DESIGN DESIGNATION
1983 ADT -- 5617
2003 ADT -- 12141
DESIGN SPEED -- 55 M.P.H.
DHV - 1214
T - 12%
D - 50 - 50

MICROFILMED
JAN 31 1983

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MICROFILMED
AUG 16 1991

WAS-60-14.15	OHIO	1
	FHWA REGION 5	20
BRF-44 (23)	FEDERAL PROJECT	

WAS 60-14.15

BRF - 44 (23)

ADAMS TOWNSHIP
WASHINGTON COUNTY

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line 352 353
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light.

Limited Access (only) LA
Right of Way (only) RW
Limited Access & Right of Way LA & RW
Existing Right of Way
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)

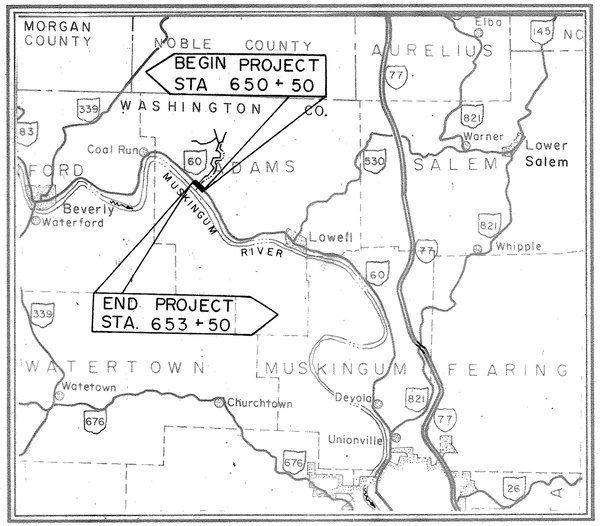
INDEX OF SHEETS

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Typical Section, Field Drive Detail, and Pavement Calculations	2
General Notes	3-3A
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Cross Sections	9-10
County Road 56 Detail	11-12
Channel Cross Sections	13-14
Structure Over 20' Span	15-19
Right of Way	20

LINE DATA

Begin Project Sta. 650 + 50
End Project Sta. 653 + 50
Length of Project = 300 Lin. Ft. or 0.057 Miles

Begin Work Sta. 642 + 00
End Work Sta. 660 + 00
Length of Work = 1800 Lin. Ft. or 0.341 Miles



LOCATION MAP

SCALE IN MILES
1 0 1 2 3 4 5 6 7

Portion to be improved
State & Federal Routes, 4 Lanes
Other State Routes

SCALES

Plan 0' 40' 80'
Profile: Horizontal 0' 40' 80', Vertical 0' 5' 10'
Cross Section: Horizontal 0' 10' 20', Vertical 0' 10' 20'

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 of the highway to traffic and that provisions for the maintenance and safety of the traffic will be as set forth in these plans.

SUPPLEMENTAL SPECIFICATIONS	
1001 1-3-77	
836 3-12-75	
936 4-19-82	
824 10-8-82	
847 4-3-76	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS					
BP-5 7-16-81			AS-1-81 11-2-81		
BP-6 6-1-65	LA-1 6-1-79		CPP-2-73 4-10-73		
GR-1 2-5-82			CS-2-73 4-10-73		
GR-2B 2-5-82			DBR-2-73 4-10-73		
GR-3 2-5-82					
GR-4 2-5-82					
GR-4A 2-5-82					
HW-4A 4-1-80					
HW-4B 4-1-80					
MC-3 6-1-73					
MC-11 8-1-78					
MC-4 7-26-76					

Approved Walter A. Crawford
Date 8-25-82 District Deputy Director of Transportation

Approved Robert B. Pfeifer
Date 10-19-82 Engineer, Bureau of Bridges and Structural Design
J.V.R.

Approved Wayne H. Kauble
Date 1-20-83 Chief Engineer, Planning and Design
for Jr.

Approved Warren J. Smith
Date 1-20-83 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

Project:
Date of Letting 19 , Contract No.

Plan Prepared By:
LOCATION and DESIGN
DISTRICT 10
&
BARRETT, CARGO, WITHERS
AND ASSOCIATES INC.

SEAL

LD0300 Rev. 11-1-78

Calculated	Checked
By: GRS	By: WWK
Date: 8/82	Date: 8/82

FHWA REGION	STATE	PROJECT	
5	OHIO		

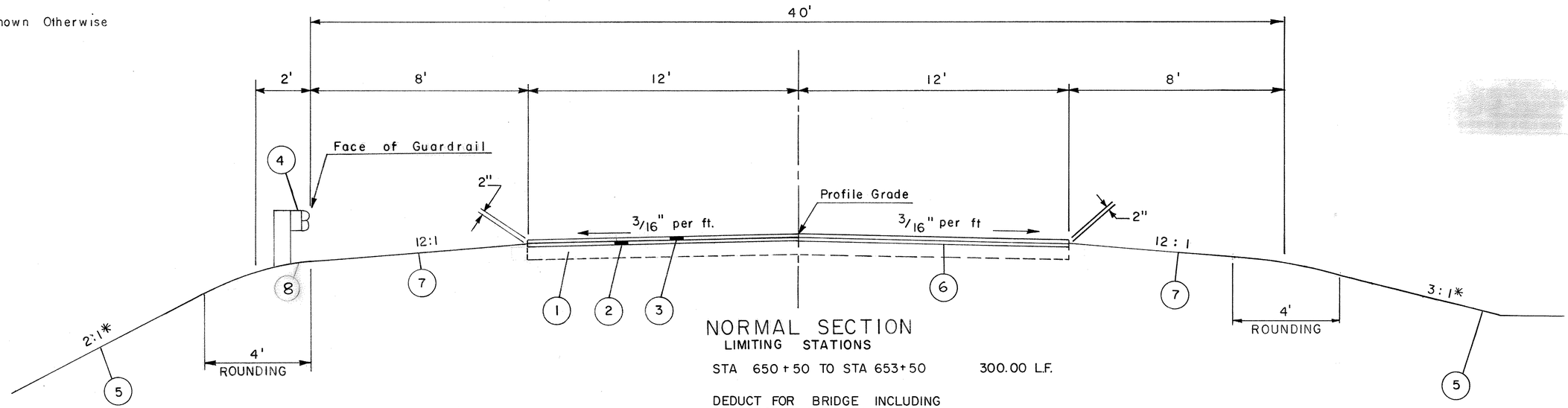
2/20

WAS-60-14.15

TYPICAL SECTION

TYPE 404

✳ Unless Shown Otherwise



NORMAL SECTION

LIMITING STATIONS

STA 650+50 TO STA 653+50 — 300.00 L.F.

DEDUCT FOR BRIDGE INCLUDING APPROACH SLABS STA 650+73.75 TO STA 652+33.25 — 159.50 L.F.

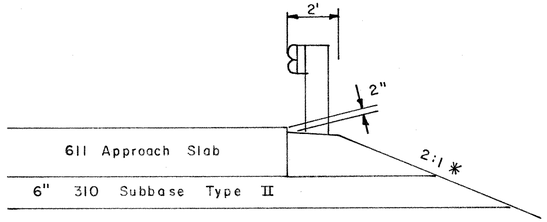
① Existing flexible pavement to be planed where required (see note below)
② ITEM 402 Asphalt Concrete AC-20 1½" Minimum Thickness 2" Average Thickness
③ ITEM 404 - 1¼" Asphalt Concrete AC-20
④ ITEM 606 - Guardrail Type 5
⑤ ITEM 659 - Seeding and Mulching
⑥ ITEM 407 - Tack Coat Applied at the Rate of 0.1 Gal. Per Sq. Yd. & Cover Aggr. 703.06
⑦ ITEM 617 - Reconditioning Shoulders Width 8'
⑧ ITEM SPECIAL - Reshaping Berms

NOTE

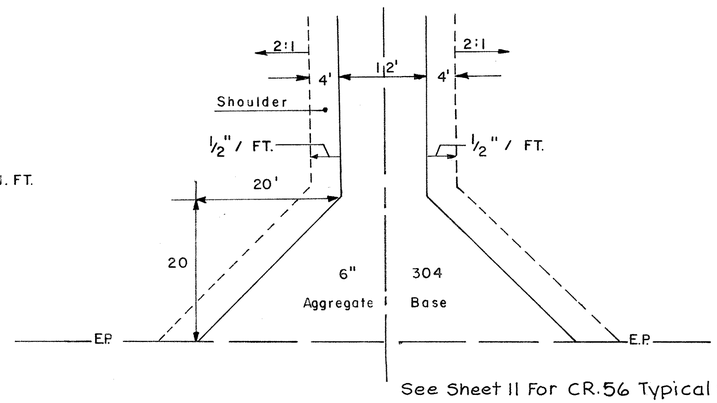
The high spots on the existing pavement surface are to be planed where needed to a sufficient depth to construct 1½" 402 and 1¼" 404 as per elevation shown on the plan and profile sheet no. 8

Payment under 202 Wearing Course Removed as per plan

PARTIAL SECTION SUBBASE DETAIL AT APPROACH SLAB



FIELD DRIVE DETAIL



See Sheet 11 For CR.56 Typical Section

PAVEMENT CALCULATIONS

ITEM 611 REINFORCED CONCRETE APPROACH SLABS (T=14")

FROM STA 650+73.75 TO STA 650+93.75 = 20 LIN. FT. WIDTH = 40 FT.
AREA = (40 x 20) ÷ 9 = 88.89 SQ.YD.

FROM STA 652+13.25 TO STA 652+33.25 = 20 LIN. FT. WIDTH = 40 FT.
AREA = (40 x 20) ÷ 9 = 88.89 SQ.YD.

TOTAL 177.78 SQ.YD.
TO GENERAL SUMMARY 178 SQ.YD.

ITEM 310 SUBBASE (UNDER APPROACH SLABS T=6")

FROM STA 650+73.75 TO STA 650+93.75 = 20 LIN. FT. WIDTH = 49.7 FT.
VOLUME = (20 x 49.7 x .5) ÷ 27 = 18.41 CU.YD.

FROM STA 652+13.25 TO STA 652+33.25 = 20 LIN. FT. WIDTH = 49.7 FT.
VOLUME = (20 x 49.7 x .5) ÷ 27 = 18.41 CU.YD.

TOTAL 36.82 CU. YD.
TO GENERAL SUMMARY 37 CU.YD.

ITEM 202 WEARING COURSE REMOVED AS PER PLAN

FROM STA 650+25 TO STA 650+73.75 = 48.75 LIN. FT. WIDTH = 24 FT.
AREA = (48.75 x 24) ÷ 9 = 130 SQ.YD.

FROM STA 652+33.25 TO STA 653+75 = 141.75 LIN. FT. WIDTH = 24 FT
AREA = (141.75 x 24) ÷ 9 = 378 SQ.YD.

TOTAL 508 SQ.YD.
TO GENERAL SUMMARY 508 SQ.YD.

ITEM 402 ASPHALT CONCRETE (AVE T=2")

FROM STA 650+50 TO STA 650+73.75 = 23.75 LIN. FT.
FROM STA 652+33.25 TO STA 653+50 = 116.75 LIN. FT.

TOTAL 140.50 LIN. FT.
VOLUME = (140.50 x 24 x 0.1667) ÷ 27 = 20.82 CU. YD.
TO GENERAL SUMMARY 21 CU. YD.

ITEM 404 ASPHALT CONCRETE (T = 1¼")

FROM STA 650+25 TO STA 650+73.75 = 48.75 LIN. FT.
FROM STA 652+33.25 TO STA 653+75 = 141.75 LIN. FT.

TOTAL 190.50 LIN. FT.
VOLUME = (190.50 x 24 x 0.104) ÷ 27 = 17.61 CU. YD.
TO GENERAL SUMMARY 18 CU. YD.

ITEM 407 TACK COAT

508 x 0.1 = 50.8 GAL
±1.8 TON Cover Aggregate 703.06 TO GENERAL SUMMARY 51 GAL.

ITEM 617 SHOULDER PREPARATION

FROM STA 650+25 TO STA 650+73.75 = 48.75 LIN. FT.
FROM STA 652+33.25 TO STA 653+75 = 141.75 LIN. FT.

WIDTH = 8 FT. TOTAL 190.50 LIN. FT. x 2 (BOTH SIDES) = 381 LIN. FT.
AREA = (381 x 8) ÷ 9 = 338.67 SQ. YD. TO GENERAL SUMMARY 339 SQ. YD.

ITEM 617 COMPACTED AGGREGATE (AVE T=2")

VOLUME = (339 x 0.167) ÷ 3 = 18.87 CU. YD.
TO GENERAL SUMMARY 19 CU. YD.

ITEM 617 WATER

TO GENERAL SUMMARY 1 M. GAL.

ITEM SPECIAL RESHAPING BERMS

FROM	STA. 650+25	LT.	TO	STA. 650+74	LT. = 49 LIN. FT.
FROM	STA. 652+33	LT.	TO	STA. 653+75	LT. = 142 LIN. FT.
FROM	STA. 650+25	RT.	TO	STA. 650+74	RT. = 49 LIN. FT.
FROM	STA. 652+33	RT.	TO	STA. 653+75	RT. = 142 LIN. FT.

TOTAL TO GENERAL SUMMARY 382 LIN. FT.

GENERAL NOTES

WAS-60-14.15

Calculated By: W.W. Date: 8/82 | Checked By: GRS Date: 8/82

FED RD DIVISION	STATE	PROJECT		3
5	OHIO			20

WAS-60-14.15

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

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.

REMOVAL OF TREES AND 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.

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

SIZES	NO. TREES
12" - 24"	
24" - 30"	
30" - 36"	
36" - 48"	

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.

UTILITY OWNERSHIP

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

GENERAL TELEPHONE COMPANY OF OHIO
921 STEUBENVILLE AVENUE
CAMBRIDGE, OHIO 43725
TELEPHONE NO. (614) 432-5549

MONONGAHELA POWER COMPANY
1310 FAIRMONT AVENUE
FAIRMONT, WEST VIRGINIA 26554
TELEPHONE NO. (304) 366-3000

CONDUIT END TREATMENT

IMMEDIATELY AFTER PLACEMENT OF ANY CONDUITS, THE CONTRACTOR SHALL CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET ENDS. THIS SHALL INCLUDE HEADWALLS, CONCRETE RIPRAP, ROCK CHANNEL PROTECTION, SODDING, ETC.

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEEDED AREAS, AS PER 659.09.

659	WATER	3 M GAL.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR EROSION AND SILTATION CONTROL MEASURES.

207	STRAW OR HAY BALES	30 EACH
207	TEMPORARY SLOPE DRAINS	100 LIN. FT.
207	TEMPORARY BENCHES, DIKES, DAMS AND SEDIMENT BASINS	62 CU. YD.
659	REPAIR SEEDING AND MULCHING	425 SQ. YD.

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.

SEEDING AND MULCHING

ALL CUT AND FILL SLOPES OF 3:1 OR STEEPER SHALL BE SEEDED WITH CROWN VETCH AS PER 659.09.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIAL 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.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN ON THESE PLANS, ARE SUBJECT TO ADJUSTMENT TO ASSURE THAT THE PLANNED INSTALLATION WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

EROSION CONTROL

ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OR TURF OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE THIS ITEM. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

GENERAL NOTES

Calculated	Checked	WAS-60-14.15	FED RD DIVISION	STATE	PROJECT		3A
By: V.H.W.	By: GRS		5	OHIO			20
Date: 9/82	Date: 8/82						

WAS - 60 - 14.15

GUARDRAIL REPLACEMENT

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

PLASTIC PAVEMENT MARKING

MATERIAL SHALL BE INLAID AS PER 847.15 DURING THE FINAL ROLL OF ASPHALT PLACEMENT.

IN LIEU OF THE REQUIREMENTS FOR 847.10 PERFORMED MATERIAL, TYPE A, THE CONTRACTOR MAY FURNISH 3-M "STAMARK" SERIES 5730, 6330 OR SMS-900 OR AN APPROVED EQUAL MATERIAL WHICH HAS A THICKNESS OF NOT LESS THAN 60 MILS.

IN ADDITION, ALL APPLICABLE MANUFACTURES MATERIAL AND APPLICATION INSTRUCTIONS, IN FORCE AT THE TIME OF PLACEMENT, SHALL BE ADHERE TO.

MAINTENANCE OF TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF SPEC. 614. TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF EXISTING PAVEMENT, ITEM 502 TEMPORARY STRUCTURE, ITEM 615 TEMPORARY ROADS PAVED WITH CLASS B PAVEMENT. THE LIMITS AND DURATION OF USE OF TEMPORARY ROADWAYS SHALL BE HELD TO AN ABSOLUTE MINIMUM, AND IN ALL CASES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

THE ALIGNMENT AND PAVEMENT TYPICAL SECTION FOR THE TEMPORARY ROAD SHALL BE AS DETAILED ON THE ASSOCIATED PLAN SHEET. TEMPORARY GUARDRAIL SHALL BE AS PER 615.

COUNTY ROAD NO. 56

TWO WAY TRAFFIC SHALL BE MAINTAINED ON THE EXISTING ROAD, EXISTING SHOULDERS, THE COMPLETED PAVING AND TEMPORARY ROADWAYS SURFACED WITH 410 AGGREGATE. COUNTY ROAD 56 SHALL BE RECONSTRUCTED FIRST WITH A TEMPORARY CONNECTION TO THE TEMPORARY ROAD.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410	TRAFFIC COMPACTED SURFACE TYPE A OR B	25 CU. YD.
ITEM 502	TEMPORARY STRUCTURE-SEE BRIDGE PLANS	
ITEM 615	TEMPORARY ROADS	LUMP LUMP
ITEM 615	TEMPORARY PAVEMENT CLASS B	1033 SQ. YD.
ITEM 616	WATER	10 M-GALS.
ITEM 614	MAINTAINING TRAFFIC	LUMP LUMP

ITEM SPECIAL, RESHAPING BERMS

BERMS AT LOCATIONS WHERE EXISTING GUARDRAIL IS REMOVED OR WHERE NEW GUARDRAIL IS TO BE ERECTED SHALL BE RESHAPED AS DIRECTED BY ENGINEER TO INSURE A SMOOTH SURFACE FREE OF ALL IRREGULARITIES. EXCESS EXCAVATION RESULTING FROM RESHAPING BERMS SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT FOR RESHAPING BERMS AS DESCRIBED SHALL BE INCLUDED IN THE CONTRACT PRICE BID PER LINEAL FOOT FOR ITEM SPECIAL, RESHAPING BERMS.

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 123.64 ORC.

UTILITIES NOTIFICATION

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN THIS AREA WHICH MAY INVOLVE UNDERGROUND UTILITY FACILITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE REGISTERED UTILITY PROTECTION SERVICE AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN IN THE PLANS.

THE OWNER OF THE UNDERGROUND UTILITY FACILITY SHALL, WITHIN FORTY-EIGHT HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, AFTER NOTICE IS RECEIVED, STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO DAYS AHEAD OF THE PLANNED CONSTRUCTION.

Calculated By: GRS Date: 8/82 | Checked By: W.W. Date: 8/82

FED RD DIVISION	STATE	PROJECT		4
5	OHIO			20

WAS 60 - 14.15

PAVEMENT MARKING, POLYESTER, AS PER PLAN

POLYESTER PAVEMENT MARKINGS SHALL CONFORM TO 621 EXCEPT AS FOLLOWS:

ALL REFERENCES TO PAINT SHALL BE CONSIDERED TO READ POLYESTER MATERIAL.

ITEM 621.02 MATERIALS IS HEREBY DELETED-EXCEPT FOR GLASS BEAD REQUIREMENTS. IN ADDITION, PAVEMENT MARKING MATERIAL SHALL BE RETROREFLECTORIZED POLYESTER COMPOUND AS MANUFACTURED BY THE GLIDDEN-DURKEE CO., MOBIL CHEMICAL CO., DESANTIS COATING, INC., OR APPROVED EQUAL.

ITEM 621.05 APPLICATION IS HEREBY MODIFIED AS FOLLOWS:

PARAGRAPH 1 THE FIFTH SENTENCE IS DELETED AND THE FOLLOWING SUBSTITUTED.

✳

PAVEMENT MARKINGS SHALL BE APPLIED ONLY WHEN THE SURFACE IS CLEAN AND DRY AND WHEN THE AIR TEMPERATURE IS ABOVE 50 F.

PARAGRAPH 4 IS HEREBY DELETED.

THE APPLICATION RATE TABLE IS HEREBY DELETED AND THE FOLLOWING SUBSTITUTED.

THE MATERIAL SHALL BE APPLIED AT THE RATE OF 16 GALLONS PER MILE FOR A SOLID LINE OF 4 INCHES IN WIDTH TO PROVIDE A UNIFORM WET FILM THICKNESS OF 15 MILS. APPLICATION RATES FOR DASHED OR DOTTED LINES AND FOR LINES WIDER THAN 4 INCHES SHALL BE PROPORTIONAL TO THE SOLID LINE RATES.

PARAGRAPH 5 IS HEREBY MODIFIED AS FOLLOWS:

GLASS BEADS SHALL BE APPLIED TO THE WET POLYESTER SO THAT THE BEADS ARE EMBEDDED AND RETAINED IN THE POLYESTER AND UNIFORMLY COVER THE POLYESTER SURFACE. THE RATE OF APPLICATION SHALL BE 15 POUNDS OF GLASS BEADS PER GALLON OF POLYESTER MATERIAL APPLIED.

PARAGRAPH 6 IS HEREBY DELETED AND THE FOLLOWING SUBSTITUTED:

THE MARKING MATERIAL SHALL DRY TO A "NO-TRACKING" CONDITION IN NOT MORE THAN FORTY-FIVE (45) MINUTES.

ITEM 621.051 LAYOUT AND PREMARKING IS MODIFIED BY THE FOLLOWING ADDITIONAL REQUIREMENTS.

(A) THE GAPS NOT MARKED AS A RESULT OF TEMPLATE USE SHALL BE FILLED WITH MARKING MATERIAL AFTER TEMPLATE REMOVAL.
(B) "T" MARKING OF CENTERLINE NO PASSING ZONES SHALL BE CONSIDERED INCIDENTAL TO APPLYING THE LINE.

ITEM 621.08 CENTER LINES IS MODIFIED BY THE FOLLOWING ADDITIONAL REQUIREMENTS. CENTER LINE MARKING SHALL ALSO INCLUDE TWO-WAY LEFT-TURN STRIPING AND THE OUTLINE OF YELLOW MARKED ISLANDS.

ITEM 621.12, 621.131 AND 621.132 RATES OF APPLICATION ARE HEREBY MODIFIED AS FOLLOWS:

POLYESTER MATERIAL SHALL BE APPLIED AT A RATE OF 1 GALLON PER 100 SQUARE FEET OF MARKING SURFACE.

ITEM 621.14 DEDUCTION FOR DEFICIENCY SHALL BE MODIFIED BY THE FOLLOWING ADDITIONAL REQUIREMENTS:

THE QUANTITY OF POLYESTER MARKING MATERIAL OR GLASS BEADS APPLIED PER UNIT OF MEASUREMENT WILL BE COMPUTED BY THE ENGINEER AT THE END OF EACH DAY'S WORK.

A DAY'S APPLIED QUANTITY OF LESS THAN 5 GALLONS OF MARKING MATERIAL MAY BE INCLUDED IN THE NEXT DAY'S APPLIED MARKINGS FOR THE PURPOSE OF COMPUTING MARKING MATERIAL AND BEAD APPLICATION RATES.

THE CONTRACTOR SHALL PROVIDE A CALIBRATED MEASURING DEVICE TO MEASURE THE POLYESTER RESIN IN THE TANKS.

THE QUANTITY OF POLYESTER MARKING MATERIAL USED SHALL BE DETERMINED BY MEASURING THE POLYESTER RESIN IN THE TANK BEFORE AND AFTER MARKING MATERIAL IS APPLIED. THE CONTRACTOR SHALL PERMIT THE ENGINEER TO TAKE MEASUREMENTS WHENEVER REQUESTED. THE MARKING MATERIAL APPLICATION RATE SHALL BE DETERMINED BY DIVIDING THE TOTAL GALLONS USED BY THE APPROPRIATE MARKING UNIT OF MEASURE. ANY DETERMINATION OF PAY DEDUCTION RESULTING FROM SHORTAGES IN MARKING MATERIALS SHALL BE BASED ON THE MEASUREMENTS OBTAINED BY THIS METHOD. THE AMOUNT OF GLASS BEADS APPLIED SHALL BE ASCERTAINED BY THE ENGINEER BY OBSERVATION AND FROM INFORMATION SUPPLIED BY THE CONTRACTOR AS TO QUANTITY USED.

ITEM 621.16 BASIS OF PAYMENT SHALL BE MODIFIED BY ADDING THE WORDS "POLYESTER, AS PER PLAN" TO EACH ITEM DESCRIPTION.

EQUIPMENT

THE CONTRACTOR'S STRIPER SHALL BE EQUIPPED WITH AN ODOMETER GRADUATED TO 1/100 OF A MILE. THE ENGINEER SHALL DETERMINE THE DEGREE OF ACCURACY OF THE CONTRACTOR'S ODOMETER AND ESTABLISH AN ADJUSTMENT FACTOR AS MAY BE REQUIRED TO ACCURATELY DETERMINE THE PAY ITEM QUANTITIES. THE ENGINEER SHALL PERIODICALLY CHECK THE ODOMETER OPERATION TO ASSURE MAINTENANCE OF ACCURATE MEASUREMENTS.

FAILURE OF THE ODOMETER TO FUNCTION PROPERLY SHALL BE CAUSE TO STOP THE WORK UNTIL THE ODOMETER IS MADE TO FUNCTION PROPERLY. IF MEASUREMENT OF THE WORK HAS TO BE PERFORMED BY THE DEPARTMENT, THE COST OF THE DEPARTMENT LABOR AND EQUIPMENT PLUS 10 PERCENT SHALL DEDUCTED FROM PAYMENT DUE THE CONTRACTOR FOR THE WORK.

THE PAVEMENT MARKING EQUIPMENT SHALL BE EQUIPPED WITH A PRESSURE REGULATED AIR JET WHICH SHALL REMOVE ALL DEBRIS FROM THE PAVEMENT IN ADVANCE OF THE APPLICATOR GUN. THE AIR JET SHALL OPERATE WHEN MARKING MATERIAL IS BEING APPLIED AND SHALL BE SYNCHRONIZED WITH MARKING MATERIAL APPLICATION OR REMAIN "ON" AT ALL TIMES.

THE CONTRACTOR SHALL USE AN ACCURATE DASHING MECHANISM, CAPABLE OF BEING EASILY ADJUSTED, TO RETRACE EXISTING LANE OR CENTERLINE MARKINGS AS SPECIFIED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

PROVISIONS FOR THE DESCRIBED SPECIAL EQUIPMENT BY THE CONTRACTOR SHALL BE INCIDENTAL TO THE APPLICATION.

ITEM 621 EDGE LINES, POLYESTER, AS PER PLAN (WHITE)

SR	60	STA	642+50	LT. TO STA	660+35	LT. =	1785 LIN. FT.
SR	60	STA	642+50	RT. TO STA	660+35	RT. =	1785 LIN. FT.
CR	56	STA	0+12	LT. TO STA	3+00	LT. =	288 LIN. FT.
CR	56	STA	0+12	RT. TO STA	3+00	RT. =	288 LIN. FT.
						TOTAL	4146 LIN. FT. =

0.79 MILE TO GENERAL SUMMARY

ITEM 621 CENTER LINES, POLYESTER, AS PER PLAN (DOUBLE SOLID)

SR	60	STA	642+50	TO STA	660+35	=	1785 LIN. FT.
CR	56	STA	0+17	TO STA	3+00	=	283 LIN. FT
						TOTAL	2068 LIN FT. =

0.39 MILE TO GENERAL SUMMARY

✳ POLYESTER PAVEMENT MARKINGS SHALL NOT BE APPLIED TO NEW ASPHALT CONCRETE SURFACES UNTIL AT LEAST 14 CALENDER DAYS HAVE ELAPSED AND SHALL BE COMPLETED WITHIN 30 CALENDER DAYS.

GENERAL NOTES

Calculated	Checked
By: GRS	By: HW
Date: 8/82	Date: 8/82

FED RD DIVISION	STATE	PROJECT		5
5	OHIO			20

WAS 60-14.15

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 MARKINGS MAY BE OF PAINT OR PAVEMENT MARKING TAPE. SEE SHEET NO

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 CLASS 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 USED 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, WHERE PERMANENT MARKINGS WOULD LIE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

PLACEMENT

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.

A. CLASS I MARKINGS (TEMPORARY ROAD ONLY)

CLASS I MARKINGS SHALL BE AS DEFINED IN 621.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR SOLID 4-INCH LINES.

B. CLASS II MARKINGS (FINAL PAVEMENT)

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

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 0.4 GALLONS 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 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	QUANTITY	UNIT	DESCRIPTION
614	0.10	MILES	TEMPORARY CENTER LINES, CLASS I, (PAINT)
614	0.24	MILES	TEMPORARY CENTER LINES, CLASS I, (TAPE)
614	0.21	MILES	TEMPORARY EDGE LINES, CLASS I, (PAINT)
614	0.09	MILES	TEMPORARY EDGE LINES CLASS I, (TAPE)
614	0.12	MILES	TEMPORARY CENTERLINES, CLASS II, (PAINT)
614	20	LIN. FT.	TEMPORARY STOP LINES, CLASS I, (PAINT)

QUANTITIES CARRIED TO THE GENERAL SUMMARY SHEET NO. 7

Calculated	Checked
By: GRS	By: V.W.
Date: 8/82	Date: 8/82

FHWA REGION	STATE	PROJECT	
5	OHIO		

6/20

WAS 60 - 14.15

TEMPORARY ROAD CURVE DATA

CURVE 1	CURVE 2	CURVE 3	CURVE 4
PI STA 648+10.306	PI STA 650+55.859	PI STA 652+77.955	PI STA 654+82.555
Dc = 12° 00'	Dc = 13° 00'	Dc = 13° 00'	Dc = 13° 00'
Δ = 14° 23' 49.69"	Δ = 10° 03' 25.69"	Δ = 12° 40' 49.38"	Δ = 12° 40' 49.38"
T = 60.306'	T = 38.781'	T = 48.971'	T = 48.971'
Lc = 119.976'	Lc = 77.363'	Lc = 97.541'	Lc = 97.541
PC = 647+50	PC = 650+17.078	PC = 652+28.985	PC = 654+33.584
PT = 648+69.976	PT = 650+94.440	PT = 653+26.526	PT = 655+31.126

ITEM 614 TEMPORARY PAVEMENT MARKING

4" TEMPORARY DOUBLE YELLOW CENTER LINES CLASS I PAINT

STA 648+90 TO STA 654+10 = 520 L.F. 0.10 MILES TO SHEET NO. 5

4" TEMPORARY DOUBLE YELLOW CENTER LINES CLASS I TAPE

STA 642+50 TO STA 648+90 = 640 L.F.
STA 654+10 TO STA 660+35 = 625 L.F.
TOTAL = 1265 L.F. = 0.24 MILES TO SHEET NO. 5

4" TEMPORARY WHITE EDGE LINES CLASS I PAINT

STA 649+35 RT. TO STA 653+80 RT. = 445 L.F.
STA 648+25 LT. TO STA 654+75 LT. = 650 L.F.
TOTAL = 1095 L.F. = 0.21 MILES TO SHEET NO. 5

4" TEMPORARY WHITE EDGE LINES CLASS I TAPE

STA 647+50 LT. TO STA 648+25 LT. = 75 L.F.
STA 647+50 RT. TO STA 649+35 RT. = 185 L.F.
STA 654+75 LT. TO STA 655+35 LT. = 60 L.F.
STA 653+80 RT. TO STA 655+35 RT. = 155 L.F.
TOTAL = 475 L.F. = 0.09 MILES TO SHEET NO. 5

TEMPORARY CENTER LINES CLASS II PAINT

STA 650+25 TO STA 653+75 = 350 L.F.
CO. RD. 56 STA 0+17 TO STA 3+00 = 283 L.F.
TOTAL = 633 L.F. = 0.12 MILES TO SHEET NO 5

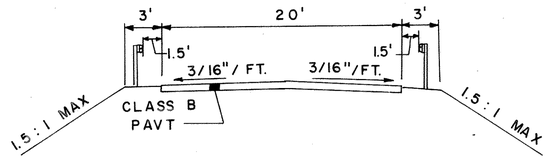
TEMPORARY STOP LINES CLASS I PAINT

COUNTY ROAD 56 20 L.F. TO SHEET NO. 5

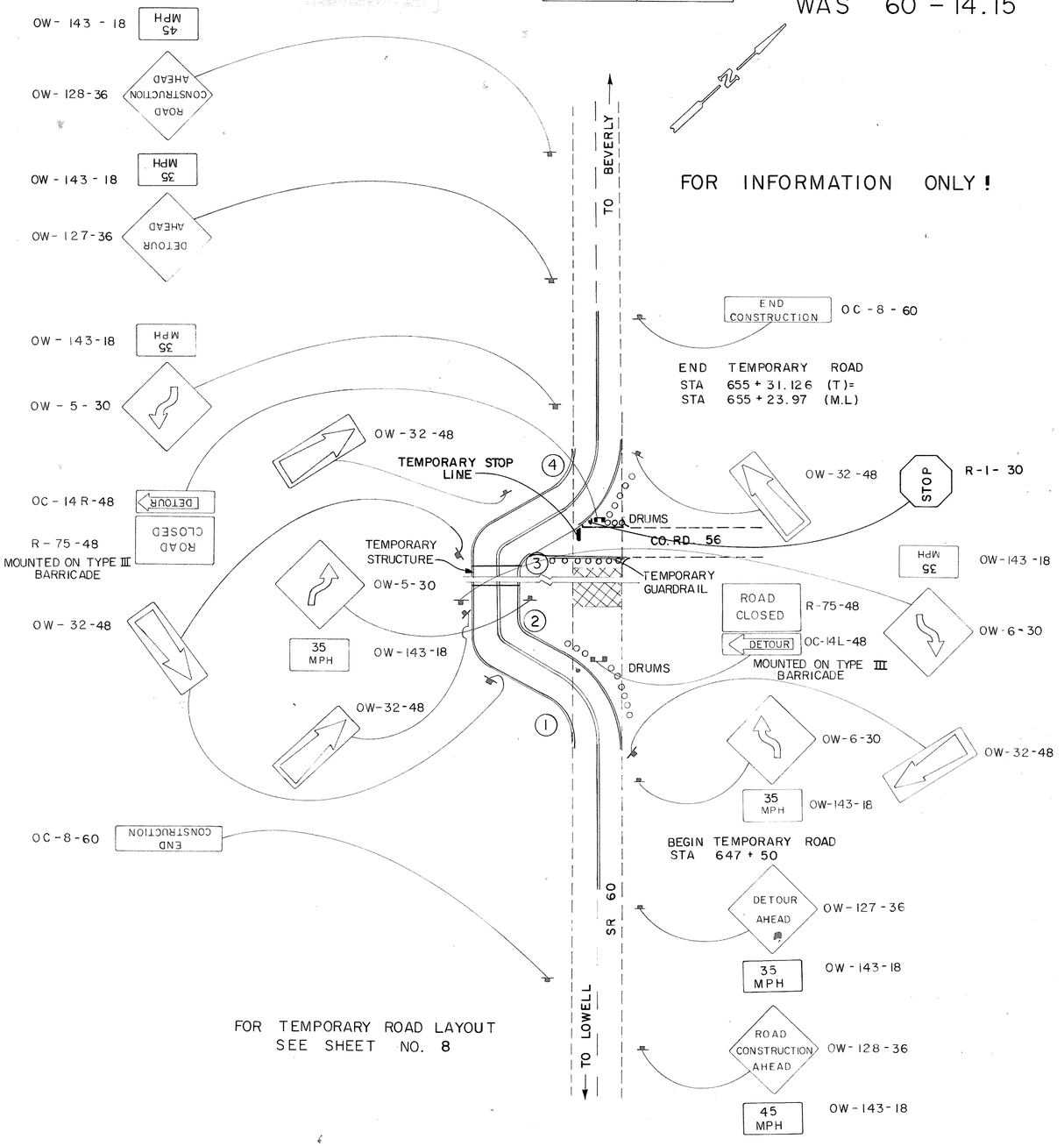
ITEM 615 TEMPORARY PAVEMENT, CLASS B

STA 648+80 TO STA 654+25 (APPROX. TEMP. RD. STA.) = 545 L.F.
DEDUCT FOR TEMPORARY STRUCTURE = 80 L.F.
NET LENGTH = 465 L.F.

AREA = (465 x 20) ÷ 9 = 1033 SQ YD TO SHEET NO. 3



TEMPORARY ROAD
TYPICAL SECTION



FOR TEMPORARY ROAD LAYOUT
SEE SHEET NO. 8

NOT TO SCALE

CALC BY GRS DATE 8/82 | CHKD BY HW DATE 8/82 | WAS 60-14.15 | OHIO | FHWA REGION 5 | 7 / 20

304 AGGREGATE BASE: DEPTH 6"
FIELD DRIVE STA. 653+00 LT. LENGTH 68 FT WIDTH 12 FT.
AREA = 68 x 12 = 816 SQ. FT
FLARE = 20 x 20 = 400 SQ. FT.
TOTAL = 1216 SQ. FT.

(1216 x .5) ÷ 27 = 22.5 CU. YD
23 CU. YDS. TO SHEET NO. 8

STATION	EARTHWORK CUT E. AREA	CUT SUM	CUT CU. YDS.	EARTHWORK FILL E. AREA	FILL SUM	FILL CU. YDS.	SEEDING E. LENGTH	SEEDING SUM	SEEDING SQ. FT
648+50							0	27	675
649+00							27	62	1550
649+50							35	79	1975
650+00							44	87	2175
650+50							43	86	2150
651+00							43		
651+50									
652+00	6	89	83				44	98	2450
652+50	83			0	11	10	54	94	2350
653+00	0	83	77	11	24	22	40	70	1750
653+50	15	15	14	13	23	22	30	54	1350
654+00	0	15	14	9	9	9	24	24	600
654+50				0			0		
ADD FOR FIELD DRIVE STA 653+00 LT.						120			
C.R. 56									
0+12							0		
0+20	0	8	4	0	127	59		33	627
0+50	8	13	12	127	228	211	33	62	1550
1+00	5	31	29	101	160	148	29	82	2050
1+50	26	44	41	59	117	108	53	101	2525
2+00	18	43	40	58	66	61	48	71	1775
2+50	25	43	40	8	8	8	23	23	575
3+00	18			0			0		
CHANNEL									
1+50	0	54	25	0	25	12			
1+75	54	126	117	25	25	23			
2+25	72	72	34	0					
2+50	0								
TOTAL			530*			813*			26,127

26,127 ÷ 9 = 2903 S.Y. *

ITEM 659 AGRICULTURAL LIMING
2903 x 0.00045 TON/S.Y. = 1.31 TON *

ITEM 659 COMMERCIAL FERTILIZER
2903 x 0.00009 TON/S.Y. = 0.26 TON *

* QUANTITIES TO GENERAL SUMMARY

SHEET NUMBER 2	3	3A	4	5	7	8	11	ITEM	QUANT.	UNIT	DESCRIPTION
											ROADWAY
								201	Lump		Clearing and Grubbing
						280		202	280	Lin.Ft.	Guardrail Removed
508								202	508	Sq.Yd.	Wearing Course Removed as per plan
					530			203	530	Cu.Yd.	Excavation Not Including Embankment Construction
					813			203	813	Cu.Yd.	Embankment
							698	203	698	Sq.Yd.	Subgrade Compaction
		25						410	25	Cu.Yd.	Traffic Compacted Surface, Type A or B
						348.5		606	348.5	Lin.Ft.	Guardrail, Type 5
						3		606	3	Each	Anchor Assembly, Standard Type A
						1		606	1	Each	Anchor Assembly, Standard Type T
						4		606	4	Each	Bridge Terminal Assembly, Standard Type B
		Lump						615	Lump	Lump	Temporary Road
		1033						615	1033	Sq.Yd.	Temporary Pavement, Class B
19											
382								Special	382	Lin.Ft.	Reshaping Berms
		10						616	10	M.Gal.	Water
											EROSION CONTROL
	30							207	30	Each	Straw or Hay Bales
	62							207	62	Cu.Yd.	Temporary Benches, Dikes, Dams, and Sediment Basins
	100							207	100	Lin.Ft.	Temporary Slope Drains
						31		601	31	Cu.Yd	Rock Channel Protection Type C Without Bedding
					2903			659	2903	Sq.Yd.	Seeding and Mulching
					0.26			659	0.26	Ton	Commercial Fertilizer
					1.31			659	1.31	Ton	Agricultural Liming
	3							659	3	M.Gal.	Water
	425							659	425	Sq.Yd.	Repair Seeding and Mulching
											DRAINAGE
						56		603	56	Lin.Ft.	Conduit Type D, 12"
						54		603	54	Lin.Ft.	Conduit Type A, 36"
						1.52		602	1.52	Cu.Yd.	Concrete Masonry
											PAVEMENT
							102	301	102	Cu.Yd.	Bituminous Aggregate Base AC-20 RT-11 or RT-12
						23		304	23	Cu.Yd.	Aggregate Base
37								310	37	Cu.Yd.	Subbase Type II
21							24	402	45	Cu.Yd.	Asphalt Concrete AC-20
18							20	404	38	Cu.Yd.	Asphalt Concrete AC-20
51								407	51	Gal.	Tack Coat
178								611	178	Sq.Yd.	Reinforced Concrete Approach Slab (T = 14")
2								407	2	Ton	Cover Aggregate
339								617	339	Sq.Yd.	Shoulder Preparation
19								617	19	Cu.Yd.	Compacted Aggregate
1								617	1	M.Gal.	Water
											TRAFFIC
			0.39					621	0.39	Miles	Center Lines, Polyester, As Per Plan
			0.79					621	0.79	Miles	Edge Lines, Polyester, As Per Plan
							25	847	25	Lin.Ft.	Stop Lines 24" 847.10 Type A
							1	630	1	Each	Removal of Ground Mounted Sign and Reerection
							14	630	14	Lin.Ft.	Ground-Mounted Supports, No. 3 Post
							1	630	1	Each	Removal of Ground Mounted Post Support
				0.12				614	0.12	Miles	Temporary Center Lines Class II (Paint)
				0.10				614	0.10	Miles	Temporary Center Lines Class I (Paint)
				0.24				614	0.24	Miles	Temporary Center Lines Class I (Tape)
				0.21				614	0.21	Miles	Temporary Edge Lines Class I (Paint)
				009				614	0.09	Miles	Temporary Edge Lines Class I (Tape)
				20				614	20	Lin.Ft.	Temporary Stop Lines Class I (Paint)
		Lump						614	Lump		Maintaining Traffic
		Lump						623	Lump		Construction Layout Stakes
								624	Lump		Mobilization, as per plan

STructures Over 20' Span See Sheet No. 16 Bridge No. Was. 60-1416

GENERAL SUMMARY

MICROFILMED
JAN 3 1 1985

Calculated	Checked
By: V.H.W.	By: G.R.S.
Date: 8/82	Date: 8/82

5 — 8 / 20

WAS-60-14.15

CLARENCE L. COFFMAN AND
FRANCE WICKENS COFFMAN

SCALE
0 40 80

BEGIN WORK
Sta. 647+00

CURVE 1
P.I. STA = 642+64.283
Δ = 34°-0' LT.
Dc = 2°-30'-00"
T = 700.683
R = 2291.831
E = 104.718

BEGIN PROJECT
Sta. 650+50
BRF-44(23)

END PROJECT
Sta. 653+50
BRF 44(23)

END WORK
Sta. 656+00

HERBERT MARSH

CURVE 2
P.I. STA = 660+79.935
Δ = 4°-12'-00" LT.
Dc = 0°-24'-0.00"
T = 525.235
R = 14323.945
E = 9.627

RCP 5'x14'x18"

EX. BRIDGE
WAS-60-14.16

STA 652+20 ML =
STA 2+00 BL

TEMPORARY
CONNECTION

TO LOWELL

BEGIN TEMP
647+50

P.T. STA 649+23.6

TEMP. RD.

TEMP
STRUCTURE

BUTT JOINT

25' FEATHER

EX. R/W

UTC

90°

R=20'

FIELD
TYPE T ANCH. DRIVE

Field Drive

74°

R=30'

ABAND.
ABUTMENTS
DO NOT
DISTURB

PRIVATE
SIGN

DUMPED
ROCK
FILL
TYPE C

24" C.M.P.

652+75 =
0+00

Res. Drive

N 47°16'00"W

M.B.

TO BEVERLY

EX R/W

2 Sty
Brick
Res.

54" Drain
Tile

Septic tank

HERBERT MARSH

BIG RUN

C.R. 56

PC 1+42.743

SEE SHEET 11

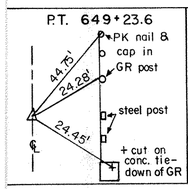
EX. R/W

P.I. 2+17.187

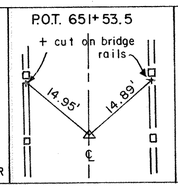
END TEMP. 655+31.126(T) =
655+23.97 (ML)

P.C. STA 655+54.70

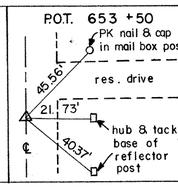
P.T. 649+23.6



P.O.T. 651+53.5



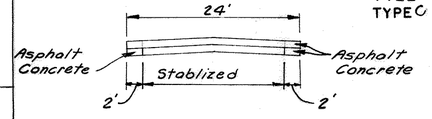
P.O.T. 653+50



B.M. ELEV 625.20 L CUT IN S.E. CORNER OF REAR ABUTMENT OF BRIDGE NO. WAS-60-14.16

CLARENCE L. COFFMAN AND
FRANCES WICKENS COFFMAN

ADJOINING PAVEMENT
TYPICAL SECTION



PROPOSED STRUCTURE

TYPE: Continuous concrete slab with capped pile abutments and piers
SPANS: 36'-0", 45'-0", and 36'-0"
ROADWAY: 40'-0" f/f guardrail
LOADING: HS-20-44
SKEW: 0°-00'
RAILING: Deep beam rail with steel tubular backing and steel posts and bolts
APPROACH SLABS: AS-1-81 (20'-0" long)
SURFACE COURSE: 1" Monolithic Concrete
ALIGNMENT: Tangent.

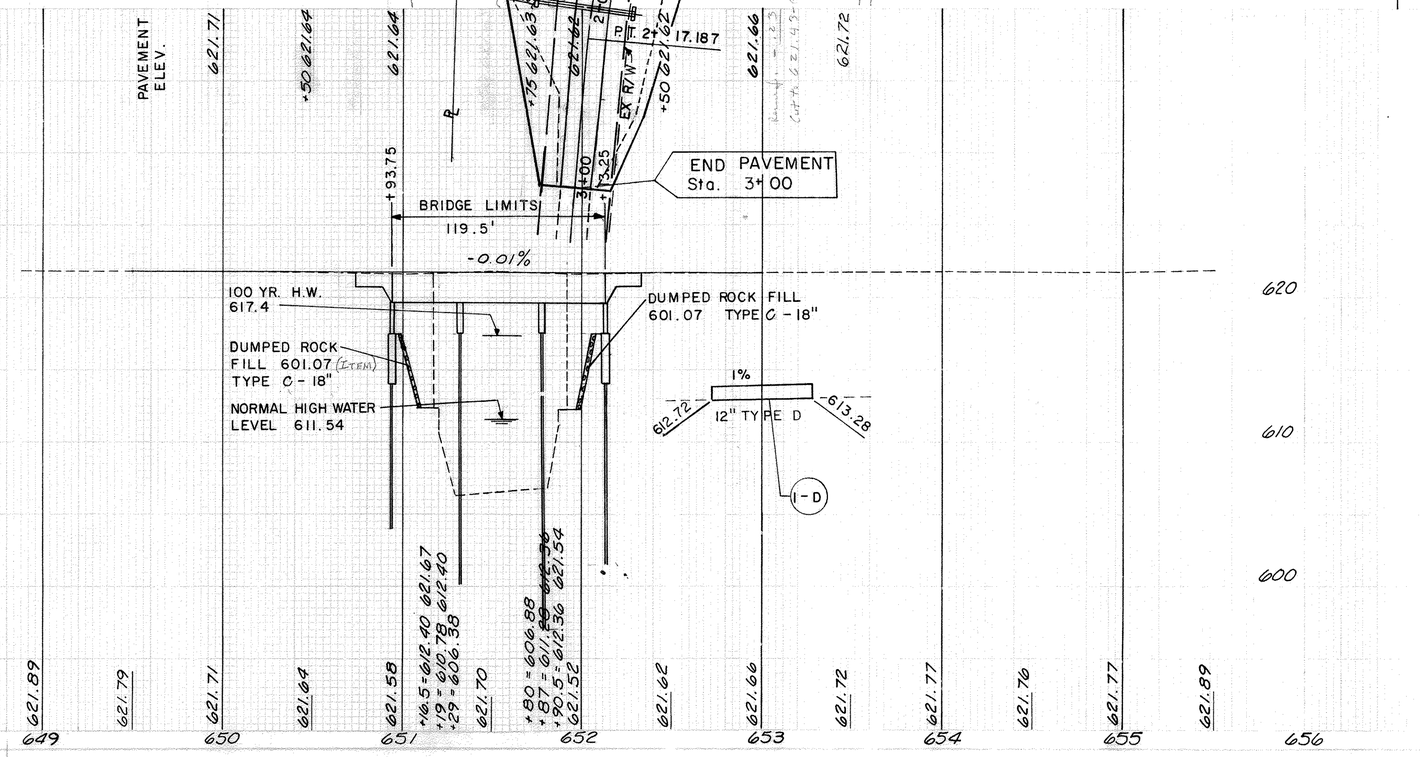
EXISTING BRIDGE DATA
WAS-60-14.16

TYPE - CONC., THROUGH ARCH
SPAN - 75'-0"
ROADWAY WIDTH - 24'-0"
OVERALL WIDTH - 29'-0"
SKEW - 0°
ALIGNMENT - TANGENT
DATE BUILT - 1924
WEARING SURFACE - 4" CONC. & 1½" BIT. MATERIAL

TO BE REMOVED

ESTIMATED QUANTITIES

SHEET NO.	REF. NO.	STATION TO STATION	SIDE	304 Aggregate Base Cu.Yd.	601 Rock Channel Protection Type C Without Bedding Cu. Yd.	603 12" Conduit Type D Lin.Ft.	202 Guardrail Removed Lin.Ft.	606 Guardrail Type 5 Lin.Ft.	606 Bridge Terminal Assembly Type B Each	606 Anchor Assembly Type A Each	606 Anchor Assembly Type T Each	603 Conduit Type A 36" Lin.Ft.	602 Masonry Cu. Yd.
10	I-P	653+00 (FIELD DR.)	LT.	23									
10	I-D	652+72 - 653+28	LT.			56							
	2-D	652+00			4								
10	I-R	650+20 - 651+10	LT				90						
	2-R	650+30 - 651+10	RT				80						
	3-R	651+95 - 652+45	LT				50						
	4-R	651+95 - 0+75 CR 56	RT				60						
10	I-GR	649+66.15 - 650+93.75	LT					102.6	1	1			
	2-GR	652+13.25 - 652+90	LT					77.9	1		1		
	3-GR	649+65.85 - 650+93.75	RT					102.9	1	1			
	4-GR	652+13.25 - 0+90 CR 90	RT					65.1	1	1			
11		CO. RD. 56			27							54	1.52
		TOTAL (TO GENERAL SUMMARY)		23	31	56	280	348.5	4	3	1	54	1.52



Calculated	Checked
By W.W.	By GRS
Date 8/82	Date 8/82

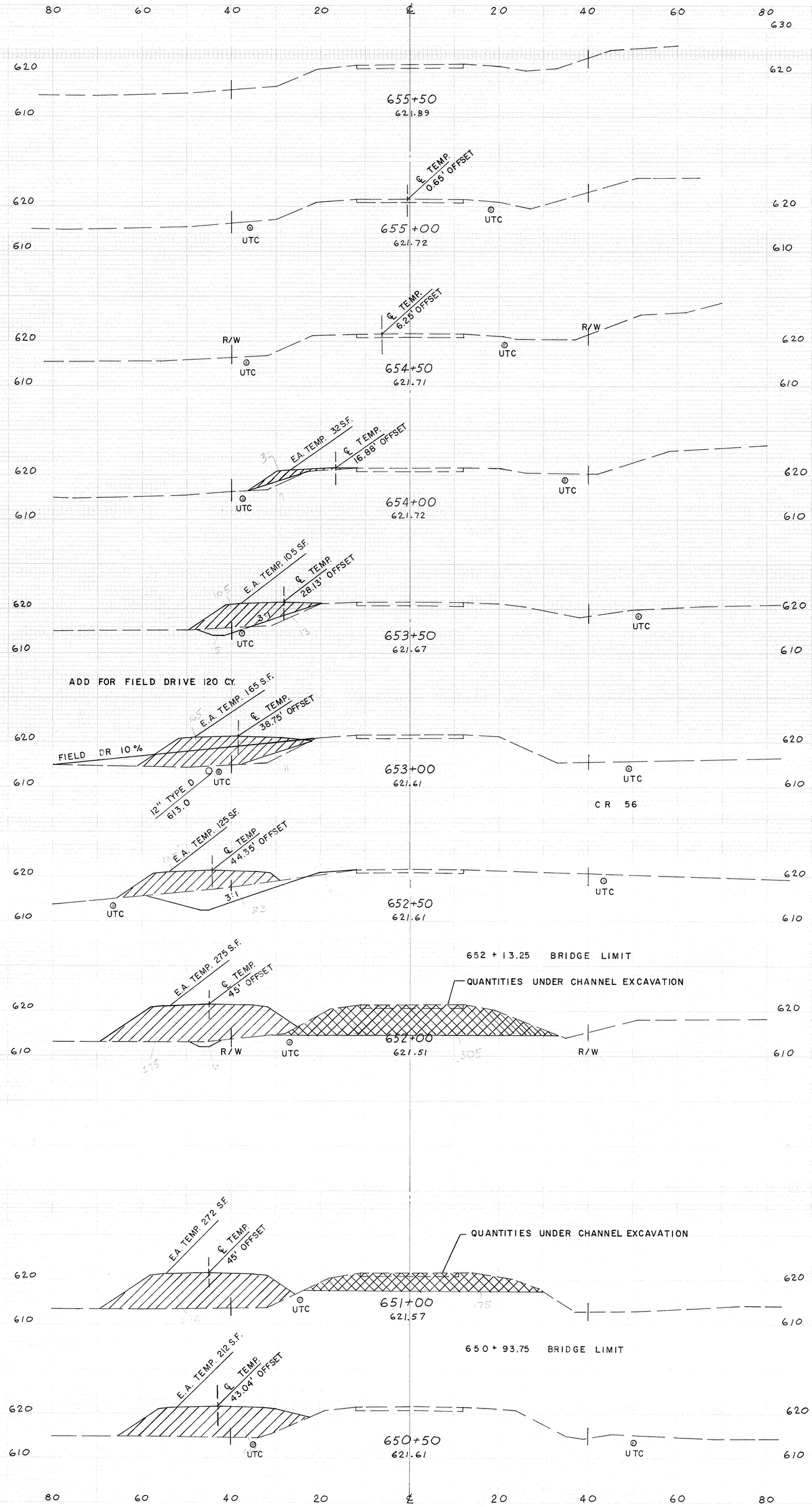
5

WAS-60-14.15

9
20

650+00
621.78
649+50
621.77
649+00
621.86
648+50
621.95
648+00
621.92
647+50
621.90
647+00
621.92
646+50
821.89
646+00
621.83
645+50
621.84
645+00
621.83

Sta. 645+00 to Sta. 650+00



Calculated By VLW Date 8/92	Checked By GRS Date 8/82

Sta. 650+50 to Sta. 655+50

WAS-60-14.15

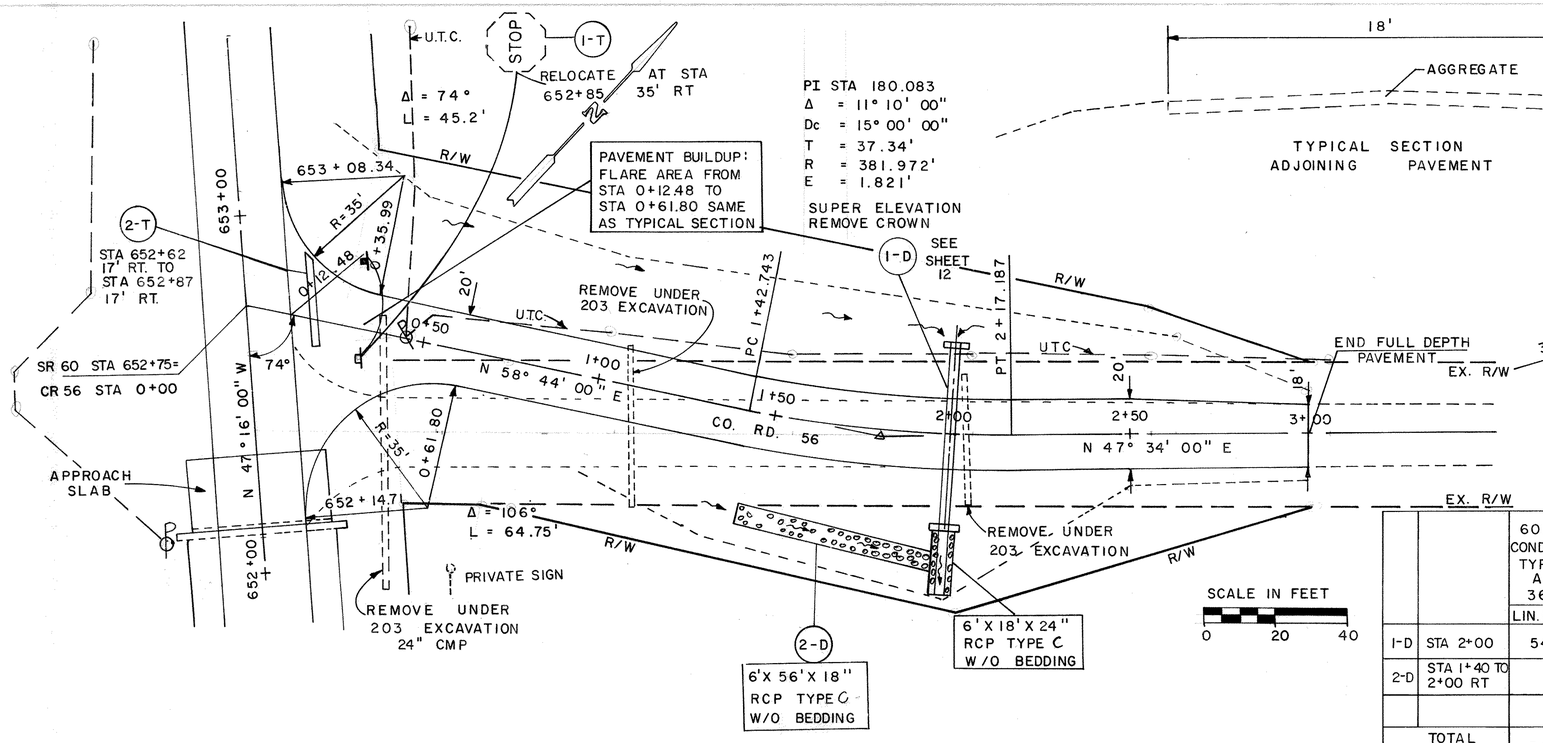
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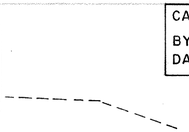
10
20

CALCULATED	CHECKED
BY: KAW	BY: GRS
DATE: 8/82	DATE: 8/82

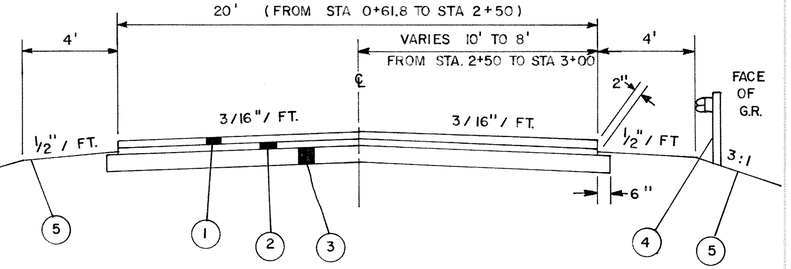
STATE	DIST.	COUNTY		SHEET NO.	TOTAL SHEETS
OHIO	5			11	20

WAS 60-14.15





TYPICAL SECTION
ADJOINING PAVEMENT



TYPICAL SECTION CO. RD. 56
FROM STA 0+61.80 TO STA 3+00
FULL SUPER ELEVATION FROM STA. 1+50 TO STA. 2+25
CROWN REMOVAL

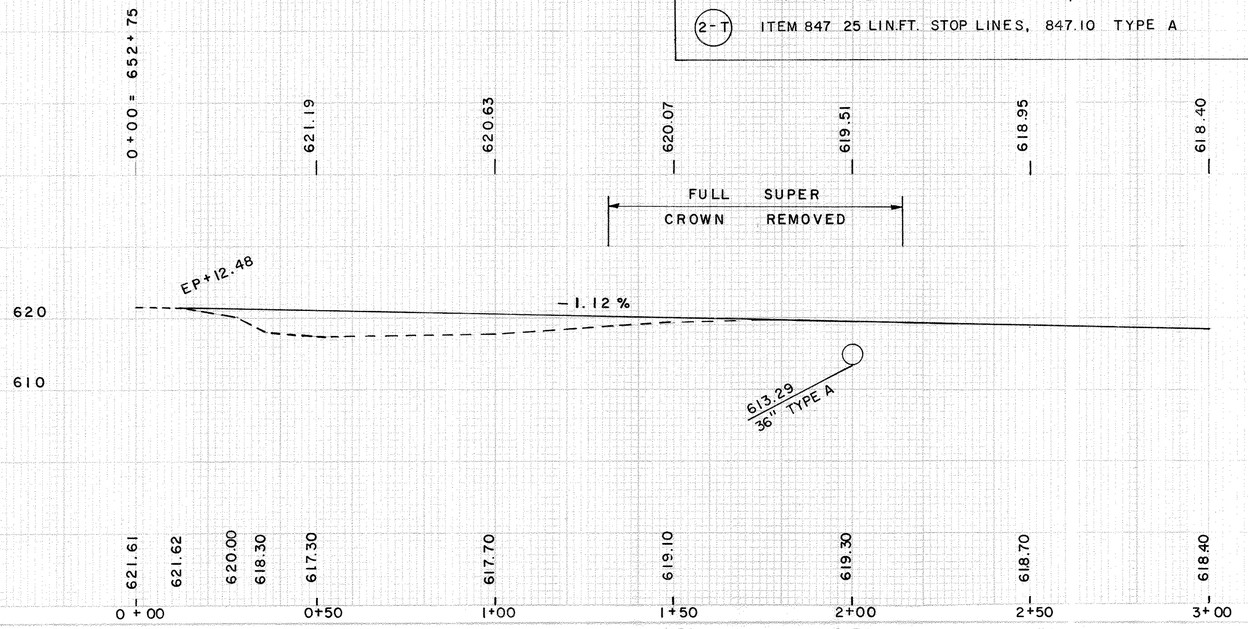
		603 CONDUIT TYPE A 36"	602 MASONRY	601 R.C.P. TYPE C W/O BEDDING
		LIN. FT.	CU. YD.	CU. YD.
1-D	STA 2+00	54	1.52	8
2-D	STA 1+40 TO 2+00 RT			19
	TOTAL TO SHEET 8	54	1.52	27

1. ITEM 404 1" ASPHALT CONCRETE AC-20
2. ITEM 402 1¼" ASPHALT CONCRETE AC-20
3. ITEM 301 5" BITUMINOUS AGGREGATE AC-20 RT II OR RT 12
4. ITEM 606 GUARDRAIL TYPE 5
5. ITEM 659 SEEDING AND MULCHING

TRAFFIC CONTROL TO GENERAL SUMMARY

1-T
- ITEM 630 1 EACH REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
- ITEM 630 1 EACH REMOVAL OF GROUND MOUNTED POST SUPPORT
- ITEM 630 14 LIN.FT GROUND MOUNTED, NO 3 POST

2-T
- ITEM 847 25 LIN.FT. STOP LINES, 847.10 TYPE A



PAVEMENT CALCULATIONS COUNTY ROAD 56

ITEM 404 THICKNESS = 1 INCH
FLARE: STA 0+12.48 TO STA 0+61.80 AREA = 1611 SQ.FT.
DEDUCT FOR APPROACH SLAB 45 SQ.FT.
VOLUME = (1566 X .0833) ÷ 27 = 4.83 C.Y.
STA. 0+61.80 TO STA. 2+50 - 20' WIDTH AREA = 3764 SQ.FT.
VOLUME = (3764 X .0833) ÷ 27 = 11.61 C.Y.
STA. 2+50 TO STA. 3+00 - AVE. WIDTH 19' AREA = 950 SQ.FT.
VOLUME = (950 X .0833) ÷ 27 = 2.93 C.Y.
TOTAL 404 19.37 C.Y.
TO GENERAL SUMMARY 20 C.Y.

ITEM 402 THICKNESS = 1¼ INCH
FLARE: STA. 0+12.48 TO STA. 0+61.80 AREA = 1611 SQ. FT.
DEDUCT FOR APPROACH SLAB 45 SQ. FT.
VOLUME = (1566 X 0.1041) ÷ 27 = 6.04 C.Y.
STA. 0+61.80 TO STA. 2+50 - 20' WIDTH AREA = 3764 SQ.FT.
VOLUME = (3764 X 0.1041) ÷ 27 = 14.52 C.Y.
STA. 2+50 TO STA. 3+00 - AVE. WIDTH 19' AREA = 950 SQ. FT.
VOLUME = (950 X 0.1041) ÷ 27 = 3.67 C.Y.
TOTAL 402 24.23 C.Y.
TO GENERAL SUMMARY 24 C.Y.

ITEM 301 THICKNESS = 5 INCHES
FLARE: STA. 0+12.48 TO STA. 0+61.80 AREA = 1611+36+65 = 1712 SQ.FT.
DEDUCT FOR APPROACH SLAB 49 SQ.FT.
VOLUME = (1663 X 0.417) ÷ 27 = 25.68 C.Y.
STA. 0+61.80 TO STA. 2+50 - 21' WIDTH AREA = 3952.2 SQ.FT.
VOLUME = (3952 X 0.417) ÷ 27 = 61.04 C.Y.
STA. 2+50 TO STA 3+00 AVE. WIDTH 20' AREA = 1000 SQ.FT.
VOLUME = (1000 X 0.417) ÷ 27 = 15.44 C.Y.
TOTAL 301 102.16 C.Y.
TO GENERAL SUMMARY 102 C.Y.

ITEM 203 SUBGRADE COMPACTION
AREA FROM 404 CALC. 1566 + 3764 + 950 = 6280 ÷ 9 = 698 S.Y.
TO GENERAL SUMMARY 698 S.Y.

COUNTY ROAD 56

CALCULATED BY GRS DATE 8/82	CHECKED BY AW DATE 8/82

5

WAS 60-14.15

12
20

80 60 40 20 ℄ 20 40 60 80

620
610

ER ER
UTC
3+00
618.44

END PAVEMENT

620
610

614.0 26 3:1
ER ER
UTC
618.95
2+50
618.74

26' 28'

620
610

613.6 31 2:1
ER ER 3:1 2:1 613.01 612.5
1% 36"x 54' TYPE A
UTC
613.55
HW-4
619.51
2+00
619.27
HW-4
24" RCP W/O BEDDING
CREEK
(I-D) SEE SHEET II

620
610

613.8 32 3:1
ER ER 4:1 616.0 30
UTC
620.07
1+50
619.13

620
610

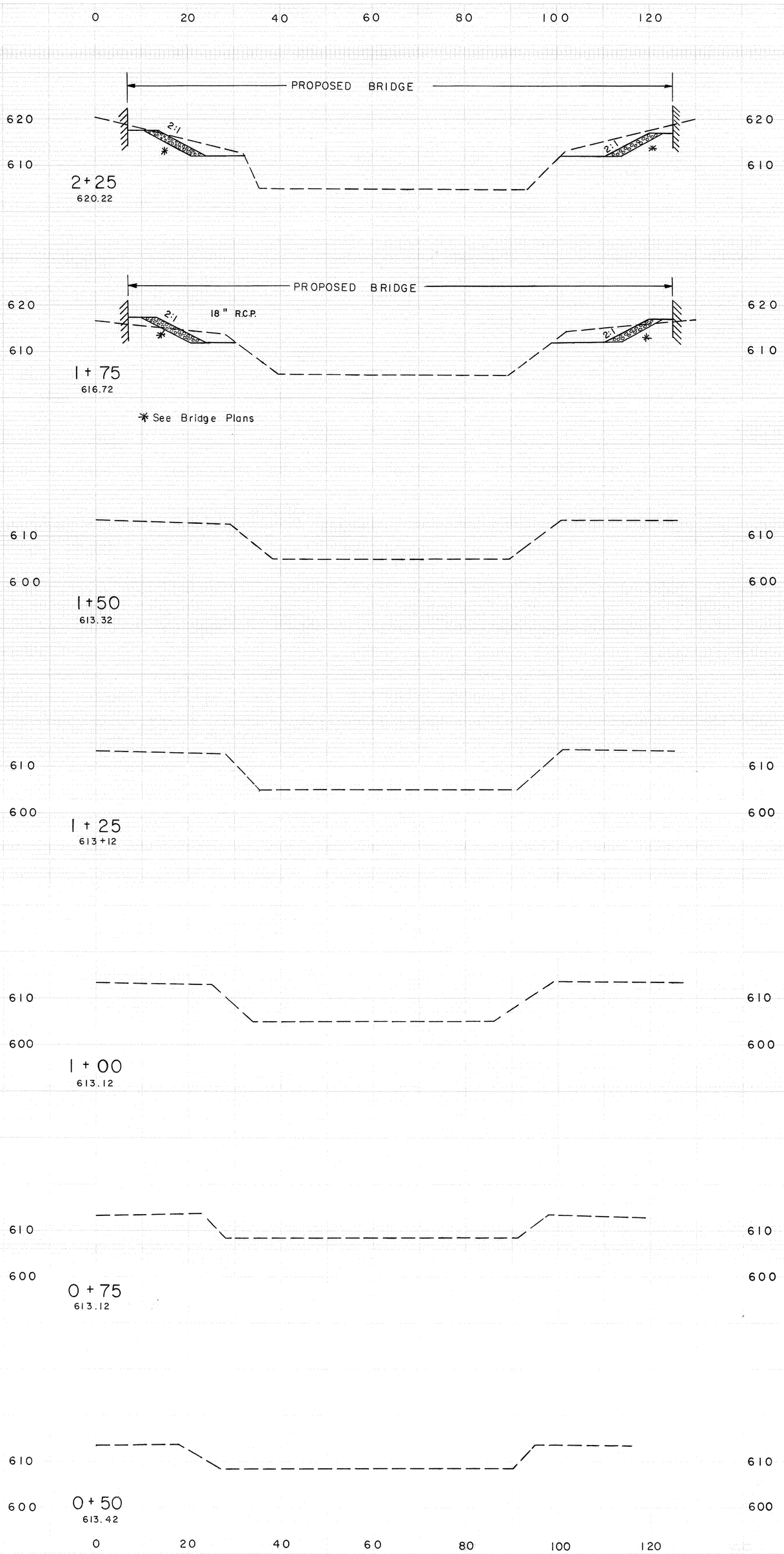
614.0 31
ER ER
UTC
620.63
1+00
617.74

620
610

614.2 34 3:1
UTC
621.19
0+50
617.34

80 60 40 20 ℄ 20 40 60 80

CROSS SECTIONS C.R. 56

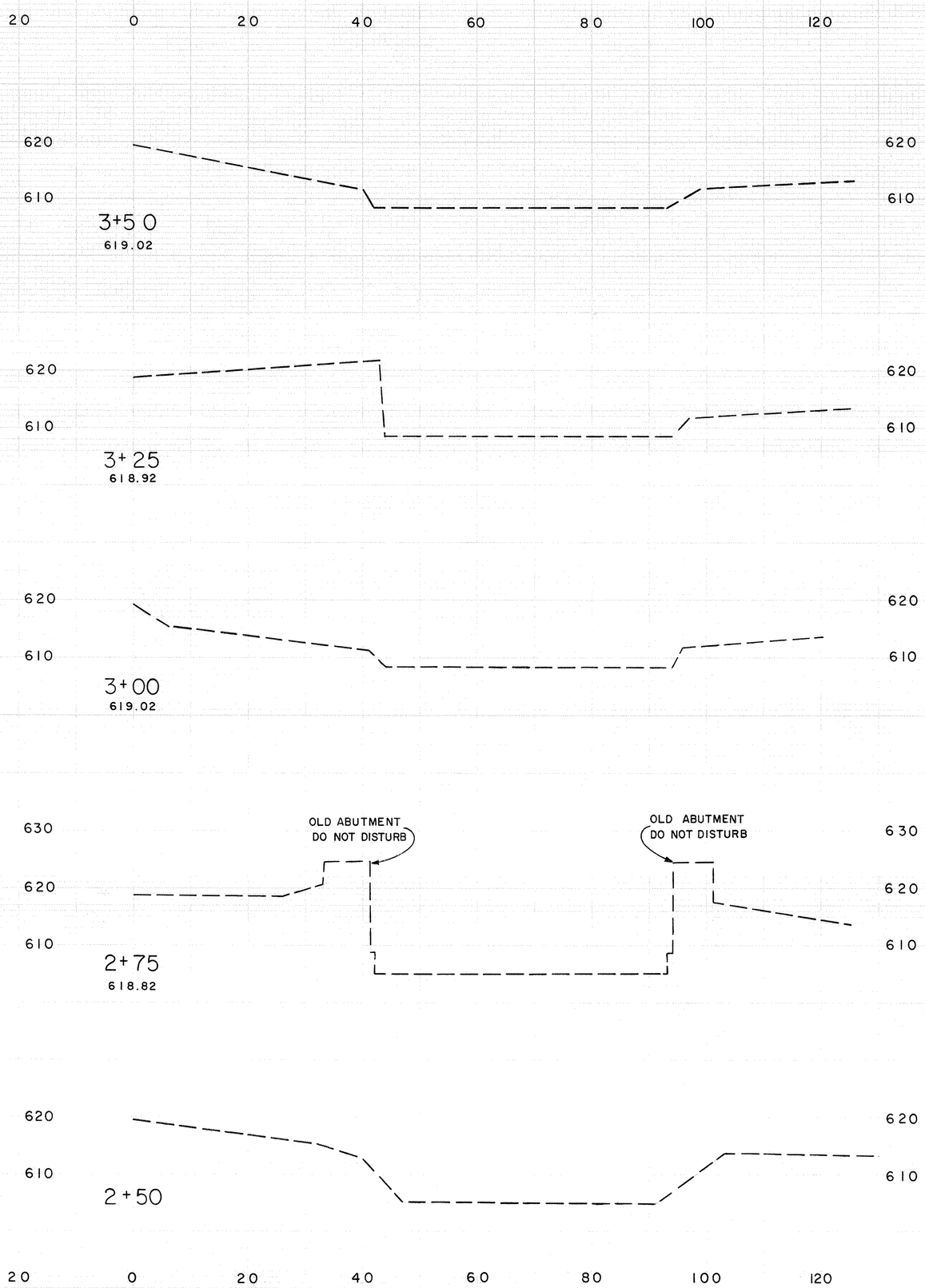


Calculated By WW Date 8/82
Checked By GRS Date 8/82

CHANNEL CROSS SECTIONS 0+50 to 2+25

WAS 60-14.15

CHANNEL CROSS SECTIONS 2+50 to 3+50



Calculated By [illegible] Date 8/82

Checked By G.R.S. Date 8/82

WAS 60 - 14.15

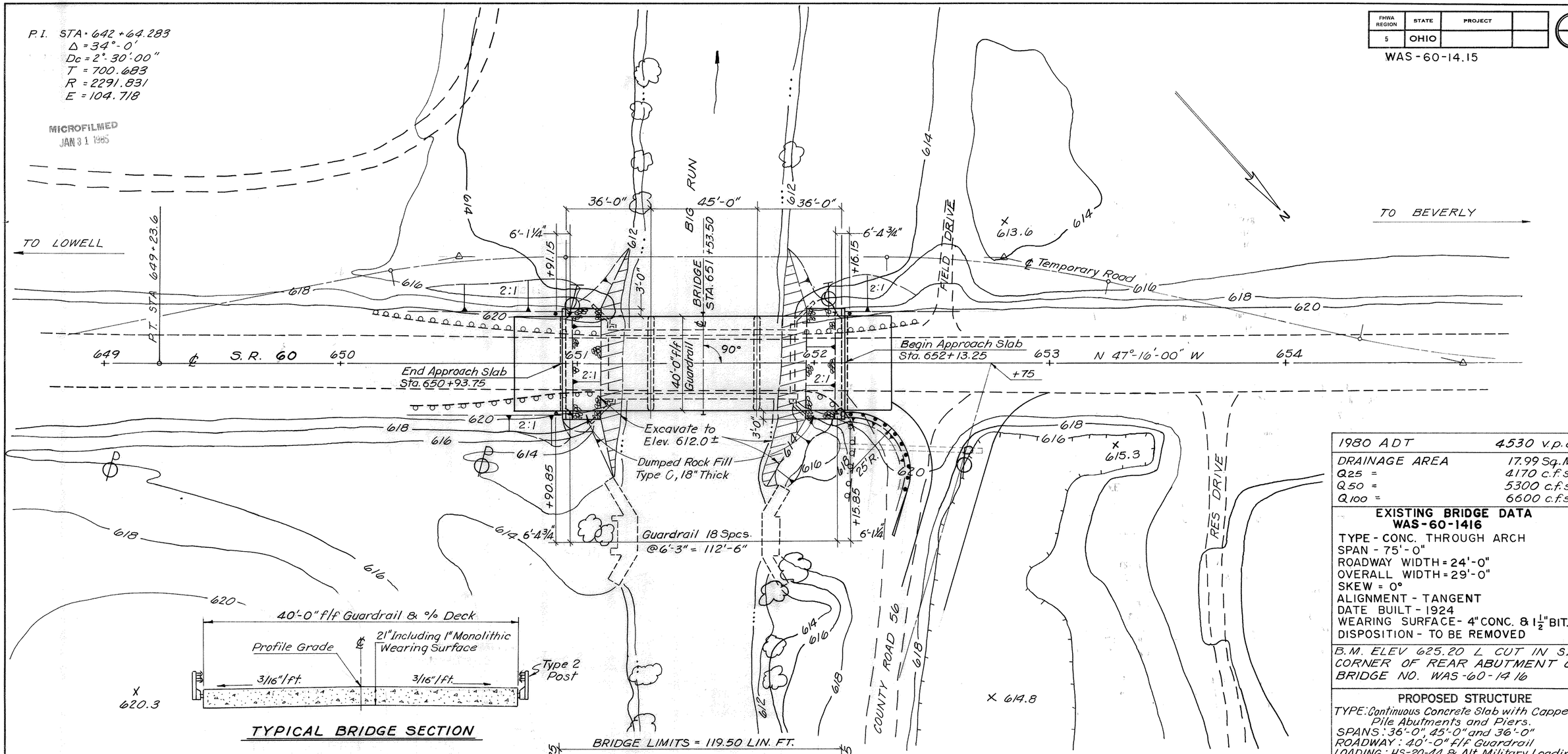
FHWA REGION	STATE	PROJECT	
5	OHIO		

15
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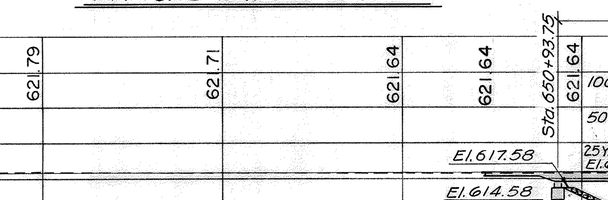
WAS-60-14.15

P.I. STA. 642+64.283
Δ = 34°-0'
Dc = 2°-30'-00"
T = 700.683
R = 2291.831
E = 104.718

MICROFILMED
JAN 31 1985



TYPICAL BRIDGE SECTION



1980 ADT	4530 v.p.d.
DRAINAGE AREA	17.99 Sq. Miles
Q25 =	4170 c.f.s.
Q50 =	5300 c.f.s.
Q100 =	6600 c.f.s.

EXISTING BRIDGE DATA
WAS-60-1416

TYPE - CONC. THROUGH ARCH
SPAN - 75'-0"
ROADWAY WIDTH = 24'-0"
OVERALL WIDTH = 29'-0"
SKEW = 0°
ALIGNMENT - TANGENT
DATE BUILT - 1924
WEARING SURFACE - 4" CONC. & 1½" BIT. MAT.
DISPOSITION - TO BE REMOVED

B.M. ELEV 625.20 L CUT IN S.E. CORNER OF REAR ABUTMENT OF BRIDGE NO. WAS-60-14.16

PROPOSED STRUCTURE

TYPE: Continuous Concrete Slab with Capped Pile Abutments and Piers.
SPANS: 36'-0", 45'-0" and 36'-0"
ROADWAY: 40'-0" f/f Guardrail
LOADING: HS-20-44 & Alt. Military Loading
SKEW: 0°00'
RAILING: Deep beam rail with steel tubular backup and steel posts and bolts.
APPROACH SLABS: AS-1-81 (20'-0" Long)
SURFACE COURSE: Monolithic Concrete
ALIGNMENT: Tangent

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
1/5

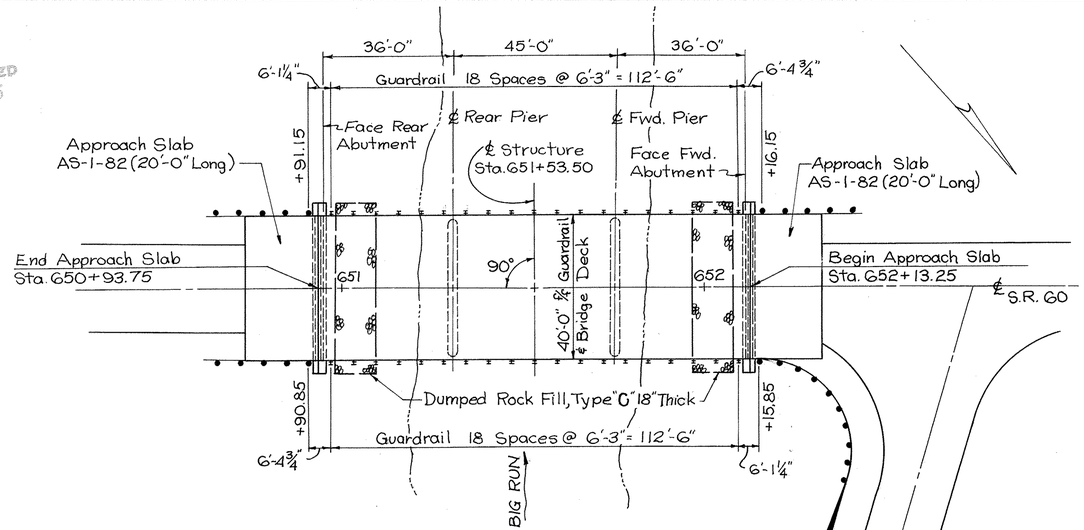
SITE PLAN

BRIDGE NO. WAS-60-1416
OVER BIG RUN

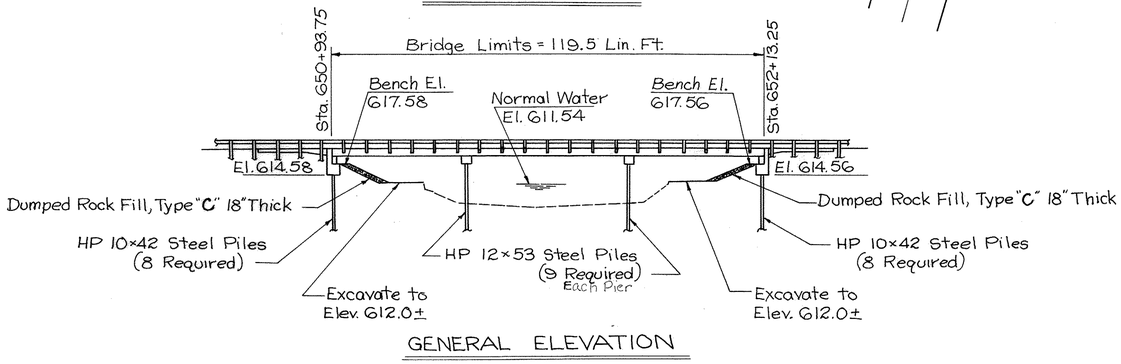
SEC. WAS-60-14.12 STA. 650+93.75 TO STA. 652+13.25
SCALE 1" = 20'

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
	W.I.C.	W.I.C.	G.E.A.	D.A.B.	W.L. 8/13/82

MICROFILMED
JAN 3 1 1985



GENERAL PLAN



GENERAL ELEVATION

Calculated	GEA	7-8-82
Checked	DAB	7-12-82

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNITS	DESCRIPTION	ABUT'S.	PIERS	SUPER	GENERAL	AS BUILT	
202	Lump Sum	Lump Sum	Structure Removed				Lump Sum		
502	Lump Sum	Lump Sum	Temporary Structure				Lump Sum		
503	96	Cu. Yds	Unclassified Excavation	96					
505	Lump Sum	Lump Sum	Test Pile, HP 10×42				Lump Sum		
507	450	Lin. Ft.	Steel Piles, HP 10×42	450					
507	450	Lin. Ft.	Steel Piles, HP 12×53		450				
509	47,894	Pounds	Reinforcing Steel	5,915	1,998	39,981			
511	307	Cu. Yds.	Class S Concrete, Superstructure			307			
511	14	Cu. Yds.	Class C Concrete, Pier Caps		14				
511	14	Cu. Yds.	Class C Concrete, Abutment Above Footings	14					
511	34	Cu. Yds.	Class C Concrete, Footings	34					
517	239.0	Lin. Ft.	Railing, Type 2 (Deep beam rail with steel tubular backup and steel post and bolts.)			239.0			
518	15	Cu. Yds.	Porous Backfill	15					
							65		
601	65	Cu. Yds.	Dumped Rock Fill, Type C						
824	22,478	Pounds	Epoxy Coated Reinforcing Steel		1,516	20,962			

FHWA REGION	STATE	PROJECT	
5	OHIO		

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WAS-60-14.15

GENERAL NOTES

REFERENCES: SHALL BE MADE TO STANDARD DRAWINGS

AS-1-81	DATED	11/27/81
CPP-2-73	DATED	4/10/73
CS-2-73	DATED	4/10/73
DBR-2-73	DATED	4/10/73

SUPPLEMENTAL SPECIFICATION:

836	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 OHIO "SUPPLEMENT" TO THE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING - HS 20-44

CONCRETE CLASS S - COMPRESSIVE STRESS 4,500 PSI FOR SUPERSTRUCTURE
CLASS C - COMPRESSIVE STRESS 4,000 PSI FOR SUBSTRUCTURE

MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED TO BE 1".

REINFORCING STEEL - ASTMA615, A616, OR A617 - UNIT STRESS 20,000 PSI

TEMPORARY STRUCTURE

A TEMPORARY STRUCTURE WILL BE BUILT HAVING A ROADWAY WIDTH OF 23 FEET.

REMOVAL OF EXISTING STRUCTURE

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED.

EMBANKMENT CONSTRUCTION

THE EXISTING ROADWAY EMBANKMENT SHALL BE WIDENED TO THE FULL WIDTH REQUIRED FOR THE APPROACH ROADWAY. EXCAVATION MAY THEN BE MADE FOR THE ABUTMENTS, BENCHES AND PILES DRIVEN.

PILES SHALL BE DRIVEN TO BEDROCK. THE BEARING CAPACITY SHALL BE CONSIDERED OBTAINED BY REFUSAL ON HARD BEDROCK OR BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH. THE DESIGN LOAD IS 39 TONS PER PILE FOR THE ABUTMENT PILES AND 63 TONS PER PILE FOR THE PIER LOADS.

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

2/5

BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD.
Consulting Engineers
249 S. Paint Street Chillicothe, Ohio

GENERAL PLAN & ELEVATION
EST. QUANTITIES & GENERAL NOTES
BRIDGE NO. WAS-60-1416
OVER BIG RUN
STA. 650+93.75 to STA. 652+13.25
SCALE DATE

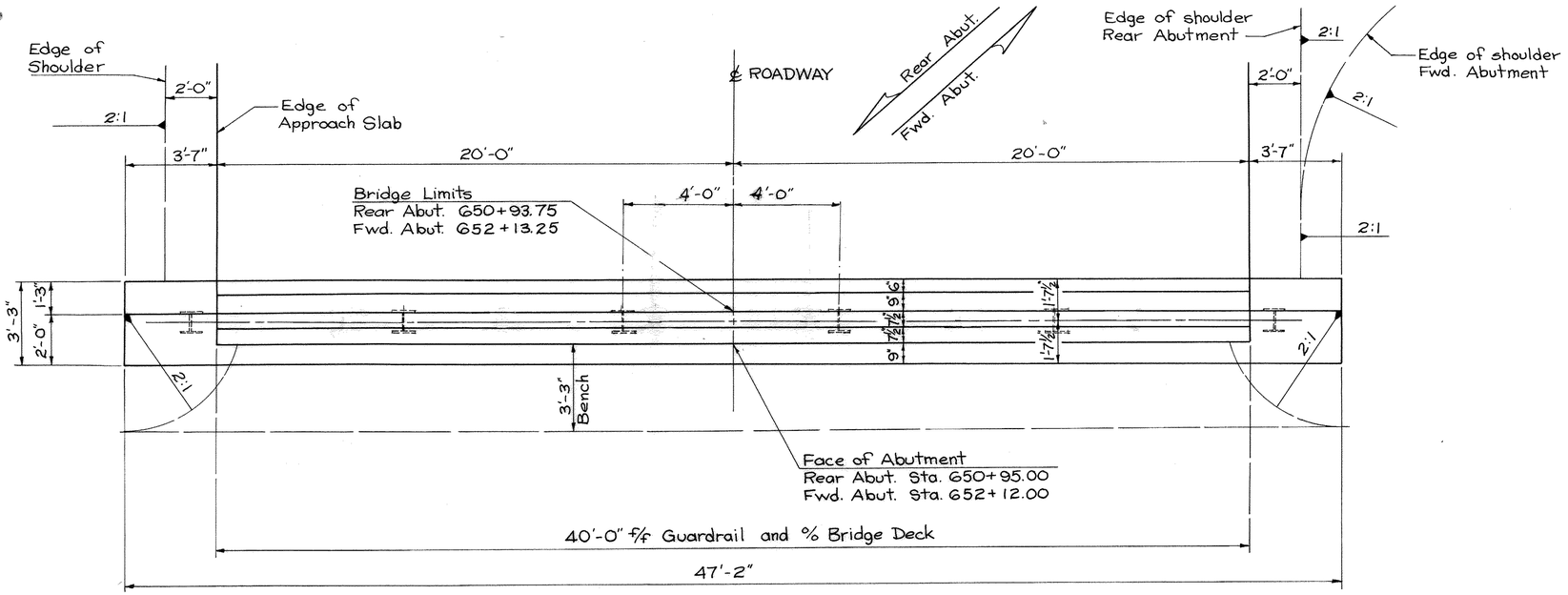
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WIC	GEA	GEA	DAB	WK	8/13/82	

MICROFILMED
JAN 31 1985

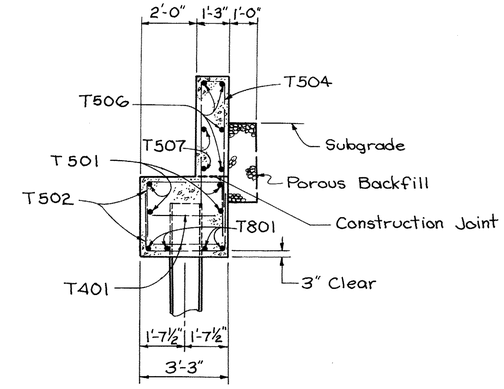
FHWA REGION	STATE	PROJECT	
5	OHIO		

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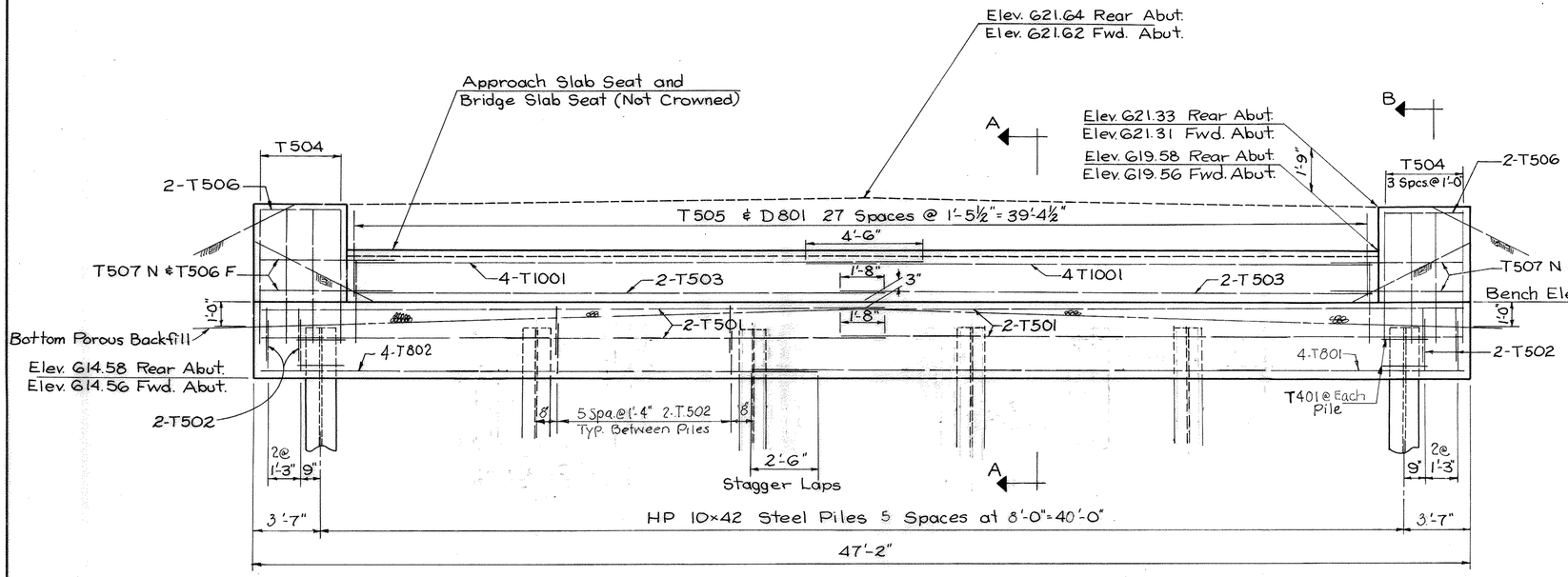
WAS-60-14.15



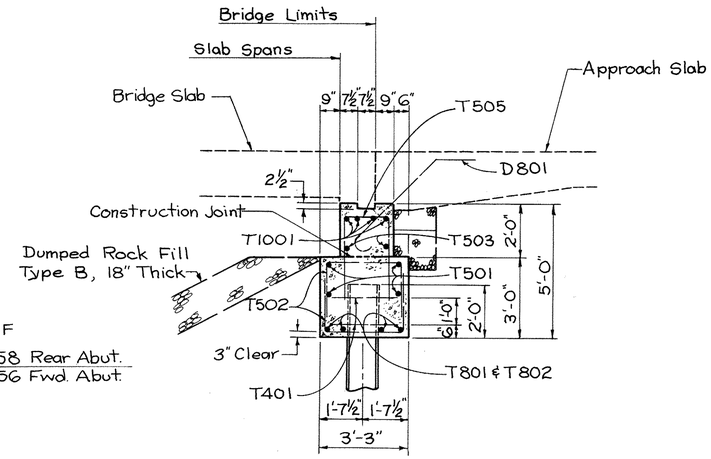
PLAN



SECTION B-B



ELEVATION



SECTION A-A

NOTE:
POROUS BACKFILL shall extend upward to the plane of the subgrade and laterally to the surface of the embankment slopes.

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Consulting Engineers
249 S. Paint Street — Chillicothe, Ohio

ABUTMENT DETAILS

BRIDGE NO. WAS-60-1416
OVER BIG RUN
STA. 650+93.75 to STA. 652+13.25

SCALE — DATE

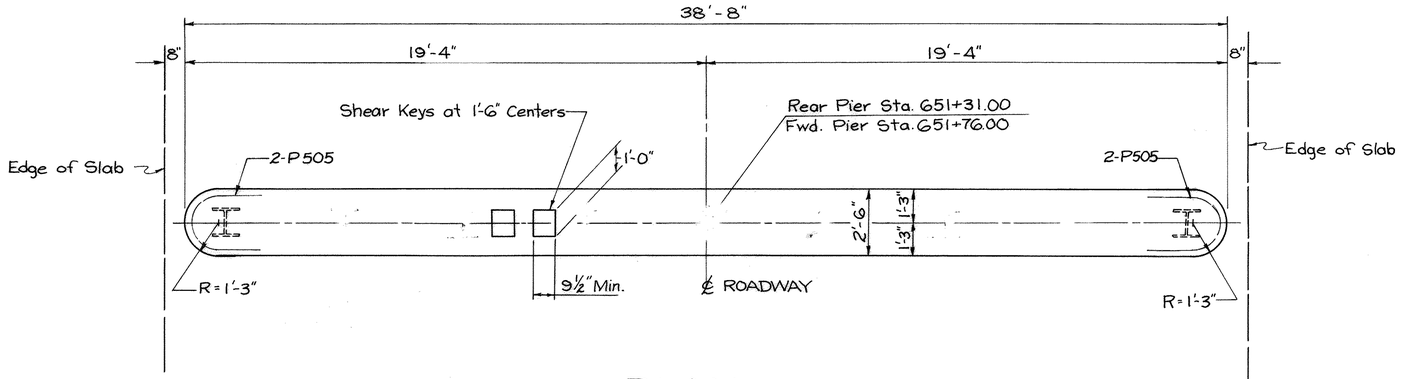
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WIC	GEA	GEA	DAB	WK	8/13/82	

MICROFILMED
JAN 3 1 1985

FHWA REGION	STATE	PROJECT	
5	OHIO		

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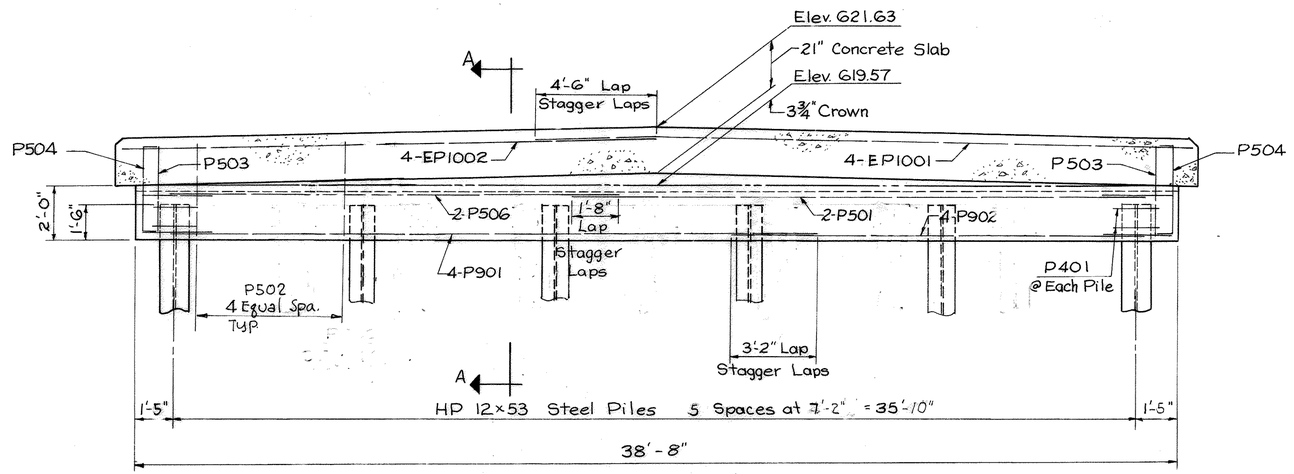
WAS-60-14.15



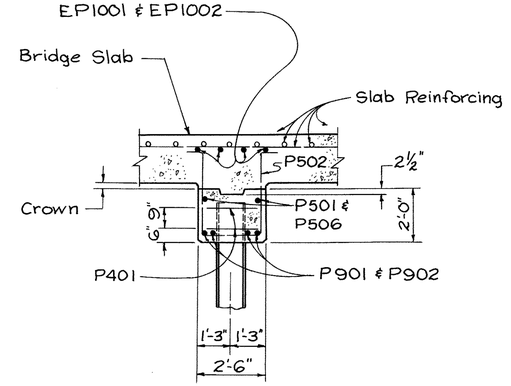
PLAN

NOTE:
FALSEWORK SUPPORT: Attachment of falsework support members to the piers will be permitted, if the attachment is made to that portion of pile encased in the pier cap.

NOTE:
For additional details see Std. Dwg. CCP-2-73



ELEVATION



SECTION A-A

LEGEND

EP E Indicates Epoxy Coated Reinforcing Steel

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BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD.
Consulting Engineers
249 S. Paint Street Chillicothe, Ohio

PIER DETAILS
BRIDGE NO. WAS-60-1416 OVER BIG RUN
STA. 650+93.75 to STA. 652+13.25

SCALE DATE

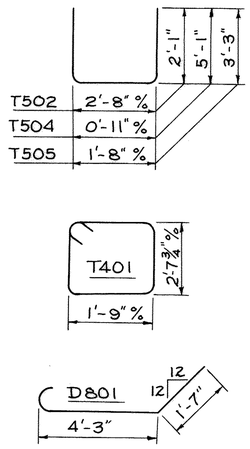
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WIC	GEA	GEA	DAB	WK	8/13/82	

REINFORCING STEEL LIST

ABUTMENTS

Bar Number	Number Reqd.	Length	Shape	Weight	Fwd. Abut.	Rear Abut
T1001	16	22'-0"	——	1,516	8	8
T 801	8	27'-6"	——	588	4	4
T 802	8	21'-8"	——	464	4	4
T 501	16	24'-2"	——	404	8	8
T 502	136	6'-7"	⌊⌋	934	68	68
T 503	8	20'-7"	——	172	4	4
T 504	16	10'-10"	⌊⌋	182	8	8
T 505	56	7'-11"	⌊⌋	462	28	28
T 506	16	3'-3"	——	54	8	8
T 507	8	5'-3"	——	44	4	4
T 401	24	9'-2"	▭	147	12	12
D 801	56	6'-4"	⌒	948	28	28
Total Abutment				5,915		

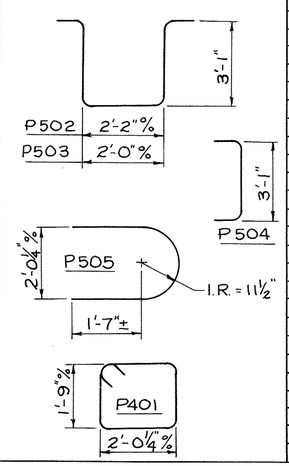
Bending Diagrams



PIERS

Bar Number	Number Reqd.	Length	Shape	Weight	Fwd. Pier	Rear Pier
P 901	8	24'-0"	——	654	4	4
P 902	8	15'-6"	——	422	4	4
P 501	4	21'-2"	——	88	2	2
P 502	54	9'-4"	⊓	526	27	27
P 503	4	9'-2"	⊓	38	2	2
P 504	4	4'-1"	⌊⌋	18	2	2
P 505	8	6'-4"	⊂	54	4	4
P 506	4	16'-10"	——	70	2	2
P 401	24	8'-0"	▭	128	12	12
Total Piers				1,998		
EPOXY COATED REINFORCING STEEL						
EP1001	8	24'-3"	——	836	4	4
EP1002	8	19'-9"	——	680	4	4
Total Epoxy Coated				1,516		

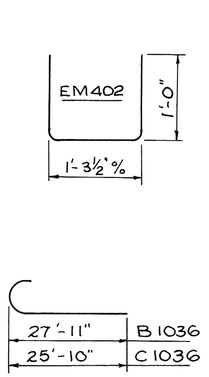
Bending Diagrams



SUPERSTRUCTURE

Bar Number	Number Reqd.	Length	Shape	Weight
A1036	117	41'-11"	——	21,103
B 1036	34	29'-4"	⊂	4,292
C 1036	34	27'-3"	⊂	3,987
D 1036	17	26'-9"	——	1,957
E 1036	17	22'-6"	——	1,646
MG01	112	30'-0"	——	5,047
MG02	112	11'-7"	——	1,948
Total Superstructure				39,981
EPOXY COATED REINFORCING STEEL				
EF1136	72	25'-10"	——	9,882
EG1136	36	13'-9"	——	2,630
EH1136	34	10'-2"	——	1,837
EJ 501	72	26'-3"	——	1,971
EK 501	36	24'-8"	——	926
EM402	208	3'-1"	⌊⌋	429
EN401	120	30'-0"	——	2,405
EN402	120	11'-0"	——	882
Total Epoxy Coated				20,962

Bending Diagrams



FHWA REGION	STATE	PROJECT		
5	OHIO			

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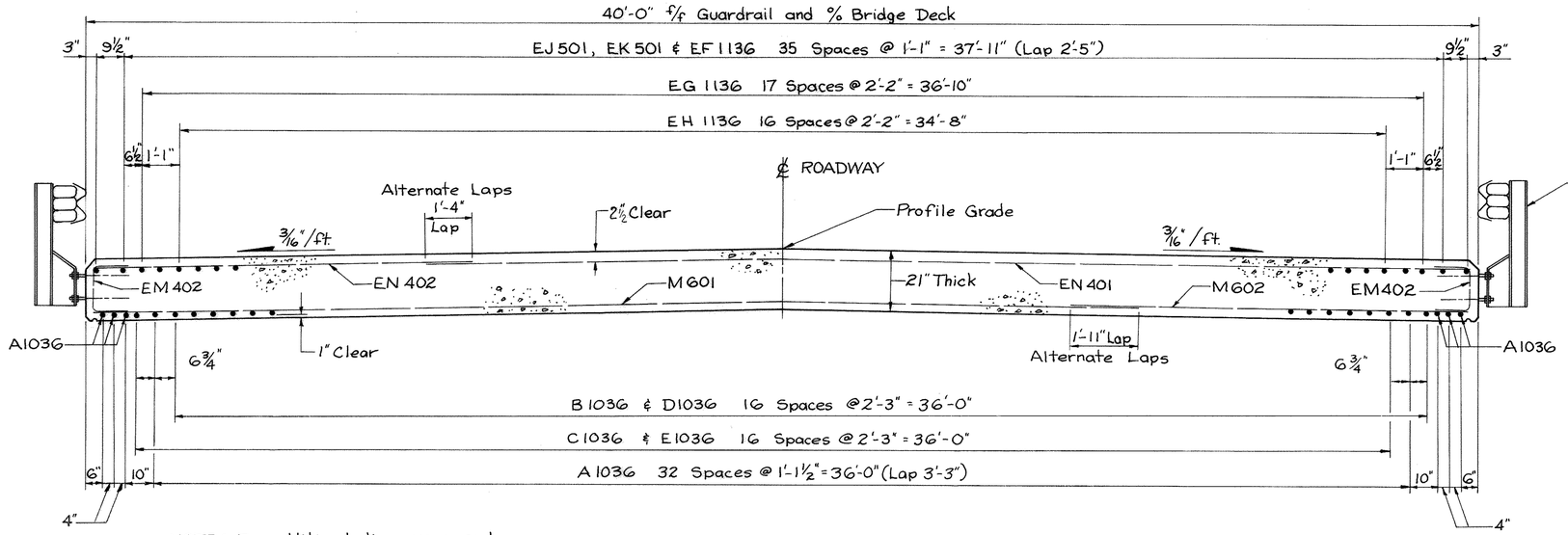
WAS-60-14.15

NOTE:
Refer to CMS Sections 106.03, 700, 709.01 through 709.05 & 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structure by the additional steel spliced in accordance with 509.08.

MICROFILMED
JAN 31 1985

LEGEND

E F E Indicates Epoxy Coated Reinforcing Steel



NOTE: For additional dimensions and Reinforcing steel details see Std. Dwg. CS-2-73 Sheets 1 & 2.

NOTE: For Railing Details see Std. Dwg. DBR-2-73

NOTE: CAMBER of 1/800 of the span shall be provided in each span to allow for dead load deflection. This is the amount of camber required before falsework is released. To obtain this, proper allowance shall be made for the deflection of the falsework members.

COMPOSITE TRANSVERSE SLAB SECTION

5/5

BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD.
Consulting Engineers
249 S. Paint Street Chillicothe, Ohio

SLAB DETAILS AND REINFORCING STEEL LIST
BRIDGE NO. WAS-60-1416
OVER BIG RUN
STA. 650+93.75 to STA. 652+13.25

SCALE DATE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WIC	GEA	GEA	DAB	WK	8/13/82	

CALC. BY: WW DATE: 8/82	WAS 60 - 14.15	OHIO	20/20
CHKD. BY: WDL DATE: 8/82		FHWA REGION 5	1/1
FEDERAL PROJECT	STATE PROJECT	103770	

BEGIN ACQUISITION STA. 648 + 00

CURVE 1
P.I. STA = 642 + 64.283
Δ = 34° - 00'
Dc = 2° 30' 00"
T = 700.683'
R = 2291.831'
E = 104.718'

BEGIN PROJECT STA. 650+50
BRF 44 ( )

END PROJECT STA 653+50
BRF 44 ( )

END ACQUISITION STA 654 + 50

CURVE 2
P.I. STA = 660 + 79.935
Δ = 4° 12' 00" (LT.)
Dc = 0° 24' 00"
T = 525.235'
R = 14323.945'
E = 9.627'

EX. R/W
TO LOWELL
TO BEVERLY
UTC
FIELD DRIVE
RES. DRIVE
12" CMP
P.T. STA. 649 + 23.6
P.C. STA. 655 + 54.7
STRUCTURE NO. WAS-60-14.16
M.B.
PRIVATE SIGN
2 STY. BRICK RES.
4" DRAIN TILE
SEPTIC TANK
BIG RUN
C.R. 56
PC. 1+43.743
PT. 2+17.187

CONT. 0.049 AC.
CONT. 0.150 AC.
CONT. 0.101 AC.
CONT. 0.138 AC.
CONT. 0.035 AC.
CONT. 0.029 AC.
CONT 0.498 AC.

(1) CLARENCE L. COFFMAN AND FRANCES WICKENS COFFMAN

(2) HERBERT MARSH

100 AC. LOT 17
100 AC. LOT 18

* ABANDONED ABUTMENTS DO NOT DISTURB

CURVE DATA
CO. RD 56
P.I. STA = 1+80.093
Δ = 11° 10' 00"
Dc = 15° 00' 00"
T = 37.34'
R = 381.972'
E = 1.821'

SCALE IN FEET
0 40 80

LOCATION PLAN WAS-60-14.1

ADAMS TOWNSHIP
BIG RUN ALLOTMENT
T 5 N, R 9 W

MUSKINGUM RIVER
R/W MARKER FOUND
STA 632+05.04
39.76' LT.
PIPE
STONE
CALCULATED POINT
EAST LINE BIG RUN ALLOTMENT
STA 652 + 50.32
STAKE
SR 60
CR 56
BIG RUN
100 AC LOT 14
100 AC LOT 15
100 AC LOT 16
100 AC LOT 17
100 AC LOT 18
100 AC LOT 19
100 AC LOT 20
100 AC LOT 21

CURVE DATA

(1)	(2)	(3)	(4)
PI = 642+64.3	PI = 660+79.9		
Δ = 34°00'00"	Δ = 4° 12'00"	Δ = 12°00'00"	Δ = 24° 10'00"
D = 2° 30'00"	D = 0° 24'00"	D = 1° 24'00"	D = 3° 00'00"
T = 700.7'	T = 525.3'	T = 429.6'	T = 408.9'
L = 1360.0'	L = 1050.0'	L = 857.1'	L = 805.5'

SCALE IN FEET
0 600 1200

PARCEL 2		
STATION & OFFSET FROM CR 56		
POINT	STATION	OFFSET
A	0 + 54.56	45.16' RT.
B	0 + 74.25	41.28' RT.
C	2 + 00	50.00' RT.
D	3 + 00	20.00' RT.
E	3 + 00	20.00' LT.
F	2 + 55	35.00' LT.
G	0 + 27.28	50.00' LT.

TOTAL NUMBER OF
2 Ownerships
0 Total Takes
0 Ownerships With Structures Involved
0 Ownerships With "P" Items

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

Parcel	Owner	Owners Record Book	Owners Record Page	Record Area	Total P.R.O.	Gross Take	P.R.O. In Take	Net Take	Structure	Net Residue Left	Net Residue Right	Type Fund	Remarks	As Acquired Book	As Acquired Page
1	CLARENCE L. COFFMAN AND	295	40	211.58	—	0.049	—	0.049	—	—	—	S	ROADWAY CONSTRUCTION		
1-X	FRANCIS WICKENS COFFMAN				—	0.035	—	0.035	—	—	—	S	CHANNEL CONSTRUCTION		
1-T					—	0.150	—	0.150	—	—	—	S	TEMPORARY ROAD		
2	HERBERT MARSH	276	488/492	176.65	—	0.498	0.233	0.265	—	—	—	S	CO. RD. 56 CONSTRUCTION		
2-1					—	0.101	—	0.101	—	—	—	S	ROADWAY CONSTRUCTION		
2-X					—	0.029	—	0.029	—	—	—	S	CHANNEL CONSTRUCTION		
2-T					—	0.138	—	0.138	—	—	—	S	TEMPORARY ROAD		

UTILITY OWNERS

TYPE	NAME & ADDRESS
ELECTRIC	MONONGAHELA POWER COMPANY 1310 FAIRMONT AVENUE, FAIRMONT, WEST VIRGINIA, 26554 PHONE 304-366-3000
TELEPHONE	GENERAL TELEPHONE COMPANY OF OHIO 921 STEUBENVILLE AVENUE, CAMBRIDGE, OHIO 43725 PHONE 614-432-5549

TE - 118
600 - 6 - 73

MICROFILMED
JAN 31 1985

WASHINGTON COUNTY
WAS-60-14.1

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE DISSECTED UNGLACIATED PORTION OF THE ALLEGHENY PLATEAU REGION, ON THE BROAD FLOODPLAIN OF THE MUSKINGUM RIVER AND OVER BIG RUN, IN AN AREA WHERE DEEP VALLEY AND ALLUVIAL DEPOSITS OVERLIE SHALE 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 9, 1982.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE BORINGS ENCOUNTERED INTERVALS OF EXTREMELY LOOSE TO EXTREMELY DENSE UNSTRATIFIED BASIC SILTS, CLAYS, SAND AND GRAVEL, EACH MODIFIED BY VARYING AMOUNTS OF THE OTHER THAT GRADUALLY INCREASE (ERRATIC AT TIMES) IN DENSITY WITH INCREASE IN DEPTH. BORING B-1 (IN THE GENERAL VICINITY OF THE REAR ABUTMENT) PENETRATED TO A DEPTH OF 39.0 FEET, DATUM ELEVATION 60.4 FEET, AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 9.0 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST AND UPON ENCOUNTER WITH HARD MATERIAL AND RUNNING SAND. BORING B-2 PENETRATED TO A DEPTH OF 35.4 FEET, DATUM ELEVATION 62.1 FEET AND WAS TERMINATED AFTER ENCOUNTER WITH BEDROCK SURFACE AT 35.0-FOOT DEPTH, DATUM ELEVATION 62.5 FEET AND PENETRATING 0.4 FOOT BELOW BEDROCK SURFACE.

FREE WATER WAS OBSERVED AND MEASURED IN BORING B-1 AT 20.0 FOOT DEPTH, DATUM ELEVATION 79.4 FEET AND IN BORING B-2 AT 20.0 FOOT DEPTH, DATUM ELEVATION 77.5 FEET.

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

LOG OF BORING

Date Started 2/9/82 — Sampler Type SS — Dia. 1 3/8" — Water Elev. 79.4'
Date Completed 2/9/82 — Casing: Length — Dia.
Boring No. B-1 — Station & Offset 650+04 - 19' LT. (REAR ABUTMENT) — Datum Surface Elev. 99.4'

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.
99.4	0				BROWN SILT AND CLAY WITH GRAVEL (DRILLER'S DESCRIPTION)		-	-	-	-	-	-	-	-	VISUAL
94.4	6	2/5/5			BROWN-GRAY GRAVELLY SANDY SILT AND CLAY	1	17	11	11	24	37	36	14	23	A-6A
89.4	10	4/8/11			BROWN SILTY CLAY	2	0	0	6	43	51	39	18	22	A-6B
84.4	16	2/2/3			BROWN SANDY SILT	3	0	1	26	43	30	25	7	23	A-4A
79.4	20	1/1/6			BROWN SANDY SILT	4	8	9	34	27	22	NP	NP	24	A-4A
74.4	26	10/9/9			BROWN SANDY GRAVEL	5	91	6	16	3	4	NP	NP	14	A-1-A
69.4	30	31/52			BROWN SANDY GRAVEL WITH FINES	6	59	11	18	6	7	-	-	8	VISUAL
64.4	36	50(0.4')			BROWN SILTY SANDY GRAVEL	7	53	18	17	5	7	NP	NP	14	A-1-A
60.9	38	-			NO RECOVERY - SAND HEAVED 3' IN FLIGHTS	-	-	-	-	-	-	-	-	-	-
60.4					BOTTOM OF BORING										

LOG OF BORING

Date Started 2/9/82 — Sampler Type SS — Dia. 1 3/8" — Datum Water Elev. 77.5'
Date Completed 2/9/82 — Casing: Length — Dia. — Datum Surface Elev 97.5'
Boring No. B-2 — Station & Offset 652+23 - 31' RT. (FORWARD ABUTMENT)

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.
97.5	0														
92.5	6	1/2/2			BROWN SANDY SILT	8	13	12	21	26	28	28	10	18	A-4A
87.5	10	1/2/2			BROWN SILT AND CLAY	9	0	1	6	52	41	32	11	27	A-6A
82.5	16	2/5/7			BROWN SILTY CLAY	10	0	0	1	42	57	42	20	22	A-7-6
77.5	20	3/4/9			REDDISH-BROWN SILT AND CLAY	11	0	0	8	46	46	35	15	24	A-6A
72.5	26	2/2/2			BROWN-GRAY SANDY GRAVEL & FINES WITH DECAYED WOOD FRAGMENTS	12	27	4	19	22	28	-	-	24	VISUAL
67.5	32	2/3/4			GRAY-BROWN GRAVELLY SAND & FINES	13	19	9	21	28	23	-	-	23	VISUAL
					TOP OF ROCK										
62.5	34	50(0.4')			GRAY-BROWN CLAY SHALE	14	6	10	18	41	25	NP	NP	7	VISUAL
62.1					BOTTOM OF BORING										

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. WAS-60-1416
OVER BIG RUN
SEC. WAS-60-14.12

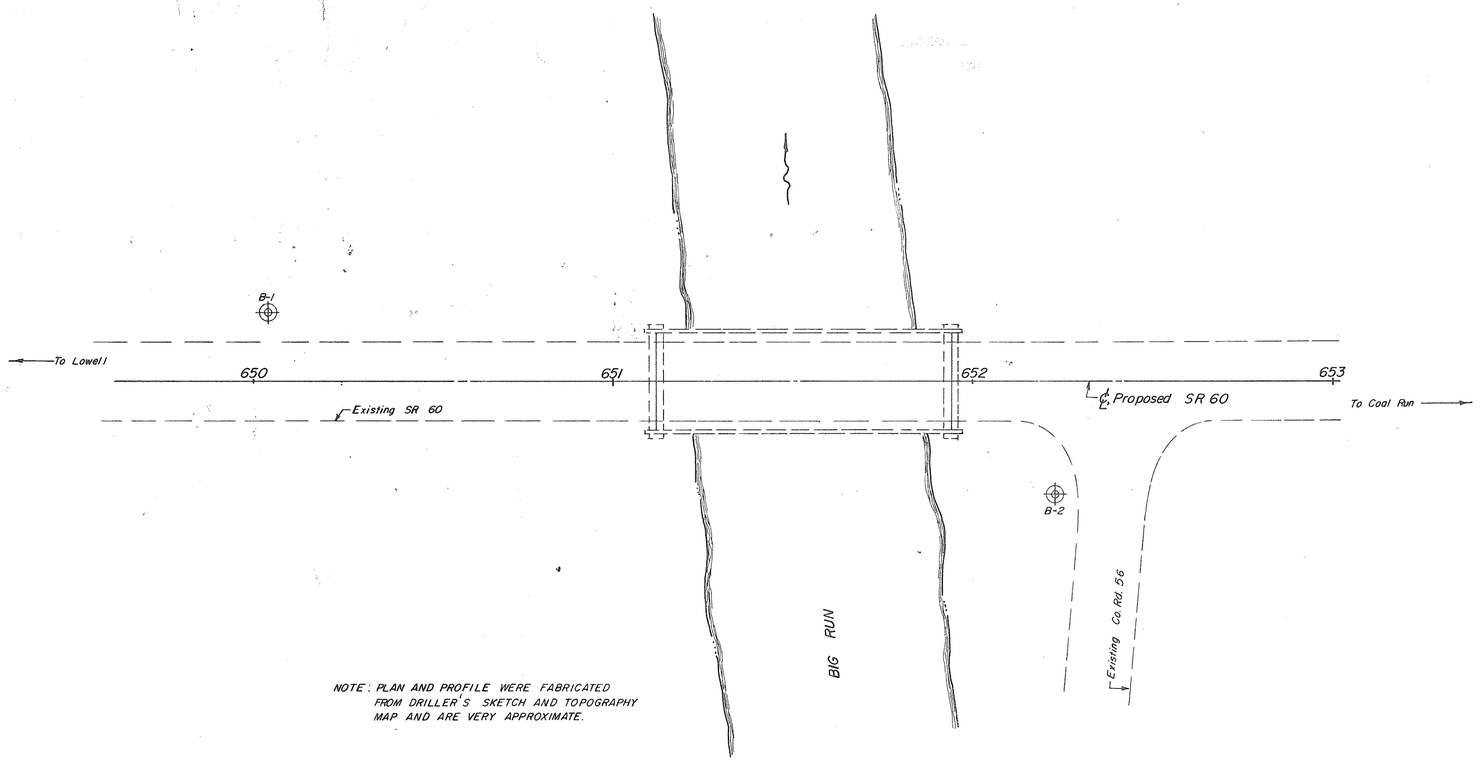
CHECKED BY	REVIEWED BY	DATE
L. N. L.	R. D. R.	3/2/82

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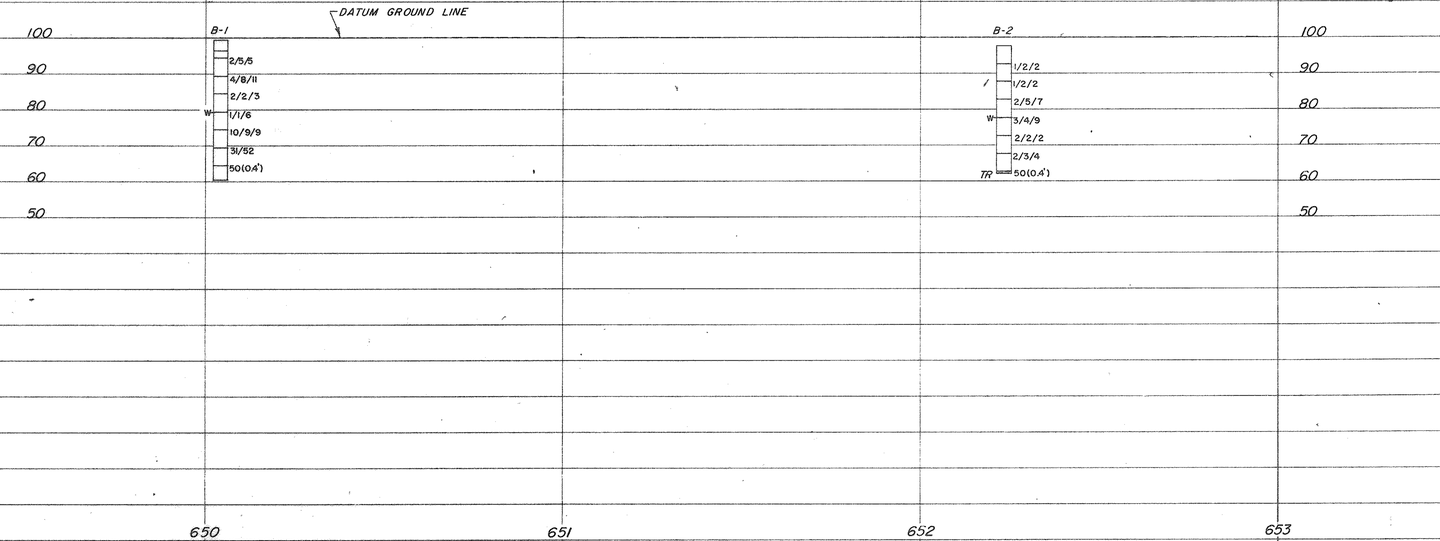
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2/2



NOTE: PLAN AND PROFILE WERE FABRICATED FROM DRILLER'S SKETCH AND TOPOGRAPHY MAP AND ARE VERY APPROXIMATE.



SCALE: 1" = 20'

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

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. WAS-60-1416
OVER BIG RUN
SEC. WAS-60-14.12

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
A. F.	L. N. L.	R. D. R.	3/2/82