

b-4

DESIGN DESIGNATION (L & R)

CURRENT ADT (1993)	=	2,230
DESIGN YEAR ADT (2013)	=	3,380
DHV (2013)	=	270
D	=	68 %
T	=	7 %
DESIGN SPEED	=	60 Mph
LEGAL SPEED	=	55 Mph
FUNCTIONAL CLASSIFICATION	=	RURAL PRINCIPAL ARTERIAL
DESIGN EXCEPTIONS	=	NONE

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
**GEA-422-9.82**  
AUBURN TOWNSHIP  
GEAUGA COUNTY

GEA-422-9.82

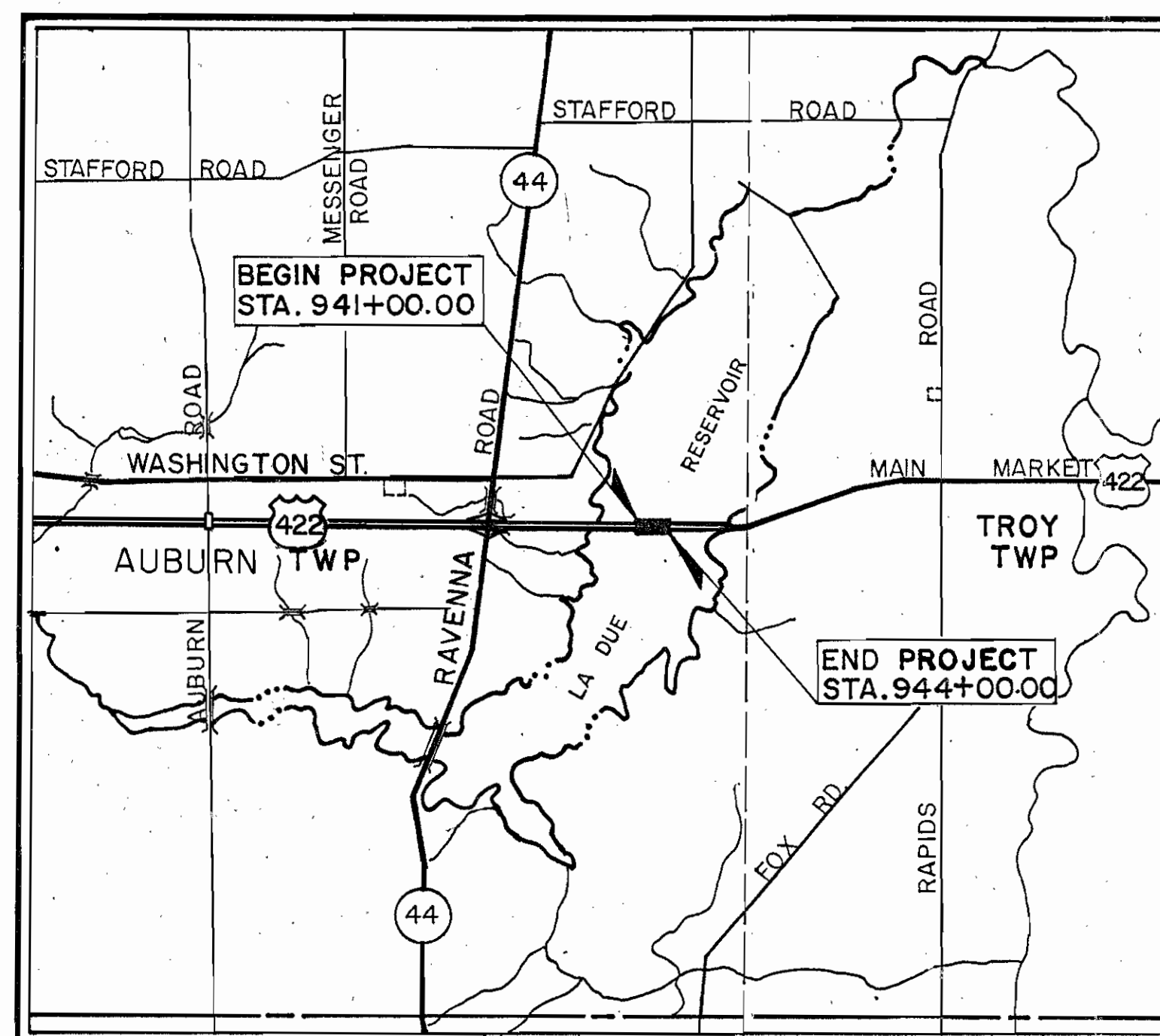
OHIO  
FHWA REGION 5  
1/31

NH-65 (58)  
GEAUGA COUNTY

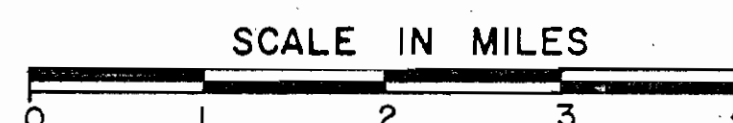
**NH-65 (58)**

CONVENTIONAL SIGNS

County Line	-----	Limited Access (only)	-----	LA
Township Line	-----	Right of Way (only)	-----	RW
Section Line	-----	Limited Access & Right of Way	-----	LA & RW
Corporation Line	-----	Existing Right of Way	-----	
Fence Line (existing)	-x-x-	Property Line	-x-x-	(in existing fence)
Center Line	352 or 353	Railroad	-----	or
Trees, Stumps, (to be removed)	⊗	Guardrail (existing)	-a-a-	(proposed)
Utility Poles: Telephone	⊕			
Water Line (existing)	W			
Fire Hydrant (existing)	FH			
Gas Line (existing)	G			
Conduits: Electrical	E			
Storm Sewer (existing)	S			
Sanitary Sewer (existing)	SAN			
Catch Basin or Inlet: Existing	□			
Manhole: Existing	○			
Utility Valve	WV			
Signs: Existing	+			



LOCATION MAP



INDEX OF SHEETS

TITLE SHEET	1
TYPICAL SECTIONS	2
GENERAL NOTES & GENERAL SUMMARY	3,3A
QUANTITY CALCULATIONS	4
PLAN AND PROFILE	5
CROSS SECTIONS	6, 6A, 7, 7A, 8, 8A, 9, 9A
MAINTENANCE OF TRAFFIC	10,10A,11,12,12A-12D,13,13A-13H
STRUCTURE DRAWINGS	14-29, 29A, 29B, 30, 31

LINE DATA

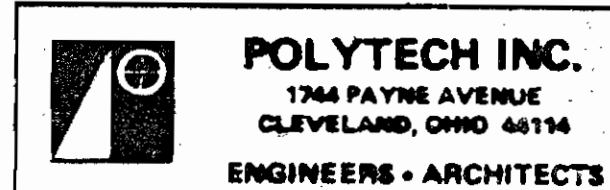
BEGIN PROJECT	=	941 + 00.00
END PROJECT	=	944 + 00.00
NET LENGTH	=	300.00 L.F. = 0.057 MI

BEGIN WORK	=	380+00.00
END WORK	=	985+00.00
NET LENGTH OF WORK	=	8972.00 L.F. = 1.699 MI

\*STATION EQUATION: STA. 410+50 BK = STA 925+78 AH

STRUCTURE PLANS REVIEWED BY:  
**Burgess & Niple, Limited**  
Engineers and Architects

Plan Prepared By:



UNDERGROUND UTILITIES  
TWO WORKING DAYS  
**BEFORE YOU DIG**  
Call 800-362-2764 (Toll free)  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

Portion to be improved: State & Federal Routes

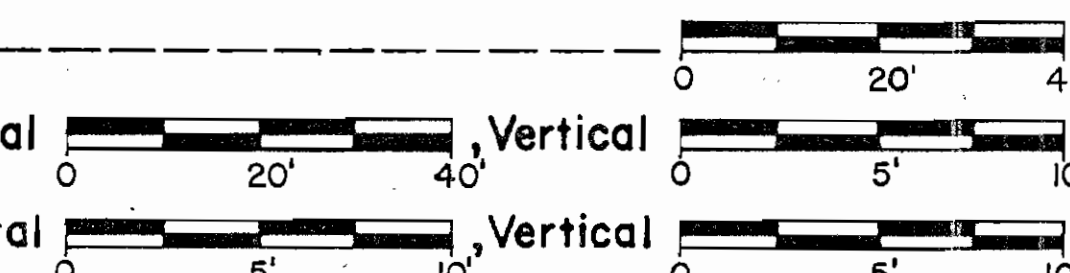
Other Roads

Plan

Profile: Horizontal Vertical

Cross Section: Horizontal Vertical

SCALES



SUPPLEMENTAL SPECIFICATIONS			
NUMBER	DATE	NUMBER	DATE
802	4-13-90	820	3-18-92
841	5-16-84	849	12-24-85
		949	9-26-86
		910	5-20-91
842	5-16-84	931	3-18-92
843	7-29-88	944	3-18-92
852	7-30-93		

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

DRWG.	DATE	DRWG.	DATE	DRWG.	DATE	DRWG.	DATE
MC-9.1	10-30-92	MT-99.10	11-14-86	AS-1-81	11-27-81	GR-4.4	2-21-92
BP-3.1	2-21-92	MT-95.40	10-1-92	BR-1	5-29-79	TC-42.10	8-19-77
BP-5.1	2-21-92	TC-35.10	8-29-84	GR-5.1	10-30-92	TC-42.20	3-26-79
GR-1.1	5-6-91	MT-95.70	2-23-90	EXJ-2-81	4-2-84	MT-101.60	7-1-92
GR-1.2	10-30-92	MT-100.00	2-23-90	RB-1-55	2-2-59	TC-51.10	1-20-84
GR-1.3	2-21-92	MT-105.10	7-1-92	GR-5.2	10-30-92	TC-41.10	8-29-84
GR-2.1	5-6-91	MT-105.11	7-1-92	SD-1-69	6-12-69	TC-41.20	3-26-79
MC-4	7-26-76	GR-3.1	5-6-91	GR-5.3	10-30-92	TC-52.10	4-3-79
MC-7	10-15-76	GR-3.2	5-6-91	PCB-91	4-24-92	TC-52.20	4-3-79
CB-6	5-1-79			PCB-DD	4-24-92	MT-99.20	4-29-88
MC-9.2	5-6-91	GR-7.1	10-30-92	GR-4.2	5-6-91	TC-51.11	1-20-84
MC-11	8-1-78	GR-3A	2-5-82	GR-4.3	2-21-92	MC-10	5-1-76

1993 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 will be as set forth on the plans and estimates.

Approved: *Bryan S. ...*  
Date 11-15-93 District Deputy Director of Transportation

Approved: *B.D. ...*  
Date 12/19/93 Engineer, Bureau of Bridges and Structural Design

Approved: *Christopher L. ...*  
Date 12-13-93 Deputy Director, Design

Approved: *Jerry ...*  
Date 12-13-93 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

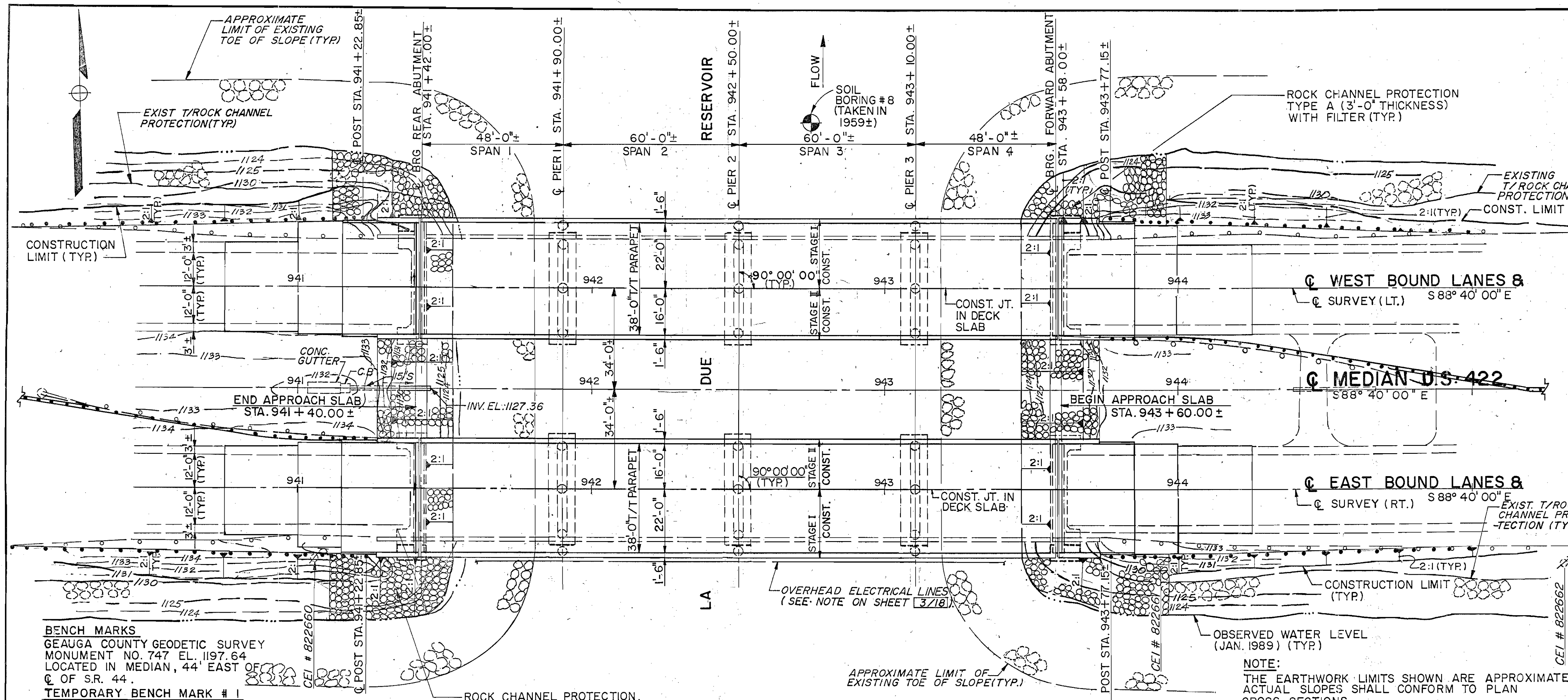
DATE

Project: **GEA-422-9.82** PID: 12072

Date of Letting: 19 Contract No.

1115 Revised 9-9-91

GEAUGA COUNTY  
GEA-422-9.82

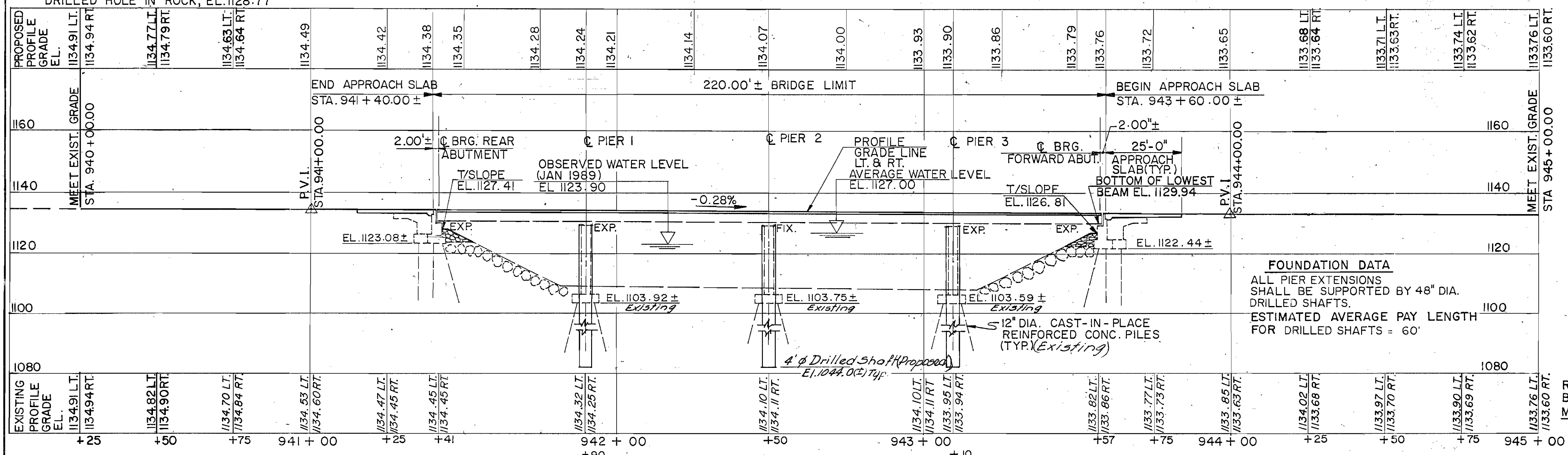


PLAN

**BENCH MARKS**  
 GEAUGA COUNTY GEODETIC SURVEY  
 MONUMENT NO. 747 EL. 1197.64  
 LOCATED IN MEDIAN, 44' EAST  
 OF S.R. 44.  
**TEMPORARY BENCH MARK # 1**  
 STA. 938 + 95, 71' RT.  
 DRILLED HOLE IN ROCK, EL. 1128.24  
**TEMPORARY BENCH MARK # 2**  
 STA. 946 + 10, 65' RT.  
 DRILLED HOLE IN ROCK, EL. 1128.77

ROCK CHANNEL PROTECTION,  
 TYPE A (3'-0" THICKNESS)  
 WITH FILTER (TYP.)

**NOTE:**  
 THE EARTHWORK LIMITS SHOWN ARE APPROXIMATE.  
 ACTUAL SLOPES SHALL CONFORM TO PLAN  
 CROSS SECTIONS



PROFILE ON C SURVEY

**FOUNDATION DATA**  
 ALL PIER EXTENSIONS  
 SHALL BE SUPPORTED BY 48" DIA.  
 DRILLED SHAFTS.  
 ESTIMATED AVERAGE PAY LENGTH  
 FOR DRILLED SHAFTS = 60'

HYDRAULIC DATA	
LA DUE RESEVOIR	
AVERAGE WATER EL.	: 1127.00
LOWEST WATER EL. (9-2-88)	: 1119.45
OBSERVED WATER EL. (JAN 89)	: 1123.90
TRAFFIC DATA	
CURRENT ADT (1993)	= 2230 L & R.
DESIGN YEAR ADT (2013)	= 3380 L & R.
ADTT (2013)	= 237 L & R.
EXISTING STRUCTURE	
TYPE	: FOUR (4) SPAN CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.
SPANS	: 48', 60', 60' AND 48'
ROADWAY WIDTH	: 30'-0" FACE TO FACE OF SAFETY CURBS 34'-6" FACE TO FACE OF PARAPETS
SKEW	: NONE
LOAD CAPACITY	: CF = 2000
DECK	: 8 3/4" REINFORCED CONCRETE
WEARING SURFACE	: LATEX MODIFIED CONCRETE
APPROACH SLABS	: AS-1-54 (25'-0" LONG)
ALIGNMENT	: ON TANGENT
DATE BUILT	: 1960±
STRUCTURE	: 280I655 LEFT BRIDGE, 280I744 RIGHT BRIDGE
FILE NO.	
PROPOSED STRUCTURE	
TYPE	: FOUR (4) SPAN CONTINUOUS COMPOSITE STEEL BEAMS WITH REINFORCED CONC. DECK AND SUBSTRUCTURE
SPANS	: 48', 60', 60' & 48'
ROADWAY WIDTH	: 38'-0" FACE TO FACE OF CURBS OF STANDARD BRIDGE RAILING BR-1
DESIGN LOADING	: HS20-44 CASE II AND THE ALTERNATE MILITARY LOADING
SKEW	: NONE
WEARING SURFACE	: MONOLITHIC CONCRETE
APPROACH SLABS	: AS-1-81 (25'-0" LONG)
ALIGNMENT	: ON TANGENT
SUPER ELEVATION	: NONE

REVIEWED BY  
 BURGESS & NIPLE, LTD.  
 MPB 1-4-91

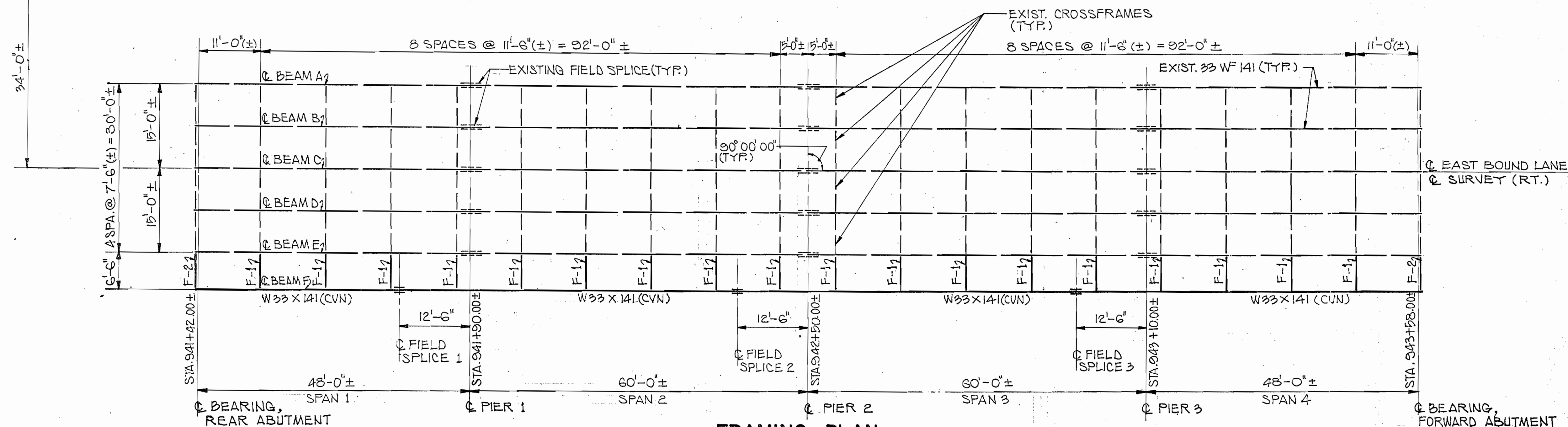
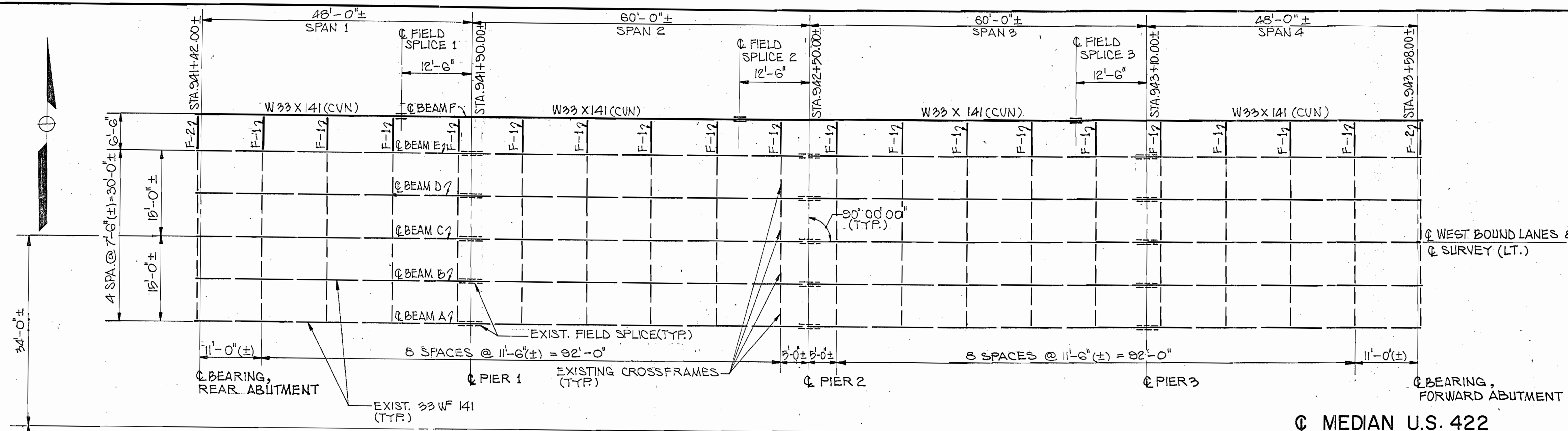
**POLYTECH, INC.** 1/18  
 CONSULTING ENGINEERS CLEVELAND, OHIO

**SITE PLAN**  
 BRIDGE NO. GEA-422-0982/L/R  
 OVER LA DUE RESEVOIR  
 GEAUGA COUNTY STA. 941 ± 40.00 ± TO  
 STA. 943 ± 60.00 ±

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JO	GS	GS	CT	GA	12/90	

NOTES:

- WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.
- WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO THE COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF FLANGE, BE NOT MORE THAN 2" LONG AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO REQUIREMENTS.
- FOR DETAILS OF CROSSFRAMES F-1 AND F-2 AND FIELD SPLICE DETAILS, SEE SHEET [15718]
- FOR ROCKER AND BOLSTER BEARING, DETAILS, SEE OHIO STANDARD BRIDGE DRAWING RB - 1 - 55.
- FOR BEAM ELEVATION AND CAMBER DIAGRAM, SEE SHEET [14718]



**FRAMING PLAN**

POLYTECH, INC.		13 / 18	
CONSULTING ENGINEERS		CLEVELAND, OHIO	
<b>FRAMING PLAN</b>			
BRIDGE NO. GEA-422-0982 L/R OVER LA DUE RESERVOIR GEAUGA COUNTY			
DESIGNED	DRAWN	TRACED	CHECKED
JO	GS	GS	CT
REVIEWED	DATE	REVISED	
GA	12/90		

FHWA REGION	STATE	PROJECT
5	OHIO	

29  
31

GEAUGA COUNTY  
GEA-422-9.82

TABLE I

NUMBER OF PARAPET PANELS	LENGTH OF PANELS	LONGITUDINAL BAR DESIGNATION	ES505 BARS	
			NUMBER OF ES505 PER PANEL	SPACING
28	7'-6"	ES508	6	9@1'-4 3/4"
8	13'-1/2"	ES509	10	9@1'-4 3/4"
8	15'-0"	ES510	11	10@1'-5 3/8"

NOTES:  
1. SLAB DEPTH: THE NOMINAL DECK SLAB DEPTH OVER BEAMS IS 8 3/4 INCHES. THE ACTUAL DECK SLAB DEPTH MAY BE MORE, IT SHOULD NOT BE LESS. 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 SCREENED ELEVATIONS FOR THE SAME LOCATIONS (OR PROPOSED SCREED ELEVATIONS AS DETERMINED FROM ADJACENT SCREED ELEVATIONS) TO OBTAIN ACTUAL SLAB DEPTHS. FOR DEPTHS LESS THAN 8 3/4 INCHES, THE DIRECTOR SHALL BE NOTIFIED TO DETERMINE 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 NOMINAL DECK SLAB DEPTH GIVEN ABOVE.

2. A TYPICAL HAUNCH WIDTH OF 9 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE, HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6 INCHES AND 12 INCHES, PROVIDED THAT THE SLOPE IS NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9 INCHES IN WIDTH.

3. ALL BARS IN DECK SHALL BE EPOXY COATED, THESE BARS ARE PRE-FIXED E.

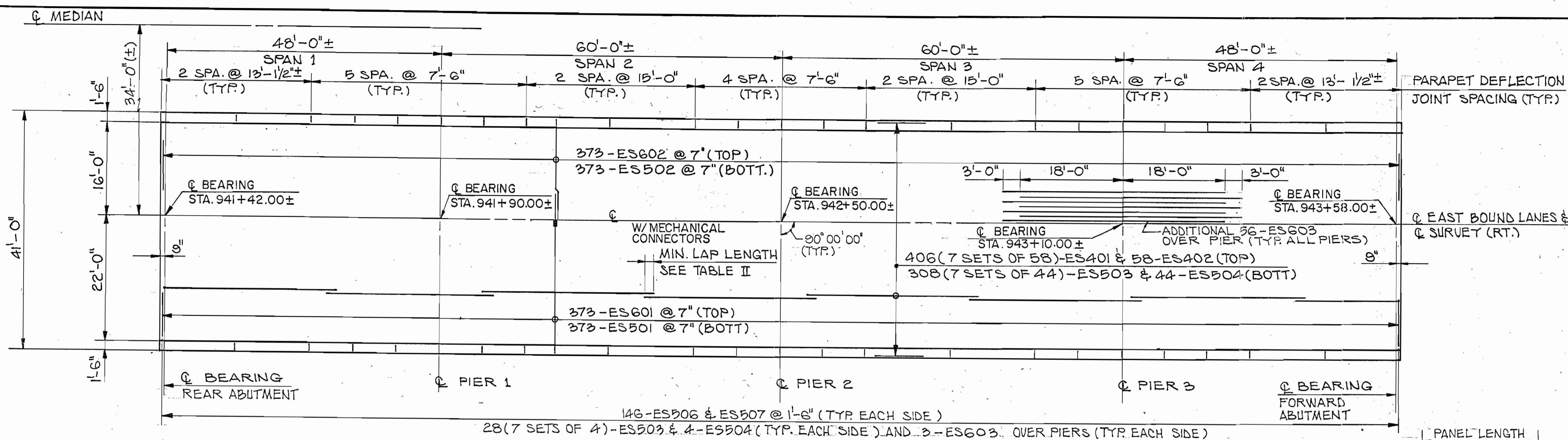
4. DRIP GROOVES SHALL TERMINATE 2'-0" FROM THE FACES OF ABUTMENTS.

5. TOP OF FINAL PAVEMENT ELEVATIONS ARE GIVEN ALONG CENTERLINE OF BEAMS.

6. DECK SCREED ELEVATIONS SHOWN ARE GIVEN AT TOP OF CONCRETE DECK AND ARE REQUIRED BEFORE THE CONCRETE IS PLACED, PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS DUE TO CONCRETE.

7. FOR STAGE CONSTRUCTION DETAILS SEE SHEET 17/18 AND ROADWAY PLANS.

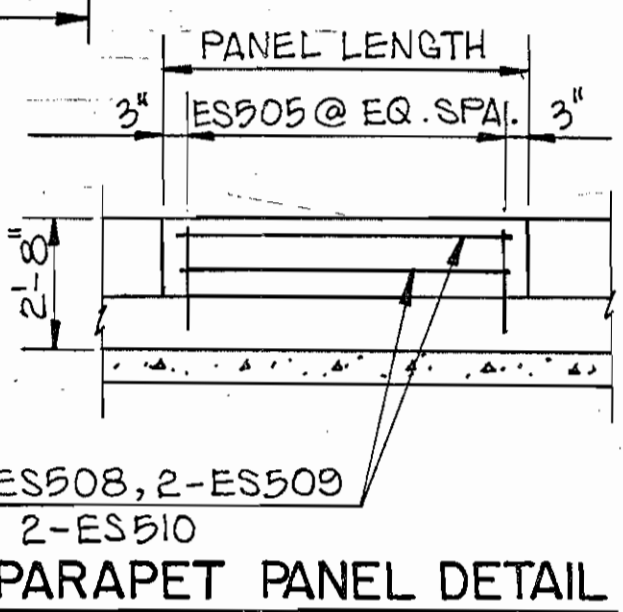
8. DECK SLAB PLAN, TYPICAL CROSS SECTION AND ELEVATIONS SHOWN ARE FOR EASTBOUND LANE, THE WESTBOUND LANE DECK SLAB SHALL BE OPPOSITE HAND.



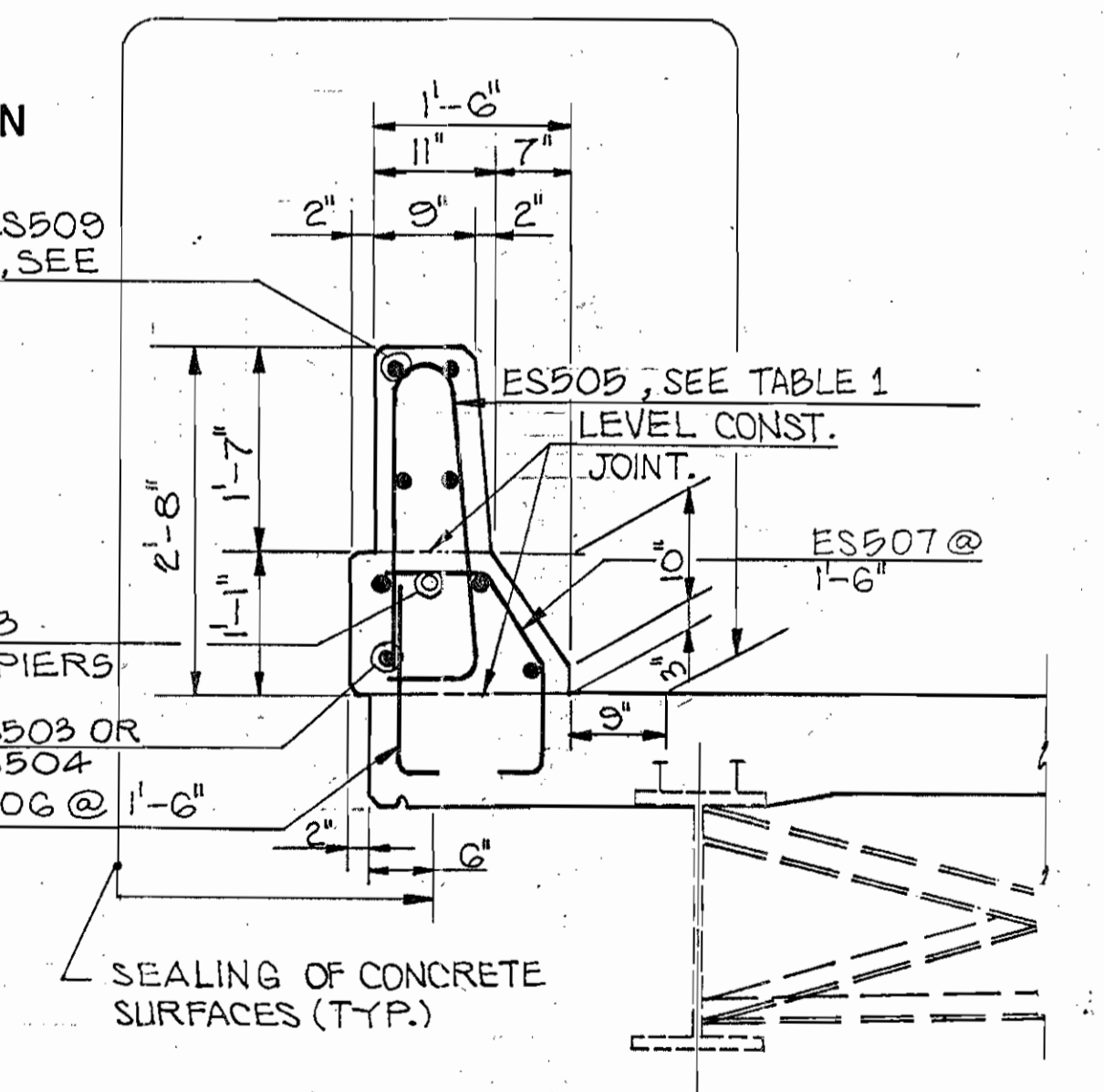
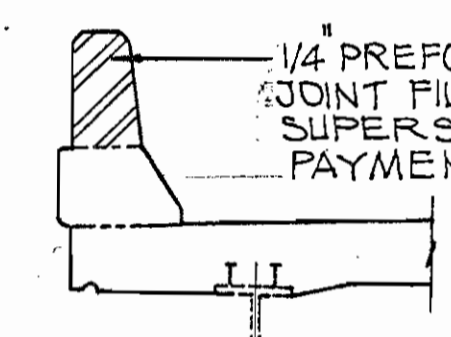
DECK SLAB PLAN

TABLE II  
MINIMUM LAP LENGTHS FOR EPOXY COATED BARS

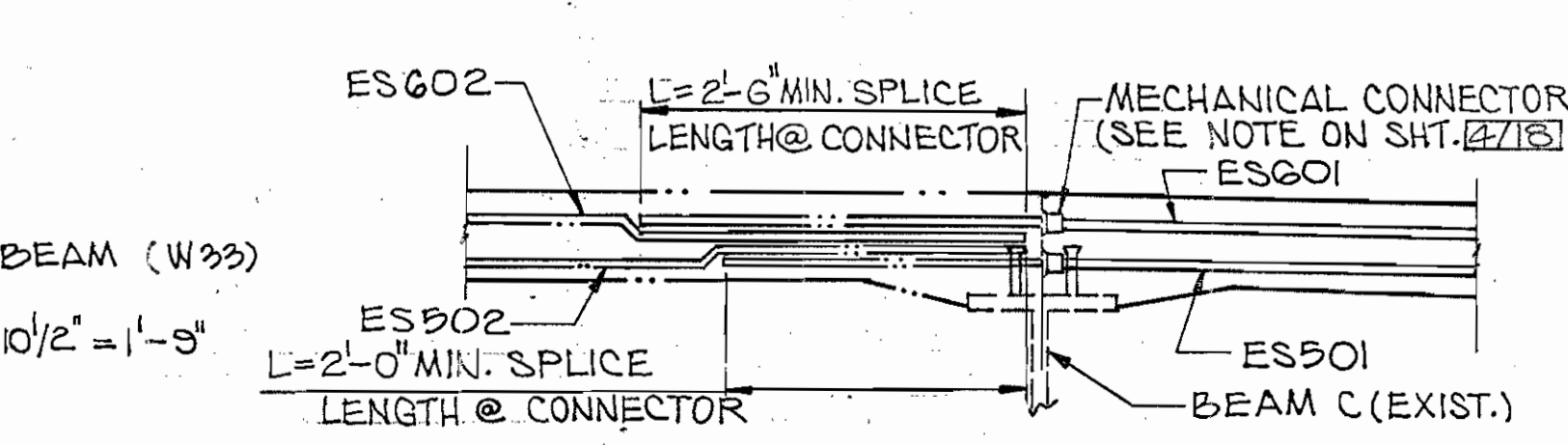
#4 BAR	1'-9"
#5 BAR	2'-0"



SECTION THRU PARAPET DEFLECTION JOINT



PARAPET DETAIL



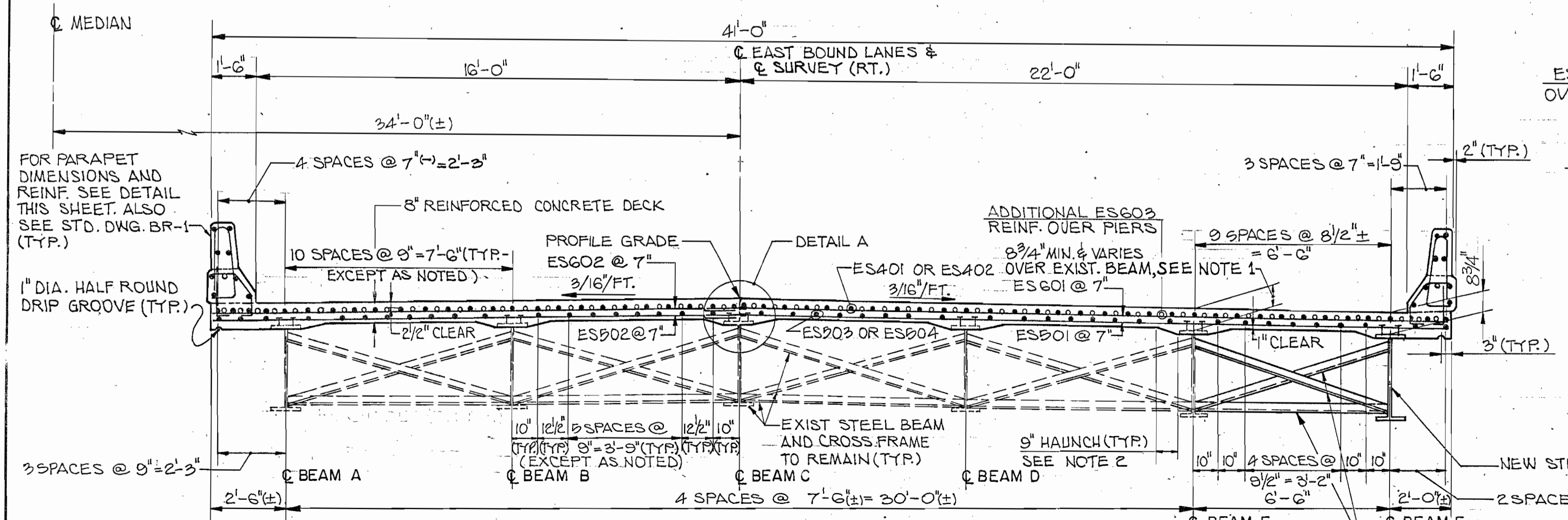
DETAIL A

TOP OF FINAL PAVEMENT ELEVATIONS (TOP OF PORTLAND CEMENT CONCRETE)

AT BEAM	Q. BRG. REAR ABUTMENT	SPAN 1				SPAN 2				SPAN 3				SPAN 4				Q. BRG. FORWARD ABUTMENT		
		1/4 SPAN	1/2 SPAN	3/4 SPAN	FIELD SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	FIELD SPLICE 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	FIELD SPLICE 3	1/4 SPAN	1/2 SPAN	3/4 SPAN				
A	1134.13	1134.10	1134.07	1134.03	1134.03	1134.00	1133.96	1133.91	1133.87	1133.87	1133.83	1133.79	1133.75	1133.70	1133.66	1133.63	1133.60	1133.56	1133.53	
B	1134.25	1134.22	1134.19	1134.15	1134.15	1134.12	1134.08	1134.03	1133.99	1133.99	1133.95	1133.91	1133.87	1133.82	1133.82	1133.78	1133.75	1133.72	1133.68	1133.65
C	1134.37	1134.34	1134.31	1134.27	1134.27	1134.24	1134.20	1134.15	1134.11	1134.11	1134.07	1134.03	1133.99	1133.94	1133.94	1133.90	1133.87	1133.84	1133.80	1133.77
D	1134.25	1134.22	1134.19	1134.15	1134.15	1134.12	1134.08	1134.03	1133.99	1133.99	1133.95	1133.91	1133.87	1133.82	1133.82	1133.78	1133.75	1133.72	1133.68	1133.65
E	1134.13	1134.10	1134.07	1134.03	1134.03	1134.00	1133.96	1133.91	1133.87	1133.87	1133.83	1133.79	1133.75	1133.70	1133.70	1133.66	1133.63	1133.60	1133.56	1133.53
F	1134.04	1134.01	1133.98	1133.94	1133.94	1133.91	1133.87	1133.82	1133.78	1133.78	1133.74	1133.70	1133.66	1133.61	1133.61	1133.57	1133.54	1133.51	1133.47	1133.44

DECK SCREED ELEVATIONS (TOP OF PORTLAND CEMENT CONCRETE) (SEE NOTE 7)

	SPAN 1				SPAN 2				SPAN 3				SPAN 4				Q. BRG. FORWARD ABUTMENT			
	Q. BRG. REAR ABUTMENT	1/4 SPAN	1/2 SPAN	3/4 SPAN	FIELD SPLICE 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	FIELD SPLICE 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	FIELD SPLICE 3	1/4 SPAN	1/2 SPAN	3/4 SPAN				
LEFT GUTTER	1134.12	1134.10	1134.07	1134.03	1134.03	1133.99	1133.96	1133.92	1133.87	1133.86	1133.82	1133.79	1133.75	1133.70	1133.69	1133.65	1133.62	1133.60	1133.56	1133.52
Q. SURVEY	1134.37	1134.35	1134.32	1134.28	1134.28	1134.24	1134.21	1134.17	1134.12	1134.11	1134.07	1134.04	1134.00	1133.95	1133.94	1133.90	1133.87	1133.85	1133.81	1133.77
RIGHT GUTTER	1134.03	1134.01	1133.97	1133.93	1133.93	1133.89	1133.86	1133.83	1133.78	1133.77	1133.73	1133.69	1133.66	1133.61	1133.60	1133.56	1133.53	1133.50	1133.47	1133.42



TYPICAL CROSS SECTION

POLYTECH, INC. 16/18  
CONSULTING ENGINEERS CLEVELAND, OHIO

**DECK SLAB PLAN & TYPICAL CROSS SECTION**  
BRIDGE NO. GEA-422-0982 L/R  
OVER LA DUE RESERVOIR  
GEAUGA COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JO	GS	GS	CT	GA	12/90	