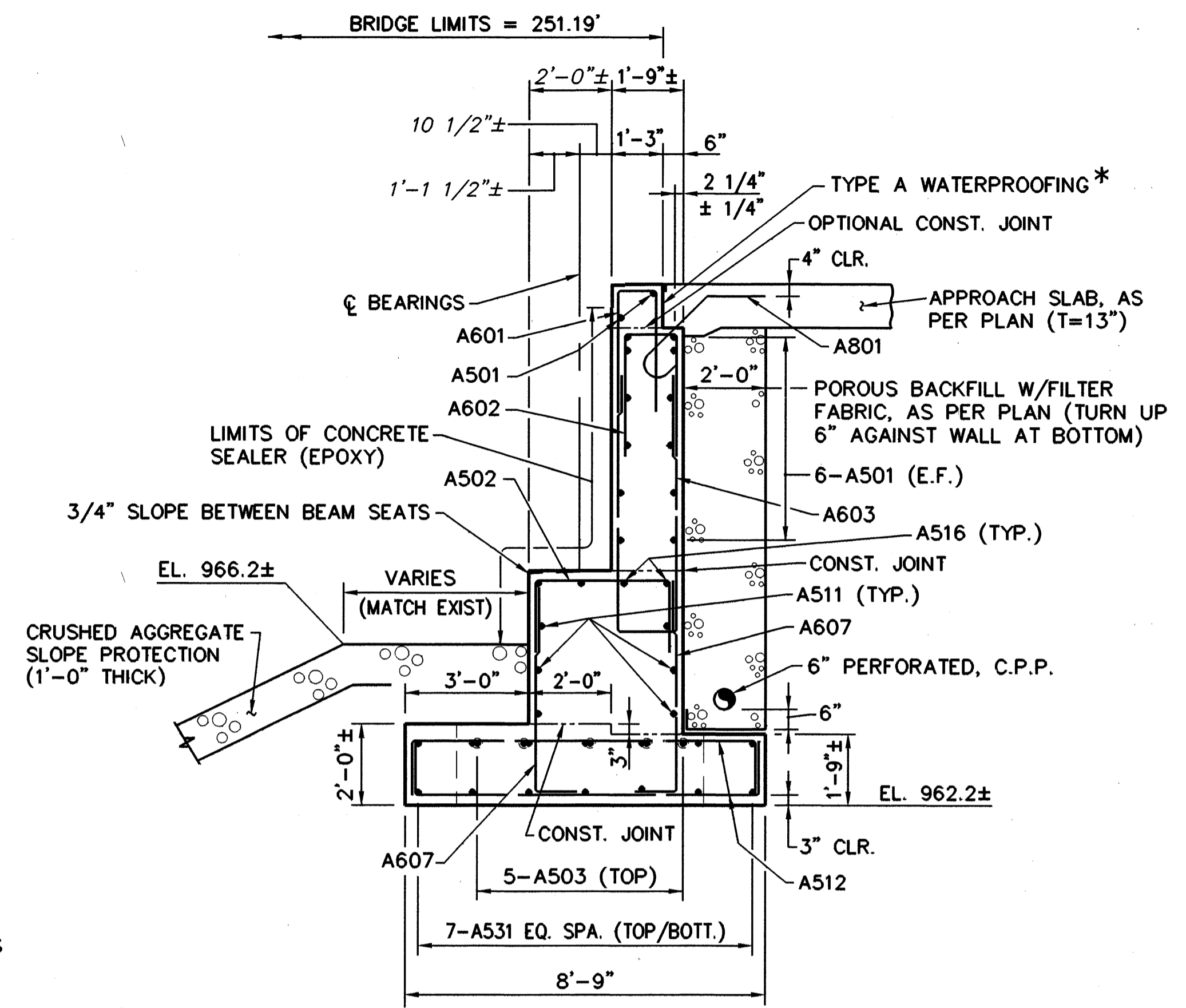
NOTE

① FOR REAR AND FORWARD ABUTMENT PLAN AND ELEVATION DETAILS AND NOTES SEE SHEETS 10/21 AND 11/21

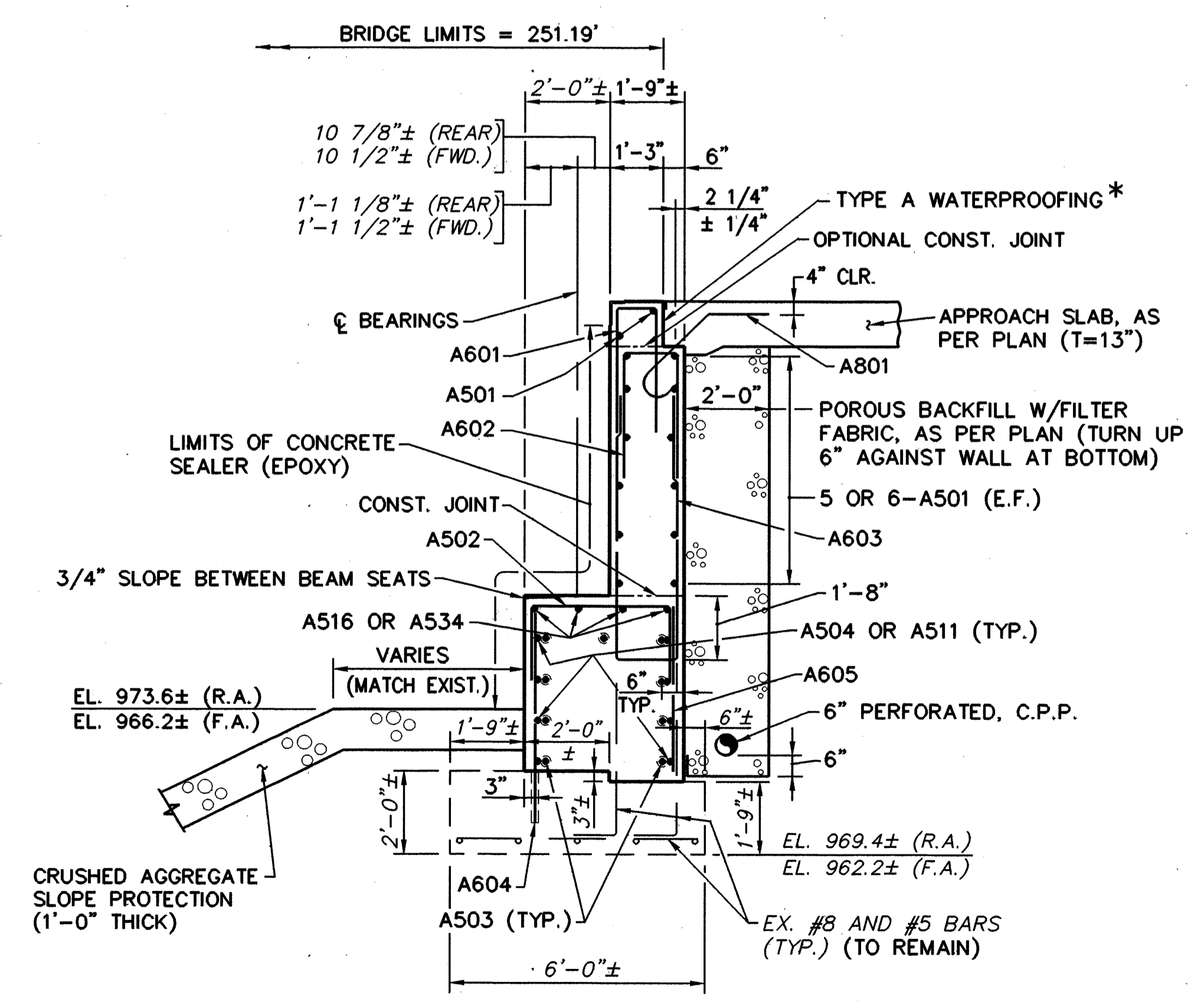


SECTION A-A

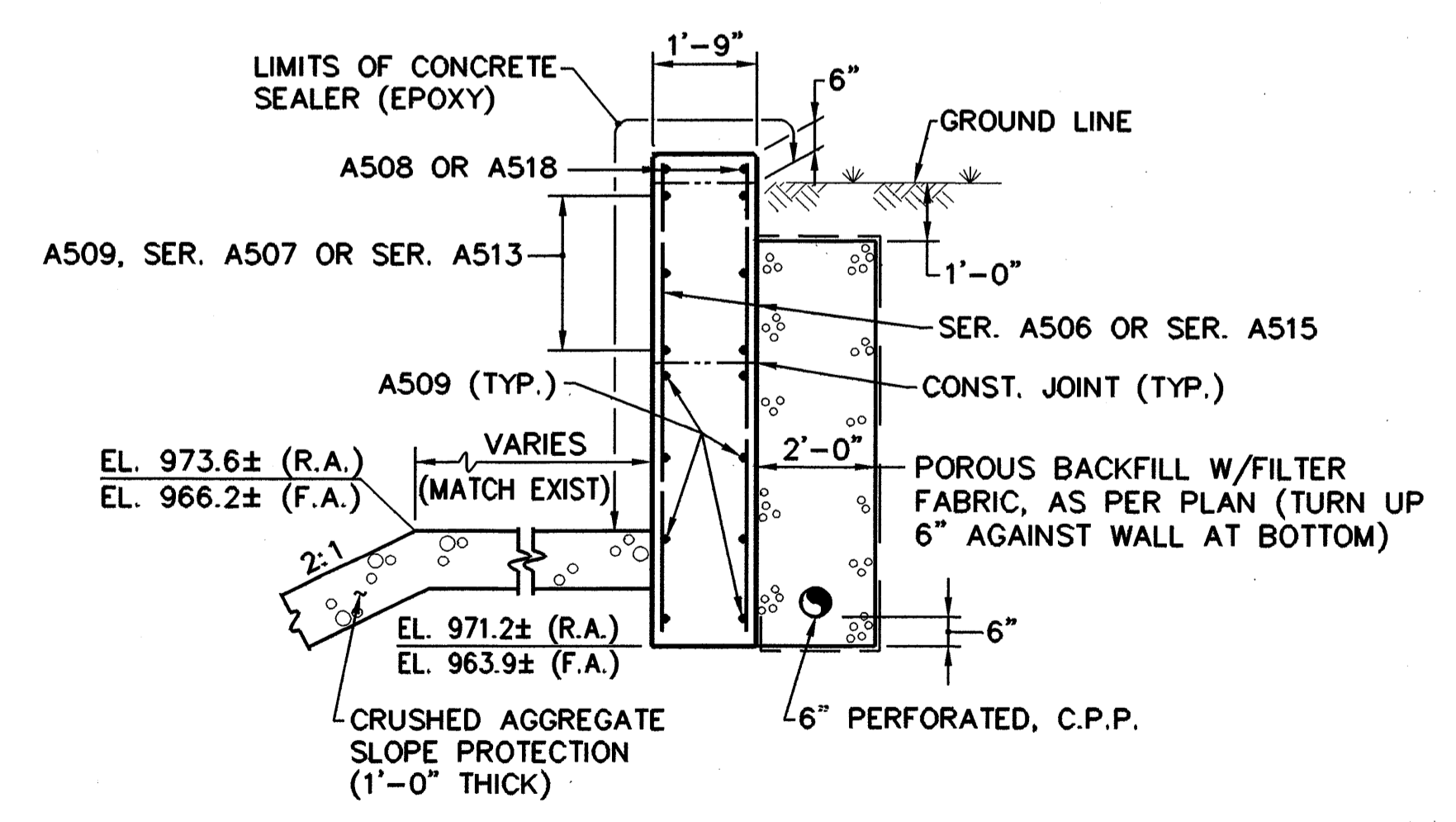
* INCLUDE WITH APPROACH SLAB, AS PER PLAN FOR PAYMENT.



SECTION C-C



SECTION B-B



SECTION D-D

FINKBEINER, PETTIS & STROUT, INC. 12 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

ABUTMENT DETAILS
RIGHT STRUCTURE
BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

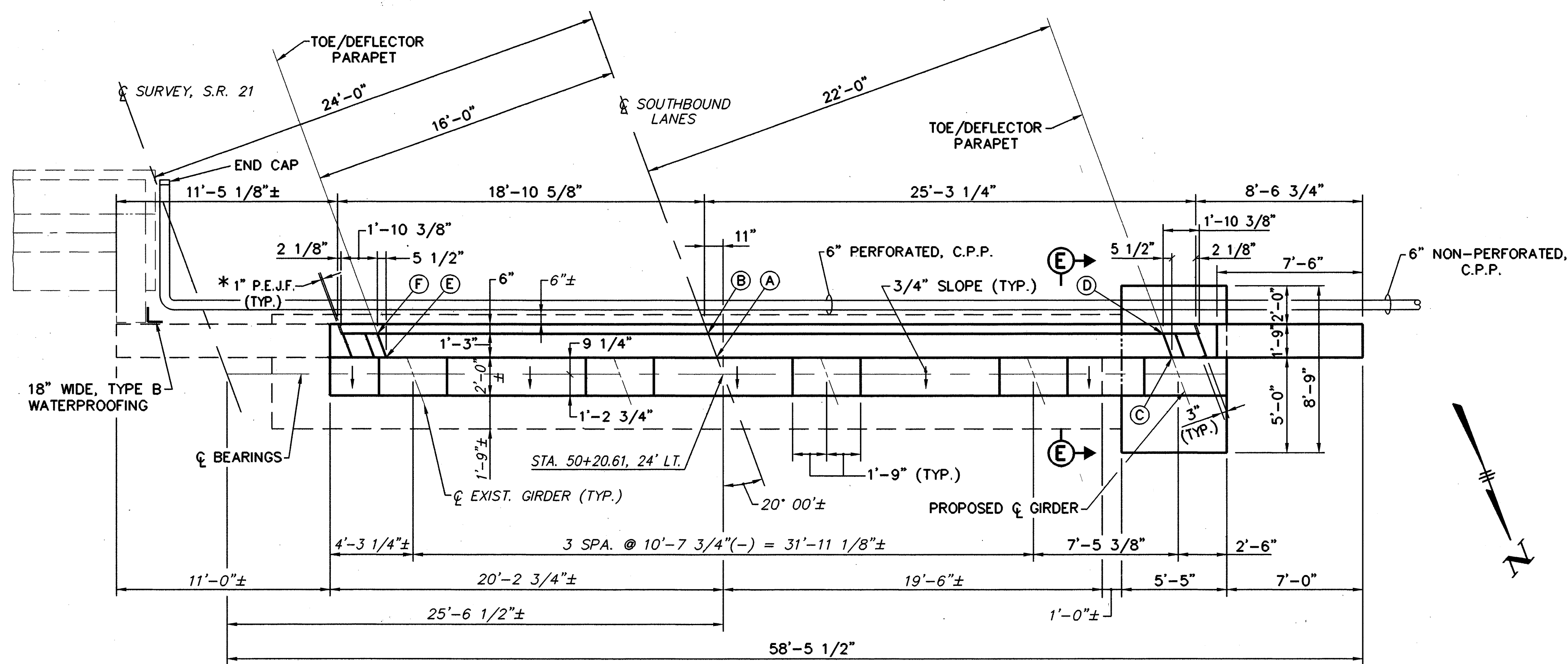
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

CAD FILE: 94ABRT13
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=2'-6"

FHWA REGION	STATE	PROJECT	
5	OHIO		

88
98

**WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)**

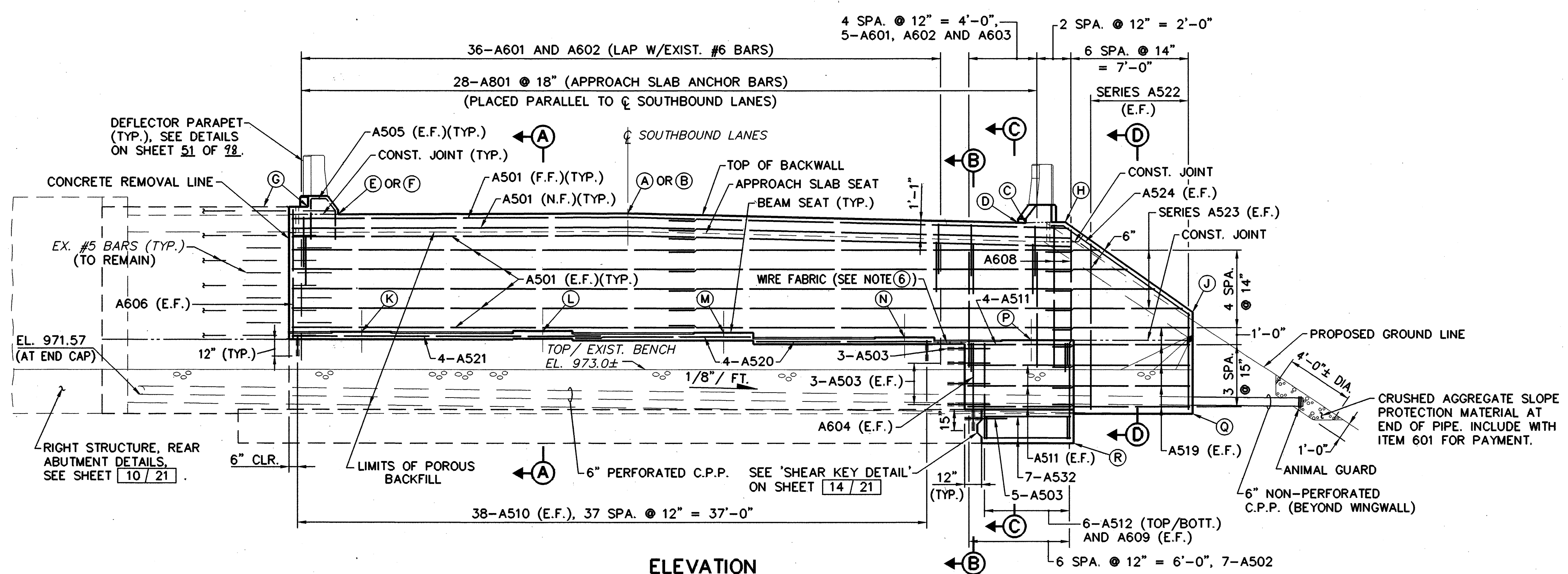


PLAN

* INCLUDE WITH APPROACH SLAB, AS PER PLAN, FOR PAYMENT

NOTES

- POROUS BACKFILL**, 2 FEET THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE ENDS OF THE WINGWALLS.
- ABBREVIATIONS:**
N.F. = NEAR FACE R.A. = REAR ABUTMENT
F.F. = FAR FACE F.A. = FORWARD ABUTMENT
E.F. = EACH FACE P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
C.P.P. = CORRUGATED PLASTIC PIPE
- MINIMUM BAR LAPS ARE AS FOLLOWS:**
#5 BAR = 18"
#6 BAR = 24"
- BACKWALL CONCRETE:** IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
- IN ADDITION TO THE SEALER PLACED ON THE ABUTMENT SEAT AND BACKWALL, ALL EXPOSED CONCRETE OUTSIDE OF FASCIA GIRDER SHALL HAVE CONCRETE SEALER APPLIED.
- WIRE FABRIC SHALL CONFORM TO ITEM 709.14, (EPOXY COATED) AND SHALL BE SIZED AND PLACED ACCORDING TO ITEM 519. PATCHING CONCRETE STRUCTURES AND INCLUDED FOR PAYMENT UNDER ITEM SPECIAL-HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE.
- FOR FORWARD ABUTMENT DETAILS, SECTIONS A-A, B-B, C-C, D-D AND E-E SEE SHEETS 11/21 AND 12/21.



ELEVATION

A	B	C	D	E	F	G	H
982.42	982.46	981.84	981.88	982.35	982.39	982.79±	981.90
J	K	L	M	N	P	Q	R
976.50	975.30	975.36	975.26	974.97	974.79	970.3±	968.6±
	974.84±	974.89±	974.78±	974.57±	EXISTING BEAM SEAT		
	0.46±	0.47±	0.48±	0.40±	REQUIRED RAISING		

FINKBEINER, PETTIS & STROUT, INC. 13 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

ABUTMENT DETAILS
LEFT REAR
BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

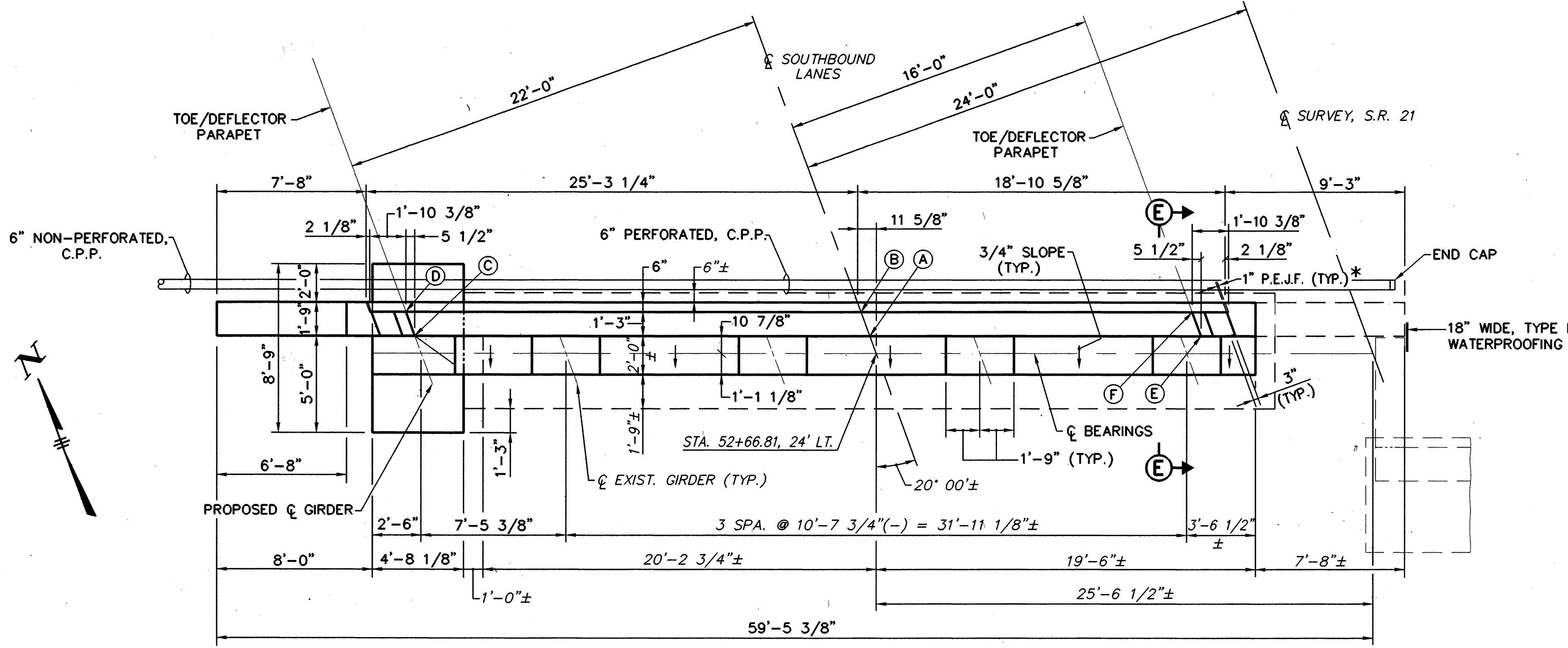
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

CAD FILE: 94ABTL1
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1/4"

FHWA REGION	STATE	PROJECT	
5	OHIO		

89
98

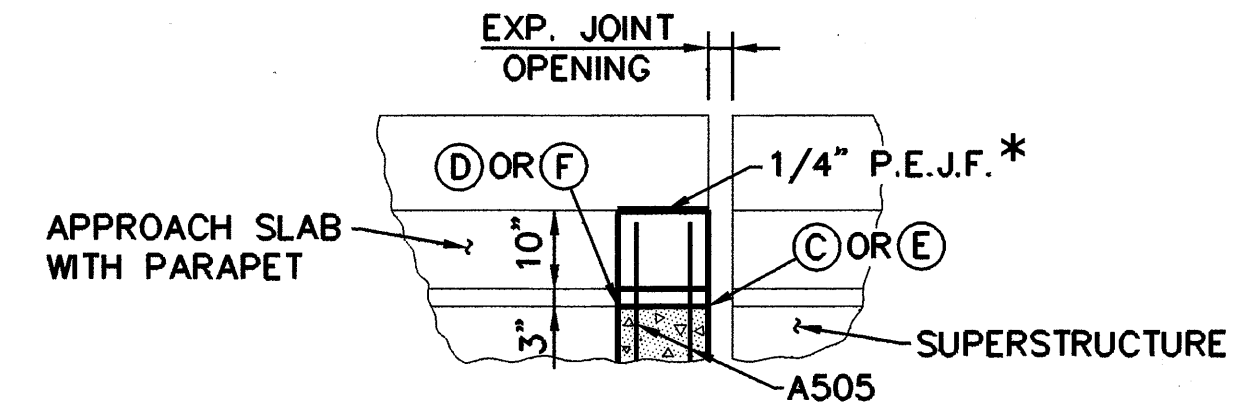
WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)



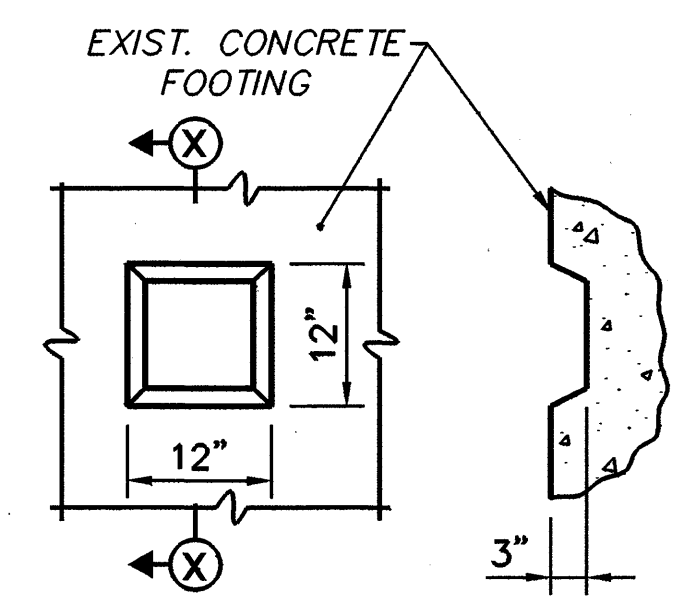
PLAN

* INCLUDE WITH APPROACH SLAB, AS PER PLAN, FOR PAYMENT.

NOTE
① FOR REAR ABUTMENT DETAILS, SECTION A-A, B-B, C-C AND D-D AND NOTES SEE SHEETS 13/21 AND 15/21.



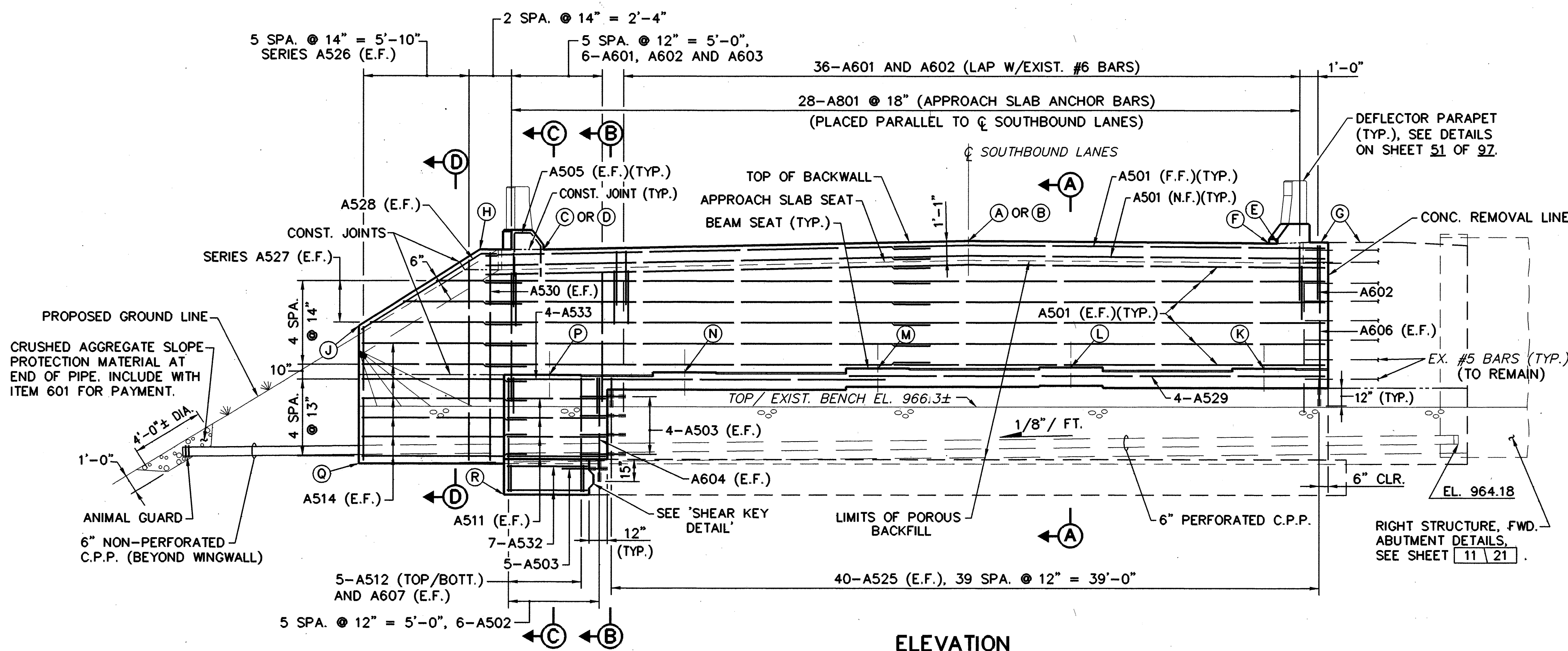
VIEW E-E



SECTION X-X

SHEAR KEY DETAIL

(INCLUDE WITH ITEM 511 FOR PAYMENT)



ELEVATION

ELEVATION TABLE							
A	B	C	D	E	F	G	H
975.56	975.54	975.06	975.03	975.43	975.41	975.50±	975.08
J	K	L	M	N	P	Q	R
970.80	968.46	968.52	968.46	968.23	968.06	963.1±	961.3±
	967.38±	967.50±	967.44±	967.26±		EXISTING BEAM SEAT	
	1.08±	1.02±	1.02±	0.97±	REQUIRED RAISING		

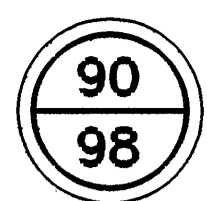
FINKBEINER, PETTIS & STROUT, INC. 14 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

ABUTMENT DETAILS
LEFT FORWARD
BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

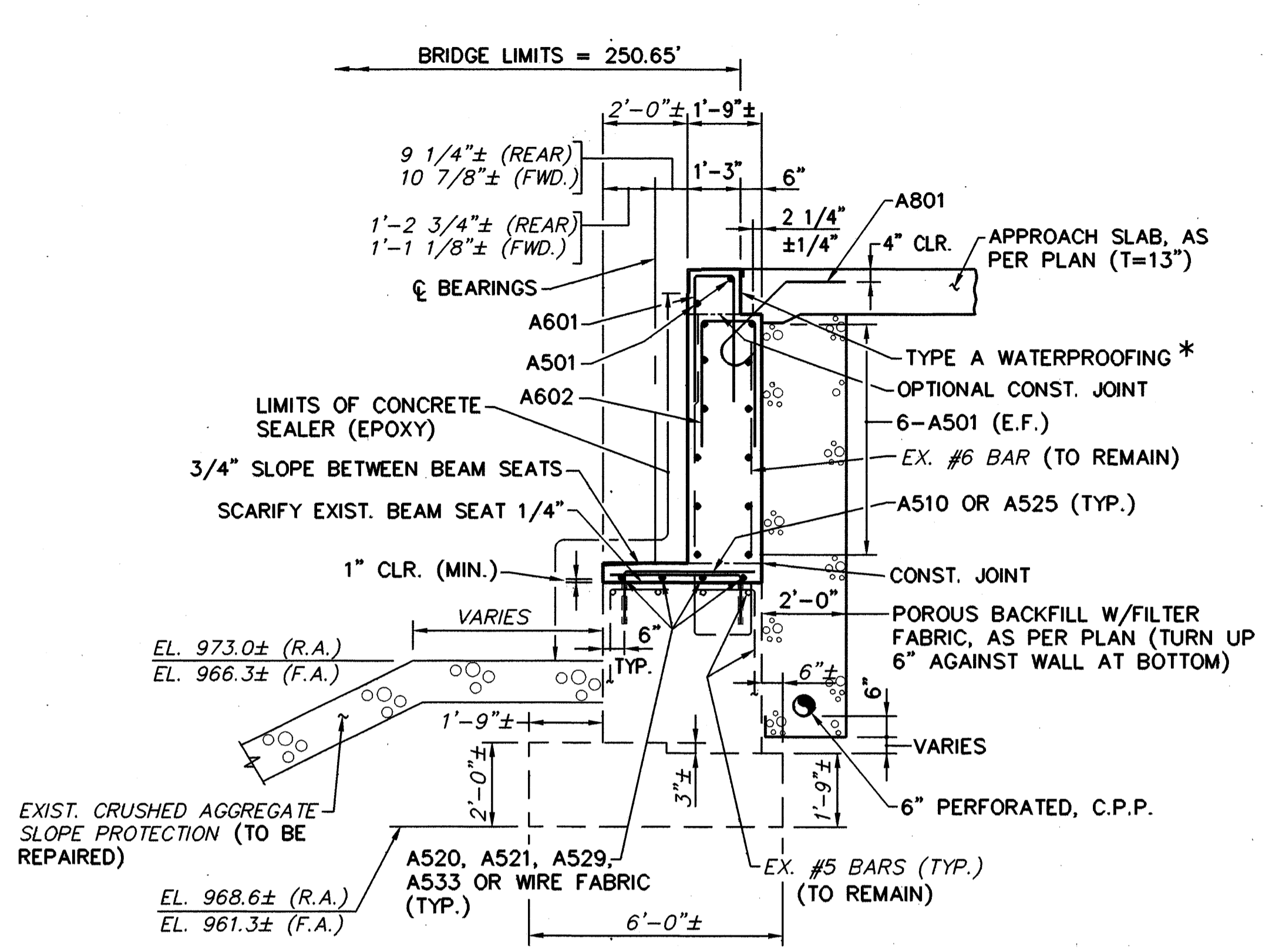
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

CAD FILE: 94ABTL72
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1/4"

FHWA REGION	STATE	PROJECT	
5	OHIO		

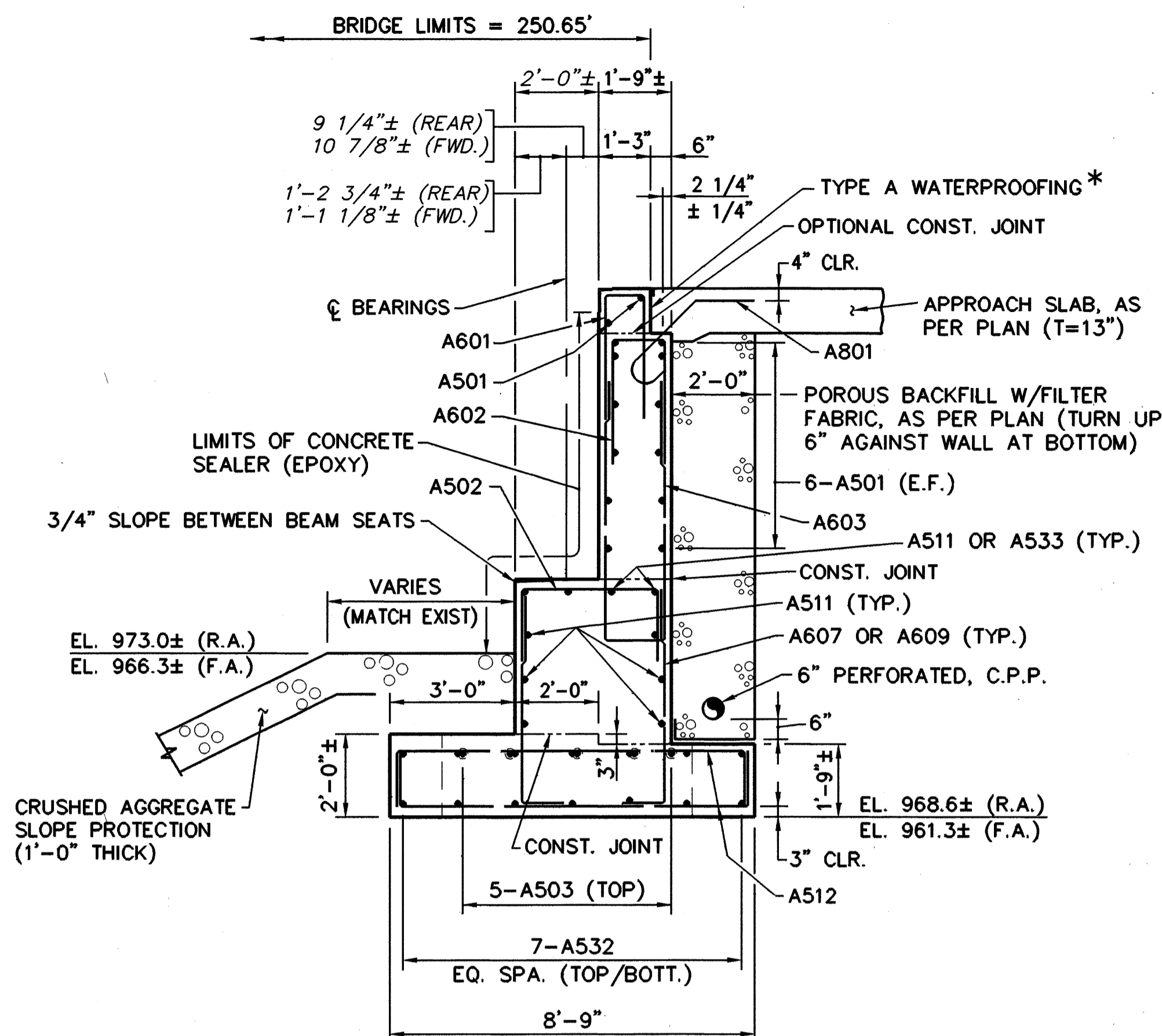


WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

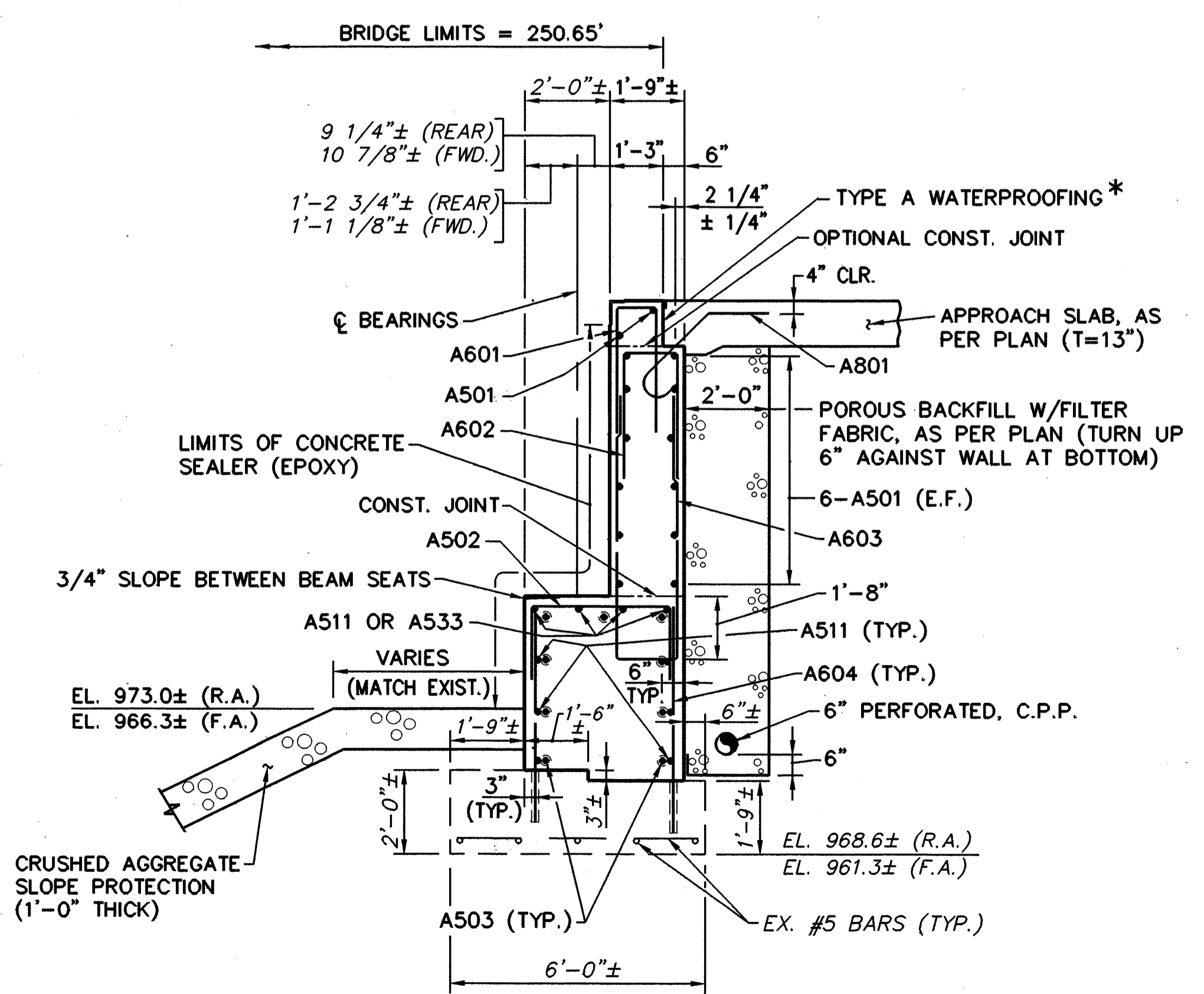


SECTION A-A

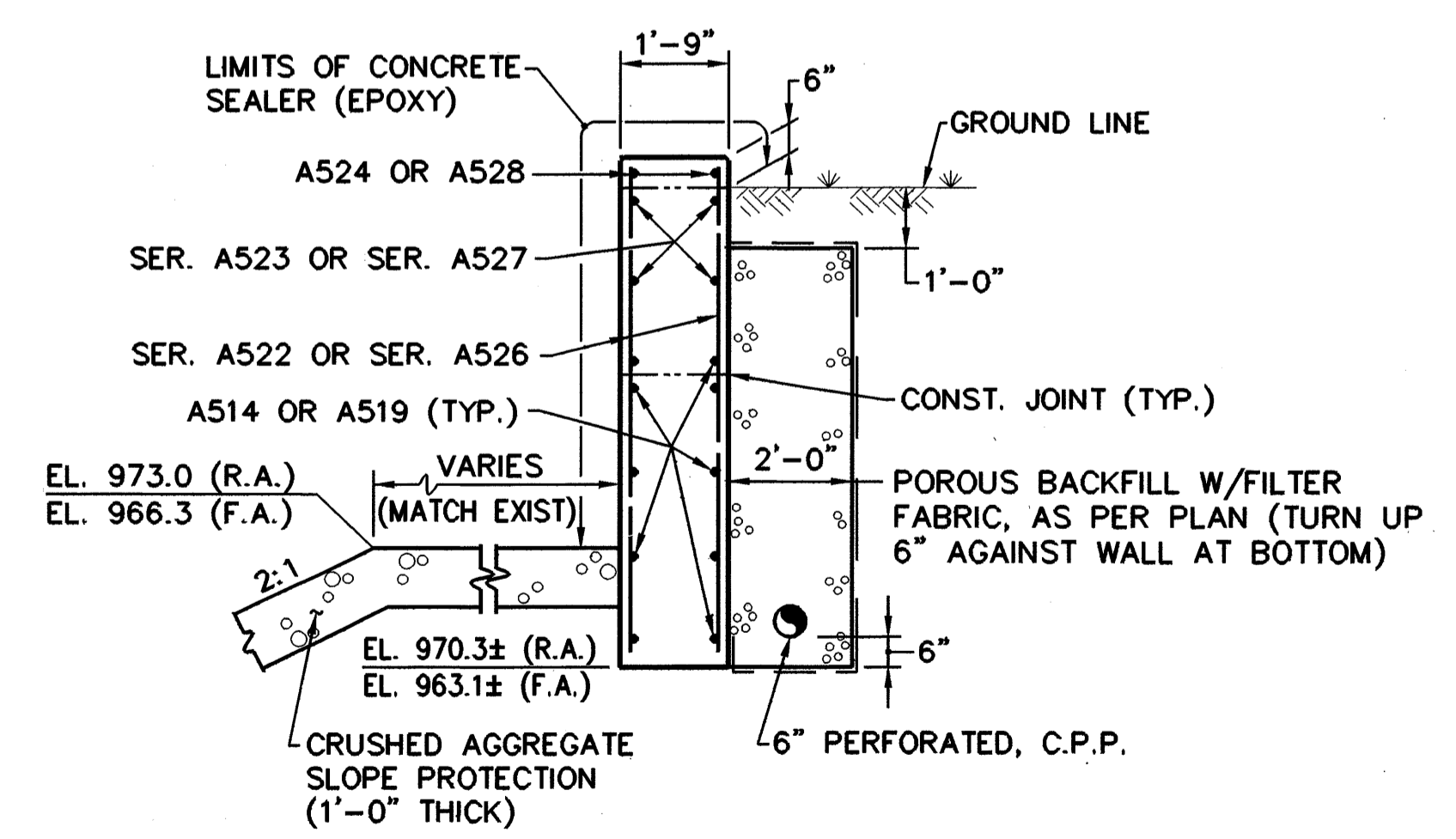
* INCLUDE WITH APPROACH SLAB, AS PER PLAN FOR PAYMENT.



SECTION C-C



SECTION B-B



SECTION D-D

NOTE

① FOR REAR AND FORWARD ABUTMENT PLAN AND ELEVATION DETAILS AND NOTES SEE SHEETS 13 / 21 AND 14 / 21.

CAD FILE: 94ABTLT3
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1"=2'-6"

FINKBEINER, PETTIS & STROUT, INC. 15 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

ABUTMENT DETAILS
LEFT STRUCTURE
BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

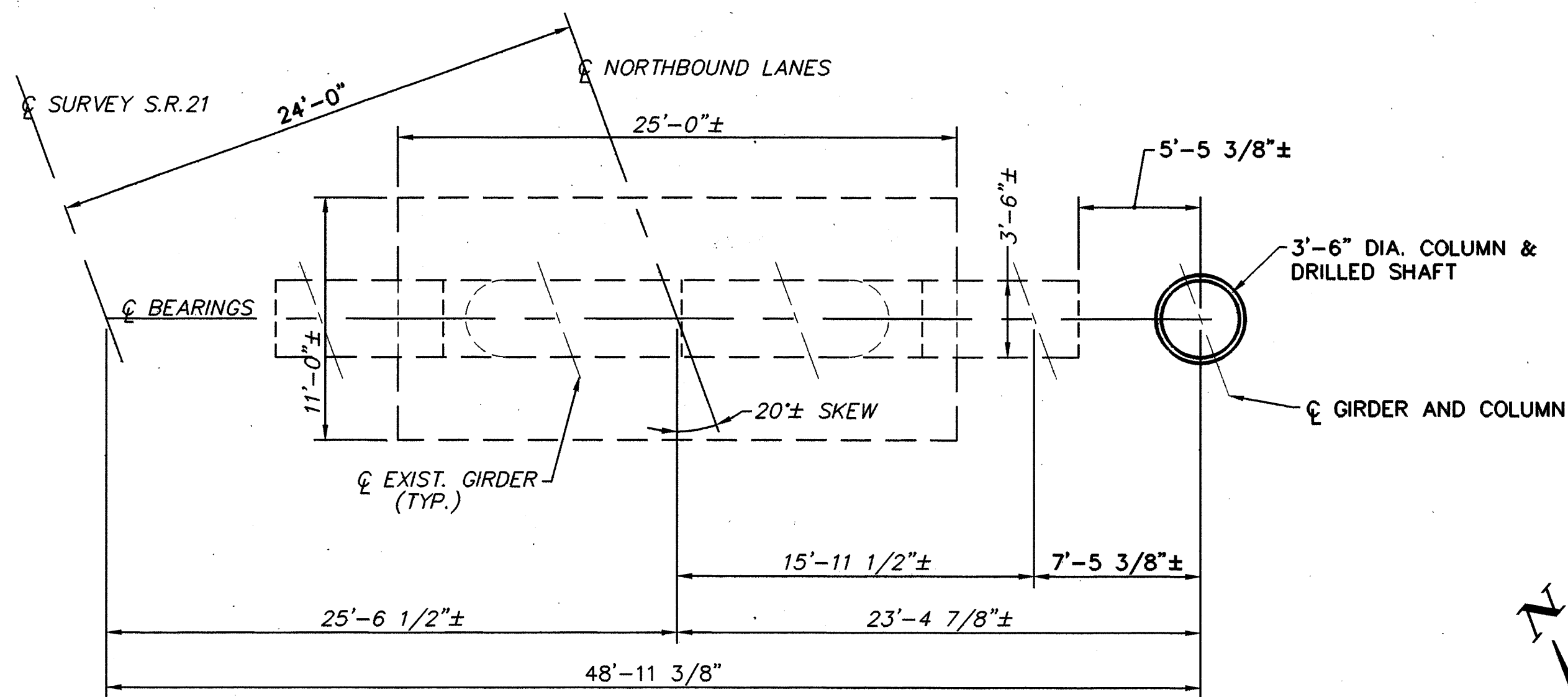
FHWA REGION	STATE	PROJECT	
5	OHIO		

91
98

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)

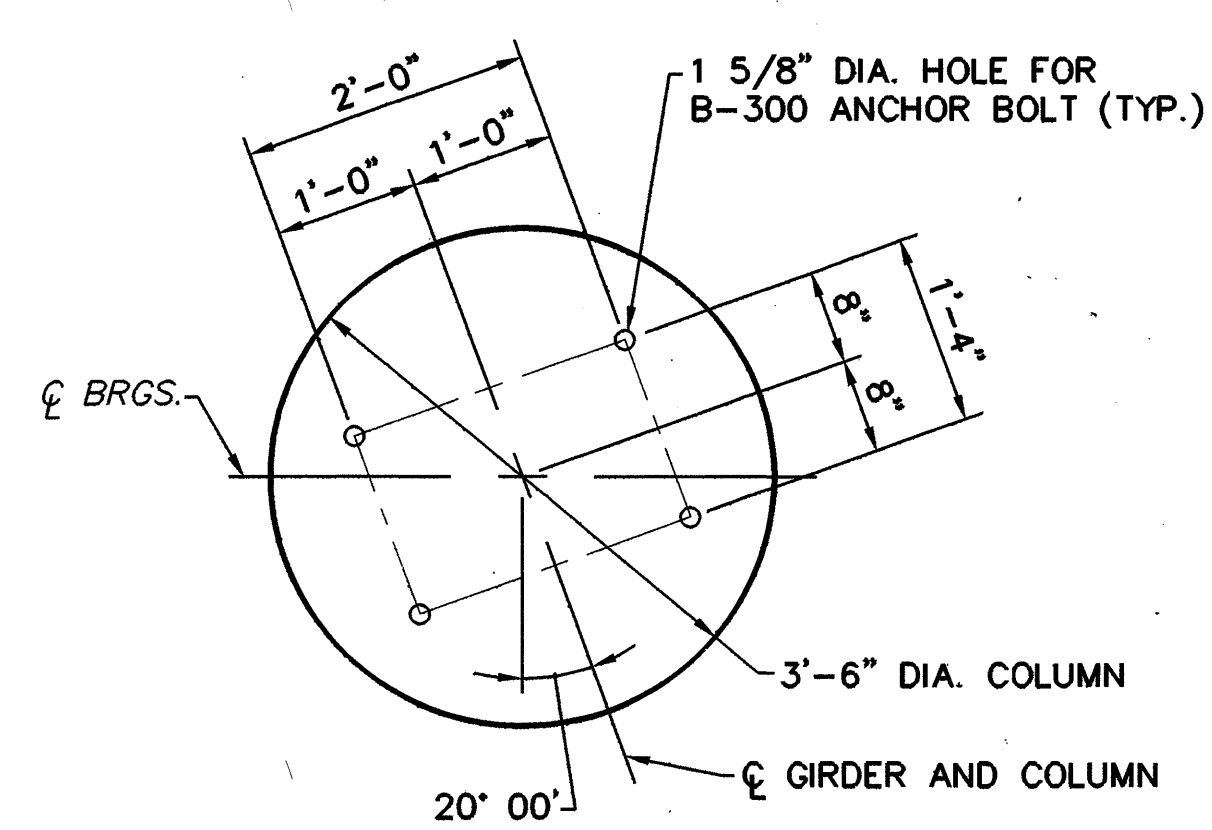
NOTES

- ① FOR DRILLED SHAFT NOTES SEE SHEET 4 / 21
- ② AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS OR FORMED HOLES LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.
- ③ ABBREVIATIONS:
C.I.P. = CAST-IN-PLACE
DIA. = DIAMETER
CLR. = CLEAR
- ④ MINIMUM BAR LAPS ARE AS FOLLOWS:
#9 BAR = 78" (6'-6")
#10 BAR = 100" (8'-4")



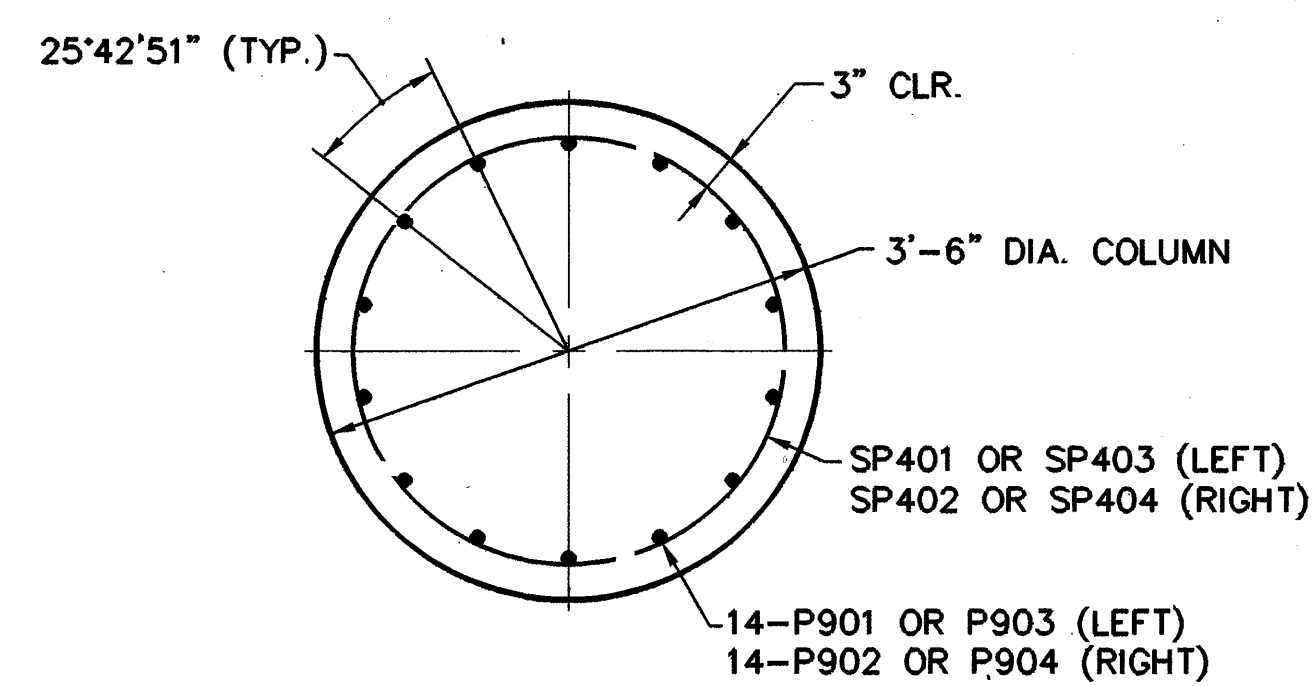
PIER NO. 1 PLAN

(RIGHT STRUCTURE SHOWN, PIER NO. 2 SIMILAR, LEFT STRUCTURE OPPOSITE HAND)

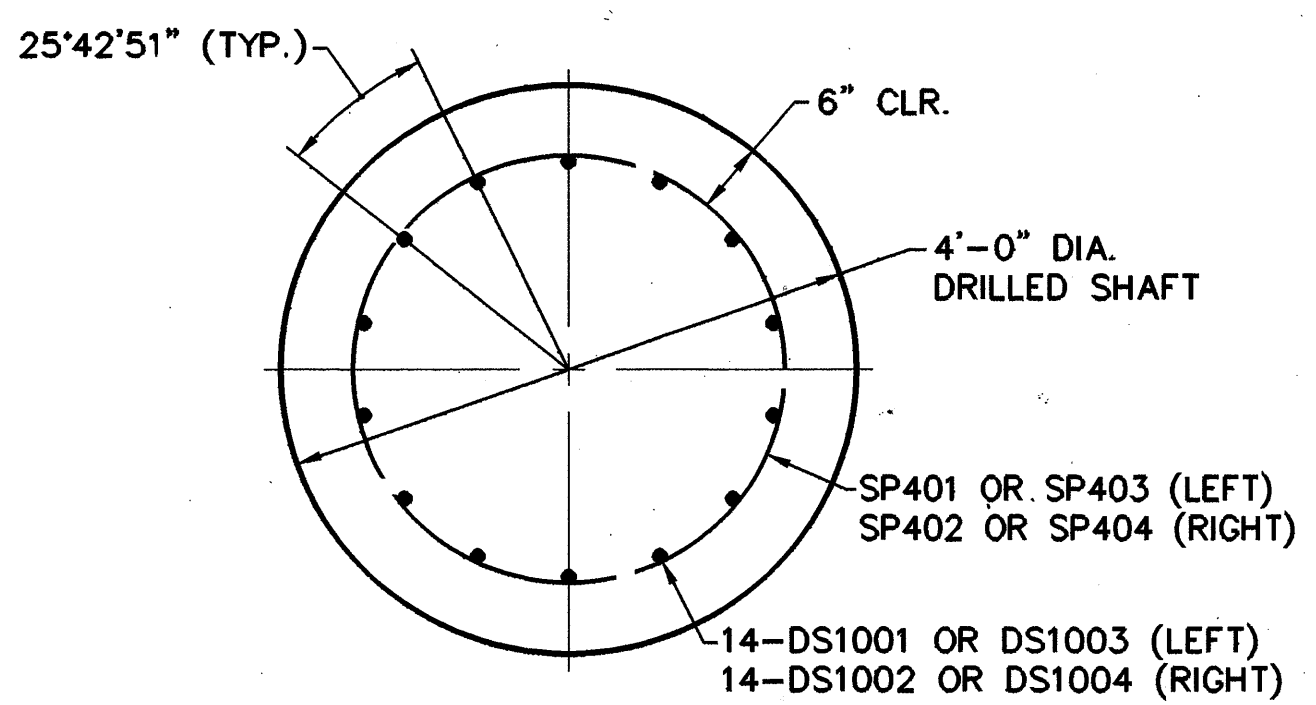


BEARING ANCHOR PLAN

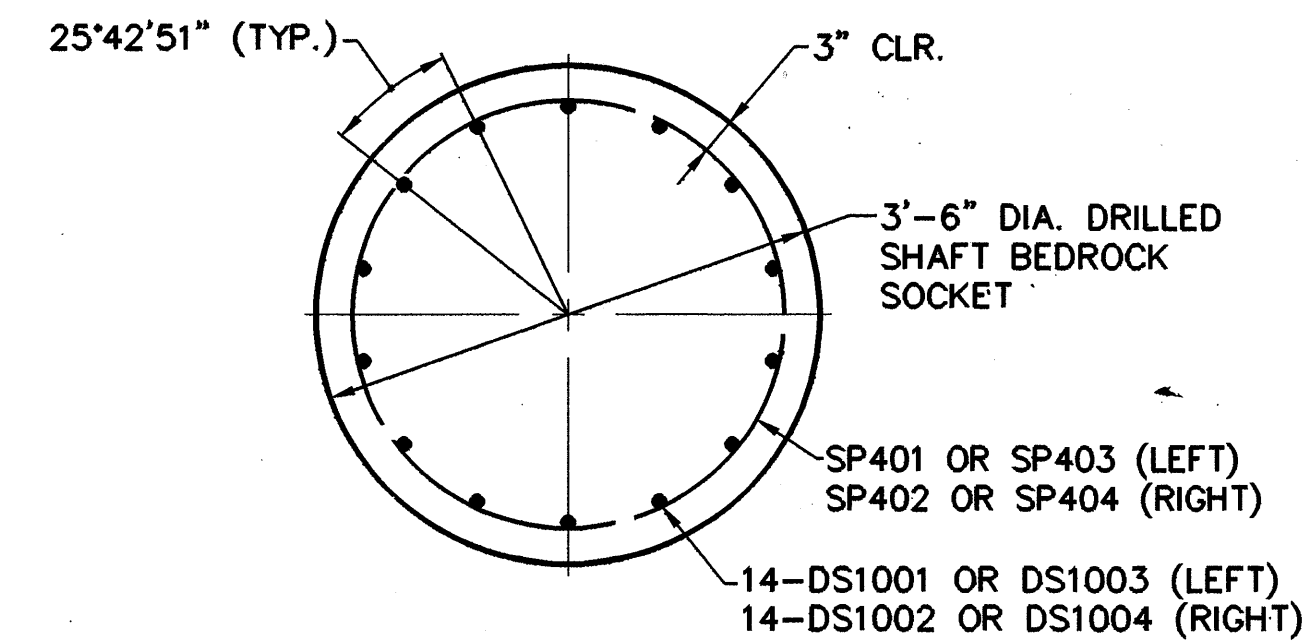
PIER NO. 1 AND PIER NO. 2



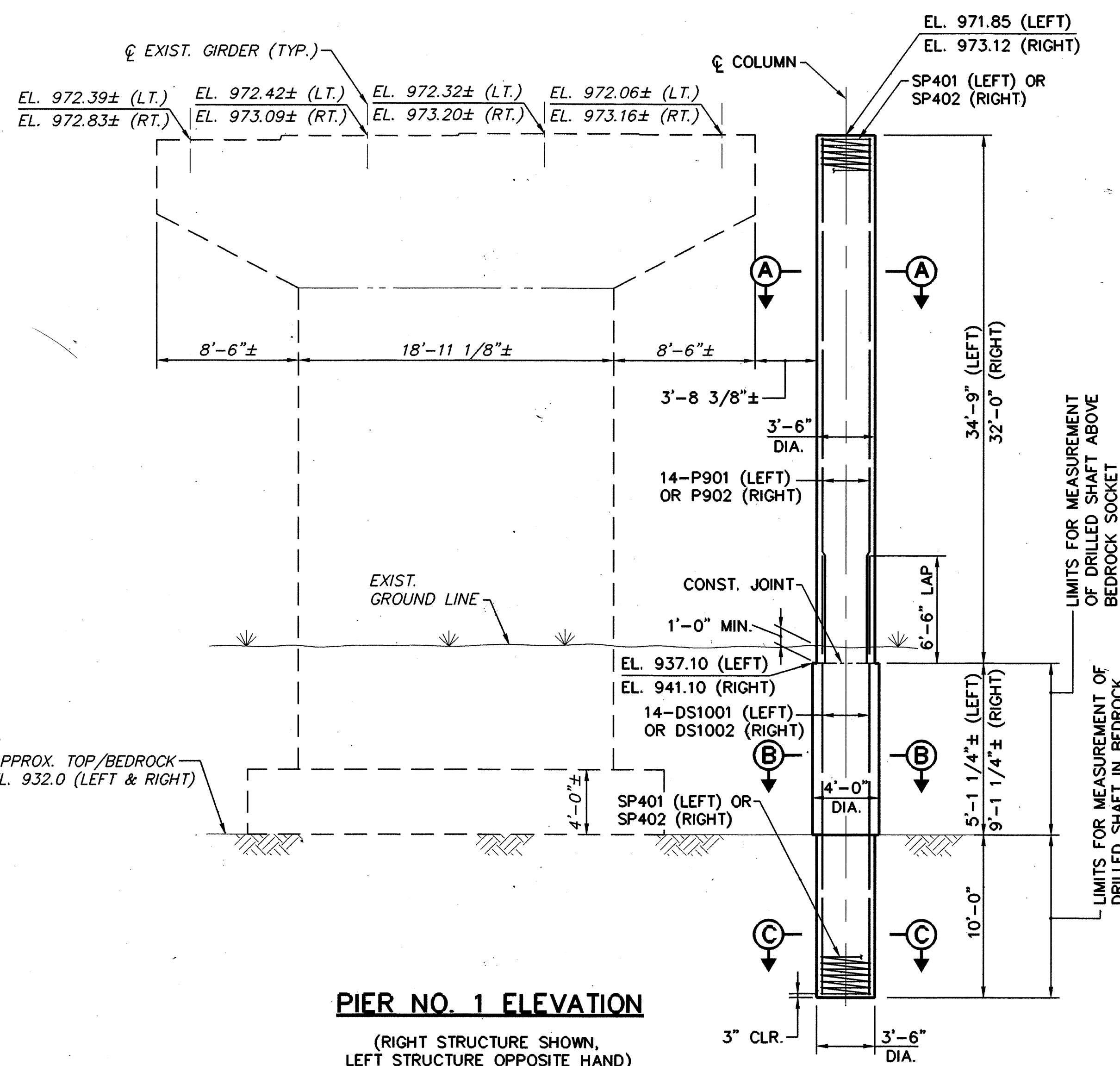
SECTION A-A



SECTION B-B

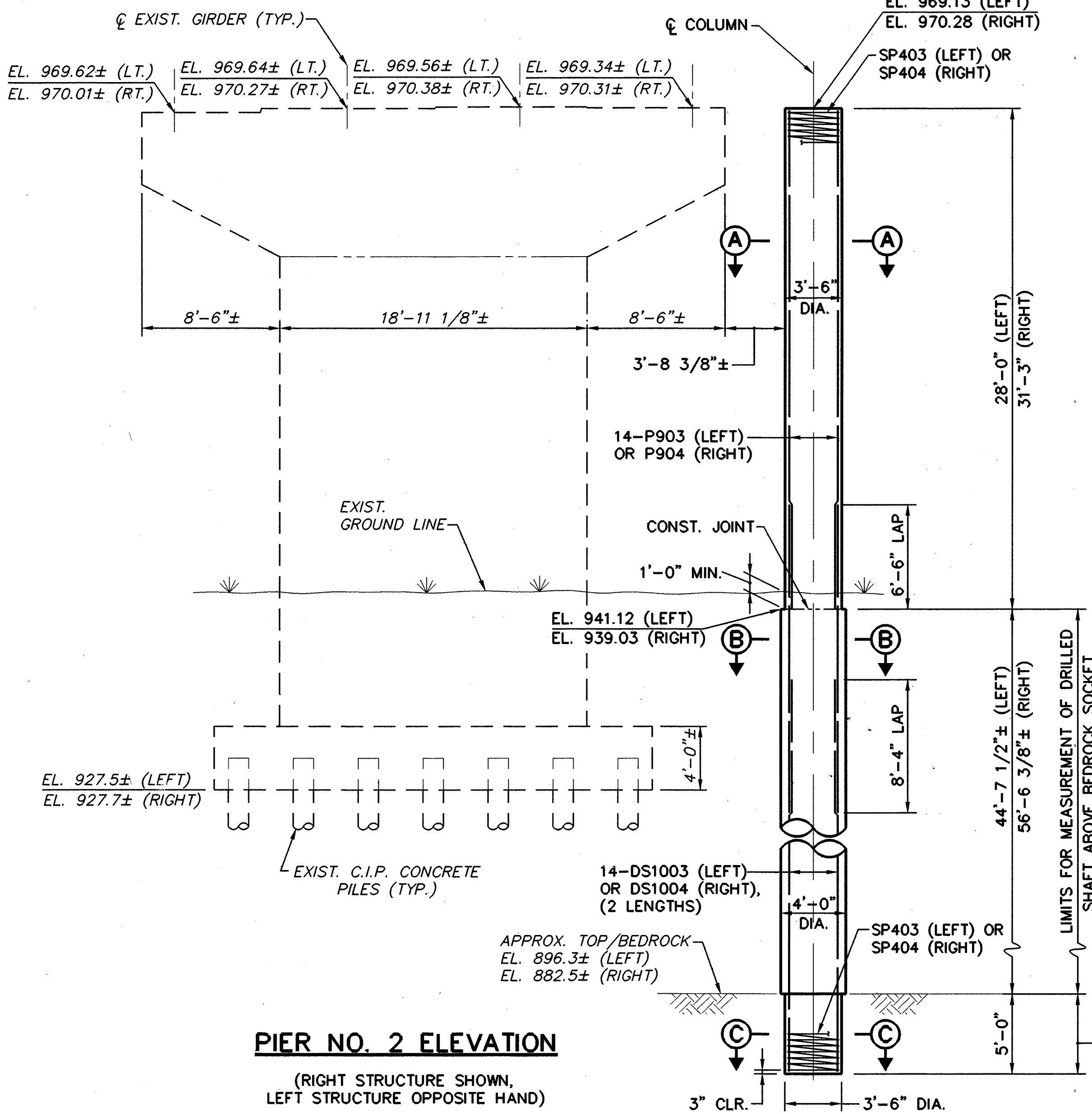


SECTION C-C



PIER NO. 1 ELEVATION

(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE OPPOSITE HAND)



PIER NO. 2 ELEVATION

(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE OPPOSITE HAND)

FINKBEINER, PETTIS & STROUT, INC. 16 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

PIER DETAILS

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

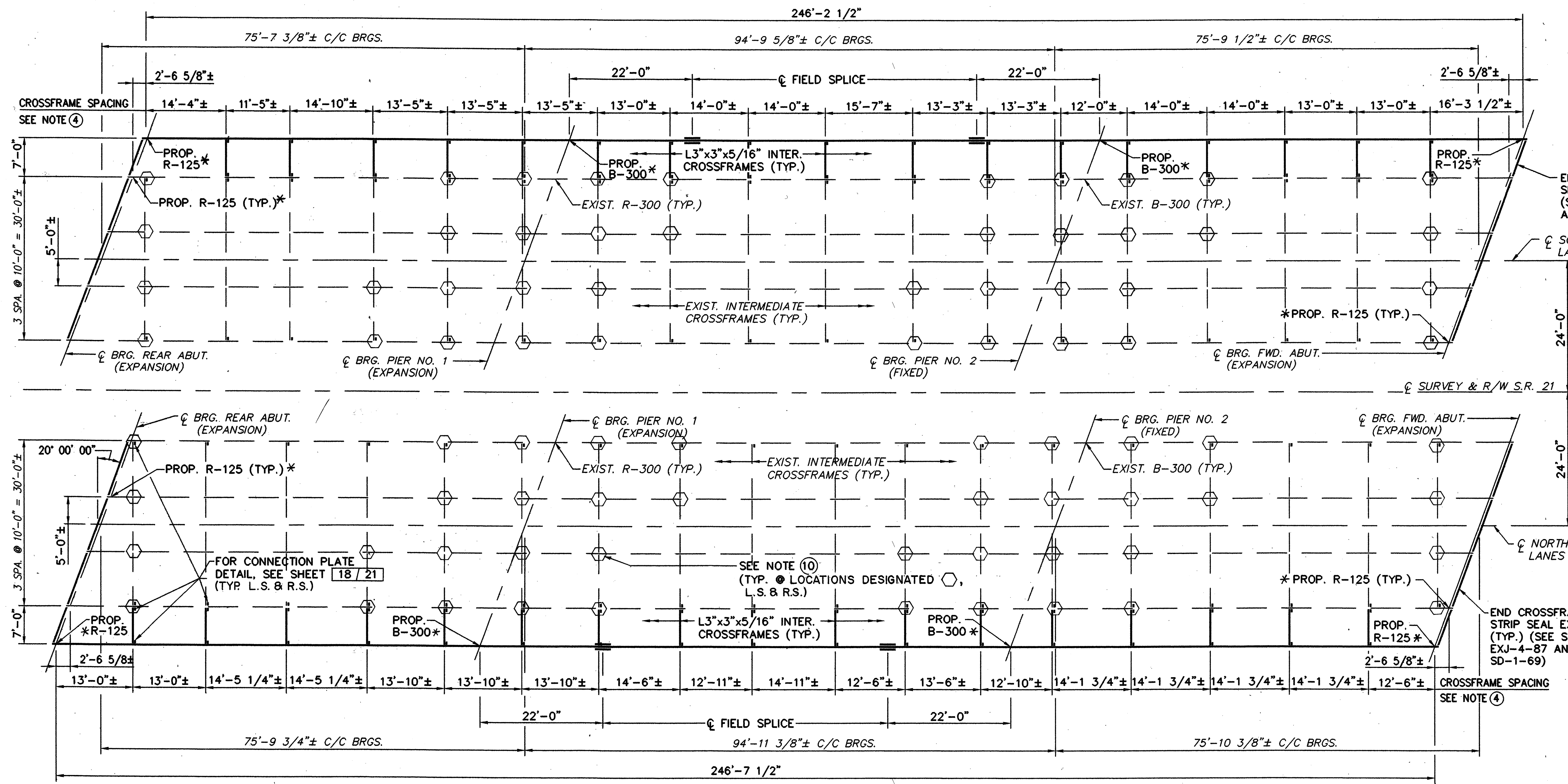
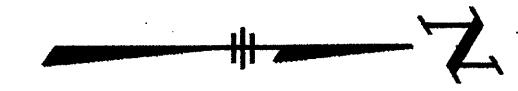
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

CAD FILE: 94PIERS
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1=5.33

FHWA REGION	STATE	PROJECT
5	OHIO	

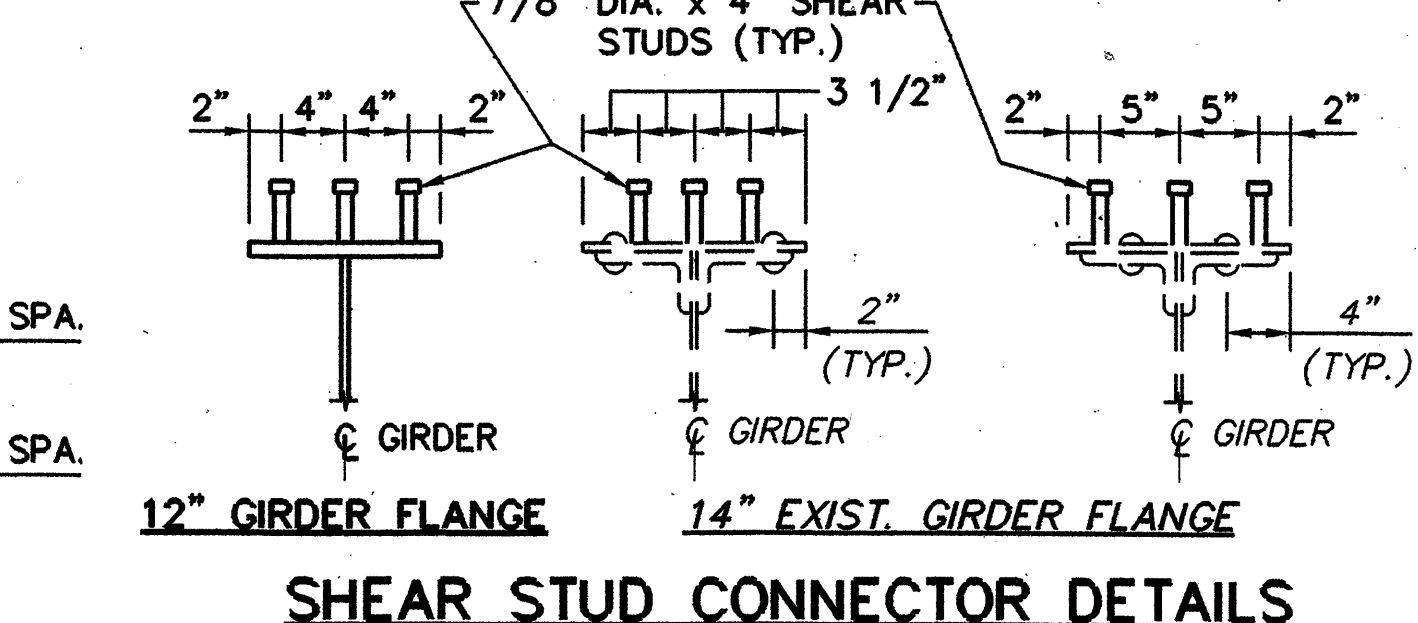
92
98

**WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)**



FRAMING PLAN

- NOTES**
- FOR ADDITIONAL DETAILS AND NOTES SEE SHEET 18/21.
 - ALL STRUCTURAL STEEL SHALL BE ASTM A36.
 - ABBREVIATIONS:
R.S. = RIGHT STRUCTURE
L.S. = LEFT STRUCTURE
 - EXISTING CROSSFRAME SPACING SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OF GIRDERS.
 - CS - INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY.
 - FOR FLANGE BUTT WELD DETAIL SEE SHEET 18/21.
 - WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO SHEAR CONNECTORS.
- *TO BE INCLUDED WITH ITEM 513 FOR PAYMENT.
- WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01. ALL FIELD SPLICE MATERIAL SHALL BE (CVN).
 - FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU: THE SURFACE AREA PAY QUANTITY IS BASED ON THE SURFACE AREA OF THE MAIN MEMBERS INCREASED BY 25 PERCENT TO ACCOUNT FOR THE AREA OF CROSSFRAMES, BEARINGS, AND OTHER STRUCTURAL STEEL INCIDENTALS TO BE CLEANED AND PAINTED.
 - NON-Destructive TESTING USING MAGNETIC PARTICLE INSPECTION PER 51321 SHALL BE USED TO CHECK FOR POSSIBLE CRACKS IN GIRDER WEB AT LOWER DIAGONAL END LOCATIONS AS SHOWN AND ADDITIONALLY AS MAY BE DIRECTED BY THE ENGINEER BOTH SIDES OF THE WEB SHALL BE CHECKED AT EACH LOCATION. INITIAL TESTING SHALL BE DONE UNDER THE DIRECT SUPERVISION OF THE ENGINEER.

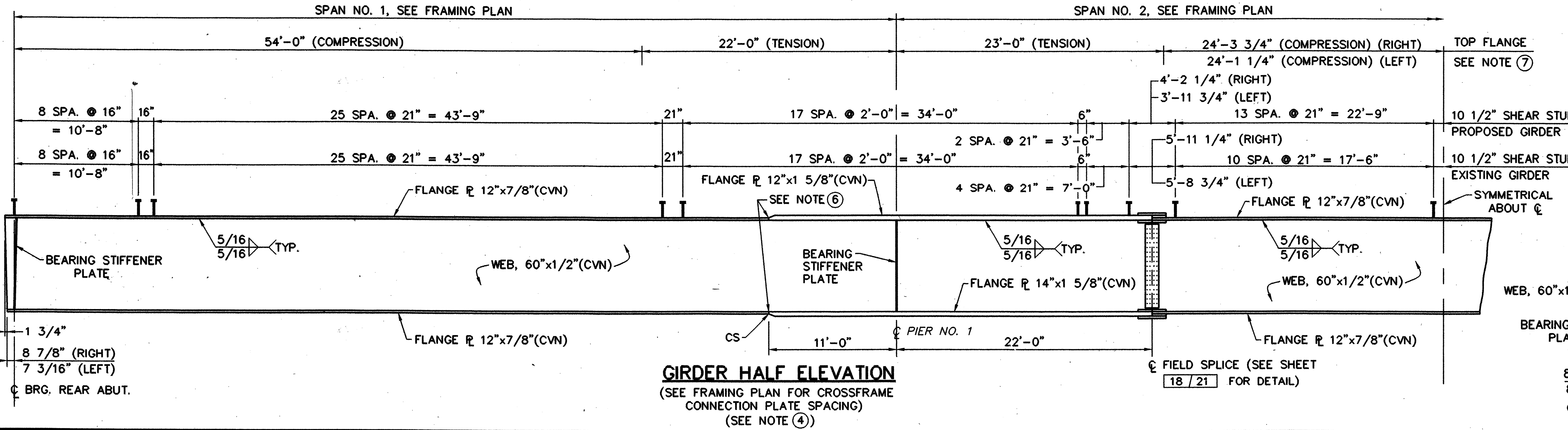


FINKBEINER, PETTIS & STROUT, INC. 17/21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

FRAMING PLAN AND GIRDER DETAILS

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	1-14-97



GIRDER HALF ELEVATION
(SEE FRAMING PLAN FOR CROSSFRAME CONNECTION PLATE SPACING)
(SEE NOTE 4)

CAD FILE: 94FRAME1
DATE: 01/05/95
OPERATOR: C.A.F.
PLOT SCALE: 1=10.66

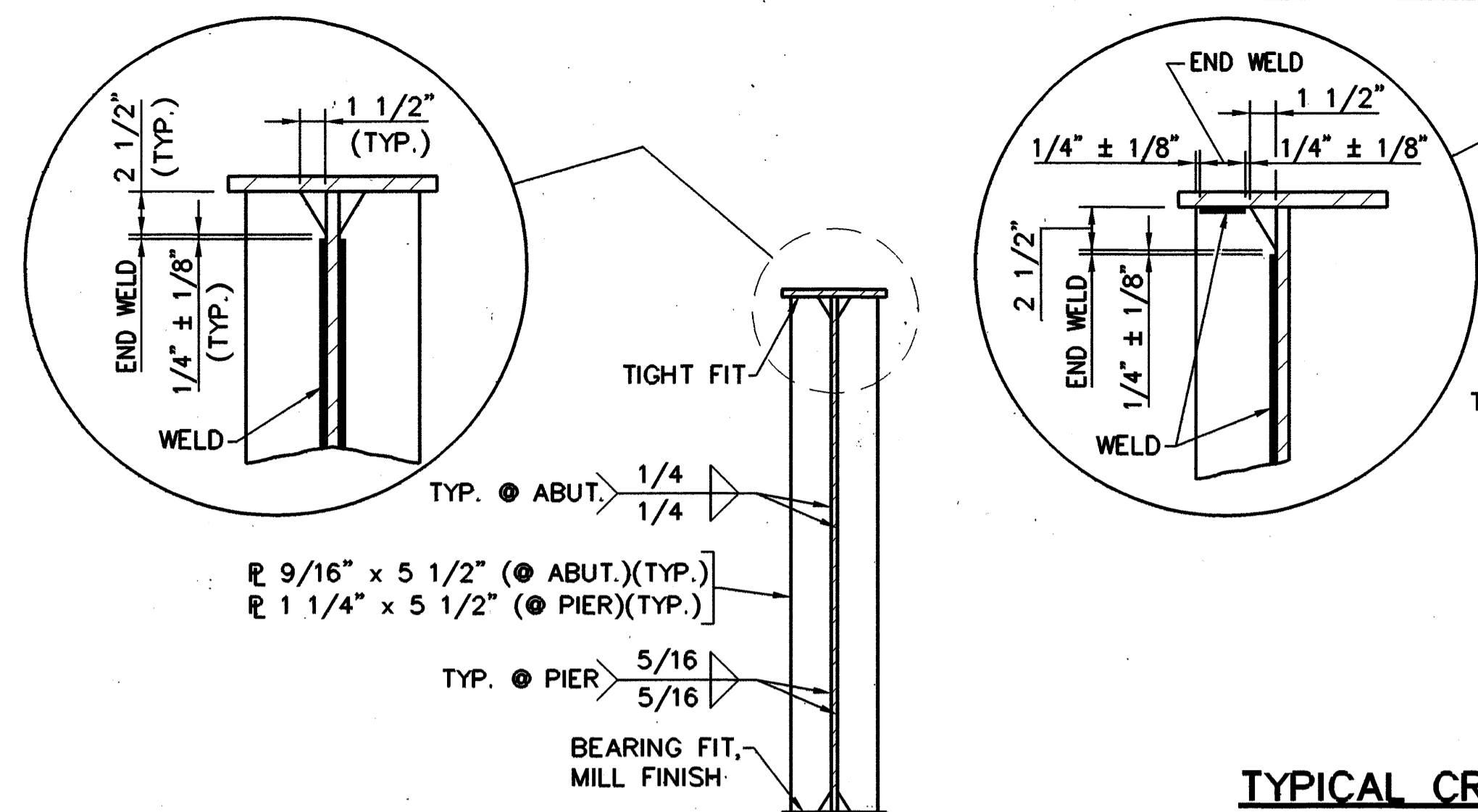
FHWA REGION	STATE	PROJECT
5	OHIO	

93
98

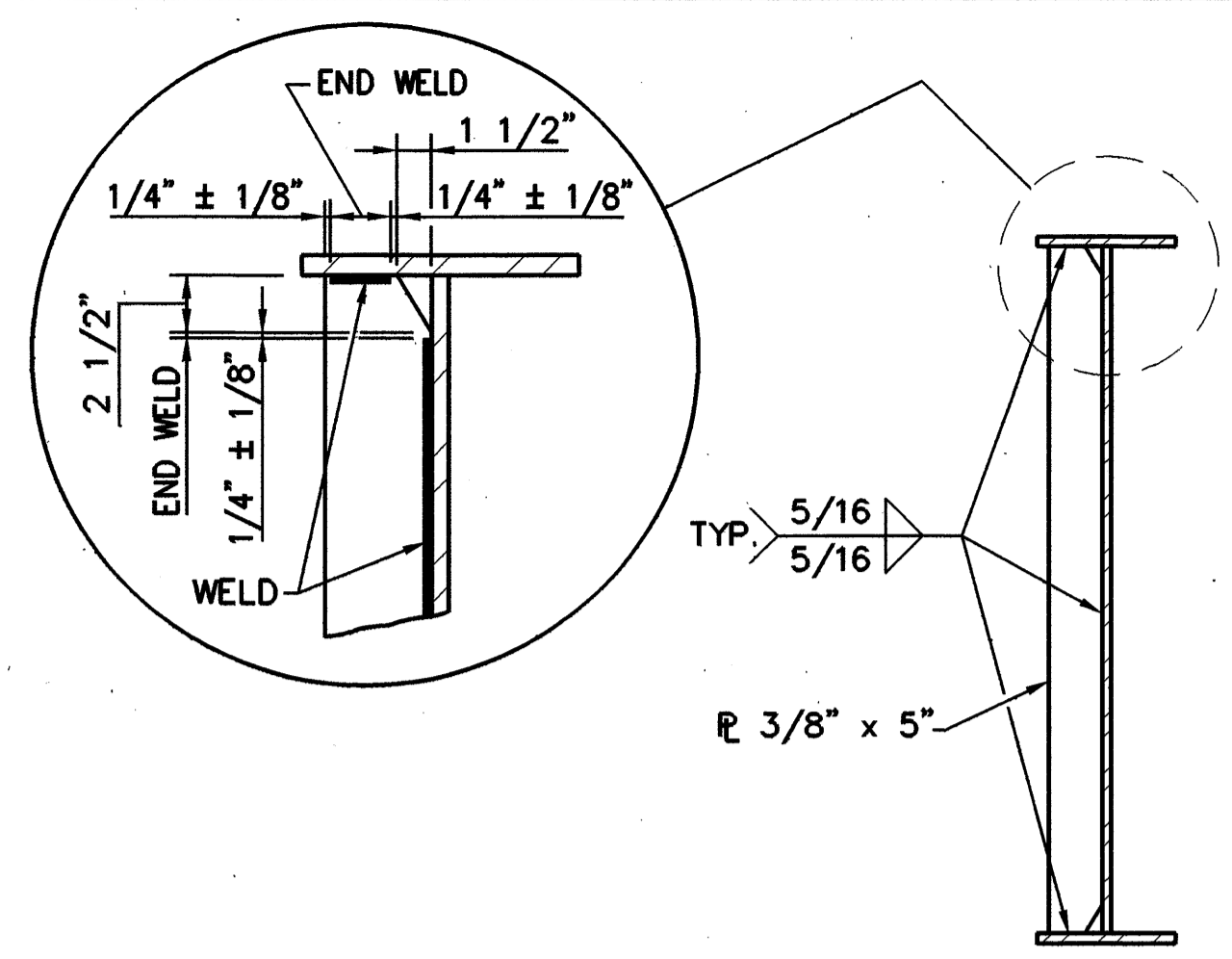
**WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)**

NOTES

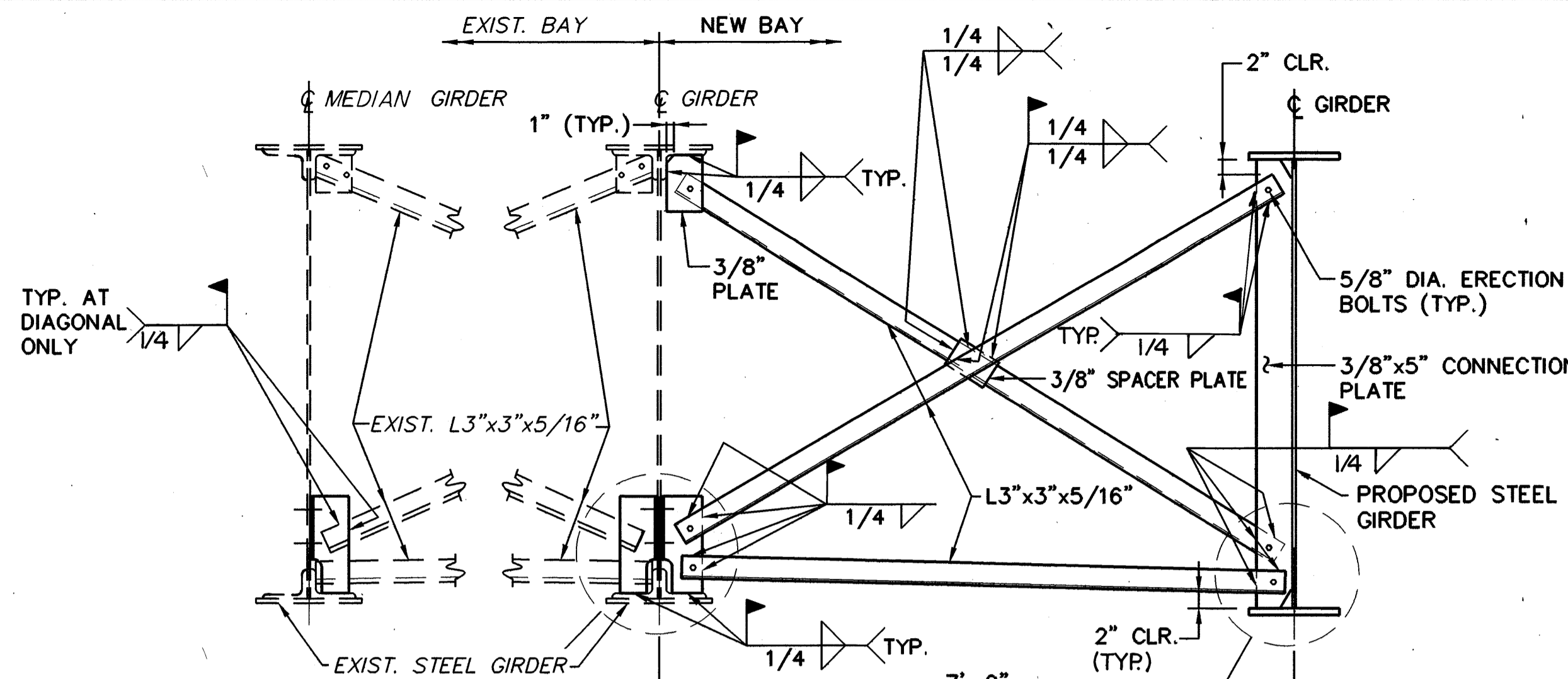
- WELDED STUD SHEAR CONNECTORS SHALL CONFORM TO ITEM 513. CONNECTORS SHALL BE MOVED TO AVOID INTERFERENCE WITH BOLT OR RIVET HEADS.
- BEARING STIFFENERS AND ENDS OF GIRDERS TO BE VERTICAL AFTER ERECTION.
- ERECTION BOLTS: HOLE DIAMETER IN THE CROSSFRAME ANGLES AND IN THE STIFFENERS OR CONNECTION PLATES SHALL BE RESPECTIVELY 1/16" AND 1/4" LARGER THAN THE DIAMETER OF THE ERECTION BOLTS. UNLESS REPLACED BY PERMANENT HIGH STRENGTH BOLTS, ERECTION BOLTS SHALL REMAIN IN PLACE. LOCK WASHERS SHALL BE FURNISHED FOR OTHER THAN FULLY TORQUED HIGH STRENGTH ERECTION BOLTS. BOLTS SHALL BE FURNISHED AS PART OF ITEM 513.
- IN LIEU OF ERECTION BOLTS AND AT THE OPTION OF THE CONTRACTOR, ALTERNATIVE MEANS OF TEMPORARY BRACING MAY BE USED SUBJECT TO THE APPROVAL OF THE DIRECTOR.
- ALL FIELD SPLICES SHALL BE MADE WITH 1" DIAMETER HIGH STRENGTH BOLTS CONFORMING TO ASTM A325. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF THE EXTERIOR BEAM, ON THE BOTTOM OF THE BOTTOM FLANGE PLATES AND TOP OF THE TOP FLANGE PLATES.
- FOR END CROSSFRAME DETAILS AND NOTES, SEE STANDARD DRAWINGS EXJ-4-87 AND SD-1-69.
- MINIMUM JOINT OPENING AT TIME OF SEAL GLAND INSTALLATION SHALL NOT BE LESS THAN 1 1/2".
- RIVET HEADS SHALL BE REMOVED AS NECESSARY TO ALLOW FOR PLACEMENT OF THE EXPANSION JOINT ARMOR, INCLUDE WITH ITEM 516 FOR PAYMENT.
- ELASTOMERIC SEALS: THE JOINT SEAL FOR EACH BRIDGE DECK JOINT SHALL BE FURNISHED IN ONE CONTINUOUS PIECE.
- FOR ADDITIONAL NOTES AND DETAILS, SEE SHEET 17 / 21.



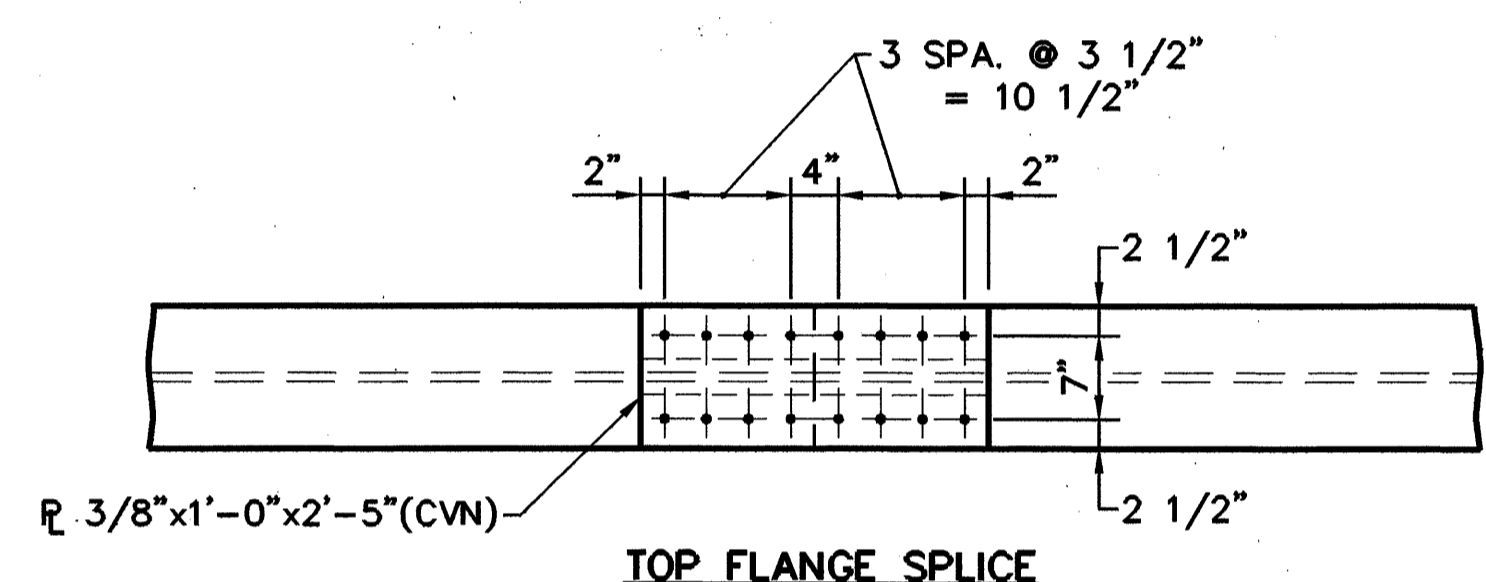
TYPICAL BEARING STIFFENER PLATE



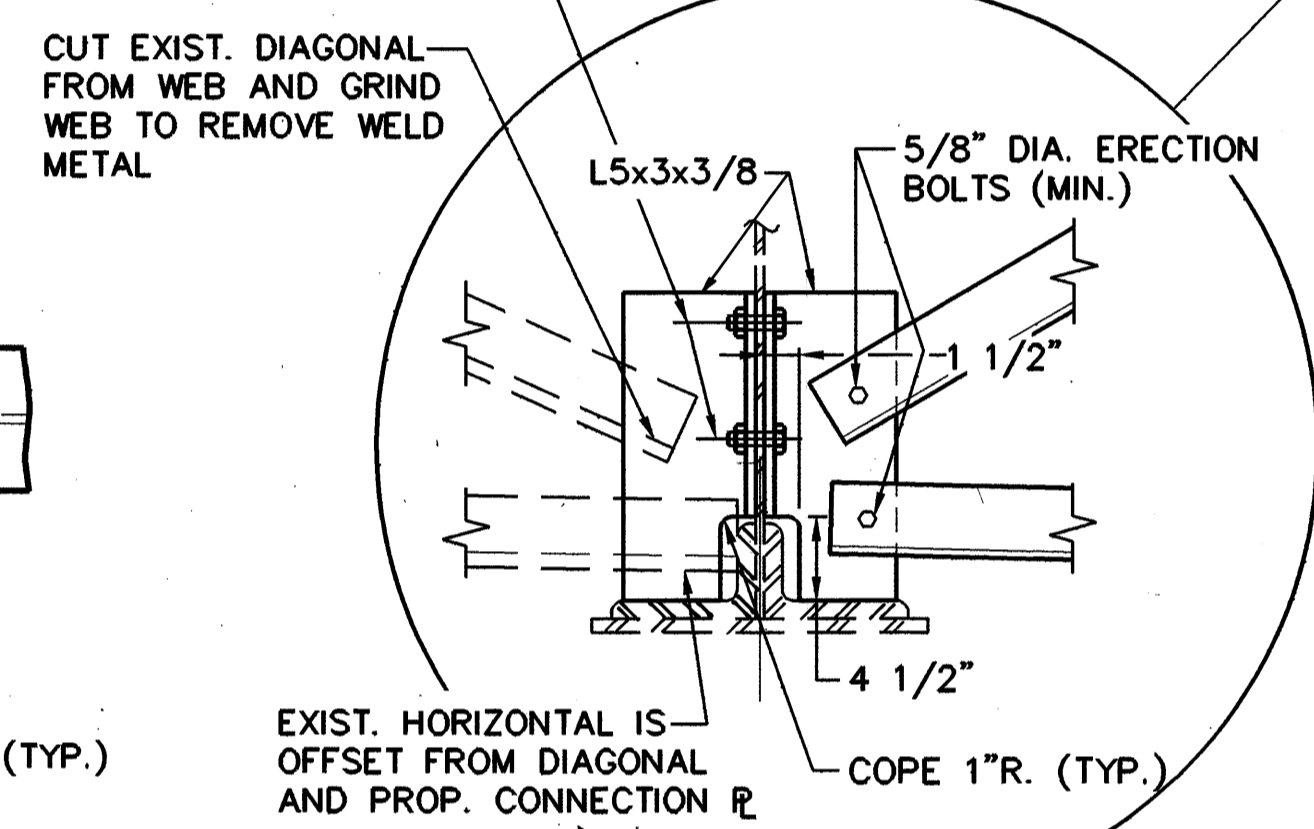
TYPICAL CROSSFRAME CONNECTION PLATE



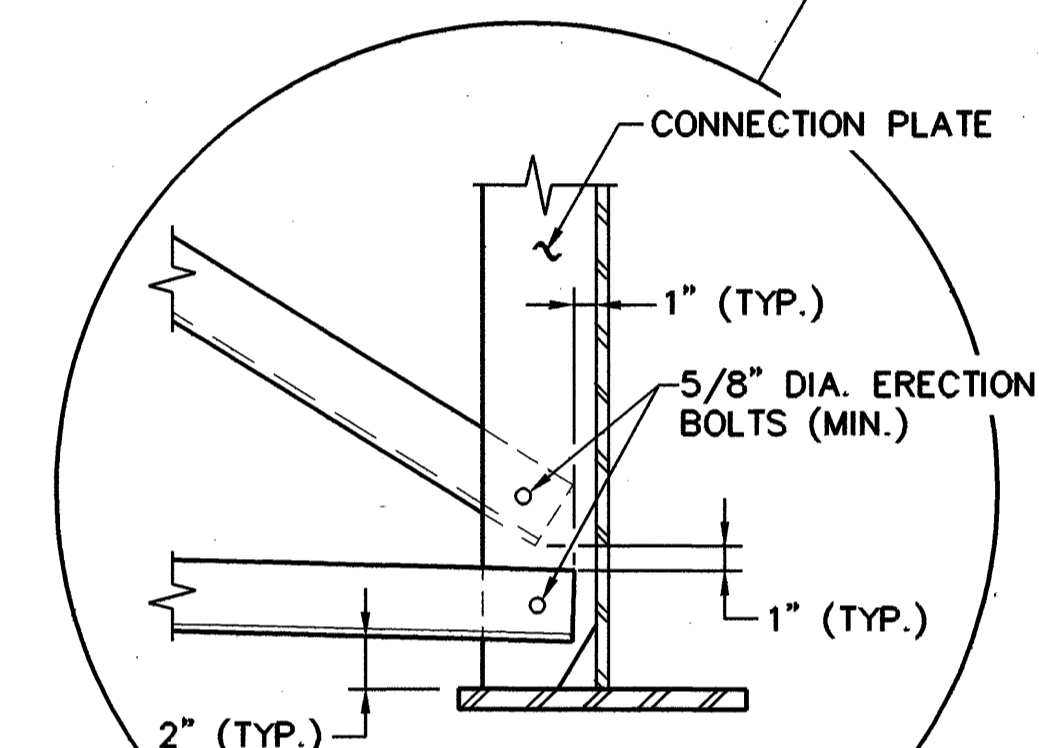
INTERMEDIATE CROSSFRAME DETAIL



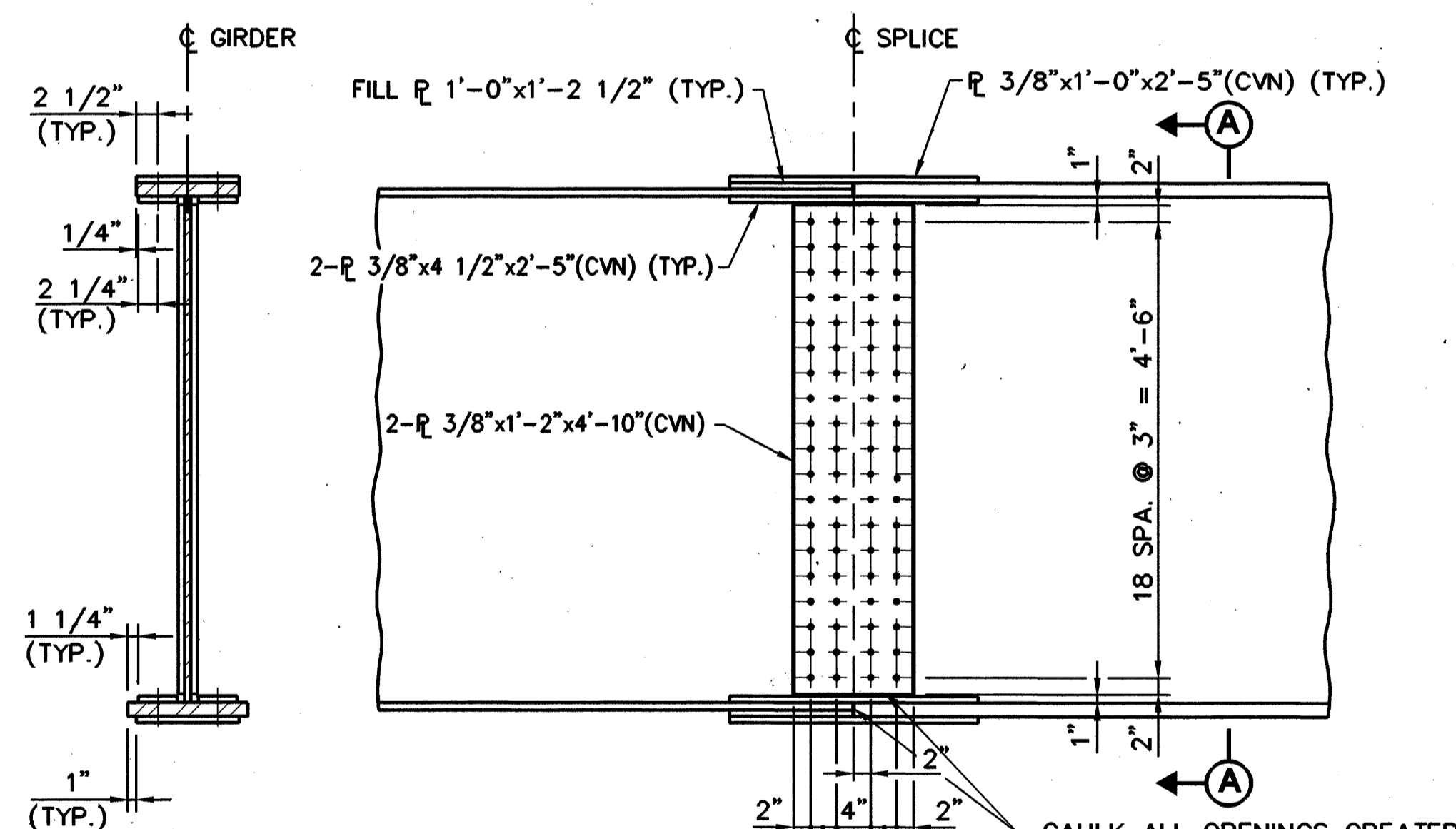
TOP FLANGE SPLICE



CUT EXIST. DIAGONAL FROM WEB AND GRIND WEB TO REMOVE WELD METAL

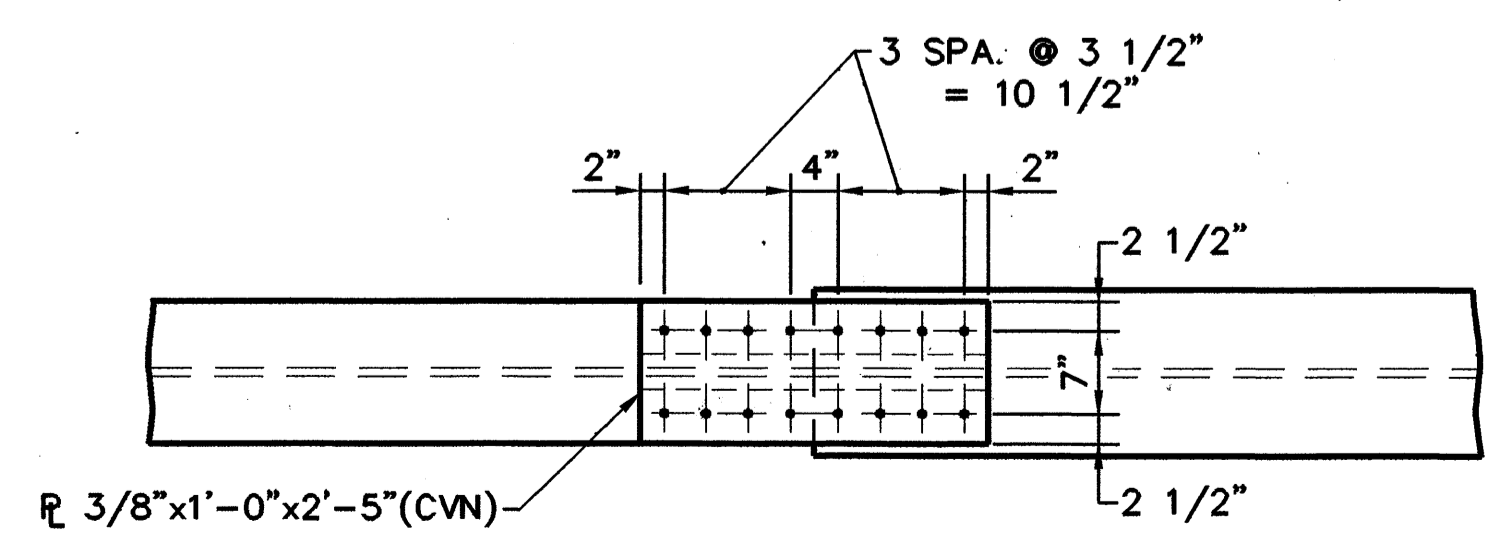


CONNECTION PLATE



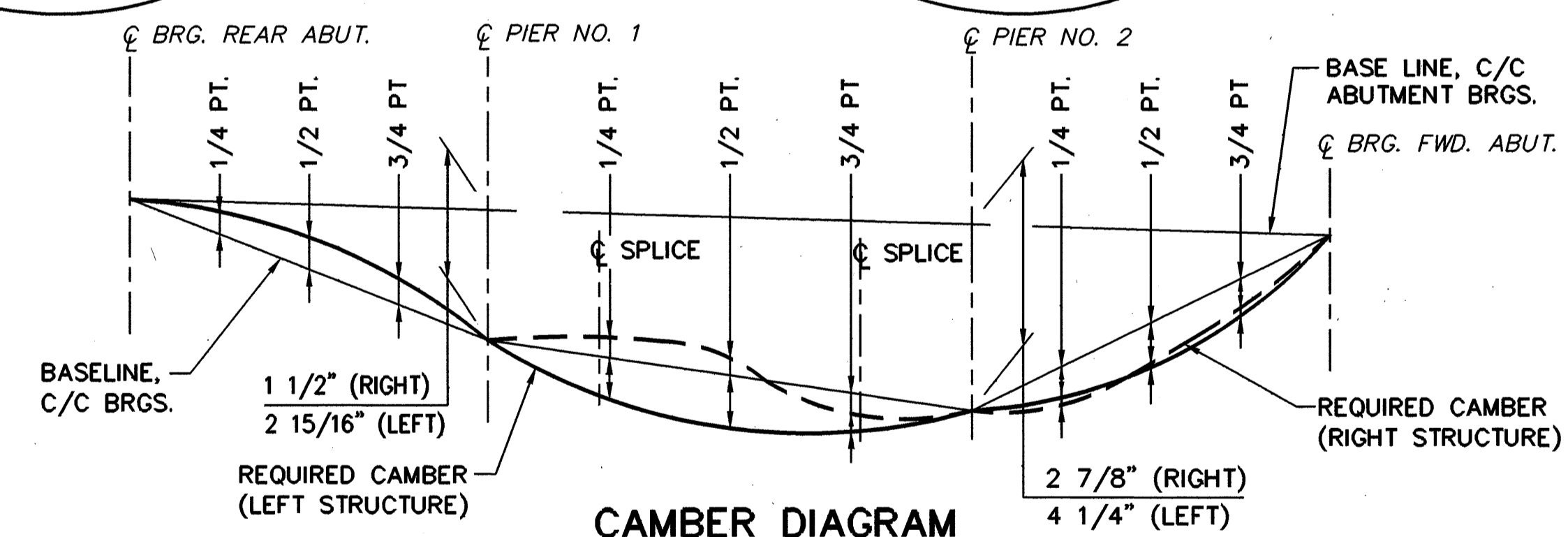
SECTION A-A

WEB SPLICE



BOTTOM FLANGE SPLICE

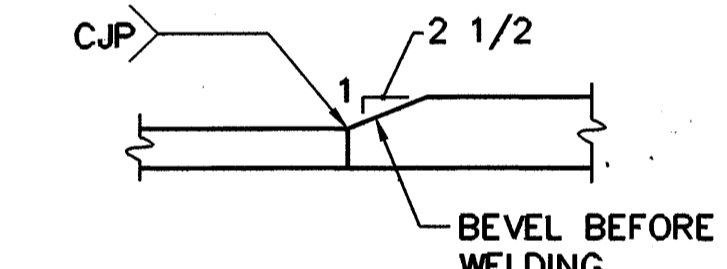
BEAM SPLICE DETAIL



CAMBER DIAGRAM

DEFLECTION AND CAMBER											
LOCATION (POINT)	SPAN NO. 1			SPAN NO. 2			SPAN NO. 3				
	1/4	1/2	3/4	SPL.	1/4	1/2	3/4	SPL.	1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	0	1/16"	1/16"	1/16"	1/16"	1/16"	0	1/16"	1/16"
DEFLECTION DUE TO REMAINING NON-COMPOSITE DEAD LOAD	1/8"	3/16"	1/16"	1/16"	1/16"	3/16"	1/16"	1/16"	1/16"	3/16"	1/8"
DEFLECTION DUE TO COMPOSITE DEAD LOAD	1/16"	1/16"	1/16"	1/16"	1/16"	1/8"	1/16"	1/16"	1/16"	1/16"	1/16"
ADJUSTMENT FOR SAG VERTICAL CURVE	LEFT	0	0	0	-9/16"	-9/16"	-7/8"	-5/8"	-5/8"	-7/16"	-5/8"
	RIGHT	0	0	0	-1/8"	-1/8"	-1/4"	-5/16"	-5/16"	-7/16"	-9/16"
CAMBER	LEFT	1/4"	5/16"	1/8"	-3/8"	-3/8"	-1/2"	-7/16"	-7/16"	-5/16"	-5/16"
	RIGHT	1/4"	5/16"	1/8"	1/16"	1/16"	1/8"	-1/8"	-1/8"	-5/16"	-1/4"

EXISTING GIRDER DEFLECTIONS									
LOCATION (POINT)	SPAN NO. 1			SPAN NO. 2			SPAN NO. 3		
	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	0	1/16"	1/16"	1/16"	0	1/16"	1/16"
DEFLECTION DUE TO REMAINING NON-COMPOSITE DEAD LOAD	1/8"	3/16"	1/16"	1/8"	1/4"	1/8"	1/16"	3/16"	1/8"
DEFLECTION DUE TO COMPOSITE DEAD LOAD	1/16"	1/16"	1/16"	1/16"	1/8"	1/16"	1/16"	1/16"	1/16"



TYPICAL GIRDER FLANGE SHOP SPLICE

TEMPERATURE (°F)	JOINT OPENING	
	REAR ABUT.	FWD. ABUT.
30°	1 15/16"	1 13/16"
40°	1 13/16"	1 3/4"
50°	1 11/16"	1 11/16"
60°	1 9/16"	1 11/16"
70°	1 7/16"	1 5/8"
80°	1 5/16"	1 9/16"
90°	1 3/16"	1 1/2"

EXPANSION JOINT OPENING TABLE

(SEE NOTES 5) THRU (7))

FINKBEINER, PETTIS & STROUT, INC. 18 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

STRUCTURAL DETAILS

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

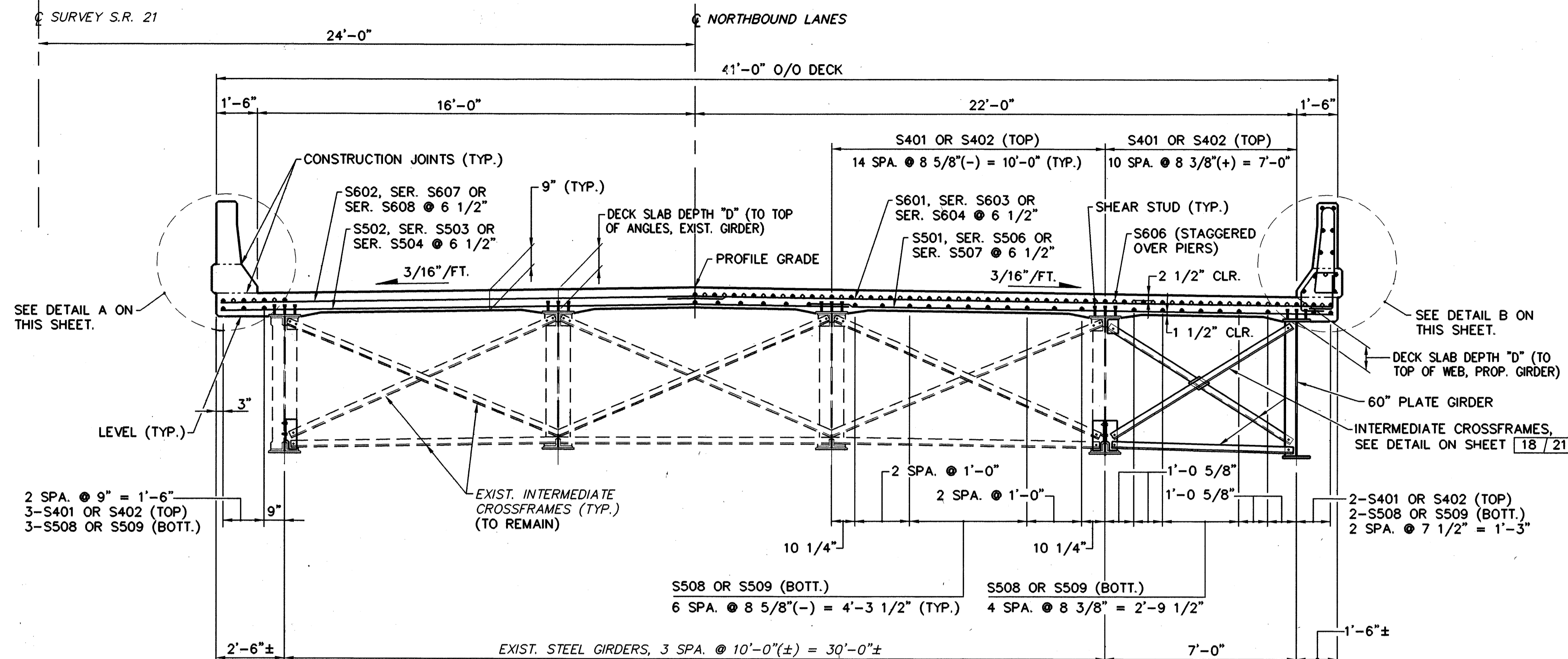
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

CAD FILE: 94FRAME2
DATE: 07/05/95
SCALE: 1"=1'-3"

FHWA REGION	STATE	PROJECT	
5	OHIO		

94
98

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)



TRANSVERSE SECTION

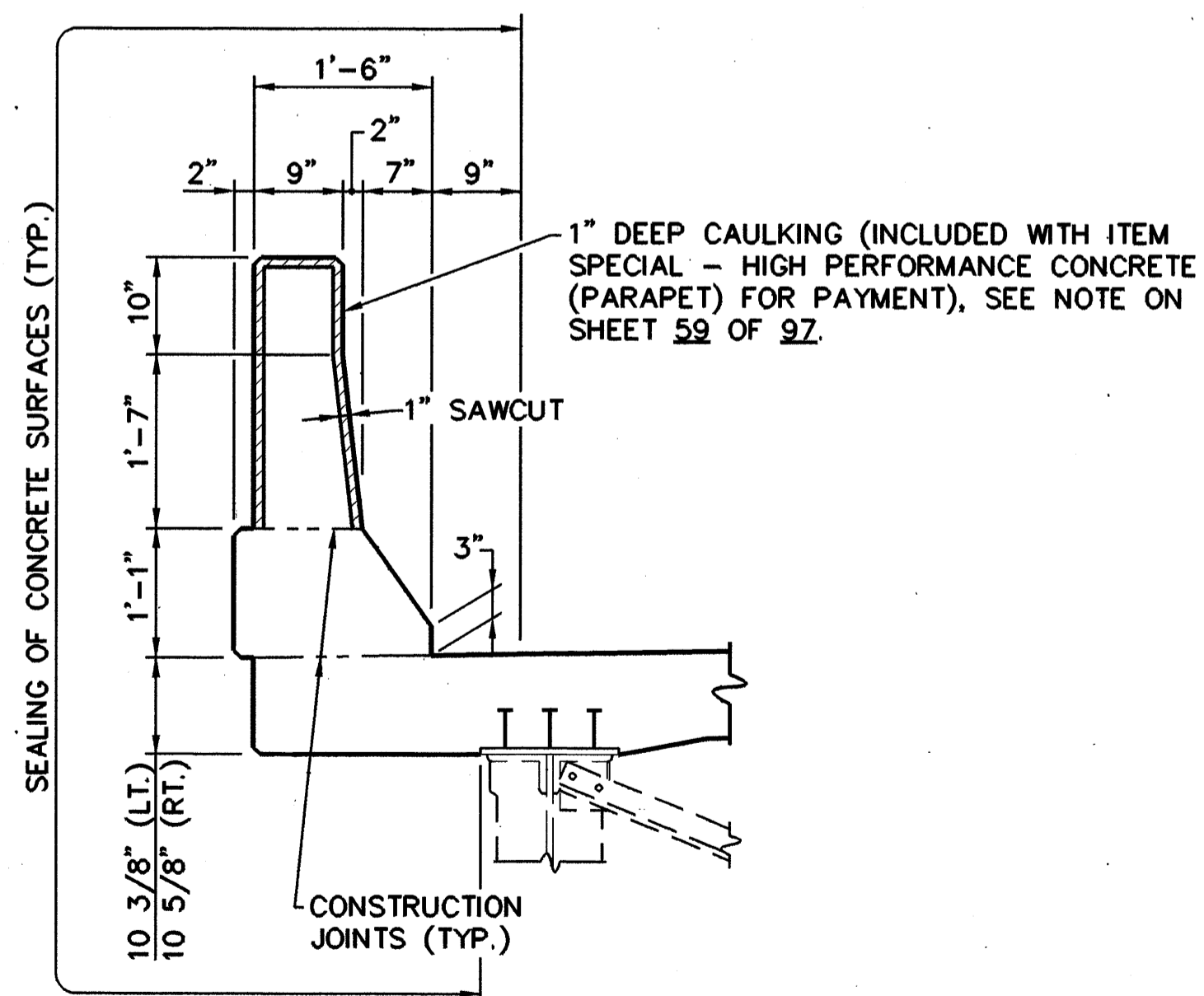
(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE OPPOSITE HAND)

NOTES

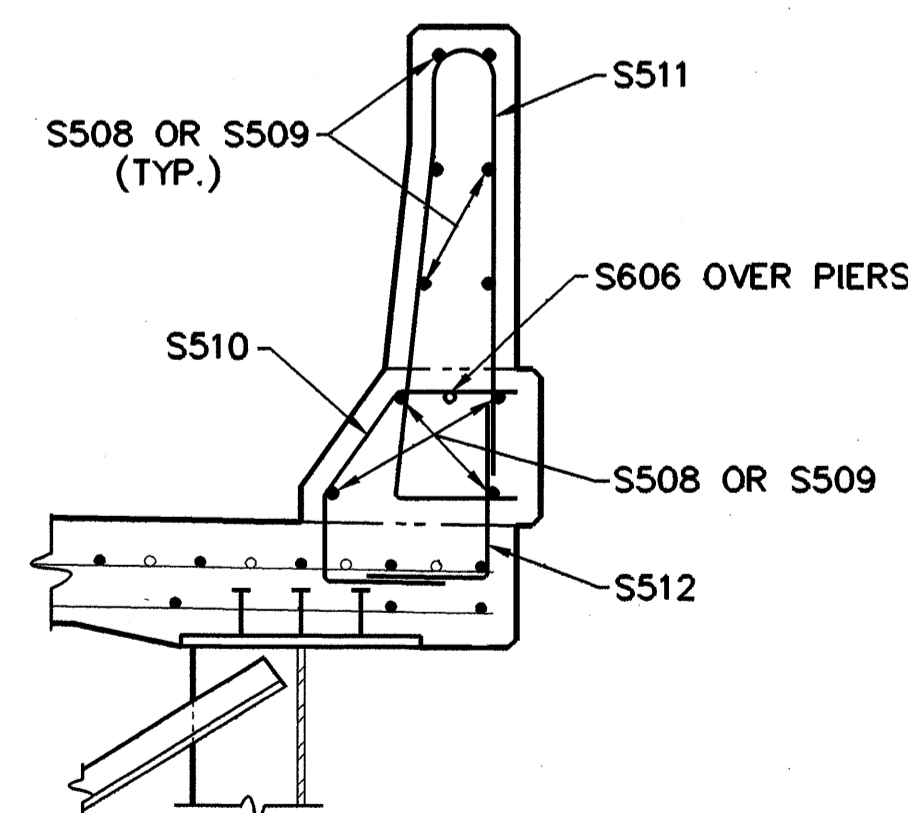
- ALL REINFORCING BARS TO BE EPOXY COATED.
- MINIMUM BAR LAPS ARE AS FOLLOWS:
#6 BAR = 24"
#5 BAR = 18"
#4 BAR = 15"
- A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6 AND 12 INCHES.
- THIS NOTE NOT USED
- ABBREVIATIONS:
R.S. - RIGHT STRUCTURE
L.S. - LEFT STRUCTURE
- FOR PARAPET SAW-CUT JOINT SPACING SEE SHEET 20/21.
- FOR ADDITIONAL SUPERSTRUCTURE DETAILS SEE SLAB PLAN ON SHEET 20/21.
- DECK SLAB DEPTH: THE ANTICIPATED DECK SLAB DEPTHS, "D", OVER THE GIRDERS ARE GIVEN IN THE TABLE OF DECK SLAB DEPTHS. THE ACTUAL SLAB DEPTHS MAY BE MORE. THEY SHOULD NOT BE LESS THAN THE DECK SLAB THICKNESS.

AFTER COMPLETE REMOVAL OF THE EXISTING DECK SLAB, THE CONTRACTOR SHALL DETERMINE AT VARIOUS LOCATIONS ALONG THE SPANS, ACTUAL TOP OF GIRDER ELEVATIONS. THESE SHOULD BE DEDUCTED FROM THE SCREED ELEVATIONS FOR THE SAME LOCATIONS (OR PROPOSED SCREED ELEVATIONS DETERMINED FROM ADJACENT SCREED ELEVATIONS) TO OBTAIN ACTUAL SLAB DEPTHS. FOR DEPTHS LESS THAN THE SLAB THICKNESS, THE DIRECTOR SHALL BE NOTIFIED TO ESTABLISH THE SUITABILITY OF THE PROPOSED WORK PRIOR TO DECK FORMING AND CONCRETE PLACEMENT.

THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THE AVERAGE DECK SLAB DEPTH OF 10 3/4± INCHES.



DETAIL A



DETAIL B

DECK SLAB DEPTH "D"				
	REAR ABUT	PIER NO. 1	PIER NO. 2	FWD. ABUT.
R.S.	11 1/16"	10 13/16"	10 13/16"	10 9/16"
L.S.	10 13/16"	10 9/16"	10 13/16"	10 13/16"

FINKBEINER, PETTIS & STROUT, INC. 19 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

TRANSVERSE SECTION

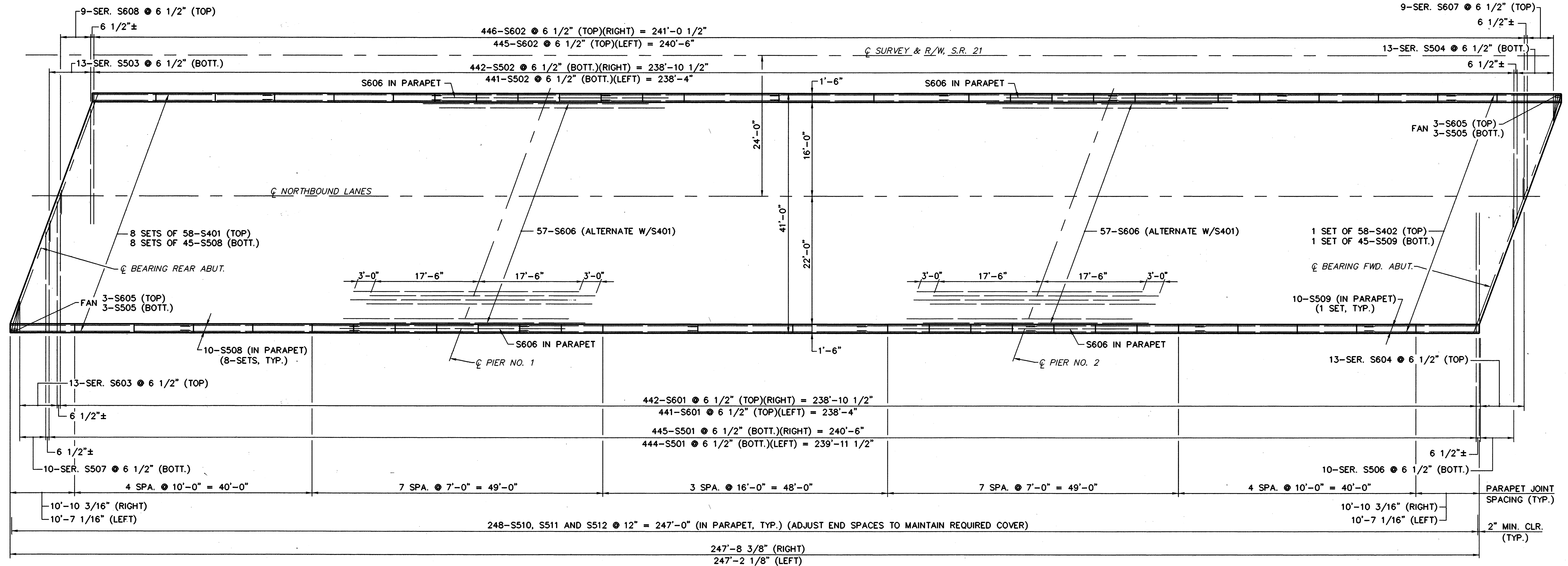
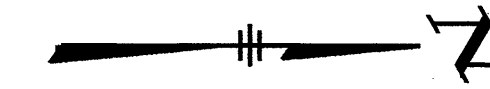
BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

FHWA REGION	STATE	PROJECT	
5	OHIO		

95
98

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)



SLAB PLAN

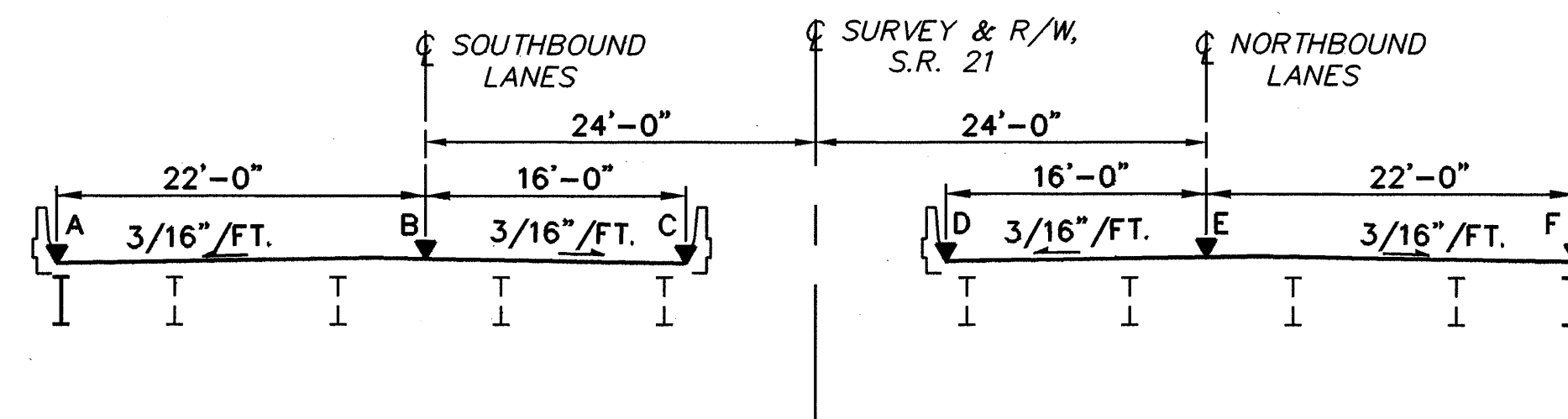
(RIGHT STRUCTURE SHOWN, LEFT STRUCTURE OPPOSITE HAND)

SCREED ELEVATIONS

(LEFT STRUCTURE)				(RIGHT STRUCTURE)			
LOCATION	POINT-A	POINT-B	POINT-C	LOCATION	POINT-D	POINT-E	POINT-F
☉ ABUT. BRG.	981.81	982.40	982.33	☉ ABUT. BRG.	982.76	983.18	983.08
1/4	981.25	981.84	981.77	1/4	982.20	982.63	982.52
1/2	980.67	981.26	981.19	1/2	981.63	982.05	981.96
3/4	980.09	980.67	980.60	3/4	981.04	981.47	981.37
☉ PIER NO.1	979.50	980.09	981.01	☉ PIER NO.1	980.46	980.89	980.79
1/4	978.79	979.37	979.30	1/4	979.74	980.18	980.08
1/2	978.10	978.68	978.60	1/2	979.05	979.46	979.36
3/4	977.43	977.99	977.90	3/4	978.33	978.75	978.64
☉ PIER NO.2	976.80	977.35	977.25	☉ PIER NO.2	977.66	978.06	977.95
1/4	976.34	976.90	976.77	1/4	977.16	977.56	977.44
1/2	975.91	976.43	976.32	1/2	976.69	977.09	976.95
3/4	975.48	976.01	975.89	3/4	976.24	976.63	976.47
☉ ABUT. BRG.	975.08	975.58	975.50	☉ ABUT. BRG.	975.79	976.17	976.01

NOTE: THE ELEVATIONS SHOWN ARE ON TOP OF THE PORTLAND CEMENT CONCRETE AND ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTION CAUSED BY THE WEIGHT OF THE CONCRETE.

KEY ELEVATION



NOTES

- ALL REINFORCING BARS TO BE EPOXY COATED.
- MINIMUM BAR LAPS ARE AS FOLLOWS:
#6 BAR = 24"
#5 BAR = 18"
#4 BAR = 15"
- FOR ADDITIONAL SUPERSTRUCTURE REINFORCING DETAILS SEE SHEET 19/21.

FINKBEINER, PETTIS & STROUT, INC. 20 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

SLAB PLAN

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

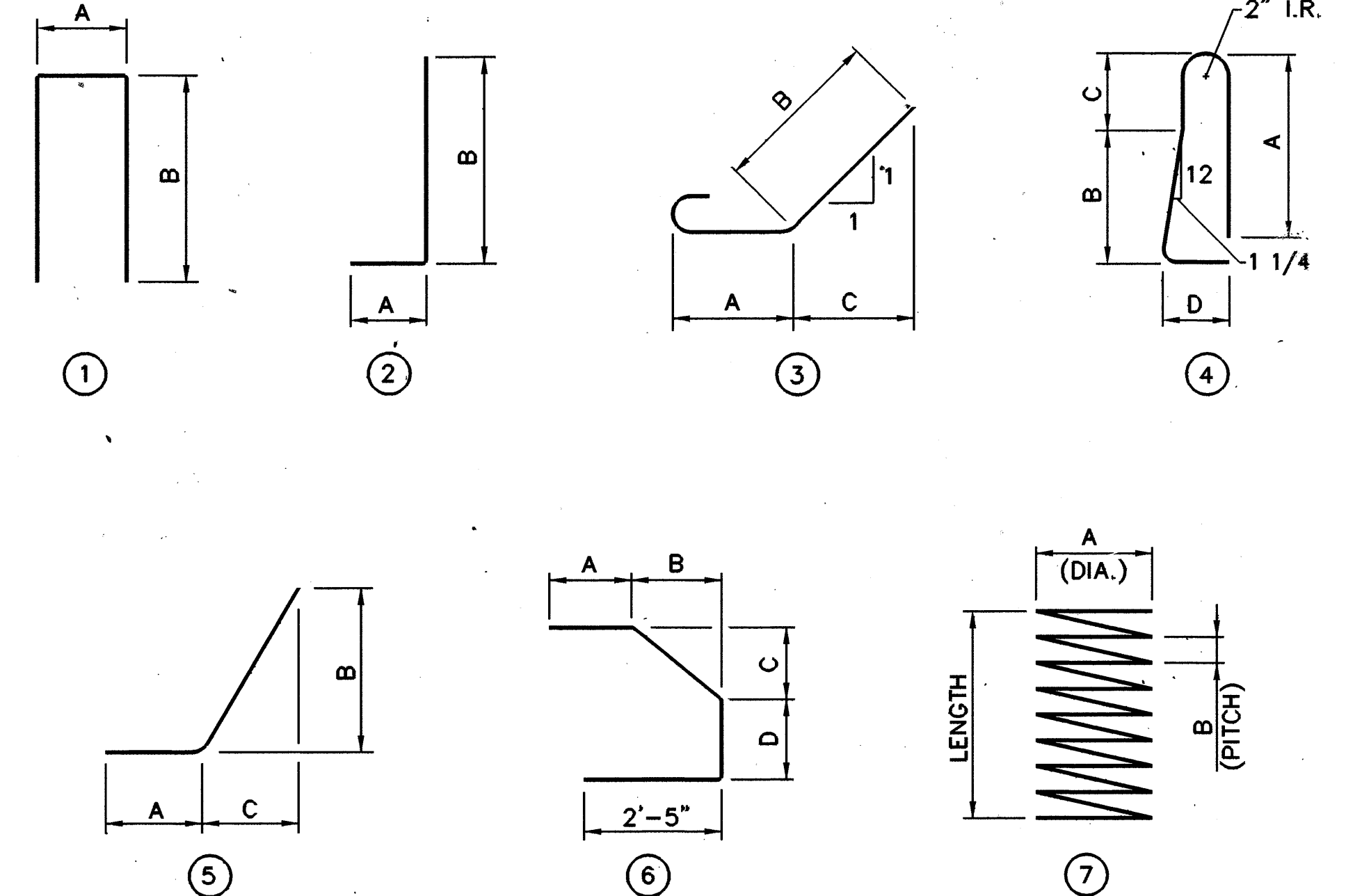
FHWA REGION	STATE	PROJECT
5	OHIO	

96
98

WAYNE COUNTY
WAY-21-(0.87)(0.94)(1.24)

NOTES

- ① ALL REINFORCING BARS ARE EPOXY COATED.
- ② **SPIRAL REINFORCING BARS:** THE "LENGTH" SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE LENGTH OF THE SPIRAL ALONG THE AXIS OF THE SPIRAL. ONE AND ONE-HALF CLOSED-COIL TURNS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LINEAR FEET OF SPACER, SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF THE COILS. THE NUMBER OF POUNDS OF THESE SPACERS, BASED ON 3.20 LBS. PER LINEAR FOOT, WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITIES OF SPIRAL BARS.



REINFORCING SCHEDULE											
MARK	LEFT BRIDGE	RIGHT BRIDGE	TOTAL REQUIRED	LENGTH	TYPE	DIMENSIONS					WEIGHT LBS.
						A	B	C	D	INCR.	
ABUTMENTS											
A801	56	56	112	4'-6"	3	2'-4"	1'-5"	1'-0"			1,346
A601	83	83	166	6'-7"	1	11"	3'-0"				1,641
A602	84	85	169	8'-2"	1	1'-5"	3'-6"				2,073
A603	12	11	23	15'-8"	1	1'-5"	7'-3"				541
A604	4	10	14	5'-6"	ST.						116
A605		10	10	4'-7"	ST.						69
A606	4	2	6	7'-5"	ST.						67
A607	10	6	16	7'-0"	2	1'-0"	6'-2"				168
A608	2	1	3	18'-5"	1	1'-5"	8'-8"				83
A609	12	0	12	6'-6"	2	1'-0"	5'-8"				117
A501	56	52	108	24'-6"	ST.						2,760
A502	3	13	16	7'-2"	1	3'-5"	2'-0"				120
A503	27	22	49	2'-6"	ST.						128
A504		6	6	5'-4"	ST.						33
A505	8	8	16	5'-7"	6	1'-9"	8"	6"	1'-0"		93
SERIES A506		2 SETS OF 6	2 SETS OF 6	7'-2" TO 11'-3"	ST.					9 3/4"	115
SERIES A507		2 SETS OF 3	2 SETS OF 3	4'-1" TO 8'-2"	ST.					2'-0 1/2"	38
A508		2	2	9'-2"	5	1'-0"	4'-4"	6'-10"			19
A509		22	22	10'-1"	ST.						231
A510	76	120	196	4'-2"	2	1'-4"	3'-0"				852
A511	18	8	36	6'-1"	ST.						228
A512	16	8	24	11'-0"	1	8'-5"	1'-5"				275
SERIES A513		2 SETS OF 4	2 SETS OF 4	3'-6" TO 8'-6"	ST.					1'-8"	50
A514	14		14	23'-11"	ST.						349
SERIES A515		2 SETS OF 7	2 SETS OF 7	5'-5" TO 10'-10"	ST.					10 7/8"	119
A516		4	4	32'-7"	ST.						136
A517		4	4	12'-10"	ST.						54
A518		2	2	12'-0"	5	1'-0"	6'-5"	9'-1"			25
A519	10		10	8'-3"	ST.						86
A520	8	4	12	10'-3"	ST.						128
A521	4		4	18'-2"	ST.						76
SERIES A522	2 SETS OF 6		2 SETS OF 6	6'-0" TO 10'-2"	ST.					10"	101
SERIES A523	2 SETS OF 4		2 SETS OF 4	3'-3" TO 8'-1"	ST.					1'-7 3/8"	47
A524	2		2	10'-1"	5	1'-0"	5'-5"	6'-10"			21
A525	80		80	4'-6"	2	1'-8"	3'-0"				375
SERIES A526	2 SETS OF 6		2 SETS OF 6	7'-6" TO 11'-3"	ST.					9"	117
SERIES A527	2 SETS OF 3		2 SETS OF 3	6'-10" TO 9'-1"	ST.					1'-1 1/2"	50
A528	2		2	8'-9"	5	1'-0"	4'-3"	6'-6"			18
A529	4		4	26'-3"	ST.						110
A530	2		4	11'-7"	ST.						48
A531		14	14	3'-7"	ST.						52
A532	28		28	5'-1"	ST.						148
A533	4		4	21'-0"	ST.						88
A534		4	4	22'-1"	ST.						92
A535		4	4	15'-1"	ST.						63
A536		3	3	2'-6"	2	1'-4"	1'-4"				8
TOTAL ABUTMENTS											
13,474											

REINFORCING SCHEDULE											
MARK	LEFT BRIDGE	RIGHT BRIDGE	TOTAL REQUIRED	LENGTH	TYPE	DIMENSIONS					WEIGHT LBS.
						A	B	C	D	INCR.	
PIERS											
DS1001 Δ	14		14	21'-6"	ST.						1,295 Δ
DS1002 Δ		14	14	25'-6"	ST.						1,536 Δ
DS1003 Δ	28		28	32'-3"	ST.						3,886 Δ
DS1004 Δ		28	28	38'-2"	ST.						4,599 Δ
P901	14		14	34'-6"	ST.						1,642
P902		14	14	31'-9"	ST.						1,511
P903	14		14	27'-9"	ST.						1,321
P904		14	14	31'-0"	ST.						1,476
SP401 Δ	1		1	49'-4"	7	3'-0"	4 1/2"				986 Δ
SP402 Δ		1	1	50'-7"	7	3'-0"	4 1/2"				1,011 Δ
SP403 Δ	1		1	77'-1"	7	3'-0"	4 1/2"				1,541 Δ
SP404 Δ		1	1	92'-3"	7	3'-0"	4 1/2"				1,844 Δ
TOTAL PIERS											
5,950											
SUPERSTRUCTURE											
S601	441	442	883	24'-4"	ST.						32,272
S602	445	446	891	18'-4"	ST.						24,535
SERIES S603	1 SET OF 13	1 SET OF 13	2 SETS OF 13	5'-0" TO 22'-10"	ST.					1'-5 7/8"	543
SERIES S604	1 SET OF 13	1 SET OF 13	2 SETS OF 13	3'-6" TO 21'-5"	ST.					1'-5 7/8"	487
S605	6	6	12	5'-0"	ST.						90
S606	118	118	236	38'-0"	ST.						13,470
SERIES S607	1 SET OF 9	1 SET OF 9	2 SETS OF 9	4'-11" TO 16'-10"	ST.					1'-5 7/8"	294
SERIES S608	1 SET OF 9	1 SET OF 9	2 SETS OF 9	3'-6" TO 15'-4"	ST.					1'-5 7/8"	255
S501	444	445	889	19'-1"	ST.						17,695
S502	441	442	883	23'-1"	ST.						21,259
SERIES S503	1 SET OF 13	1 SET OF 13	2 SETS OF 13	2'-3" TO 20'-1"	ST.					1'-5 7/8"	303
SERIES S504	1 SET OF 13	1 SET OF 13	2 SETS OF 13	4'-11" TO 22'-9"	ST.					1'-5 7/8"	375
S505	6	6	12	5'-0"	ST.						63
SERIES S506	1 SET OF 10	1 SET OF 10	2 SETS OF 10	2'-9" TO 16'-2"	ST.					1'-5 7/8"	197
SERIES S507	1 SET OF 10	1 SET OF 10	2 SETS OF 10	5'-0" TO 18'-3"	ST.					1'-5 7/8"	242
S508	520	520	1,040	30'-0"	ST.						32,542
S509	65	65	130	20'-0"	ST.						2,712
S510	496	496	992	3'-1"	6	9"	6"	8 1/2"	10"		3,190
S511	496	496	992	6'-8"	4	3'-0"	2'-7"	8"	7"		6,898
S512	496	496	992	2'-1"	2	1'-5"	10"				2,155
S401	464	464	928	30'-0"	ST.						18,597
S402	58	58	116	18'-0"	ST.						1,395
TOTAL SUPERSTRUCTURE											
179,569											
TOTAL THIS SHEET											
198,993											

Δ - BARS INCLUDED WITH DRILLED SHAFT FOR PAYMENT.

FINKBEINER, PETTIS & STROUT, INC. | 21 / 21
CONSULTING ENGINEERS
AKRON TOLEDO GREENSBORO

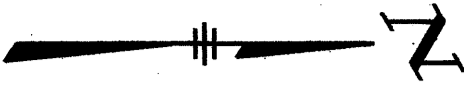
REINFORCING STEEL LIST

BRIDGE NO. WAY-21-0094 L/R
OVER CHIPPEWA CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.B.	C.A.F.		J.G.C.	M.R.S.	1/95	

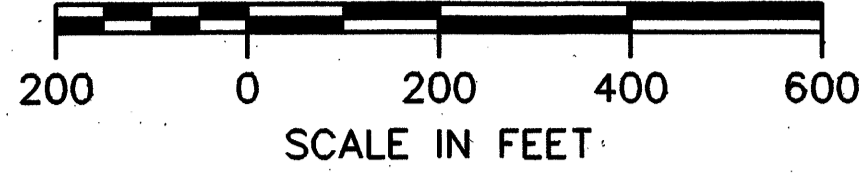
CAD FILE: 94REBAR
DATE: 01/05/95
OPERATOR: C.A.F.
SCALE: 1/2

PROPERTY MAP
WAYNE COUNTY
CHIPPEWA TOWNSHIP
T-18-N, R-11-W



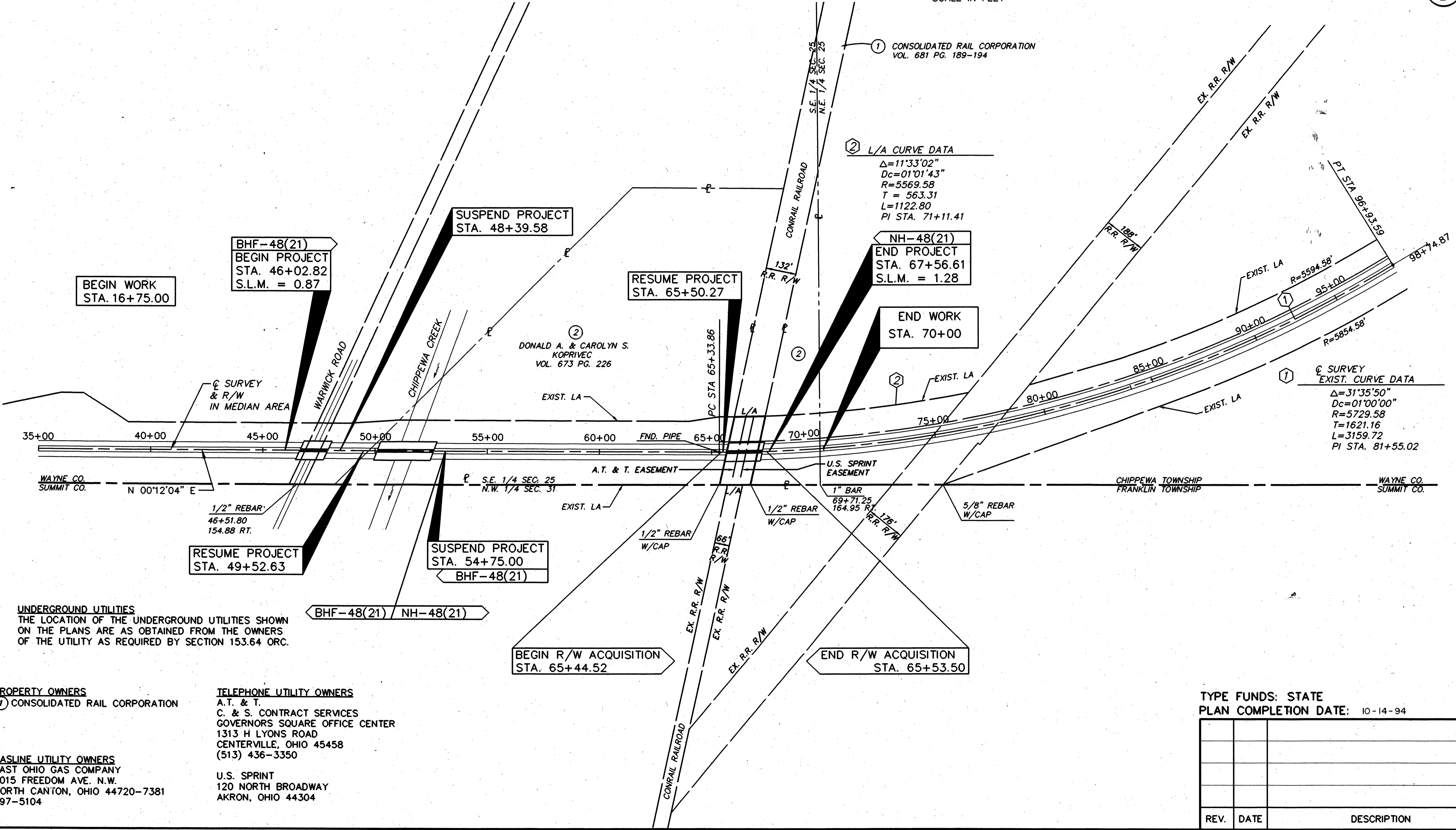
STATE JOB NUMBER	FHWA REGION	STATE	PROJECT
037370	5	OHIO	NH-BHF-48(21)

97
98



WAY-21-(0.87) (0.94) (1.24) PART I
RIGHT OF WAY PLAN

1
2



BEGIN WORK
STA. 16+75.00

BHF-48(21)
BEGIN PROJECT
STA. 46+02.82
S.L.M. = 0.87

SUSPEND PROJECT
STA. 48+39.58

RESUME PROJECT
STA. 65+50.27

NH-48(21)
END PROJECT
STA. 67+56.61
S.L.M. = 1.28

END WORK
STA. 70+00

RESUME PROJECT
STA. 49+52.63

SUSPEND PROJECT
STA. 54+75.00
BHF-48(21)

BHF-48(21) / NH-48(21)

BEGIN R/W ACQUISITION
STA. 65+44.52

END R/W ACQUISITION
STA. 65+53.50

UNDERGROUND UTILITIES
THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

PROPERTY OWNERS
① CONSOLIDATED RAIL CORPORATION

TELEPHONE UTILITY OWNERS
A.T. & T.
C. & S. CONTRACT SERVICES
GOVERNORS SQUARE OFFICE CENTER
1313 H LYONS ROAD
CENTERVILLE, OHIO 45458
(513) 436-3350

GASLINE UTILITY OWNERS
EAST OHIO GAS COMPANY
7015 FREEDOM AVE. N.W.
NORTH CANTON, OHIO 44720-7381
497-5104

U.S. SPRINT
120 NORTH BROADWAY
AKRON, OHIO 44304

TYPE FUNDS: STATE
PLAN COMPLETION DATE: 10-14-94

REV.	DATE	DESCRIPTION

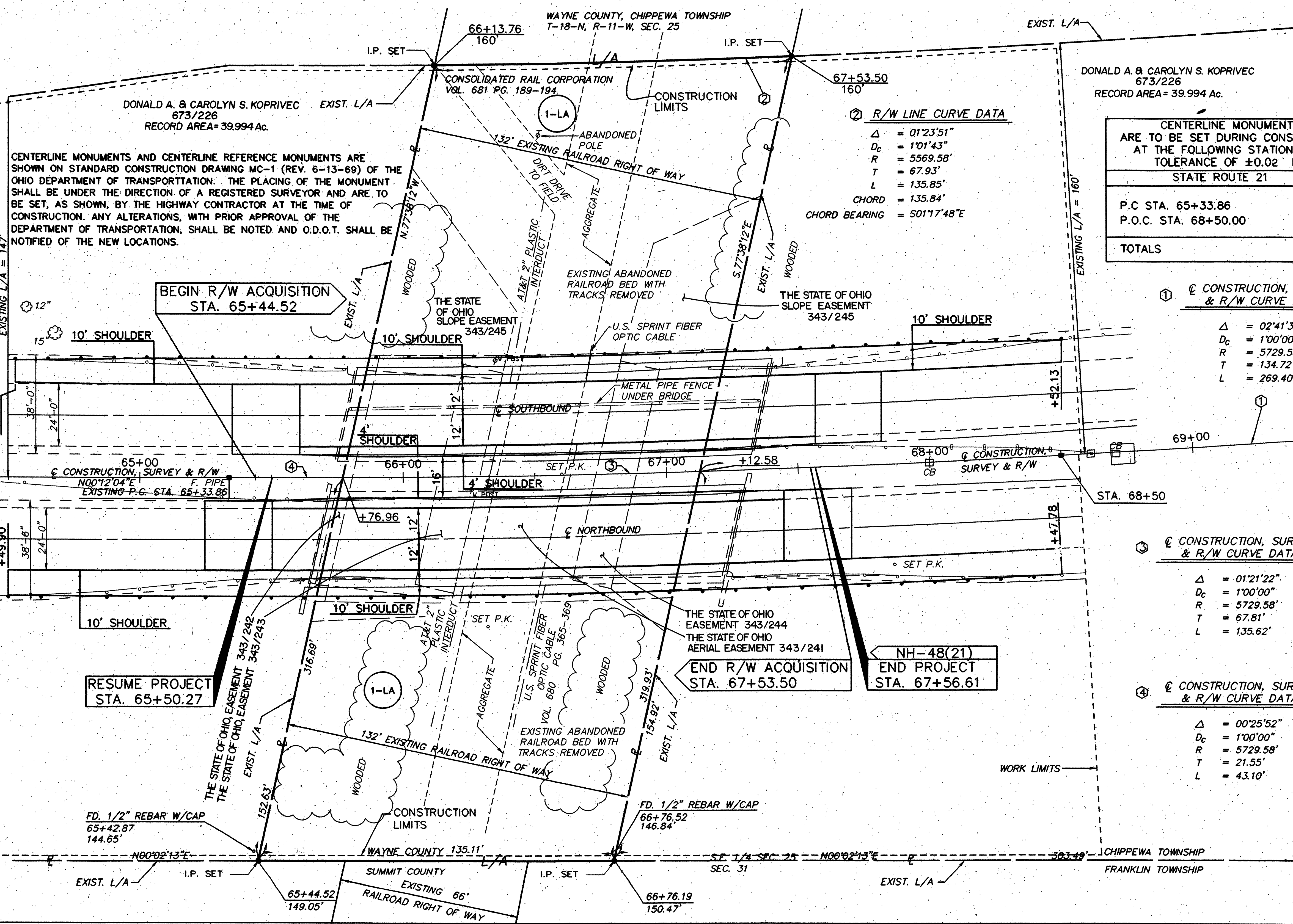
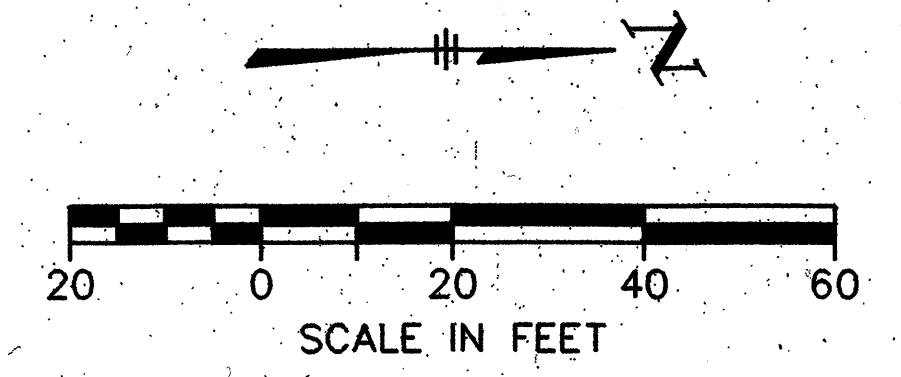
CAD FILE: PROP.MAP
 DATE: 7/27/94
 OPERATOR: MPEVDLW
 PLOT SCALE: 1"=200'

STATE JOB NUMBER	FHWA REGION	STATE	PROJECT
037370	5	OHIO	NH-BHF-48(21)

98
98

2
2

WAY-21-(0.87)(0.94)(1.24) PART I
RIGHT OF WAY PLAN



CENTERLINE MONUMENTS ARE TO BE SET DURING CONSTRUCTION AT THE FOLLOWING STATIONS AT A TOLERANCE OF ±0.02 FT. STATE ROUTE 21

P.C. STA. 65+33.86	1
P.O.C. STA. 68+50.00	1
TOTALS	2

① CONSTRUCTION, SURVEY, & R/W CURVE DATA

Δ	= 02°41'38"
D_c	= 1'00'00"
R	= 5729.58'
T	= 134.72'
L	= 269.40'

③ CONSTRUCTION, SURVEY, & R/W CURVE DATA

Δ	= 01°21'22"
D_c	= 1'00'00"
R	= 5729.58'
T	= 67.81'
L	= 135.62'

④ CONSTRUCTION, SURVEY, & R/W CURVE DATA

Δ	= 00°25'52"
D_c	= 1'00'00"
R	= 5729.58'
T	= 21.55'
L	= 43.10'

AREA OF OVERLAP

Parcel	Total Area	Existing P.R.O.	Net Area	Existing Aerial	Existing Slope
1-LA	0.964 Ac.	0.067 Ac.	0.897 Ac.	0.295 Ac.	0.299 Ac.
Existing P.R.O.	0.067 Ac.	0.067 Ac.	0.067 Ac.	0.067 Ac.	0.067 Ac.
Existing Aerial	0.295 Ac.	0.067 Ac.	0.228 Ac.	0.228 Ac.	0.196 Ac.*
Existing Slope	0.299 Ac.	0.067 Ac.	0.232 Ac.	0.196 Ac.*	

* Includes P.R.O. Area

- NOTES:**
- EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING RIGHT OF WAY PLAN STA/WAY/SUM-21-17.80/0.0/0.0/DATED:1956
 - ALL PRIVATELY OWNED FENCE WITHIN NEW AND EXISTING RIGHT OF WAY FROM BEGIN WORK STATION TO END WORK STATION TO BE REMOVED.

- MONUMENT LEGEND**
- IRON PIN FOUND
 - CENTERLINE MONUMENT
 - 3/4" x 30" IRON PIN SET WITH ALUM. CAP MARKED "LOCH 6468 O.D.O.T."

TYPE FUNDS: STATE
PLAN COMPLETION DATE: 10-14-94

REV.	DATE	DESCRIPTION
1	5-20-94	REV. AREA OF OVERLAP
2	4-3-94	ADDED AREA OF OVERLAP
3	2-8-94	TITLE REV.

STATE JOB NO. 037370

P.I.D. 8711

SUMMARY OF ADDITIONAL RIGHT OF WAY

PARCEL	OWNER	SHEET No.	OWNERS RECORD		RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE		TYPE FUND	AUDITORS PARCEL NO.	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE							LEFT	RIGHT				BOOK	PAGE
1-LA	CONSOLIDATED RAIL CORPORATION	2.	539	217	*5.069	0.299 Ac.	0.964 Ac.	0.299 Ac.	0.665 Ac.	NO	4.105		STATE	12-02661			

* AREA WITHIN THE S.E. 1/4 SEC. 25 CHIPPEWA TOWNSHIP, WAYNE COUNTY

CAD FILE: 124RW
DATE: 12/27/94
DRAWN BY: JLDW
PLOT SCALE: 1"=20'

GEOLOGY OF THE SITE

THE STRUCTURE SITES ARE LOCATED IN THE MODERATELY ROLLING GLACIATED PORTION OF THE ALLEGHENY PLATEAU REGION, ON THE BROAD FLOODPLAIN OF CHIPPEWA CREEK AND OVER WARWICK ROAD, IN AN AREA WHERE DEEP ALLUVIAL DEPOSITS, FILL MATERIAL AND GLACIAL DERIVED MATERIAL OVERLIE SANDSTONE BEDROCK OF MISSISSIPPIAN AGE.

EXPLORATION



THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM ROTARY AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED ON NOVEMBER 27 TO 29, 1990.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE TEST BORINGS DISCLOSED THAT INTERVALS OF MEDIUM-DENSE TO DENSE UNSTRATIFIED GRAVEL, SAND, SILT AND CLAY MODIFIED WITH BRICK FRAGMENTS AND VARYING AMOUNTS OF EACH OTHER THAT FLUCTUATE ERRATICALLY IN DENSITY WITH INCREASE IN DEPTH OVERLIE SLOPING BEDROCK SURFACE. TEST BORING B-1 (MADE IN THE GENERAL VICINITY OF THE REAR ABUTMENT) ENCOUNTERED BEDROCK SURFACE AT 34.0 FOOT DEPTH, ELEVATION 959.5 FEET AND CONTINUED TO ADVANCE TO A TOTAL DEPTH OF 50.0 FEET, ELEVATION 943.5 FEET WHERE THE BORING WAS TERMINATED AFTER HAVING PENETRATED 16.0 FEET BELOW BEDROCK SURFACE. BOULDERS WERE ENCOUNTERED IN TEST BORING B-1 AT 4.0 FOOT DEPTH, ELEVATION 989.5 FEET. BRICK FRAGMENTS WERE ENCOUNTERED IN TEST BORING B-1 AT 25.0 FOOT DEPTH, ELEVATION 968.5 FEET. TEST BORING B-2 (MADE IN THE GENERAL VICINITY OF THE FORWARD ABUTMENT) ENCOUNTERED BEDROCK SURFACE AT 35.8 FOOT DEPTH, ELEVATION 952.9 FEET AND CONTINUED TO ADVANCE TO A TOTAL DEPTH OF 45.0 FEET, ELEVATION 943.7 FEET WHERE THE BORING WAS TERMINATED AFTER HAVING PENETRATED 9.2 FEET BELOW BEDROCK SURFACE. BOULDERS WERE ENCOUNTERED IN TEST BORING B-2 AT 10.9 AND 15.0 FOOT DEPTHS, ELEVATIONS 976.2 AND 973.7 FEET RESPECTIVELY.

















NO FREE WATER OBSERVATIONS WERE MADE IN EITHER OF THE TEST BORINGS PERFORMED DURING, OR AT THE CONCLUSION OF DRILLING OPERATIONS.

LEGEND

-  Auger Boring Location - Plan View
-  Press and/or Drive Sample and/or Core Boring Location - Plan View
- TR Top Of Rock
- W Indicates Free Water Elevation
- Y Indicates Static Water Elevation

- H Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken
- X/Y/Z Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test
 - X = Number of Blows for First 6 Inches
 - Y = Number of Blows for Second 6 Inches
 - Z = Number of Blows for Third 6 Inches

SYMBOLS OF ROCK TYPES

- | | | | |
|---|---------------------|---|------------------------|
|  | Coal |  | Fire Clay or Underclay |
|  | Weathered Mudstone |  | Weathered Sandstone |
|  | Mudstone |  | Sandstone |
|  | Claystone |  | Leached Dolomite |
|  | Weathered Shale |  | Dolomite |
|  | Shale |  | Leached Limestone |
|  | Weathered Siltstone |  | Limestone |
|  | Siltstone |  | Boulders or Cobbles |

GENERAL INFORMATION

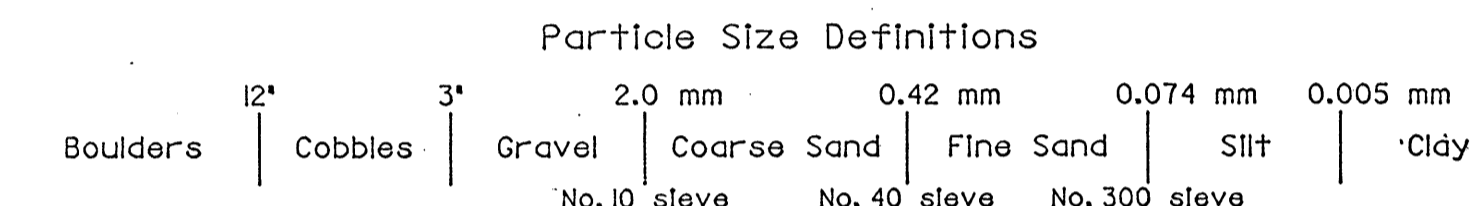
DRIVE SAMPLE BORINGS - DRIVE-PRESS SAMPLE BORINGS

Drive sample borings are made by means of a rotary-type drill rig, employing a 2' O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140 pound hammer with a free fall of 30 inches. The number of blows required to drive the sampler 18 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2' O.D., 1-3/8" I.D. drive sampler, and 3' O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in three 6-inch increments, depth of press samples, field sample number sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that a sampler cannot be driven, a wash sample is produced for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.



NOTE: ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH MAY BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

REVISED 7/14/94

Note: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAY-21-0087 R/L
OVER WARWICK ROAD
SEC. WAY-21-(0.87)(0.94)(1.24)

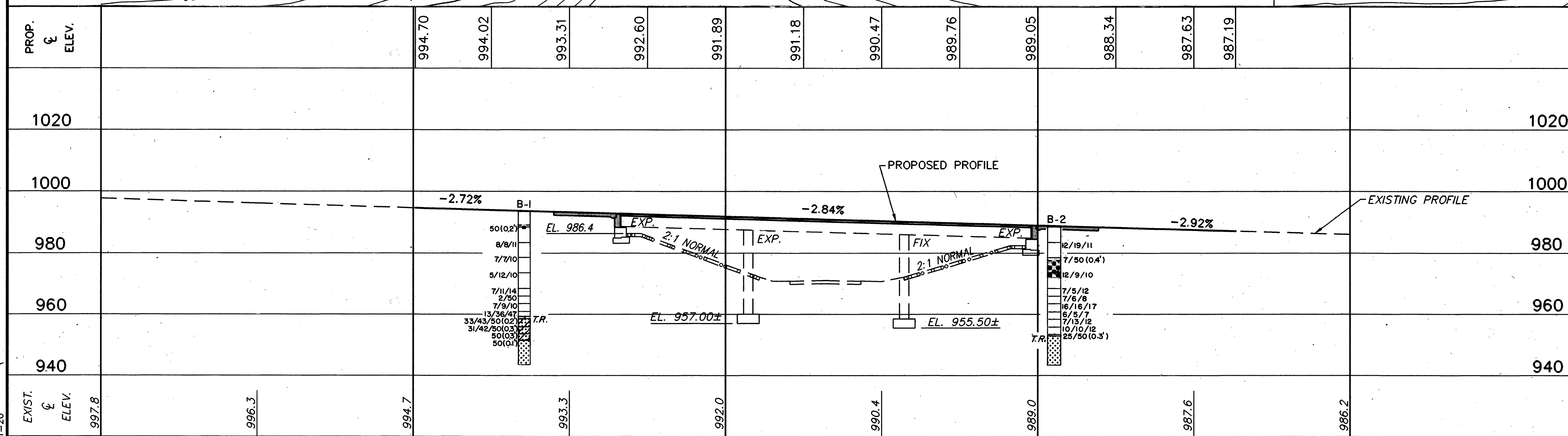
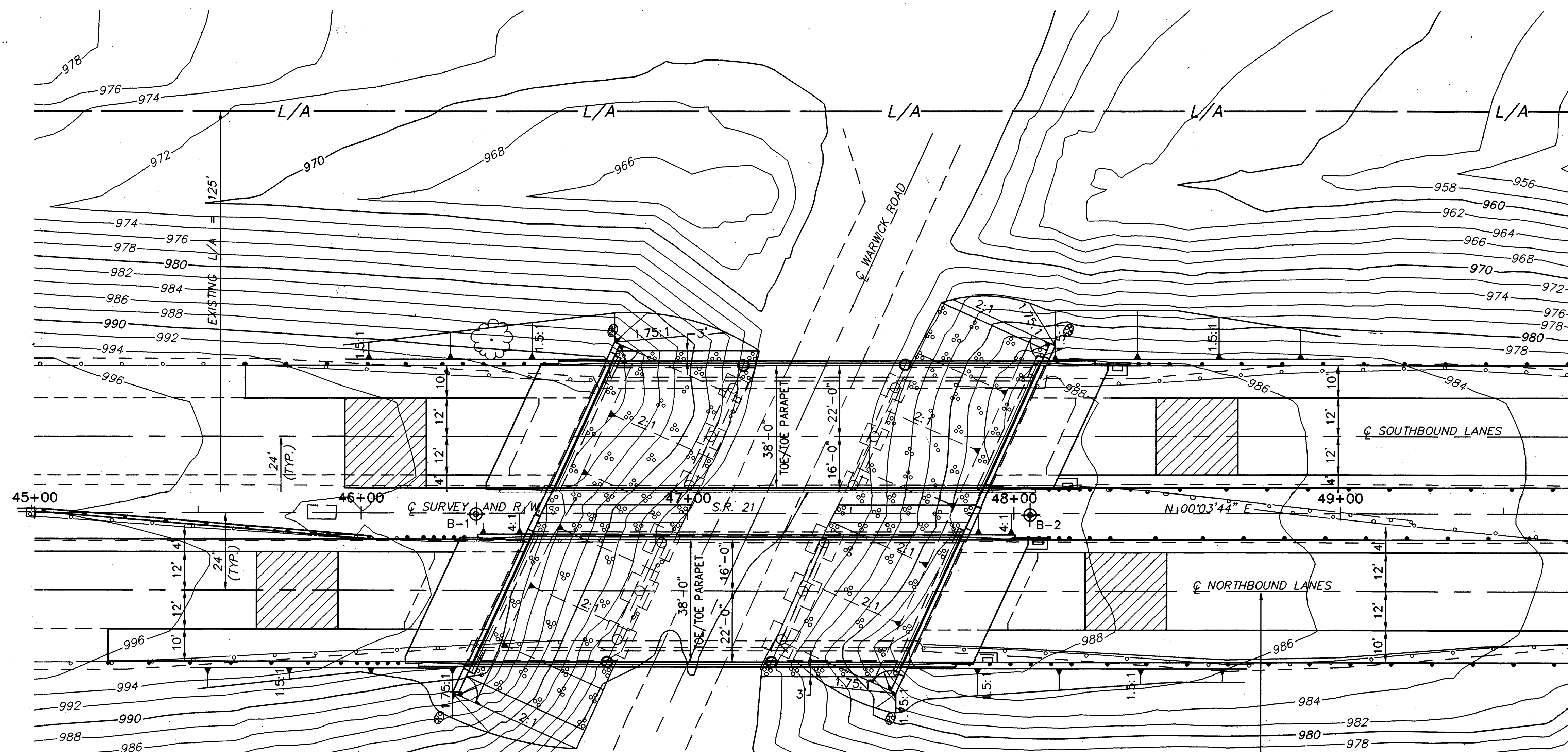
CHECKED BY A.F.	REVIEWED BY M.R.S.	DATE 12/13/90
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FHWA REGION	STATE	PROJECT	
5	OHIO		

2
13

WAYNE COUNTY
WAY-21-(0.87) (0.94) (1.24)

2
3



CAD FILE: 875011
DATE: 04/13/94
OPERATOR: C.A.F.
SCALE: 1"=20'

REVISED 7/14/94

OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS-TESTING LABORATORY 1600 WEST BROAD STREET COLUMBUS, OHIO 43223			
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. WAY-21-0087 R/L OVER WARWICK ROAD SEC. WAY-21-(0.87)(0.94)(1.24)			
PLAN AND PROFILE			
DRAWN BY J.B.H.	CHECKED BY A.F.	REVIEWED BY M.R.S.	DATE 12/13/90

LOG OF BORING

Date Started 11/27/90 Sampler Type SS Dia. 1 3/8" Water Elev. -
 Date Completed 11/28/90 Surface Elev. 993.5'
 Boring No. B-1 Station & Offset 46+35, CL (REAR ABUTMENT)

Elev.	Depth	Std. Pen.	No. of Blows	Description	Sample No.	Physical Characteristics								SHTL Class						
						% Agg.	% S.S.	% F.S.	% Silt	% Clay	LL	PL	W.C.							
993.5	0			SOD AND TOPSOIL																
993.0	2	AUGERED		BROWN SANDY GRAVELLY CLAY AND SILT (DRILLER'S DESCRIPTION)																VISUAL
989.5	4	AUGERED		BROWN SILTY GRAVELLY SAND W/BOULDERS	1	42	2	44	7	5	NP	NP	5	A-2-4						
988.5	6	50(0.2)																		
983.5	10	8/8/11		BROWN SILT AND CLAY	2	0	3	8	49	40	32	14	20	A-6A						
978.5	14	7/7/10		BROWN SANDY CLAY	3	0	6	19	39	36	29	12	14	A-6A						
973.5	20	5/12/10		BROWN SILTY SANDY GRAVEL W/ST. FRAGS.	4	47	5	24	14	10	NP	NP	15	A-1-8						
968.5	26	7/11/14		RED SILTY GRAVELLY SAND W/ST. & BRICK FRAGS.	5	21	6	42	19	12	NP	NP	13	A-2-4						
966.0	28	2/50		GRAY GRAVELLY SANDY SILT	6	47	4	5	30	14	-	-	16	VISUAL						
963.5	30	7/9/10		BROWN GRAVELLY SANDY SILT W/ST. FRAGS.	7	42	7	17	21	13	-	-	13	VISUAL						
961.0	34	13/36/47		BROWN SILTY SANDY GRAVEL	8	42	10	19	20	9	NP	NP	11	A-2-4						
958.5	36	33/43/50(0.2)		BROWN WEATHERED SANDSTONE	9									VISUAL						
956.0	38	31/42/50(0.3)		BROWN WEATHERED SANDSTONE	10									VISUAL						
953.5	40	50(0.3)		BROWN WEATHERED SANDSTONE	11									VISUAL						
951.5	42	50(0.1)		BROWN WEATHERED SANDSTONE	12									VISUAL						
943.5	50		2.9	SANDSTONE, BROWN AND GRAY, FIRM, MEDIUM-GRAINED, CROSS-BEDDED, GENERALLY MASSIVE, BROKEN AND JOINTED. CORE LOSS 1%.																
	52		4.9																	

BOTTOM OF BORING

LOG OF BORING

Date Started 11/28/90 Sampler Type SS Dia. 1 3/8" Water Elev. -
 Date Completed 11/29/90 Surface Elev. 988.7'
 Boring No. B-2 Station & Offset 48+05, CL (FORWARD ABUTMENT)

Elev.	Depth	Std. Pen.	No. of Blows	Description	Sample No.	Physical Characteristics								SHTL Class						
						% Agg.	% S.S.	% F.S.	% Silt	% Clay	LL	PL	W.C.							
988.7	0			SOD AND TOPSOIL																
988.2	2	AUGERED		BROWN SANDY SILT AND CLAY W/ST. FRAGS. (DRILLER'S DESCRIPTION)																VISUAL
983.7	6	12/19/11		BROWN SANDY GRAVELLY SILT W/ST. FRAGS.	1	37	7	9	34	13	26	10	11	A-4A						
978.7	10	7/50(0.4)		GRAY SANDY GRAVELLY SILT W/BOULDERS	2	35	6	15	29	15	25	9	12	A-4A						
976.2	12	AUGERED		BOULDERY ZONE 10.9' TO 12.5' (DRILLER'S DESC)										VISUAL						
973.7	16	12/9/10		BROWN SILTY SANDY GRAVEL W/BOULDERS	3	34	9	23	22	12	22	6	13	A-2-4						
968.7	20	7/5/12		NO RECOVERY										VISUAL						
966.2	24	7/6/8		BROWN SILTY SANDY GRAVEL W/ST. FRAGS.	4	41	7	16	22	14	25	9	15	A-4A						
963.7	26	16/16/17		GRAYISH BROWN SILTY SANDY GRAVEL W/ST. FRAGS.	5	33	12	15	25	15	26	9	13	A-4A						
961.2	28	6/5/7		BROWN GRAVELLY SANDY SILT W/ST. FRAGS.	6	39	11	14	21	15	26	9	14	A-4A						
958.7	30	7/13/12		BROWN SANDY SILT W/ST. FRAGS.	7	25	8	19	30	18	26	8	13	A-4A						
956.2	34	10/10/12		GRAY AND BROWN SANDY SILT W/ROOTS & ST. FRAGS.	8	0	3	30	47	20	NP	NP	23	A-4A						
953.7	36	25/50(0.3)		BROWN SILTY GRAVELLY SAND	9	15	1	52	24	8	NP	NP	8	A-3A						
	38		3.4																	
	40			SANDSTONE, BROWN AND GRAY, FIRM, MEDIUM-GRAINED, CROSS-BEDDED, GENERALLY MASSIVE, BROKEN AND JOINTED. CORE LOSS 10%.																
	42																			
	44		4.8																	
943.7	46																			
	48																			

BOTTOM OF BORING

REVISED 7/14/94

OHIO DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - TESTING LABORATORY
 1600 WEST BROAD STREET COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
 BRIDGE NO. WAY-21-0087 R/L
 OVER WARWICK ROAD
 SEC. WAY-21-(0.87)(0.94)(1.24)

BORING DATA
 TYPED BY L.A.O. CHECKED BY A.F. REVIEWED BY M.R.S. DATE 12/13/90

GEOLOGY OF THE SITE

THE STRUCTURE SITES ARE LOCATED IN THE MODERATELY ROLLING GLACIATED PORTION OF THE ALLEGHENY PLATEAU REGION, ON THE BROAD FLOODPLAIN OF AND OVER CHIPPEWA CREEK, IN AN AREA WHERE MODERATELY DEEP TO EXTREMELY DEEP ALLUVIAL DEPOSITS, FILL MATERIAL AND GLACIAL DERIVED MATERIAL OVERLIE SANDSTONE BEDROCK OF MISSISSIPPIAN AGE.

EXPLORATION

THE EXPLORATION BY THE STATE CONSISTED OF ONE DRIVE SAMPLE-CORE BORING AND ONE DRIVE SAMPLE BORING MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM ROTARY AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED ON DECEMBER 4 AND 5, 1990. EXPLORATION WAS ALSO CONDUCTED BY PRIVATE DRILLERS FOR THE STATE WHICH CONSISTED OF THREE DRIVE SAMPLE-CORE BORINGS PERFORMED BETWEEN JULY 29 AND AUGUST 17, 1993.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE TEST BORINGS DISCLOSED THAT INTERVALS OF EXTREMELY LOOSE TO EXTREMELY DENSE UNSTRATIFIED SILT, SAND, CLAY AND GRAVEL MODIFIED WITH COBBLES AND VARYING AMOUNTS OF EACH OTHER THAT ARE ERRATIC IN DENSITY WITH AN INCREASE IN DEPTH OVERLIE ERRATICALLY SLOPING BEDROCK SURFACE. TEST BORING B-1 (MADE IN THE GENERAL VICINITY OF THE REAR ABUTMENT) ENCOUNTERED BEDROCK SURFACE AT 39.0 FOOT DEPTH, ELEVATION 942.0 FEET AND CONTINUED TO ADVANCE TO A TOTAL DEPTH OF 50.0 FEET, ELEVATION 931.0 FEET BELOW BEDROCK SURFACE. TEST BORING B-2, B-3 AND B-4 ENCOUNTERED BEDROCK SURFACE AT 5.0, 61.0 AND 48.0 FOOT DEPTHS, ELEVATIONS 930.0, 882.0 AND 896.0 FEET RESPECTIVELY. TEST BORING B-5 (MADE IN THE GENERAL VICINITY OF THE REAR ABUTMENT) PENETRATED TO A DEPTH OF 76.5 FEET, ELEVATION 897.5 FEET AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 16.5 FEET OF MATERIAL REQUIRING 17 OR MORE BLOWS PER FOOT IN THE STANDARD PENETRATION TEST. TWO SHELBY TUBE SAMPLES WERE OBTAINED FROM BORING B-5 AT 40.0 AND 45.0 FOOT DEPTH, ELEVATIONS 934.0 AND 929.0 FEET RESPECTIVELY.

LEGEND

 Auger Boring Location - Plan View

 Press and/or Drive Sample and/or Core Boring Location - Plan View

TR Top Of Rock

W ——— Indicates Free Water Elevation









V ——— Indicates Static Water Elevation









H Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken

X/Y/Z Figures Beside the Boring Log In Profile Indicate the Number of Blows for Standard Penetration Test

X = Number of Blows for First 6 Inches
Y = Number of Blows for Second 6 Inches
Z = Number of Blows for Third 6 Inches

SYMBOLS OF ROCK TYPES

-  Coal
-  Weathered Mudstone
-  Mudstone
-  Claystone
-  Weathered Shale
-  Shale
-  Weathered Siltstone
-  Siltstone

-  Fire Clay or Underclay
-  Weathered Sandstone
-  Sandstone
-  Leached Dolomite
-  Dolomite
-  Leached Limestone
-  Limestone
-  Boulders or Cobbles

GENERAL INFORMATION

DRIVE SAMPLE BORINGS - DRIVE-PRESS SAMPLE BORINGS

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140 pound hammer with a free fall of 30 inches. The number of blows required to drive the sampler 18 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in three 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that a sampler cannot be driven, a wash sample is produced for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt
		No. 10 sieve	No. 40 sieve	No. 300 sieve	Clay

NOTE: ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH MAY BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

REVISED 7/20/94

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OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

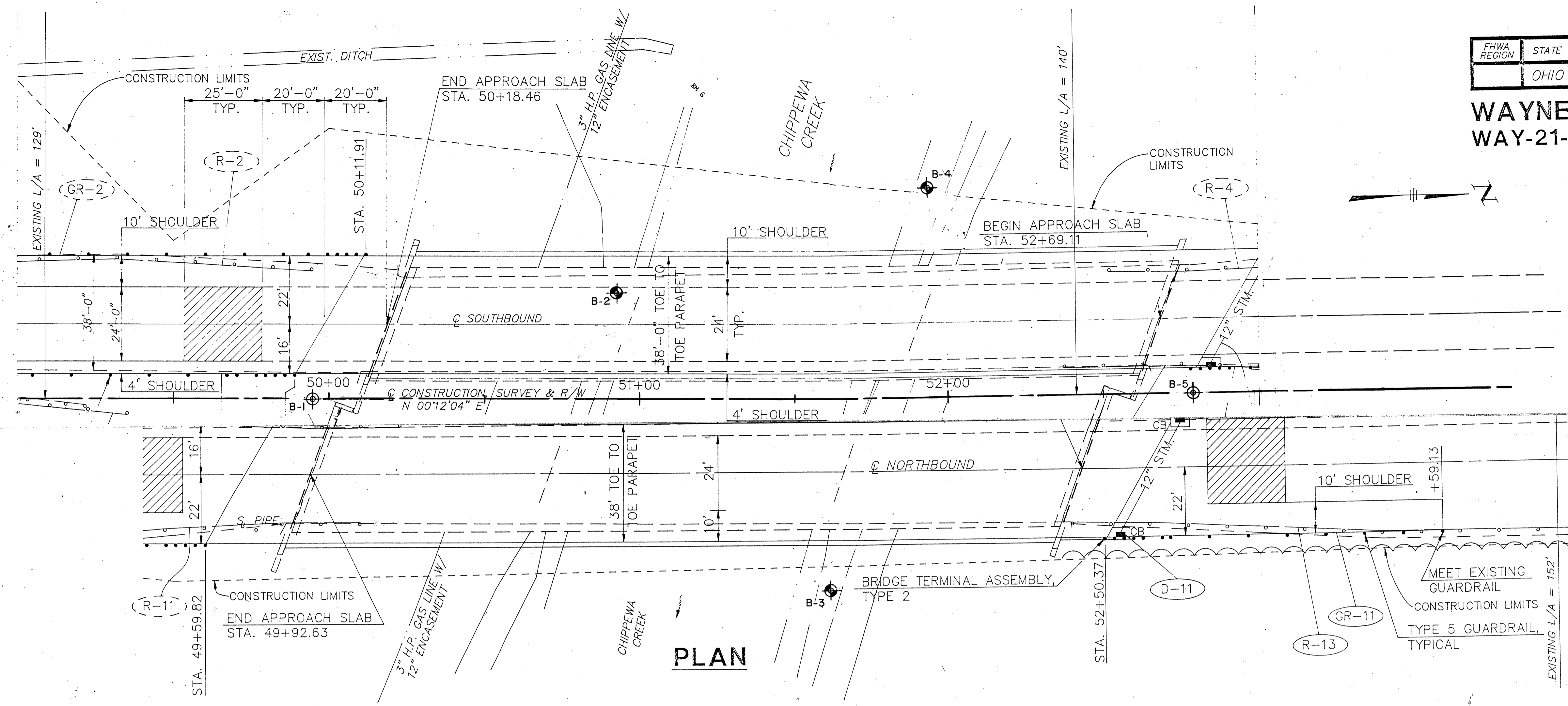
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. WAY-21-0095 L/R
OVER CHIPPEWA CREEK
SEC. WAY-21-0.94

CHECKED BY A.F.	REVIEWED BY M.R.S.	DATE 1/11/91
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FHWA REGION	STATE	PROJECT	DATE
	OHIO	BRIDGE NO. WAY-21-0.94 LT & RT	7-2-11/11-11

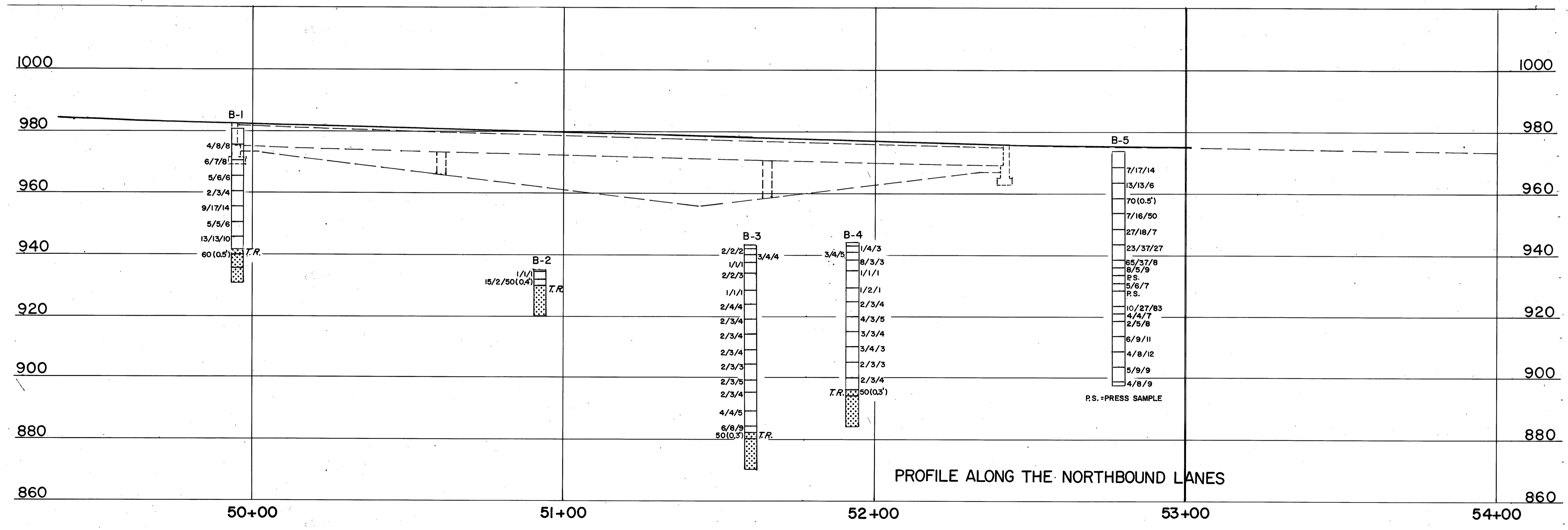
5
13
6

WAYNE COUNTY
WAY-21-0.94



NOTE: BORINGS DRILLED BY PROFESSIONAL SERVICE INDUSTRIES DATED 11/7/93

PLAN



PROFILE ALONG THE NORTHBOUND LANES

REVISED 7/20/94

OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS-TESTING LABORATORY 1600 WEST BROAD STREET COLUMBUS, OHIO 43223			
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. WAY-21-0095 L/R OVER CHIPPEWA CREEK SEC. WAY-21-0.94			
PLAN AND PROFILE			
DRAWN BY J.B.H.	CHECKED BY A.F.	REVIEWED BY M.R.S.	DATE 1/11/91

LOG OF BORING

Date Started 12/4/90 Sampler Type SS Dia. 1 3/8" Water Elev. -
 Date Completed 12/4/90 Casing Length 25'-0" Dia. 1 1/2" Surface Elev. 981.0'
 Boring No. B-1 Station & Offset 49+95, CL (REAR ABUTMENT) Surface Elev. 981.0'

Elev.	Depth	Std. Pen. Test	Pen.	Rec. Loss	Description	Sample No.	Physical Characteristics										SPTL Class			
							Agg.	CS	FS	Silt	Clay	LL	PL	W.C.						
981.0	0																			
	2				AUGERED															VISUAL
	4																			
976.0	6		4/8/8		BROWN GRAVELLY SANDY SILT W/STONE FRAGMENTS	1	16	10	11	42	21	26	10	11						A-4A
	8																			
971.0	10		6/7/8		BROWN AND GRAY GRAVELLY SANDY SILT W/ST. FRGS.	2	22	10	24	29	15	22	7	12						A-4A
	12																			
966.0	16		5/6/6		BROWN AND GRAY SANDY GRAVELLY SILT W/ST. FRGS.	3	29	8	14	32	17	26	7	14						A-4A
	18																			
961.0	20		2/3/4		BROWN AND GRAY GRAVELLY SANDY SILT W/ST. FRGS.	4	23	7	16	32	22	29	10	12						A-4A
	22																			
956.0	26		9/17/14		BROWN AND GRAY SILTY SANDY GRAVEL W/COBBLES	5	65	6	12	10	7	NP	NP	11						A-1-B
	28																			
951.0	30		5/5/6		BROWN AND GRAY GRAVELLY SANDY SILT	6	25	7	17	34	16	NP	NP	13						A-4A
	32																			
946.0	36		13/13/10		BROWN AND GRAY SANDY SILT	7	0	12	28	30	30	NP	NP	12						A-4A
	38																			
942.0	40				BROWN BROKEN SANDSTONE TOP OF ROCK															VISUAL
941.0	40				BROWN BROKEN SANDSTONE															VISUAL
940.5	40																			
	42																			
	44			4.5																
	46																			
	48			5.0																
931.0	50																			
	52																			

↑ BOTTOM OF BORING

Date Started 8-2-93 Sampler Type SS Dia. 2 1/2" Water Encountered 42'-0" Project ID: 422-0033
 Date Completed 8-2-93 Casing Length 25'-0" Dia. 1 1/2" Water on Completion 47'-0" BORING NO. WAY-21-094 (1) OF 1
 Surface Elevation 981.0' Station & Offset 49+95, CL (REAR ABUTMENT) SURFACE ELEV. 981.0' WAYNE COUNTY, OHIO

Elev.	Std. Pen. Test	Description	Depth (Feet)	SAMPLE NUMBER	Age	CS	FS	SILT	CLAY	LL	PL	W.C.	SPTL Class
		10' CONCRETE BOTTOM OF BRIDGE DECK											
			5										
			10										
			15										
			20										
			25										
			30										
			35										
			40										
		TOP OF CREEK EMBANKMENT	45										
		1-1-1 LOOSE SATURATED BROWNISH GRAY SAND (SP)		SS-1	15	57	25	3				14.1	A-1-b
		15-2-50/5 DENSE, MEDIUM BROWN SANDSTONE		SS-2								3.4	
		DENSE BROWN/GRAY SANDSTONE, CROSS-BEDDED, BROKEN & JOINTED.											
		CORE DATA: RUN 10'-0" RECORDS SEE LOWEST PIECE 14" X 2" DIA.		NX-3									
		END OF BORING - 60'-0"	60										

REVISED 7/20/94

OHIO DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - TESTING LABORATORY
 1600 WEST BROAD STREET COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
 BRIDGE NO. WAY-21-0095
 OVER CHIPPEWA CREEK
 SEC. WAY-21-094

BORING DATA

TYPED BY L.A.O.	CHECKED BY A.F.	REVIEWED BY M.R.S.	DATE 1/11/91
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Date Started 7-29-93 & 8-17-93 Sampler Type S.S. Dia. 2.0" Water Encountered 12'-0" Project I.D. 142-35053
 Date Completed 7-29-93 & 8-17-93 Casing Length 5'-0" Dia. 3.25" Water on Completion 3'-0" BRIDGE NO. WAY-21-0.94 LT & RT
 Surface Elevation 943.5 ± WAYNE COUNTY, OHIO
 Boring No. B-3 Station & Offset 51 + 60.62' RIGHT

Elev.	Std. pen. Test	Description	Depth (Feet)	SAMPLE NUMBER	% Agg.	% C.S.	% F.S.	% SILT	% CLAY	LL	P.I.	W.C.	SHTL Class
	2-2-2	LOOSE, WET TO SATURATED, BROWNISH GRAY SILTY SAND, SOME ORGANICS (FILL)		SS-1								16.4	
	3-4-4			SS-2								15.7	A-2-4
	1-1-1			SS-3								24.5	
	2-2-3	STIFF SATURATED BROWN CLAY, SOME SAND (CL)	10	SS-4								22.8	A-6a
	1-1-1	V/SOFT SATURATED GRAY SILTY CLAY W/ WOOD FRAGMENTS (FILL)	15	SS-5								9.1	A-6a
	2-4-4	MED. DENSE SATURATED GRAY COARSE SAND TRACE GRAVEL (SP)	20	SS-6								25.3	A-1-b
	2-3-4	FIRM SATURATED GRAY CLAYEY SILT, TRACE SAND (ML)	25	SS-7								24.0	
	2-3-4		30	SS-8		3	7	90		24	7	23.3	A-4b
	2-3-4		35	SS-9								23.2	
	2-3-3		40	SS-10								25.9	
	2-3-5		45	SS-11								24.6	
	2-3-4		50	SS-12		2	9	89		27	6	25.8	
	4-4-5		55	SS-13								34.2	
	6-8-9	DENSE SATURATED BROWN COARSE SAND, SOME GRAVEL (SP)	60	SS-14								7.0	A-1-b
	50/4"	V/DENSE MDSL BROWN SANDSTONE		SS-15									
		DENSE GRAY SANDSTONE LAYERED W/ GRAY SILTY CLAY, CROSSBEDDED W/ BROWN SANDSTONE, BROKEN & JOINTED.	65										
		CORE DATA: RUN 10'-0" RECOVERY 75% LONGEST PIECE 14" RQD 15%	70	NX-16									
		END OF BORING - 73'-0"	75										

Date Started 8-2-93 Sampler Type S.S. Dia. 2.0" Water Encountered 11'-0" Project I.D. 142-35053
 Date Completed 8-2-93 Casing Length 5'-0" Dia. 3.25" Water on Completion 4'-0" BRIDGE NO. WAY-21-0.94 LT & RT
 Surface Elevation 944.3 ± WAYNE COUNTY, OHIO
 Boring No. B-4 Station & Offset 51 + 93.68' LEFT

Elev.	Std. pen. Test	Description	Depth (Feet)	SAMPLE NUMBER	% Agg.	% C.S.	% F.S.	% SILT	% CLAY	LL	P.I.	W.C.	SHTL Class
	1-4-3	SLIGHTLY COMPACT, WET, BROWN/BROWNISH GRAY SILTY SAND, SOME ORGANICS, SOME CLAY (FILL)		SS-1								16.9	
	3-4-5			SS-2								30.4	A-2-4
	8-3-3			SS-3	22	50	15	13		26	7	30.8	
	1-1-1		10	SS-4								44.3	
		LOOSE SATURATED BROWN FINE SAND, SOME GRAVEL (SP)											A-1-b
	1-2-1	FIRM SATURATED GRAY CLAYEY SILT, TRACE SAND (ML)	15	SS-5								18.0	
	2-3-4		20	SS-6				100		32	7	26.8	A-4b
	4-3-5		25	SS-7								23.7	
	3-3-4		30	SS-8								25.5	
	3-4-3		35	SS-9								24.1	
	2-3-3		40	SS-10								28.9	
	2-3-4		45	SS-11								24.7	
	50/3"	DENSE BROWN SANDSTONE	50	SS-12								6.7	
		DENSE BROWN/GRAY SANDSTONE, CROSSBEDDED, BROKEN & JOINTED. CORE DATA: RUN 10'-0" RECOVERY 75% LONGEST PIECE 14" RQD 15%	55	NX-13									
		END OF BORING - 71'-0"	60										
			65										
			70										
			75										

REVISED 7/20/94

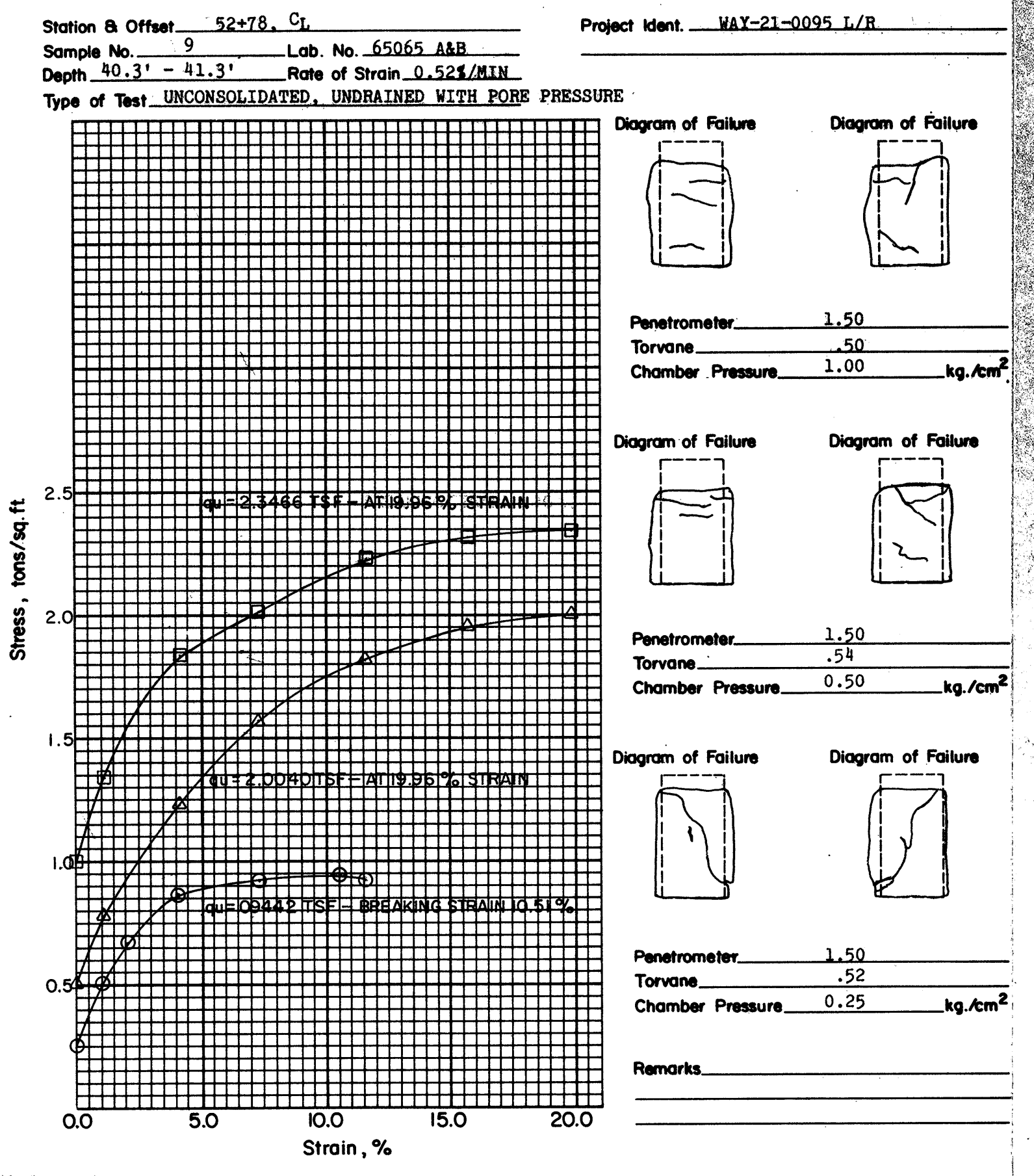
OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS - TESTING LABORATORY 1600 WEST BROAD STREET COLUMBUS, OHIO 43223			
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. WAY-21-0095 OVER CHIPPEWA CREEK			
SEC. WAY-21-0.94			
BORING DATA			
TYPED BY L.A.O.	CHECKED BY A.F.	REVIEWED BY M.R.S.	DATE 1/11/91

LOG OF BORING

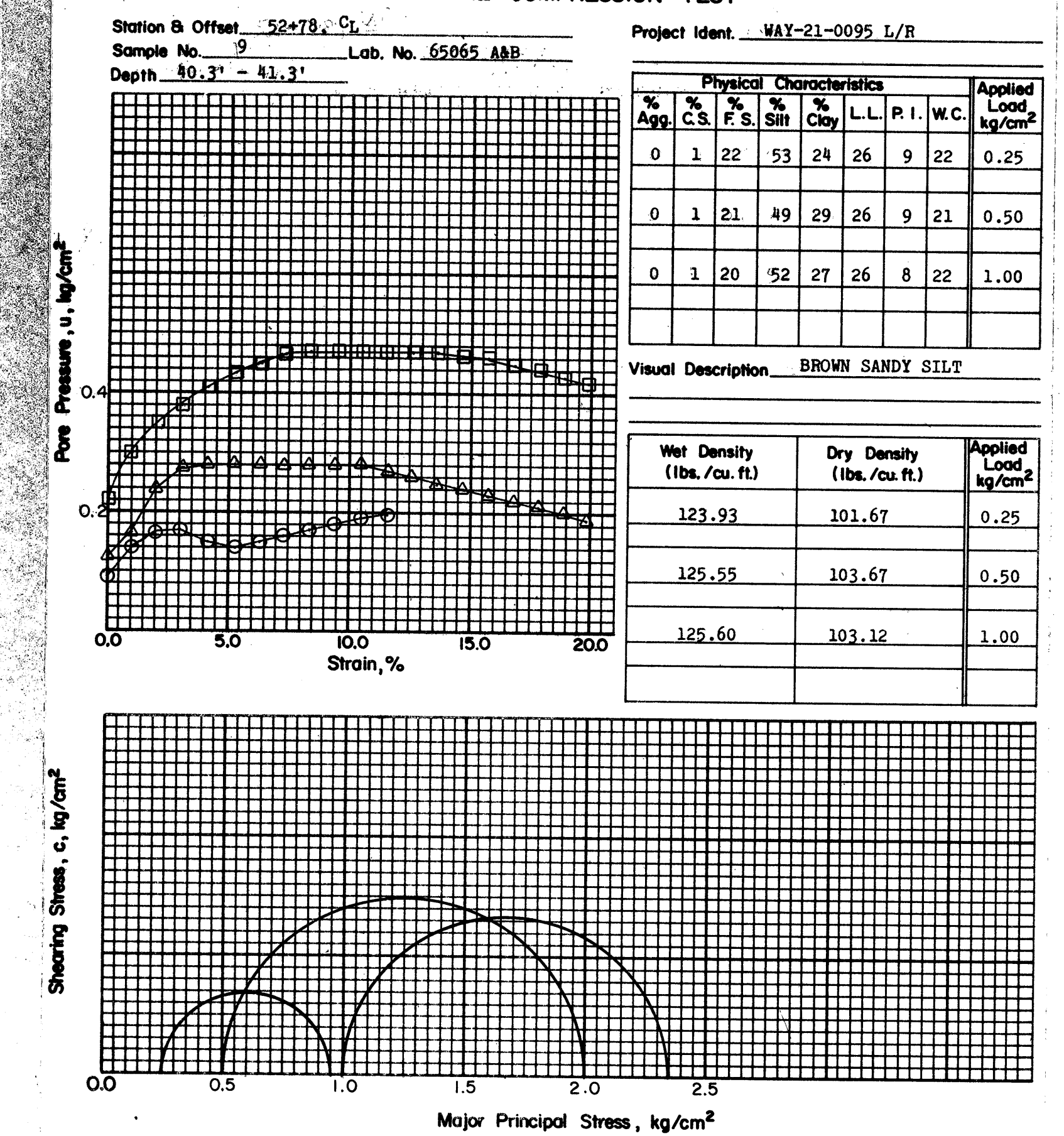
Date Started 12/4/90 Sampler Type SS Dia. 1 3/8" Water Elev. 944.0'
 Date Completed 12/5/90 Boring No. B-5 Station & Offset 52+78, CL (FWD. ABUTMENT) Surface Elev. 974.0'

Elev. Depth	Sta. Per.	Reg. Log	Description	Sample No.	Physical Characteristics								SHTL Class			
					% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.L.	W.C.				
974.0	0															
973.7	2	ADGERED	SOD													VISUAL
969.0	6	7/17/14	BROWN AND GRAY SILTY SANDY GRAVEL	1	42	5	29	15	9	NP	NP	12				A-2-4
964.0	10	13/13/6	BROWN AND GRAY SILTY GRAVELLY SAND	2	35	6	33	16	10	NP	NP	14				A-2-4
959.0	14	70(0.5)	GRAY SILTY GRAVELLY SAND W/COBBLES	3	24	9	44	15	8	NP	NP	7				A-3A
954.0	20	7/16/50	BROWN AND GRAY SILTY GRAVELLY SAND W/COBBLES	4	31	7	41	14	7	NP	NP	8				A-2-4
949.0	26	27/18/7	BROWN AND GRAY SILTY SANDY GRAVEL	5	48	4	38	9	1	NP	NP	6				A-1-B
944.0	30	23/37/27	BROWN AND GRAY SILTY GRAVELLY SAND	6	27	17	42	12	2	NP	NP	7				A-3A
939.0	36	65/37/8	BROWN AND GRAY SILTY GRAVELLY SAND	7	29	18	39	11	3	NP	NP	17				A-3A
936.5	38	8/5/9	GRAY SILT AND CLAY	8	0	3	9	53	33	11	26					A-6A
934.0	40	PRESS	BROWN SANDY SILT	9	0	1	21	51	27	9	22					A-4B
931.5	44	5/6/7	GRAY GRAVELLY SILT	10	17	0	14	53	16	NP	NP	21				A-4B
929.0	46	PRESS	GRAY SILTY SAND	11	10	9	57	18	6	NP	NP	21				A-3A
924.0	50		GRAY SANDY SILT	11A	8	10	32	37	13	NP	NP	20				A-4A
921.5	52	10/27/83	GRAY SANDY SILT	12	11	23	21	24	24	9	21					A-4A
919.0	54	4/4/7	GRAY SILTY CLAY	13	0	1	2	31	66	42	20					A-7-6
914.0	60	2/5/8	GRAY SILT AND CLAY	14	0	0	1	47	52	32	12					A-6A
909.0	66	6/9/11	GRAY SILT	15	0	0	1	66	33	25	6					A-4B
904.0	70	4/8/12	GRAY CLAYEY SILT	16	0	5	12	46	37	24	7					A-4A
899.0	74	5/9/9	GRAY GRAVELLY SILT	17	14	3	8	48	27	24	7					A-4A
897.5	76	4/8/9	GRAY CLAY	18	0	1	1	37	61	40	18					A-6B
	78		BOTTOM OF BORING													

State of Ohio Department of Transportation Division of Highways Testing Laboratory TRIAXIAL COMPRESSION TEST



State of Ohio Department of Transportation Division of Highways Testing Laboratory TRIAXIAL COMPRESSION TEST



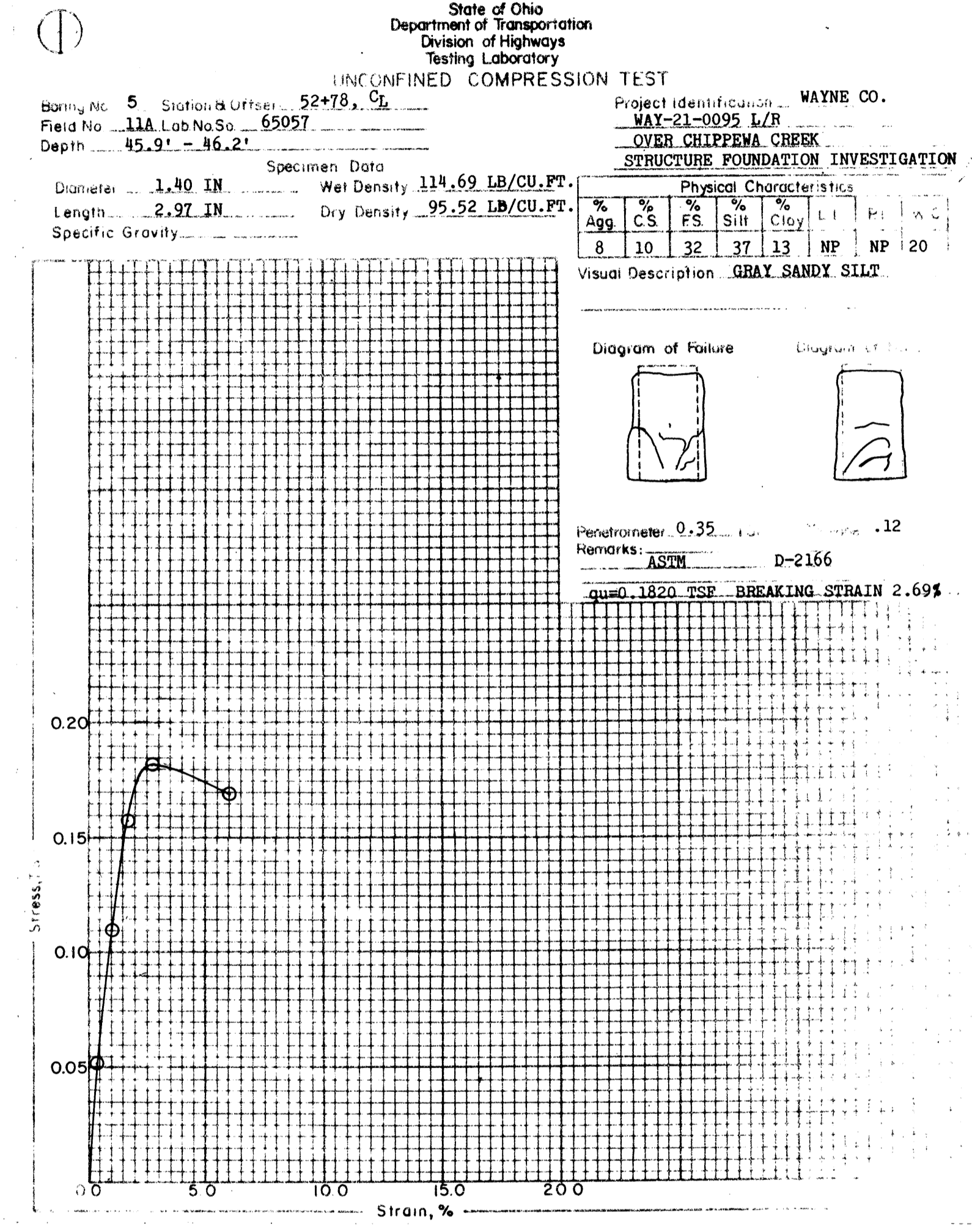
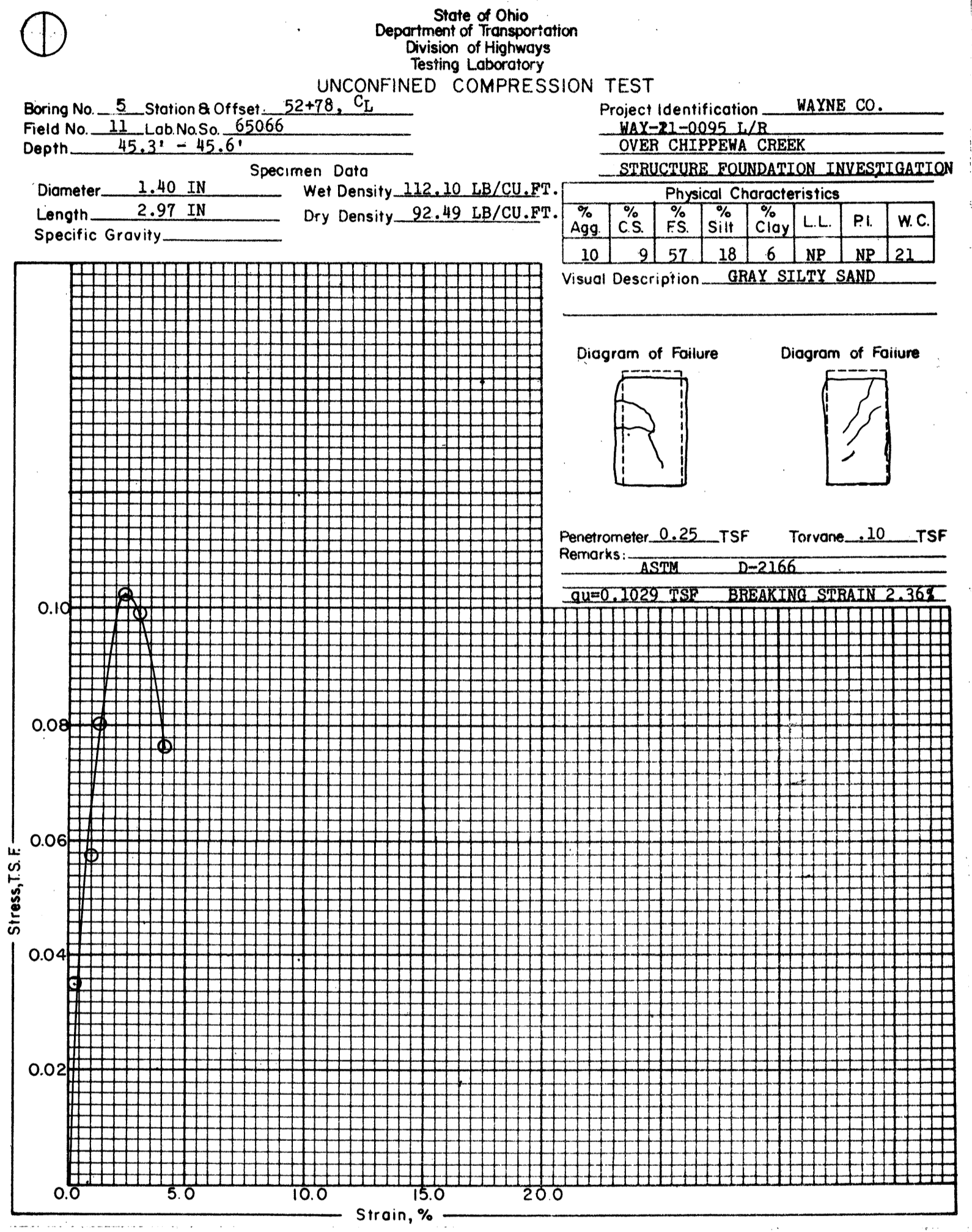
REVISED 7/20/94

OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS - TESTING LABORATORY 1600 WEST BROAD STREET COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. WAY-21-0094 OVER CHIPPEWA CREEK SEC. WAY-21-0.94

BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
L.A.O.	A.F.	M.R.S.	1/11/91



REVISED 7/20/94

OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS - TESTING LABORATORY 1600 WEST BROAD STREET COLUMBUS, OHIO 43223			
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. <u>WAY-21-0095</u>			
SEC. <u>OVER CHIPPEWA CREEK</u>			
WAY-21-0.94			
BORING DATA			
TYPED BY L.A.O.	CHECKED BY A.F.	REVIEWED BY M.R.S.	DATE 1/11/91

GENERAL INFORMATION

INTRODUCTION

THIS REPORT SUMMARIZES THE RESULTS OF SUBSURFACE EXPLORATION STUDIES CONDUCTED IN CONNECTION WITH THE WIDENING OF THE EXISTING STATE OF OHIO, DEPARTMENT OF TRANSPORTATION BRIDGE NO.: WAY-21-0.94 L & R LOCATED ALONG STATE ROUTE 21, OVER CHIPPEWA CREEK, WAYNE COUNTY, OHIO.

SITE GEOLOGY

WAYNE COUNTY IS LOCATED WITHIN THE GLACIATED PLATEAU PHYSIOGRAPHIC PROVINCE. THE BEDROCK WHICH UNDERLIES THIS AREA IS MISSISSIPPIAN IN AGE AND CONSISTS PRIMARILY OF SHALES AND SANDSTONES. THE OVERBURDEN SOILS ARE GLACIAL IN ORIGIN INVOLVING GROUND MORAINES AND END MORAINES OF THE WISCONSINIAN GLACIATION.

EXPLORATION

STRUCTURAL TEST BORINGS WERE ADVANCED BY ROTARY-DRIVE DRILLING PROCEDURES EMPLOYING 6.0-INCH O.D., 3.25-INCH I.D. HOLLOW STEM CONTINUOUS FLIGHT AUGERS. REPRESENTATIVE SAMPLES OF THE AREA'S VARIOUS SUBSURFACE FORMATIONS WERE TAKEN BY MEANS OF A TWO (2)-INCH O.D. SPLIT SPOON SAMPLING DEVICE, DRIVEN BY A 140-POUND HAMMER, FREE FALLING THROUGH A DISTANCE OF THIRTY (30) INCHES.

IN THE LABORATORY, REPRESENTATIVE SAMPLES OF THE SUBSURFACE SOILS WERE CLASSIFIED IN ACCORDANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION TESTING LABORATORY CLASSIFICATION OF SOILS PROCEDURES. PARTICLE SIZE ANALYSIS AND ATTERBERG LIMITS DETERMINATIONS AND UNCONFINED COMPRESSIVE STRENGTH TESTS WERE PERFORMED IN ACCORDANCE WITH APPLICABLE ASTM STANDARD METHODS.

DESCRIPTION OF SUBSURFACE MATERIALS

THE RESULTS OF THE FIELD DRILLING OPERATIONS HAVE BEEN DETAILED ON THE TEST BORING LOGS AND CAN BE SUMMARIZED AS FOLLOWS:

B-1 - DRILLED FIFTEEN (15) FEET WEST OF WAY-21-0.94 LT FORWARD PIER

B-2 - DRILLED IMMEDIATELY NORTH OF WAY-21-0.94 LT REAR PIER

B-3 - DRILLED FIFTEEN (15) FEET EAST OF WAY-21-0.94 RT FORWARD PIER

AT BORING LOCATION B-2, THE EXISTING BRIDGE DECK CONSISTS OF ABOUT TEN (10) INCHES OF CONCRETE. FROM THE TOP OF THE BRIDGE TO THE BOTTOM OF THE BRIDGE IS ABOUT FORTY-FOUR (44) FEET.

UNDERLYING THE TOP OF CREEK EMBANKMENT, I.E., APPROXIMATELY FORTY-FIVE (45) FEET FROM THE TOP OF THE BRIDGE DECK AT BORING LOCATION B-2, BROWN SAND AND GRAVEL WAS FOUND TO BE PRESENT UP TO A DEPTH OF FORTY-EIGHT AND ONE-HALF (48 1/2) FEET BELOW THE BRIDGE DECK SURFACE WAS ENCOUNTERED.

AT BORING LOCATION B-2, THE BOTTOMMOST FORMATION CONSISTS OF BROWN/GRAY SANDSTONE.

UNDERLYING SURFACE GRADES AT BORING LOCATIONS B-1 AND B-3, FILL MATERIALS CONSISTING OF BROWNISH GRAY/BROWN/GRAY SILTY SAND AND/OR SILTY CLAY CONTAINING VARIABLE FRACTIONS OF ORGANICS, SAND AND WOOD FRAGMENTS WERE FOUND TO BE PRESENT UP TO DEPTHS OF ABOUT ELEVEN (11) AND SEVENTEEN AND ONE-HALF (17 1/2) FEET BELOW THE SURFACE GRADES, RESPECTIVELY.

UNDERLYING THE FILL MATERIALS, BROWN-GRAY FINE AND/OR COARSE SAND CONTAINING VARIABLE FRACTIONS OF GRAVEL WAS ENCOUNTERED UP TO DEPTHS OF ABOUT FOURTEEN (14) AND TWENTY-TWO (22) FEET BELOW THE SURFACE GRADES AT BORING LOCATIONS B-1 AND B-3, RESPECTIVELY.

UNDERLYING SAND AT BORING LOCATIONS B-1 AND B-3, AREA'S PREDOMINANT SUBSURFACE FORMATION CONSISTING OF GRAY CLAYEY SILT CONTAINING VARIABLE FRACTIONS OF SAND WAS INDICATED UP TO DEPTHS OF ABOUT FORTY-EIGHT (48) AND FIFTY-SEVEN (57) FEET BELOW THE SURFACE GRADES.

UNDERLYING CLAYEY SILT AT BORING LOCATION B-3, BROWN COARSE SAND AND GRAVEL WAS FOUND TO BE PRESENT UP TO A DEPTH OF ABOUT SIXTY-ONE (61) FEET BELOW THE SURFACE GRADE.

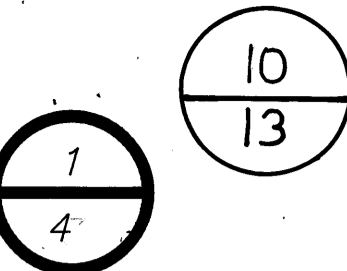
AT BORING LOCATIONS B-1 AND B-3, THE BOTTOMMOST FORMATIONS CONSIST OF BROWN/GRAY SANDSTONE.

THE SUBSURFACE GRANULAR MATERIALS EXHIBITED LOOSE TO DENSE RELATIVE DENSITY STATES, WHILE THE COHESIVE MATERIALS EXHIBITED SOFT TO STIFF STRUCTURAL STATES. CONSISTENCIES OF THE SUBSURFACE MATERIALS WERE FOUND TO RANGE FROM MOIST TO SATURATED.

NOTE

INFORMATION SHOWN ON THIS PROFILE SHEET WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA, AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLAN GOVERNING CONSTRUCTION OF THIS PROJECT.

FHWA REGION	STATE	PROJECT	DATE
	OHIO	BRIDGE NO. WAY-21-0.94 LT	8-2-93



WAYNE COUNTY WAY-21-0.94 LT

LEGEND

	Gravel and/or Stone Fragments	(A - 1 - a)	
	Gravel and/or Stone Fragments with Sand	(A - 1 - b)	
	Fine Sand	(A - 3)	
	Coarse and Fine Sand	(A - 3a)	
	Gravel and/or Stone Fragments with Sand and Silt	(A - 2 - 4) & (A - 2 - 5)	
	Gravel and/or Stone Fragments with Sand, Silt and Clay	(A - 2 - 6) & (A - 2 - 7)	
	Sandy Silt	(A - 4a)	
	Silt	(A - 4b)	
	Elastic Silt and Clay	(A - 5)	
	Silt and Clay	(A - 6a)	
	Silty Clay	(A - 6b)	
	Elastic Clay	(A - 7 - 5)	
	Clay	(A - 7 - 6)	
	Shale		
	Weathered Shale		X Number of Blows for 12"
	Sandstone		
	Limestone		
	Mudstone		
	Random Fill		
	Various Other Materials		
	Dolomite		
	Leached Limestone		
	Leached Dolomite		
	Peat		

PSI Professional Service Industries, Inc. Geotechnical • Environmental Services • Engineering Materials Testing • Roof Consulting • Analytical Services		
SCALE : NTS	APPROVED BY : A.V.	DRAWN BY : MTG
DATE : 11-7-93		REVISED :
CLIENT : FINKBEINER, PETTIS & STROUT, LIMITED		
PROJECT NAME : BRIDGE REPLACEMENT BRIDGE NO. WAY-21-0.94 LT WAYNE COUNTY, OHIO	DRAWING NUMBER : 142-35053	

FHWA REGION	STATE	PROJECT	DATE
	OHIO	BRIDGE NO. WAY-21-0.94 LT & RT	7-29-93

WAYNE COUNTY WAY-21-0.94 LT & RT

Date Started 8-2-93 Sampler Type S.S. Dia. 2.0" Water Encountered 11'-0" Project I.D.: 142-35053
 Date Completed 8-2-93 Casing Length 5'-0" Dia. 3.25" Water on Completion 4'-0" BRIDGE NO.: WAY-21-0.94 LT & RT
 Surface Elevation 944.3 ± WAYNE COUNTY, OHIO

Boring No: B-1 Station & Offset 51 + 93, 68' LEFT

Elev.	Std. pen. Test	Description	Depth (Feet)	SAMPLE NUMBER	% Agg.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	SHTL Class	
	1-4-3	SLIGHTLY COMPACT, WET BROWN, BROWNISH GRAY SILTY SAND, SOME ORGANICS, SOME CLAY. (FILL)	5	SS-1	22	50	15	13	--	26	7	16.9	A-2-4	
	3-4-5		5	SS-2								30.4		
	8-3-3		5	SS-3								30.8		
	1-1-1		10	SS-4								44.3		
		LOOSE, SATURATED, BROWN FINE SAND, SOME GRAVEL. (SP)											A-1-b	
	1-2-1	FIRM SATURATED, GRAY CLAYEY SILT, TRACE SAND. (ML)	15	SS-5								18.0		
	2-3-4		20	SS-6	--	--	--	100	--	32	7	26.8	A-4b	
	4-3-5		25	SS-7								23.7		
	3-3-4		30	SS-8								25.5		
	3-4-3		35	SS-9								24.1		
	2-3-3		40	SS-10								28.9		
	2-3-4		45	SS-11								24.7		
	50/3"		DENSE, BROWN SANDSTONE.	50	SS-12								6.7	
			DENSE, BROWN/GRAY SANDSTONE, CROSS-BEDDED, BROKEN & JOINTED.											
			CORE DATA: RUN 10'-0" RECOVERED 7'0" LONGEST PIECE 18" R.O.B.: 68'	55	NX-13									
			END OF BORING - 60'-0"	60										

Date Started 8-2-93 Sampler Type S.S. Dia. 2.0" Water Encountered 47'-0" Project I.D.: 142-35053
 Date Completed 8-2-93 Casing Length 5'-0" Dia. 3.25" Water on Completion 47'-0" BRIDGE NO.: WAY-21-0.94 LT & RT
 Surface Elevation 980.0 ± WAYNE COUNTY, OHIO

Boring No: B-2 Station & Offset 50 + 92, 34' LEFT

Elev.	Std. pen. Test	Description	Depth (Feet)	SAMPLE NUMBER	% Agg.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	SHTL Class
		10" CONCRETE BOTTOM OF BRIDGE DECK	5										
			10										
			15										
			20										
			25										
			30										
			35										
			40										
			45										
	1-1-1	TOP OF CREEK EMBANKMENT LOOSE, SATURATED, BROWNISH GRAY SAND. (SP)	45	SS-1	15	57	25	3	--	--	--	14.1	A-1-b
		DENSE, WET BROWN SANDSTONE.	50	SS-2	--	--	--	--	--	--	--	3.4	--
		DENSE, BROWN/GRAY SANDSTONE, CROSS-BEDDED, BROKEN & JOINTED.											
		CORE DATA: RUN 10'-0" RECOVERED 7'0" LONGEST PIECE 18" R.O.B.: 68'	55	NX-3									
		END OF BORING - 60'-0"	60										

Date Started 7-29-93 & 8-17-93 Sampler Type S.S. Dia. 2.0" Water Encountered 12'-0" Project I.D.: 142-35053
 Date Completed 7-29-93 & 8-17-93 Casing Length 5'-0" Dia. 3.25" Water on Completion 3'-0" BRIDGE NO.: WAY-21-0.94 LT & RT
 Surface Elevation 943.5 ± WAYNE COUNTY, OHIO

Boring No: B-3 Station & Offset 51 + 60, 62' RIGHT

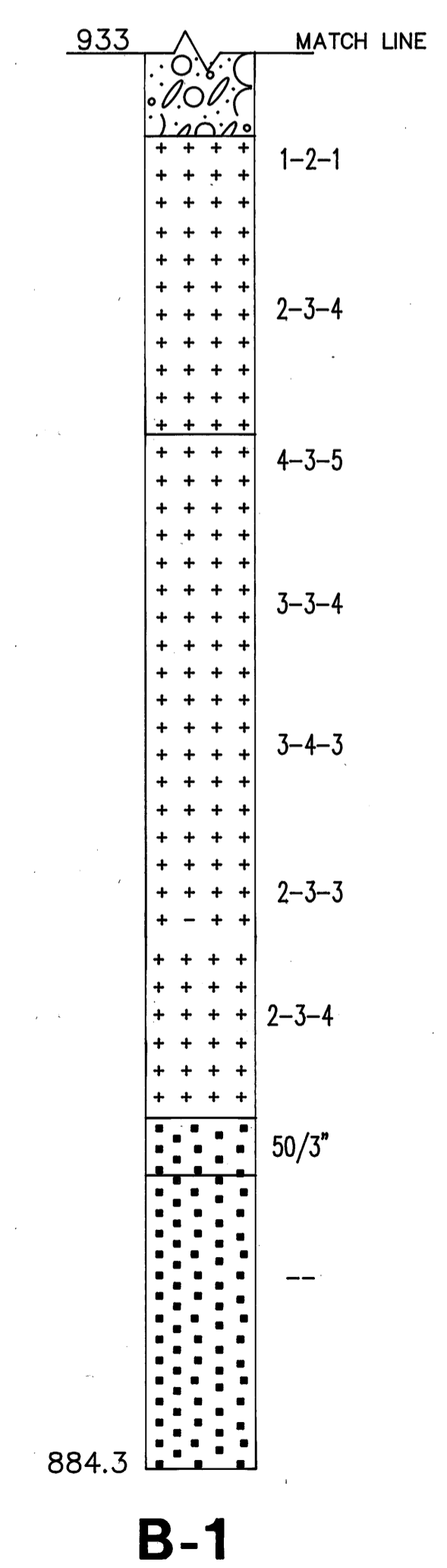
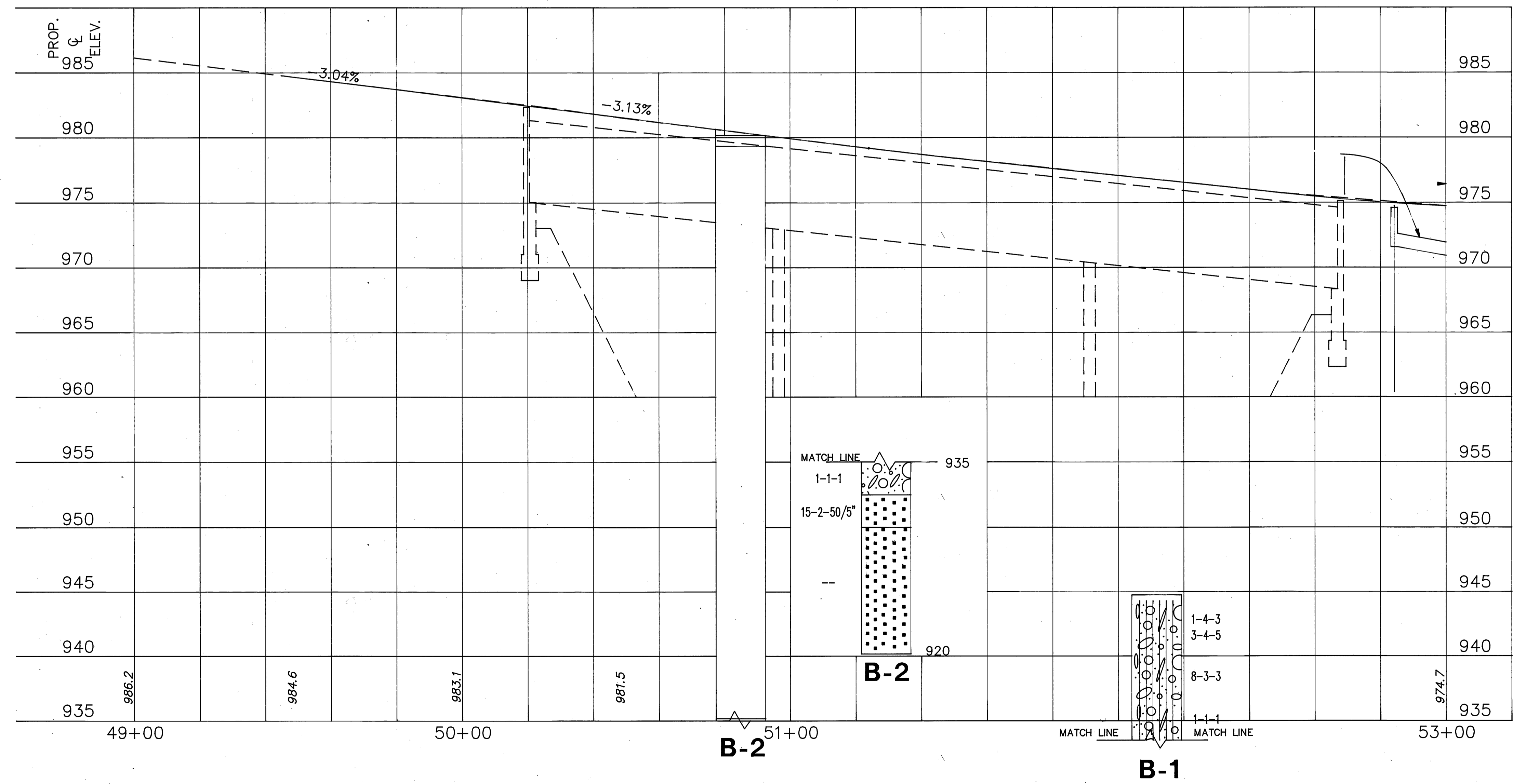
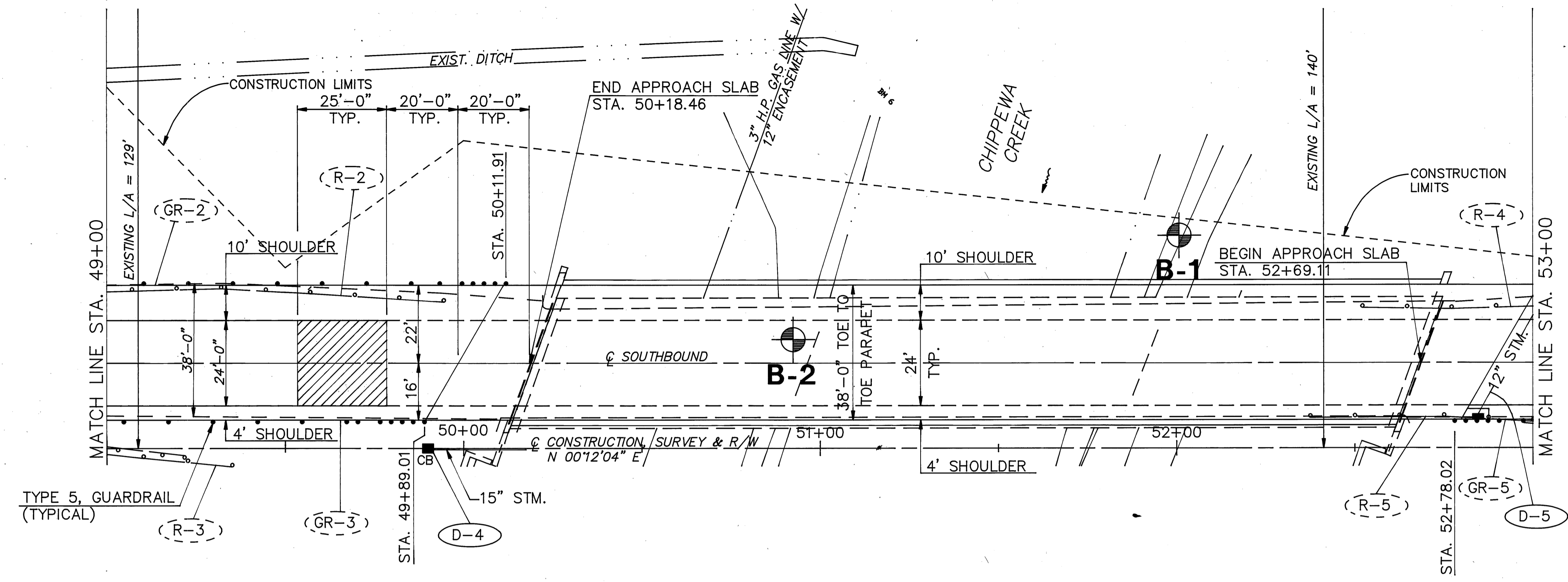
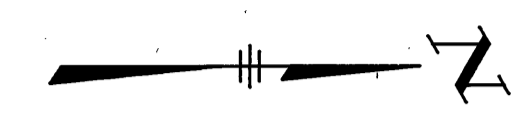
Elev.	Std. pen. Test	Description	Depth (Feet)	SAMPLE NUMBER	% Agg.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	SHTL Class
	2-2-2	LOOSE, WET TO SATURATED, BROWNISH GRAY SILTY SAND, SOME ORGANICS. (FILL)	5	SS-1								16.4	A-2-4
	3-4-4		5	SS-2								15.7	
	1-1-1		5	SS-3								24.5	
	2-2-3	STIFF, SATURATED, BROWN SILTY CLAY, SOME SAND. (CL)	10	SS-4								22.8	A-6a
	1-1-1		15	SS-5								9.1	A-6a
	2-4-4		20	SS-6								25.3	A-1-b
	2-3-4		25	SS-7								24.0	
	2-3-4		30	SS-8		3	7	90	--	24	7	23.3	A-4b
	2-3-4		35	SS-9								23.2	
	2-3-3		40	SS-10								25.9	
	2-3-5		45	SS-11								24.6	
	2-3-4		50	SS-12	--	2	9	89	--	27	6	25.8	
	4-4-5		55	SS-13								34.2	
	6-8-9		DENSE, SATURATED, BROWN COARSE SAND, SOME GRAVEL. (SP)	60	SS-14	--	--	--	--	--	--	--	7.0
	50/4"	W/DENSE, MOST, BROWN SANDSTONE											
		DENSE, GRAY SANDSTONE LAYERED W/ GRAY SILTY CLAY, CROSS-BEDDED W/ BROWN SANDSTONE, BROKEN & JOINTED.											
		CORE DATA: RUN 10'-0" RECOVERED 7'0" LONGEST PIECE 14" R.O.B.: 58'	70	NX-16									
		END OF BORING - 73'-0"	75										

PSI Professional Service Industries, Inc.
 Geotechnical • Environmental Services • Engineering
 Materials Testing • Roof Consulting • Analytical Services

SCALE: NTS	APPROVED BY: A.V.	DRAWN BY: MTG
DATE: 11-7-93		REVISED:
CLIENT: FINKBEINER, PETTIS & STROUT, LIMITED		
PROJECT NAME: BRIDGE REPLACEMENT BRIDGE NO. WAY-21-0.94 LT & RT WAYNE COUNTY, OHIO		DRAWING NUMBER: 142-35053

FHWA REGION	STATE	PROJECT	DATE
	OHIO	BRIDGE NO. WAY-21-0.94 LT & RT	7-29-93

**WAYNE COUNTY
WAY-21-0.94 LT**



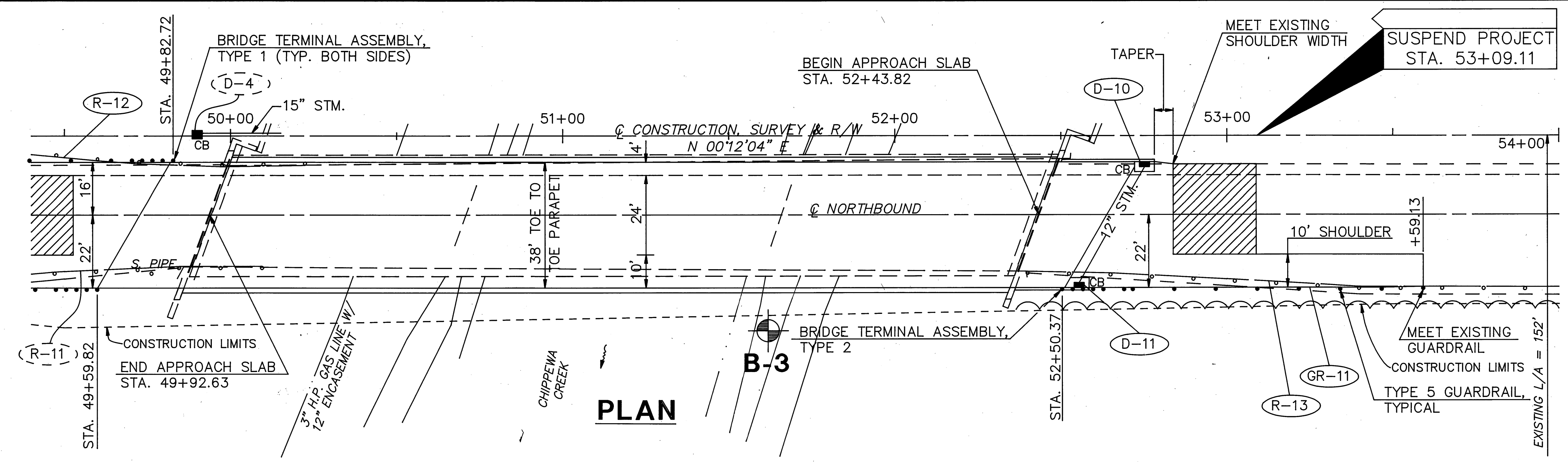
PSI Professional Service Industries, Inc.
 Geotechnical • Environmental Services • Engineering
 Materials Testing • Roof Consulting • Analytical Services

SCALE : 1"=20'-0"	APPROVED BY :	DRAWN BY : MTG
DATE : 11-7-93	A.V.	REVISED :
CLIENT : FINKBEINER, PETTIS & STROUT, LIMITED		
PROJECT NAME : BRIDGE REPLACEMENT BRIDGE NO. WAY-21-0.94 LT WAYNE COUNTY, OHIO		DRAWING NUMBER : 142-35053

FHWA REGION	STATE	PROJECT	DATE
	OHIO	BRIDGE NO. WAY-21-0.94 LT & RT	11-7-93

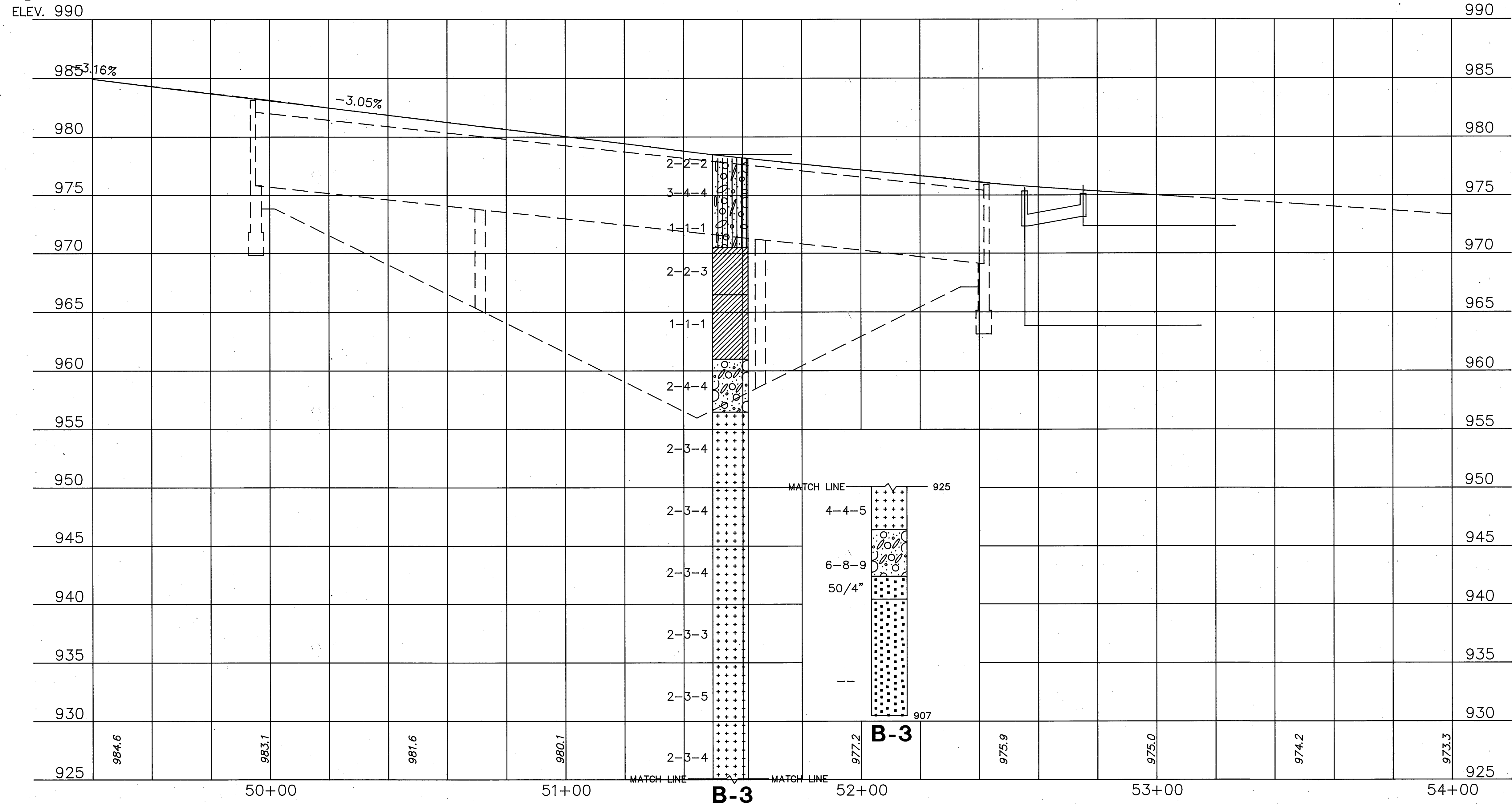
4
4

**WAYNE COUNTY
WAY-21-0.94 RT**



PLAN

PROP. ELEV. 990



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SCALE: 1"=20'-0"	APPROVED BY:	DRAWN BY: MTG
DATE: 11-7-93	A.V.	REVISED:
CLIENT: FINKBEINER, PETTIS & STROUT, LIMITED		
PROJECT NAME: BRIDGE REPLACEMENT BRIDGE NO. WAY-21-0.94 RT WAYNE COUNTY, OHIO		DRAWING NUMBER: 142-35053