

MICROFILMED
OCT 23 1994

DESIGN DESIGNATION

Current A.D.T. (1981)=1300

Design Year A.D.T.(2001)=2752

D.H.V. = 440

D. = 60 %

T. = 11 %

V. = 40 MPH

NOV 24 1995

STATE OF OHIO DEPARTMENT OF TRANSPORTATION TUS-258-3.89 OXFORD TOWNSHIP TUSCARAWAS COUNTY

FHWA REGION	STATE	PROJECT
5	OHIO	BRS-871(1)

TUS-258-3.89

17

BRS-871(1)

CONVENTIONAL SIGNS

Township Line _____
Section Line _____
Center Line _____
Fence Line _____
Guard Rail (proposed) _____
Guard Rail (existing) _____

Poles _____ Telephone ϕ _____ Power ϕ _____
Trees & Stumps Existing $\odot$ _____
Property Line _____
Right of Way Line _____
Existing Right of Way Line _____

INDEX OF SHEETS

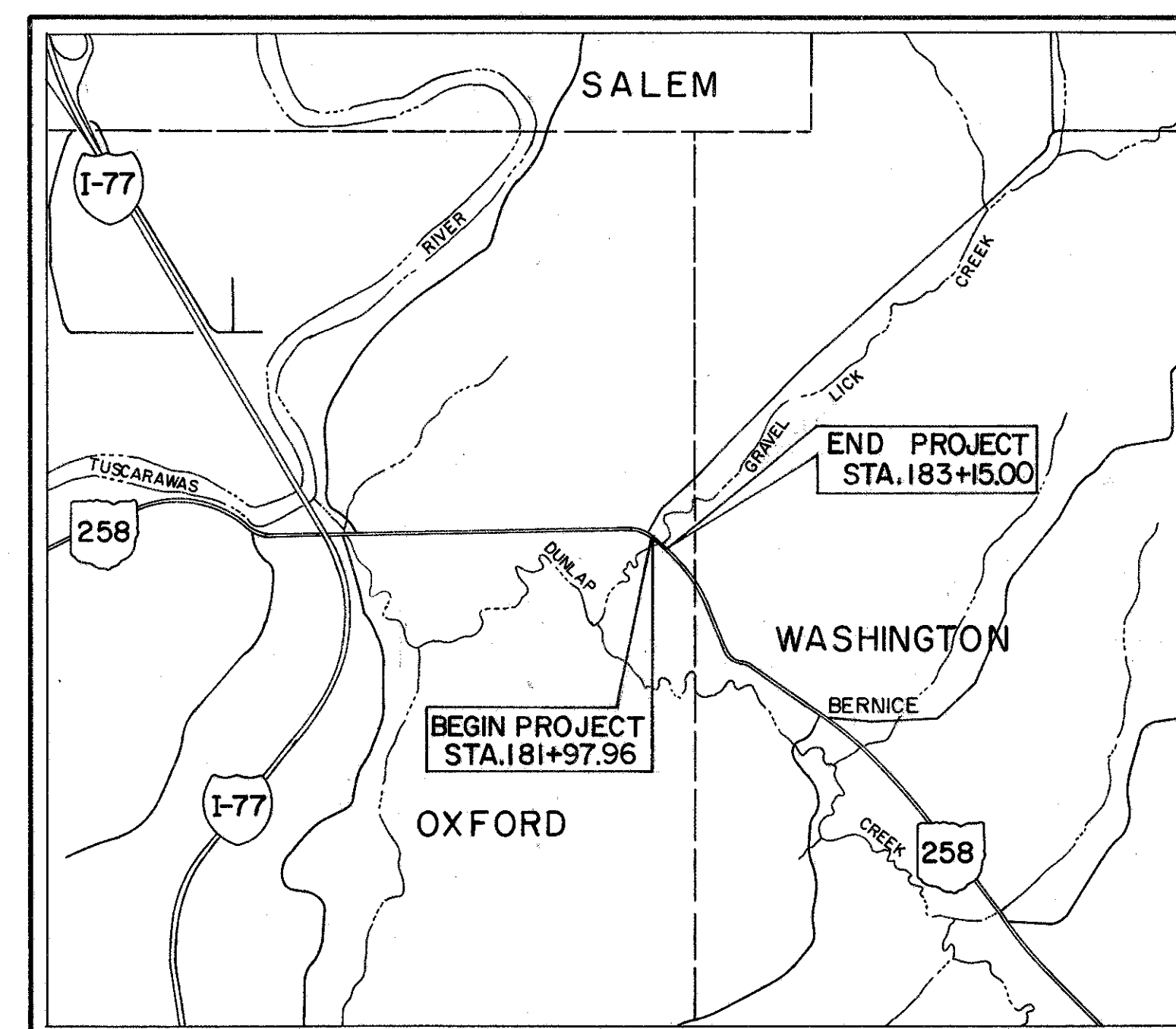
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Structure over 20' Span	9-16
Right of Way	17

LINE DATA

Begin Project Sta. 181+97.96
End Project Sta. 183+15.00
Length of Project 117.04 Lin.Ft. or 0.022 Mi.

Begin Work Sta. 180+50
End Work Sta. 184+50
Length of Work 400.00 Lin.Ft. or 0.075 Mi.

UNDERGROUND UTILITIES
48 HOURS
BEFORE YOU DIG
Call 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY



LOCATION MAP

SCALE IN FEET
2000 0 2000 4000 6000

Portion to be improved _____
State & Federal Routes _____
Other Roads _____

SCALES

Plan _____
Profile: _____ Horizontal _____ Vertical _____
Cross Section: Horizontal _____ Vertical _____

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
BP-5	7-16-81	MC-3	6-1-73
GR-1	2-5-82		
GR-2B	2-5-82		
GR-3	2-5-82		
GR-4	2-5-82		
		AS-1-81	11-27-81
		CPA-2-73	4-10-73
		CPP-2-73	4-10-73
		CS-2-73	4-10-73
		DBR-2-73	4-10-73

SUPPLEMENTAL SPECIFICATIONS	
836	3-12-75
1001	1-3-77

1981 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 maintenance and safety of traffic will be as set forth in these plans and estimates.

Approved _____
Date 7-28-82 District Deputy Director of Transportation

Approved _____
Date 8-19-82 Engineer, Bureau of Bridges and Structural Design

Approved _____
Date 9-27-82 Chief Engineer, Planning and Design (Acting)

Approved _____
Date 9-28-82 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

DATE

Project: TUS-258-3.89

Date of Letting _____ 19____, Contract No. _____

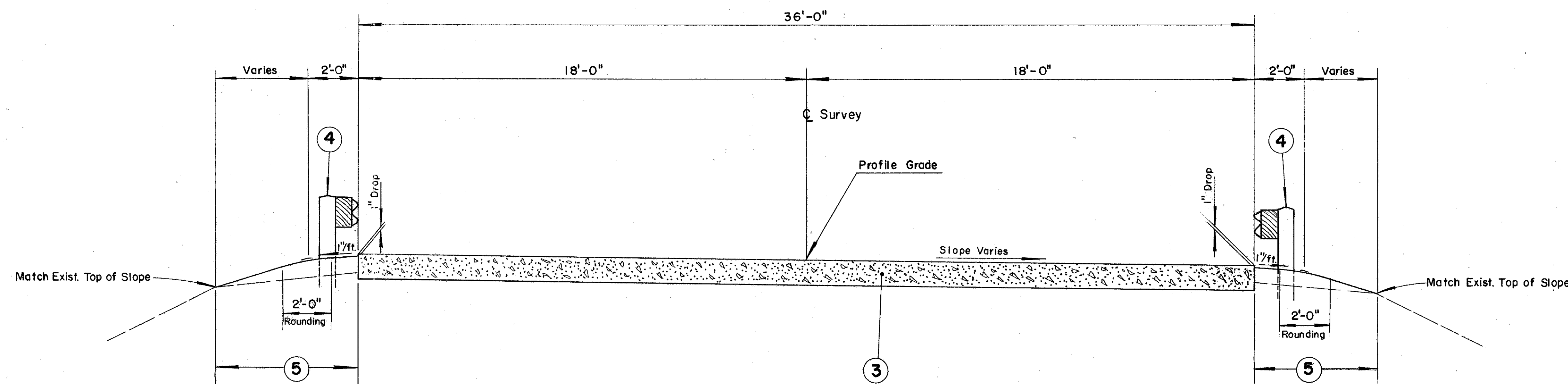
TYPICAL SECTIONS

FHWA REGION	STATE	PROJECT	
5	OHIO		

2
17

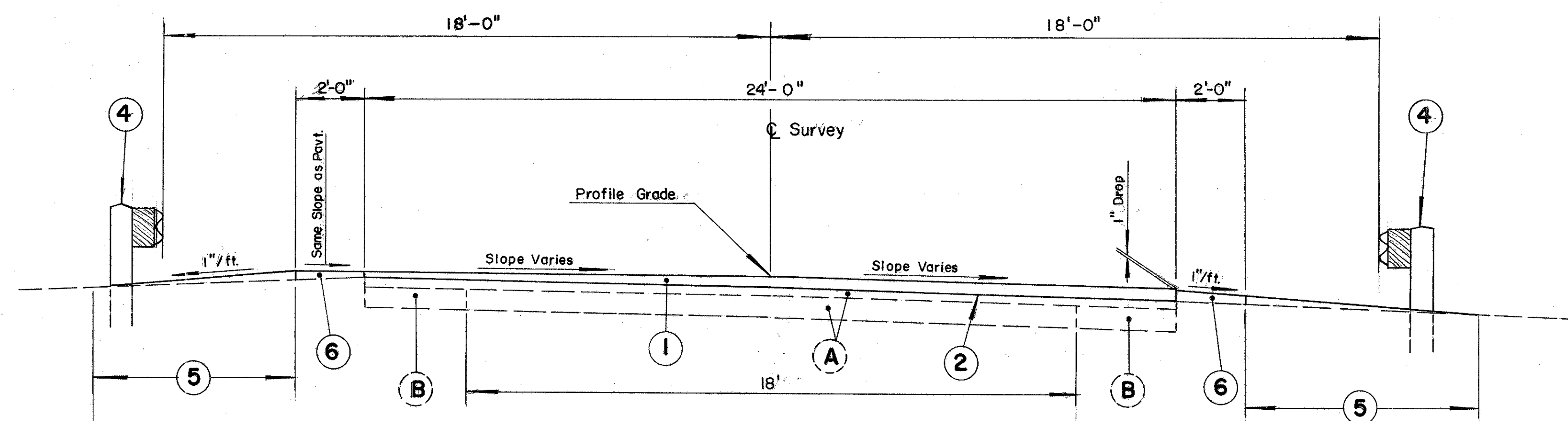
TUS-258-3.89

SCALE IN FEET
3 2 1 0 3



APPROACH SLAB SECTION

STA. 181 + 97.96 to STA. 182 + 12.96
STA. 183 + 00.00 to STA. 183 + 15.00



PAVEMENT SECTION

Feathering With Item 404 { STA. 181 + 25 to STA. 181 + 50
STA. 183 + 40 to STA. 183 + 50

STA. 181 + 50.00 to STA. 181 + 97.96 *
STA. 183 + 15.00 to STA. 183 + 40.00 *

— LEGEND —

- ① — Item 404 Asphalt Concrete, AC-20 (Variable Thickness) *
- ② — Item 407 Tack Coat Applied At The Rate Of 0.10 Gal. Per Sq. Yd. & Cover Aggregate, 703.06.
- ③ — Item 611 Reinforced Concrete Approach Slab (T=12")
- ④ — Item 606 Guardrail, Type 5
- ⑤ — Item 659 Seeding and Mulching, See General Notes, Sheet No. 3
- ⑥ — Item 617 Compacted Aggregate

- Ⓐ — Existing Asphalt Concrete Surface and Reinforced Concrete Base
- Ⓑ — Existing Bituminous Aggregate Base

* The Contractor shall build up the pavement using Item 404 material within 1/4" of the finished elevations, as shown on Sh. No. 6. A uniform surface course of 1 1/4" Item 404 shall be constructed within the limiting stations indicated on the typical section.

GENERAL NOTES

Calculated By	Checked By
W.F.P.	F.T.P.
7-16-82	7-23-82

FHWA REGION	STATE	PROJECT	
5	OHIO		

3
17

TUS - 258-3.89

MOBILIZATION, AS PER PLAN: The Contractor shall provide a suitable field office having a minimum of 300 sq. ft. of floor space which shall be in accordance with 619.01 and 619.02. Payment for the above shall be included in the lump sum price bid for Item 624 Mobilization, as per plan.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS: The rounded corners shown on the typical sections, apply to all cross sections even though otherwise shown on these plans.

ELEVATION DATUM: All elevations refer to U.S.G.S. datum.

CLEARING AND GRUBBING: Although there are no trees and/or stumps specifically marked for removal within the limits of this project, a lump sum quantity has been included in the General Summary for Item 201, Clearing And Grubbing. All provisions as set forth in the specifications under this item shall be followed and all cost shall be included in the lump sum price bid for Item 201, Clearing And Grubbing.

LOCATIONS OF GUARDRAIL: The locations of guardrail runs as shown in these plans, are subject to adjustment prior to final acceptance. The Engineer shall be satisfied that all installations will afford maximum protection for traffic.

CONTINGENCY QUANTITIES: The Contractor shall not order materials or perform work for plan items set up to be used "as directed by the Engineer" unless authorized by the Engineer. The actual work locations and quantities used at the Engineer's discretion shall be made a matter of record by incorporation into the final change order governing completion of this project.

UNDERGROUND UTILITIES: The locations of the underground utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed that they are essentially correct, but the State of Ohio does not guarantee their accuracy or completeness.

UTILITIES: The Contractor shall notify, at least 7 working days before breaking ground, all public service corporations having wires, poles, conduit, manholes or other structures, which may be affected by the operation. He shall conduct his operations in such a manner to avoid damages to any and all utilities. Any and all work required for public or private utilities will be done by and at the expense of their respective owners, otherwise noted on these plans.

Following is a list of the owners of utilities known to be within the area of this project:

Ohio Bell Telephone Co.
150 East Gay St.
Columbus, Ohio 43215
Telephone 614-223-8262

Guernsey Muskingum Electric Co-op
27 N. Main St.
New Concord, Ohio 43762
Telephone 614-826 7661

Leslie Oil & Gas Co.
Suite 450, 6230 Bush Road
Columbus, Ohio 43229
Telephone 614-888-1181

U.S. Fuel Development Co.
1445 W. Goodale Blvd.
Columbus, Ohio 43212
Telephone 614-486-0869

At least 48 hours before digging, the Contractor shall call the Ohio Utilities Protection Service, toll-free, 800-362-2764. Non-member utility companies must be called directly.

SEEDING: Quantities for seeding are calculated for the soil areas between the work limits, as shown on the cross sections.

GUARDRAIL REMOVED FOR STORAGE, AS PER PLAN: In addition to the requirements of 202.07 of the Specifications this item shall include the removal of designated Standard Type A, Anchor Assemblies. The removal of the Standard Type A Anchor Assemblies shall include the complete removal of the guardrail element, concrete encased posts and concrete anchor.

Guardrail elements, standard terminals, blockouts, and miscellaneous hardware shall be stored at the site on the Right of Way as directed by the Engineer for removal by State Forces. All posts and concrete removed shall become the property of the contractor and be disposed of by him.

Payment for the above shall be included in the unit price bid per Lin. Ft. of Item 202 Guardrail Removed for Storage, as per plan.

TEMPORARY STREAM CROSSING FORDS: Where stream crossing fords are required for equipment crossings, the following shall apply to the Contractor's operations:

The crossing shall consist of clean non-toxic granular or rock material, properly maintained to prevent erosion with provisions for conveyance of anticipated high flows.

Futhermore, it shall follow Part 323.4-3 Specific Categories of Discharges - Nationally Permitted, paragraph (3) Minor ROAD Crossing Fills - of the Federal Register - Corps of Engineers Final Regulations published July 19, 1977.

407 TACK COAT: The Tack Coat and Cover Aggregate Operation shall be determined as per Spec. 407.05. Plan quantities indicate average application rates of 0.10 gallons per square yard of Tack Coat and 7 pounds per square yard of Cover Aggregate for estimating purposes only.

WATERING SEEDED AREAS: The following estimated quantities are to be used as directed by the Engineer to promote growth and to care for the seeded areas, as per 659.09.

659 Water 2 M. Gal.

MAINTAINING TRAFFIC: The Contractor shall maintain traffic at all times in accordance with the requirements of Item 614. Two way traffic shall be maintained at all times by use of the existing pavement or Item 615 Temporary Roads using class B pavement and Item 502 Temporary Structure.

One way traffic as required by the work shall be held to an absolute minimum and shall be subject to the approval of the Engineer at all times.

Signing on the Temporary Runaround should conform to Plan C-24, page 7-58, latest revision of the MUTCD.

Payment for all the above except Items 502 and 615 shall be included in the price bid for Item 614 Maintaining Traffic.

614 TEMPORARY PAVEMENT MARKINGS

GENERAL

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

THE MARKINGS SHALL BE MAINTAINED IN GOOD CONDITION DURING THE REQUIRED SERVICE PERIOD TO PROVIDE DAY AND NIGHT VISIBILITY. THE MARKINGS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER TO MAINTAIN REQUIRED VISIBILITY AT NO ADDITIONAL COST TO THE STATE.

MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE OF PAINT OR PAVEMENT MARKING TAPE.

A. PAINT

PAINT SHALL COMPLY WITH 708.14 AND SHALL BE APPLIED IN ACCORDANCE WITH 621 EXCEPT AS MODIFIED HEREIN.

B. PAVEMENT MARKING TAPE

FLEXIBLE RETROREFLECTIVE PREFORMED PRESSURE SENSITIVE TAPE SHALL HAVE STRAIGHT EDGES AND BE FREE OF CRACKS. THE TAPE SHALL CONSIST OF PIGMENT AND FILLERS WITH SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING A REFRACTIVE INDEX MEETING THE MINIMUM REFLECTIVE INTENSITY STANDARD STATED IN THE MANUFACTURERS INFORMATION. THE TAPE SHALL BE FLEXOLITE "WET REFLECTIVE", 3M "SCOTCHLANE", OR AN APPROVED EQUAL.

THE GLASS BEADS SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE TAPE WITH SUFFICIENT SURFACE BEADS TO PROVIDE OPTIMUM REFLECTORIZATION AT ALL TIMES.

PAVEMENT MARKING TAPE SHALL COMPLY WITH THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL HAVE A PRECOATED ADHESIVE LAYER FOR PAVEMENT APPLICATION WITHOUT THE USE OF HEAT, SOLVENTS OR ADDITIONAL ADHESIVES. THE ADHESIVE SHALL BE SUFFICIENT TO RETAIN COMPLETE MARKINGS ON THE PAVEMENT SURFACE THROUGHOUT THE USEFUL LIFE OF THE MARKINGS.

IN ADDITION TO THE FOREGOING, ALL TEMPERATURE APPLICATION REQUIREMENTS AND OTHER APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS SHALL BE FOLLOWED.

LAYOUT

THE TEMPORARY MARKINGS SHALL BE ACCURATELY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE LOCATED IN A TRUE LINE ON THE CENTER LINE, LANE LINE, EDGE LINE, OR CHANNELIZING LINE WHERE PERMANENT MARKINGS WOULD LIE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

PLACEMENT

TEMPORARY MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE PLANS.

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS ARE NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134 AND NECESSARY PAVEMENT MARKINGS INSTALLED BEFORE THE FLOW OF TRAFFIC IS CHANGED TO THE NEXT PHASE OR RETURNED TO ITS NORMAL CHANNEL.

WHERE PAVEMENT MARKINGS ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL FURNISH AND PLACE THE PERMANENT MARKINGS WITHING 30 CALENDAR DAYS FOLLOWING COMPLETION OF ALL SURFACE COURSES IN A SINGLE ROADWAY OR PRIOR TO THE END OF THE CONSTRUCTION SEASON, WHICHEVER COMES FIRST. PERMANENT MARKINGS SHALL NOT BE PLACED OVER ANY CLASS I, TAPE MARKINGS.

A. CLASS I MARKINGS

CLASS I MARKINGS SHALL BE AS DEFINED IN 621, EXCEPT AS FOLLOWS:

- 1) LANE LINES SHALL BE 4-INCHES IN WIDTH.
- 2) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
- 3) STOP LINES SHALL BE 12-INCHES IN WIDTH.
- 4) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

GORE MARKINGS SHALL CONSIST OF TWO CHANNELIZING LINES PLACED AT THE THEORETICAL OR TEMPORARY GORE OF RAMPS AND DIVERGING OR CONVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR SOLID 4-INCH LINES, 24 GALLONS PER MILE FOR SOLID 6-INCH LINES, 48 GALLONS PER MILE FOR SOLID 12-INCH LINES, AND 4 GALLONS PER MILE FOR 4-INCH DASHED LINES.

B. CLASS II MARKINGS

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

CHANNELIZING LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 20-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 50-FOOT BY 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR GORE MARKINGS, 0.8 GALLONS PER MILE FOR CHANNELIZING LINE, AND 0.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE.

CONFLICTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL EXISTING CONFLICTING 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 INCIDENTAL TO THE VARIOUS PAY ITEMS.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. DASHED LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED, IN ACCORDANCE WITH 621.15.

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 THE MARKINGS.

ITEM	QUANT.	MILES	DESCRIPTION
614	0.10	MILES	TEMPORARY CENTER LINES, CLASS I (FOR TEMPORARY RUNAROUND) (PAINT OR TAPE)
614	0.10	MILES	TEMPORARY CENTER LINES, CLASS II (FOR PERMANENT PAVEMENT WITHIN WORK LIMITS) (TAPE)
614	0.20	MILES	TEMPORARY EDGE LINES, CLASS I (FOR TEMPORARY RUNAROUND) (PAINT OR TAPE)

CALCULATIONS

ITEM 203 SUBGRADE COMPACTION

Under Approach Slabs

$$2 \times 15' \times 36' \div 9 = 120 \text{ Sq. Yds.}$$

TOTAL ITEM 203 SUBGRADE COMPACTION = 120 SQ. YDS.

ITEM 404 ASPHALT CONCRETE

Description	Sta. To Sta.	$\frac{\text{Avg. Thickness} \times \text{Width} \times \text{Length}}{27} = \text{Cu. Yds.}$
Feathering	181+25 To 181+50	$(0+0.12) \div 2 \times 24' \times 25' \div 27 = 1.3$
Surface Course	181+50 To 181+97.96	$0.1042' \times 24' \times 47.96' \div 27 = 4.4$
Buildup	181+50 To 181+97.96	$0.083' \times 24' \times 47.96' \div 27 = 3.5$
Surface Course	183+15.00 To 183+40	$0.1042' \times 24' \times 25.00' \div 27 = 2.3$
Buildup	183+15.00 To 183+40	$0.10' \times 24' \times 25.00' \div 27 = 2.2$
Feathering	183+40 To 183+50	$(0.083+0) \div 2 \times 24' \times 10' \div 27 = 0.4$
TOTAL		= 14.1

TOTAL ITEM 404 ASPHALT CONCRETE = 14 CU. YDS.

ITEM 407 TACK COAT

Area :

$$\text{Sta. 181+25 to Sta. 181+97.96} \sim 72.96' \times 24' \div 9 = 194.5 \text{ Sq. Yds.}$$

$$\text{Sta. 183+15.00 to Sta. 183+50} \sim 35.00' \times 24' \div 9 = 93.3 \text{ Sq. Yds.}$$

$$\text{Total Area} = 287.8 \text{ Sq. Yds.}$$

$$287.8 \text{ Sq. Yds.} \times 0.10 \text{ Gal./S.Y.} = 28.8 \text{ Gals.}$$

TOTAL ITEM 407 TACK COAT = 29 GALS.

ITEM 407 COVER AGGREGATE

$$287.8 \text{ Sq. Yds.} \times 7 \text{ Lbs./S.Y.} \div 2000 = 1 \text{ Ton}$$

TOTAL ITEM 407 COVER AGGREGATE = 1 TON

ITEM 617 COMPACTED AGGREGATE

$$\text{Sta. 181+50 to Sta. 181+97.96} = 47.96'$$

$$\text{Sta. 183+15.00 to Sta. 183+40} = 25.00'$$

$$\text{Total Length} = 72.96'$$

$$2 \times 72.96' \times 2' \times 0.167' \div 27 = 1.5 \text{ Cu. Yds.}$$

TOTAL ITEM 617 COMPACTED AGGREGATE = 2 CU. YDS.

ITEM 615 TEMPORARY PAVEMENT, CLASS B

$$\text{Length Of Temporary Pavement} = 310'$$

$$\text{Deduct Temporary Structure} = -50'$$

$$\text{Length Of Temporary Pavement} = 260'$$

$$\text{Area} \sim 260' \times 20' \div 9 = 578 \text{ Sq. Yds.}$$

TOTAL ITEM 615 TEMPORARY PAVEMENT, CLASS B = 578 SQ. YDS.

ITEM 659 COMMERCIAL FERTILIZER

$$1,348 \text{ S.Y.} \times (20 \text{ Lbs./1000 S.F.}) \times 9 \div 2000 = 0.12 \text{ Ton}$$

TOTAL ITEM 659 COMMERCIAL FERTILIZER = 0.12 TON

ITEM 659 AGRICULTURAL LIMING

$$1,348 \text{ S.Y.} \times (100 \text{ Lbs./1000 S.F.}) \times 9 \div 2000 = 0.61 \text{ Ton}$$

TOTAL ITEM 659 AGRICULTURAL LIMING = 0.61 TON

EARTHWORK AND SEEDING				
Station		Excavation	Embankment	Seeding
From	To	Cu. Yds.	Cu. Yds.	Sq. Yds.
181+30	183+40	234	38	1,348

Calculated By	Checked By
W.F.P.	A.T.P.
7-28-82	7-29-82

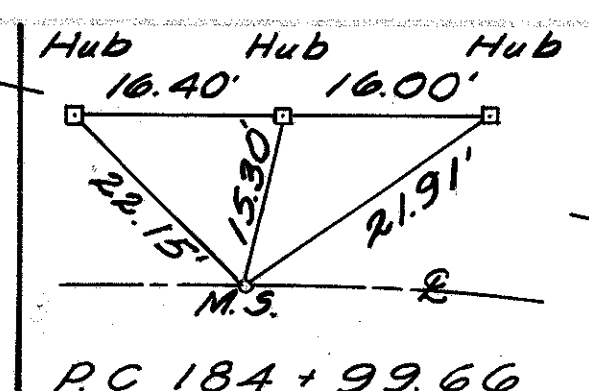
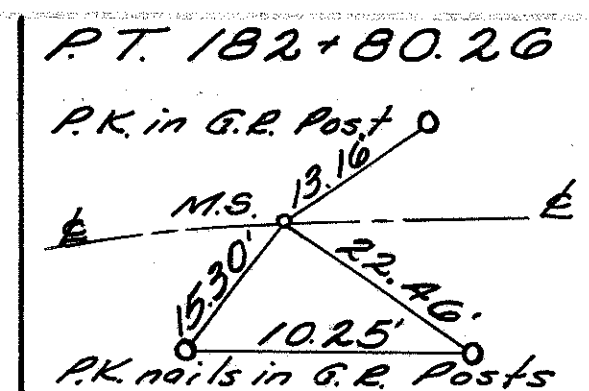
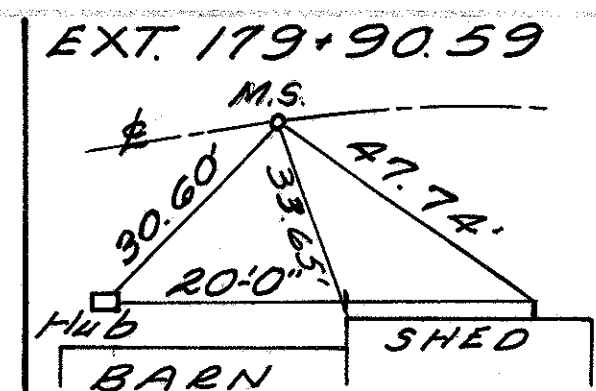
FHWA REGION	STATE	PROJECT
5	OHIO	

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TUS-258-3.89

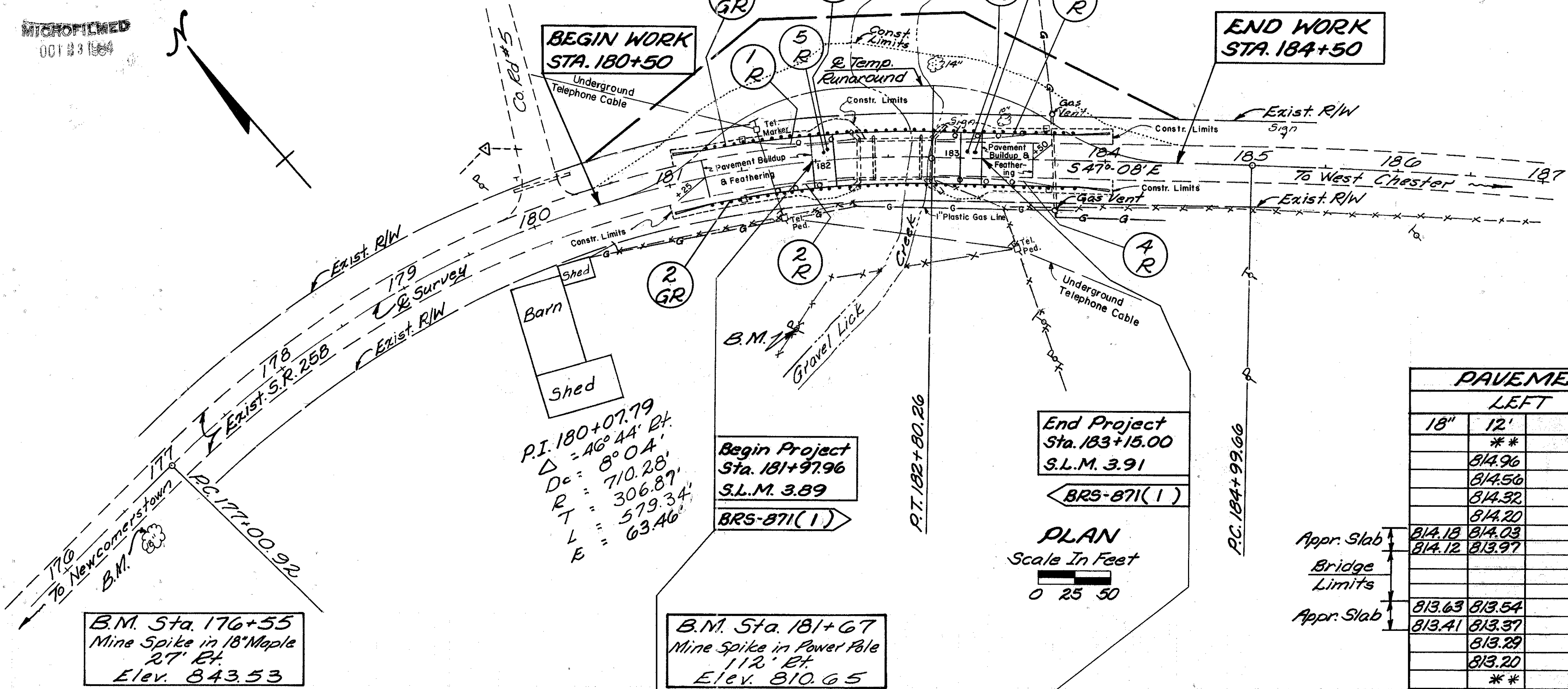
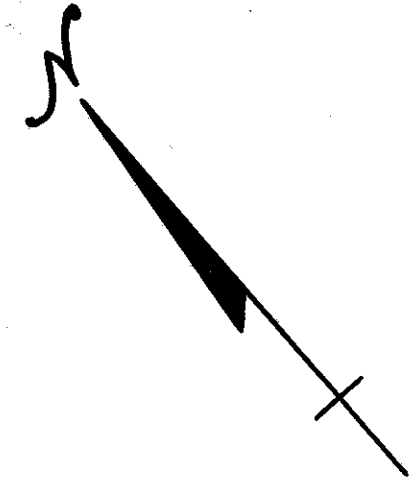
GENERAL SUMMARY

TOTALS FROM SHEET NUMBERS					ITEM	TOTAL	UNIT	DESCRIPTION
3	4	5	6					
LUMP					201	LUMP		CLEARING AND GRUBBING
			60		202	60	SQ. YDS.	PAVEMENT REMOVED
			300		202	300	LIN. FT.	GUARDRAIL REMOVED FOR STORAGE, AS PER PLAN
		234			203	234	CU. YDS.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
		38			203	38	CU. YDS.	EMBANKMENT
		120			203	120	SQ. YDS.	SUBGRADE COMPACTION
			325.92		606	325.92	LIN. FT.	GUARD RAIL, TYPE 5
			4		606	4	EACH	BRIDGE TERMINAL ASSEMBLY, STANDARD TYPE B
			4		606	4	EACH	ANCHOR ASSEMBLY, STANDARD TYPE A
LUMP					615	LUMP		TEMPORARY ROADS
		578			615	578	SQ. YDS.	TEMPORARY PAVEMENT, CLASS B
		1348			659	1348	SQ. YDS.	SEEDING AND MULCHING
2					659	2	MGALS.	WATER
		0.12			659	0.12	TON	COMMERCIAL FERTILIZER
		0.61			659	0.61	TON	AGRICULTURAL LIMING
		14			404	14	CU. YDS.	ASPHALT CONCRETE, AC-20
		29			407	29	GAL.	TACK COAT
		1			407	1	TON	COVER AGGREGATE
			120		611	120	SQ. YDS.	REINFORCED CONCRETE APPROACH SLABS (T=12")
		2			617	2	CU. YDS.	COMPACTED AGGREGATE
		0.10			614	0.10	MILE	TEMPORARY CENTERLINES, CLASS I, PAINT OR TAPE
		0.10			614	0.10	MILE	TEMPORARY CENTERLINES, CLASS II, TAPE
		0.20			614	0.20	MILE	TEMPORARY EDGE LINES, CLASS I, PAINT OR TAPE
LUMP					614	LUMP		MAINTAINING TRAFFIC
					623	LUMP		CONSTRUCTION LAYOUT STAKES
LUMP					624	LUMP		MOBILIZATION, AS PER PLAN
								BRIDGE NO. TUS-258-0389 OVER GRAVEL LICK CREEK
								FOR QUANTITIES, SEE SHEET NO. 16



Calculated By	Checked By
W.F.P.	J.T.P.
7-16-82	7-23-82

MICROFILMED
OCT 83 1984



PAVEMENT ELEVATIONS					
LEFT		Station	RIGHT		
18'	12'		12'	18'	
**	**	181+25	814.77	**	**
814.96	814.96	181+30	814.66	814.08	
814.56	814.56	181+50	814.26	813.76	
814.32	814.32	181+65	814.02	813.56	
814.20	814.20	181+75	813.90	813.47	
814.18	814.03	181+97.96	813.73	813.38	813.20
814.12	813.97	182+12.96	813.67	813.37	813.22
813.63	813.54	183+00.00	813.35	813.16	813.07
813.41	813.37	183+15.00	813.29	813.10	813.01
813.29	813.29	183+25	813.27	813.08	
813.20	813.20	183+40	813.28	813.09	
**	**	183+50	813.32	**	**

** Match Existing Pavement Elevation

CALCULATIONS

ITEM 202 PAVEMENT REMOVED
 5-R ~ 15' x 18' ÷ 9 = 30 Sq. Yds.
 6-R ~ 15' x 18' ÷ 9 = 30 Sq. Yds.
ITEM 611 APPROACH SLABS
 1-AS ~ 15' x 36' ÷ 9 = 60 Sq. Yds.
 2-AS ~ 15' x 36' ÷ 9 = 60 Sq. Yds.

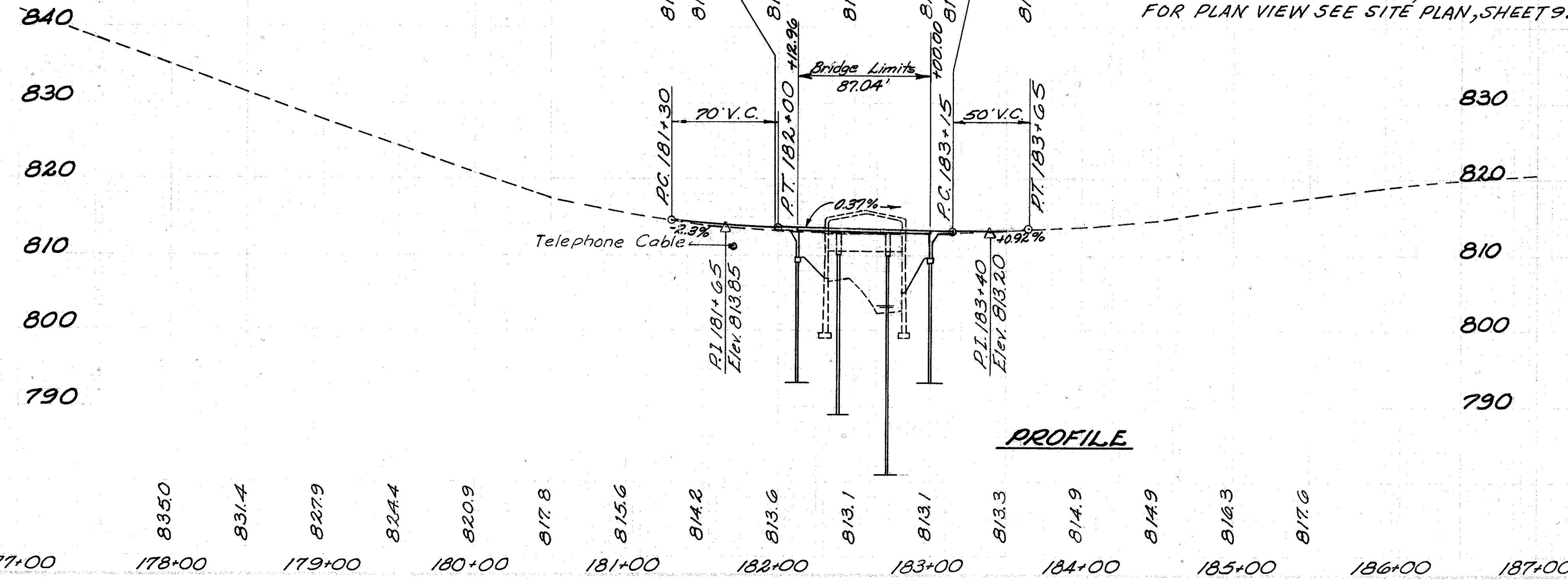
EXISTING STRUCTURE DATA

TYPE: Concrete Girder
 SPAN: 50'-0"
 ROADWAY: 23'-0" f/p Curbs
 ALIGNMENT: Horiz. Curve Rt. (D=8°04')
 SKEW: 0°
 LOADING: Unknown
 SURFACE COURSE: Asphalt
 BUILT: 1924

PROPOSED STRUCTURE

TYPE: Three Span Continuous Reinforced Concrete Slab With Capped Pile Substructure
 SPAN: 26'-32.5'-26'
 ROADWAY: 36' f/p Guard rail
 SKEW: 0° w/Chord From Stas. 182+12.96 To 183+00
 LOADING: HS-20-44 With Interstate Alternate Loading
 WEARING SURFACE: 1" Monolithic Concrete
 APPROACH SLABS: AS-1-81 (15'-0" Long)
 ALIGNMENT: Horizontal Curve Right (D=8°04')
 SUPERELEVATION: Varies

NOTE: PROFILE FOR TEMPORARY, SAME AS EXISTING ROAD. FOR PLAN VIEW SEE SITE PLAN, SHEET 9.

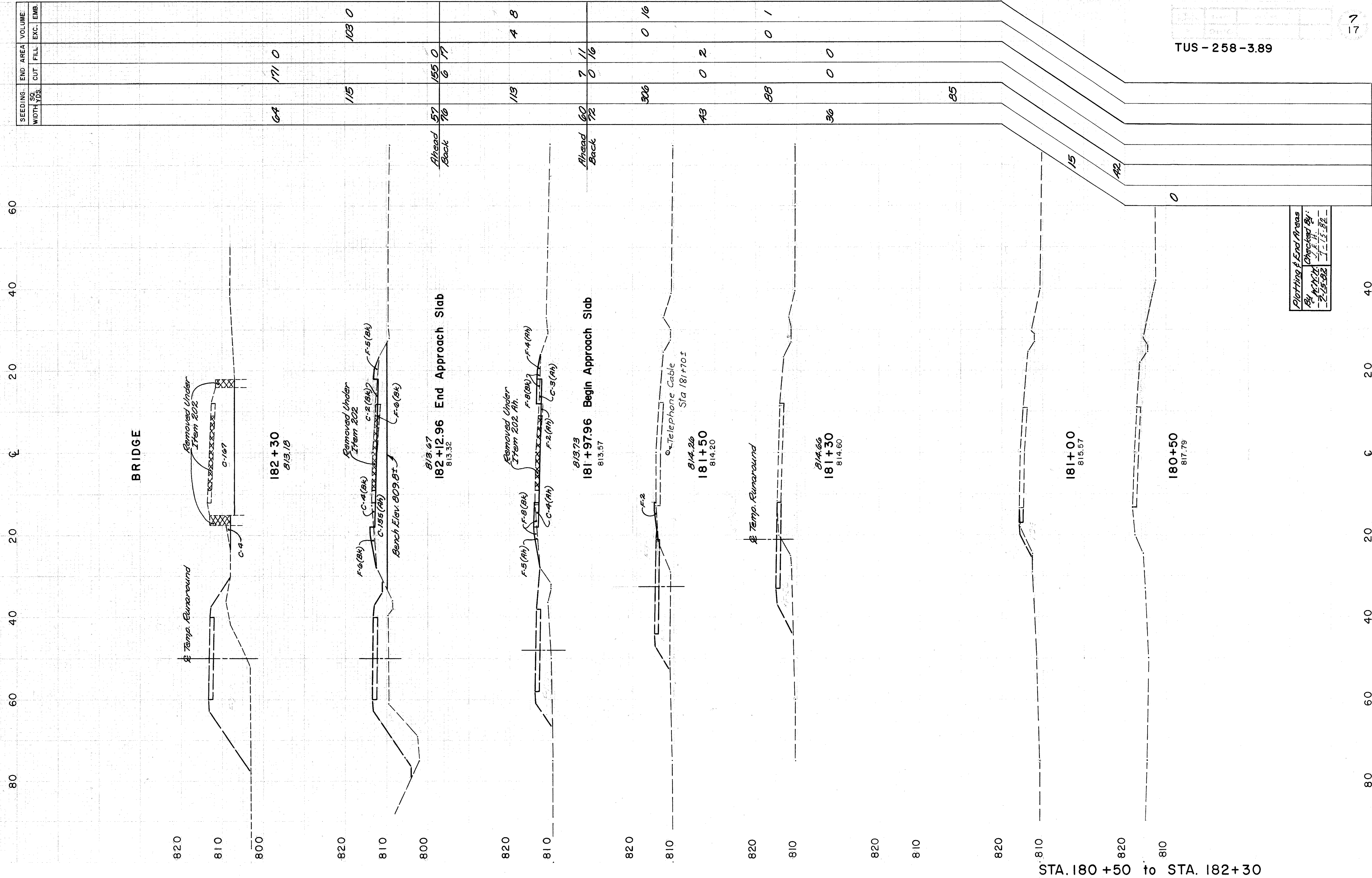


QUANTITIES

See Sh. No.	Stations		Side	202		606				611			
	Ref. No.	From		To	Pav't Removed	Guard- rail Rem. For Storage As Per Plan	Guard- rail Type 5				Bridge Terminal Assembly Type B	Anchor Assembly Type A	Rein f. Conc. Approach Slabs
	1-R	181+50 ⁰⁰	182+30 ⁰⁰	Lt.		75							
	2-R	181+50 ⁰⁰	182+30 ⁰⁰	Rt.		75							
	3-R	182+83 ⁰⁰	183+60 ⁰⁰	Lt.		75							
	4-R	182+83 ⁰⁰	183+60 ⁰⁰	Rt.		75							
	5-R	181+97.96	182+12.96	Q	30								
	6-R	183+00	183+15	Q	30								
	1-AS	181+97.96	182+12.96	Q						60			
	2-AS	183+00.00	183+15.00	Q						60			
	1-GR	181+07.20	184+02.75	Lt.		*162.96	2	2					
	2-GR	181+07.20	184+02.75	Rt.		*162.96	2	2					
TOTALS					60	300	325.92	4	4	120			

* Bridge Railing = 87.04'

STA 177+00 TO STA 187+00



Plotting & End Areas
By WNC
Checked By:
J.E.H.
2-15-82

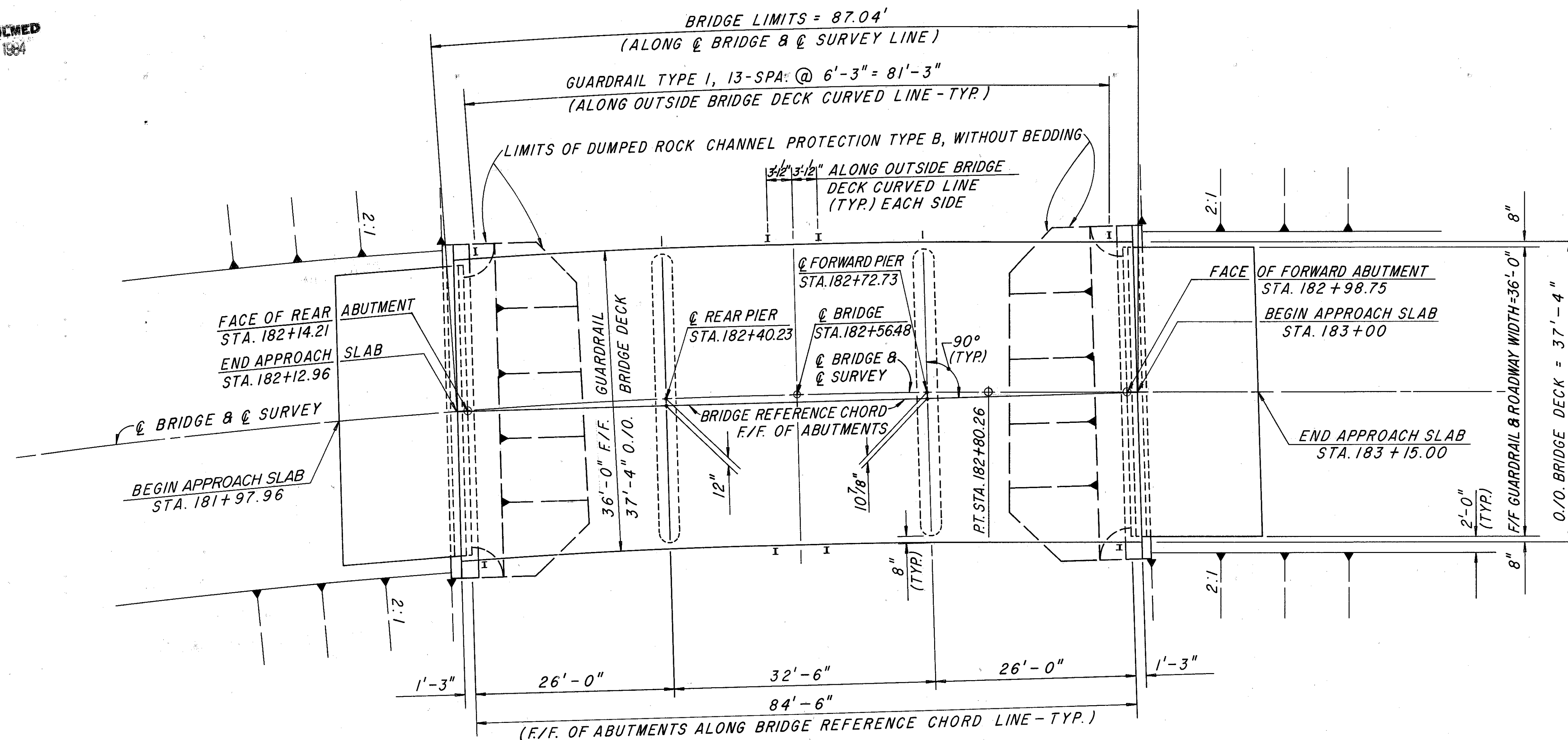
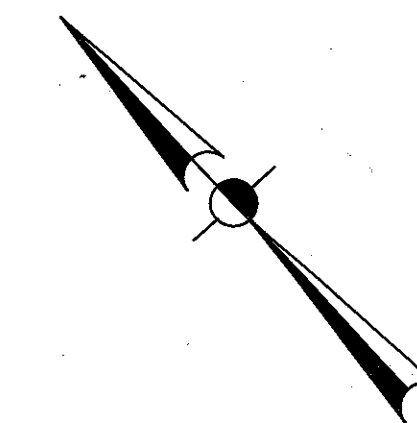
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED DIST. 11	DRAWN DIST. 11	DESIGNED	DRAWN	CHECKED	REVIEWED

MICROFILMED
OCT 23 1984

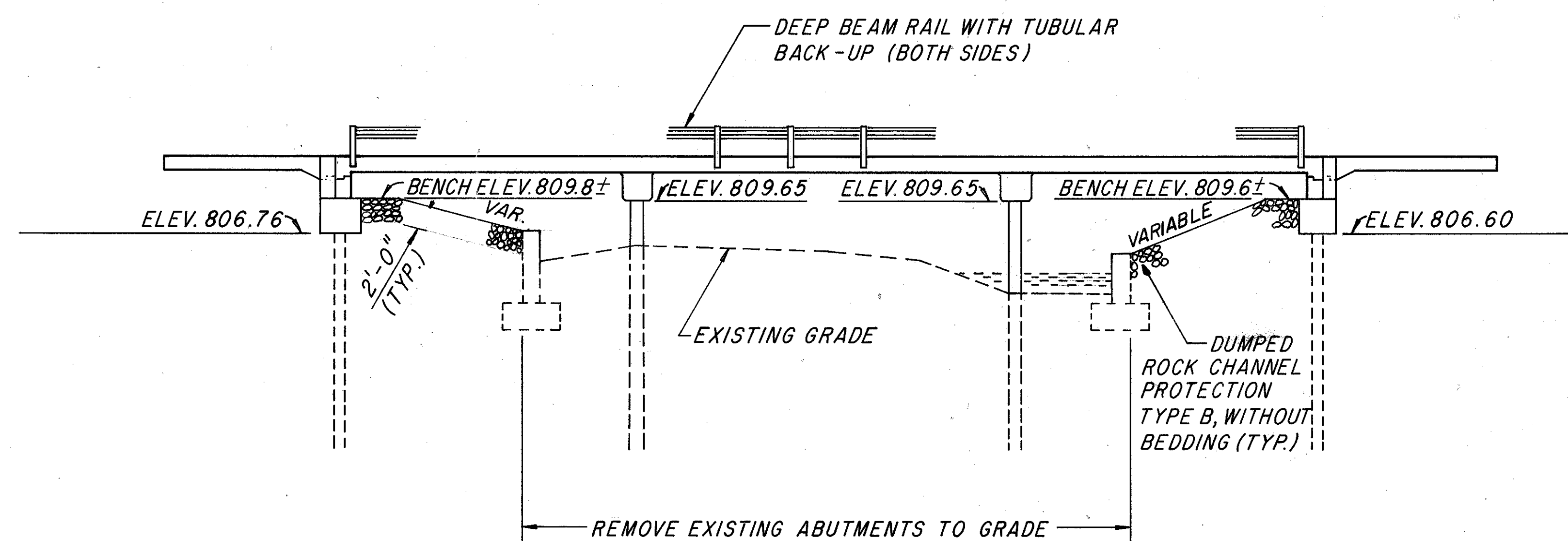
FHWA REGION	STATE	PROJECT	
5	OHIO		

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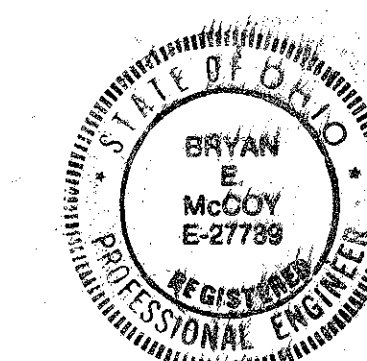
TUS-258-3.89



GENERAL PLAN



ELEVATION



Bryan E. McCoy

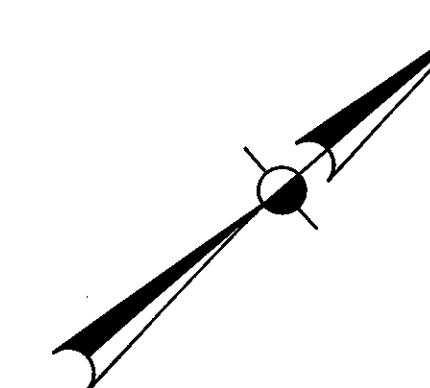
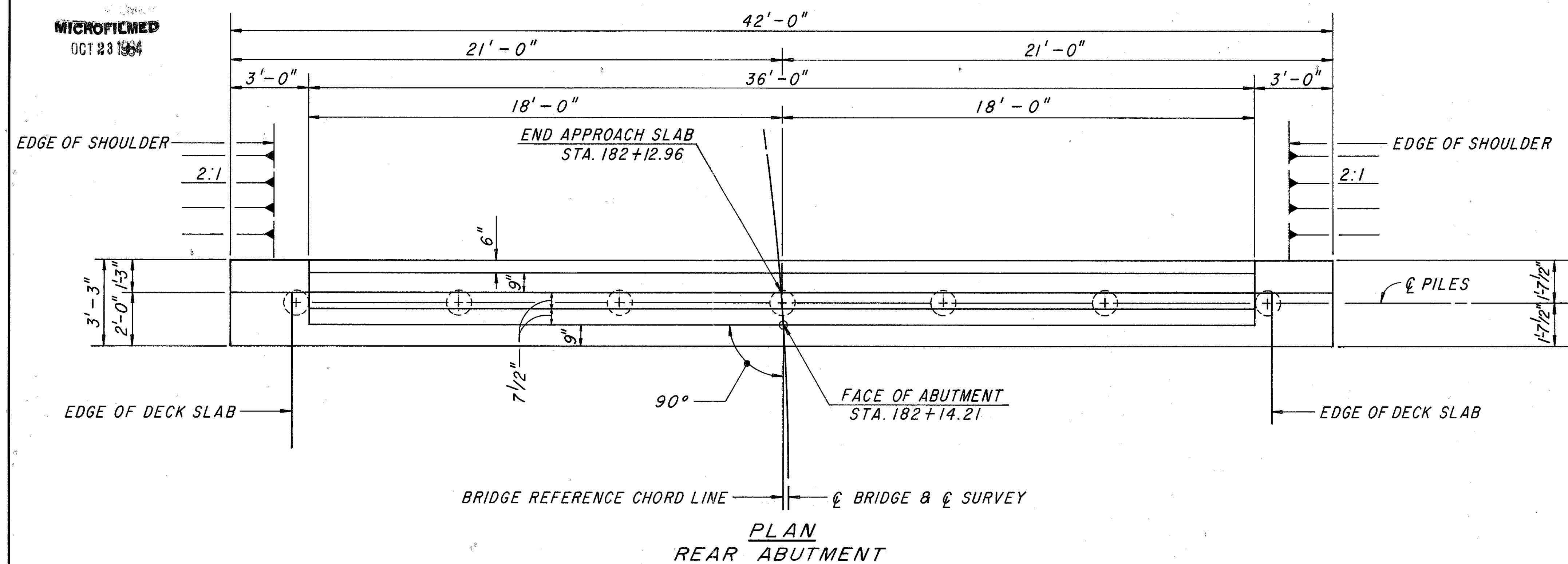
Ciorba Group, Inc.
CONSULTING ENGINEERS
2544 CHAMBERLAIN ROAD, AKRON, OHIO 44313

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

GENERAL PLAN & ELEVATION
BRIDGE No. TUS-258-0389
OVER GRAVEL LICK CREEK
TUSCARAWAS COUNTY S.R. 258

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
GDW	IMG		TLR	BEM	7-16-82	

TUS-258-3.89



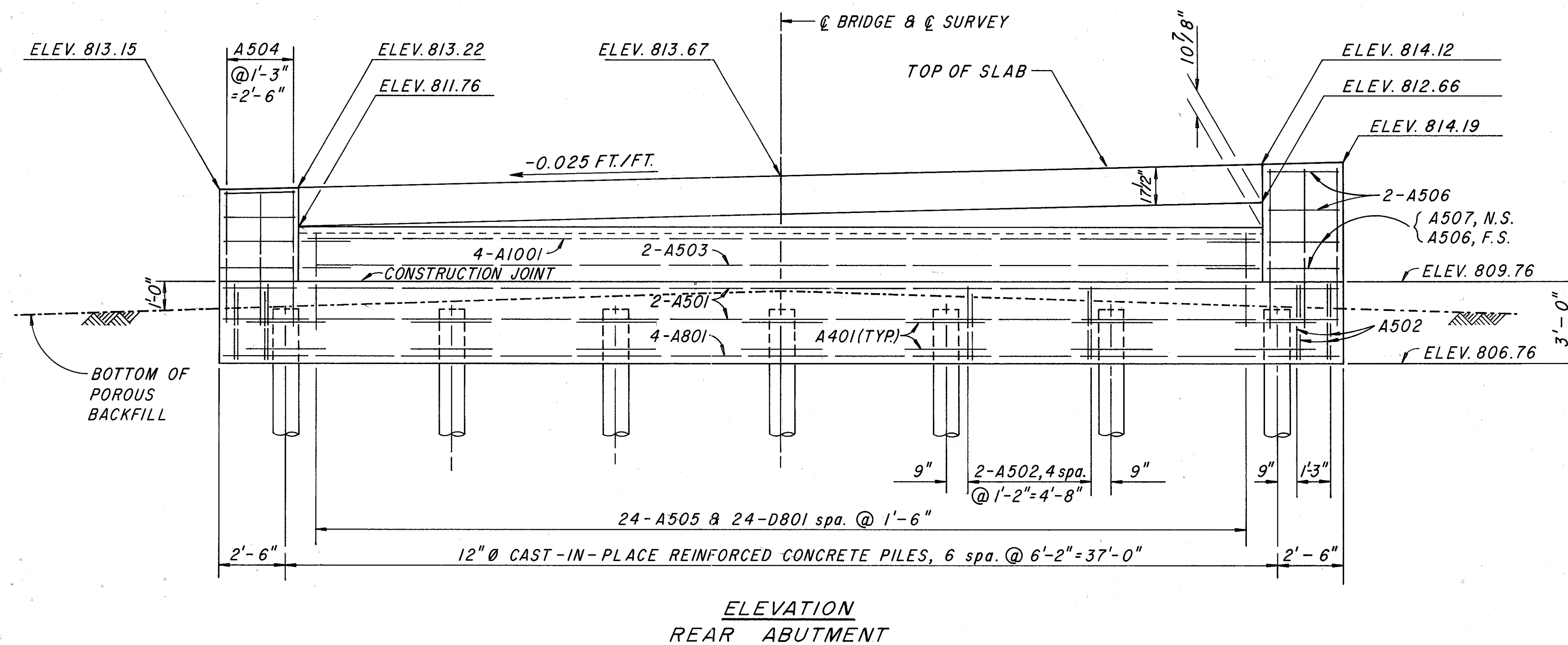
GENERAL NOTES FOR ABUTMENTS:

FOR ADDITIONAL DETAILS NOT SHOWN
REFER TO STD. DRWG. CPA-2-73.

POROUS BACKFILL SHALL EXTEND UPWARD TO THE PLANE OF SUBGRADE AND Laterally TO THE SURFACE OF THE EMBANKMENT SLOPES.

REINFORCING STEEL: THE A1001, A801, A501 AND A503 BARS, AT THE OPTION OF THE CONTRACTOR, MAY BE FURNISHED IN ONE LENGTH AS SHOWN HEREON, OR IN PAIRS LAPPED AT OR NEAR THE CENTERLINE OF THE ABUTMENT.

DETERMINATION OF THE PAY QUANTITY
WILL BE ACCORDING TO THE NUMBER AND
LENGTH OF BARS SHOWN. THE A100/
BARS SHALL BE LAPPED 9'-8" THE A80/
BARS SHALL BE LAPPED 3'-6" THE A50/
BARS SHALL BE LAPPED 3'-0" THE A503
BARS SHALL BE LAPPED 1'-9"



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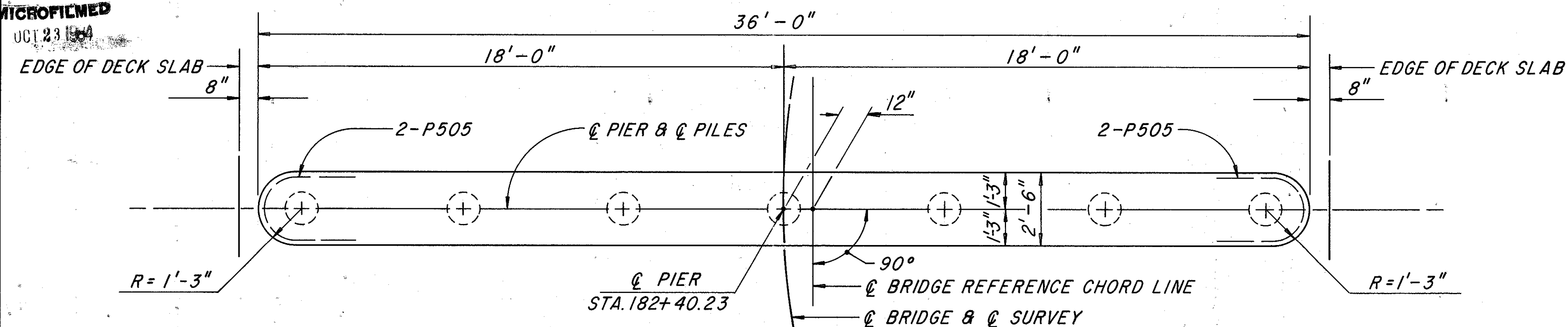
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

REAR ABUTMENT DETAILS
BRIDGE No. TUS-258-0389
OVER GRAVEL LICK CREEK

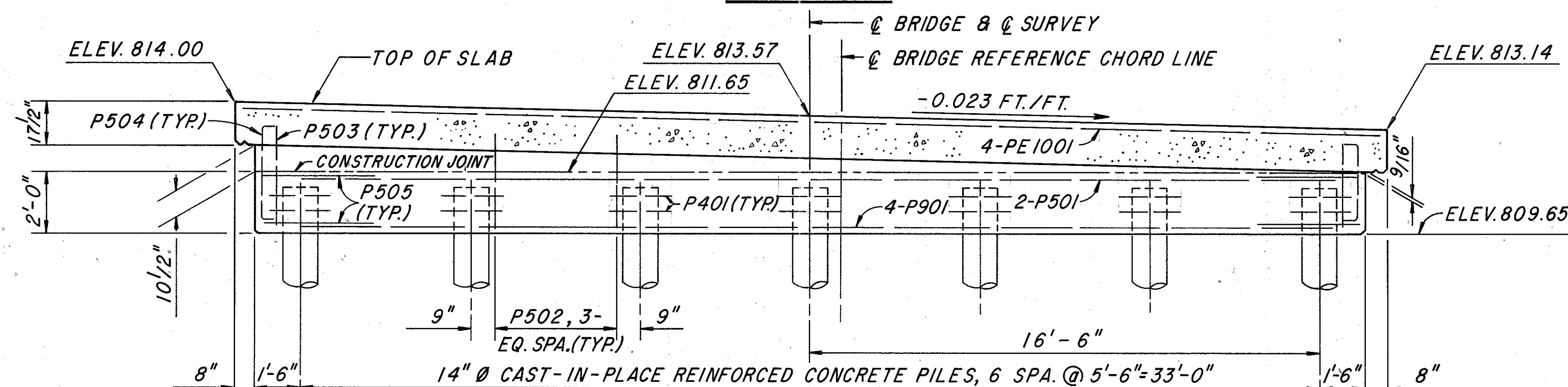
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GDW	IMG		TLR	BEM	7-16-82	

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	17

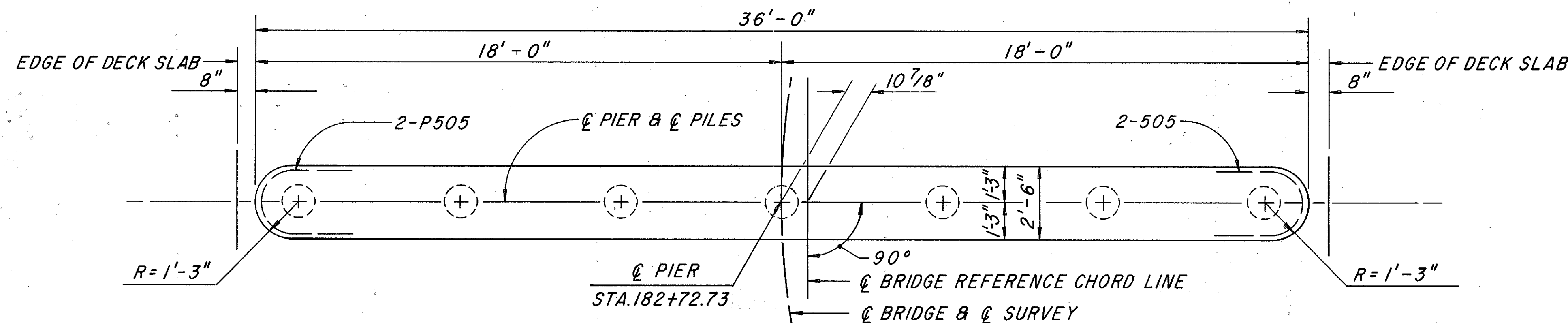
Ciorba Group, Inc. CONSULTING ENGINEERS						
2524 CHAMBERLAIN ROAD, AKRON, OHIO 44313						
STATE OF OHIO				4/8		
DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN						
FORWARD ABUTMENT DETAILS BRIDGE No. TUS - 258 - 0389 OVER GRAVEL LICK CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
<i>GDW</i>	<i>IMG</i>		<i>TLR</i>	<i>BEM</i>	<i>7-16-82</i>	



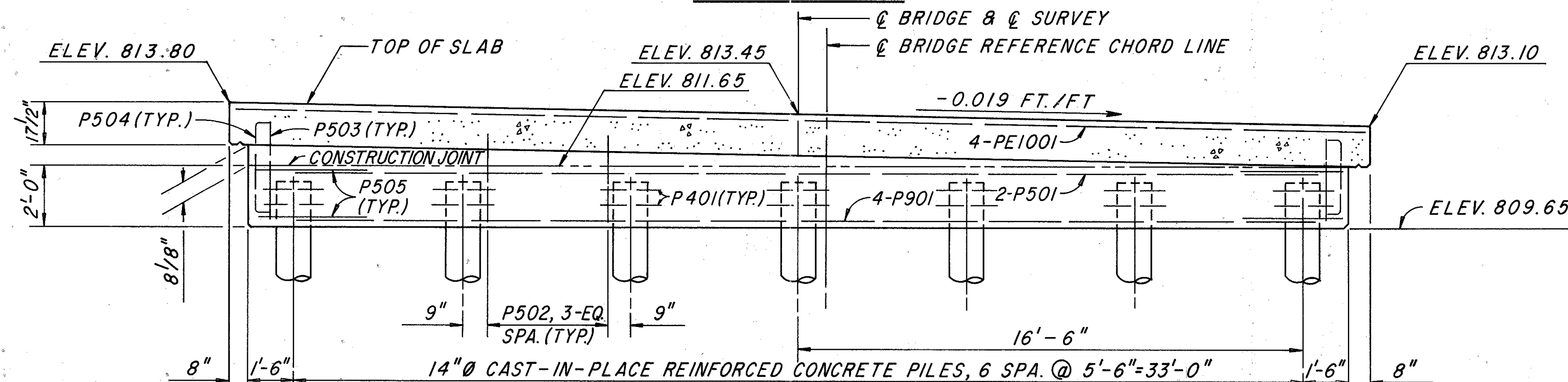
PLAN
REAR PIER



ELEVATION
REAR PIER



PLAN
FORWARD PIER



ELEVATION
FORWARD PIER

GENERAL NOTES FOR PIERS:

PE1001 BARS SHALL BE EPOXY COATED. FOR ADDITIONAL DETAILS NOT SHOWN REFER TO STD. DRWG. CPP-2-73.

PILE CASING: THE CASING OF CAST-IN-PLACE CONCRETE PILES SHALL BE OF THE TYPE THAT IS LEFT IN PLACE AND IS DESIGNED TO RESIST BOTH DIRECT COMPRESSION AND BENDING. THE PORTION ABOVE THE PROPOSED SURFACE OF THE GROUND SHALL BE OF UNIFORM DIAMETER (NOT TAPERED) AND SHALL HAVE A THICKNESS OF METAL NOT LESS THAN 0.179 INCHES.

FALSEWORK SUPPORT: ATTACHMENT OF FALSEWORK SUPPORT MEMBERS TO PIER PILES WILL BE PERMITTED, IF THE ATTACHMENT IS MADE TO THAT PORTION OF PILE ENCASED IN PIER CAP

REINFORCING STEEL: THE P1001, P901, AND P501 BARS, AT THE OPTION OF THE CONTRACTOR, MAY BE FURNISHED IN ONE LENGTH AS SHOWN, OR IN PAIRS LAPPED AT OR NEAR THE CENTERLINE OF THE ROADWAY.

DETERMINATION OF THE PAY QUANTITY WILL BE ACCORDING TO THE NUMBER AND LENGTH OF BARS SHOWN, THE P1001 BARS SHALL BE LAPPED 7'-8" THE P901 BARS SHALL BE LAPPED 4'-3" THE P501 BARS SHALL BE LAPPED 2'-6".

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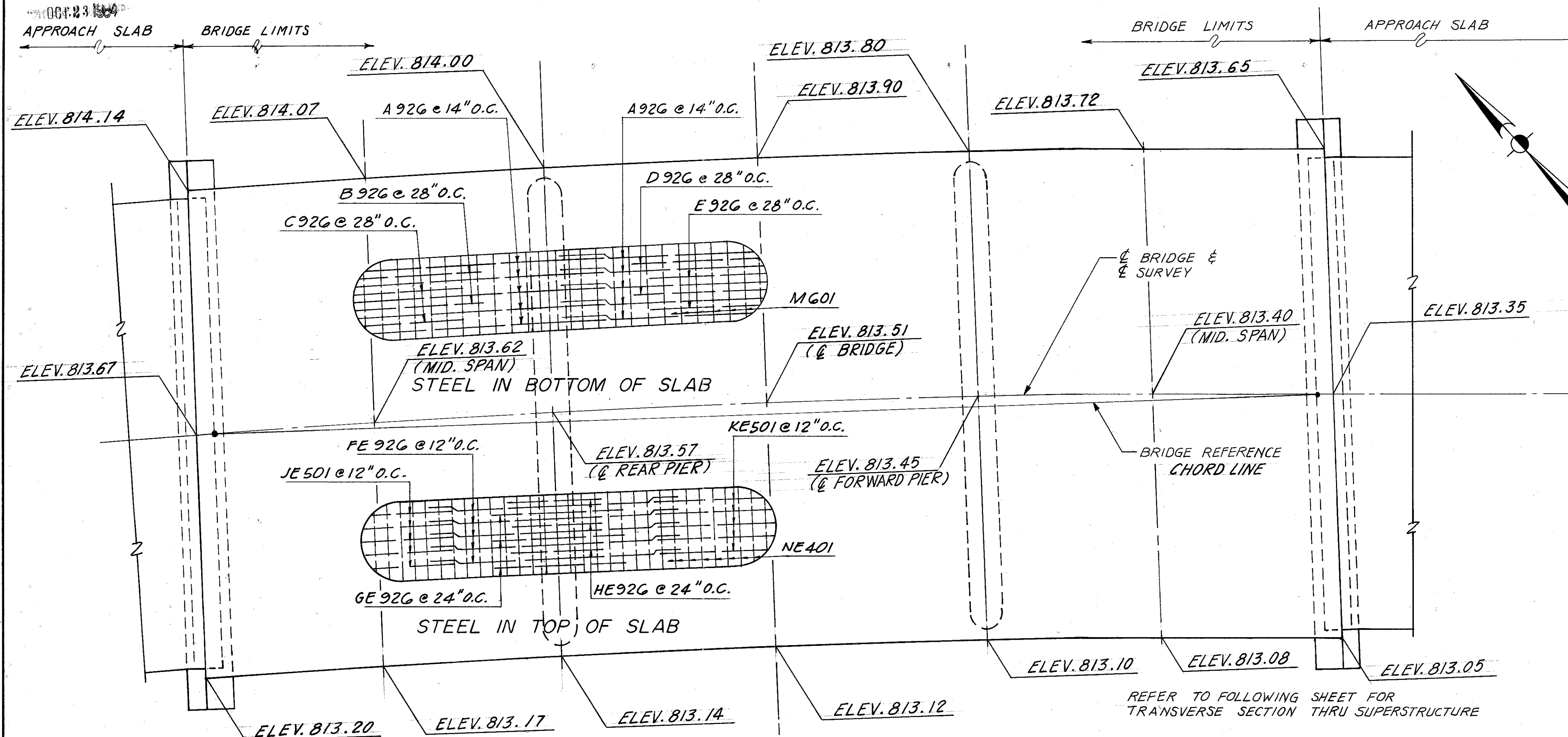
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

PIER DETAILS

BRIDGE No. TUS-258-0389
OVER GRAVEL LICK CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
GDW	IMG		TLR	BEM	7-16-82	

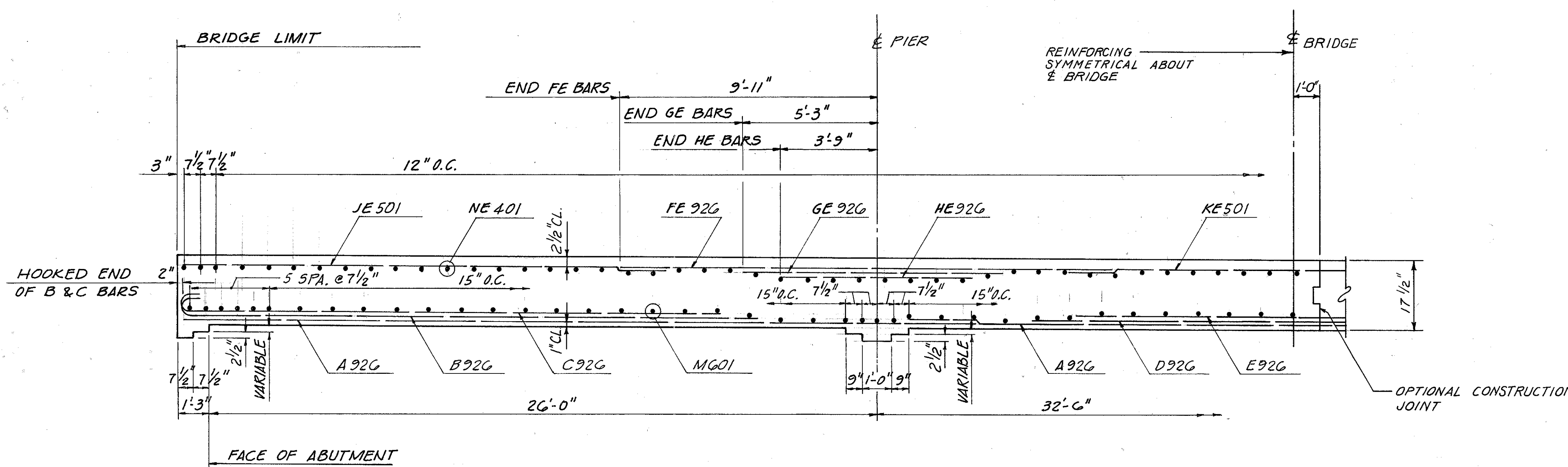
TUS-258-3.89



PLAN

ALL ELEVATIONS SHOWN ARE
TOP OF FINISH SLAB

REFER TO FOLLOWING SHEET FOR
TRANSVERSE SECTION THRU SUPERSTRUCTURE



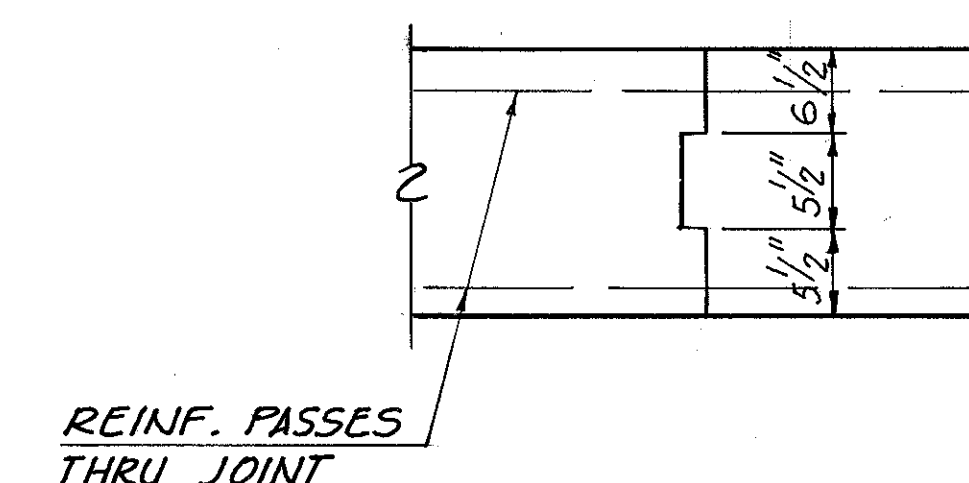
HALF LONGITUDINAL SECTION THRU SUPERSTRUCTURE

GENERAL NOTES FOR SUPERSTRUCTURE:

CONSTRUCTION JOINTS: ONE CONSTRUCTION JOINT IN BRIDGE SLAB MAY BE PLACED ON TRANSVERSE CENTERLINE OF MIDDLE SPAN OR 1'-0" ± OFF TRANSVERSE CENTERLINE IF NECESSARY TO MISS RAILING POST AND TRANSVERSE REINFORCING BARS. ONE LONGITUDINAL JOINT WILL BE PERMITTED, ON CENTERLINE OF ROADWAY.

CAMBER OF 1/800 OF THE SPAN SHALL BE PROVIDED IN EACH SPAN (IN ADDITION TO THAT REQUIRED FOR CONFORMANCE WITH THE PROFILE OF THE HIGHWAY) TO ALLOW FOR DEAD LOAD DEFLECTION. THIS THE AMOUNT OF CAMBER REQUIRED BEFORE FALSEWORK IS RELEASED. TO OBTAIN THIS, PROPER ALLOWANCE SHALL BE MADE FOR THE DEFLECTION OF FALSEWORK MEMBERS.

REINFORCING STEEL: AT THE OPTION OF THE CONTRACTOR, THE MG01 AND NE401 BARS MAY BE FURNISHED IN PAIRS OF EQUAL LENGTH, LAPPED 24 INCHES AT THE CENTERLINE OF ROADWAY, OR IN PAIRS OF DIFFERENT LENGTHS, IN ORDER TO PLACE THE 24 INCHES LAP BEYOND A LONGITUDINAL CONSTRUCTION JOINT AT THE CENTERLINE OF ROADWAY. DETERMINATION OF THE PAY QUANTITY WILL BE ACCORDING TO THE NUMBER AND LENGTH OF BARS AS SHOWN ON THE PROJECT PLANS. BARS FE926, GE926, HE926, JE501, KE501, AND NE401 SHALL BE EPOXY COATED.



CONSTRUCTION JOINT

Ciorba Group, Inc.
CONSULTING ENGINEERS
2544 CHAMBERLAIN ROAD, AKRON, OHIO 44313

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

SUPERSTRUCTURE
BRIDGE No. TUS-258-0389
OVER GRAVEL LICK CREEK

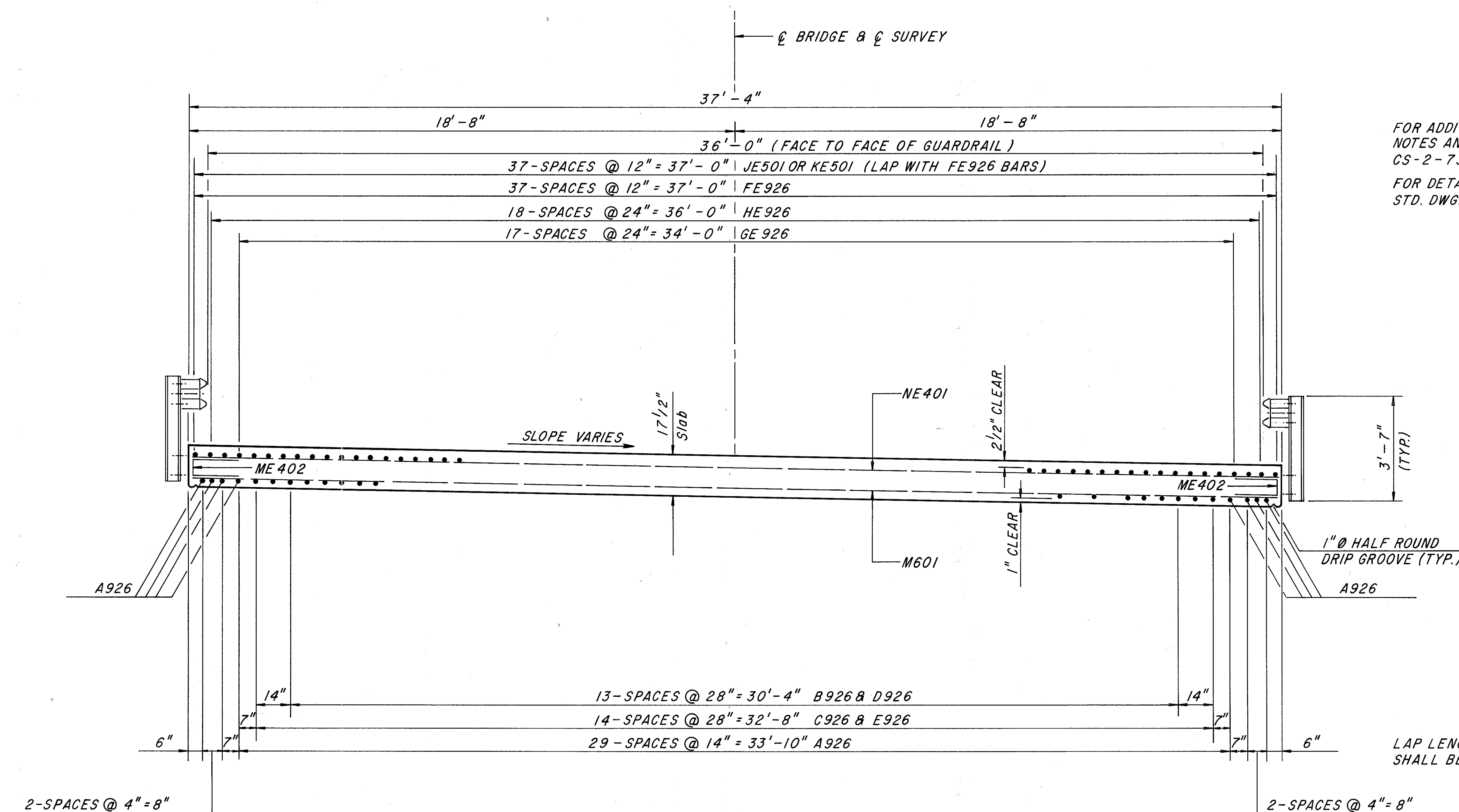
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
GDW	WJS		TLR	BEM	7-16-82	

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FOR ADDITIONAL SUPERSTRUCTURE
NOTES AND DETAILS SEE STD. DWG.
CS-2-73.

FOR DETAILS OF GUARDRAIL SEE
STD. DWG. DBR-2-73.

TRANSVERSE SECTION THRU SUPERSTRUCTURE

Ciorba Group, Inc.
CONSULTING ENGINEERS
2544 CHAMBERLAIN ROAD, AKRON, OHIO 44313

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

SUPERSTRUCTURE
BRIDGE No. TUS-258-0389
OVER GRAVEL LICK CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
GDW	IMG		TLR	BEM	7-16-82	

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	FWD	REAR	TOTAL				A	B	C	D	E	R	INC
A B U T M E N T S													
D801	24	24	48	6'-6"	833	2				4'-1"			
A1001	4	4	8	35'-6"	1,221	STR							
A801	4	4	8	41'-6"	887	STR							
A501	4	4	8	41'-6"	347	STR							
A502	68	68	136	6'-10"	970	1	2'-11"	2'-1"	2'-1"				
A503	2	2	4	35'-6"	149	STR							
A504	6	6	12	11'-8"	147	1	11"	5'-6"	5'-6"				
A505	24	24	48	7'-11"	397	1	1'-8"	3'-3"	3'-3"				
A506	12	12	24	2'-8"	68	STR							
A507	4	4	8	4'-10"	41	STR							
A401	14	14	28	9'-2"	172	5	1'-9"	2'-7 ³ / ₄ "					
						</							

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	FWD	REAR	TOTAL				A	B	C	D	E	R	INC
PIERS													
PE1001	4	4	8	36'-10"	1,268	STR							
P901	4	4	8	33'-10"	921	STR							
P501	2	2	4	33'-10"	142	STR							
P502	24	24	48	9'-2"	460	6	2'-2"	2'-11"	STD				
P503	2	2	4	9'-0"	38	6	2'-0"	2'-11"					
P504	2	2	4	4'-4"	19	7	2'-11"	STD					
P505	4	4	8	6'-4"	53	3	1'-7	2'-0 ¹ / ₄ "				11 ¹ / ₂ "	
P401	14	14	28	8'-1"	152	5	2'-0 ¹ / ₄ "	1'-9"					
				TOTAL=3,053 LBS									
				*EPOXY COATED BARS=1,268 LBS									
				REINFORCING STEEL=1,785 LBS									

ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT		ABUT.	PIERS	SUPER.	GEN.
202	1	LUMP	STRUCTURE REMOVED				LUMP
503	47	CU.YD.	UNCLASSIFIED EXCAVATION	47			
507	490	LIN.FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES	490			
507	650	LIN.FT.	14" CAST-IN-PLACE REINFORCED CONCRETE PILES		650		
509	22,017	LBS.	REINFORCING STEEL, GRADE 60	5,232	1,785	22,017	
511	42	CU.YD.	CLASS C CONCRETE, ABUTMENTS	42			
511	12	CU.YD.	CLASS C CONCRETE, PIERS		12		
511	175	CU.YD.	CLASS S CONCRETE, SUPERSTRUCTURE			175	
517	174.08	LIN.FT.	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND STEEL POSTS AND BOLTS)			174.08	
518	11	CU.YD.	POROUS BACKFILL	11			
601	140	CU.YD.	ROCK CHANNEL PROTECTION, TYPE B WITHOUT BEDDING				140
SPECIAL	13,215	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60		1,268	11,947	
502	LUMP	LUMP	TEMPORARY STRUCTURE				LUMP

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	FWD	REAR	TOTAL				A	B	C	D	E	R	INC.
SUPERSTRUCTURE													
A92G			108	31'-10"	11,688	STR							
B92G			28	22'-5"	2,135	4	21'-2"						
C92G			30	21'-0"	2,142	4	19'-9"						
D92G			14	20'-2"	956	STR							
E92G			15	17'-1"	872	STR							
MG01			76	37'-0"	4,224	STR							
FE92G			76	19'-2"	4,954	STR							
GE92G			36	10'-2"	1,245	STR							
HE92G			38	7'-5"	959	STR							
JE501			76	19'-8"	1,560	STR							
KE501			38	19'-0"	754	STR							
ME402			152	2'-8½"	275	1	11½"	1'-0	1'-0"				
NE401			89	37'-0"	2,200	STR							
TOTAL = 33,964 LBS													
*EPOXY COATED BARS = 11,947 LBS													
REINFORCING STEEL = 22,017 LBS													
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A700 IS A NO.7 SIZE BAR AND A1014 IS A NO.10 SIZE. BAR DIMENSIONS ARE SHOWN OUT TO OUT, UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR. BAR LENGTH = SHOP FABRICATION CUTTING LENGTH. BAR MARKS FOR REINFORCING BARS WHICH ARE TO BE EPOXY COATED INCLUDE A LETTER PREFIX E (WHICH FOLLOWS THE BAR IDENTIFIER LETTER).													
TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7													

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TUS-258-3.89

GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS.

AS-1-81 DATED 11-27-81 NO REVISIONS
CPA-2-73 DATED 4-10-73 NO REVISIONS
CPP-2-73 DATED 4-10-73 NO REVISIONS
CS 2-73 DATED 4-10-73 NO REVISIONS
DBR 2-73 DATED 4-10-73 NO REVISIONS
AND TO SUPPLEMENTAL SPECIFICATION 83G, DATED 3-12-75

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1977, INCLUDING THE 1978, 1979, 1980, AND 1981 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING - HS20-44 AND THE ALTERNATE MILITARY LOADING.
CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI FOR SUPERSTRUCTURE.
HOWEVER, THE SLAB DESIGN IS BASED ON CLASS C CONCRETE.
SEE STANDARD DRWG CS-2-73 FOR DESIGN DATA.
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI FOR SUBSTRUCTURE.
REINFORCING STEEL - ASTM A615, A616 OR A617 - GRADE 60 MIN. YIELD STRENGTH 60,000 PSI
UNIT ALLOWABLE STRESS = 20,000 PSI.
MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED FOR DESIGN PURPOSES TO BE 1".
DECK PROTECTIVE METHOD: EPOXY COATED REINFORCING STEEL, TOP MAT ONLY.

PILES SHALL BE DRIVEN TO A MIN. BEARING CAPACITY OF 25 TONS PER PILE FOR THE ABUTMENTS AND 37 TONS PER PILE FOR THE PIERS. 12 INCH PRECAST PRESTRESSED CONCRETE PILES MAY BE SUBSTITUTED FOR 12 INCH DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES SHOWN ON THESE PLANS AT THE ABUTMENTS. 14 INCH PRECAST PRESTRESSED CONCRETE PILES MAY BE SUBSTITUTED FOR 14 INCH DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES SHOWN ON THESE PLANS AT THE PIERS. DRAWINGS SHOWING DETAILS OF AND SPECIFICATIONS FOR PRESTRESSED CONCRETE PILES ARE AVAILABLE FROM THE DIRECTOR (BUREAU OF BRIDGES). IF THE PRESTRESSED PILE ALTERNATE IS CHOSEN, THE METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE THE SAME AS FOR CAST-IN-PLACE REINFORCED CONCRETE PILES PER 507.

REINFORCING STEEL SAMPLES - REFER TO CMS SECTIONS 106.03, 100, 709.01-709.05 & 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED BY ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

Ciorba Group, Inc.
CONSULTING ENGINEERS
2544 CHAMBERLAIN ROAD, AKRON, OHIO 44313

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

REINFORCING STEEL LIST ESTIMATED
QUANTITIES & GENERAL NOTES
BRIDGE No. TUS-258-0389
OVER GRAVEL LICK CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
GDW	WJS		TLR	BEM	7-16-82	

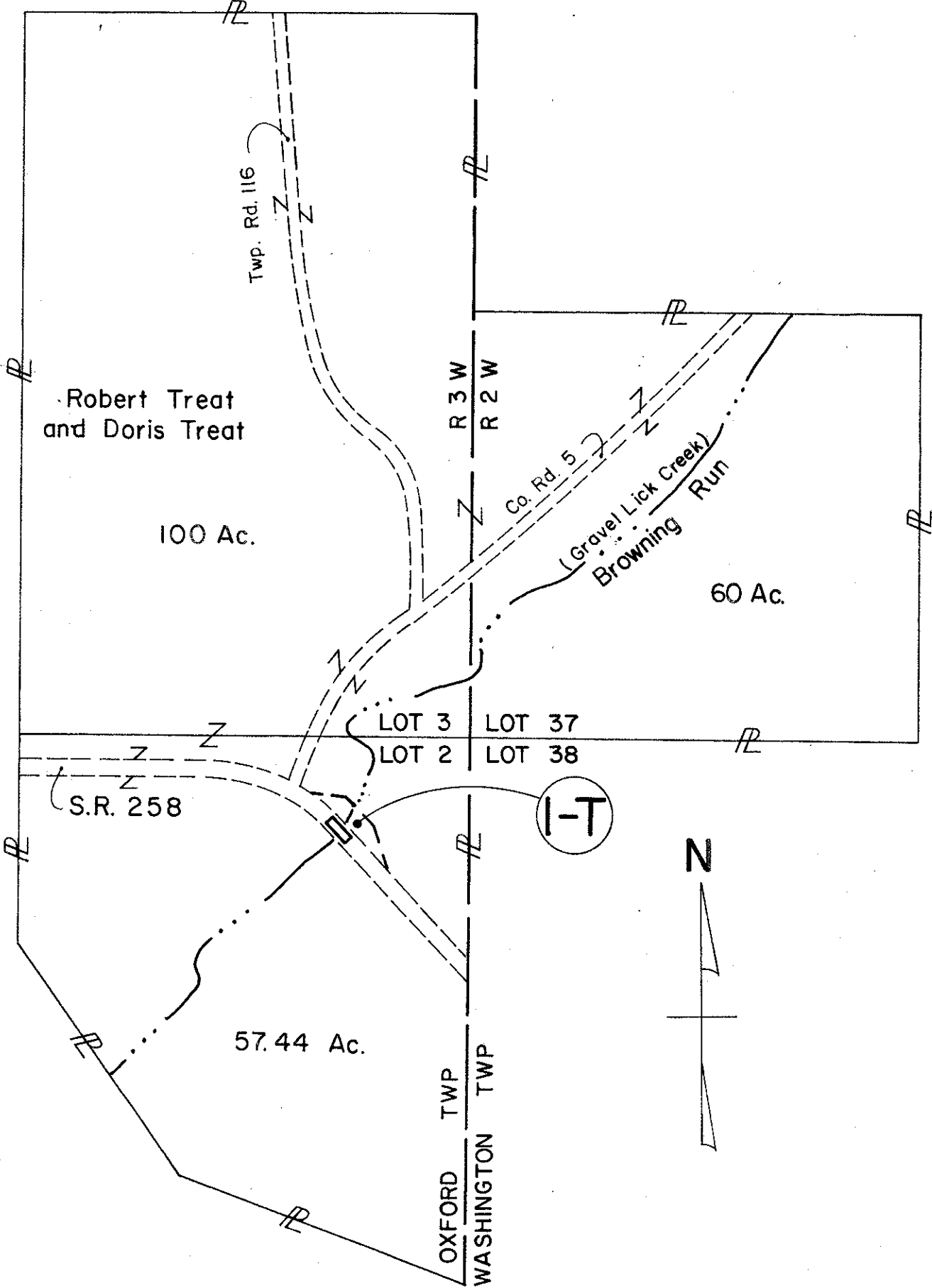
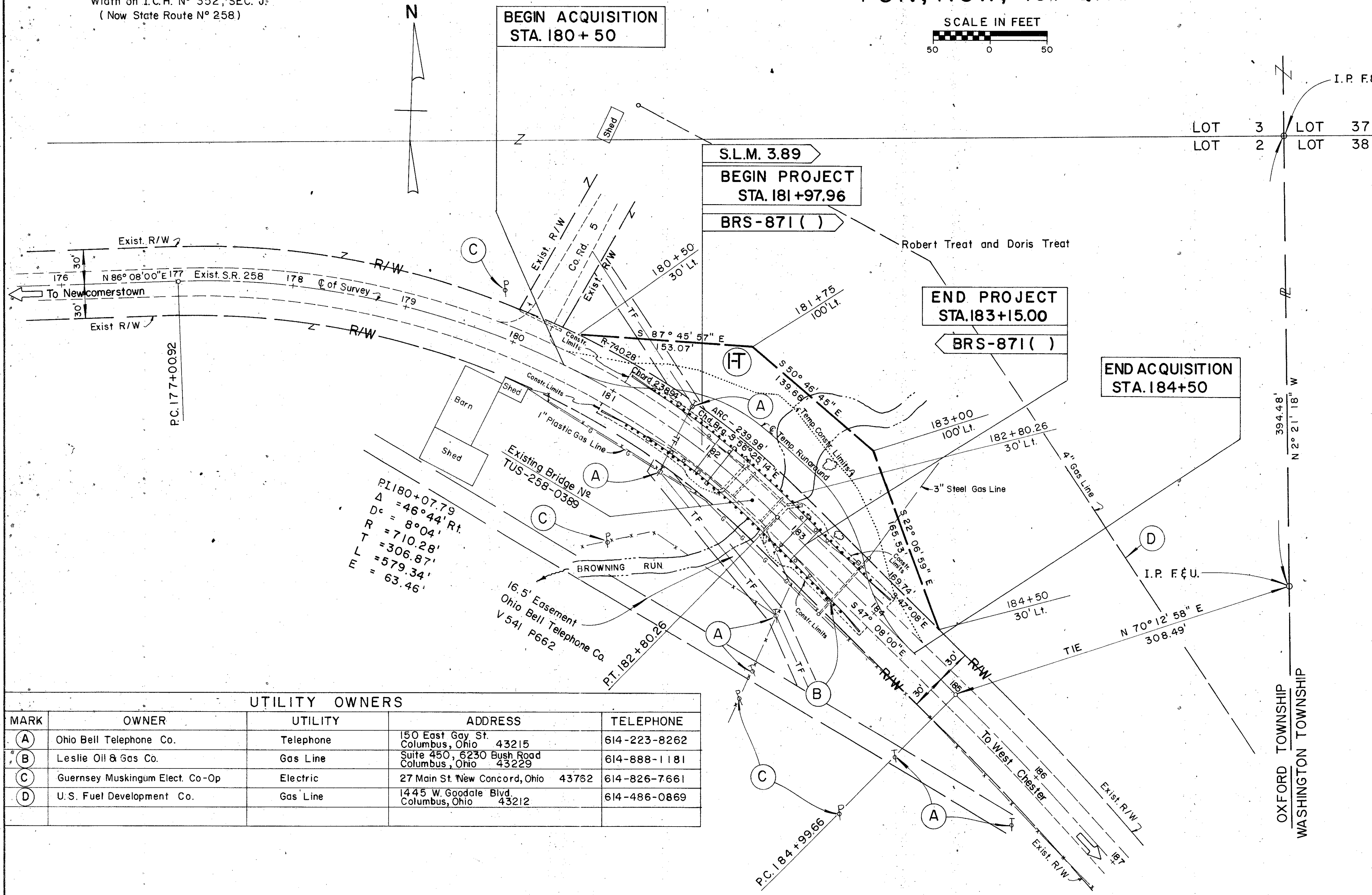
TUSCARAWAS COUNTY
OXFORD TOWNSHIP
T5N, R3W, 1st. QTR.

FHWA REGION	STATE	STATE PROJECT NO.	
5	OHIO	11507 (0)	

TUS-258-3.89

R/W PLAN

NOTE: May 12, 1924
Tuscarawas County Commissioners
Certify 60 Feet Right of Way
Width on I.C.H. N° 352, SEC. J.
(Now State Route N° 258)



UTILITY OWNERS				
MARK	OWNER	UTILITY	ADDRESS	TELEPHONE
A	Ohio Bell Telephone Co.	Telephone	150 East Gay St. Columbus, Ohio 43215	614-223-8262
B	Leslie Oil & Gas Co.	Gas Line	Suite 450, 6230 Bush Road Columbus, Ohio 43229	614-888-1181
C	Guernsey Muskingum Elect. Co-Op	Electric	27 Main St. New Concord, Ohio 43762	614-826-7661
D	U.S. Fuel Development Co.	Gas Line	1445 W. Goodale Blvd. Columbus, Ohio 43212	614-486-0869

NOTE:
Record Area After Outsals Minus Total P.R.O.
Minus Net Take Equals Net Residue.

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED													REVISION	BY	DATE
Total No. Owners - 1			No. Total Takes - 0			Total Owners With Structures Involved-0									
*PARCEL NO.	OWNER	DEED RECORD			RECORD AREA (ACRES)	TOTAL PRO (ACRES)	TOTAL TAKE (ACRES)	PRO IN TAKE (ACRES)	NET TAKE (ACRES)	NET RES. RIGHT (ACRES)	NET RES. LEFT (ACRES)	BLDGS TO BE ACQD			
I-T	Robert Treat and Doris Treat	230	246	1-3-46	57.44	2.851	0.429	0	0.429	46.094	8.495	---	LOT 2 - OXFORD Twp.	STATE	
					100	2.865	0	0	0	---	97.135		LOT 3- OXFORD Twp.		
					60	1.267	0	0	0	---	58.733		LOT 37- Washington Twp.		
				</											

00123184

TUSCARAWAS COUNTY
TUS-258-3.89

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GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE HIGHLY DISSECTED UNGLACIATED PORTION OF THE ALLEGHENY PLATEAU REGION, ON THE NARROW FLOODPLAIN OF AND OVER BROWNING RUN, IN AN AREA WHERE DEEP VALLEY AND ALLUVIAL DEPOSITS OVERLIE BEDROCK, OF PENNSYLVANIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE BORINGS MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED ON FEBRUARY 23 AND 24, 1982.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE BORINGS ENCOUNTERED INTERVALS OF EXTREMELY LOOSE TO EXTREMELY DENSE UNSTRATIFIED BASIC SAND, SILTS AND CLAYS MODIFIED WITH GRAVEL, WOOD FRAGMENTS AND VARYING AMOUNTS OF EACH OTHER THAT GRADUALLY INCREASE (ERRATIC AT TIMES) IN DENSITY WITH INCREASE IN DEPTH. BORING B-1 (IN THE GENERAL VICINITY OF THE REAR ABUTMENT) ENCOUNTERED AN INTERVAL OF WOODY PEAT AT 10.0-FOOT DEPTH, DATUM ELEVATION 90.2 FEET, BORING B-1 PENETRATED TO A DEPTH OF 41.5 FEET, DATUM ELEVATION 58.7 FEET, AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 6.5 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST. BORING B-2 (IN THE GENERAL VICINITY OF THE FORWARD ABUTMENT) PENETRATED TO A DEPTH OF 46.5 FEET, DATUM ELEVATION 53.3 FEET AND WAS TERMINATED, AFTER PENETRATING IN EXCESS OF 21.5 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST.

BEDROCK SURFACE WAS NOT ENCOUNTERED IN EITHER OF THE TEST BORINGS PERFORMED.

NO FREE WATER OBSERVATIONS WERE MADE DURING OR AT THE CONCLUSION OF DRILLING OPERATIONS.

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.

- Capped Pile
- Footing
- Footing on Pile
- Top of Rock

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale

LEGEND

- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- 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.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Indicates Final Measurement of Penetration, in Inches.
- Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

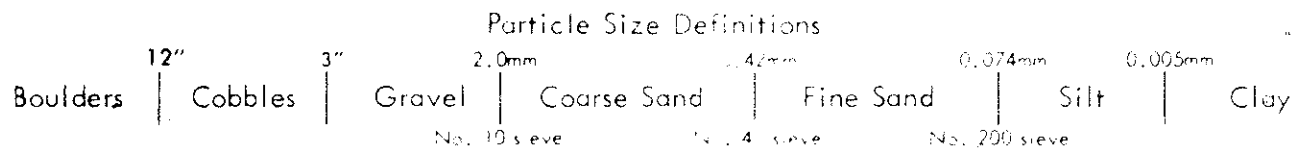
Drive Sample Borings - Drive-Press Sample Borings

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 drop-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 the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.



LOG OF BORING
Date Started 2-23-82 Sampler Type SS Dia 1 3/8"
Date Completed 2-24-82 Casing Length Dia
Boring No B-1 Station B Offset 182+00, 12' LT. (REAR ABUTMENT) Surface Elev 100.2' DATUM ELEV.

Elev	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Physical Characteristics										S-1TL Class.	
						Sample No	% Agg	% C.S.	% F.S.	% SH	% Clay	LL	PI	W.C.			
100.2	0																
	2				BROWN SANDY SILT (DRILLER'S DESCRIPTION)												VISUAL
95.2	4																
	6	1/2/2			BROWN SANDY SILT	10	0	3	48	26	23	NP	NP	19	A-4A		
	8																
90.2	10	1/2/1			DARK-GRAY WOODY PEAT	11	-	-	-	-	-	-	-	468	VISUAL		
	12																
85.2	14	2/6/12			GRAY CLAYEY SILT WITH WOOD FRAGMENTS	12	0	1	5	39	55	31	8	32	A-4A		
	16																
80.2	18																
	20																
	22	4/8/9			GRAY SANDY SILT	13	0	5	28	21	46	24	7	22	A-4A		
	24																
75.2	26	4/6/9			GRAY WITH BROWN SANDY SILT	14	0	3	19	32	46	29	10	26	A-4A		
	28																
70.2	30	6/10/15			GRAY SANDY CLAY	15	0	1	35	18	46	29	11	29	A-6A		
	32																
65.2	34	17/19/24			BROWN SILTY SAND	16	8	16	40	18	18	NP	NP	15	A-4A		
	36																
	38																
60.2	40	20/29/33			GRAY WITH BROWN SANDY SILT	17	6	9	31	31	23	NP	NP	22	A-4A		
58.7	42																

BOTTOM OF BORING

LOG OF BORING
Date Started 2-23-82 Sampler Type SS Dia 1 3/8"
Date Completed 2-23-82 Casing Length Dia
Boring No B-2 Station B Offset 183+00, 12' RT. (FORWARD ABUTMENT) Surface Elev 99.8' DATUM ELEV.

Elev	Depth	Std. Pen (N)	Rec. ft.	Loss ft.	Description	Sample No	Physical Characteristics										S-1TL Class.
							% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	WC			
99.8	0																
	2				GRAY SILT (DRILLER'S DESCRIPTION)												VISUAL
	4																
	6																
94.8	8	AUGERED			BROWN WITH GRAY SANDY SILT	1	2	2	27	45	24	23	4	20			A-4A
	10																
89.8	12	1/1/2			BROWN WITH GRAY SILTY SAND	2	0	6	72	7	15	NP	NP	27			A-3A
	14																
84.8	16	2/4/6			GRAY WITH BROWN CLAYEY SILT	3	0	0	1	31	68	28	9	29			A-4A
	18																
79.8	20	5/5/5			GRAY WITH BROWN SILT AND CLAY	4	0	0	11	29	60	30	11	28			A-6A
	22																
	24																
74.8	26	8/16/16			BROWN WITH GRAY SILTY SAND	5	12	14	46	9	19	NP	NP	21			A-3A
	28																
69.8	30	26/31			BROWN SILTY SAND	6	3	7	67	8	15	NP	NP	24			A-3A
	32																
	34																
64.8	36	25/31/36			BROWN SILTY SAND	7	3	5	77	0	15	NP	NP	26			A-3A
	38																
59.8	40	30/36/49			BROWN SILTY SAND	8	11	9	63	6	11	NP	NP	23			A-3A
	42																
	44																
54.8	46	21/26/31			BROWN SILTY SAND	9	12	18	44	12	14	NP	NP	15			A-3A
53.3																	

BOTTOM OF BORING

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
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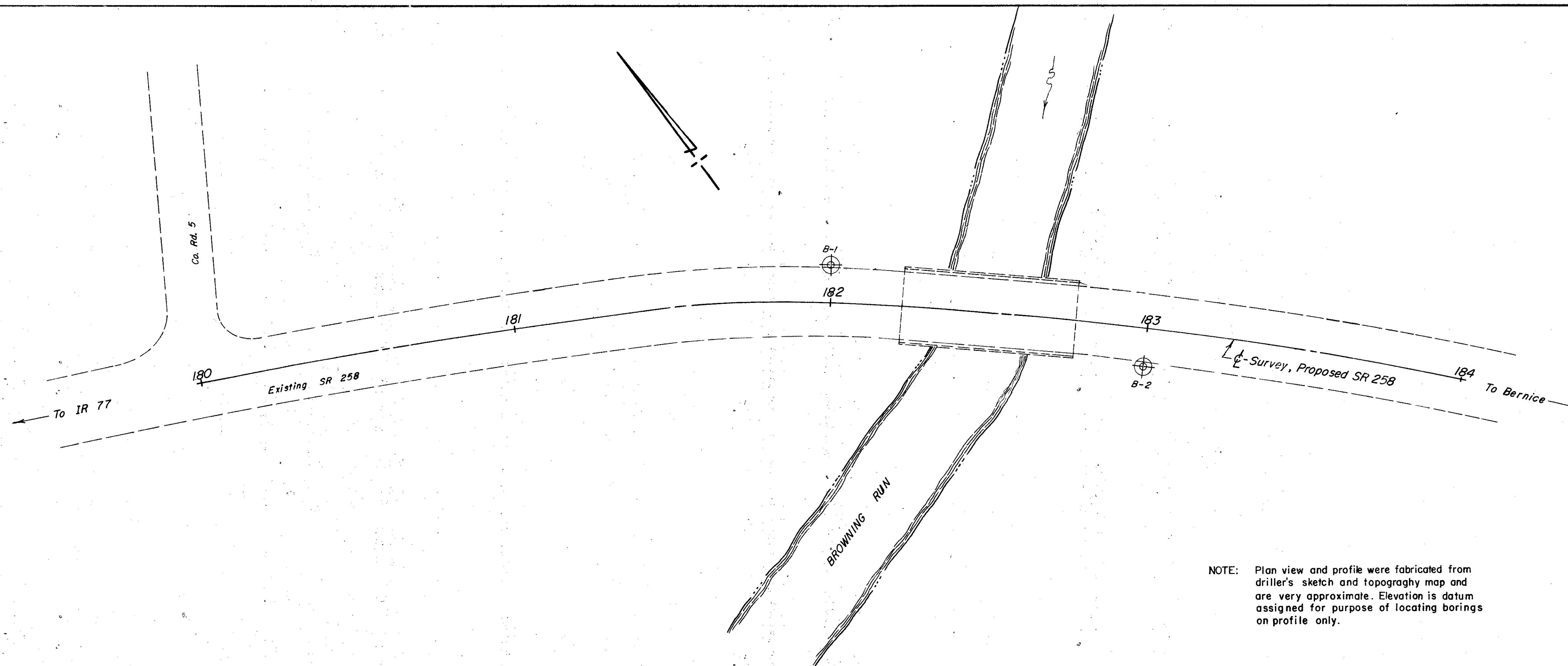
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. TUS-258-0389
OVER BROWNING RUN
SEC. TUS-258-3.89

CHECKED BY L. N. L. REVIEWED BY R. D. R. DATE 5/14/82

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2
2
2



NOTE: Plan view and profile were fabricated from driller's sketch and topography map and are very approximate. Elevation is datum assigned for purpose of locating borings on profile only.

110

100

90

80

70

60

50

40

Datum ground line

B-1

1/2/2
1/2/1
2/6/12
4/8/9
4/6/9
6/10/15
17/19/24
20/29/33

B-2

1/1/2
2/4/6
5/5/5
8/16/16
26/31
25/31/36
30/36/49
21/26/31

110

100

90

80

70

60

50

40

180

181

182

183

184

SCALE: 1" = 20'

OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS TESTING LABORATORY 1600 WEST BROAD STREET, COLUMBUS, OHIO 43223			
STRUCTURE FOUNDATION INVESTIGATION			
BRIDGE NO. TUS-258-0389			
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PLAN AND PROFILE			
DRAWN BY A. F.	CHECKED BY L. N. L.	REVIEWED BY R. D. R.	DATE 5/14/82