MICROFILMED
JAN 11 1994

FHWA REGION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
5	OHIO	BRS 485 (8)	

1 / 2.4

ASD-302-1.52

BRS-485 (8)

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
ASD-302-1.52
PERRY TOWNSHIP
ASHLAND COUNTY

DESIGN DESIGNATION

CURRENT A.D.T. (1988)	= 560
DESIGN YEAR A.D.T. (2008)	= 670
D.H.V.	= 67
D. (DIRECTIONAL DISTRIBUTION)	= 50%
T. (PERCENT B. & C. TRUCKS)	= 4 %
V. (DESIGN SPEED)	= 55 M.P.H.
LEGAL SPEED	= 55 M.P.H.
FUNCTIONAL CLASSIFICATION	= RURAL COLLECTOR

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE ... OR
FENCE LINE (EXISTING) —X—X— (PROPOSED) —X—X—
CENTER LINE
TREES, STUMPS (TO BE REMOVED)
UTILITY POLES: TELEPHONE, POWER, LIGHT
WATER LINE —W— W.V. GAS LINE —G— G.V.

LIMITED ACCESS — LA
RIGHT OF WAY — RW
TEMPORARY RIGHT OF WAY — T
EXISTING RIGHT OF WAY
PROPERTY LINE (IN EXISTING FENCE) —X—X—
RAILROAD ... OR
GUARD RAIL (EXISTING) (PROPOSED)
WORK LIMITS
SEWERS: SANITARY —S— STORM —ST—

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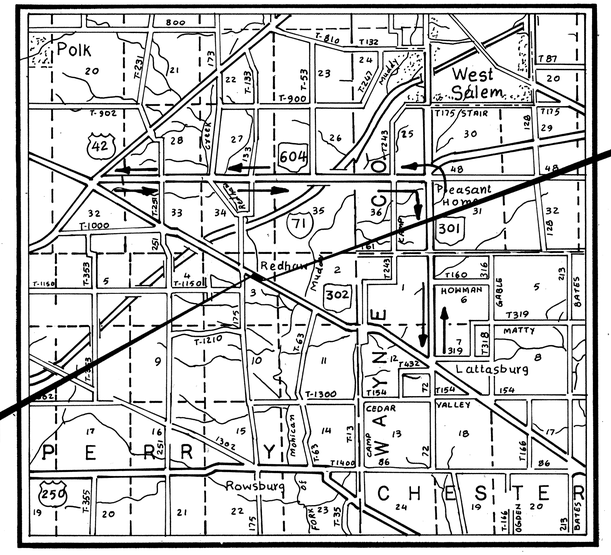


LOCATION MAP

SCALE IN MILES
0 1/2 1 2 3 4

PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES
OTHER ROADS
DETOUR

SCALES

PLAN 0 100'
PROFILE: HORIZONTAL 0 100', VERTICAL 0 10'
CROSS SECTION: HORIZONTAL 0 10', VERTICAL 0 10'

1989 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 REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON THE LOCATION MAP.

APPROVED Gary R. Cross
DATE 3/24/89 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED B. D. Hershberger/WTC
DATE 6/20/89 ENGINEER BUREAU OF BRIDGES AND STRUCTURAL DESIGN

APPROVED Theodore J. Stitt
DATE 7/28/89 CHIEF ENGINEER, PLANNING AND DESIGN

APPROVED Bernard B. Hunt
DATE 7/28/89 DIRECTOR, DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATIONS		
836	11-12-85	-
841	5-16-84	
843	7-29-88	
847	10-17-83	—
947	10-17-83	
802	5-4-88	-

LINE DATA				
	PROJECT	WORK		
BEGIN	80 + 10	79 + 00		
END	83 + 40	84 + 50		
NET LENGTH	330 LIN. FT. = 0.063 MILE	550 LIN. FT. = 0.104 MILE		

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

STRUCTURE PLANS REVIEWED BY:
Burgess & Niple, Limited
Columbus, Ohio

PREPARED AND RECOMMENDED BY
PSB TECH/LINDA TIMMER
CONSULTING ENGINEERS
CLEVELAND, OHIO

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS									
BP-5	10-1-87	MC-1	6-13-69	MT-99.10	11-14-86	AS-1-81	11-27-81		
						DBR-2-73	4-10-73		
GR-1	1-11-85	MC-10	5-1-76			PSBD-1-81	9-18-81		
GR-2B	2-5-82	MC-11	8-1-78	TC-42.20	3-26-79				
GR-3	1-21-85								
GR-4	2-5-82								
GR-4A	1-30-84								

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED:

DIVISION ADMINISTRATOR DATE

PROJECT: ASD-302-1.52 ASHLAND COUNTY
DATE OF LETTING _____ 19___, CONTRACT NO. _____

TITLE SHEET

FHWA REGION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
5	OHIO	BRS-485(8)	

2/24

ASD-302-1.52

TYPICAL SECTIONS

0' 2' 4' 6' 8'

SCALE IN FEET

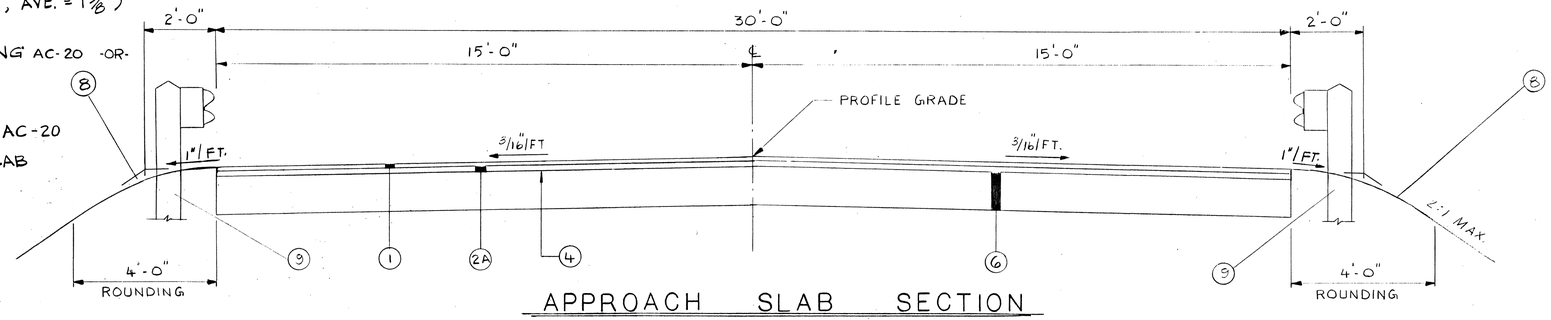
LEGEND

1. 404 1¼" ASPHALT CONCRETE, AC-20
2. 402 1¾" ASPHALT CONCRETE, AC-20
2A. 402 VAR. ASPHALT CONC., AC-20 (1½" MIN., AVE. = 1⅝")
3. 403 0" MIN. ASPHALT CONCRETE PRELEVELING AC-20 -OR- 202 VAR. WEARING COURSE REMOVED.
4. 407 TACK COAT (SEE GENERAL NOTE)
5. 301 3" BITUMINOUS AGGREGATE BASE, AC-20
6. 611 REINFORCED CONCRETE APPROACH SLAB (T = 15")
7. 304 3" AGGREGATE BASE
7A. 304 8" AGGREGATE BASE
8. 659 SEEDING AND MULCHING (SEE GENERAL NOTE)
9. 606 GUARDRAIL, TYPE 5
10. 605 AGGREGATE DRAINS (SEE GEN. NOTE)
11. 408 BITUMINOUS PRIME COAT, APPLIED AT THE RATE OF 0.4 GAL. PER SQ. YD.

A. EXISTING ASPHALT PAVEMENT

B. EXISTING BASE TRAFFIC BOUND AGGREGATE

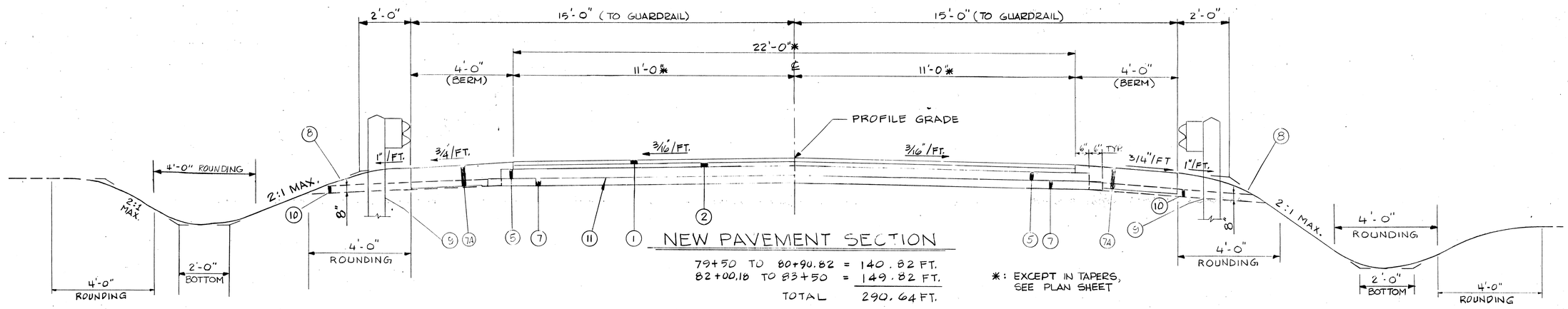
TYPE 404



APPROACH SLAB SECTION

80+90.82 TO 81+15.82 = 25 FT.
81+75.18 TO 82+00.18 = 25 FT.
TOTAL 50 FT.

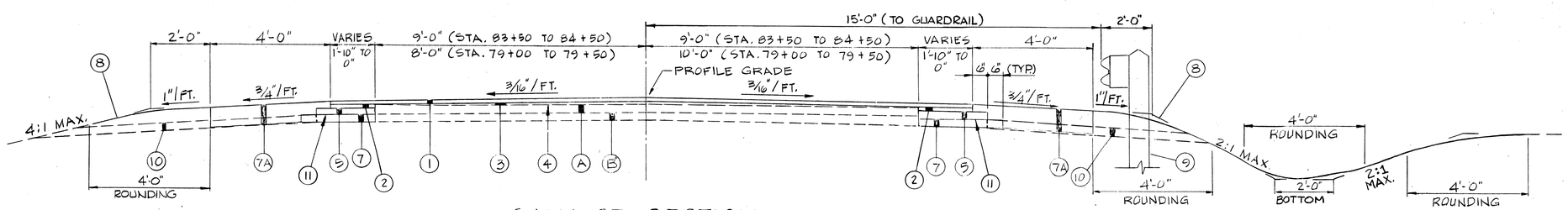
BRIDGE LIMITS - STA. 81+15.82 to STA. 81+75.18



NEW PAVEMENT SECTION

79+50 TO 80+90.82 = 140.82 FT.
82+00.18 TO 83+50 = 149.82 FT.
TOTAL 290.64 FT.

*: EXCEPT IN TAPERS, SEE PLAN SHEET



SALVAGE SECTION

79+00 TO 79+50 = 50.00 FT.
83+50 TO 84+50 = 100.00 FT.
TOTAL 150.00 FT.

GENERAL NOTES

FIELD OFFICE
THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 300 SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619. FIELD OFFICE.

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.

UNDERGROUND UTILITIES
THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

UTILITY OWNERSHIP
THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

TELEPHONE: GENERAL TELEPHONE COMPANY
117 NORTH SANDUSKY STREET
BELLEVUE, OHIO 44811
419/483-8190

ELECTRIC: OHIO EDISON COMPANY
76 SOUTH MAIN STREET
AKRON, OHIO 44308
216/384-5100

GAS/OIL: COLUMBIA GAS TRANSMISSION CORP.
TRANSMISSION: P.O. BOX 1273
CHARLESTON, WV 25325
304/357-2000

QUAKER STATE OIL REFINING CORP.
120 STATE ROUTE 302
POLK, OHIO 44866
419/869-7441

WATER: QUAKER STATE OIL REFINING CORP.
120 STATE ROUTE 302
POLK, OHIO 44866
419/869-7441

CONTINGENCY QUANTITIES
THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY 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 AT THE ENGINEER'S DESCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

PLUGGING OIL AND GAS WELLS
ALL OIL AND GAS WELLS LOCATED WITHIN THE LIMITS OF THE RIGHT-OF-WAY, EXCEPT THOSE WHICH HAVE BEEN PLUGGED TO THE SATISFACTION OF THE DEPARTMENT OF NATURAL RESOURCES, SHALL BE PLUGGED BY THE CONTRACTOR BEFORE ANY OTHER CONSTRUCTION IS STARTED IN THE VICINITY OF THE WELLS. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES, DIVISION OF OIL AND GAS, COLUMBUS, OHIO. ALL WORK CONNECTED WITH PLUGGING OF THE WELLS MUST BE PERFORMED UNDER THE SUPERVISION OF A REPRESENTATIVE OF THE DIVISION OF OIL AND GAS. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE DIVISION OF OIL AND GAS AT LEAST 14 DAYS IN ADVANCE OF THE DATE ON WHICH HE INTENDS TO BEGIN WORK.

RECORDED INFORMATION REGARDING THESE WELLS, AND PERMITS TO PLUG THE WELLS, SHALL BE OBTAINED BY THE CONTRACTOR AT THE DIVISION OF OIL AND GAS.

PAYMENT FOR THE WORK SHALL BE MADE PER EACH UNDER "ITEM SPECIAL, PLUGGING OIL AND GAS WELL," WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, TOOLS AND EQUIPMENT, AND ALL INCIDENTIALS NECESSARY TO COMPLETE THIS ITEM.

THE FOLLOWING ESTIMATED QUANTITY OF "PLUGGING OIL AND GAS WELLS" WAS CARRIED TO THE GENERAL SUMMARY, IN THE EVENT THE CONTRACTOR ENCOUNTERS WELLS REQUIRING PLUGGING, OR THE ENGINEER REQUIRES WELLS THAT WERE PLUGGED PRIOR TO THIS PROJECT, TO BE REPLUGGED. ALL OR PART OF THIS QUANTITY MAY BE NONPERFORMED.
ITEM SPECIAL 1 EACH PLUGGING OIL AND GAS WELLS.

605 AGGREGATE DRAINS
AGGREGATE DRAINS SHALL BE PLACED AT FIFTY(50) FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS AND AT TWENTY FIVE (25) FOOT INTERVALS ON THE LOW SIDE OF SUPERELEVATED SECTIONS, EXCEPT WHERE ITEM 605 PIPE UNDERDRAINS HAVE BEEN PROVIDED. AN AGGREGATE DRAINS SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

WATERING PERMANENT SEEDED AREAS
THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH OF THE PERMANENT SEEDED AREAS, AS PER 659.09:

659 WATER 4 M GAL.

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:

207 STRAW AND HAY BALES 50 EACH

SPRING DRAINS
REFERENCE IS MADE TO THE DETAILED DRAWING ON STANDARD CONSTRUCTION DRAWING MC-1, SHOWING THE METHOD OF DRAINING ANY SPRING THAT MAY BE SHOWN ON THE PLAN, OR ENCOUNTERED DURING CONSTRUCTION, AS DETERMINED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 605 - 50 L.F. 6" UNCLASSIFIED PIPE UNDERDRAIN, 707.01 TYPE III OR 707.21 TYPE III, AS PER PLAN.

ITEM 605 - 6 L.F. AGGREGATE DRAINS FOR SPRINGS.

THE CONTRACTOR SHALL NOT ORDER MATERIALS FOR "SPRING DRAINS" UNTIL AUTHORIZED BY THE ENGINEER, AND IN THE EVENT NO SPRINGS ARE ENCOUNTERED, THE ITEM SHALL BE NON-PERFORMED.

REMOVAL OF TREES OR STUMPS
ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201. CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	8	0	8
30"	1	1	2
48"	0	0	0
60"	0	0	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

LOCATION 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.

SEEDING
QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN TEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT-OF-WAY LINE, IF SUCH LINE IS LESS THAN TEN (10) FEET FROM THE WORK LIMITS.

CHANNEL EMBANKMENTS
PORTIONS OF THE EXISTING CHANNEL OUTSIDE THE ROADBED, SHALL BE FILLED AND SLOPED TO DRAIN, AS CALLED FOR ON THE PLANS. THE CONTRACTOR SHALL USE EITHER SUITABLE OR UNSUITABLE MATERIALS, TO THE EXTENT AVAILABLE, FOR CHANNEL EMBANKMENTS.

AREAS WHERE CHANNEL EMBANKMENTS ARE TO BE PLACED SHALL BE CLEARED OF WEEDS AND BRUSH.

THE REQUIREMENTS FOR MOISTURE, DENSITY CONTROL, BENCHING, AND SUITABLE MATERIALS SHALL BE WAIVED.

THE DEPTH OF LAYERS IN WHICH THE EMBANKMENTS ARE PLACED AND THEIR COMPACTION SHALL, IN LIEU OF THE REQUIREMENTS OF ITEM 203, CONFORM WITH ACCEPTABLE CONSTRUCTION PRACTICES AS DETERMINED BY THE ENGINEER.

NO PROVISIONS OF THE SPECIFICATIONS SHALL BE WAIVED FOR EMBANKMENTS WHICH SUPPORT ANY PORTION OF THE NEW ROADBED OR STRUCTURAL MEMBERS.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203, EMBANKMENT.

EROSION CONTROL
ITEMS 601 AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS, AND TURF OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE 670. THE ENGINEER SHALL CHECK AND NON-PERFORMED QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

TEMPORARY PAVEMENT MARKINGS
THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

614 TEMPORARY CENTER LINES, CLASS II 0.10 MILE - THIS ITEM MAY BE NON-PERFORMED IF THE 621 PAVEMENT MARKINGS ARE IN PLACE PRIOR TO THE OPENING OF THE ROAD TO TRAFFIC.

407 TACK COAT
THE RATE OF APPLICATION OF 407 TACK COAT SHALL BE DETERMINED AS PER 407.05. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.10 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

MAINTENANCE OF TRAFFIC:

DETOUR LIMITATION AND INTERIM COMPLETION DATE:

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. EXCEPT FOR A PERIOD NOT TO EXCEED 120 CONSECUTIVE CALENDER DAYS, THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON TITLE SHEET.

THE CONTRACTOR SHALL NOTIFY THE DISTRICT TRAFFIC ENGINEER IN WRITING A MINIMUM OF SEVEN (7) DAYS IN ADVANCE OF THE DATE THE DETOUR IS NEEDED. THE STATE OF OHIO WILL INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE THE DETOUR SIGNING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES AT THE APPROXIMATE WORK LIMITS OF THE PROJECT.
SEE SHEET NO. 4

THE 120 CONSECUTIVE CALENDER DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDER DAY BEYOND THE 120 CONSECUTIVE CALENDER DAYS THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES, AS PER SECTION 108.07.

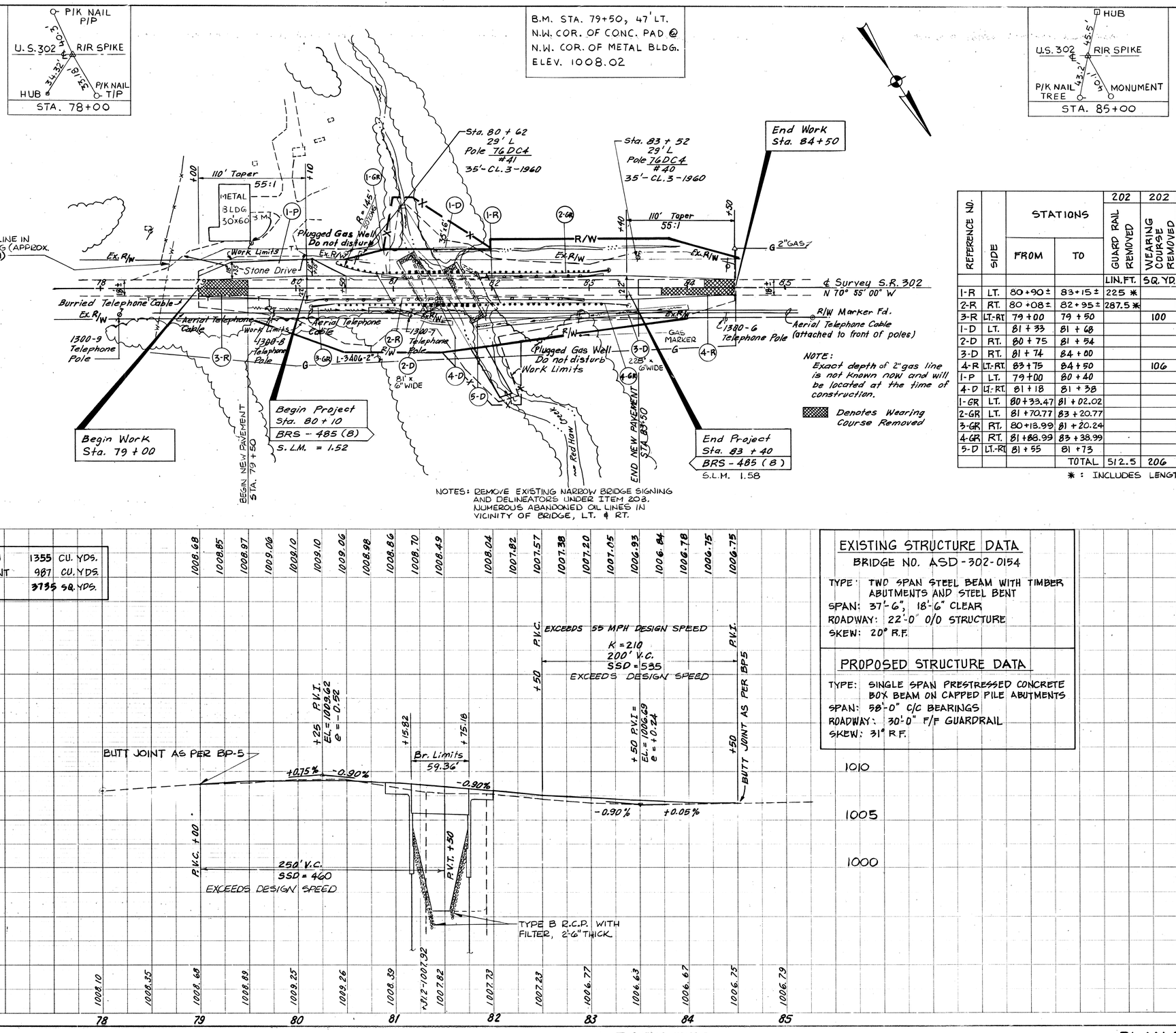
LOCAL TRAFFIC SHALL BE MAINTAINED AS PER 614.02(a).

FHWA REGION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
5	OHIO	BRS-485(8)	

7 / 24

ASD-302-1.52

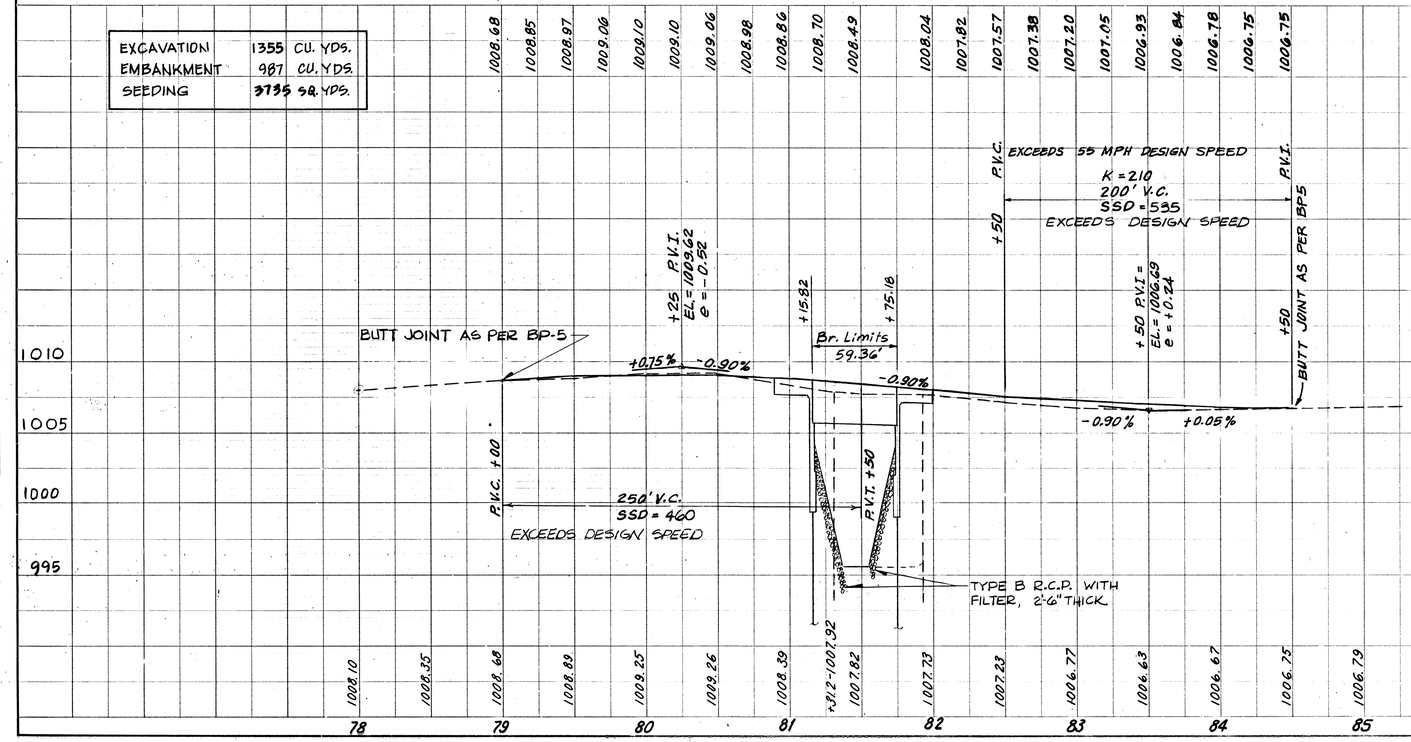
CALC. BY: L.C.T. 3-87
CHECKED BY: G.S.B. 4-87



REFERENCE NO.	SIDE	STATIONS FROM	STATIONS TO	202 GUARD RAIL REMOVED	202 WEARING COURSE REMOVED	304 AGGREGATE BASE	802 BARRIER REFLECTOR, TYPE A	601 ROCK CHANNEL PROTECTION TYPE B WITH FILTER	606 GUARD RAIL, TYPE 5	606 BRIDGE TERMINAL ASSEMBLY, TYPE B	606 ANCHOR ASSEMBLY, TYPE A	606 ANCHOR ASSEMBLY, TYPE T	670 DITCH EROSION PROTECTION
				LIN. FT.	SQ. YD.	CU. YD.	EACH	CU. YD.	LIN. FT.	EACH			SQ. YD.
1-R	LT.	80+90±	83+15±	225 *									
2-R	RT.	80+08±	82+95±	287.5 *									
3-R	LT.-RT.	79+00	79+50		100								
1-D	LT.	81+33	81+68										23
2-D	RT.	80+75	81+54										54
3-D	RT.	81+74	84+00										152
4-R	LT.-RT.	83+75	84+50		106								
1-P	LT.	79+00	80+40			41							
4-D	LT.-RT.	81+18	81+38					95					
1-GR	LT.	80+33.47	81+02.02				4		56.25	1		1	
2-GR	LT.	81+70.77	83+20.77						125.00	1	1		
3-GR	RT.	80+13.99	81+20.24				4		81.25	1	1		
4-GR	RT.	81+88.99	83+38.99						125.00	1	1		
5-D	LT.-RT.	81+55	81+73					94					
			TOTAL	512.5	206	41	8	189	387.50	4	3	1	229

* : INCLUDES LENGTH ON BRIDGE

EXCAVATION	1355	CU. YDS.
EMBANKMENT	987	CU. YDS.
SEEDING	3735	SQ. YDS.



EXISTING STRUCTURE DATA

BRIDGE NO. ASD-302-0154

TYPE: TWO SPAN STEEL BEAM WITH TIMBER ABUTMENTS AND STEEL BENT
SPAN: 37'-6", 18'-6" CLEAR
ROADWAY: 22'-0" O/O STRUCTURE
SKEW: 20° R.F.

PROPOSED STRUCTURE DATA

TYPE: SINGLE SPAN PRESTRESSED CONCRETE BOX BEAM ON CAPPED PILE ABUTMENTS
SPAN: 58'-0" C/C BEARINGS
ROADWAY: 30'-0" F/F GUARDRAIL
SKEW: 31° R.F.

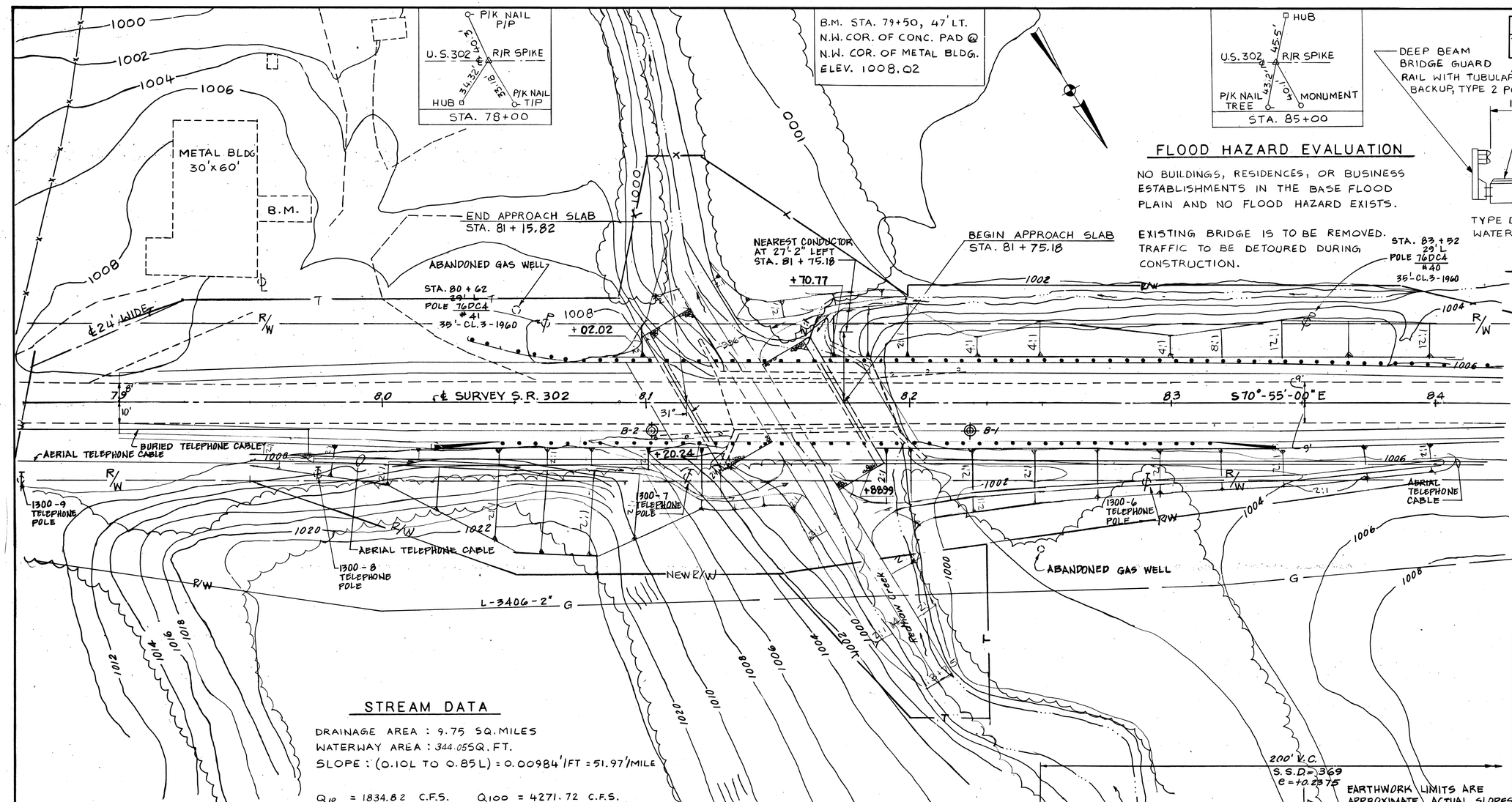
PLATE 1, PLAN PROFILE
KEUFFEL & ESSER CO.

PLAN & PROFILE STA. 78+00 TO STA. 85+00

FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-485(8)	

16/24

ASD-302-1.52

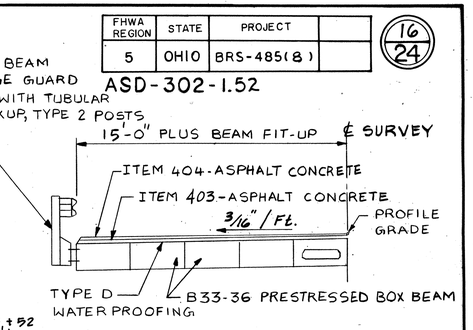


PLAN

FLOOD HAZARD EVALUATION

NO BUILDINGS, RESIDENCES, OR BUSINESS ESTABLISHMENTS IN THE BASE FLOOD PLAIN AND NO FLOOD HAZARD EXISTS.

EXISTING BRIDGE IS TO BE REMOVED. TRAFFIC TO BE DETOURED DURING CONSTRUCTION.

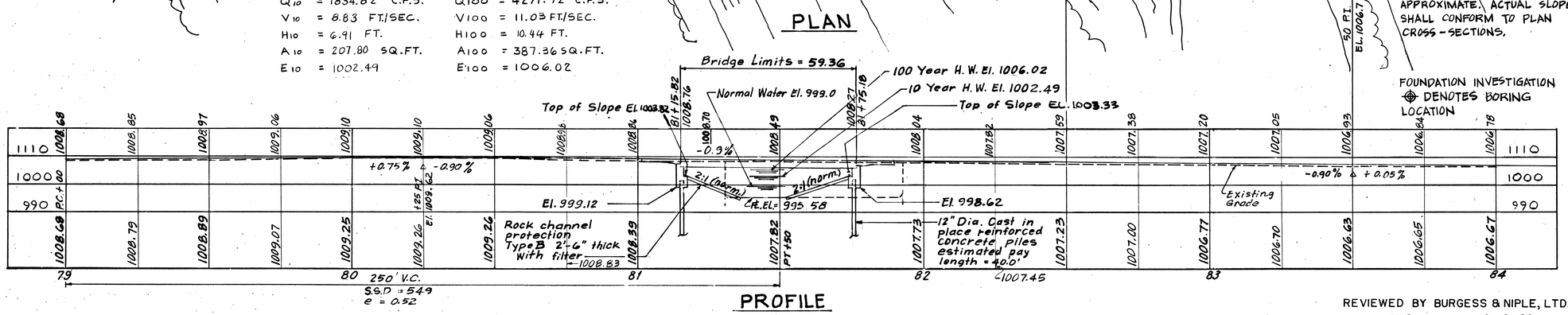


HALF TYPICAL SECTION
(SYMMETRICAL ABOUT ℄ SURVEY)

STREAM DATA

DRAINAGE AREA : 9.75 SQ. MILES
WATERWAY AREA : 344.055 Q. FT.
SLOPE : (0.10L TO 0.85L) = 0.00984'/FT = 51.97'/MILE

Q_{10}	= 1834.82 C.F.S.	Q_{100}	= 4271.72 C.F.S.
V_{10}	= 8.83 FT./SEC.	V_{100}	= 11.03 FT./SEC.
H_{10}	= 6.91 FT.	H_{100}	= 10.44 FT.
A_{10}	= 207.80 SQ.FT.	A_{100}	= 387.36 SQ.FT.
E_{10}	= 1002.49	E_{100}	= 1006.02



PROFILE

EXISTING STRUCTURE

BRIDGE NO.: ASD-302-0154
TYPE: TWO SPAN STEEL BEAM WITH TIMBER ABUTMENTS AND STEEL BENTS.
SPAN: 37'-6" & 18'-6" CLEAR
ROADWAY: 22'-0" O/O STRUCTURE
LOADING: S-18-6 (46)
SKEW: 20° R.F.
TYPE OF FLOOR: 3" CONCRETE WITH ASPHALT WEARING SURFACE
APPROACH SLABS: NONE
HEIGHT: PROFILE GRADE TO STREAM BED = 11'-6"
STREAM BED: GRAVEL
ALIGNMENT: TANGENT
DATE BUILT: 1934
STRUCTURE FILE NO.: 0305251
CONDITION: SUFFICIENCY RATING 29.6% SD
WEARING SURFACE: ASPHALT

PROPOSED STRUCTURE

TYPE: SINGLE SPAN PRESTRESSED CONCRETE BOX BEAM ON CAPPED PILE ABUTMENTS
SPAN: 58'-0" c/c BEARINGS
ROADWAY: 30'-0" F/F GUARDRAIL
SIDEWALKS: NONE
LOADING: HS-20-44 AND THE ALTERNATE MILITARY LOADING
SKEW: 31° R.F.
WEARING SURFACE: 2½" MIN. ASPHALT CONC.
APPROACH SLABS: AS-1-81 (25'-0" LONG)
ALIGNMENT: TANGENT
AVERAGE DAILY TRAFFIC: 560 (1987) 670 (2007)
CROWN: 3/16"/FT.

REVIEWED BY BURGESS & NIPLE, LTD.
JLG 4-6-89

PSB Tech., Inc. / Linda — Linda C. Timmer, P.E. & Assoc., Inc.
CONSULTING ENGINEERS — CLEVELAND, OHIO 44115

1/7

SITE PLAN

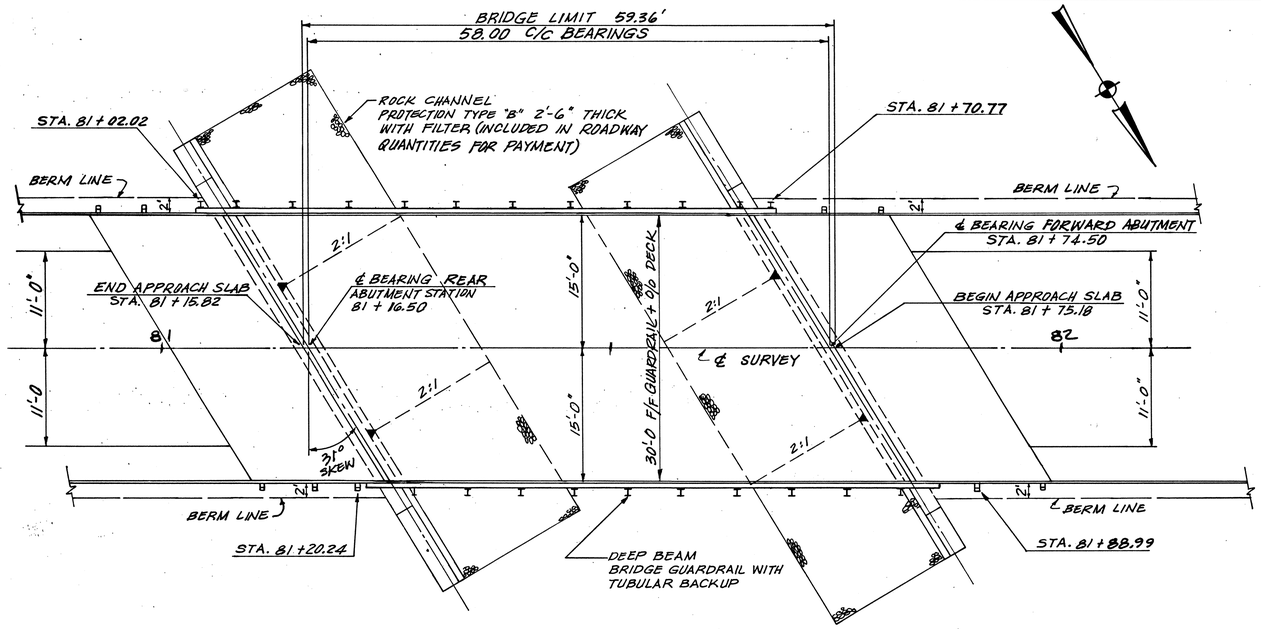
BRIDGE NO. ASD-302-0154
S.R. 302 OVER REDHAW CREEK
STA. 81+15.82 TO STA. 81+75.18
ASHLAND COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
GSB	HNP	HNP	LCT	LT	1-88	

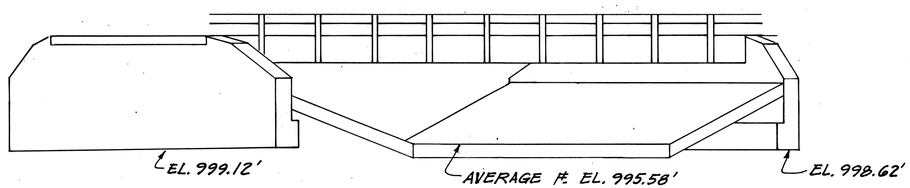
FHWA REGION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
5	OHIO	BRS 485 (8)	

17/24

ASD-302-1.52



GENERAL PLAN



ELEVATION

ESTIMATED QUANTITIES

CALCULATED BY: GSB DATE: 6-88
CHECKED BY: LT DATE: 7-88

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	SUPER.	GEN'L.			
202	Lump	Sum	Structures Removed			Lump			
403	11	Cu. Yd.	Asphalt Concrete (AC-20)		11				
404	7	Cu. Yd.	Asphalt Concrete (AC-20)		7				
503	Lump	Sum	Cofferdams, Cribs and Sheeting			Lump			
503	105	Cu. Yd	Unclassified Excavation	105					
505	Lump	Sum	Pile Driving Equipment Mobilization	Lump					
507	560	Lin. Ft.	12" Cast-In-Place Reinforced Concrete Piles	560					
509	4227	Lbs.	Reinforcing Steel, Grade 60	4227					
509	3133	Lbs.	Epoxy Coated Reinforcing Steel, Grade 60	3133					
511	36	Cu. Yd.	Class C Concrete, Abutments above Footings As Per Plan	36					
511	36	Cu. Yd.	Class C Concrete, Footings, AS PER PLAN	36					
512	201	Sq. Yd.	Type D Waterproofing		193	8			
515	10	Each	Prestressed Concrete Bridge Members, (B33-36) *		10				
516	194	Sq. Ft.	1" Preformed Expansion Joint Filler	194					
516	40	Each	1"x5"x12" Laminated Elastomeric Bearings (50 Durometer)	40					
516	73	Lin. Ft.	2" Deep Joint Sealer, As per Plan	73					
516	9	SQ. Ft.	⅛" Preformed Bearing Pads, 711.21	9					
517	137.5	Lin. Ft.	Railing (Deep Beam w/ Stl. Tubular Back-up, Type 2 Steel Posts & Bolts) *		137.5				
518	33	Cu. Yd.	Porous Backfill, As Per Plan	33					
Special	73	Lin. Ft.	Sawing and Sealing Bituminous Concrete Joints	73					
SPECIAL	42	SQ. YD.	SEALING OF CONCRETE SURFACES, EPOXY *	42					
Special	91	Sq. Ft.	Steel Drip Strip		91				
Special	36	Sq. Yd.	Sealing of Concrete Surfaces *		36				

* See Proposal Note

REFERENCE shall be made to Standard Drawings: DBR-2-73 (dated 4-10-73) PSBD-1-81, sheets 1, 2, and 3 of 4 (dated 9-18-81) AS-1-81, sheets 1 and 2 of 3 (dated 11-27-81) and to Supplemental Specification. 836 (dated 11-12-85).

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1983 including 1984, 1985, 1986 and 1987 Interim Specifications and the Ohio "Supplement" to these specifications.

DESIGN DATA: Design Loading - HS20-44 and the Alternate Military Loading
Concrete Class C - f'c = 4000 p.s.i. for substructure
Reinforcing Steel - ASTM A615, A616, or A617 - Grade 60 minimum yield strength - Fy = 60,000 p.s.i. splices indicated are for Grade 60 steel.
Reinforcing Steel for prestressed concrete beams Grade 40, Fy = 40,000 p.s.i. or Grade 60, Fy = 60,000 p.s.i. steel may be used.
Concrete for prestressed concrete beams - unit stress 2,200 p.s.i. compression and 444 p.s.i. tension.

Prestressing strand ASTM A416 - f's = 270,000 p.s.i.
Initial stress 0.70 f's
Deck Protection Method: Type D waterproofing and asphalt concrete overlay, drip strip and sealing of concrete surfaces.

PILE DESIGN LOAD: The Design Load for the Abutment Piles is 37 Tons per pile.

UTILITY LINES: All expenses involved in relocating the affected utility lines shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

EMBANKMENT CONSTRUCTION: The embankments shall be constructed to the level of the subgrade. Excavation may then be made for the abutments and piles driven.

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed. The existing structure shall be removed in accordance with Item 202. All guardrail, railings, and wingwalls shall be removed as part of structure removal.

ABUTMENT PILING: Abutment piling bending stress may approach, reach or exceed yield stress.

ITEM SPECIAL - SEALING OF CONCRETE SURFACES: A concrete surface sealer shall be applied to the exposed fascia beam sides and the outside six (6) inches of the bottom of the two fascia beams (see detail sheet 5 of 6). An epoxy sealer shall also be applied to each bridge seat and 1'-0" down the face of each abutment, and at exposed wingwall faces.

COARSE AGGREGATE for concrete shall be limestone or slag.

2/7

PSB Tech., Inc. / Linda Lin da C. Timmer, P.E. & Assoc. Inc.
CONSULTING ENGINEERS CLEVELAND, OHIO 44115

GENERAL PLAN, GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. ASD-302-0154
S.R. 302 OVER REDHAW CREEK
ASHLAND COUNTY, OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.S.B.	R.B.	R.B.	L.C.T.	LT	7-88	

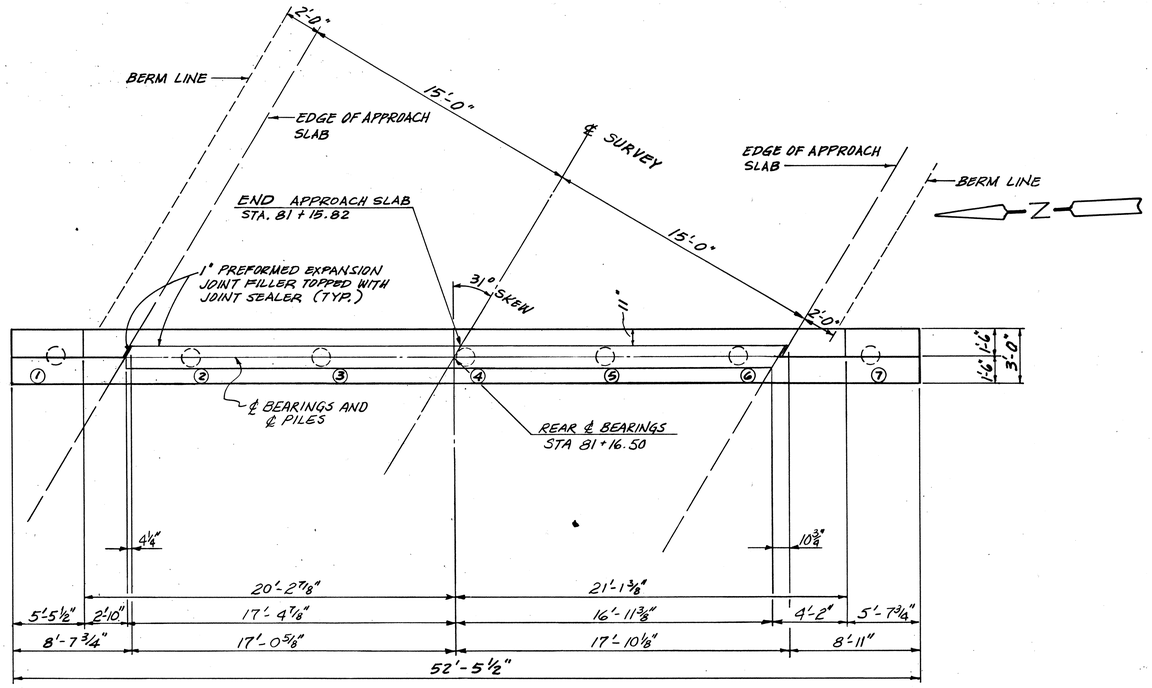
FHWA REGION	STATE	PROJECT	
5	OHIO	BRS 485 (8)	

18/24

ASD-302-1.52

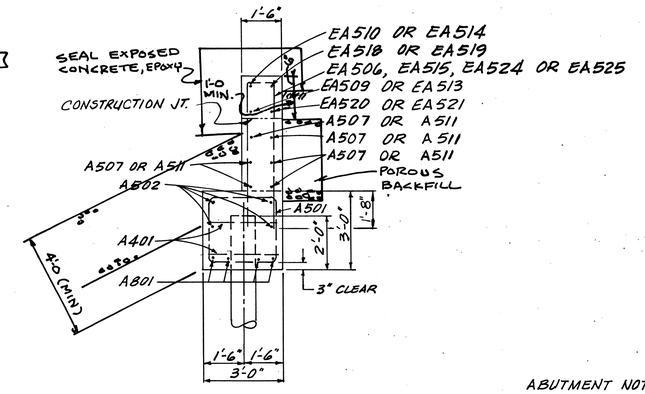
CONSTRUCTION SEQUENCE NOTE:

Pour backwall and wingwalls above bridge seat after placement of beams. Typical each abutment.



PLAN

REAR ABUTMENT

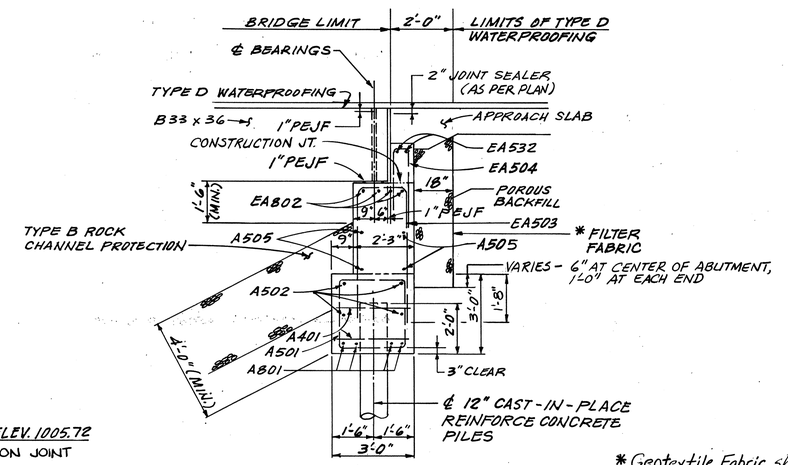


SECTION B-B

ABUTMENT NOTES: See sheet 4/7

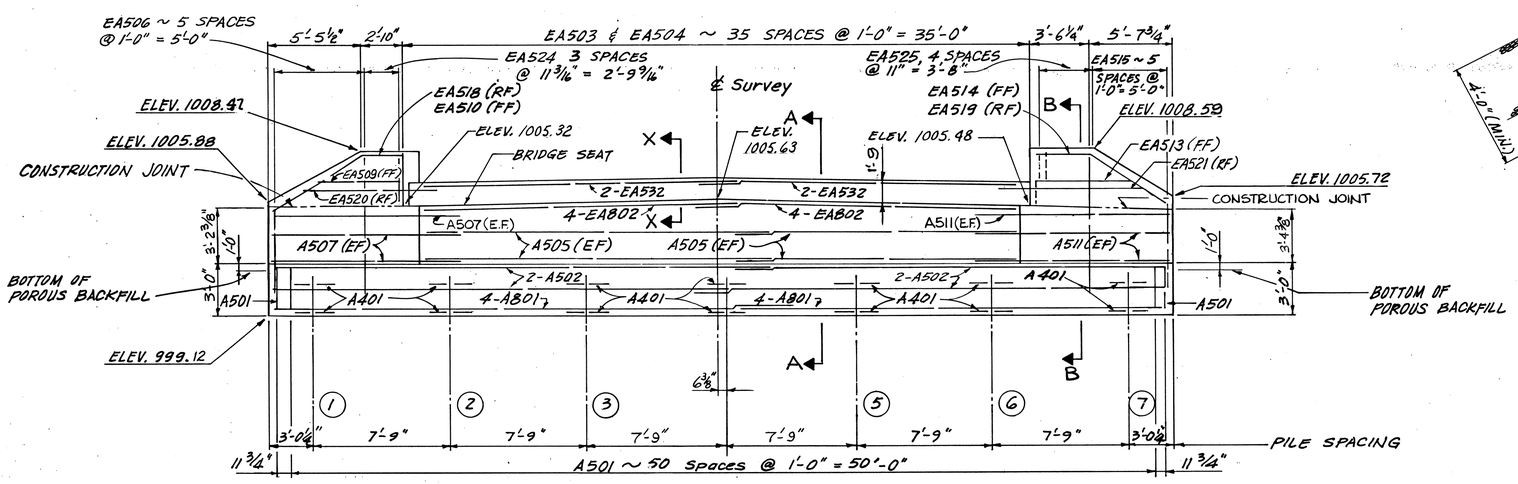
LAMINATED ELASTOMERIC BEARING PAD DETAIL: See sheet 6/7

SECTION X-X: See sheet 5/7



SECTION A-A

* Geotextile Fabric shall conform to 712.09, Type A, and shall be included with porous backfill for payment. Fabric shall turn under the bottom of the porous backfill and return up 6" against the back face of the abutment.



ELEVATION

LEGEND

R.F. : REAR FACE
F.F. : FRONT FACE
E.F. : EACH FACE

3/7

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1836 Euclid Avenue • #501 • Cleveland, Ohio 44115 • Tel: (216) 781-2722

REAR ABUTMENT DETAILS

BRIDGE NO. ASD-302-0154

S.R. 302 OVER REDHAW CREEK

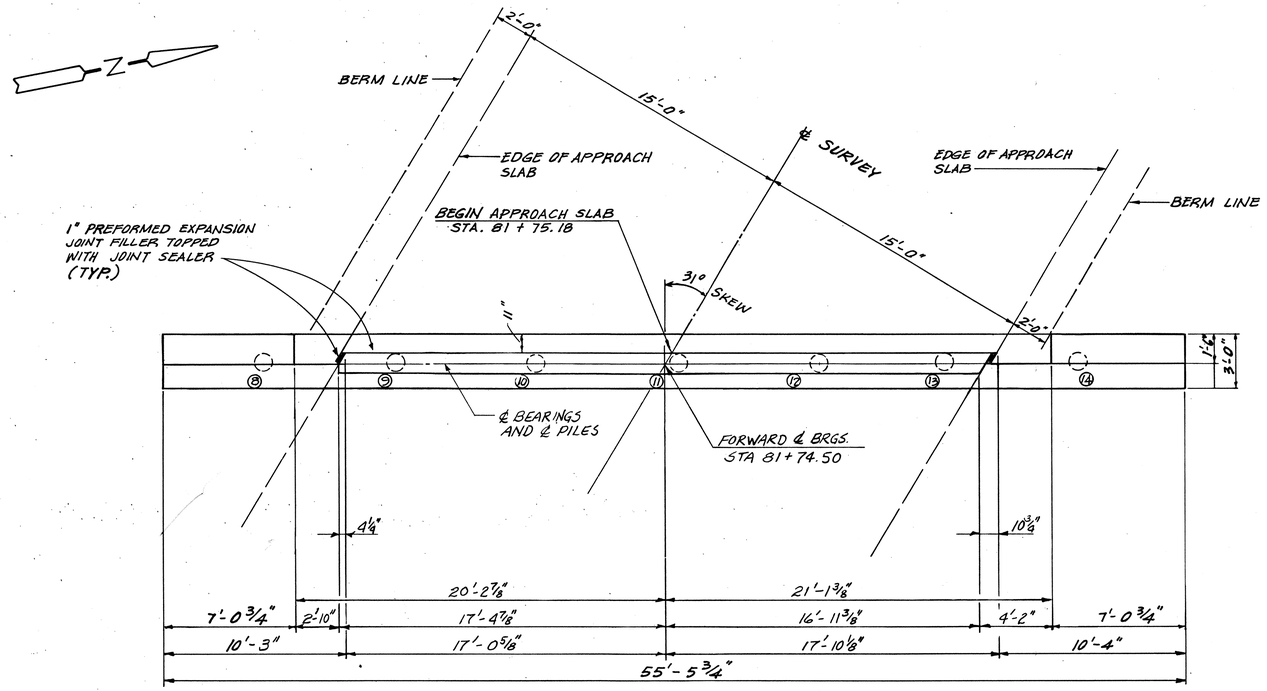
ASHLAND COUNTY, OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LCT	RGB	RGB	GSB	LT	7-88	

FHWA REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO	BRS 485 (8)	

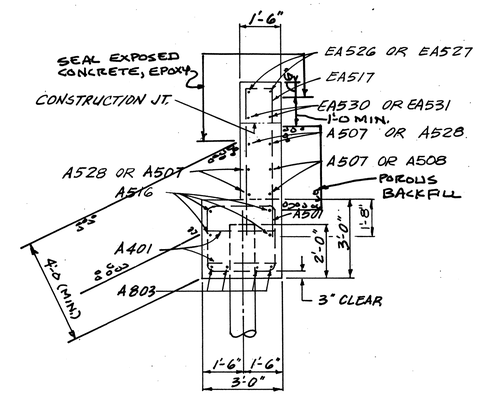
19/24

ASD-302-1.52

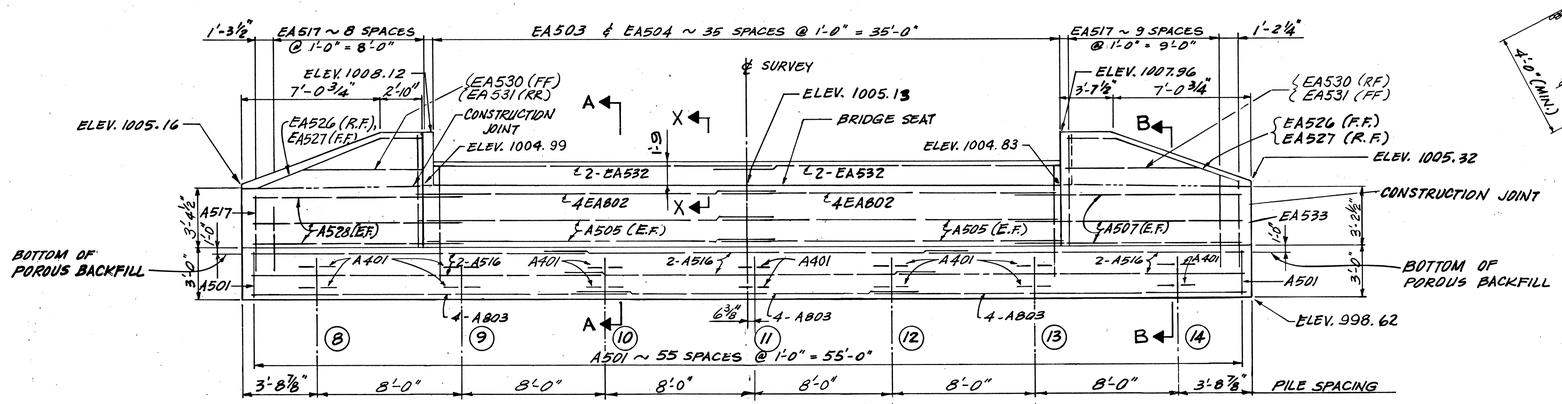


PLAN

FORWARD ABUTMENT



SECTION B-B



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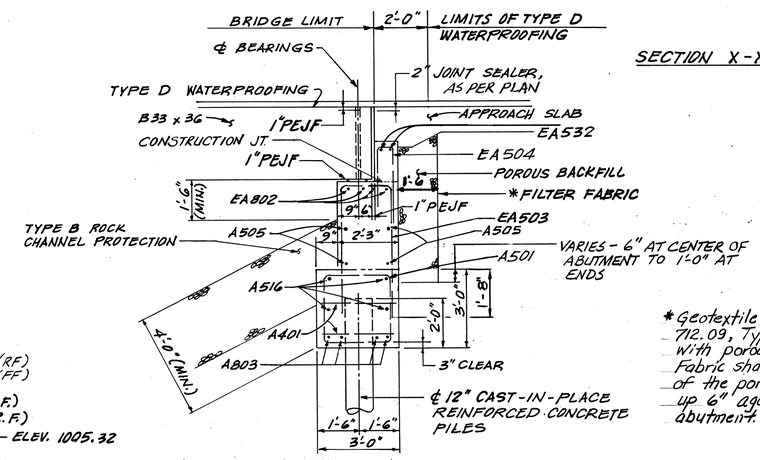

SECTION A-A

NOTES

BRIDGE SEAT REINFORCING: Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with drilling of anchor bar holes.

POROUS BACKFILL: Shall extend upwards to the plane of the subgrade & laterally to the ends of the wingwalls.

REINFORCING SPLICE LENGTHS: Shall be 1'-8" for #5 bars 2'-6" for #8 bars.

REINFORCING STEEL LIST: See Sheet 6/7

GENERAL NOTES: See Sheet 2/7

LAMINATED ELASTOMERIC BEARING PAD DETAIL: See Sheet 6/7

SECTION X-X : See sheet 5/7

* Geotextile fabric shall conform to 712.09, Type A and shall be included with porous backfill for payment. Fabric shall turn under the bottom of the porous backfill and return up 6" against the back face of the abutment.

4/7

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FORWARD ABUTMENT DETAILS
BRIDGE NO. ASD-302-0154
S.R. 302 OVER REDHAW CREEK

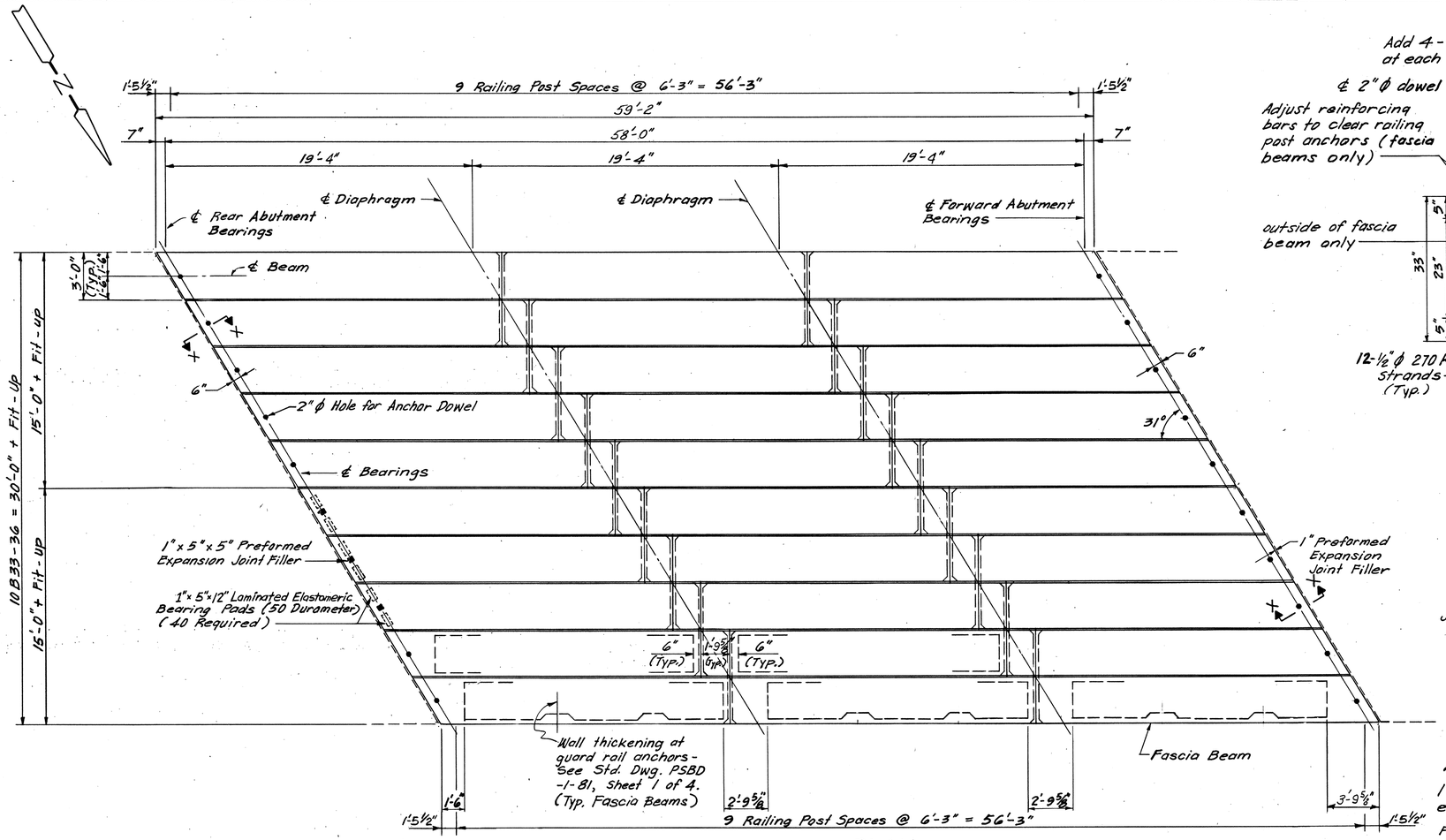
ASHLAND COUNTY, OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LCT	RGB	RGB	GSB	LT	7-88	

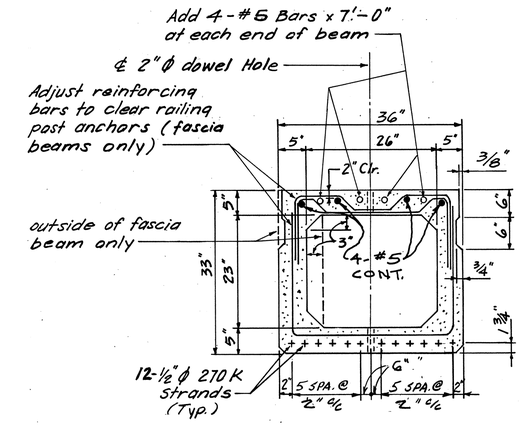
FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-485 (8)	

20/24

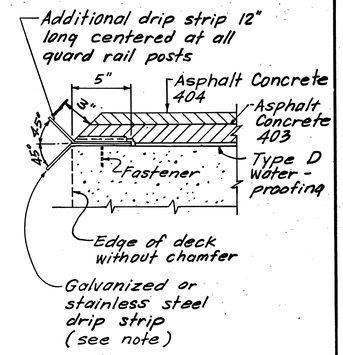
ASD – 302 – 1.52



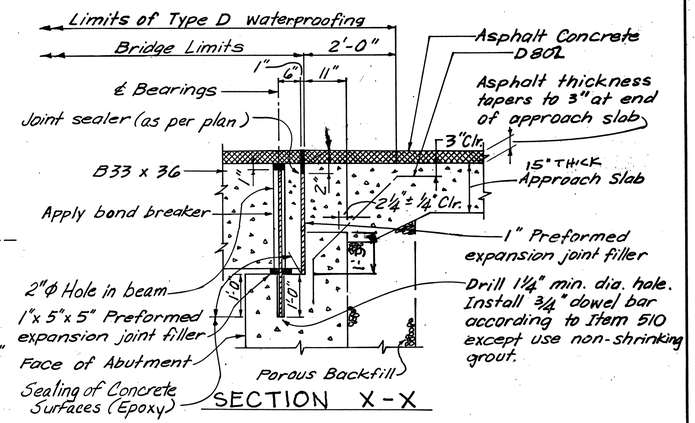
PLAN



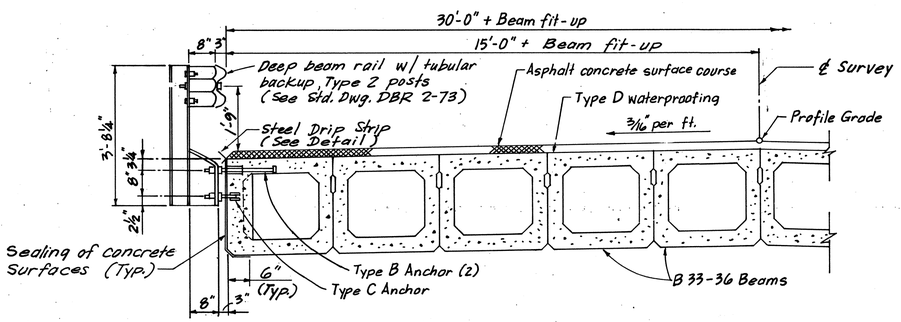
TYPICAL BOX BEAM B33-36



DRIP STRIP



SECTION X-X



HALF TRANSVERSE SECTION

NOTES:

ASPHALT CONCRETE SURFACE COURSE shall consist of a variable thickness of 403 and 1¼" thickness of 404. The 403 shall be placed in two operations. The first course shall be of 1¼" uniform thickness. The second course shall be feathered to place the surface parallel to and 1¼" below final pavement surface elevation.

ADDITIONAL DETAILS: See Standard Drawing PSBD-1-81, sheets 1, 2, and 3 of 4 for Beam Lifting Inserts, End Details of Transverse Tie Rod Anchorage, Normal Crown Treatment at ℄ Roadway, Beam Dimensional Tolerances, Details and Reinforcement of Beam Ends, and Typical Plans of Diaphragms and Transverse Tie Rods.

RAILING: See Standard Drawing DBR-2-73.

BEARING PAD SHIMS: Two 1/8"x5"x12" preformed bearing pads per beam shall be provided for use as shims where needed for proper seating of the prestressed beams. Any unused pads shall become the property of the State.

DRIP STRIP: Prior to applying Type D waterproofing, a bent drip strip shall be installed along the edge of the deck as shown. The strips shall be fastened at 1'-6" c/c maximum with 1¼" x 5/32" x ¼" flat head drive pin & washer. (Length x Shank Dia. x Head Dia.) or #10 galvanized screws and expansion anchors, subject to the approval of the Engineer. The strips shall be placed the full length of the deck, ending at the face of the abutment wingwall. Where splices are required a 3" (min.) lap shall be used with a fastener through the lap. Steel for galvanized strips shall be 8" x 0.105" and shall meet the requirements of ASTM A568. Galvanizing shall be in accordance with 711.02. Stainless steel shall be 20 gauge ASTM A167, Type 304, mill finish. Payment shall be at the contract price bid for Item Special, Sq. Ft. Steel Drip Strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.

PRESTRESSING STRANDS ½" dia. 270K seven wire uncoated, stress relieved strand, As = .154 sq. in. Initial Tension = 28,900 lbs. per strand. Tension at release = 26,025 lbs. per strand (Assumed). Final Tension = 21,700 lbs. per strand after all losses (Assumed).

ADDITIONAL NOTES: See Standard Drawing PSBD-1-81, Sheet 1/4 for notes on End of Beams, Transverse Tie Rods, Galvanizing, and Anchor Dowels. For other notes see Sheet 6/7.

PSB Tech., Inc. / Linda — Linda C. Timmer, P.E. & Assoc. Inc.
CONSULTING ENGINEERS — CLEVELAND, OHIO 44115

5/7

SUPERSTRUCTURE
BRIDGE NO. ASD-302-0154
OVER REDHAW CREEK

ASHLAND COUNTY, OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.S.B.	R.B.	R.B.	L.C.T.	LT	7-88	

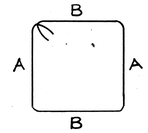
FHWA REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO	BRS 405 (8)	

21/24

ASD-302-1.52

REINFORCING BAR SCHEDULE

MARK	FWD.	REAR	NO.	LENGTH	TYPE	A	B	C	D	WEIGHT
A-401	14	14	28	10'-5"	1	2'-6"	2'-6"			195
A-501	56	53	109	10'-7"	1	2'-6"	2'-6"			1203
A-502	0	8	8	27'-0"	STR.					225
A-505	8	8	16	18'-3"	STR.					305
A-507	6	6	12	12'-3	STR.					153
		NOT	USED							
EA-509	0	1	1	5'-6"	STR.					6
A-511	0	6	6	10'-8"	STR.					67
		NOT	USED							
EA-513	0	1	1	6'-0"	STR.					6
A-516	12	0	12	19'-5"	STR.					243
		NOT	USED							
EA-520	0	1	1	5'-10"	STR.					6
EA-521	0	1	1	5'-8"	STR.					6
		NOT	USED							
		NOT	USED							
A-528	6	0	6	12'-4"	STR.					77
		NOT	USED							
EA-530	2	0	2	5'-11"	STR.					12
EA-531	2	0	2	6'-10"	STR.					14
A-801	0	8	8	27'-2"	STR.					580
A-803	12	0	12	20'-2"	STR.					646
D-802	21	21	42	4'-9"	4	1'-11"				533
EA-503	36	36	72	11'-7"	2	4'-11"	1'-11"	4'-11"		870
EA-504	36	36	72	7'-8"	2	3'-8"	6"	3'-8"		576
EA-506	0	1 SET OF 6	6	16'-6" TO 11'-2"	2	7'-10" TO 5'-2"	1'-2"	7'-10" TO 5'-2"		86
EA-510	0	1	1	8'-7"	3	2'-6"	6'-1"	6		9
EA-514	0	1	1	9'-6"	3	3'-5"	6'-1"	6		10
EA-515	0	1 SET OF 5	5	16'-4" TO 11'-0"	2	7'-9" TO 5'-1"	1'-2"	7'-9" TO 5'-1"		71
EA-517	2 SETS OF 10	0	20	16'-2" TO 10'-0"	2	7'-8" TO 5'-0"	1'-2"	7'-8" TO 5'-0"		272
EA-518	0	1	1	9'-3"	3	3'-5"	5'-10"	6		10
EA-519	0	1	1	8'-4"	3	2'-6"	5'-10"	6		9
EA-524	0	4	4	16'-6"	2	7'-10"	1'-2"	7'-10"		69
EA-525	0	5	5	16'-4"	2	7'-4"	1'-2"	7'-9"		85
EA-526	2	0	2	10'-10"	3	3'-5"	7'-5"	6		23
EA-527	2	0	2	9'-11"	3	2'-6"	7'-5"	6		21
EA-532	4	4	8	20'-0"	STR.					167
EA-533	1	0	1	10'-10"	2	5'-0"	1'-2"	5'-0"		11
EA-802	8	8	16	18'-7"	STR.					794



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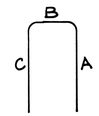

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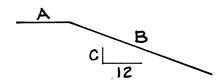

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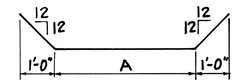


TYPE 4

NOTES: Cont'd.

CALCULATED CAMBER at time of paving, including allowance for camber growth due to creep is 5/8". Calculated deflection due to weight of surface course and railings is 1/8". Net final camber of beams is 1/2".

The total is in excess of the amount required to place the top of the beam parallel to profile grade. This excess amount shall be compensated for by thickening the 403 leveling course from 1 1/4" at center of span to the thickness shown in the asphalt thickness diagram.

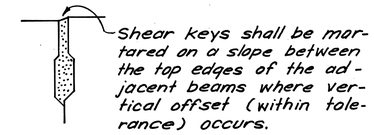
PRESTRESSED CONCRETE BRIDGE MEMBER WIDTH: The fabricator, at his option and at no additional cost to the State, may vary the number and width of prestressed concrete box beams, provided there is no change in the structures width. Any changes to the bearings, or abutment beam seats required by the variation of the beams will be designed by a Professional Engineer and submitted to the director for his approval prior to the fabrication of the prestressed concrete box beams.

NON-SHRINKING MORTAR: Mortar or grout for keyways between prestressed concrete box beams, for tie rod recesses and for anchor dowel holes shall be a non-shrinking, non metallic mortar having a minimum compressive strength at 28 days of 5000 p.s.i. according to the Corps of Engineers Specification CRD-C621-83 when prepared to a moderate fluidity (124-145% flow table flow). The mortar or grout shall also meet all other requirements of Specification CRD-C621-83. The mortar shall be prepared, placed and cured in accordance with manufacturer's recommendations, against surfaces as specified below.

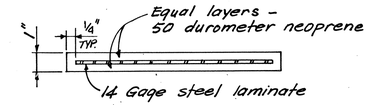
PREPARATION OF CONCRETE SUFACES IN CONTACT WITH NON-SHRINKING MORTAR: The keyway surfaces shall be given a medium sandblast at the plant within four days before the beam leave the plant. Before mortaring, the keyways shall be thoroughly clean of all dirt, dust and other foreign matter. The keyway surfaces shall be wetted, but no free water shall be allowed to remain in the keyways.

TOTAL WEIGHT, NON-EPOXY BARS = 4227 LBS.

TOTAL WEIGHT, EPOXY-COATED BARS = 3133 LBS.



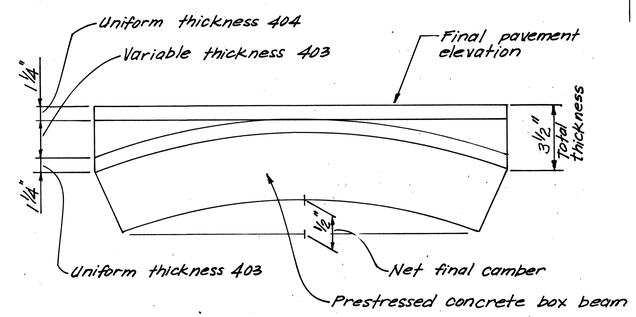
SHEAR KEY DETAIL



LAMINATED ELASTOMERIC BEARING DETAIL
(SIZE: 1" x 5" x 12")

Maximum Design Load = 21.5^{K}
(Bearing Pad)

LAMINATED ELASTOMERIC BEARING NOTES
TOLERANCES:
INDIVIDUAL ELASTOMER LAYER THICKNESS: ±20% OF DESIGN VALUE (NOT TO EXCEED ±1/8")
PLAN DIMENSIONS: -0, +1/4"
DESIGN THICKNESS: -0, +1/4"
EDGE COVER OF EMBEDDED LAMINATES: -0, +1/8"



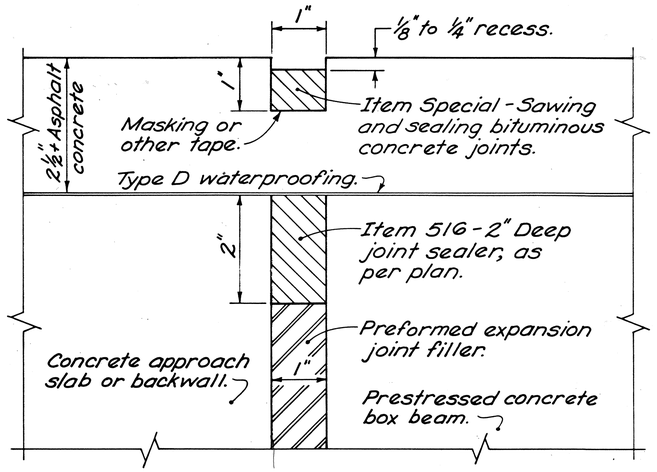
ASPHALT THICKNESS DIAGRAM

PSB Tech., Inc. / Linda
Linda C. Timmer, P.E. & Assoc., Inc.
CONSULTING ENGINEERS — CLEVELAND, OHIO 44115

6/7

REINFORCING STEEL,
SUPERSTRUCTURE DETAILS & NOTES
BRIDGE NO. ASD-302-0154
S.R. 302 OVER REDHAW CREEK
ASHLAND COUNTY, OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.S.B.	R.B.	R.B.	L.C.T.	LT	7-88	



SEALING OF JOINTS AT ABUTMENTS

ITEM SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS

1) Description:

This work shall consist of cutting and sealing transverse joints on the new bituminous concrete overlay of box beam bridges. Bituminous concrete joints shall be constructed directly over, and in line with, the existing underlying transverse abutment joint of the box beams.

2) Materials:

The joint sealant shall meet the requirements of ASTM Specification D3405, Joint sealants, Hot-poured, for Concrete and Aspalt Pavements. Acceptable alternate materials are:

Roof-Flex 176, polyurethane, as produced by the Carboline Company, 350 Hanley Industrial Court, St. Louis, Missouri 63144 (Roger Zubal, 614-877-3406); a silicone sealant meeting Federal Specifications TT-S-001543A Class A (one-part silicone sealants) and TT-S-00230C Class A (one-component sealants), such as those manufactured by General Electric, Silicone Products Division, 6155 Rockside Rd., Rockside Square I, Independence, Ohio 44131 (John Fromholtz, 216-447-1750) or Dow Corning, 3737 Park East, Beachwood, Ohio 44122 (Robert Ruppel, 216-464-2330); or Sof-seal, a cold-applied, low-modulus, two-component polymeric compound horizontal sealant as manufactured by W. R. Meadows, Inc., P.O. Box 543, Elgin, Illinois 60121 (Robert Cameron, 312-683-4500). Sealant will be accepted on the basis of the manufacturer's certification that it conforms to the requirements of these specifications.

3) Construction Details:

A) General: The contractor shall conduct his operation so that the cutting, cleaning and sealing of transverse joints is a continuous operation that will be performed as soon as practical after the paving, but no later than four (4) days after placement of the asphalt concrete surface course. Traffic shall not be allowed to knead together or damage the joint cut prior to sealing.

B) Cutting of Transverse Joints: The contractor shall saw or rout transverse joints to the dimensions shown in the details on this sheet. The cut joints shall lie directly above each box beam abutment joint. The joint location shall be marked on the new asphalt surface with a chalk line, or by some other acceptable method, before cutting. Details of the method for locating and accurately marking the proposed cuts shall be subject to the approval of the Engineer prior to starting any surfacing or paving operations.

The blade or blades shall be of such size that the full width and depth of the cut can be made with one pass. Dry or wet cutting will be allowed. Joints shall extend the full width of the bridge.

C) Cleaning Joints: Dry sawed joints shall be thoroughly cleaned with a sufficient amount of compressed air to remove any dirt, dust, or deleterious matter. Wet sawed joints shall be washed clean of all cuttings by flushing with a jet of water and with other tools as necessary. After flushing, the joint shall be blown out with compressed air. When the surfaces are thoroughly clean and dry, and just prior to placing the joint sealer, compressed air having a pressure of at least 90 p.s.i. shall be used to blow out the joint and remove all traces of dust.

In the event freshly cut joints become contaminated before they are sealed, they shall be recleaned of all foreign material by high pressure water jet.

D) Sealing Joints: The joint shall be thoroughly dried before the sealant is placed. After cleaning and drying, a bond-breaker (tape) shall be applied to the bottom of the groove.

Hot-poured joint sealant material shall be heated in a kettle or melter constructed as a double boiler, with the space between the inner and outer shells filled with oil or other heat transfer medium. Positive temperature control and mechanical agitation shall be provided. Heating must be in strict accordance with the manufacturer's recommendation. Joint sealer material shall never be kept heated at the pouring temperature for more than four (4) hours and shall never be reheated. Sealer left in the applicator at the end of a day's work shall be removed and discarded.

Hot-poured sealant shall be applied immediately through a nozzle, which must project into the sawed joint, filling from the bottom up. The seal shall completely fill the joint in such a manner that, after cooling, the level of the sealer will not be higher than 1/8" below the pavement surface. Any depression in the cooled seal greater than 3/16" shall be brought up to the specified limit by further addition of hot-poured sealant. Care shall be taken in the sealing of the joints so that the final appearance will present a neat fine line.

The cold applied sealant materials (polyurethane, silicone, and polymeric compounds) shall be installed as per manufacturers' recommendations, or as directed by the Engineer. The sealant shall be installed when the ambient temperature is 40 degrees F or higher. Traffic shall not be allowed on the joint for one hour after application of the sealant.

4) Method of Measurement:

The quantity to be paid for under this item will be the number of linear feet of joints sawed and sealed as per the above requirements.

5) Basis of Payment:

The unit price per linear foot for Item Special - "Sawing and sealing bituminous concrete joints" shall include the cost of all labor, materials, and equipment necessary to complete the work, including the furnishing and placing of the joint sealer material.

ITEM 516 - 2" DEEP JOINT SEALER, AS PER PLAN

This item shall meet the material (para. 2) and sealing (para. 3D) specifications of Item Special - Sawing and sealing bituminous concrete joints.

STATE PROJECT NUMBER	FHWA REGION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
03113 (0)	5	OHIO	BRS-485(8)	

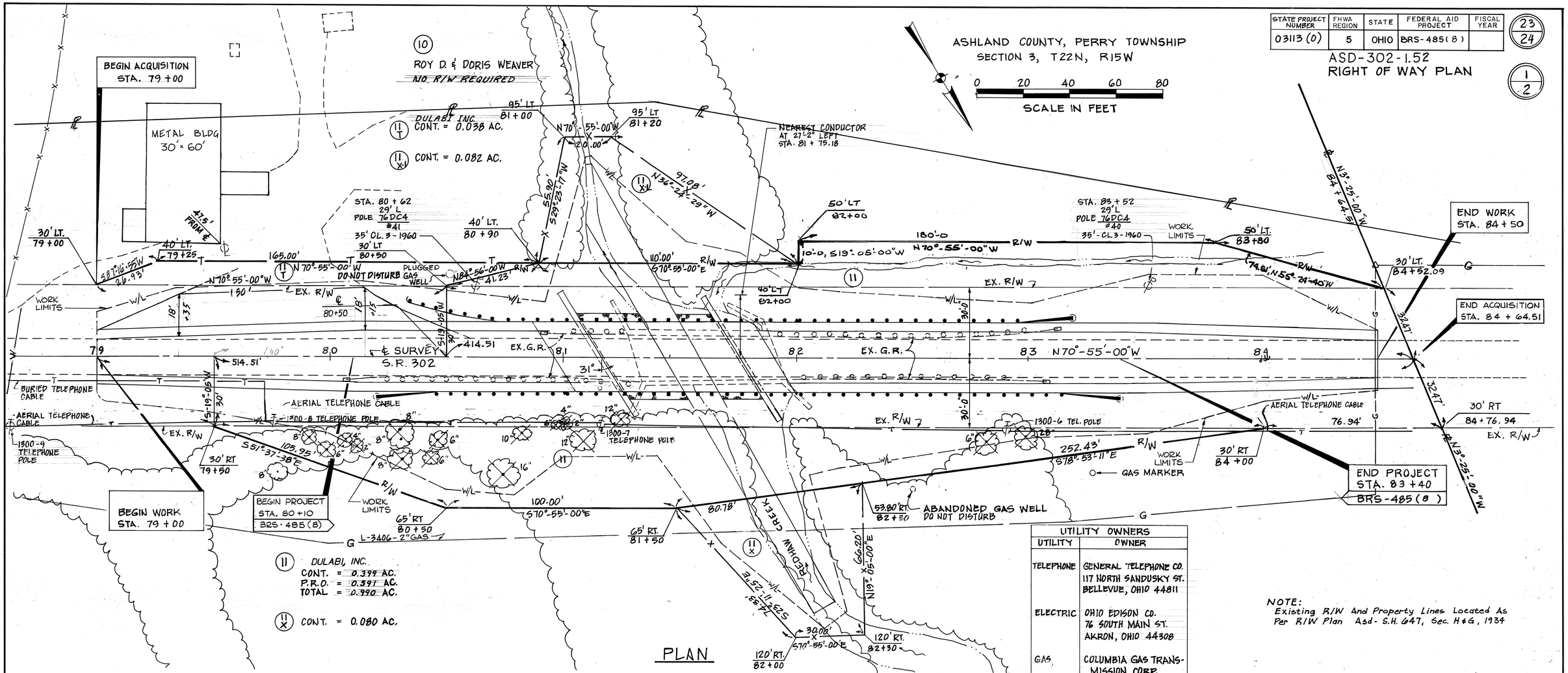
23/24

1/2

ASHLAND COUNTY, PERRY TOWNSHIP
SECTION 3, T22N, R15W

0 20 40 60 80
SCALE IN FEET

ASD-302-1.52
RIGHT OF WAY PLAN



UTILITY OWNERS	
UTILITY	OWNER
TELEPHONE	GENERAL TELEPHONE CO. 117 NORTH SANDUSKY ST. BELLEVUE, OHIO 44811
ELECTRIC	OHIO EDISON CO. 76 SOUTH MAIN ST. AKRON, OHIO 44308
GAS	COLUMBIA GAS TRANSMISSION CORP. P.O. BOX 1273 CHARLESTON, WV 25325
GAS/OIL & WATER	QUAKER STATE 1210 STATE ROUTE 302 POLK, OHIO 44866

NOTE:
Existing R/W And Property Lines Located As Per R/W Plan Asd-S.H. 647, Sec. H&G, 1934

UNDERGROUND UTILITIES:
THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY, AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE.

SUMMARY OF ADDITIONAL R/W REQUIRED

TOTAL NO. OWNERS 1
TOTAL TAKES 0
STRUCTURE PARCELS 0

PARCEL NO.	TYPE FUNDS	PROPERTY OWNERS	TAX ID NUMBER	RECORDED VOL.	RECORDED PAGE	DEED AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	NET RESIDUE LEFT	NET RESIDUE RIGHT	BLDG	SHT. NO.	REMARKS	AS AQUIRED
1 - 9		NOT ASSIGNED														
10		ROY D AND DORIS WEAVER	K34003-0-0005-00	527.515	54 , 708	193.75 AC.									NO R/W REQUIRED	
11	STATE	DULABI, INC.	K34003-0-0011-00	557	348	73.964	1.718 AC.	0.990 AC.	0.591 AC.	0.399 AC.	0.925	70.922	NO	1		VOL 561 PG 595
11X		" "								0.080 AC.					CHANNEL EASEMENT	" "
11X-L										0.082 AC.					" "	" "
11T										0.038 AC.					DRIVE, GRADING & SEEDING	" "

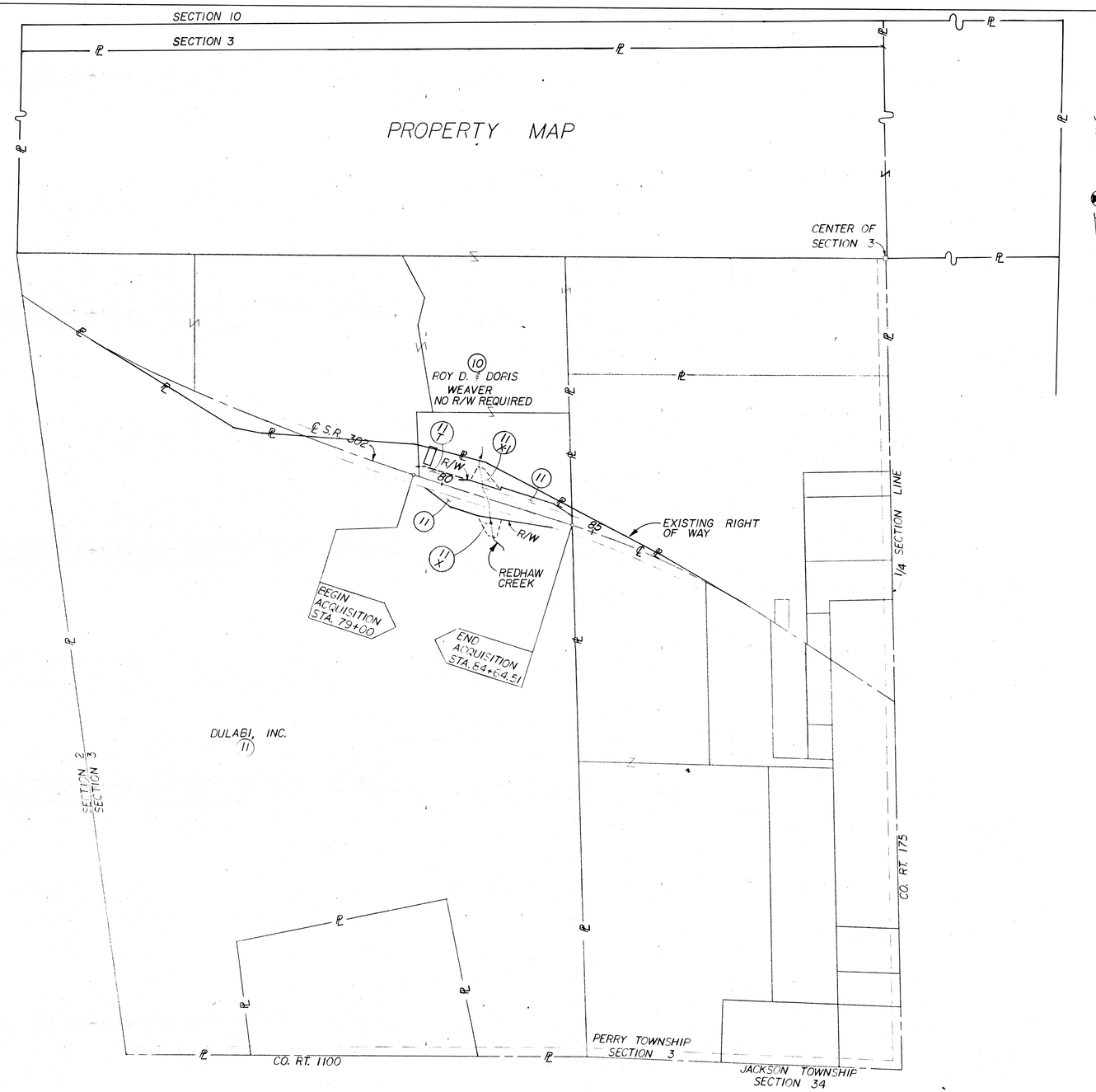
COMPLETION DATE	REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
	DES	6-7-89	Correct Parcel I.D. for Parcel 11X on detail	PDG	6/26/89	REVISED ℄ BETWEEN PAR. 10 & 11 - TRANSFERRED PAR. 10 TAKES TO PAR. 11 - NO R/W FOR PAR. 10
4-5-89	DES	5-16-89	ADD DEED REF. TO PAR. 10			

FHWA REGION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
5	OHIO	BRS-485(8)	

24
24

2
2

ASD - 302 - 1.52
RIGHT OF WAY PLAN



0 200 400 600 800
SCALE IN FEET

TELEPHONE: GENERAL TELEPHONE COMPANY
117 NORTH SANDUSKY STREET
BELLEVUE, OHIO 44811
(419) 483-8190

ELECTRIC: OHIO EDISON COMPANY
76 SOUTH MAIN STREET
AKRON, OHIO 44308
(216) 384-5100

GAS/OIL: TRANSMISSION COLUMBIA GAS TRANSMISSION CORP.
P.O. BOX 1273
CHARLESTION, WV 25325
(304) 357-2000

QUAKER STATE OIL REFINING CORP.
120 STATE ROUTE 302
POLK, OHIO 44866
(419) 869-7441

WATER: QUAKER STATE OIL REFINING CORP.
120 STATE ROUTE 302
POLK, OHIO 44866
(419) 869-7441

TYPE FUNDS: STATE

	PLANS COMPLETED: 3/20/89
REV. DATE	DESCRIPTION

ASHLAND COUNTY, PERRY TOWNSHIP, SECTION 3, N.E. 1/4, T22N, R15W

PROPERTY MAP

TE - 118
600 - 6 - 73

ASHLAND COUNTY
ASD-302-1.52
1/2

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE MODERATELY ROLLING GLACIATED PORTION OF THE ALLEGHENY PLATEAU REGION, ON THE NARROW FLOODPLAIN OF AND OVER REDHAW CREEK, IN AN AREA WHERE EXTREMELY DEEP GLACIAL AND ALLUVIAL DEPOSITS OVERLIE BEDROCK, OF MISSISSIPPIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE BORINGS MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM ROTARY AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED ON APRIL 1 AND 2, 1985.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE TEST BORINGS ENCOUNTERED INTERVALS OF EXTREMELY LOOSE TO EXTREMELY DENSE UNSTRATIFIED BASIC SILTS, SAND AND GRAVEL MODIFIED WITH CLAYS AND VARYING AMOUNTS OF EACH OTHER THAT GRADUALLY INCREASE (ERRATIC AT TIMES) IN DENSITY WITH INCREASE IN DEPTH. TEST BORING NO.B-1 (MADE IN THE GENERAL VICINITY OF THE REAR ABUTMENT) PENETRATED TO A DEPTH OF 61.2 FEET, ELEVATION 945.9 FEET AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 26.2 FEET OF MATERIAL REQUIRING 27 OR MORE BLOWS PER FOOT IN THE STANDARD PENETRATION TEST IMMEDIATELY PRIOR TO TERMINATION. ORGANIC MATERIAL WAS ENCOUNTERED IN TEST BORING NO. B-1 AT 10.0-FOOT DEPTH, ELEVATION 997.1 FEET. TEST BORING NO. B-2 (MADE IN THE GENERAL VICINITY OF THE FORWARD ABUTMENT) PENETRATED TO A DEPTH OF 60.5 FEET, ELEVATION 946.5 FEET AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 10.5 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST IMMEDIATELY PRIOR TO TERMINATION.

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

FREE WATER WAS OBSERVED AND MEASURED IN TEST BORING B-2 AT 8.0-FOOT DEPTH, ELEVATION 999.0 FEET. NO FREE WATER OBSERVATIONS WERE MADE IN TEST BORING NO. B-1 DURING , OR AT CONCLUSION OF DRILLING OPERATIONS, HOWEVER THE BORING CAVED IN AT 17.5-FOOT DEPTH, ELEVATION 989.6 FEET IN MATERIAL THAT WAS WATER SATURATED.

LEGEND

- 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
- TR — Top of Rock
- 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.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone
- Boulders or Cobbles

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.

Particle Size Definitions

Boulders	12"	Cobbles	3"	Gravel	2.0mm (No. 10 sieve)	Coarse Sand	0.42mm (No. 40 sieve)	Fine Sand	0.074mm (No. 200 sieve)	Silt	0.005mm	Clay

NOTE - ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN 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.

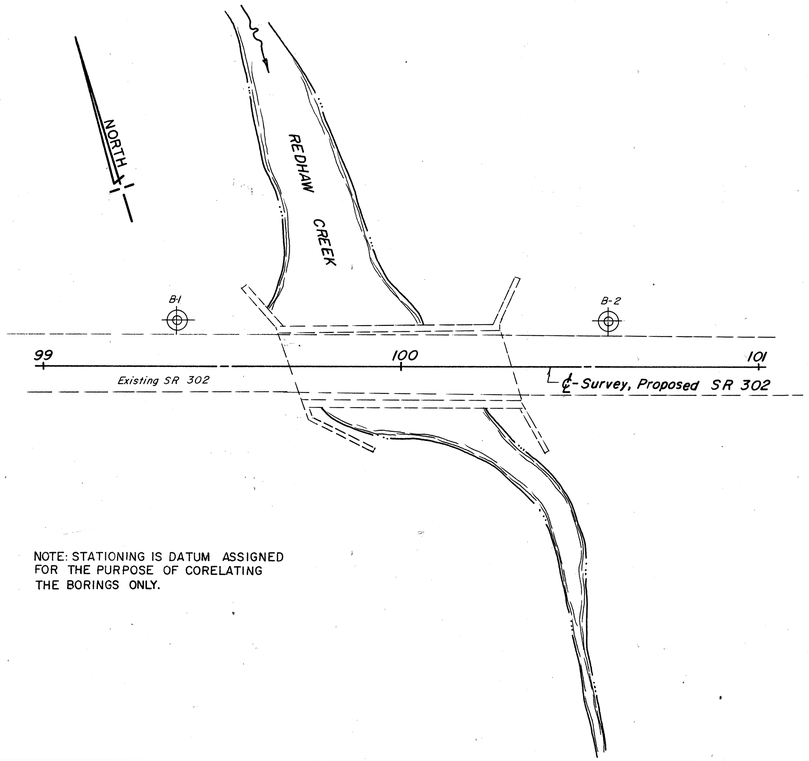
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS — TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. ASD-302-0154
OVER REDHAW CREEK
SEC. ASD-302-1.52

CHECKED BY	REVIEWED BY	DATE
L. N. L.	R. D. R.	12/16/85

ASD-302-1.52 2/2



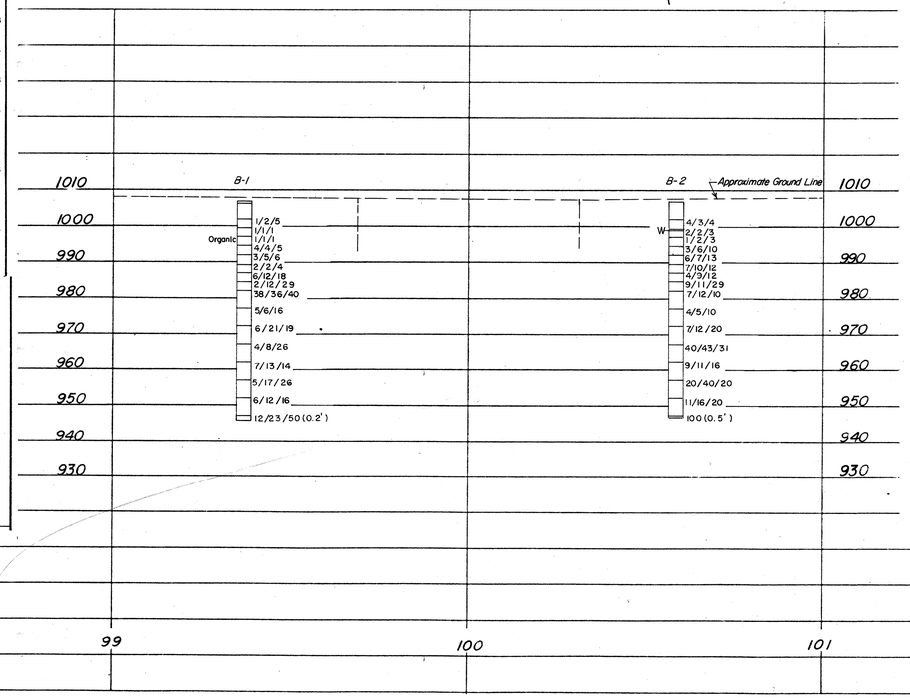
NOTE: STATIONING IS DATUM ASSIGNED FOR THE PURPOSE OF CORELATING THE BORINGS ONLY.

LOG OF BORING

Date Started 4/1/85 | Sampler Type SS | Dia. 1 3/8" | Water Elev. ____
Date Completed 4/2/85 | Casing: Length ____ | Dia. ____
Boring No. B-1 | Station & Offset 99+37-13' LT. (REAR ABUTMENT) | Surface Elev. 1007.1

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
1007.1	0														
1006.8					SOD AND TOP SOIL										
	2	AUGERED			GRAY-BROWN SANDY CLAYEY SILT WITH GRAVELL (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
1002.1	4														
	6	1/2/5			BROWN SANDY SILT	1	14	11	27	24	24	NP	NP	17	A-4A
999.6	8														
	10	1/1/1			BROWN SILTY GRAVELLY SAND	2	26	18	22	20	14	NP	NP	14	A-2-4
997.1	12	1/1/1			GRAY ORGANIC SILT	3	0	2	12	54	32	NP	NP	30	A-4B
994.6	14	4/4/5			BROWN AND GRAY SANDY SILT	4	7	5	16	37	35	NP	NP	20	A-4A
992.1	16	3/5/6			GRAY SILT AND CLAY	5	0	2	9	41	48	38	15	23	A-6A
989.6	18	2/2/4			GRAY SILTY GRAVELLY SAND	6	42	37	9	10	2	NP	NP	14	A-1-B
987.1	20	6/12/18			GRAY SILTY GRAVELLY SAND	7	37	7	36	15	5	NP	NP	18	A-2-4
984.6	22	2/12/29			GRAY SILTY GRAVELLY SAND	8	39	18	31	9	3	NP	NP	12	A-1-B
982.1	24	38/36/40			GRAY SILTY SANDY GRAVEL	9	56	14	11	13	6	NP	NP	9	A-1-B
	26														
977.1	28	5/6/16			GRAY SILTY SANDY GRAVEL	10	48	14	15	16	7	NP	NP	16	A-1-B
	30														
972.1	32	6/21/19			GRAY SILTY SANDY GRAVEL	11	41	21	17	16	5	NP	NP	10	A-1-B
	34														
967.1	36	4/8/26			GRAY SILT	12	0	0	0	79	21	NP	NP	22	A-4B
	38														
962.1	40	7/13/14			GRAY GRAVELLY SANDY SILT	13	15	12	13	50	10	NP	NP	21	A-4B
	42														
957.1	44	5/17/26			GRAY SANDY GRAVELLY SILT	14	26	10	12	41	11	NP	NP	14	A-4A
	46														
952.1	48	6/12/16			GRAY GRAVELLY SANDY SILT	15	23	9	18	42	8	NP	NP	12	A-4A
	50														
947.1	52	12/23/50 (0.2')			GRAY SANDY GRAVELLY SILT	16	35	7	12	31	15	NP	NP	14	A-4A
945.9	54				BOTTOM OF BORING										

NOTE-TEST BORING CAVED-IN AT ELEV. 989.6



LOG OF BORING

Date Started 4/1/85 | Sampler Type SS | Dia. 1 3/8" | Water Elev. 999.0
Date Completed 4/2/85 | Casing: Length ____ | Dia. ____
Boring No. B-2 | Station & Offset 100+58-13' LT. (FORWARD ABUTMENT) | Surface Elev. 1007.0

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
1007.0	0														
	2	AUGERED			BROWN SANDY CLAY WITH STONE FRAGMENTS. (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
1002.0	4														
	6	4/3/4			BROWN SANDY SILT	17	14	7	16	46	17	NP	NP	25	A-4A
999.5	8														
	10	2/2/3			BROWN SANDY SILT	18	0	1	37	43	19	NP	NP	26	A-4A
997.0	12	1/2/3			GRAY SANDY SILT	19	0	2	43	40	15	NP	NP	32	A-4A
994.5	14	3/6/10			BROWN SILTY SANDY GRAVEL	20	38	6	26	22	8	NP	NP	19	A-2-4
992.0	16	6/7/13			GRAY SILTY GRAVELLY SAND	21	36	20	23	16	5	NP	NP	12	A-1-B
989.5	18	7/10/12			GRAY SILTY GRAVELLY SAND	22	35	35	18	8	4	NP	NP	14	A-1-B
987.0	20	4/9/12			GRAY SILTY GRAVELLY SAND	23	29	41	18	9	3	NP	NP	15	A-1-B
984.5	22	9/11/29			GRAY SANDY GRAVEL	24	57	23	9	8	3	NP	NP	11	A-1-A
982.0	24	7/12/10			GRAY SILTY SANDY GRAVEL	25	44	21	20	11	4	NP	NP	12	A-1-B
	26														
977.0	28	4/5/10			GRAY SILTY GRAVELLY SAND	26	18	30	35	12	5	NP	NP	16	A-3A
	30														
972.0	32	7/12/20			GRAY SILTY SANDY GRAVEL	27	61	17	9	9	4	NP	NP	8	A-1-A
	34														
967.0	36	40/43/31			GRAY SILT	28	0	1	1	69	29	NP	NP	21	A-4B
	38														
962.0	40	9/11/16			GRAY GRAVELLY SANDY SILT	29	16	11	16	43	14	NP	NP	23	A-4A
	42														
957.0	44	20/40/20			GRAY GRAVELLY SANDY SILT	30	22	9	17	38	14	NP	NP	12	A-4A
	46														
952.0	48	11/16/20			GRAY GRAVELLY SANDY SILT	31	15	8	20	43	14	NP	NP	12	A-4A
	50														
947.0	52	100 (0.5')			GRAY SILTY SANDY GRAVEL	32	32	11	17	31	9	NP	NP	10	A-4A
946.5	54				BOTTOM OF BORING										

SCALE: 1" = 20'

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - TESTING LABORATORY
1600 WEST BROAD STREET COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. ASD-302-0154
OVER REDHAW CREEK
SEC. ASD-302-1.52

PLAN AND PROFILE

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A. F.	L. N. L.	R. D. R.	12/16/85

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