STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
MED-42-9.44
MEDINA COUNTY
LAFAYETTE TOWNSHIP

MED-42-9.44	OHIO
	FHWA REGION 5
BRS-440 (5)	FEDERAL PROJECT

1/15

BRS-440 (5)

BRIDGE REPLACEMENT MED-42-0945

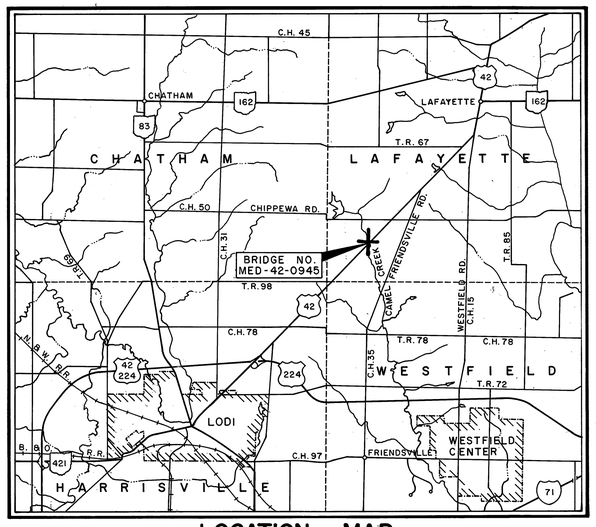
DESIGN DESIGNATION

Current (1980) A.D.T.	=	3000
Design Year (2000) A.D.T.	=	4200
D.H.V. (Design Hourly Volume)	=	420
D (Directional Distribution)	=	60 %
T (B & C Trucks)	=	5 %
V (Design Speed)	=	35 M.P.H.

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



LOCATION MAP

SCALE IN MILES
0 1 2 3 4

Portion to be improved
State & Federal Routes
Other Roads

SCALES

Plan 0 25 50 100
Profile: Horizontal 0 25 50 100, Vertical 0 5 10
Cross Section: Horizontal 0 5 10, Vertical 0 5 10

LINE DATA

Begin Project	Sta. 498+50.00	
End Project	Sta. 501+00.00	
Length of Project	250.00 L.F. or 0.047 Mi.	
Add For Approach Work		
Sta. 497+00.00 To Sta. 498+50.00	150.00 L.F.	
Sta. 501+00.00 To Sta. 502+50.00	150.00 L.F.	
Length of Work	550.00 L.F. or 0.104 Mi.	

Plan Prepared By:

ENGINEERING ASSOCIATES LTD.
Consulting Engineers
Wooster, Ohio

Project: MED-42-9.44
Date of Letting ____ 19__, Contract No. ____

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-5	7-16-81				
BP-6	6-1-65				
		LA-1	6-1-79		
		MC-3	6-1-73		
CB-2-2-A & B	5-1-79	MC-4	7-26-76		
		MC-10	5-1-76		
GR-1	12-6-76	MC-11	8-1-78		
GR-2B	12-6-76				
GR-3	12-6-76				
GR-4	12-6-76	AS-1-72	6-30-72		
GR-5	1-1-71	PSBD-1-81	9-18-81		
GR-4A	7-26-76				
		DBR-2-73	4-10-73		

SUPPLEMENTAL SPECIFICATIONS

1001	1-3-77	

1981 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve **these plans and declare that the making of this improvement will** require the closing to traffic of the highway and that detours will be provided as indicated on sheet 2.

Approved H. D. Reader
Date 7-30-81 District Deputy Director of Transportation

Approved Robert B. Pfeifer
Date 1-12-82 Engineer, Bureau of Bridges and Structural Design

Approved Howard E. Nolan
Date 1-28-82 Chief Engineer, Planning and Design

Approved David L. Weis
Date 1-28-82 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

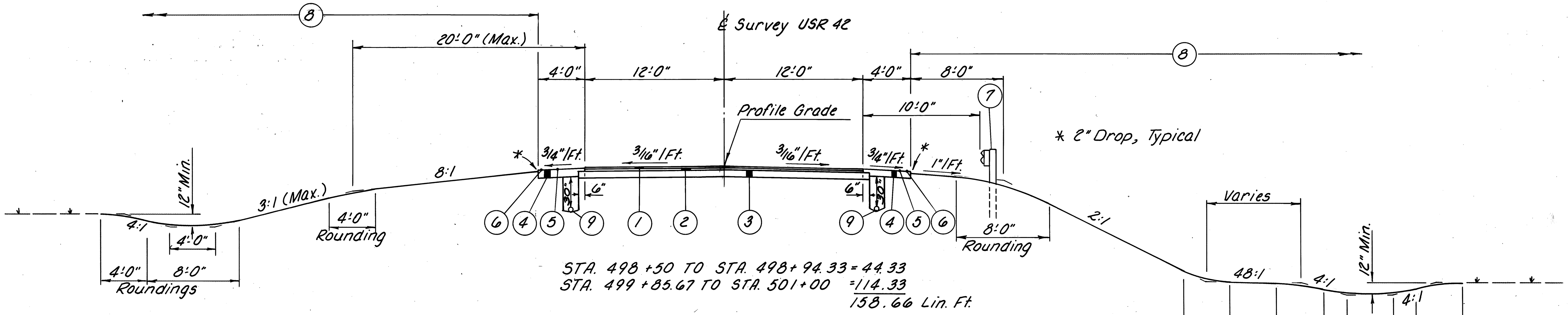
APPROVED:

DIVISION ADMINISTRATOR ____ DATE

TYPICAL SECTIONS

TYPE 404 ON 301

0 4 8
SCALE IN FEET



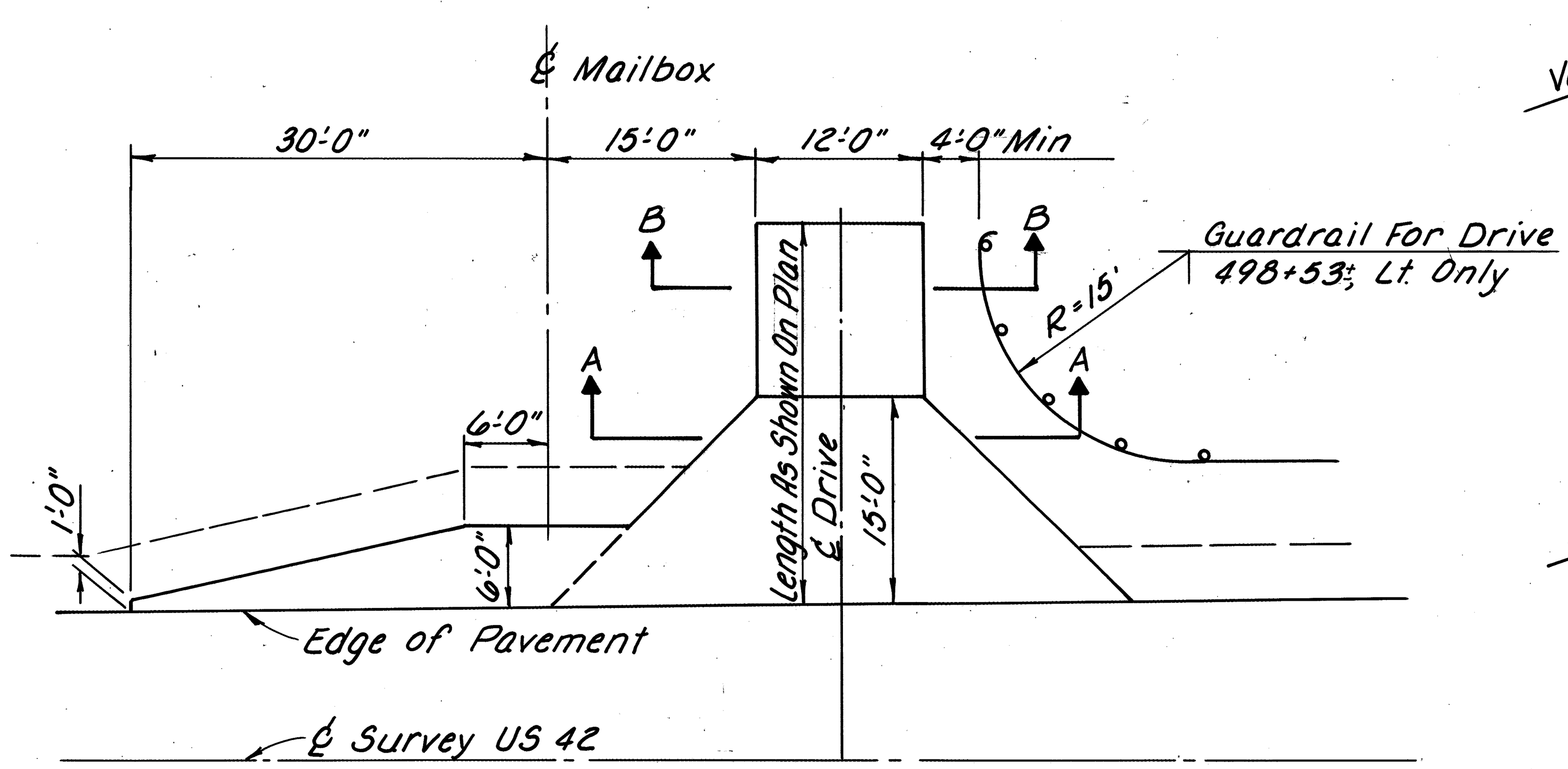
STA. 498 +50 TO STA. 498+ 94.33 = 44.33
STA. 499 +85.67 TO STA. 501+00 =114.33
158.66 Lin. Ft.

LEGEND

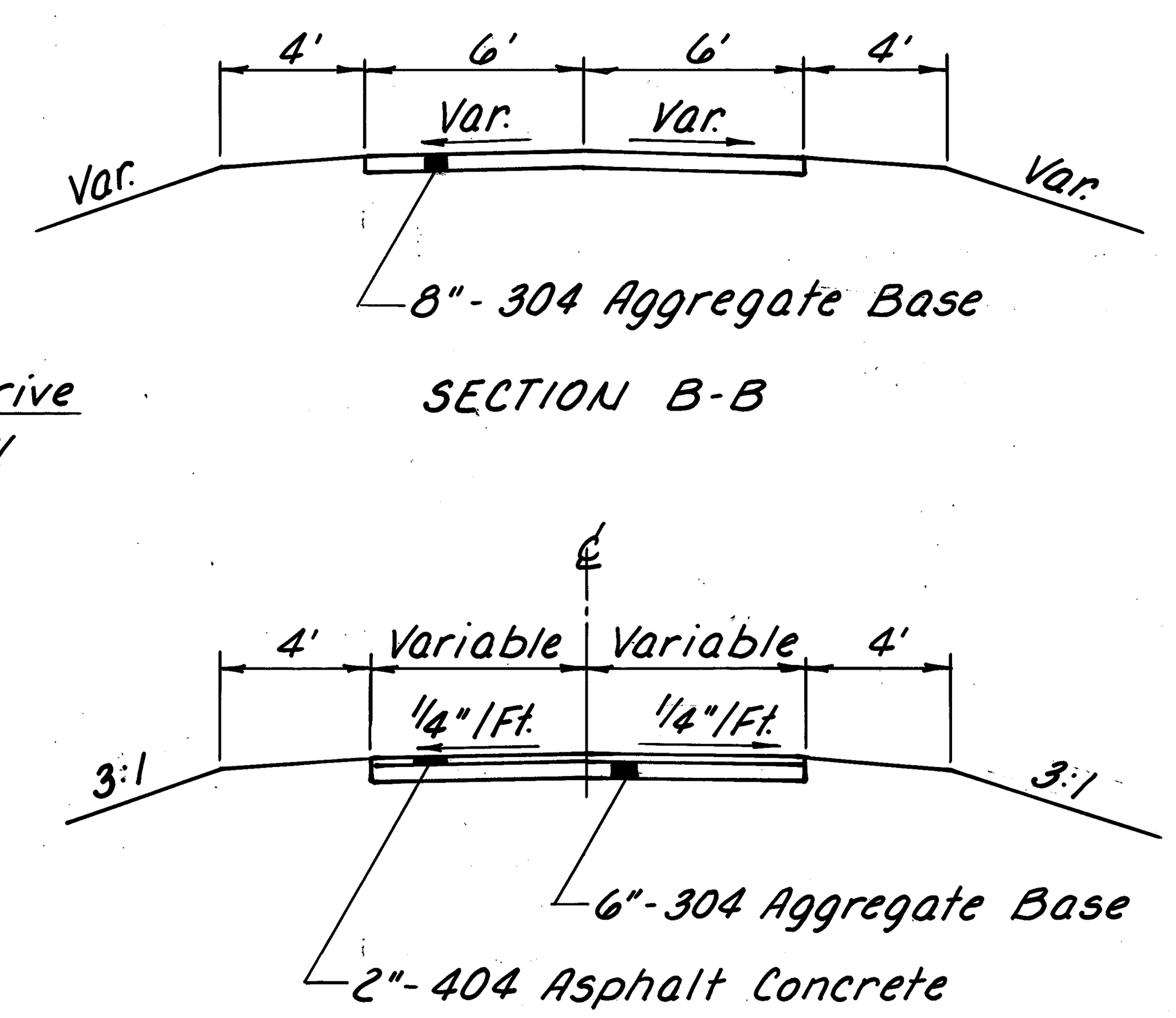
(1) 1" 404 Asphalt Concrete AC-20
(2) 1½" 402 Asphalt Concrete AC-20
(3) 6" 301 Bituminous Aggregate Base AC-20, RT-11 or RT-12
(4) 8" 304 Aggregate Base
(5) 408 Bituminous Prime Coat Applied at the rate of 0.40 Gal. Per Sq. Yd.
(6) 409 Seal Coat Bituminous Material Applied at the rate of 0.30 Gal. Per Sq. Yd. and Cover Aggregate No. 8 Applied at the rate of 0.008 Cu. Yd. Per Sq. Yd.
(7) 606 Guard Rail, Type 5
(8) 659 Seeding and Mulching
(9) 605 6" Shallow Pipe Underdrain

TAPER SECTIONS

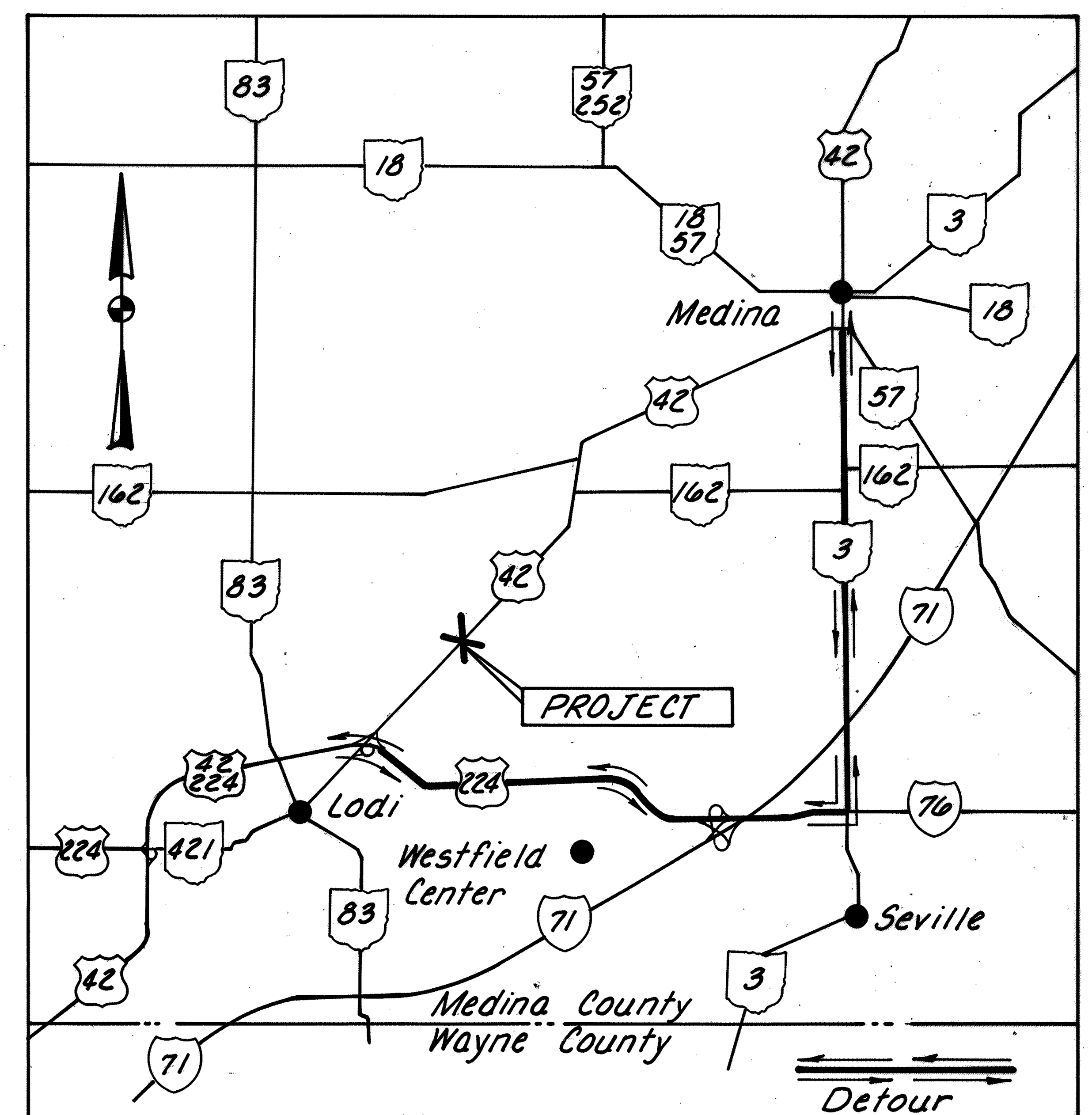
Sta. 497+50 To Sta. 498+50 (20' To 24')
Sta. 501+00 To Sta. 502+00 (24' To 20')



TYPICAL DRIVE PLAN



TYPICAL DRIVE SECTIONS



DETOUR MAP

GENERAL NOTES

MOBILIZATION, AS PER PLAN

THE CONTRACTOR SHALL PROVIDE SUITABLE FIELD OFFICE, HAVING A MINIMUM OF 150 SQ. FT. OF FLOOR SPACE WHICH SHALL BE IN ACCORDANCE WITH G19.01 AND G19.02, PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM G24, MOBILIZATION, AS PER PLAN.

ROUNDING OF CORNERS AS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON THE USGS DATUM.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF THE AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

UTILITY OWNERSHIP

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

POWER	OHIO EDISON CO. 76 SOUTH MAIN ST. AKRON, OHIO 44308 (216) 384-5234
TELEPHONE	GENERAL TELEPHONE COMPANY OF OHIO 108 W. WASHINGTON MEDINA, OHIO 44256 (216) 725-8411
GAS	COLUMBIA GAS TRANSMISSION CORP. P.O. BOX 1273 CHARLESTON, W. VA. (304) 346-0951

800 362

CONTINGENCY QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. ESTIMATED QUANTITIES OF MATERIALS SHALL NOT BE ORDERED FOR DELIVERY TO THE PROJECT UNLESS AUTHORIZED BY THE ENGINEER.

APPROACH SLABS

JACKING HOLES, AS SHOWN ON AS-1-72, SHALL BE OMITTED & THE CONCRETE COVER OVER THE TOP REINFORCING STEEL SHALL BE INCREASED FROM 2 INCHES TO 3 INCHES. THE TOP CONCRETE SURFACE OF THE APPROACH SLABS SHALL VARY IN DISTANCE BELOW THE FINISHED GRADE FROM 2½ INCHES AT STATIONS 498+94.33 AND 499+85.67 TO 4 INCHES AT STATIONS 499+19.33 AND 499+60.67, RESPECTIVELY.

LOCATION OF GUARDRAIL

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

COVER AGGREGATE FOF TACK COAT
The aggregate for item 407 Cover Aggregate shall conform to 703.06.

DUST CONTROL

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.

ITEM 616 WATER	50 M-GAL.
ITEM 616 CALCIUM CHLORIDE	0.5 TON

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, 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"	7	0	7

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.

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.

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:

ITEM 659 WATER 4 M-GAL.

REMOVAL OF EXISTING PIPE

THE REMOVAL OF ALL EXISTING PIPE DRAINS, WHICH WOULD NORMALLY BE REMOVED IN VARIOUS EXCAVATION ITEMS, SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

CONNECTIONS TO EXISTING PIPE

AT PLACES WHERE THE PLANS PROVIDE FOR PROPOSED PIPE TO BE CONNECTED TO EXISTING PIPE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND TO GRADE BEFORE HE STARTS TO LAY THE PROPOSED PIPE. THE COST OF THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEMS.

EROSION CONTROL

ITEMS 601 AND 660 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OR TURF 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 660. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL

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

ITEM 207 STRAW OR HAY BALES 120 EACH

DITCH CHECKS AS SHOWN ON STANDARD DRAWING MC-11 SHALL BE PROVIDED IN EVERY DITCH THAT IS NOT OTHERWISE PROTECTED AGAINST EROSION. THE DITCH CHECKS SHALL BE LOCATED NEAR THE POINT WHERE THE DITCH DISCHARGES INTO THE STREAM CHANNEL. CATCH BASINS SHALL BE PROTECTED WITH BALE INLET FILTERS. BALE FILTER DIKES SHALL BE PLACED ALONG DITCHES LINED WITH SOD OR JUTE MATTING, AND ALONG TOE OF EMBANKMENTS WITHOUT DITCHES.

STRAW OR HAY BALES SHALL REMAIN IN PLACE UNTIL SEEDING IS WELL ESTABLISHED OR UNTIL ORDERED REMOVED BY THE ENGINEER.

DETOUR LIMITATION

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT THAT FOR A PERIOD NOT TO EXCEED 120 CALENDAR DAYS, THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 2.

THE CONTRACTOR SHALL NOTIFY THE DISTRICT TRAFFIC ENGINEER IN WRITING AT LEAST TEN CALENDAR DAYS BEFORE THE PROPOSED START OF THE DETOUR.

THE CONTRACTOR SHALL BE ASSESSED $100 PER DAY IN LIQUIDATED DAMAGES FOR EACH ADDITIONAL CALENDAR DAY THE DETOUR REMAINS IN EFFECT BEYOND THE ABOVE STATED DETOUR PERIOD, OR SUCH OTHER DETOUR PERIOD WHICH HAS BEEN AGREED UPON DUE TO CONDITIONS BEYOND THE CONTRACTOR'S CONTROL. SIGNS, LIGHTS AND BARRICADES NEEDED FOR DETOUR WILL BE PROVIDED AND MAINTAINED BY THE STATE OF OHIO.

MAINTAINING TRAFFIC

LOCAL ACCESS TO DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED TO MAINTAIN LOCAL TRAFFIC AS DIRECTED BY THE ENGINEER.

ITEM 410	TRAFFIC COMPACTED SURFACE, TYPE A OR B	50 CU. YD
ITEM 616	CALCIUM CHLORIDE	0.5 TON

614 TEMPORARY PAVEMENT MARKINGS

THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY RETROREREFLECTIVE PAVEMENT MARKINGS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS. CENTER LINES SHALL CONSIST OF 12" x 4" SEGMENTS SPACED AT A MAXIMUM 40' CENTER TO CENTER.

THE MATERIAL FURNISHED SHALL BE FLEXIBLE RETROREFLECTIVE PREFORMED PRESSURE SENSITIVE TAPE FOR PAVEMENT LINES. IT SHALL BE FREE OF CRACKS WITH STRAIGHT EDGES AND CONSIST OF PIGMENT AND FILLERS, BUT HAVE SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING AN APPROPRIATE REFRACTIVE INDEX TO MEET MINIMUM REFLECTIVE INTENSITY STANDARDS OUTLINED IN THE MANUFACTURERS INFORMATION. MATERIALS SHALL BE FLEXOLITE "WET REFLECTIVE," 3 M "SCOTCHLANE," OR APPROVED EQUAL.

GLASS BEADS SHALL BE MIXED UNIFORMLY THROUGHOUT THE MARKING MATERIAL WITH SUFFICIENT SURFACE BEADS TO PROVIDE OPTIMUM REFLECTORIZATION AT ALL TIMES. THE MATERIAL SHALL HAVE A PRECOATED ADHESIVE LAYER FOR PAVEMENT APPLICATION WITHOUT THE USE OF HEAT, SOLVENTS, OR ADDITIONAL ADHESIVES. THE ADHESIVE SHALL BE SUFFICIENT TO RETAIN COMPLETE MARKINGS ON THE PAVEMENT SURFACE THROUGHOUT THE USEFUL LIFE OF THE MARKINGS. YELLOW MATERIAL SHALL CONFORM TO COLOR NO. 33538 OF FEDERAL STANDARD 595.

IN ADDITION, ALL APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS, IN FORCE AT THE TIME OF PLACEMENT, SHALL BE ADHERED TO. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER CERTIFICATION THAT THE MATERIAL SUPPLIED MEETS THE PROPERTIES SPECIFIED HERE. MARKINGS SHALL BE ACCURATELY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE LOCATED IN A TRUE LINE ON THE CENTER LINE. THE TEMPORARY TAPE SHALL BE PLACED BY ROLLING THE MATERIAL INTO THE SURFACE.

"AS AN ALTERNATE MATERIAL TO PAVEMENT MARKING TAPE, THE CONTRACTOR MAY FURNISH AND APPLY PAINTED RETROREFLECTIVE PAVEMENT MARKINGS CONFORMING TO 621. THE WIDTH AND LENGTH OF PAINTED SEGMENT SHALL BE THE SAME AS REQUIRED FOR TEMPORARY TAPE MATERIAL. THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR A SOLID LINE NOR LESS THAN 0.4 GALLONS PER MILE FOR THE 12" x 4" DASHED LINE."

METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE IN CONFORMANCE WITH 621.15 AND 621.16 RESPECTIVELY FOR:

ITEM	UNIT	DESCRIPTION
614	0.10 MILES	TEMPORARY CENTER LINES

PERMANENT PAVEMENT MARKINGS
THE STATE OF OHIO SHALL FURNISH AND PLACE PERMANENT PAVEMENT MARKINGS WITHIN 30 DAYS FOLLOWING COMPLETION OF ALL SURFACE COURSES.

FARM DRAINS (SEE PLAN AND PROFILE SHEET NO. 5)

CALC. BY DBV DATE 2-13-08
CHKD. BY PLD DATE 2-16-08

MED-42-9.44

OHIO FHWA REGION 5

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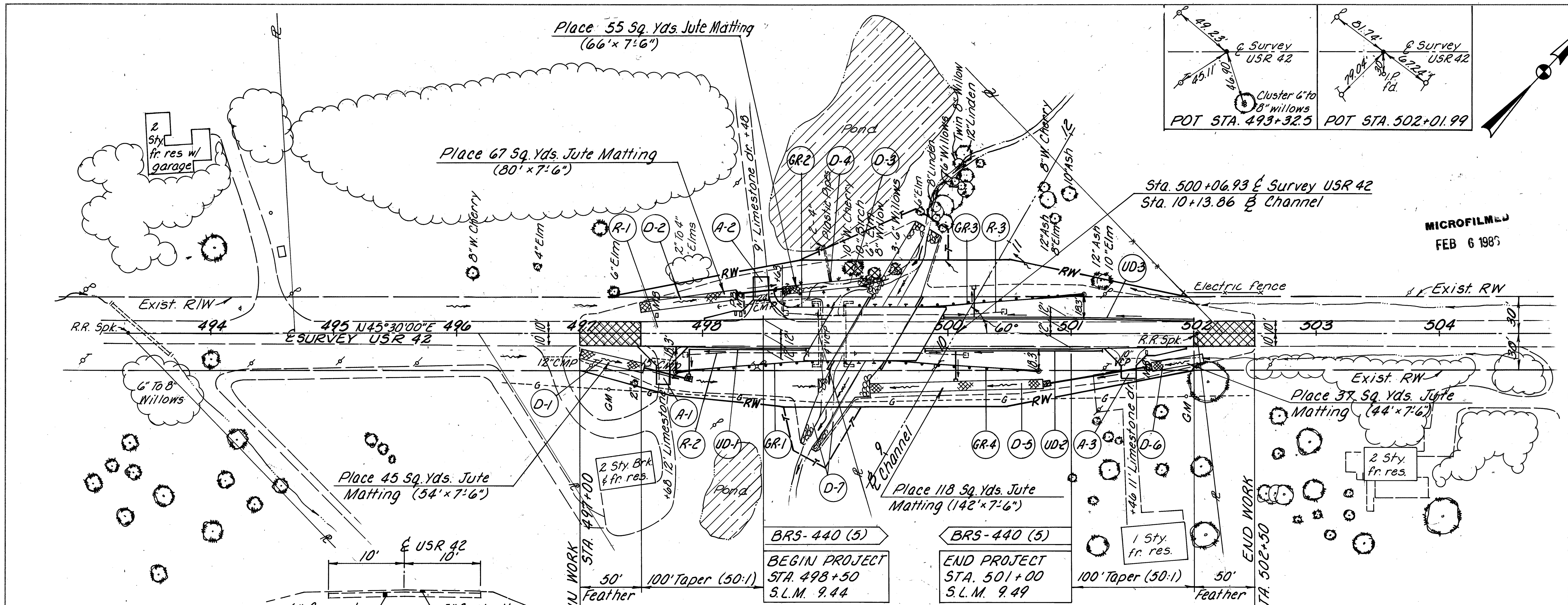
CALCULATIONS

LINE	DESCRIPTION		QUANTITIES
1	404 1" ASPHALT CONCRETE		
2			
3	From Typical Sections: 158.66 Lin. Ft.		
4	From Line 3: 158.66' x 24.00' = 3807.84 Sq. Ft.		
5	Add Taper: Sta. 497+50 To Sta. 498+50 = 100.00 Lin. Ft.		
6	Add Taper: Sta. 501+00 To Sta. 502+00 = 100.00 Lin. Ft.		
7	From Line 5 & 6: (100'+100')(22' Average Width) = 4400 Sq. Ft.		
8	Add Feather: Sta. 497+00 To Sta. 497+50 = 50.00 Lin. Ft.		
9	Add Feather: Sta. 502+00 To Sta. 502+50 = 50.00 Lin. Ft.		
10	Add Line 8 & 9: (50'+50')(20') = 2000 Sq. Ft.		
11	Add Approach Slab: Sta. 498+94.33 To Sta. 499+19.33 = 25.00 Lin. Ft.		
12	Add Approach Slab: Sta. 499+60.67 To Sta. 499+85.67 = 25.00 Lin. Ft.		
13	From Line 11 & 12: $(\sqrt{25^2+44^2})(25' \times \sin 60°)(2)$ = 2191.32 Sq. Ft.		
14	From Line 4, 7, 10 & 13: (3807.84+4400+2000+2191.32)(1 1/2") ÷ 27 = 38.25 Cu. Yds.	Use	38 Cu. Yds.
15			
16	404 VARIABLE ASPHALT CONCRETE		
17			
18	From Line 8 & 9: (50'+50')(0.13')(20')(1/2) ÷ 27 = 4.82 Cu. Yds.		
19	Add Approach Slabs: $[(\sqrt{25^2+44^2})(25' \times \sin 60°)(0.13') + 1/2(0.13')(1095.66)] \div 27 \times 2$ = 15.84 Cu. Yds.		
20	From Line 18 & 19: 4.82+15.84 = 20.66 Cu. Yds.		
21		Use	21 Cu. Yds.
22	402 1 1/2" ASPHALT CONCRETE		
23			
24	From Line 4 & 7: (3807.84 + 4400.00)(1 1/2" / 12) ÷ 27 = 38.00 Cu. Yds.	Use	38 Cu. Yds.
25			
26	301 6" BITUMINOUS AGGREGATE BASE		
27			
28	From Line 3: (158.66')(25' Average Width) = 3966.50 Sq. Ft.		
29	From Line 5 & 6: (100'+100')(23' Average Width) = 4600.00 Sq. Ft.		
30	From Line 28 & 29: (3966.50 + 4600.00)(6"/12) ÷ 27 = 158.64 Cu. Yds.	Use	159 Cu. Yds.
31			
32	203 SUBGRADE COMPACTION		
33			
34	From Line 4, 7 & 13: (3807.84 + 4400 + 2191.32) ÷ 9 = 1155.46 Sq. Yds.	Use	1156 Sq. Yds.
35			
36	611 REINFORCED CONCRETE APPROACH SLAB		
37			
38	From Line 13: (2191.32) ÷ 9 = 243.48 Sq. Yds.	Use	244 Sq. Yds.
39			
40	407 TACK COAT		
41			
42	From Line 8 & 9: (50'+50')(20') ÷ 9 x 0.10 Gal./Per Sq. Yd. = 22.22 Gal.	Use	22 Gals.
43			
44	407 COVER AGGREGATE		
45			
46	From Line 8 & 9: (50'+50')(20') ÷ 9 x 7 Lbs./Sq. Yd. ÷ 2000 Lbs./Ton = 0.78 Tons	Use	0.78 Tons
47			
48	304 8" AGGREGATE BASE		
49			
50	From Line 3, 5, 6, 8 & 9: (158.66'+100'+100'+50'+50')(2) = 917.32 Lin. Ft.		
51	From Line 50: (917.32)(3.538 Sq. Ft./Ft.) ÷ 27 = 120.20 Cu. Yds.		
52	Minus Area Through Drives: 120.20 - 3.86 = 116.34 Cu. Yds.	Use	116 Cu. Yds.
53			
54	408 BITUMINOUS PRIME COAT		
55			
56	From Line 50: (917.32')(4') ÷ 9 = 407.70 Sq. Yds.		
57	Minus Areas Through Drives: 407.70 - 42.89 = 364.81 Sq. Yds.		
58	From Line 57: (364.81)(0.4 Gal./Sq. Yd.) = 145.92 Gals.	Use	146 Gals.
59			
60	409 SEAL COAT BITUMINOUS PRIME COAT		
61			
62	From Line 57: (364.81)(0.30 Gal./Sq. Yd.) = 109.44 Gals.	Use	110 Gals.
63			
64	409 SEAL COAT COVER AGGREGATE NO. 8		
65			
66	From Line 57: (364.81)(0.008 Cu. Yd./Sq. Yd.) = 2.92 Cu. Yds.	Use	3 Cu. Yds.
67			
68	659 COMMERCIAL FERTILIZER		
69			
70	From Summary: 659 Seeding = 3400 Sq. Yds.		
71	From Line 70: (3400)(9) ÷ 1000 x (20 ÷ 2000) = 0.31 Tons	Use	0.31 Tons
72			

GENERAL SUMMARY

FROM SHEET NUMBER					ITEM NO.	TOTAL QUANTITIES	UNIT	DESCRIPTION
General Notes	4	5						
								ROADWAY
Lump					201	Lump		Clearing And Grubbing
		956			202	956	Sq. Yd.	Pavement Removed
		103			202	103	Lin. Ft.	Pipe Removed 24" And Under
		406			202	406	Lin. Ft.	Guardrail Removed
		702			203	702	Cu. Yd.	Excavation Not Including Embankment Construction
		1967			203	1967	Cu. Yd.	Embankment
	1156				203	1156	Sq. Yd.	Subgrade Compaction
50					410	50	Cu. Yd.	Traffic Compacted Surface, Type A or B
		392.32			606	392.32	Lin. Ft.	Guard Rail, 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
50					616	50	M Gal.	Water
1					616	1	Ton	Calcium Chloride
0.10					614	0.10	Mile	Temporary Center Lines
								EROSION CONTROL
120					207	120	Each	Hay or Straw Bales
		2			601	2	Cu. Yd.	Rock Channel Protection, Type C, With Bedding
		239			601	239	Cu. Yd.	Rock Channel Protection, Type C, Without Bedding
		2			601	2	Cu. Yd.	Rock Channel Protection, Type D, With Bedding
		3400			659	3400	Sq. Yd.	Seeding and Mulching
	0.31				659	0.31	Tons	Commercial Fertilizer
4					659	4	M Gal.	Water
		322			667	322	Sq. Yd.	Seeding and Jute Matting
								DRAINAGE
		82			603	82	Lin. Ft.	12" Conduit, Type D
		36			603	36	Lin. Ft.	15" Conduit, Type D
		38			603	38	Lin. Ft.	24" Conduit, Type D
		12			603	12	Lin. Ft.	4" Conduit, Type E, 711.29
		80			603	80	Lin. Ft.	6" Conduit, Type F
		1			604	1	Each	Catch Basin, Standard No. 2-2-B
		334			605	334	Lin. Ft.	6" Shallow Pipe Underdrains
		142			605	142	Lin. Ft.	6" Unclassified Pipe Underdrains
								PAVEMENT
	159	30			301	189	Cu. Yd.	Bituminous Aggregate Base: AC-20, RT-11, or RT-12
	116	13			304	129	Cu. Yd.	Aggregate Base
	38				402	38	Cu. Yd.	Asphalt Concrete, AC-20
	59				404	59	Cu. Yd.	Asphalt Concrete, AC-20
		11			404	11	Cu. Yd.	Asphalt Concrete, AC-20 (For Driveways)
	22				407	22	Gals	Tack Coat
	0.78				407	0.78	Tons	Cover Aggregate
	146				408	146	Gals.	Bituminous Prime Coat
	110				409	110	Gals.	Seal Coat Bituminous Material
	3				409	3	Cu. Yd.	Seal Coat Cover Aggregate, No. 8
	244				611	244	Sq. Yd.	Reinforced Concrete Approach Slab (T=15")
								STRUCTURES
								STRUCTURE MED-42-0946 (Quantities on Sheet 12)
Lump					614	Lump		Maintaining Traffic
Lump					623	Lump		Construction Layout Stakes
Lump					624	Lump		Mobilization, As Per Plan



B.M. R.R. spk. in ℘ #64 CP-4-20 w/transformer. Sta. 494+66.5, 31.5' lt. Elev. 1116.90

B.M. Boat spk. in ℘ #217611 P-3 Sta. 499+90.5, 25.5' Rt. Elev. 1108.35

FARM DRAINS

All Farm Drains, Which Are Encountered During Construction, Shall Be Provided With Unobstructed Outlets Under The Direction Of The Engineer.

Existing Collectors And Isolated Farm Drains, Which Are Encountered Above The Elevation Of The Roadway Ditches, Shall Be Outleted Into The Roadway Ditch By 603 Type F Conduit. The Optimum Outlet Elevation Shall Be, If Possible, One Foot Above The Flowline Elevation Of The Ditch.

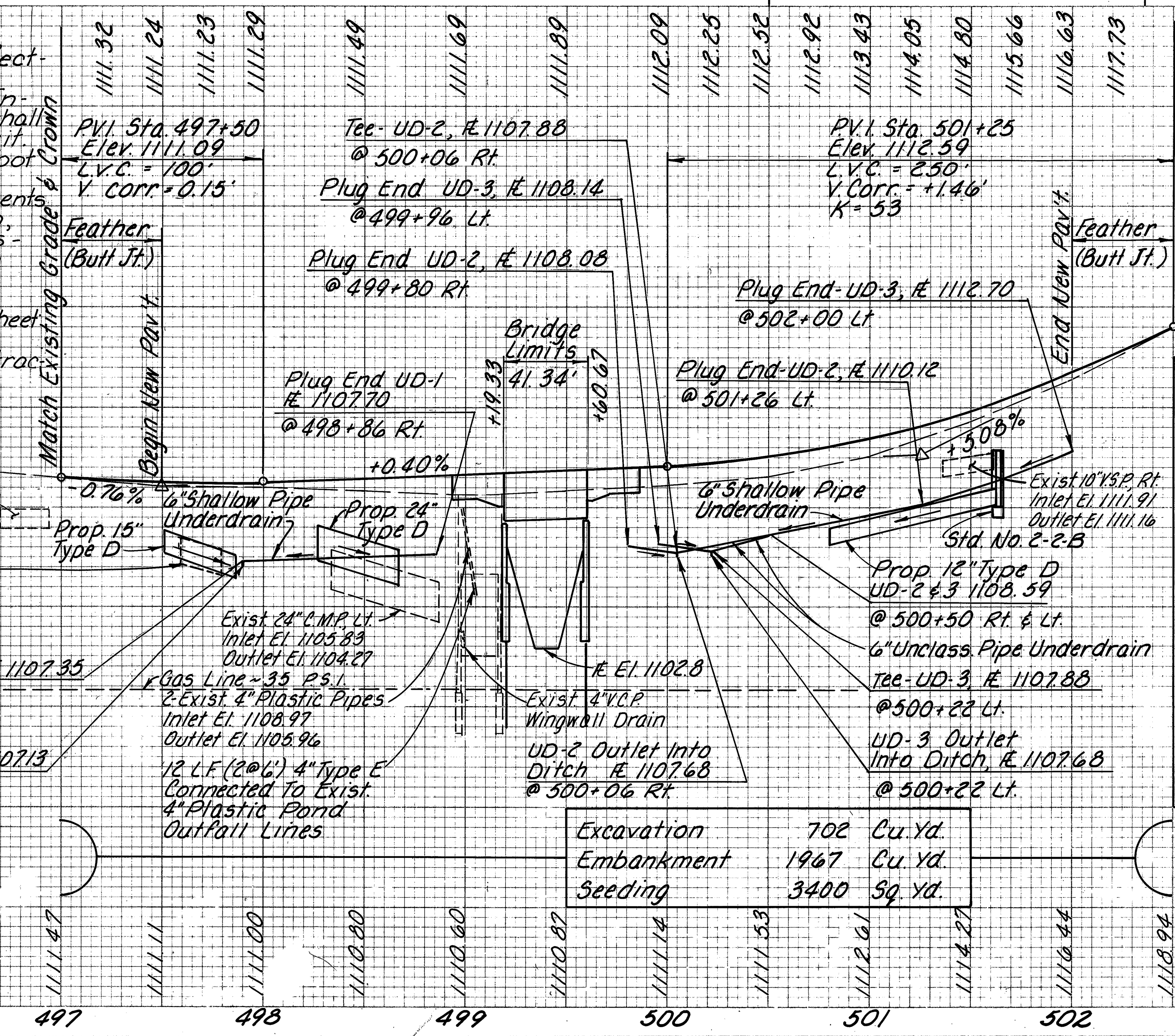
The Location, Type, Size And Grade Of Required Replacements Shall Be Determined By The Engineer During Construction, And Payment Shall Be Made On Final Measurements. Necessary Bends Or Branches Shall Be Included For Payment In The Pertinent Conduit Item.

An Estimated Quantity Of 50 Lin. Ft. Of 6" Conduit, Type F Has Been Included In The Table Of Estimated Quantities On This Sheet For The Work Noted Above.

None Of The Above Materials Shall Be Ordered By The Contractor Until Requested By The Engineer.

PROPOSED STRUCTURE

BRIDGE NO. MED-42-0945
TYPE: Single Span Prestressed Concrete Box Beams on Reinf. Conc. Abutments.
SPAN: 40'-0" C/C Bearings
ROADWAY: 44'-0" F/F Guardrail
LOADING: HS-20-44 And Alternate Military Loading
SKEW: 30°00' L.F.
WEARING SURFACE: 2½" Asphalt Concrete
APPROACH SLABS: AS-1-72 (25' Long)
ALIGNMENT: Tangent



Excavation	702	Cu. Yd.
Embankment	1967	Cu. Yd.
Seeding	3400	Sq. Yd.

EXISTING STRUCTURE

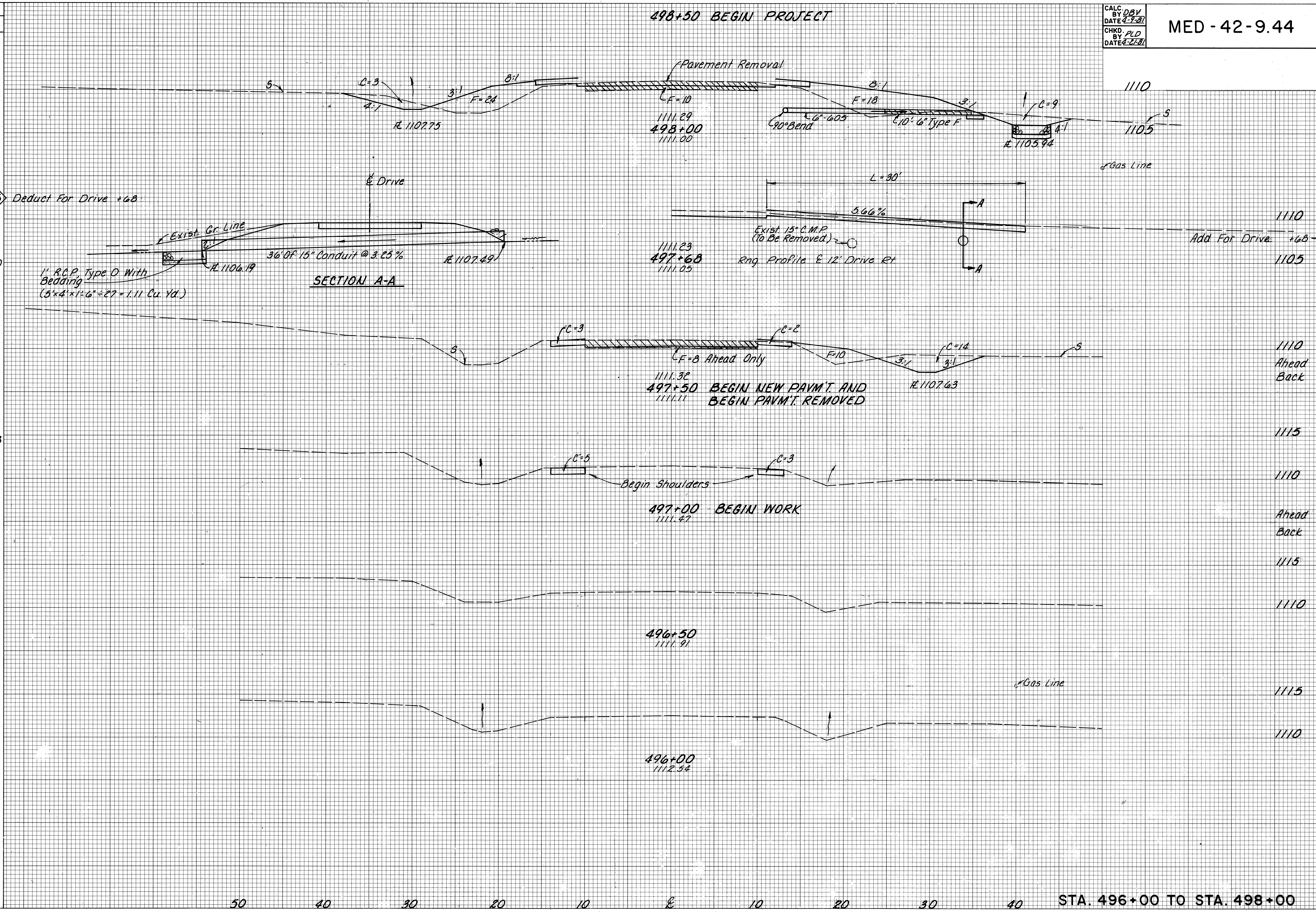
BRIDGE NO. MED-42-0945
TYPE: Single Span Concrete T-Beam Superstructure built in 1918, with reinforced concrete slab extensions added in 1931 and 1944. Substructure units are gravity abutments made of concrete and stone.
SPAN: 18'-0" F/F Abutments
ROADWAY: 30'-0" F/F Guardrail
LOADING: H-15 (S-11.7-46)
SKEW: 0°
WEARING SURFACE: Bituminous
APPROACH SLABS: None
ALIGNMENT: Tangent
GENERAL CONDITION: Poor, To Be Removed

NOTE: See Cross Sections For Proposed Conduit Lengths And Elevations.

Item		Unit	A-1	A-2	A-3	D-1	D-2	D-3	D-4	D-5	D-6	D-7	GR-1	GR-2	GR-3	GR-4	R-1	R-2	R-3	Farm Drain Conduit	UD-1	UD-2	UD-3	Totals
Bends & Branches	6" × 90° Bend																				1			X
Bends & Branches	6" × 6" × 6" Tee																					1	1	X
667	Seeding And Jute Matting	S.Y.				45	67	55		118	37													322
606	Bridge Term. Assembly Type B	Each											1	1	1	1								4
606	Anchor Assembly Type T	Each												1*										1
606	Anchor Assembly Type A	Each											1		1	1								3
606	Guard Rail Type 5	L.F.											104.33	*73.08	110.58	104.33								392.32
605	6" Shallow Pipe Underdrain	L.F.																			108	76	150	334
605	6" Unclass. Pipe Underdrain	L.F.																				80	62	142
604	Std. 2-2-B Catch Basin	Each			1																			1
603	6" Conduit Type F	L.F.																		50	10	10	10	80
603	4" Conduit Type E 711.29	L.F.							12															12
603	Conduit Type D 24"	L.F.		38																				38
603	Conduit Type D 15"	L.F.	36																					36
603	Conduit Type D 12"	L.F.			82																			82
601	R.C.P. Type D With Bedding	C.Y.	1		1																			2
601	R.C.P. Type C Without Bedding (T=18")	C.Y.										239												239
601	R.C.P. Type C With Bedding	C.Y.		2																				2
404	2" Asphalt Concrete (Driveways)	C.Y.	3	4	4																			11
304	Aggregate Base 8"	C.Y.	4	6	3																			13
304	Aggregate Base 6"	C.Y.	8	10	12																			30
202	Pavement Removed	S.Y.															956							956
202	Guardrail Removed	L.F.																228	178					406
202	Pipe Removed 24" & Under	L.F.	24	53	26																			103
SIDE			Rt.	Lt.	Rt.	Rt.	Lt.	Lt.	Lt.	Rt.	Rt.		Rt.	Lt.	Lt.	Rt.	℄	Rt.	Lt.	(See Note)	Rt.	Rt.	Lt.	
STATION	FROM		497+68	498+48	501+46	497+00	497+50	498+66	499+04	499+34	501+64	8+75	497+77.31	498+63	499+73.36	499+47.98	497+50	497+87	498+68		497+90	499+80	499+96	
STATION	TO					497+54	498+30	499+51		500+76	502+08	10+75	499+06.64	499+32.02	501+08.94	500+77.31	502+00	500+15	500+46		498+86	501+26	502+00	

* Includes 2 panels of 15' radius rail at drive

CALC. BY DBV DATE 4-9-81	MED - 42 - 9.44	OHIO	6/15
CHKD. BY PLD DATE 4-21-81		FHWA REGION 5	



STA. 496+00 TO STA. 498+00

SEEDING	
END WIDTH	SQ. YDS.
71	
	<-65>
	320
44	
	123
0	

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	12	52		
Add For Drive +68			2	13
			29	65
Ahead	19	18		
Back	19	10		
			25	9
Ahead	8	0		
Back	0	0		

BRUNING 44-131 38375

CALC. BY OBV DATE 4-9-81	MED-42-9.44	OHIO
CHKD. BY PLD DATE 4-21-81		FHWA REGION 5

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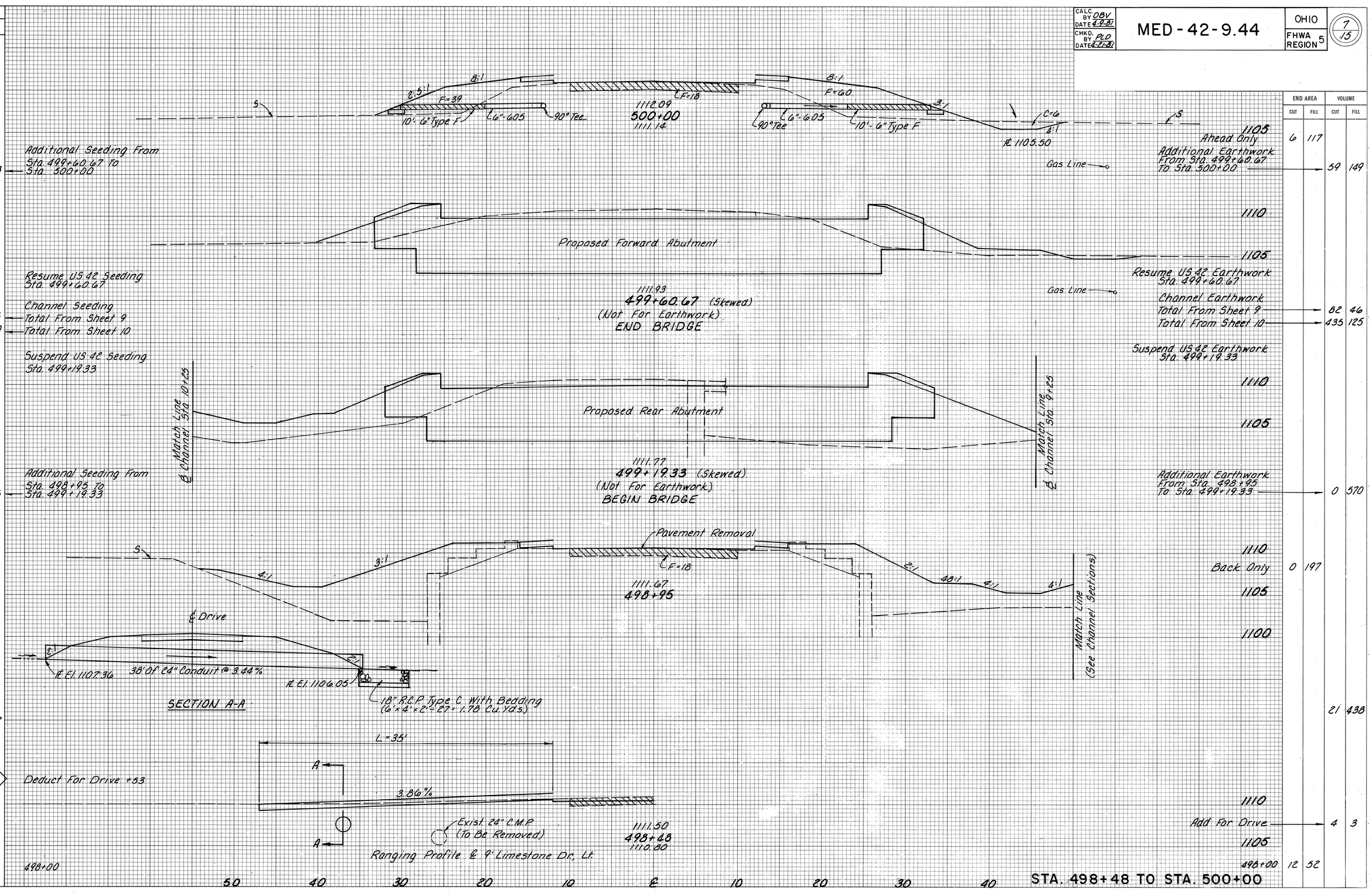
SEEDING END WIDTH	SEEDING SQ. YDS.
75	
	458 — Additional Seeding From Sta. 499+60.67 To Sta. 500+00
	Resume US 42 Seeding Sta. 499+60.67
	Channel Seeding
	95 — Total From Sheet 9
	120 — Total From Sheet 10
	Suspend US 42 Seeding Sta. 499+19.33
	205 — Additional Seeding From Sta. 498+95 To Sta. 499+19.33
81	
802	
(-10)	Deduct For Drive +53
71	498+00



	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1105 Ahead Only	6	117		
Additional Earthwork From Sta. 499+60.67 To Sta. 500+00			59	149
1110				
1105				
Resume US 42 Earthwork Sta. 499+60.67				
Channel Earthwork				
Total From Sheet 9			82	46
Total From Sheet 10			435	125
Suspend US 42 Earthwork Sta. 499+19.33				
1110				
1105				
Additional Earthwork From Sta. 498+95 To Sta. 499+19.33			0	570
1110				
Back Only	0	197		
1105				
1100				
			21	438
1110				
Add For Drive			4	3
1105				
498+00	12	52		

STA. 498+48 TO STA. 500+00

BRUNING 44-131 38375

CALC. BY DBV DATE 9-9-81	MED - 42 - 9.44	OHIO	8/15
CHKD. BY PLD DATE 9-21-81		FHWA REGION 5	

SEEDING: END WIDTH | SQ. YDS.

END AREA: CUT | FILL — VOLUME: CUT | FILL

BRUNING 44-131 38375

CALC. BY DAV DATE 1-29-81	MED - 42 - 9.44	OHIO
CHKD. BY DLD DATE 2-2-81		FHWA REGION 5

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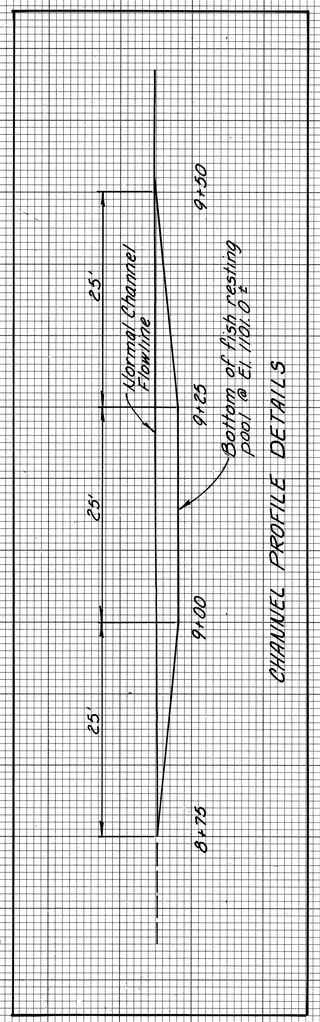
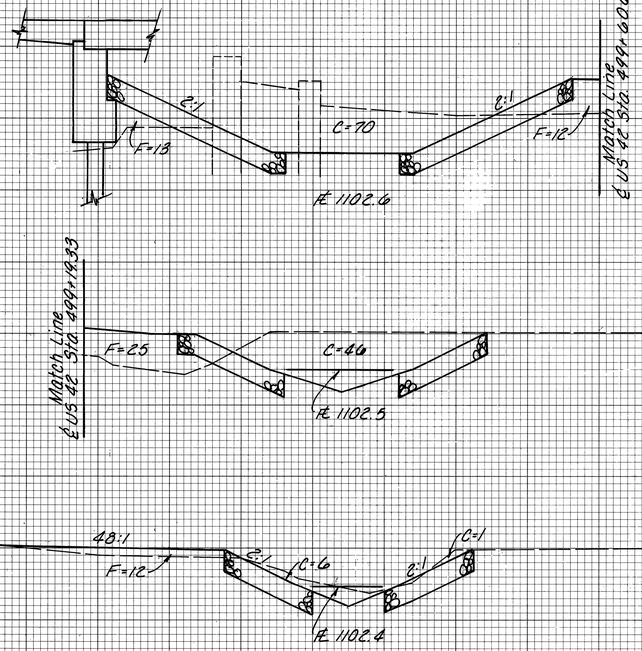
SEEDING END WIDTH	SEEDING SQ. YDS.
0	
	15
11	
	47
24	
	33
0	
	95

← Seeding Total (Carried To Sheet 7)





Begin Rock Channel Protection, Type C (18" Thick Without Bedding)

CHANNEL SECTIONS

	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1110				
1105				
9+50 1100	70	25		
1105			54	23
9+25 1100	46	25		
1105				25 17
9+00 1100	7	12		
1105				3 6
8+75 BEGIN CHANNEL WORK 1100	0	0		
1105				
8+50 1100				
℄ Earthwork Totals (Carried To Sheet 7)			82	46

BRUNING 44-131 38375

CALC. BY DBV DATE 1-27-81	MED - 42 - 9.44	OHIO
CHKD. BY PLD DATE 2-4-81		FHWA REGION 5

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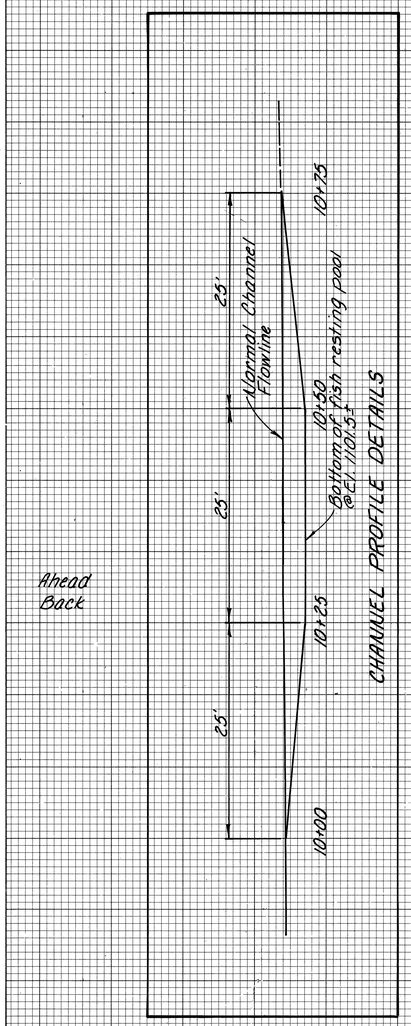
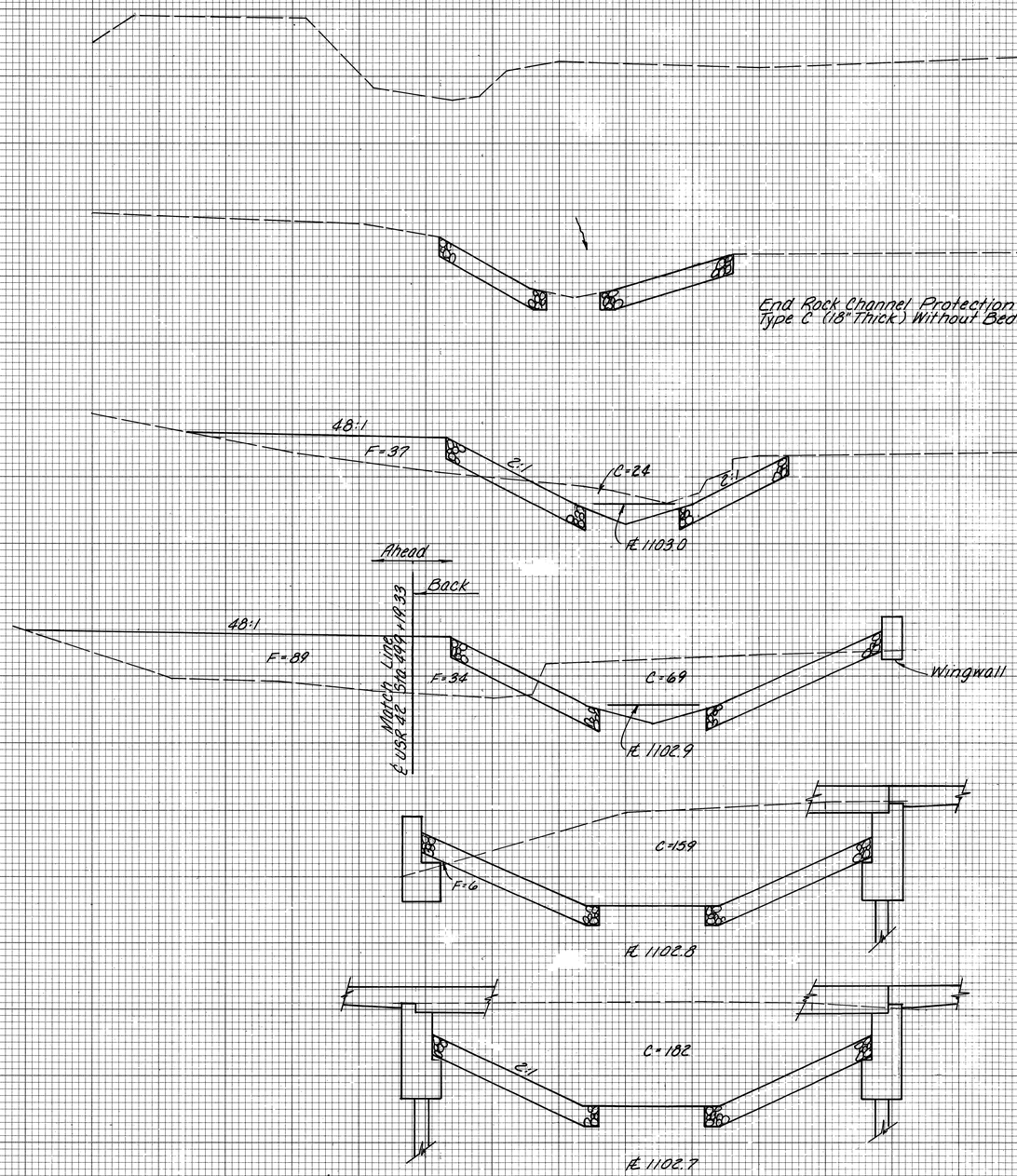
SEEDING	
END WIDTH	SQ. YDS.
0	
	39
28	
	81
30	
0	
	0
0	
	0
0	
	0
0	
	120

Seeding Total (Carried To Sheet 7)





		END AREA		VOLUME	
		CUT	FILL	CUT	FILL
11+10	1105				
	1110				
	1105				
10+75 END CHANNEL WORK		0	0		
	1110			11	17
	1105				
10+50		24	37		
	1110			43	34
10+25	1105				
Ahead		69	123		
Back		69	34		
	1110			106	19
10+00	1105	159	6		
	1110			158	3
	1105				
9+75	1100	182	0		
				117	12
Sta. 9+50		70	25		
Earthwork Totals (Carried To Sheet 7)				435	125

CHANNEL SECTIONS

BRUNING 44-131 38375

BM Boat spike in ϕ #217611 P.3
Sta. 499+90.5, 25.5' Rt
Elev. 1108.35

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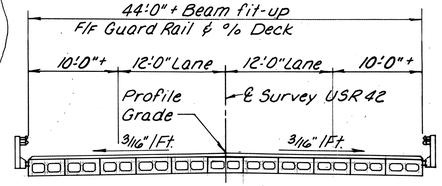
CALC. BY	
DATE	
CHKD. BY	
DATE	

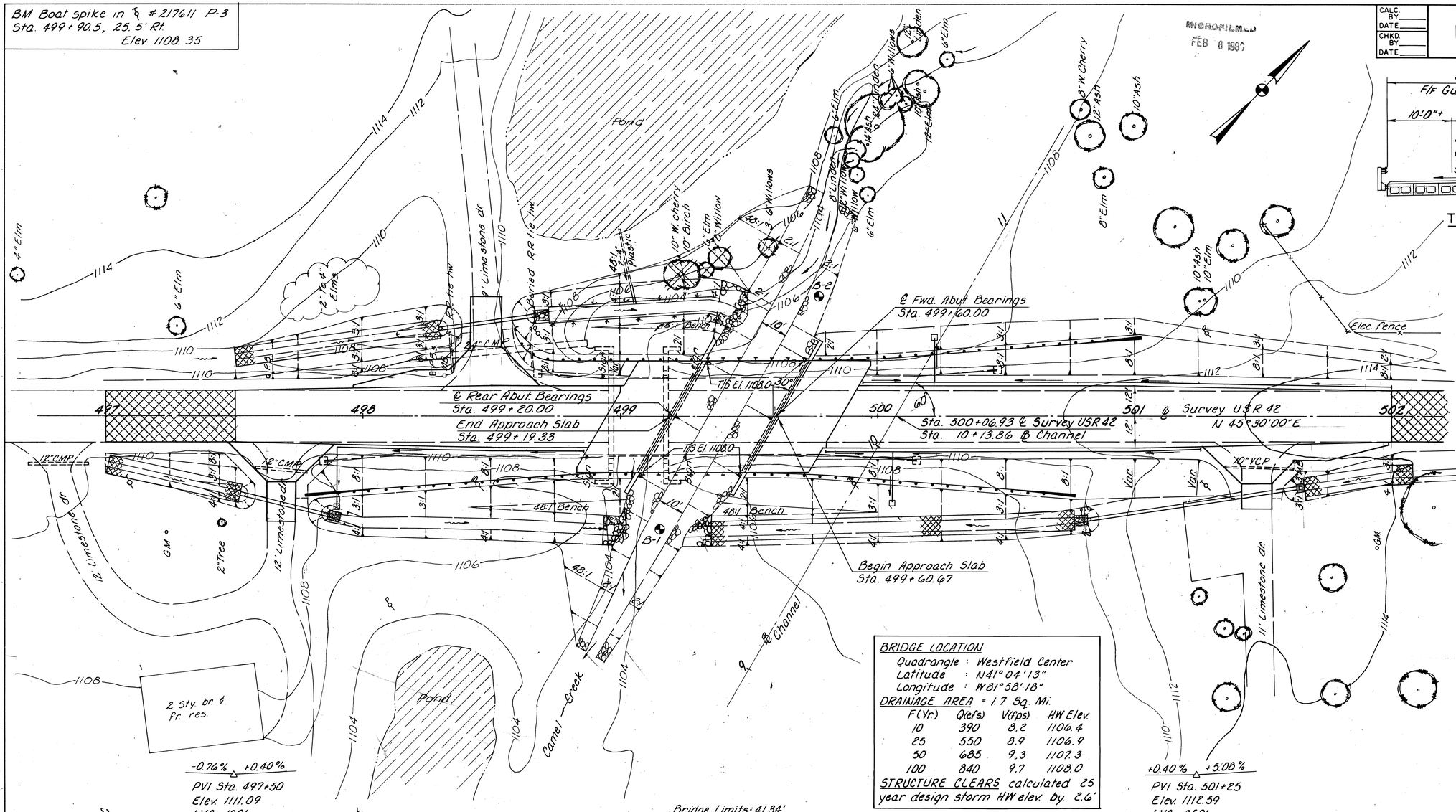
MED-42-9.44

OHIO
FHWA REGION 5

11/15



TRANSVERSE SECTION



EXISTING STRUCTURE

BRIDGE NO. MED-42-0945

TYPE: The superstructure consists of a combination of the original deck built in 1918 of cast-in-place reinforced concrete T-beams and reinforced concrete slab extensions added on each side in 1931 and 1944. Substructure units are gravity abutments made of concrete and stone.

SPAN: 18'0" F/F abutments

ROADWAY: 30'0" F/F guardrail

LOADING: H-15 (5-11.7-46)

SKEW: 0°

WEARING SURFACE: Bituminous

APPROACH SLABS: None

ALIGNMENT: Tangent

GENERAL CONDITION: Poor, To be removed.

PROPOSED STRUCTURE

TYPE: Single span prestressed concrete box beams on reinforced concrete abutments.

SPAN: 40'0" ℄ Bearings

ROADWAY: 44'0" F/F guardrail

LOADING: HS-20-44 and alternate military loading.

SKEW: 30°00' L.F.

WEARING SURFACE: 2½" Asphalt concrete

APPROACH SLABS: AS-1-72 (25' long)

ALIGNMENT: Tangent

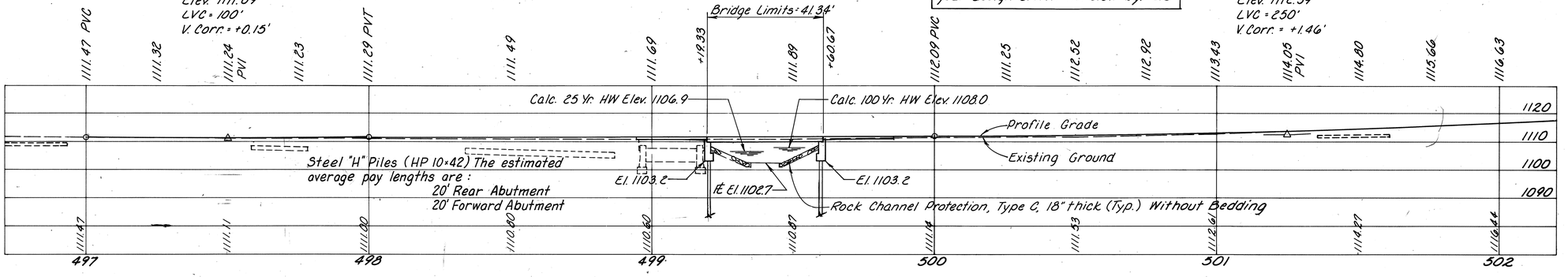
AVERAGE DAILY TRAFFIC: 4200 (Yr. 2000)

BRIDGE LOCATION
Quadrangle : Westfield Center
Latitude : N41°04'13"
Longitude : W81°58'18"

DRAINAGE AREA = 1.7 Sq. Mi.

F(Yr.)	Q(cfs)	V(fps)	HW Elev.
10	390	8.2	1106.4
25	550	8.9	1106.9
50	685	9.3	1107.3
100	840	9.7	1108.0

STRUCTURE CLEARS calculated 25 year design storm HW elev. by 2.6'



FOUNDATION INVESTIGATION LEGEND

◒ Indicates Core Boring Location

EARTHWORK limits shown are approximate. Actual slopes shall conform to plan cross-sections.

1/4

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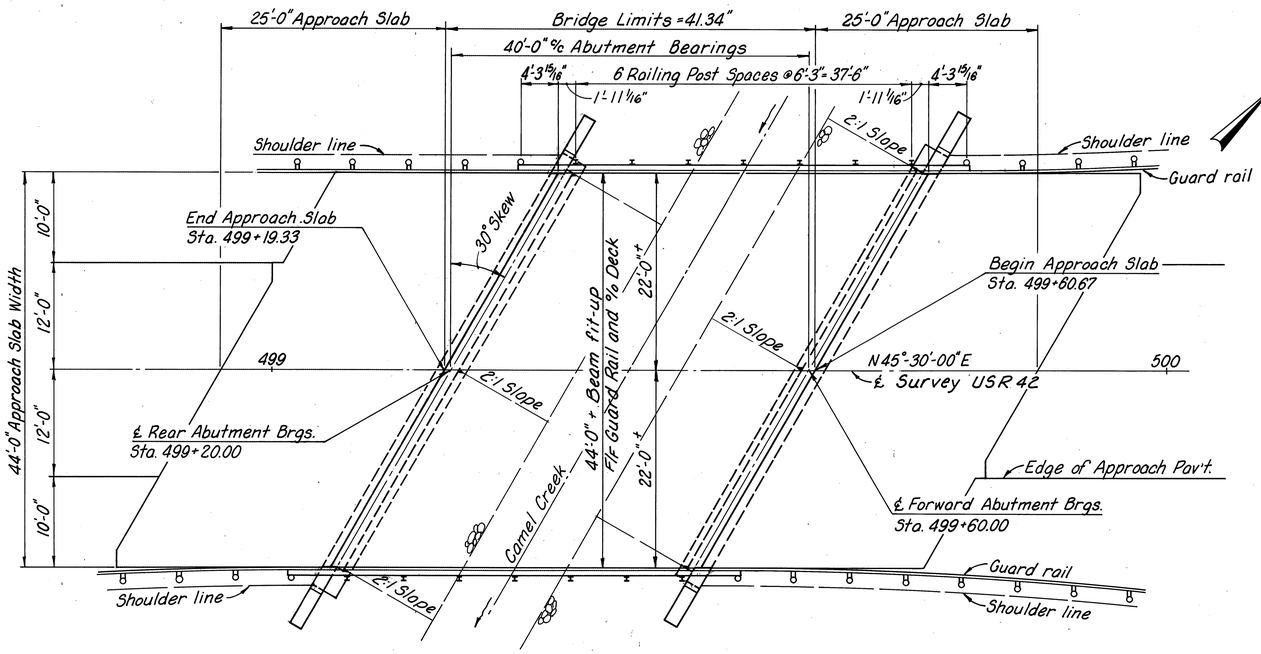
700 WINKLER DR. WOOSTER, OHIO

SITE PLAN

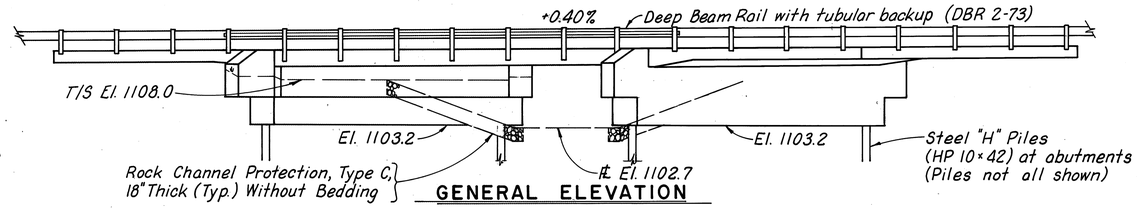
BRIDGE NO. MED-42-0945
OVER CAMEL CREEK

MEDINA COUNTY U.S. RT. 42
STA. 499+19.33 TO STA. 499+60.67

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DBC	DBV	PLD	DWS	WRH	9/21/81	



GENERAL PLAN



GENERAL ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS.	GEN'L.		
202	Lump	Sum	Structure removed			Lump		
403	11	Cu.Yd.	Asphalt concrete AC 20	11				
404	6	Cu.Yd.	Asphalt concrete AC 20	6				
503	116	Cu.Yd.	Unclassified excavation		116			
505	Lump	Sum	Test Pile			Lump		
507	320	Lin.Ft.	Steel piles HP 10×42		320			
509	7593	Lb.	Reinforcing steel		7593			
510	12	Each	Dowel holes		12			
511	76	Cu.Yd.	Class C concrete, abutments		76			
512	224	Sq.Yd.	Type D Waterproofing	224				
515	11	Each	Prestressed concrete bridge members, B17-48	11				
516	44	Each	½"×4"×10" Elastomeric bearing pads	44				
516	6	Sq.Ft.	⅛"×4"×10" Preformed bearing pads, 711.21	6				
516	145	Sq.Ft.	1" Preformed expansion joint filler		145			
516	102	Lin.Ft.	Joint Sealer		102			
517	82.68	Lin.Ft.	Railing (Deep beam with tubular backup, Type 2 steel posts and bolts)	82.68				
518	33	Cu.Yd.	Porous backfill		33			
Special	63	Sq.Ft.	Steel drip strip	63				

CALC. BY DATE	MED-42-9.44	OHIO
CHKD. BY DATE		FHWA REGION 5

12/15

GENERAL NOTES

REFERENCE shall be made to Standard Drawings:

AS-1-72 sheet 1 of 2 dated 6-30-72
DBR-2-73 dated 4-10-73
PSBD-1-81, sheets 1, 2 and 3 of 4 dated 9-18-81.

DESIGN SPECIFICATIONS: This structure conforms to the "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1977, including the 1978 through 1980 Interim Specifications and the Ohio "Supplement" to these Specifications.

DESIGN DATA:

Design loading - HS20-44 and the Alternate Military Loading

Concrete Class C - Unit stress 1333 p.s.i. for substructure

Reinforcing Steel - ASTM A615, A616 or A617 - Unit stress 20,000 p.s.i.
Splice lengths indicated in the plans are for Grade 60 steel and f'_c = 4000 p.s.i.
Concrete for prestressed concrete beams - Unit stress 2200 p.s.i. compression
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: Primary - Membrane waterproofing and asphalt concrete overlay with steel drip strip along edges of deck.

Supplementary - None Required

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed in accordance with CMS Section 202.03. Suitable waste masonry may be placed as Bank Protection as directed by the Engineer.

EMBANKMENT CONSTRUCTION: The embankments shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutments. Excavation may then be made for the abutments and piles driven.

PILES shall be driven to a minimum bearing capacity of 38 tons per pile for the abutments.

ADDITIONAL GENERAL NOTES: See Referenced Standard Drawings and Project General Notes Sheet 3 of 15 for approach slab notes regarding concrete cover over top reinforcement, jacking holes, and longitudinal grade of approach slab.

FLOYD WORKELL

800

2/4

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CONSULTING ENGINEERS
700 WINKLER DR. WOOSTER, OHIO

GENERAL PLAN, GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. MED.-42-0945
OVER CAMEL CREEK
MEDINA COUNTY STA 499+19.33 TO STA. 499+60.67 US. RT. 42

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DBC	RLE	RLE	DWS	WRH	9/21/81	

MICROFILMED
FEB 6 1985

CALC. BY DATE	MED-42-9.44	OHIO
CHKD. BY DATE		FHWA REGION 5

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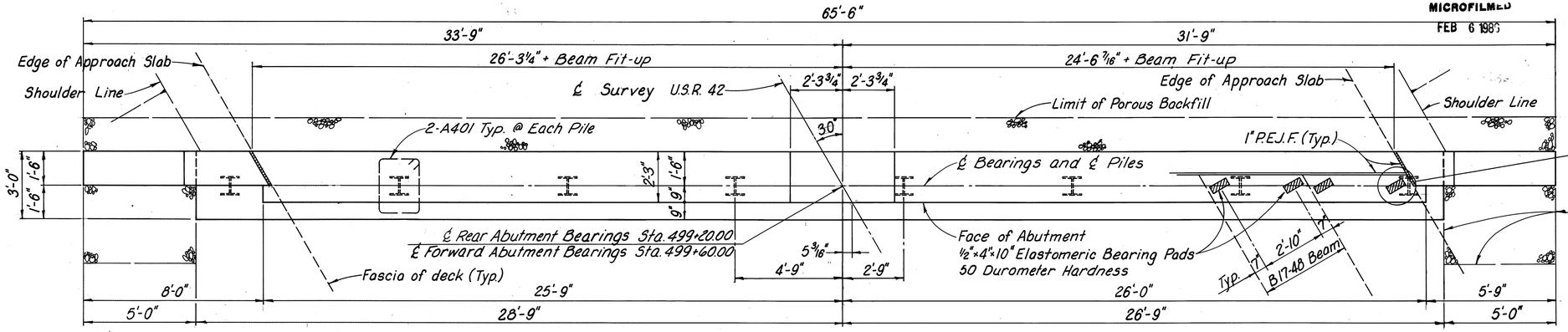
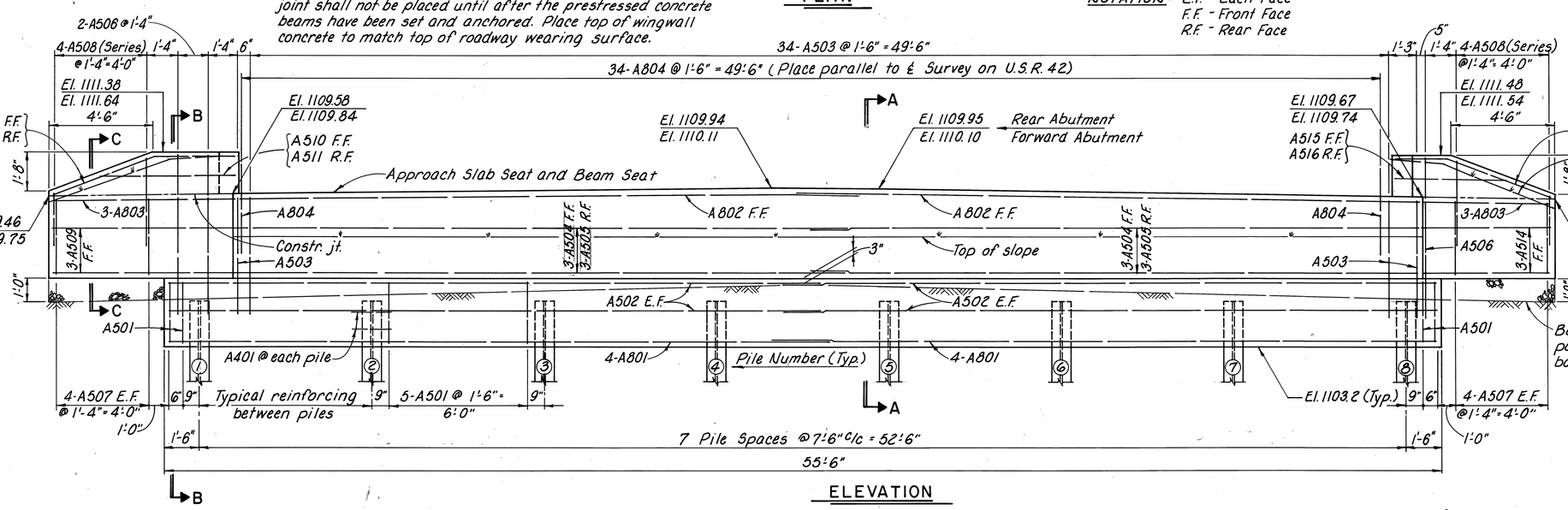


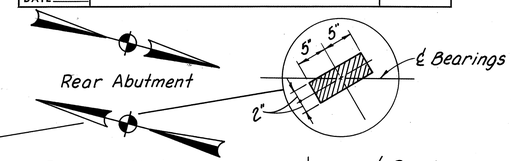
PLAN

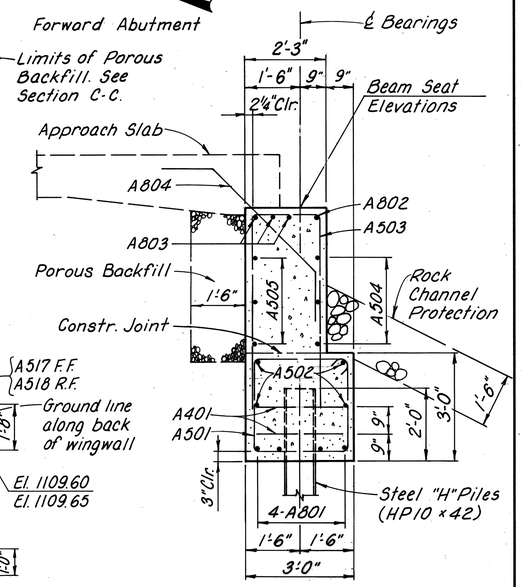
WINGWALL CONCRETE above the beam seat construction joint shall not be placed until after the prestressed concrete beams have been set and anchored. Place top of wingwall concrete to match top of roadway wearing surface.

NOTATION: E.F. - Each Face
F.F. - Front Face
R.F. - Rear Face



ELEVATION





SECTION A - A

ABUTMENT NOTES

POROUS BACKFILL shall extend upward to the plane of the subgrade, laterally to the ends of the wingwalls, and beneath the wingwalls to the Rock Channel Protection.

BEAM SEAT REINFORCING: Reinforcing steel in the vicinity of the beam seat shall be accurately placed to avoid interference with the drilling of anchor bolt holes.

HORIZONTAL WINGWALL REINFORCING above the bridge seat construction joint shall be field shortened as required by beam fit-up.

REINFORCING SPLICE LENGTHS shall be
1'-7" (min.) for # 5 bars
2'-7" (min.) for # 8 bars

GENERAL NOTES: See Sheet 2/4

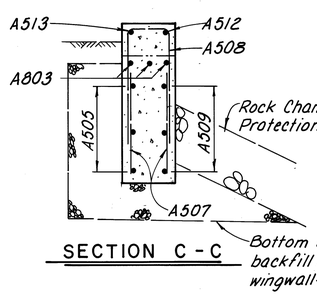
ABUTMENTS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
A401	32	8'-10"	3	2'-5"	1'-9"				189
A501	78	11'-1"	3	2'-7"	2'-8"				902
A502	16	28'-5"	Str.						455
A503	72	12'-9"	1	1'-11"	5'-6"	5'-6"			957
A504	12	26'-6"	Str.						332
A505	12	33'-5"	Str.						418
A506	6	15'-0"	1	1'-2"	7'-0"	7'-0"			94
A507	32	2'-10"	Str.						95
A508	16	5'-6" to 8'-6"	1	1'-2"	*	*			117
A509	6	9'-3"	Str.						58
A510	2	5'-9"	Str.						12
A511	2	5'-2"	Str.						11
A512	2	8'-0"	2	3'-4"	4'-8"	0	4½	0	17
A513	2	7'-5"	2	2'-9"	4'-8"	0	4½	0	15
A514	6	7'-0"	Str.						44
A515	2	4'-0"	Str.						8
A516	2	4'-7"	Str.						10

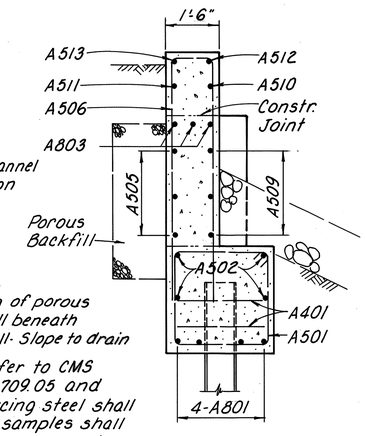
MARK	NO.	LENGTH	TYPE	A	B	C	D	E	WEIGHT
A517	2	6'-2"	2	1'-6"	4'-8"	0	4½	0	13
A518	2	6'-9"	2	2'-1"	4'-8"	0	4½	0	14
A601	12	2'-4"	Str.						42
A801	16	28'-11"	Str.						1235
A802	4	27'-0"	Str.						288
A803	12	33'-11"	Str.						1087
A804	68	6'-6"	2	1'-5"	3'-10"	1'-5"	12	12	1180
								Total	7593

TYPE 1 TYPE 2 TYPE 3

* Varies 2'-3" to 3'-9". 4 Sets of 4 bars, vary each by 6".



SECTION C - C



SECTION B - B

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

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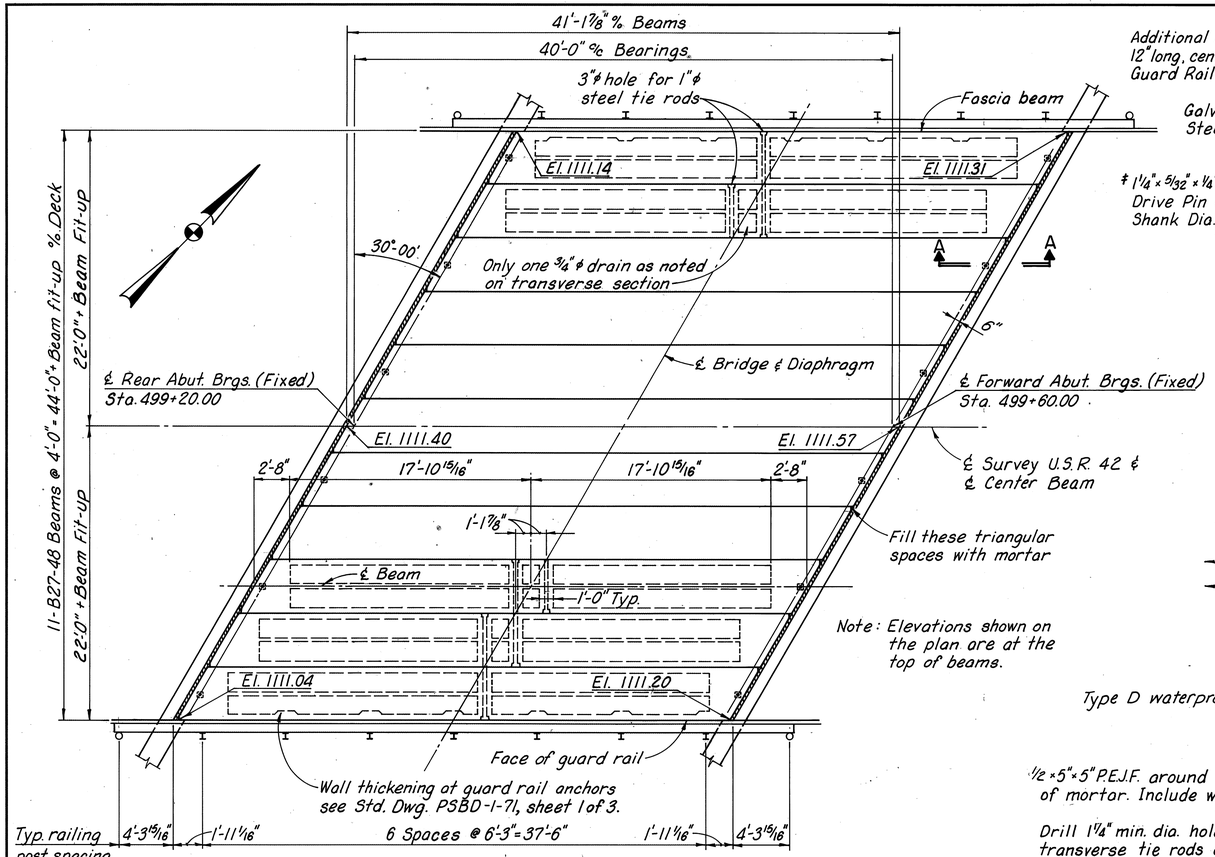
CONSULTING ENGINEERS
700 WINKLER DR. WOOSTER, OHIO

ABUTMENTS

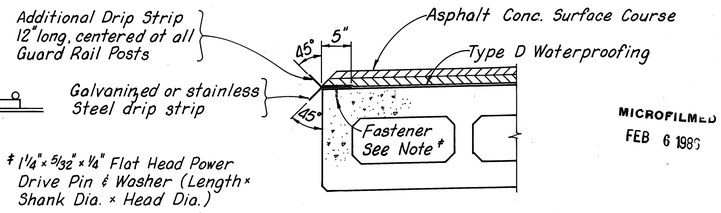
BRIDGE NO. MED-42-0945
OVER CAMEL CREEK

MEDINA COUNTY U.S. RT. 42
STA. 499+19.33 TO STA. 499+60.67

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DBC	DKS	RLE	DWS	WRH	9/21/81	

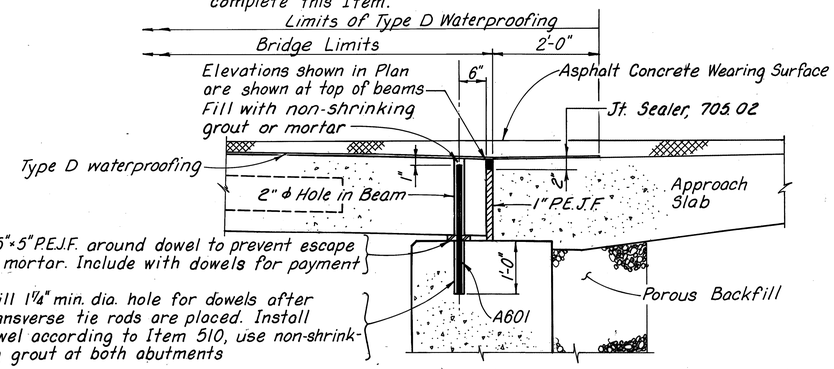


FRAMING PLAN

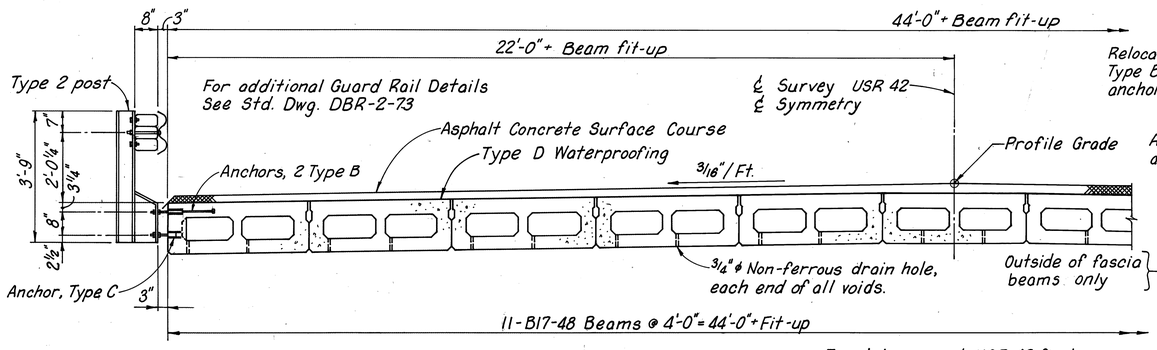


DRIP STRIP DETAIL

Prior to applying Type D Waterproofing a bent steel drip strip shall be installed along the edges of the deck as shown. The strips shall be fastened at 1'-6" ℄ maximum with power driven pins ‡ 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 abutment wingwall. Where splices are required a 3" (minimum) lap shall be used with the fastener through the lap. Steel for galvanized strips shall be 8" × 0.105" and shall meet the requirements of ASTM A568. Galvanizing shall be in accordance with 711.02. Stainless steel shall be 20 guage ASTM A167, Type 304, Mill Finish. Payment shall be made at the contract bid price for Item Special, Square Feet Steel Drip Strip, which shall include all material, labor, tools and incidentals necessary to complete this Item.



SECTION A-A



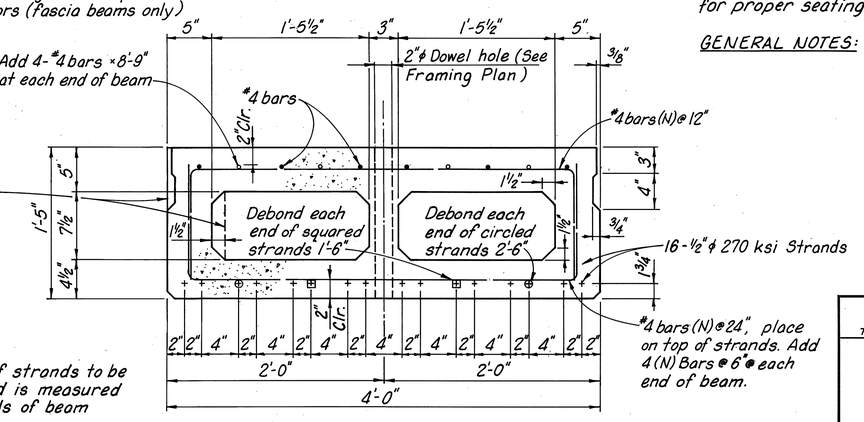
HALF TRANSVERSE SECTION

ASPHALT CONCRETE SURFACE COURSE shall consist of a variable thickness of 403 and a 1" thickness of 404. The 403 shall be placed in two operations. The first course shall be of 1½" uniform thickness. The second course shall be feathered to place the surface parallel to and 1" below final pavement surface elevation.

BEAM REINFORCING

MARK	TYPE	A	B	C	BENDING DIAGRAM
N	1	3'-7"	1'-3"	1'-3"	TYPE 1

Relocate N bars to clear Type B℄C guard rail post anchors (Fascia beams only)



Length of strands to be debonded is measured from ends of beam

TYPICAL BOX BEAM B17-48

SUPERSTRUCTURE NOTES

PRESTRESSED CONCRETE BOX BEAMS

CONCRETE STRESSES:
Min. Concrete Strength at 28 days f'c = 5500 p.s.i.
Min. Concrete Strength at time of initial prestress f'ci = 4000 p.s.i.

PRESTRESSING STRANDS, ½" dia. 270ᵏ seven wire, uncoated, stress-relieved strand. A_s = 154 sq. in.
Initial Tension = 28,900 lbs. per strand.
Tension at release = 26,600 lbs. per strand (Assumed).
Final Tension = 21,700 lbs. per strand after all losses (Assumed)

REINFORCING STEEL:
2" of concrete cover, measured from the top of the box beams, shall be provided over the upper steel. Beam manufacturer's shop drawings shall show complete details of box beam reinforcing.

ADDITIONAL PRESTRESSED BEAM NOTES & DETAILS:
See Standard Drawing PSBD-1-81, sheets 1, 2 and 3 of 4 for Beam Lifting Inserts, Details and Reinforcement of Beam Ends, End Details of Transverse Tie Rod Anchorage, Normal Crown Treatment at ℄ Roadway, and Beam Dimensional Tolerances.
See Standard Drawing PSBD-1-81, sheet 1 of 4 for notes on Transverse Tie Rods, Galvanizing, Anchor Dowels, Non-shrinking Mortar and Grout, and Mortaring of Shear Keys.

CAMBER: Calculated camber at time of paving including allowance for camber growth due to creep is 1 3/16". Calculated deflection due to weight of surface course and railing is ⅛".
Net final camber of beams is 1½". This is 1½" 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 1½" at center of spans to 3" at end of spans.

RAILING: See Standard Drawing DBR-2-73

ABUTMENT BEARING DETAILS: See Sheet 3/4. Two ⅛" × 4" × 10" preformed bearing pads per beam shall be provided for use as shims where needed for proper seating of the prestressed beams.

GENERAL NOTES: See Sheet 2/4

MICROFILMED FEB 6 1986

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SUPERSTRUCTURE
BRIDGE NO. MED-42-0945
OVER CAMEL CREEK
MEDINA COUNTY U.S. RT. 42
STA. 499+19.33 TO STA. 499+60.67

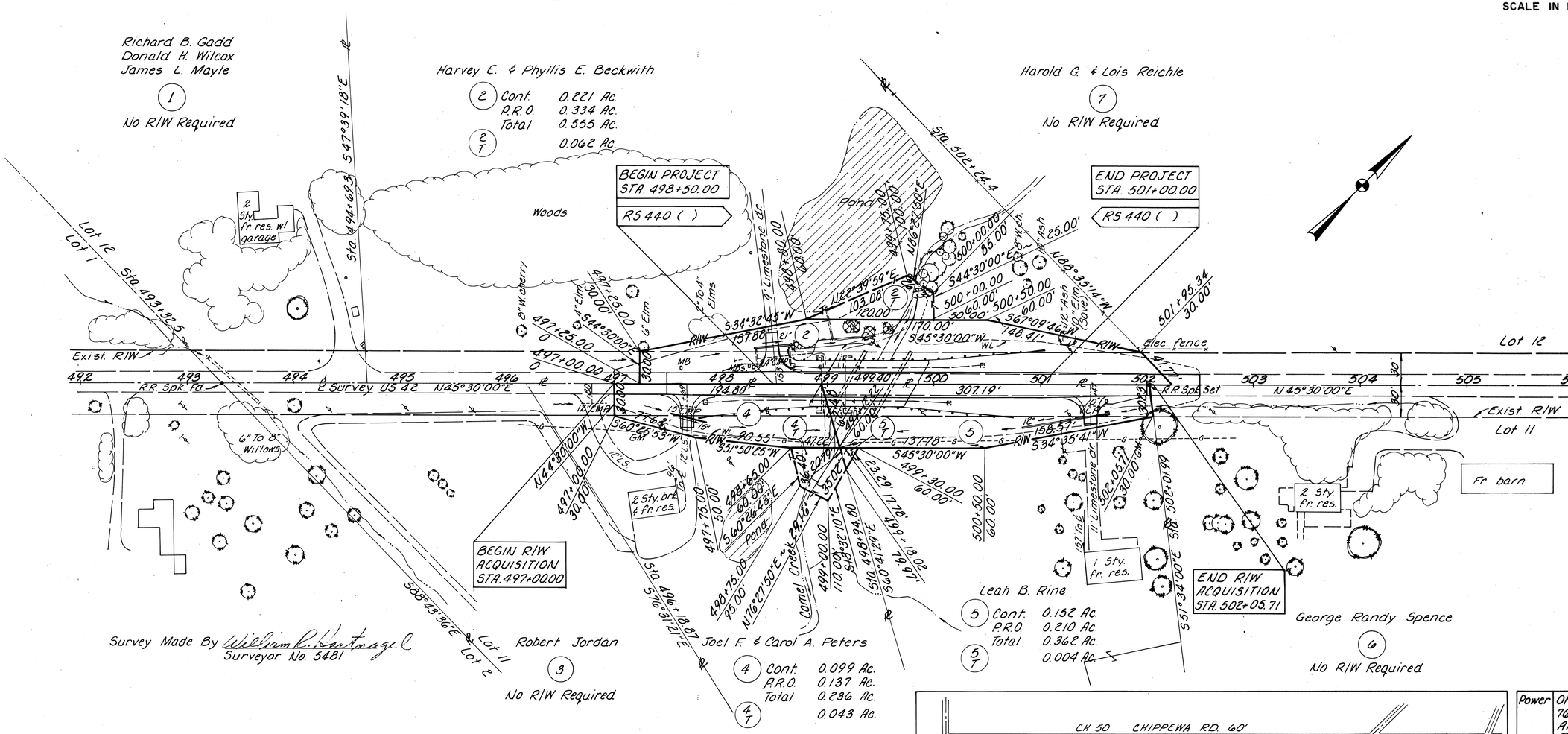
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DBC	DKS	RLE	DWS	WRH	9/21/81	

MEDINA COUNTY LAFAYETTE TOWNSHIP
T-2N R-15W
TRACT 3 LOTS 11 & 12

CALC. BY PLD DATE 2-27-81	MED-42-9.44	OHIO	15/15
CHKD. BY WRH DATE 3-3-81		FHWA REGION 5	1/1
FEDERAL PROJECT	BRS 440 ( )	STATE PROJECT	03379(0)

RIGHT-OF-WAY PLAN

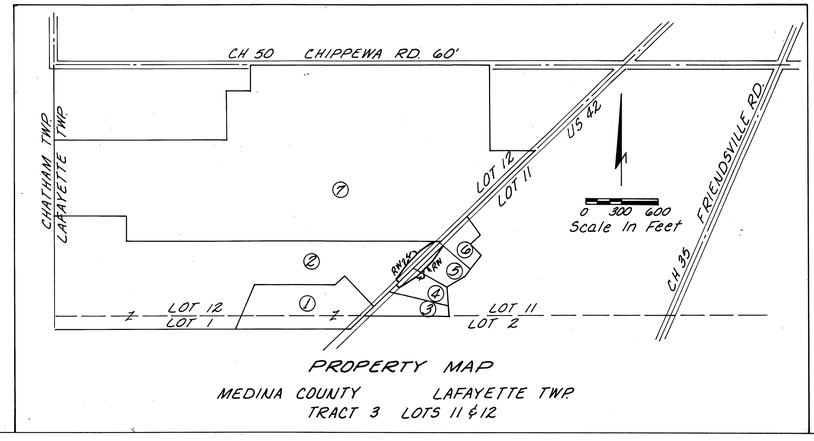
0 50 100
SCALE IN FEET



SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

TOTAL NO. OWNERS 3 TOTAL NO. COMPLETE TAKES 0 TOTAL NO OWNERS WITH STRUCTURES INVOLVED 0

PARCEL NUMBER	OWNER	DEED RECORD BOOK	PAGE	DATE	DEED AREA	TOTAL PRO	TOTAL TAKE	PRO IN TAKE	NET TAKE	NET RES. LT	NET RES. RT	BLDGS ACQ'D	REMARKS	TYPE FUNDS
1	RB. Gadd, D.H. Wilcox, J.L. Mayle	518	412	2-23-79		No	R/W	Required						State
2	Harvey E. & Phyllis E. Beckwith	403	410	3-31-71	4.170 A.	.511 A.	.555 A.	.334 A.	.221 A.	40.960 A.				
2T							.062 A.	0	.062 A.				Channel Cleanout	
3	Robert Jordan	508	68	6-6-78		No	R/W	Required						
4	Joel F. & Carol A. Peters	460	633	9-4-74	1.804 A.	.187 A.	.236 A.	.137 A.	.099 A.		1.518 A.			
4T							.043 A.	0	.043 A.				Channel Cleanout	
5	Leah B. Rine	427	250	6-21-72	2.185 A.	.210 A.	.362 A.	.210 A.	.152 A.		1.823 A.			
5T							.004 A.	0	.004 A.				Channel Cleanout	
6	George Randy Spence	516	546	12-22-78		No	R/W	Required						
7	Harold G. & Lois Reichle	230	405	11-23-55		No	R/W	Required						



PROPERTY MAP
MEDINA COUNTY LAFAYETTE TWP.
TRACT 3 LOTS 11 & 12

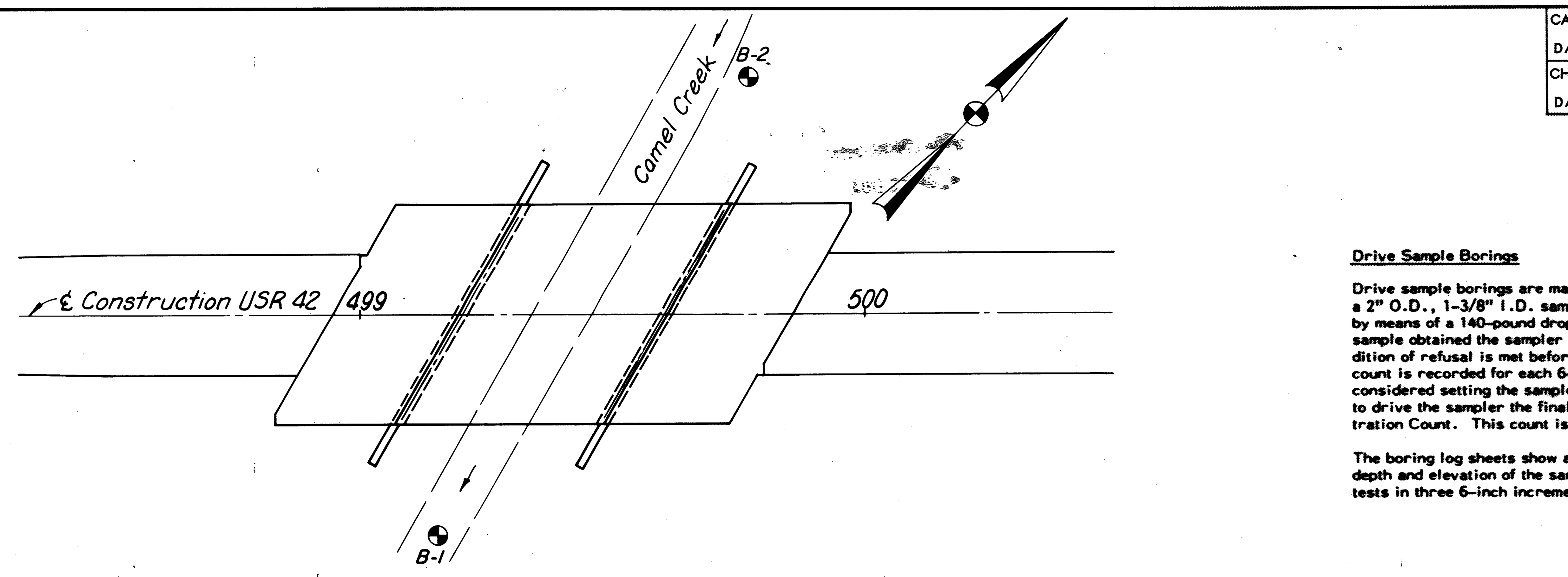
UTILITY OWNERS

Power	Ohio Edison Co. 76 South Main St. Akron, Ohio 44308 Ph. 216-384-5234
Phone	General Telephone Co. of Ohio 108 W. Washington St. Medina, Ohio 44256 Ph. 216-725-8411
Gas	Columbia Gas Transmission Corp. P.O. Box 1273 Charleston, W. VA. 25314 Ph. 304-346-0951

TYPE FUNDS: State

REV.	DATE	DESCRIPTION
		PLAN COMPLETED: 7/16/81

CALC. BY / DATE	MED - 42 - 9.44	OHIO	1/1
CHKD. BY / DATE		FHWA REGION 5	



GEOLOGY OF THE SITE

The structure site is located on a gently rolling, glaciated plateau, in an area where glacial-derived material overlies bedrock, of Mississippian age.

EXPLORATION

The exploration consisted of two drive sample borings made by means of a mechanically-powered hollow stem auger on February 7, 1980.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

The borings disclosed subsoils consisting of medium dense to stiff, moist clayey silt with traces of sand and gravel, sandstone and shale fragments in the upper 8 to 12 feet of each boring. Directly below this material to a depth of approximately 40 feet below the surface, the soil consists of very dense, moist, silty sand and gravel. Neither boring penetrated bedrock surface. Borings B-1 and B-2 were terminated at 40 to 41.9 foot depths, elevations 1065.1 and 1064.7 after penetrating 30 feet of material, requiring an excess of 30 blows per foot in the Standard Penetration Test.

Free water was observed and measured in boring B-1 at 5.5, 14.5, and 27.0 foot depths, elevations 1099.6, 1090.6, and 1078.1 respectively and in boring B-2 at 5.0 and 19.5 foot depths, elevations 1101.6 and 1087.1.

GENERAL INFORMATION

FEB 6 198?

Drive Sample Borings

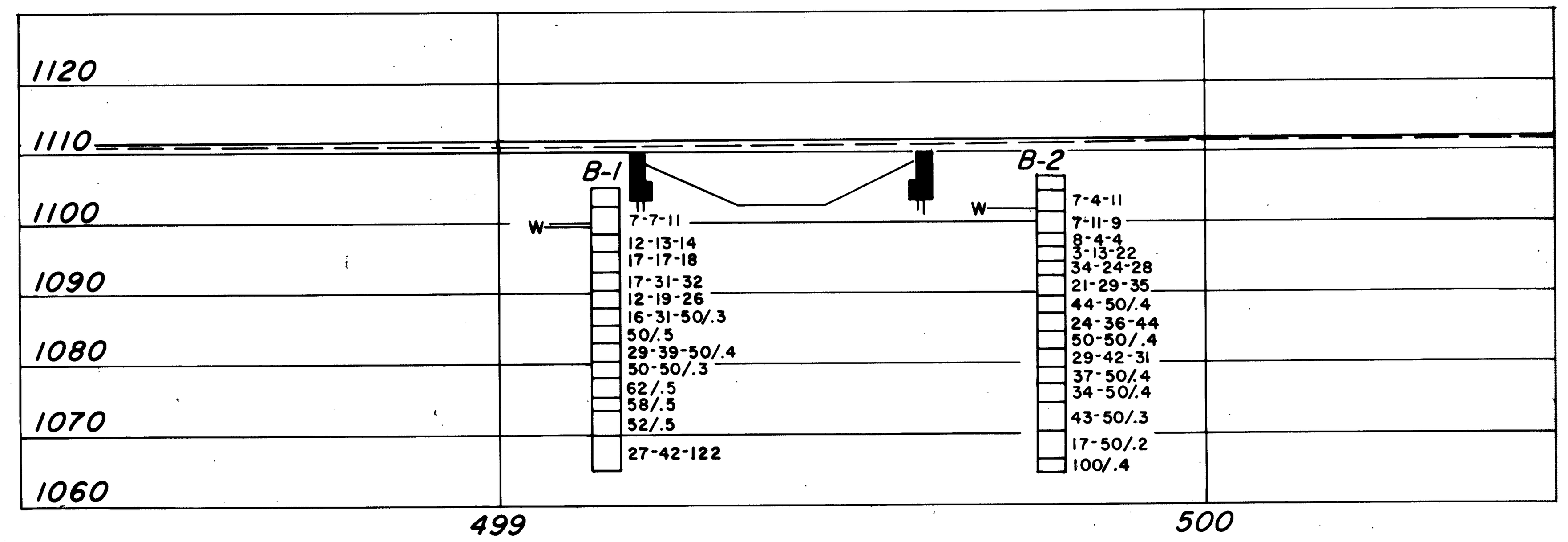
Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer with a free fall of 30 inches. For each sample obtained the sampler is driven a total of 18-inches except when a condition of refusal is met before obtaining a penetration of 18-inches. The blow count is recorded for each 6-inch increment. The first 6-inches of drive is considered setting the sampler while the sum of the number of blows required to drive the sampler the final two increments is designated the Standard Penetration Count. This count is denoted by the letter N.

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, field sample number, and sample description.

LEGEND

Symbol	Meaning
◕	Core Boring Location - Plan View
▙	Capped Pile Footing
H	Horizontal Bar on Boring Log Indicates the Depth (Median) at which the Sample was Taken.
W—	Indicates Free Water Elevation.
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.

3-89



LOG OF BORING

DATE STARTED 2-7-80 — SAMPLER TYPE S.S. — DIA. 2" O.D. — WATER ELEV. 1100.1
DATE COMPLETED 2-7-80 — CASING LENGTH — DIA.
BORING NO. B-1 — STATION & OFFSET 499+15, 44' RT. — SURFACE ELEV. 1105.1

ELEV.	DEPTH	STD. PEN. BLOWS/6"	STD. PEN. N	REC. FT.	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.
1105.1	0													
					Brown clayey silt with minor gravel		VISUAL							
1102.6	2													
	4	7-7-11	18	.6'	Gray clayey silt with trace of sand and sandstone fragments. Medium dense, moist.	1	VISUAL							
1098.6	6													
	8													
1096.1		12-13-14	27	1.2'	Gray silty clay, trace of sand and gravel Stiff, moist.	2	20	9	8	48	15	24	8	
	10	17-17-18	35	.6'	Gray clayey silt, trace of sand and gravel. Dense, moist.	3	VISUAL							
1093.1	12													
	14	17-31-32	63	1.0'	Gray sandy silt, trace of clay and gravel, sandstone fragments. Very dense, moist.	4	VISUAL							
1090.6	16	12-19-26	45	1.1'	Gray silty sand with minor gravel. Dense, wet.	5	VISUAL							
1088.1	18	16-31-50	81+	1.2'	Gray silty sand and gravel. Very dense, wet	6	VISUAL							
1085.6	20	50/.5	50+	.5'	Gray silty sand and gravel. Very dense, moist	7	VISUAL							
1083.1	22													
	24	29-39-50	89+	.8'	Gray clayey silt with minor sand and gravel. Very dense, moist.	8	VISUAL							
1080.6	26	50-50/.3	80+	.7'	Brown sand and gravel with trace of silt. Very dense, moist.	9	VISUAL							
1078.1	28	62.5	62+	.5'	Brown sand and gravel with minor silt. Very dense, wet.	10	VISUAL							
1075.6	30	58/.5	58+	.5'	Brown and gray sand and gravel with trace of silt. Very dense, wet.	11	VISUAL							
1073.6	32													
	34	52/.5	52+	.4'	Gray sandy silt with gravel and sandstone fragments. Very dense, moist.	12	VISUAL							
1070.1	36													
	38													
	40	27-42-122	164	.5'	Gray sandy silt with gravel and minor clay (sandstone fragments). Very dense, moist.	13	VISUAL							
1065.1														

BORING COMPLETED

LOG OF BORING

DATE STARTED 2-7-80 — SAMPLER TYPE S.S. — DIA. 2" O.D. — WATER ELEV. 1103.1
DATE COMPLETED 2-7-80 — CASING LENGTH — DIA.
BORING NO. B-2 — STATION & OFFSET 499+78, 47' LT. — SURFACE ELEV. 1106.6

ELEV.	DEPTH	STD. PEN. BLOWS/6"	STD. PEN. N	REC. FT.	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.
1106.6	0													
					Brown clayey silt with minor sand		VISUAL							
1104.6	2													
	4	7-4-11	15	.4'	Brown silty clay with sandstone fragments. Medium dense, moist.	1	VISUAL							
1101.6	6	7-11-9	20	.4'	Gray silty clay with shale fragments. Stiff, wet.	2	VISUAL							
1098.6	8													
		8-4-4	8	.6'	Gray silty sand with minor clay and gravel. Loose, wet.	3	VISUAL							
1096.6	10	3-13-22	35	.5'	Gray silty sand and gravel with minor clay. Dense, wet.	4	VISUAL							
1094.6	12													
		34-24-28	52	.6'	Gray gravel and shale fragments with trace of sand, clay, Very dense, moist.	5	VISUAL							
1092.6	14													
	16	21-29-35	64	.6'	Gray gravel with minor silt, sand and clay. Very dense, wet.	6	VISUAL							
1089.6	18													
		44-50/.4	94+	.8'	Brown gravel with sand, trace of silt. Very Dense, moist.	7	VISUAL							
1087.1	20													
		24-36-44	80	1.4'	Brown sand and silt with minor gravel. Very dense, wet.	8	VISUAL							
1084.6	22													
	24	50-50/.4	100+	1.2'	Brown sandy silt with trace of gravel. Very dense, moist.	9	VISUAL							
1082.1	26													

B-2 (Cont'd.)

ELEV.	DEPTH	STD. PEN. BLOWS/6"	STD. PEN. N	REC. FT.	DESCRIPTION	SAMPLE NO.	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.
1082.1														
	26	29-42-31	73	1.0'	Brown and gray gravel with minor sandy silt. Very dense, wet.	10	VISUAL							
1079.6	28	37-50/.4	87+	.9'	Brown sand and gravel with minor silt. Very dense, wet.	11	VISUAL							
1077.1	30	34-50/.4	84+	.8	Brown fine sandy silt. Very dense, wet.	12	VISUAL							
1074.6	32													
	34	43-50/.3	93+	.8'	Brown silty sand. Very dense, wet.	13	VISUAL							
1070.6	36													
	38													
1066.6	40	17-50/.2	67+	.6'	Brown silty sand with minor gravel and trace of clay. Very dense, moist.	14	VISUAL							
1064.7		100/.4	100+	0	Brown silty sand with minor gravel and trace of clay. Very dense, moist.	15	VISUAL							

BORING COMPLETED

ENGINEERING ASSOCIATES LTD.
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700 WINKLER DR. — WOOSTER, OHIO

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. MED - 42 - 0945
OVER CAMEL CREEK
MEDINA COUNTY — U.S. RT. 42
STA. 499+19.33 TO STA. 499+60.67

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
I.I.I.I.	RLE		DBC	WRH	9/21/81	