GRADE SEPARATIONS WITH THE C.& O. RAILWAY & THE N.Y.C. RAILROAD

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	STATE	

ATH-33-10.26

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
ATH-33- 10.26
ATHENS COUNTY
ATHENS AND DOVER TOWNSHIPS

LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director of Highways in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

The Standard Specifications of the State of Ohio, Department of Highways 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 traffic will be as set forth on the plans and estimates.

The Right of Way for this improvement will be provided by the State of Ohio.

Approved. J.C. Kendle P.E. 4180
Date 5/14/58 Division Deputy Director

Approved. G.H. Makeever
Date 6-20-58 Deputy Director Of Planning and Programming

Approved. W.H. Overman
Date 6-17-58 Engineer Of Bridges

Approved. R.E. Shultz
Date 6-19-58 Engineer Of Location and Design.

Approved. R.E. Meshter
Date 6-19-58 Deputy Director Of Design and Construction.

Approved. ____________
Date ________ First Assistant Director

Approved. George J. Thormeyer
Date 6/21/58 Acting Director of Highways

Print Approved ____________
Date ______ Chief Engineer for the New York Central Railroad Co.

Print Approved ____________
Date ______ Chief Engineer for the Chesapeake & Ohio Railway Co.

CONVENTIONAL SIGNS

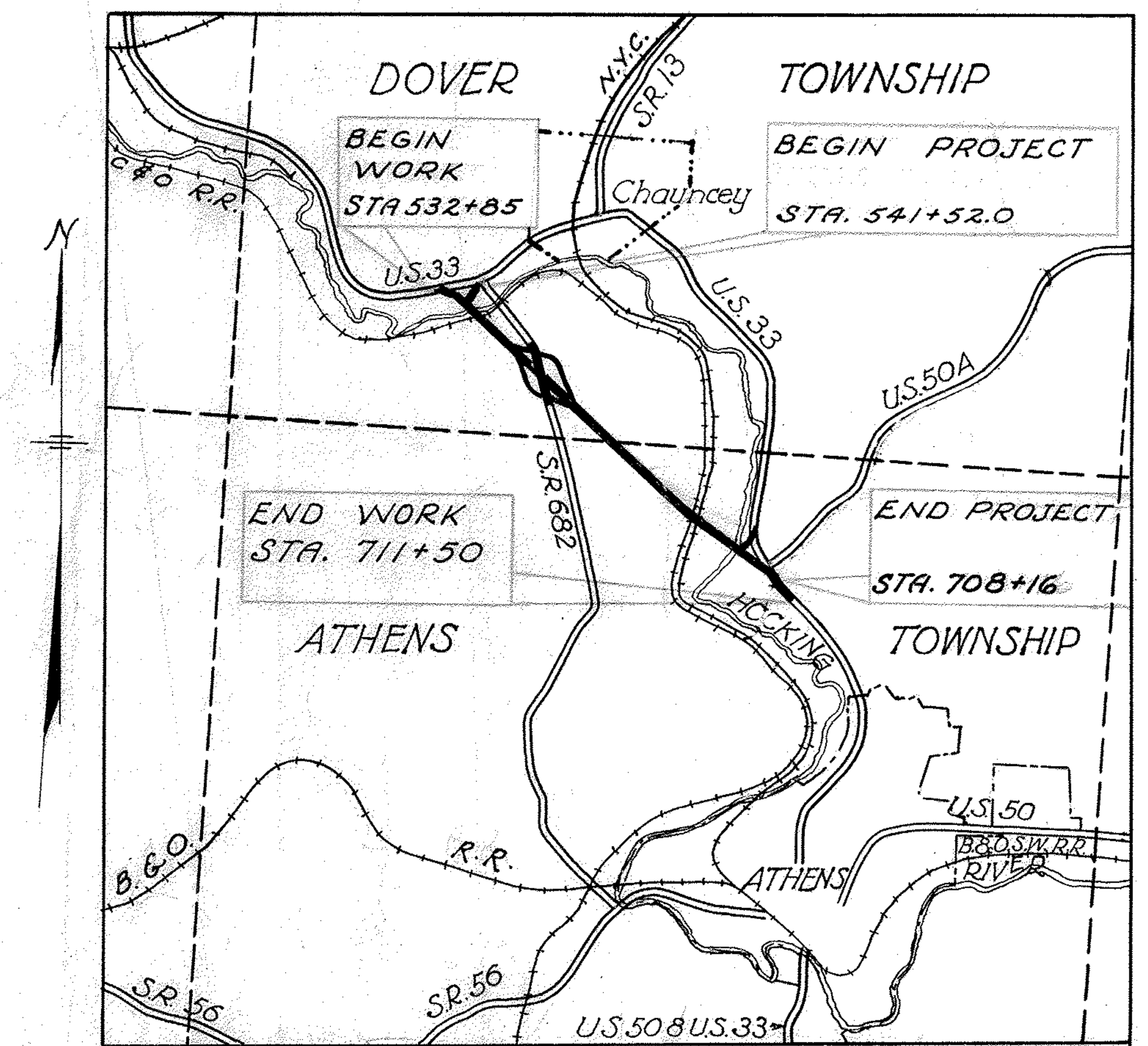
TERRITORIAL BOUNDARIES — COUNTY — TOWNSHIP — SECTION
CENTER LINE
PROPERTY LINES — FENCED — UNFENCED
TREES AND SHRUBS — TREES — SHRUBS
GUARD RAIL — EXISTING — PROPOSED
UTILITY POLES
DRAINS AND UTILITY PIPES — EXISTING — PROPOSED

INDEX OF SHEETS

LINE DATA

BEGIN PROJECT	STATION 541+52
END OF PROJECT	STATION 708+16
GROSS LENGTH	16664 LIN. FT.
ADDITIONS AND DEDUCTIONS	NONE
NET LENTH OF PROJECT 16664 LIN. FT. OR	3.156 MILES

BEGIN WORK	STATION 532+85
END OF WORK	STATION 711+50
NET LENGTH OF WORK	17865 LIN. FT.
ADD FOR APPROACH NO 6A (STA. 2+0 TO STA 10+14)	814 LIN. FT.
ADD FOR APPROACH 4A (STA. 0+47 TO STA. 5+0)	453 LIN. FT.
ADD FOR APPROACH 8A (RT & LT OF STA. 655+30)	1862 LIN. FT.
ADD FOR APPROACH 7A (RT & LT OF STA. 585+01.5)	1650 LIN. FT.
ADD FOR APPROACH 10A (LT. OF STA. 688+56.44)	309 LIN. FT.
TOTAL LENGTH OF WORK	22953 LIN. FT.
	OR 4.347 MILES.



AVERAGE HAUL FROM SIDING — 2.4 MILES
POINT OF DELIVERY — CHAUNCEY

LOCATION PLAN
Scale: 1" = 1 Mile

PORTION TO BE IMPROVED
STATE HIGHWAYS

SCALES

PLAN		1" = 100'
PROFILE	HORIZONTAL	1" = 100'
PROFILE	VERTICAL	1" = 10'
CROSS SECTIONS		1" = 10'

Sheet 189 revised 9-4-58.
Sheet 219 revised 4-7-59.

STANDARD DRAWINGS

T-35	1-2-56	L.J. No 1	7-1-55
L-3	4-1-50	T.J.	5-1-56
L-3A	4-1-50	I-8 M.H. No 1-A	1-3-55
S-27 PC-3	2-20-45	I-15 No 6	12-9-57
S-27 PC-4	1-4-54	AS-1-54	12-1-54
I-14 G	1-22-52	SP-53	7-21-53
I-15 No. 1	8-1-55	P-1-54	12-1-54
I-15 No. 2 A	6-1-57	CS-2-54 (2 Sheets)	12-1-54
I-15 No. 3	12-1-54	AR-1-57	3-1-58
G-7.07	6-1-56	CSB-2-56 (Sheets 2 & 3)	3-1-58
L-1	4-1-50	RB-1-55	3-1-55
RI-1	1-3-55	F-1	4-1-57
BT-50-70-71E No 1	10-1-47		
BT-71-R	3-2-53		
I-1,2,3,4 & 5	4-24-58		
I-8 C.B 2-2-A & B	8-1-56		
I-8 C.B. 1-3 & 1-4	5-1-52		
I-8 C.B. No. 3A	5-1-52		
I-8 C.B. No 7	5-1-52		
I-8 C.B 1-2-A & B	5-1-52		
I-8 C.B. 2-3 & 2-4	5-1-52		
I 8 M.H. No 1	5-1-52		
I-12	7-1-54		
I-21-23	8-1-56		

SUPPLEMENTAL SPECIFICATIONS

M-106.6 (d) Rev.	4-1-58
B-119 Rev.	8-11-57
E-101	1-1-57
5	6-8-55
18 Rev.	2-6-57
S-114 Rev.	8-1-57

FILE NO.	ATHENS COUNTY - ATH-33-10.26
	DATE OF LETTING ________ 195__
	CONTRACT NO. ________

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

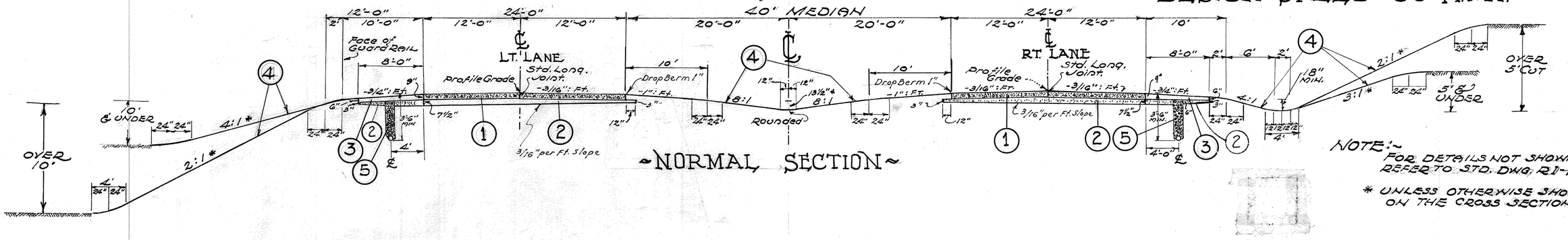
2

ATH-33-10.26

~TYPICAL SECTIONS~

TYPE ~ T-71

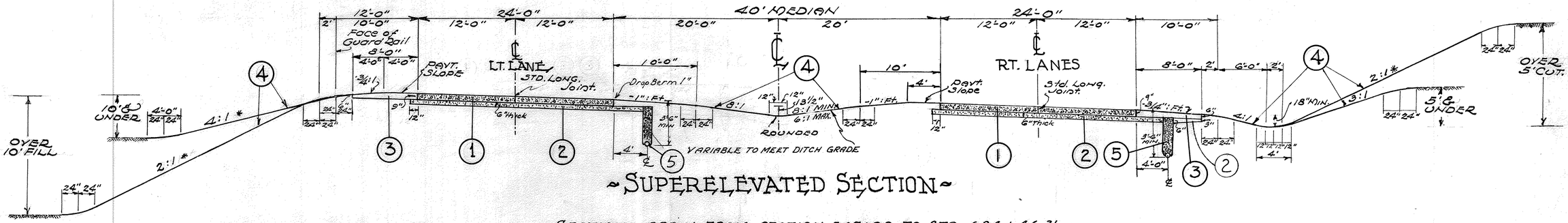
DESIGN SPEED ~ 60 M.P.H.



NOTE:~

FOR DETAILS NOT SHOWN REFER TO STD. DWG. R1-1

* UNLESS OTHERWISE SHOWN ON THE CROSS SECTIONS



SECTIONS APPLY FROM STATION 547+00 TO STA. 684+46.31

UTILITY OWNERS
OHIO BELL TELEPHONE CO. 104 N. FRONT ST. COLUMBUS, OHIO
COMMONWEALTH TELEPHONE CO. ATHENS, OHIO
COLUMBUS & SOUTHERN OHIO ELECTRIC CO. 215 NORTH FRONT ST. COLUMBUS, OHIO
BUCKEYE PIPE LINE CO. 137 WEST NORTH ST. LIMA, OHIO
OHIO FUEL GAS CO. 99 N. FRONT ST. COLUMBUS OHIO
TENNESSEE GAS TRANSMISSION CO. BOX-323 MOREHEAD, KENTUCKY

~LEGEND~

1. ITEM T-71 Reinforced Portland Cement Concrete Pavement (9" thick)
2. ITEM I-22 - Subbase (As Shown) (3" to 7½" Thickness)
3. ITEM I-18 Stabilized Crushed Aggregate Shoulders (6" thick at outside & 9" thick at Pavt. edge) { See Note in proposal for additional stabilization with Calcium Chloride in upper 3 inches of this course.
4. ITEM L-9 Seeding & Protecting
5. ITEM I-4 6" Pipe Underdrain

TRAFFIC COUNT ~ 1956

Passenger		3860
Commercial	TYPE "A"	260
	TYPE "B"	150
	TYPE "C"	300
	TOTAL	4570

APPROVED:~ J. C. Kendle
DIVISION ENGINEER

DATE:~ 8/8/57

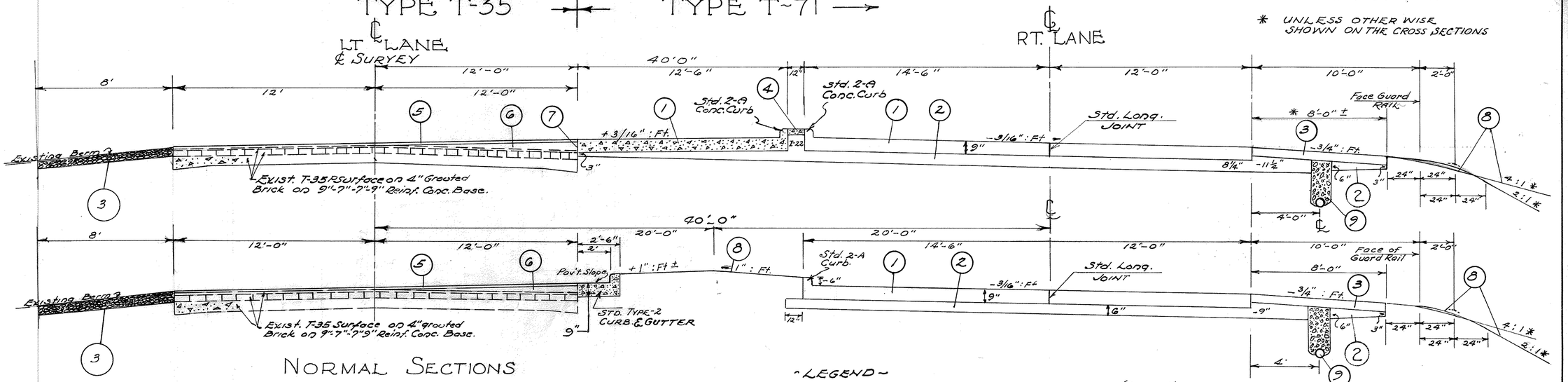
TYPICAL SECTIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

3

ATH-33- 10.26

TYPE T-35 ⟷ TYPE T-71 →

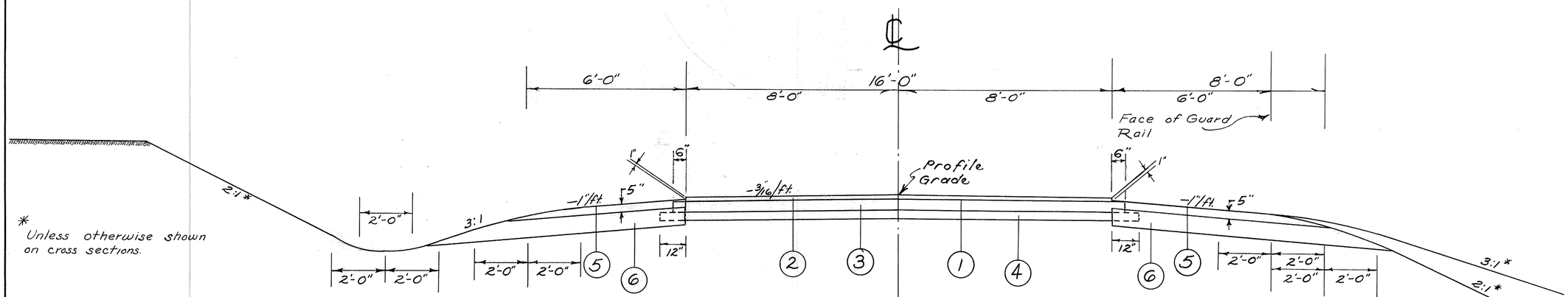


NORMAL SECTIONS

-LEGEND-

1	ITEM	T-71	REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT (9" Thick)
2	ITEM	I-22	SUBBASE (AS SHOWN)
3	ITEM	I-18	STABILIZED CRUSHED AGGREGATE SHOULDERS (6" Thick) (See Note in Proposal for additional stabilization with Calcium Chloride in upper 3 inches of this course)
4	ITEM	I-21	PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT (9" THICK)
5	ITEM	T-35	ASPHALTIC CONCRETE SURFACE COURSE (1½" MIN. THICKNESS, TYPE A (70-85))
6	ITEM	B-35	ASPHALTIC CONCRETE LEVELING COURSE (70-85) Variable Thickness
7	ITEM	B-35	SEALING VERTICAL FACE OF EXISTING PAVEMENT
8	ITEM	L-9	SEEDING & PROTECTING.
9	ITEM	I-4	6" PIPE UNDERDRAIN

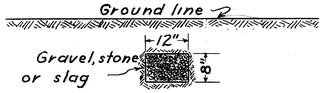
TYPE- T-35



NORMAL SECTION TOWNSHIP ROADS

LEGEND

1	2	ITEM	T-30 Bituminous Prime Coat (SEC. M5.3, MC-0 or MC-1 or SEC. M-5.7 RT-2 or RT-3 Applied at Rate of .35 gal. per Sq. Yd.
3		ITEM	T-35 Asphaltic Concrete Surface Course 1½" thick Type A (70-85)
5	4	ITEM	B-119 Crushed Aggregate Base Course (5" thick)
		ITEM	I-22 Subbase (4" thick)
	6	ITEM	L-9 Seeding & Protecting
		ITEM	I-9 Stone Underdrains No. 2



Underdrains to be placed where and as directed by the Engineer

STONE UNDERDRAIN No. 2

APPROVED: J. C. Hendle
DIVISION DEPUTY DIRECTOR

DATE: 5/3/58

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

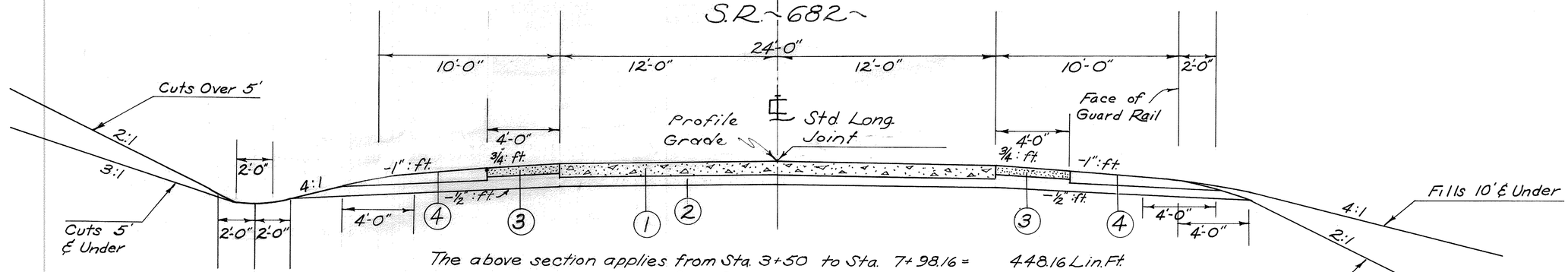
4

ATH-33-10.26

TYPICAL SECTIONS

TYPE T-71

S.R. 682

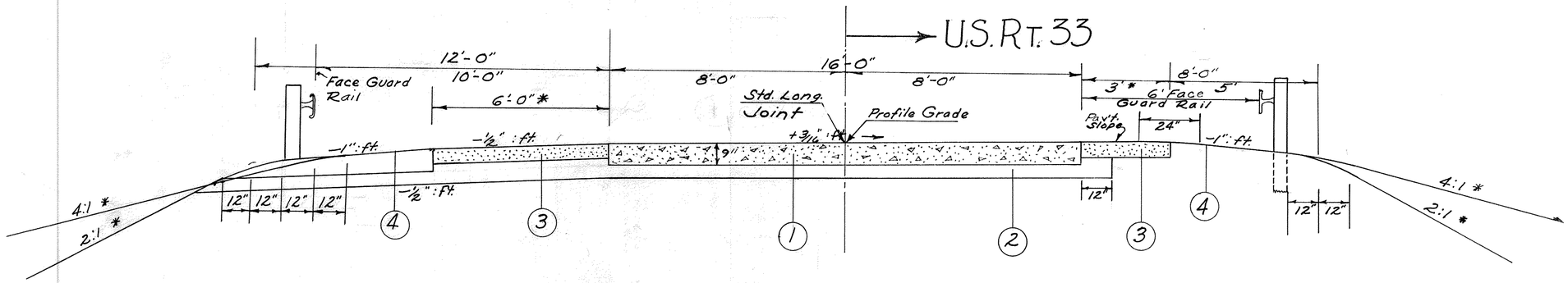


The above section applies from Sta. 3+50 to Sta. 7+98.16 = 448.16 Lin. Ft.
" " " " from Sta. 11+51.64 to Sta. 18+00. = 648.36 Lin Ft.
TOTAL LENGTH - SR 682 1096.52 Lin. Ft.

LEGEND

1. ITEM T-71 Reinf. Portland Cement Concrete Pavement (9" thick)
2. ITEM I-22 Subbase (6" & 9" Thick)
3. ITEM I-18 Stablized Crushed Aggregate Shoulders (6" Thick) (See Note in proposal for additional Stabilization with Calcium Chloride in upper 3 inches of this Course)
4. ITEM L-9 Seeding & Protecting

RAMPS A-B-C-D



*Unless otherwise shown on the cross sections.

APPROVED: J.C. Kendle
Division Engineer

DATE: 1-10-58

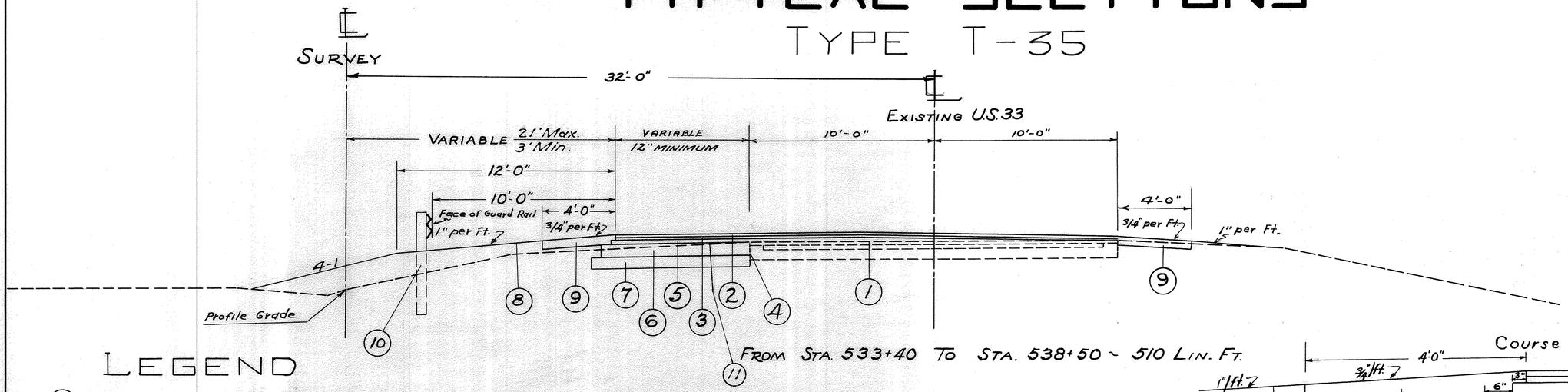
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

ATH-33-10.26

5

TYPICAL SECTIONS

TYPE T-35

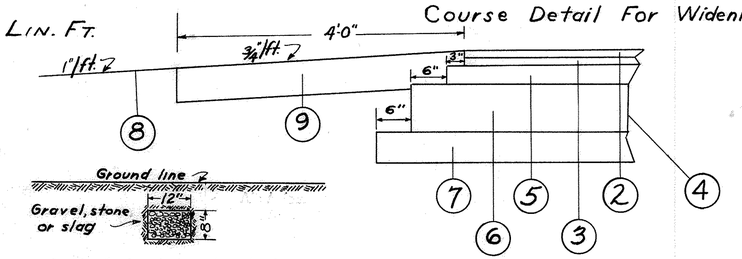


FROM STA. 533+40 TO STA. 538+50 ~ 510 LIN. FT.

LEGEND

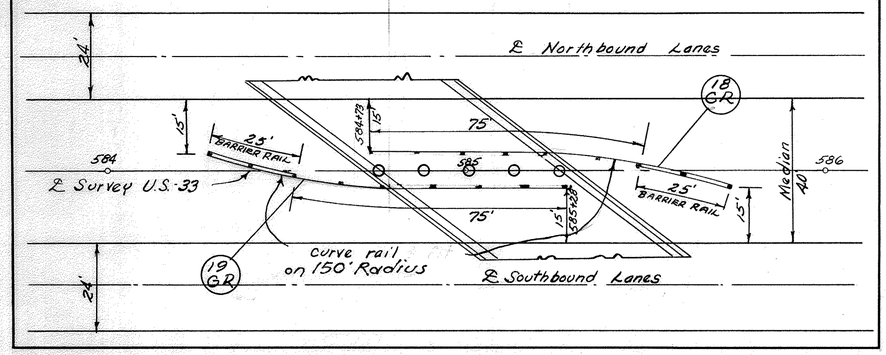
(1) ITEM Existing Pavement (Bituminous Surface on Brick with 6" Concrete Base)
(2) ITEM T-35 Asphaltic Concrete Surface Course (1½" Thick) Type "A" (70-85)
(3) ITEM B-35 1¼" Minimum Thickness Asphaltic Concrete Leveling Course (70-85)
(4) ITEM B-35 Sealing Vertical Face of Existing Pavement
(5) ITEM B-35 Asphaltic Concrete Base Course (70-85), 2¾" Nominal, 1" Minimum
(6) ITEM B-119 8" Crushed Aggregate Base Course
(7) ITEM I-22 Subbase (5" Thick)
(8) ITEM L-9 Seeding & Protecting
(9) ITEM I-18 Stabilized Crushed Aggregate Shoulders (6" Thick) { See Note in proposal for additional stabilization with Calcium Chloride in upper 3 inches of this course.
(10) ITEM I-15 Guard Rail.
(11) ITEM T-30 Bituminous Prime Coat @ 0.35 Gal. per Sq. Yd. Sec. M-5.3, MC-0 or MC-1 or Sec. M-5.7, RT-2 or RT-3.

Course Detail For Widening



Underdrains to be placed where and as directed by the Engineer
STONE UNDERDRAIN No. 2

~(18-GR ~ 19GR)~
TYPICAL GUARD RAIL DETAIL AT BRIDGE PIER
IN 40' MEDIAN ~ BR. ATH.-33-1107
STA. 585+01.05
SEE NOTE ON SHEET ~ 6



APPROVED J.C. Kendle
DIVISION ENGINEER
DATE 5/3/58

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

6

ATH-33-10.26

~ GENERAL NOTES ~

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

QUANTITIES FOR SEEDING

ON U.S.R. 33 AND S.R. 682 AND THE INTERCHANGE RAMPS BETWEEN U.S.R. 33 AND S.R. 682 THE QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN LINES TEN FEET (10 FT.) OUTSIDE THE CONSTRUCTION LIMITS AS SHOWN ON THE CROSS SECTIONS OR TO THE R/W LINE IF SUCH LINE IS LESS THAN TEN FEET FROM THE CONSTRUCTION LIMITS. ALL AREAS OUTSIDE THESE LIMITS WHERE THE VEGETATIVE GROWTH HAS BEEN INJURIOUSLY DISTURBED OR DESTROYED BY THE CONTRACTOR SHALL BE RESTORED AND SEEDED, IN ACCORDANCE WITH THE PROVISIONS OF ITEM L-9, BY THE CONTRACTOR AT HIS OWN EXPENSE. ON THE TOWNSHIP ROADS AND ALSO OTHER APPROACHES THE QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS WITHIN THE WORK LIMITS AS SHOWN ON THE CROSS SECTIONS AND PAYMENT SHALL NOT BE MADE FOR SEEDING BEYOND THESE LIMITS.

UTILITY ADJUSTMENT

ANY AND ALL WORK REQUIRED FOR PUBLIC OR PRIVATE UTILITIES WHICH ARE NOW LOCATED ON THE STATE RIGHT OF WAY WILL BE DONE BY AND AT THE EXPENSE OF THEIR RESPECTIVE OWNERS.

ROUNDING OF ANGULAR INTERSECTIONS

EDGES OF SHOULDERS, BOTTOMS OF DITCHES AND THE INTERSECTIONS OF CUT AND FILL SLOPES WITH THE EXISTING GROUND SHALL BE ROUNDED AS SHOWN ON TYPICAL SECTIONS AND ALSO ON STANDARD DRAWING RI-1, EVEN THOUGH SUCH ROUNDING IS NOT SHOWN ON THE INDIVIDUAL CROSS SECTIONS.

SUPERELEVATION

SUPERELEVATED CURVES SHALL BE BUILT WITHOUT CROWN. THE CROWN SHALL BE WORKED OUT OF THE PAVEMENT IN THAT PORTION BETWEEN THE BEGINNING OF THE TRANSITION AND THE POINT WHERE THE SUPERELEVATION EQUALS TWICE THE CROWN.

I-9 STONE UNDERDRAINS

THE CONTRACTOR SHALL SO GRADE, FINISH, SEED AND MULCH SLOPES SO AS NOT TO IMPEDE THE DRAINAGE OF SUBGRADE DRAINS. THE OUTLET ENDS OF ALL SUCH DRAINS SHALL BE KEPT OPEN AND FREE OF ALL EARTH, MULCH OR OTHER MATERIAL THAT WOULD TEND TO BLOCK OR IMPEDE THE FREE FLOW OF WATER THEREFROM AND SHALL BE APPROVED BY THE ENGINEER BEFORE FINAL ACCEPTANCE.

ITEM I-15 GUARD RAIL REMOVED AND REBUILT, AS PER PLAN

THE SPECIFICATION I-15.08 WILL GOVERN ENTIRELY, EXCEPT THAT CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT PRESENT POSTS ARE STEEL POSTS AND THESE SHALL BE USED IN RE-ERECTION. FROM STATION 533+35 TO 537+10 ON THE RIGHT, THE GUARD RAIL LISTED FOR REMOVAL AND REBUILDING HAS STEEL POSTS. ALSO THE GUARD RAILS WILL BE REMOVED FROM STATION 543+31 TO ALONG THE ABANDONED LOCATION OF S.R. 33 TO THE JUNCTION WITH S.R. 682 WHICH IS LISTED FOR REMOVAL AND REBUILDING. THIS ALSO HAS STEEL POSTS.

ITEM I-22 SUBBASE

THE ENGINEER WILL NONPERFORM THE SUBBASE BETWEEN STATIONS 538 TO 544 AND 574+50 TO 576+50 IF GRANULAR MATERIAL IS ENCOUNTERED AS INDICATED BY THE SOIL PROFILE.

ITEM I-4 PIPE UNDERDRAINS

THE ENGINEER SHALL NONPERFORM I-4 PIPE UNDERDRAINS IN THE AREA BETWEEN STATIONS 538 ± 544 AND 574+50 ± 576+50 IF GRANULAR MATERIAL IS ENCOUNTERED IN CONSTRUCTION AS INDICATED BY THE SOIL PROFILE.

T-10 TRAFFIC COMPACTED SURFACE COURSE (FOR SURFACING AND MAINTAINING TEMPORARY TRAFFIC LANES)

THE GRADING REQUIREMENTS OF THIS MATERIAL AS SHOWN IN SPECIFICATION T-10.02 SHALL BE CHANGED TO MEET THE FOLLOWING REQUIREMENTS:

SIEVE SIZE	TOTAL PER CENT PASSING
1-1/2"	100
1"	90-100
3/4"	60-100
3/8"	40-60
NO. 4	15-25

CLAY (MATERIAL PASSING NO.200 SIEVE) NOT TO EXCEED 10 PER CENT

ITEM E-101 ROADWAY EXCAVATION (SUPPLEMENTAL SPECIFICATION E-101). **HIGH EMBANKMENTS**

ALL EMBANKMENTS OF A HEIGHT OF 10' OR GREATER, FROM THE BEGINNING OF THE PROJECT TO STA. 574 SHALL BE SUBSTANTIALLY COMPLETED TO SUBGRADE ELEVATION AT LEAST 90 DAYS PRIOR TO THE PLACING OF PAVEMENT THEREON.

A TEMPORARY GRADE CROSSING MAY BE INSTALLED OVER THE TRACKS OF THE NEW YORK CENTRAL RAILROAD AND THE CHESAPEAKE AND OHIO RAILWAY WITHIN THE LIMITS OF THE RIGHT OF WAY BOUNDARY LINES ON THE NORTH AND SOUTH SIDES PRODUCED ACROSS THE PROPERTIES OF THE RAILROAD COMPANIES, IF THE CONTRACTOR ARRANGES WITH THE RAILROAD COMPANIES FOR SUCH CROSSINGS AND IF NECESSARY EXECUTE THEIR REGULAR FORM OF PRIVATE GRADE CROSSING AGREEMENTS COVERING THE CROSSINGS DESIRED, PAYING ALL CONSTRUCTION, MAINTENANCE, REMOVAL, PROTECTION AND OTHER COSTS, INCLUDING INSURANCE. THE CONTRACTOR SHALL CONSTRUCT, MAINTAIN AND REMOVE THE EMBANKMENTS, SURFACING, DRAINAGE ITEMS, ETC., FOR THE TEMPORARY HAUL ROAD THAT JOINS THE TEMPORARY GRADE CROSSINGS AND RESTORE THE ORIGINAL AREA BY SCARIFYING AND SEEDING, SUCH WORK TO BE IN ADDITION TO THE ITEMS COVERED IN HIS AGREEMENT WITH THE RAILROAD COMPANIES. THE COST OF **ALL THE ABOVE WORK INCLUDING RESTORATION AND SEEDING, SHALL BE INCLUDED FOR PAYMENT IN ITEM E-101, ROADWAY EXCAVATION.**

THERE IS A PRIVATE FARM DRIVE OFF THE RIGHT OF WAY AND LOCATED ABOUT 240 FEET NORTH OF STRUCTURE 1258 NOW IN USE AND THIS DRIVE HAS A CROSSING OVER THE TRACK OF THE C & O RAILWAY AND OVER THE TRACK OF THE N.Y.C. RAILROAD. IF THE CONTRACTOR MAKES ARRANGEMENTS WITH THE OWNER AND WITH THE RAILROAD COMPANIES TO USE THE FARM DRIVE AND THE RAILROAD CROSSINGS AND TO BUILD ANY OTHER APPROACHES OUTSIDE THE LIMITS OF THE RIGHT OF WAY THAT HE CONSIDERS NECESSARY OR DESIRED, HE NEED NOT BUILD OTHER CROSSINGS ABOVE REFERRED TO WITHIN THE LIMITS OF THE RIGHT OF WAY PRODUCED ACROSS THE RAILROAD TRACKS UNLESS HE CHOOSES TO DO SO.

ROCK ENCOUNTERED IN EXCAVATION TO BE PLACED AS EMBANKMENT AS SHOWN ON CROSS SECTIONS FROM STATION 563+00 TO STATION 584+50: The plans require that the base course or courses of embankment on cross sections from Sta. 563+00 to 584+50 incl, be constructed of rock fill. This rock fill shall be placed and constructed in accordance with Spec. E-101.08(d). This latter specification states in part, "To the extent of project requirements for embankment, all rock from excavation shall be used in embankment." It also states in part "Rock, in general, shall be placed so as to form the base of the embankment for the full width of the cross section;" etc. The soil profile shows on sheet 3 of same a course of sandstone about five feet thick in area to be excavated above elevation 750. at Sta. 613; also a course of sandstone about seven feet thick in the area to be excavated above elevation 750. at Sta. 625; and further on sheet 4 of the soil profile a course of sandstone about five feet thick in the area to be excavated above elevation 730. at approximately Sta. 651+50. The sandstone encountered in E-101, roadway excavation, in these areas and above the elevations listed shall be placed so far as required to form the foundation of embankment sections from Sta. 563+00 to 584+50 as shown on these cross sections. It shall be placed in accordance with Spec. E-101.08(d), generally for the full width of the cross sections as shown, except in a few cases where part width is shown. It is estimated that there will be sufficient rock encountered in the areas defined and above the elevations defined to construct the rock fill as shown on these cross sections. It is not intended that construction of these cross sections shall be delayed to the extent of other possible small amounts of rock that might be encountered deeper in cuts and roadway areas. Accordingly, an item of E-4, borrow, rock for rock fill, as per plan, of 15,000 cubic yards is included in the plans summary. If the available rock as specified previously herein is not sufficient to complete the requirements of the cross sections from Sta. 563 to 584+50 as shown, this E-4, borrow, rock for fill, as per plan, shall be used to supplement the requirements. It may be done in accordance with the Contractor's schedule and need to construct this embankment and without waiting for other possible rock that might be encountered at lower depths in the E-101 roadway excavation.

ITEM E-4, BORROW, ROCK FOR ROCK FILL, AS PER PLAN: This item shall consist of furnishing rock for rock fill required and shown on cross sections from Sta. 563+00 to 584+50 and it shall be placed in accordance with Spec. E-101.08(d). It is the intent of the plans to use the sandstone rock as defined in previous note and shown on sheets 3 and 4 of the soil profile for the rock embankment required on these cross sections, and this item is added for use only in case there is not sufficient rock encountered in the areas defined to complete the requirements of these cross sections. This item shall not be resorted to unless it is found that the defined available supply is not sufficient to complete the rock fill portion of the cross sections noted. It is not included in plans estimates of embankment requirements.

SALVAGE OF SMALL STRUCTURES LOCATED ON PRIVATE DRIVES AND APPROACHES: Where small bridges and structures on private drives and approaches are listed for removal or removal and salvage, the Contractor shall remove and pile near the site plank, flooring and other items in their superstructures including joists, either wood, steel beam or steel T rails and these shall become the property of the owner using the approach or on whose land the approach is located.

ITEM I-15, GUARD RAIL, STEEL BEAM STD. & BARRIER TYPE (DEEP) RUNS NO. 18 GR AND NO. 19 GR, AS PER PLAN: The guard rail for the protection of proposed bridge pier of Structure No. 1107 located near the outside shoulder lines shall be constructed as per plan drawing on sheet 5. It shall be set out 3'-6" from the face of the pier columns. The ends of the guard rail runs on the right of and extending toward approaching traffic shall be 15 feet out from the pavement edge. If posts are located over pier footings and normal post depths are not available, the posts shall be shortened and provided with anchors in accordance with the "Footing Anchor" detail shown on standard drawing I-15 Nº 6. Any additional costs involved in anchoring these posts shall be included in the unit price bid per lineal foot for Item I-15, Guard rail, steel beam standard type (deep).

Any details not shown on special plan on sheet 5 shall be as per Standard Drawing I-15 No. 2-A, or I-15 Nº 6.

The erection of the guard rail for the protection of the piers in the median area shall be in accordance with detail drawing shown on sheet 5.

The median areas and outside shoulder areas shall be graded and shaped as directed by the Engineer, to accomodate the guard rail and to afford proper drainage.

~GENERAL NOTES~

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

7

ATH-33-10.26

CONTINUANCE OF TRAFFIC REQUIRED

CONTRACTOR SHALL SO PLAN AND CONDUCT HIS OPERATIONS THAT TRAFFIC IS CARRIED OVER THE PRESENT ROADS IN THE OVERLAPPING LOCATIONS, AT JUNCTIONS AND INTERSECTIONS, AND ALSO MAINTAINED OVER THE TOWNSHIP ROADS AT ALL TIMES. AS SOON AS THE BRIDGES ARE CONSTRUCTED ON THIS PROJECT AND THE PAVEMENT COMPLETED, TRAFFIC SHALL ALSO BE TURNED OVER IT, AT THE SAME TIME PROVIDING FOR A CONTINUATION OF TRAFFIC OVER THE PRESENT ROADS. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PRESENT PAVEMENT ON ROUTE 33 IN THE OVERLAPPING LOCATIONS, THAT IS THE OVERLAPPING LOCATION AT THE WEST END AND THE OVERLAPPING LOCATION AT THE EAST END. THE STATE M & R DEPARTMENT WILL MAINTAIN THE PRESENT PAVEMENT ON THE PORTION TO BE ABANDONED OF ROUTE 33, A PART OF WHICH WILL REMAIN S.R. 13, EXCEPT THAT THE CONTRACTOR SHALL MAINTAIN THE APPROACHES TO BE CONSTRUCTED TO THIS ROUTE AND ALSO TO U.S.R. 50-A.

ALL THE PROVISIONS OF SPECF. G-7.07 PERTAINING TO TRAFFIC MAINTENANCE, MAINTENANCE OF TEMPORARY TRAFFIC SURFACES, GUARDS, SIGNALMEN, ETC., SHALL BE CAREFULLY OBSERVED. WHERE NECESSARY TO CARRY TRAFFIC IN TEMPORARY TRAFFIC LANE OR LANES THE CONTRACTOR SHALL FIRST HAVE THESE READY AND APPROVED BY THE ENGINEER BEFORE DESTROYING THE PRESENT FACILITY.

THE TOWNSHIP ROAD THAT NOW CROSSES AT STATION 563+15 WILL NOT BE INTERFERED WITH OR ABANDONED UNTIL CONTRACTOR HAS CONSTRUCTED THIS TOWNSHIP ROAD IN THE NEW LOCATION AS SHOWN ON THE PLANS AND TRAFFIC TURNED ONTO IT. AS SOON AS TRAFFIC IS OVER THE NEW LOCATION OF THE TOWNSHIP ROAD, THE PRESENT TOWNSHIP ROAD MAY BE ABANDONED **WHERE REQUIRED BY PROPOSED CONSTRUCTION.**

THE PRESENT TOWNSHIP ROAD THAT NOW CROSSES AT STATION 658+90 SHALL BE MAINTAINED FOR TRAFFIC AND KEPT OPEN TO TRAFFIC UNTIL RECONSTRUCTED IN ITS NEW LOCATION AS REQUIRED BY PLANS, CROSSING THE NEW FACILITY AT APPROXIMATELY STATION 655+30.

TRAFFIC OVER S.R. 682 SHALL BE MAINTAINED AT ALL TIMES

ITEM S-15 TEMPORARY RUN-AROUND *STRUCTURE &* APPROACHES, AS PER PLAN, SHALL BE CONSTRUCTED ON THE WEST SIDE OF STRUCTURE NO. 1107 TO CARRY TRAFFIC WHILE THIS STRUCTURE IS BEING BUILT. THE LOCATION IN PLAN OF THIS TEMPORARY RUN-AROUND IS SHOWN ON SHEET *120* AND THE GRADIENT TO WHICH IT IS TO BE BUILT IS SHOWN ON SHEET *166*. THIS TEMPORARY RUN-AROUND SHALL BE PAVED WITH PAVEMENT TYPE CLASS B, 20' WIDE AND THE MINIMUM ROADWAY WIDTH SHALL BE 28'. THE NEW 6' CHANNEL WEST OF STATION 7 ON S.R. 682 SHALL BE EXCAVATED AND ALSO SUFFICIENT CHANNEL EXCAVATION MADE TO LEAD THE PRESENT STREAM INTO IT AS SHOWN ON SHEET *120*. A 78"M-6.4(g)10-10GA. OR M-106.6(d) PIPE CULVERT, SHALL BE CONSTRUCTED IN THIS CHANNEL UNDER THE EMBANKMENT OF THE TEMPORARY RUN-AROUND. IT WILL BE NOTED THAT THE TEMPORARY RUN-AROUND AND ALIGNMENT OVERLAPS S. R. 682 ALIGNMENT AT THE WEST END AND ALSO FOLLOWS IN PART THE ALIGNMENT OF RAMP B ON THE EAST END. HOWEVER THE GRADIENTS DO NOT COINCIDE EXCEPT FOR A SHORT DISTANCE. THE LUMP SUM PAYMENT FOR THIS ITEM S-15 TEMPORARY RUN-AROUND *STRUCTURE &* APPROACHES, AS PER PLAN, SHALL INCLUDE FURNISHING, PLACING AND SUBSEQUENTLY REMOVING THE 78"PIPE, EXCEPT THAT AFTER REMOVAL, APPROVED SECTIONS OF THE 78" CULVERT MAY BE INCORPORATED INTO PERMANENT CULVERTS ON THE PROJECT AS NEW PIPE IF THEY MEET PLAN AND SPECIFICATION REQUIREMENTS AND ARE NOT DAMAGED IN ANY WAY.

THE PORTIONS OF THE PRESENT ROAD WITHIN THE LIMITS OF THE CONTRACT, THAT IS OF S.R. 682, SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL SUCH TIME AS HE REROUTES TRAFFIC OVER THE NEW GRADE SEPARATION STRUCTURE NO. 1107. THIS PORTION OF THE ROAD NOW HAS A BITUMINOUS MIXED-IN-PLACE SURFACE COURSE AND SUCH MAINTENANCE BY THE CONTRACTOR SHALL BE BY BITUMINOUS PATCHING, USING THE METHODS AND MATERIALS FOLLOWED BY THE STATE M & R DEPARTMENT.

WHEN STRUCTURE NO. 1107 IS COMPLETED CONTRACTOR SHALL CONSTRUCT TEMPORARY TRAFFIC LANES SURFACED WITH T-10 MATERIAL ON SUCCESSIVE EMBANKMENT LIFTS AT EACH END OF THE STRUCTURE TO CARRY TRAFFIC AND SHALL CONSTRUCT THE I-22 SUBBASE, AND THE T-71 PAVEMENT UNDER TRAFFIC. THE T-71 PAVEMENT SHALL BE CONSTRUCTED IN HALF WIDTHS, TRAFFIC BEING CARRIED ON THE OTHER HALF OF THE ROADWAY AREA.

T-10 TRAFFIC COMPACTED SURFACE COURSE MODIFIED AS PER PLAN SHALL BE CONSTRUCTED ON ALL TEMPORARY TRAFFIC LANES. A ONE-WAY TRAFFIC LANE SHALL BE 10' WIDE WITH SHOULDERS AT LEAST 3' WIDE ON EACH SIDE AND A TWO-WAY TRAFFIC LANE SHALL BE 20' WIDE WITH SHOULDERS 4' WIDE ON EACH SIDE, EXCEPT AT THE TOWNSHIP ROADS. AT THE TOWNSHIP ROADS A ONE-WAY TRAFFIC LANE MAY BE 9' WIDE WITH 3' SHOULDERS ON EACH SIDE AND A TWO-WAY TRAFFIC LANE 18' WIDE WITH 3' SHOULDERS ON EACH SIDE. THE SURFACING OF THESE TEMPORARY TRAFFIC LANES WILL BE T-10 MATERIAL OF A GRADED MIX AS CALLED FOR ON THE PLANS AND THIS SHALL BE PUT DOWN IN THICKNESS AS ENGINEER DIRECTS, MAINTAINED IN A SMOOTH CONDITION IN ACCORDANCE WITH SPECF. G-7.07, AND MATERIAL ADDED FROM TIME TO TIME AS THE ENGINEER DIRECTS.

ALSO CALCIUM CHLORIDE SHALL BE ADDED AS A DUST PREVENTIVE FROM TIME TO TIME AS THE ENGINEER DIRECTS. PAYMENT FOR T-10 MATERIAL SHALL BE AT THE UNIT BID PRICE PER CU. YD. FURNISHED AND APPLIED AND MEASURED LOOSE IN THE VEHICLE AT THE POINT OF DELIVERY; PAYMENT FOR CALCIUM CHLORIDE FURNISHED AND APPLIED SHALL BE AT THE UNIT BID PRICE PER TON; PAYMENT FOR CONSTRUCTING, MAINTAINING AND LATER REMOVING TEMPORARY TRAFFIC LANES, EXCEPT FOR THOSE SEPARATELY ITEMIZED UNDER ITEM S-15 AND EXCEPT FOR FURNISHING AND PLACING ITEMS T-10 AND M-10, IS INCLUDED IN THE LUMP SUM BID FOR MAINTAINING TRAFFIC, INCLUDING LIGHTS, SIGNS BARRICADES AND WATCHMEN, TWENTY FOUR HOUR SERVICE.

SUBGRADE COMPACTION
The subgrade for drives and mailbox turnouts paved with B-119 material shall be compacted for a depth of six(6) inches to the density requirements shown in table III, item E-101. Payment for subgrade compaction, as specified above, shall be included in the unit price bid for item E-101, roadway excavation.

CONTRACTION JOINTS
Although specific locations of certain contraction joints have been detailed on this plan, no waiver of the specifications is intended and the maximum distance between contraction joints shall in all cases be in accordance with standard drawing T.J.

CHANNEL EXCAVATION
Where channel excavation is carried through a proposed pipe structure site, additional excavation required to obtain a stable foundation for the structure shall be measured and paid for as item E-3, channel excavation.

ROCK SUBGRADE
The Contractor shall be paid for the thicknesses of I-22 material shown on the typical sections in rock excavation areas. Any pockets in the rock below the plan subgrade excavation shall drain either longitudinally or horizontally and all irregularities in the rock below this elevation shall be filled with I-22 material at no additional cost to the State.

NON-RIGID PAVEMENT REMOVAL
Removal and disposal of existing non-rigid pavement, unless otherwise indicated on these plans, shall be measured and paid for as item E-101, Roadway Excavation.

E-101 ITEMS
All references to Item E-1, or sections thereof, appearing throughout these plans shall be considered to read item E-101 or the respective sections thereof.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

8

ATH-33-10.26

Existing U.S. 33

Twp. Rd.

Br. No. ATH-33-1183

Run

Athens County Infirmary

Sunday Creek

VILLAGE OF CHAUNCEY

S.R. 13

Proposed S.R. 13

Hocking River

NEW YORK CENTRAL RAIL ROAD

C&O RAIL ROAD

T.R. 682

Proposed S.R. 682

Existing U.S. 33

DOVER TWP. Sec. 19
ATHENS TWP. Sec. 24

DOVER TWP. Sec. 19
DOVER TWP. Sec. 25

BEAUMONT

Br. No. ATH-682-0436

Ramp "A"

Ramp "B"

Ramp "C"

Ramp "D"

℄ PROPOSED NEW LOCATION

S 37°-42'E

Proposed Bridge
Br. No. ATH-33-1107
Spans-55.5'-92.5'-92.5'-55.5'

Co. Rd. No. 110

Existing ℄ 682

THE PLAINS

Begin Project
54H+52

Proposed Bridge
Br. No. ATH-33-1054
Spans-83'-114'-114'-114'-83'

Twp. Rd.

Begin Work
532+85

To Logan

Proposed Bridge
Br. No. ATH-33-1287
Spans-72'-90'-90'-90'-72'

Proposed Bridge
Br. No. ATH-33-1258
Spans-98'-60'-60'-60'-98'

S 54°-26'E

Existing U.S. 50
To Marietta

To Athens

End Project
708+16

Proposed Bridge
Br. No. ATH-33-1321
Spans-32'-40'-32'

End Work
711+50

GENERAL LOCATION PLAN

SCALE ~1"=500'

STRUCTURES 20' SPAN & UNDER						
No.	Struct. No.	Sheet	Sta.	Type	Size	Remarks
6-C	ATH-33-1072	170	566+00	Sec. M-6.4d	30"x266'	Rt ∠s to ℄
7-C	ATH-33-1092	171	Lt. 576+43.3	Sec. M-6.6(c) 6.4(g)	78" x 334'	Ramp "A"
8-C	ATH-33-1098	172	579+62	Sec. M-6.8(b) 6.6(b)	18" x 182'	13° L.F. Skew
9-C	ATH-33-1102	172	582+00	Sec M-6.8(b) 6.6(b)	30" x 158'	Rt ∠s to ℄
10-C	ATH-33-1105	171	Lt. 582+42	Sec M-106.6(d) 6.4(g)	78" x 220'	Parallel to ℄
11-C	ATH-33-1108	173	Lt 585+20	Sec. M-6.6(c) 6.4(d)	48" x 158'	Ramp D
12-C	ATH-33-1111	168	0+80	Sec M 6.8(b) 6.6(b)	18" x 116'	Ramp "B"
13-C	ATH-33-1111	174	586+74.55	Pipe for Rdwy. Culv.	66" x 226'	41°35' R.F. Skew
14-C	ATH-33-1116	174	Rt 589+00	Sec. M-6.6(c) 6.4(g)	66" x 302'	RAMP "C"

GUARD RAIL					
No	From Sta	To Sta	Side	Lin. Ft.	Barrier Type Guard Rail Lin Ft
12-GR	5+00 Ramp A.	7+91.15 SR-682 Rt.	Lt.	700.0	
13 GR	579+50	586+75	Lt.	725.0	
14 GR	11+17.15 SR682 Rt	To Sta 2+50 Ramp "B"	Rt.	350.0	
15 GR	2+00 Ramp "B"	14+05 SR 682	Rt	287.5	
16 GR	4+50 SR682 Rt	1+25 Ramp "A"	Lt	87.5	
17 GR	585+00	589+50	Rt.	450.0	
18 GR	584+73	585+73	Lt. Media	75.0	25.0
19 GR	584+28	585+28	Rt Media	75.0	25.0
20 GR	5+57 Lt. SR 682	6+00 Ramp "D"	Lt.	600.0	
21 GR	6+82 SR 682	8+32.65 Lt.	Lt.	150.0	
22 GR	3+50 Ramp D	5+50 Ramp "D"	Rt.	200.0	
23 GR	11+58.65 SR 682	3+75 Ramp "C"	Rt.	500.0	
24 GR	14+63 682	15+00 SR 682	Rt.	37.5	
25 GR	15+40 SR 682	17+40 SR 682	Rt.	200.0	
26 GR	16+00 SR 682	602+75	Rt.	1725.0	
TOTAL				6162.5	50.0*

*Detail on Sheet 5

APPROACHES		
No.	Sta.	Details on Sheet
7-A	585+01.05	113-119 incl
7-A-1	Lt Sta 5.	121-140-1-2-3-4-5-6
7-A-2	8+85	146
7A-3	9+25	146
7-A-4	14+30	166.
7-A5	15+20	145
7-A6	16+30	145

B.M.: Spike in Power Pole. 150' Rt. Sta. 587+70 ELEV. 679.35

1-4 UNDERDRAINS No's. 8-UD to 13UD SEE TABLE ON SHEET 9

STORM SEWERS		
No	STA	Detail on Sheet
5-SS	572+50	38
6-SS	577+00	42
7-SS	586+00	47
8-SS	Ramp "C"	139

B.M.-Spike in 36" Elm Rt. Sta. 574+00 Elev-671.09

I-10 DUMPED ROCK CHANN. PROTECT.			
No.	STA	Cu. Yds.	Remarks
1X-CP	Lt. 564+30	6	Junct. Twp. Rd. ditch & Chann.
TOTAL		6	

I-3 ROADWAY DRAINAGE			
No.	From Sta.	To Sta.	10"-I-3 Lin. Ft.
1-RD	579+75	581+99	224
2-RD	582+01	585+75	374
TOTAL			598

PAVED GUTTER				
No.	From Sta	To Sta.	Side	Type 2 Lin. Ft.
2-PG	1+73 Ramp B	579+36	Rt.	690
3 PG	2+90 Rt	Ramp B	Rt.	24
TOTAL				714

B.M. Spike in 18" Sycamore 300 Rt. Sta. 593+00 Elev. 696.17

PIPE REMOVED				
Sta	To Sta.	Size	Side	21" & under Lin. Ft.
567+88	℄	12" VSP	℄	54
583+19	120' Lt.	12" VSP	Lt.	76
585+92	90' Rt	21" VSP	Rt.	16'
587+39	142' Rt.	12"	Rt.	15
589+80	140' Lt.	12" Casing	Lt.	26
TOTAL				187

REMOVAL OF EXIST. STRUCTURES	
Description	Lump
Lt. 563+50 - Conc. Slab top Br. 13' x 14' x 5' - TWP RD. Remove-Disposal	Lump
Lt. 583+90 - Conc. Slab Top. Br. 7'-6" x 7'-6" x 20'-6" - Remove + Disposal	Lump
Rt. 584+90 Conc. Water Trough 7'-6" Diam x 3' H. Remove + Disposal	Lump
*Rt. 585+50 Stone Abut. Plank Fl. Br. 21' Span x 11' - Stringers Steel Rail	Lump
*Rt. 587+90 Stone + Conc. Abut Plank Fl. 10' Span x 12' wide - Br. Steel rail Stringers	Lump

* REMOVE AS PER PLAN

GUARD RAIL				
No.	FROM STA	TO STA	SIDE	LIN. FT.
27 GR.	597+75	599+25	Lt.	150.0
28 GR.	602+50	603+75	Lt.	125.0
	TOTAL			275.0

STRUCTURES 20' SPAN & UNDER						
No.	STRUCT. No.	Sheet.	STA.	TYPE	SIZE	REMARKS
15-C	ATH 33-1133	175	598+00	Pipe For Rdwy. Culv.	42" x 198'	Skew 18°30' L.F. open channel
16-C	ATH-33-1141	176	602+70	Pipe For Rdwy. Culv.	42" x 162'	Skew 15° L.F. open channel
17-C	ATH-33-1166	177	615+50	Sec. M- 6.6(b) 6.8(b)	24" x 134'	Rt ∠s to ℄ Place Dump Rock on Lt slope
18-C	ATH-33-1176	178	621+00	Sec. M 6.6(b) 6.8(b)	30" x 128'	Rt. ∠s to ℄ place 30" Storm Sewer on Rt.

PAVED GUTTER					
No.	FROM STA.	To. STA	SIDE	TYPE-1 LIN. Ft.	TYPE 1 (Modified) Lin. Ft.
4-PG	615+40	615+72	Lt.	12	20 *
5-PG	615+12	615+72	Rt.	60	
6-PG	620+90	621+24	Lt.	14	20 *
TOTAL				86	40 *

*SEE STRUCT Detail.

STORM SEWERS		
NO	STA	Detail on SHEET
9-SS	600+00	53
11-SS	Rt. 621+00	178

B.M.: Spike in 26" Walnut ~ 80' Rt. Sta. 596+75 ELEV. 697.57

1-4 UNDERDRAINS

No's. 12-UD to 15-UD SEE TABLE ON SHEET 9

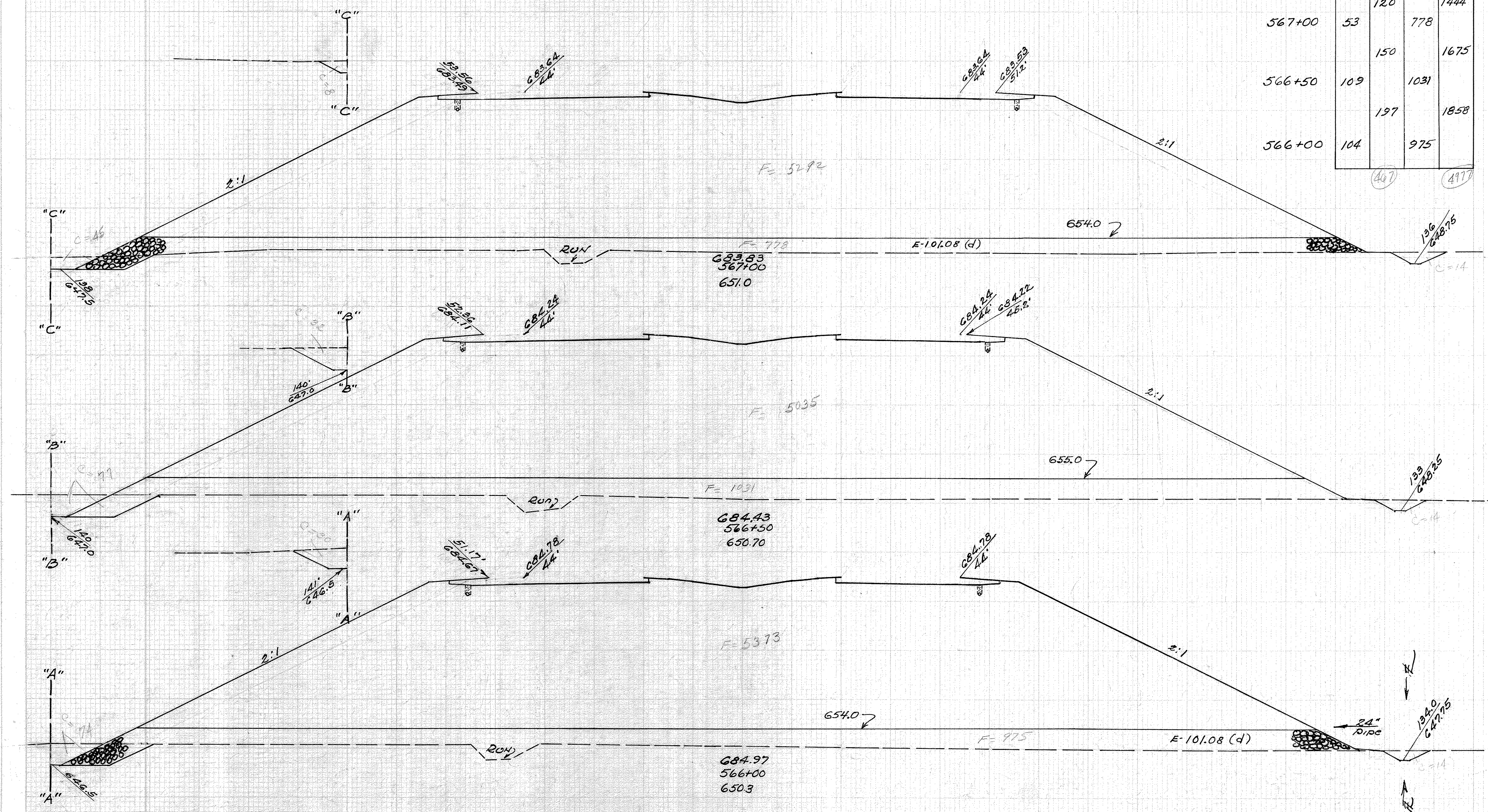
B.M.: Spike in 30" Sycamore 200' Rt. Sta. 613+00 ELEV. 733.67

B.M.: Spike in 24" Sycamore ~ 300' Rt. Sta. 621+50 ELEV. 746.44

I-10 RIPRAP TYPE "A" & I-10 DUMPED ROCK CHANNEL PROTECTION					
No	From STA	TO STA	SHEET No	RIPRAP TYPE "A" SQ. Yds.	I-10 Channel protection Cu. Yds.
1-CP.	598+35	601+50	52-53 54		20
2-CP	602+50	608+00	54	306	
3-CP	603+00	604+50	54	83	
4-CP	611+50	612+50	54	56	
	TOTAL			445	20

ATH-33- 10.26

Station	CHANNEL EXCAVATION E.A.	CHANNEL EXCAVATION Cu.Yds	E-101.08(d) Rock Emb. E.A.	E-101.08(d) Rock Emb. Cu.Yds.
		120		1444
567+00	53		778	
		150		1675
566+50	109		1031	
		197		1858
566+00	104		975	
		467		4977

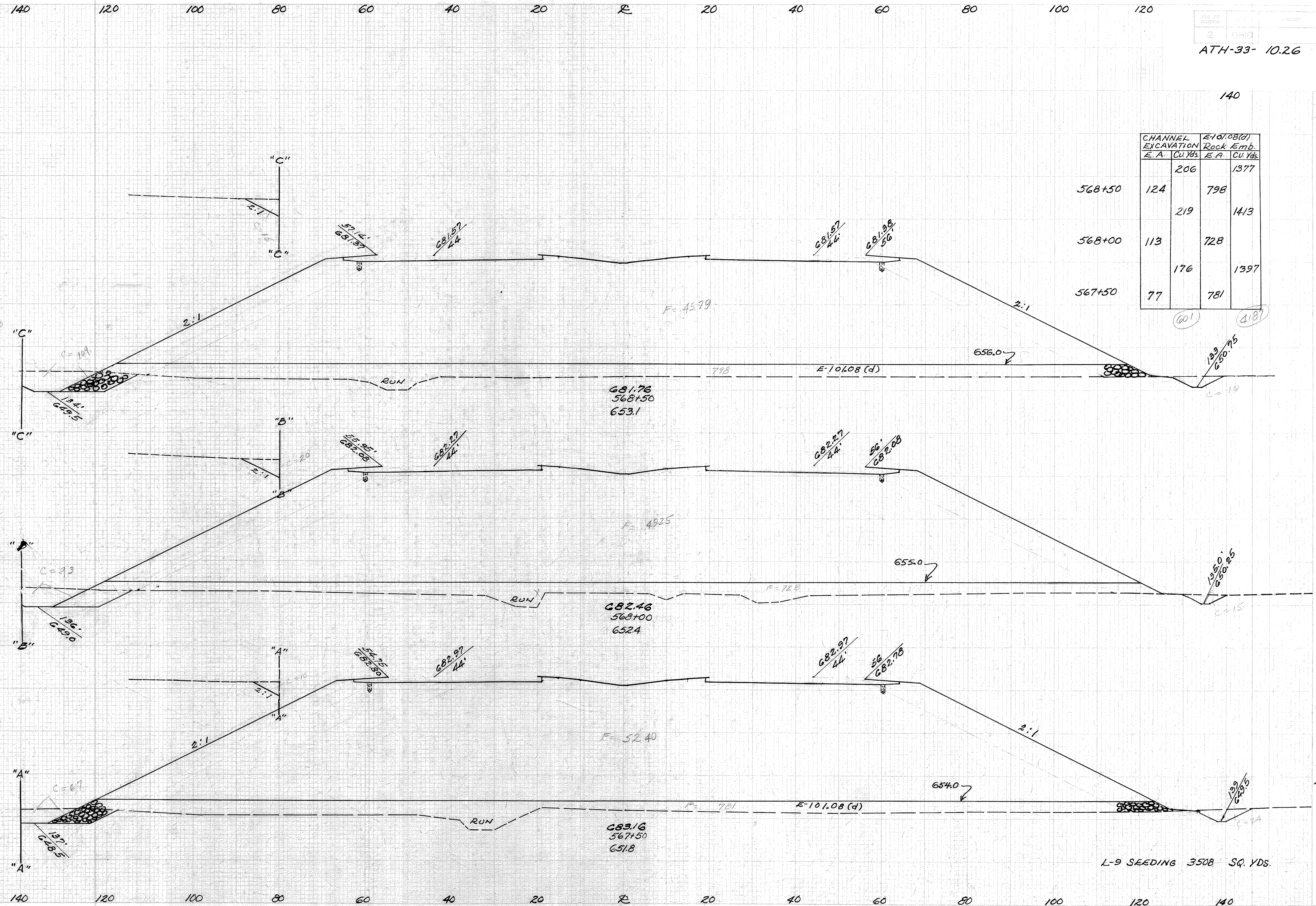


L-9 SEEDING 3695 SQ. YDS.

STA. 566+00 TO STA. 567+00

ATH-33- 10.26

	CHANNEL EXCAVATION		E-101.08(d) Rock Emb.	
	E.A.	Cu.Yds.	E.A.	Cu.Yds.
		206		1377
568+50	124		798	
		219		1413
568+00	113		728	
		176		1397
567+50	77		781	
		(601)		(4187)



L-9 SEEDING 3508 SQ. YDS.

ATH-33-10.26

	CHANNEL EXCAVATION		E-101.08(d) Rock Emb.	
	E.A.	Cu. Yds.	E.A.	Cu. Yds.
		810		1089
570+50	208		674	
		297		1450
570+00	113		892	
		191		1550
569+50	93		782	
		178		1362
569+00	99		689	
		1476		5451

L-9 SEEDING 4344 SQ. YDS.

STA. 569+00 TO STA. 570+50

ATH-33- 10.26

	CHANNEL EXCAVATION		E-101.08(d) Rock Emb.	
	E.A.	Cu. Yds.	E.A.	Cu. Yds.
		281		681
572+50	171		411	
		481		886
572+00	348		546	
		927		986
571+50	653		519	
		1222		945
571+00	667		502	
		2911		3498

L-9 SEEDING 5073 SQ. YDS.

STA. 571+00 TO STA. 572+50

ATH-33- 10.26

	CHANNEL EXCAVATION E.A	CHANNEL EXCAVATION Cu. Yds.	E-101.08(d) Rock Emb. E.A.	E-101.08(d) Rock Emb. Cu. Yds.
				257
574+50 AHEAD			130	
574+50 BACK	118		399	
		194		630
573+50	92		281	
		207		560
573+00	132	(401)	324	(1447)

STA. 573+00 TO STA. 574+00

E-101.08(d) Rock EmB	E.A	Cu.Yds
575+50	0	55
		45
575+00	49	
		181
574+50	147	
		281

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

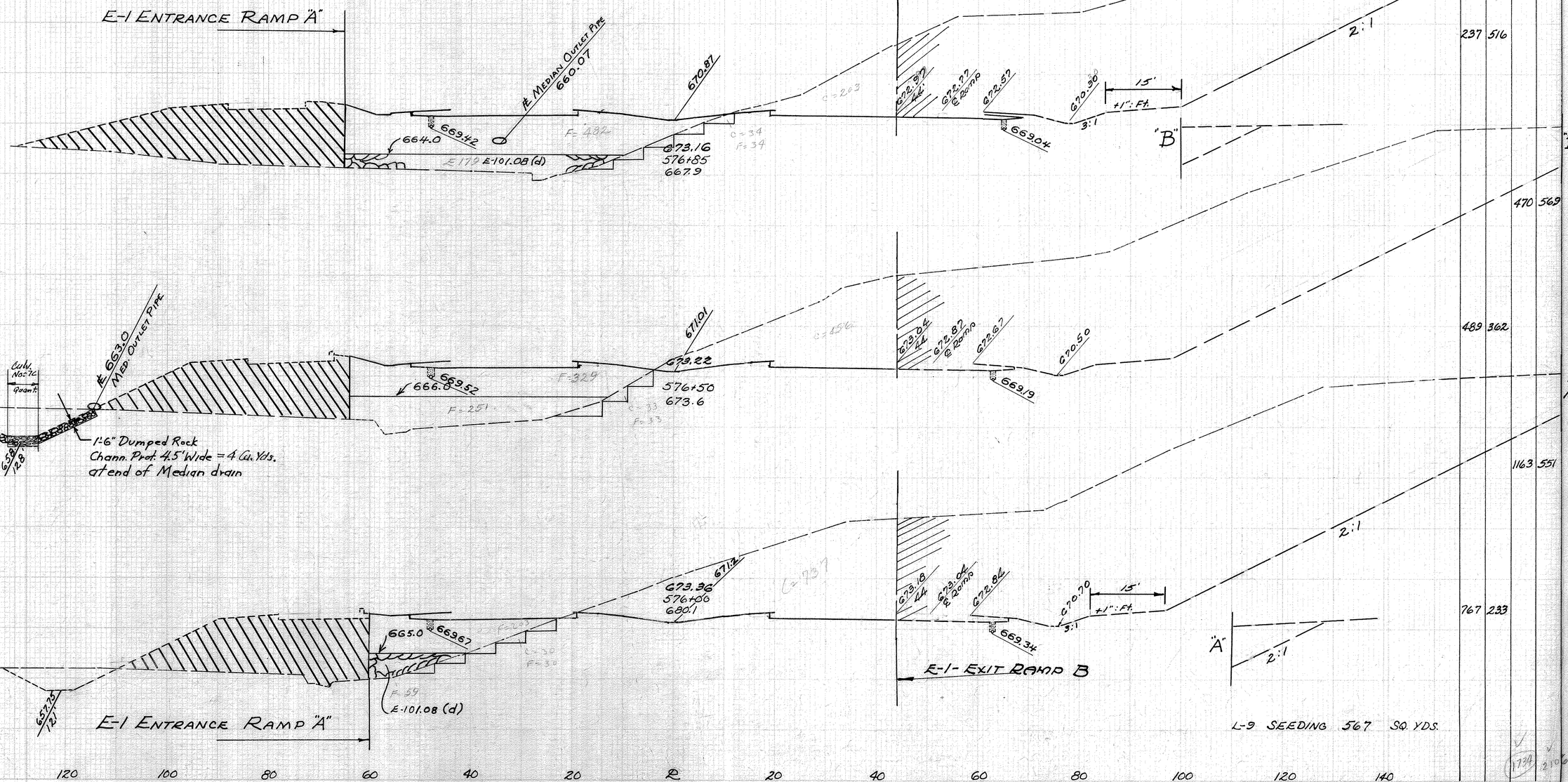
41

ATH-33- 10.26

	E-101.08(d) Rock Emb. E.A.	Cu. Yds.
		123
576+85	179	
		279
576+50	251	
		287
576+00	59	

(689)

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		101	297
237	516		
470	569		
489	362		
1163	551		
767	233		

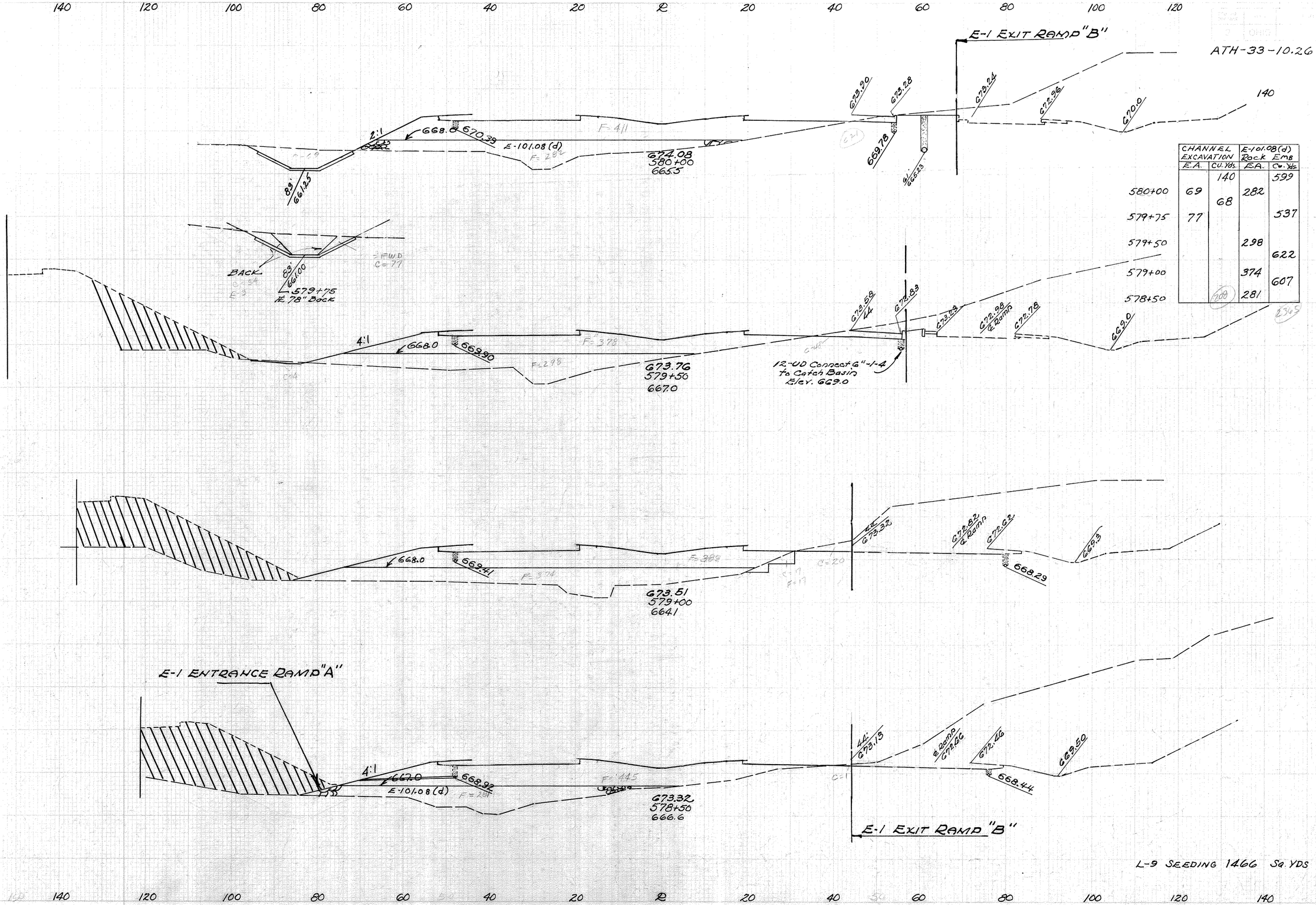


E-101.08(d) Rock Fill

	E.A.	Cu. Yds.
578+00	352	
		586
		636
577+50	335	
		556
577+00	265	

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		41	989
43	623		
		66	1188
28	660		
		144	1120
127	555		

STA. 577+00 TO STA. 578+00



CHANNEL EXCAVATION		E-101.08(d) Rock Emb	
E.A.	CU. Yds.	E.A.	Cu. Yds
	140		599
580+00 69		282	
	68		
579+75 77			537
579+50		298	
			622
579+00		374	
			607
578+50	(208)	281	

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		38	770
21	411		
		68	731
52	378		
		82	720
37	400		
		35	782
1	445		

L-9 SEEDING 1466 SQ. YDS

STA. 578+50 TO STA. 580+00

ATH-33-10.26

CHANNEL EXCAVATION			E-101.08(d) Rock Emb	
	E.A.	Cu.Yds.	E.A.	Cu.Yds.
		260		641
581+50	145		342	
		232		578
581+00	106		282	
		174		599
580+50	82		365	
		(666)		(1818)

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		196	701
51	370		
		151	744
112	433		
		122	791
20	421		
		(469)	(2054)

L-9 SEEDING 1572 SQ. YDS.

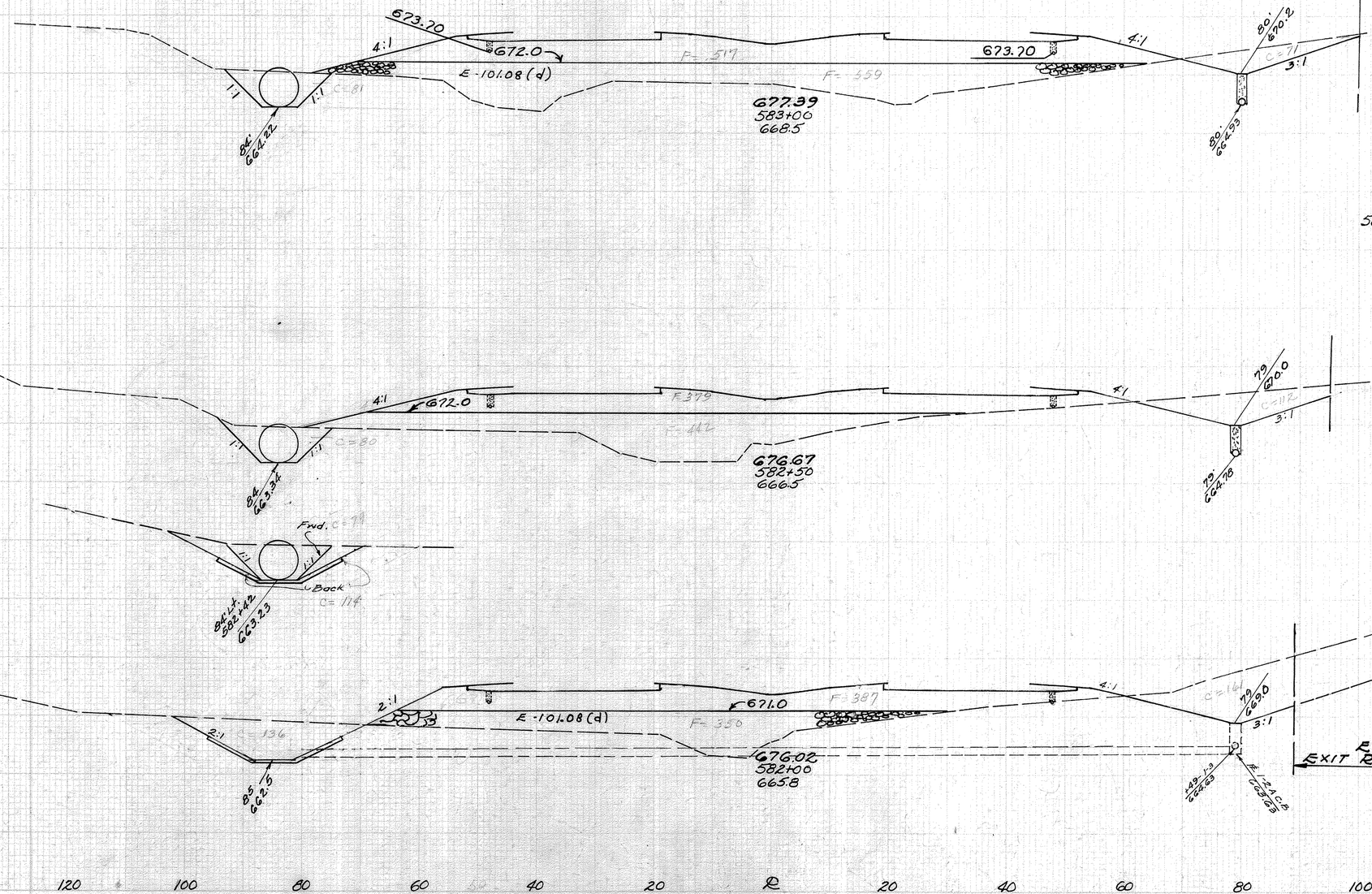
STA. 580+50 TO STA. 581+50

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO		

45

ATH-33-10.26

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120



CHANNEL EXCAVATION		E-101.08(d) Rock Emb	
EA.	Cu. Yds.	EA	Cu. Yds.
	252		1073
583+00 81		559	
	149		927
582+50 80		442	
	24		
582+42 FWD 79			733
Back 114			
	194		
582+00 136		350	

* 619

(2733)

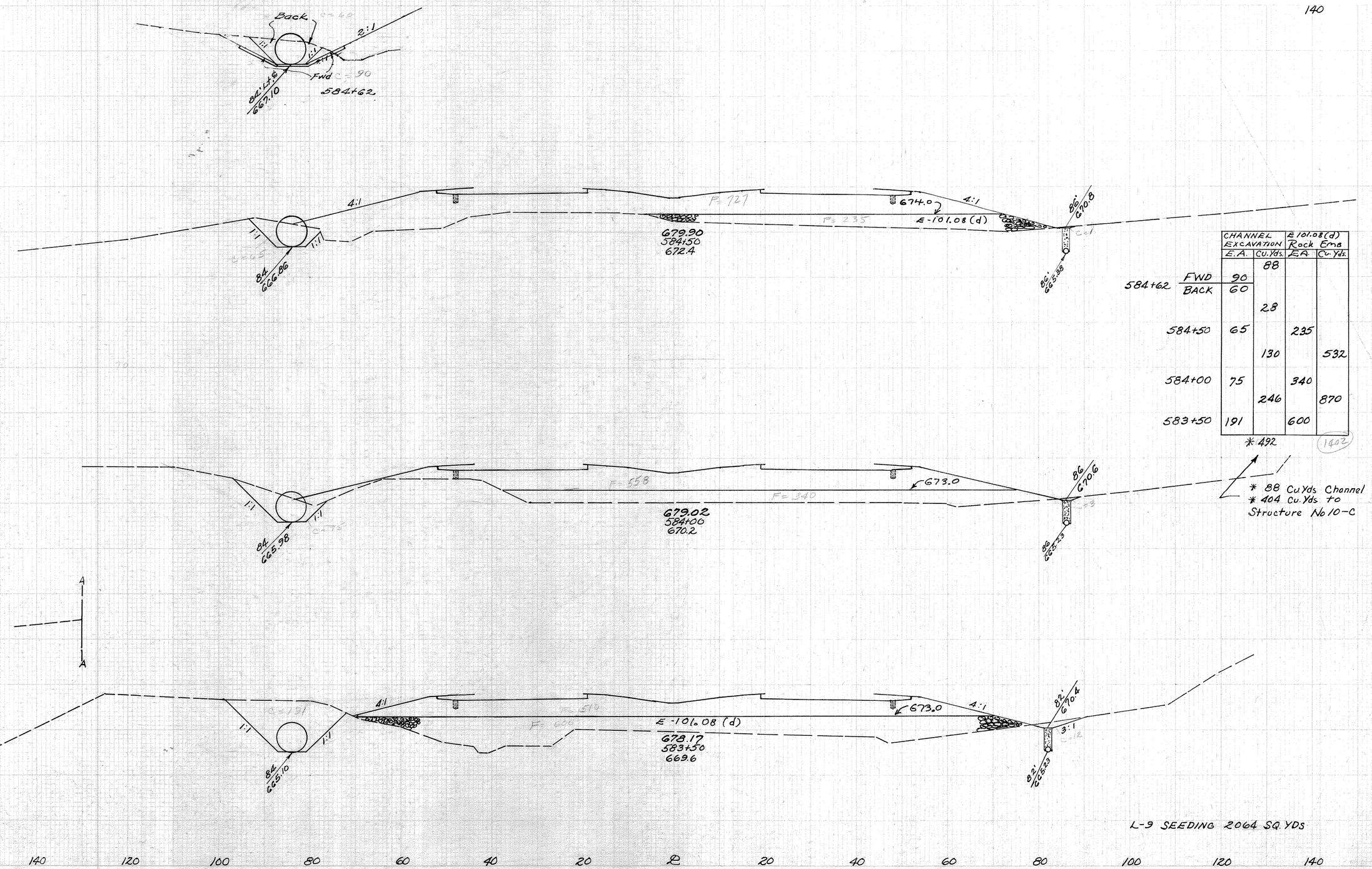
* 194 Cu Yds. Channel
* 425 Cu.Yds to Structure No. 10-CC

L-9 SEEDING 1944 SQ. YDS.

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		77	951
71	517		
		169	830
112	379		
		253	709
161	387		
		(419)	(5223)

150 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

STA. 582+00 TO STA. 583+00



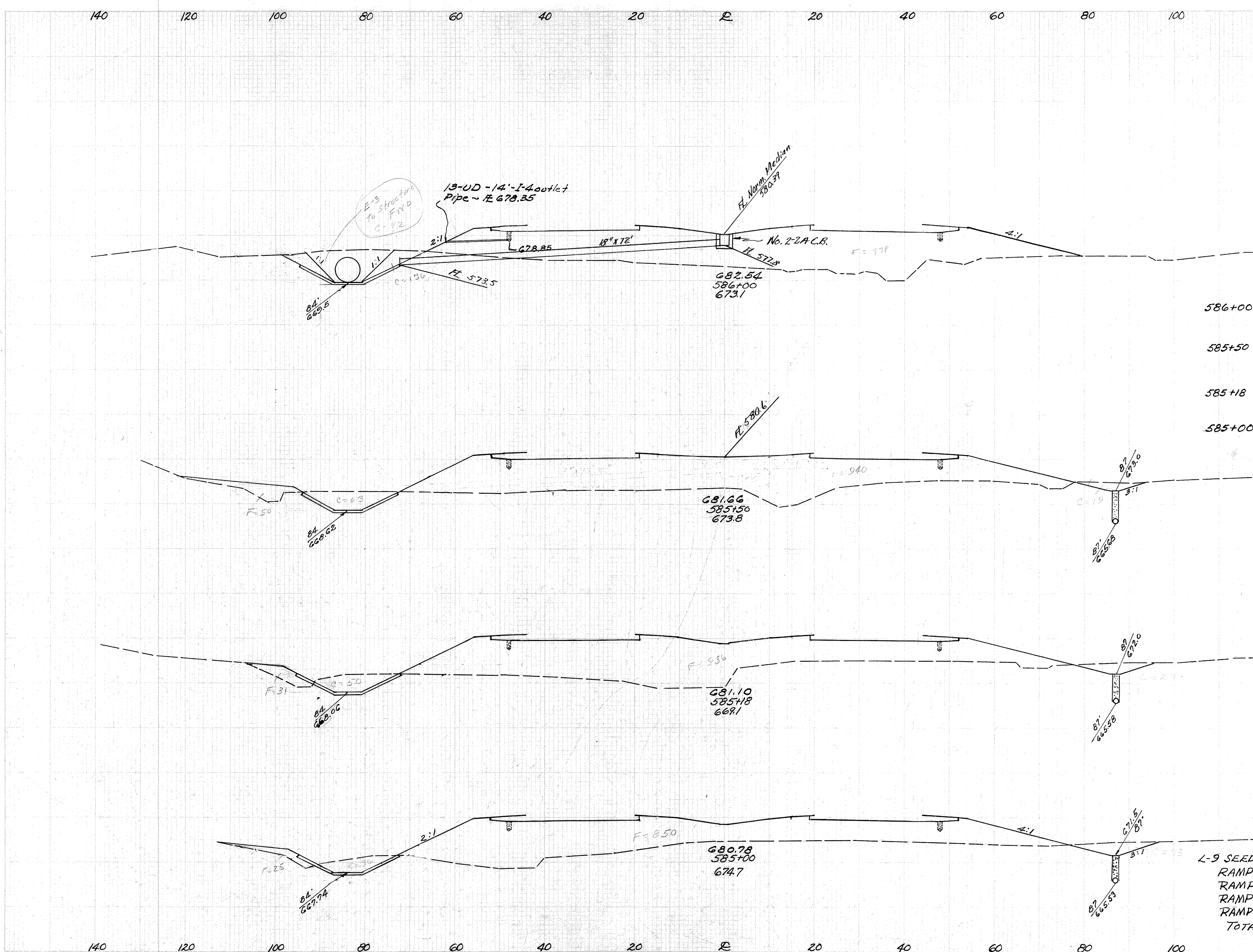
		CHANNEL EXCAVATION E.A.	CHANNEL EXCAVATION Cu. Yds.	E 101.08(d) Rock Emb. E.A.	E 101.08(d) Rock Emb. Cu. Yds.
			88		
584+62	FWD 90 / BACK 60				
			28		
584+50	65			235	
			130		532
584+00	75			340	
			246		870
583+50	191			600	
		* 492			1402

* 88 Cu Yds Channel
* 404 Cu. Yds to Structure No 10-C

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		31	1483
1	727		
		4	1190
3	558		
		14	989
12	510		
		✓	✓
		(41)	5004

L-9 SEEDING 2064 SQ. YDS

STA. 583+50 TO STA. 584+50



	CHANNEL EXCAVATION	
	E.A.	CU. Yds.
586+00	136	
		184
585+50	63	
		67
585+18	50	
		29
585+00	36	

(280)

END AREA CUT	END AREA FILL	CU. YDS CUT	CU. YDS FILL
		1	1899
0	978		
		18	1822
19	990		
		27	1160
27	967		
		20	614
		15985	39166
33	875		
		16051	(44661)

Add for Appr. 7A Over Sta. 585+01.05 15985 Cu. Yds. Exc., 39166 Cu. Yds. Emb.

L-9 SEEDING	2171
RAMP "A"	6895
RAMP "B"	20753
RAMP "C"	5702
RAMP "D"	13721
TOTAL	49242 SQ. YDS.

STA. 585+00 TO STA. 586+00

CHANNEL EXCAVATION	E.A.	CU.YDS.
589+00	51	
		77
588+50	32	
		111
588+00	88	
		149
587+50	73	
		337

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		0	939
0	489		
		0	1118
0	718		
		0	1412
0	807		
		0	1703
0	1032		
		1	1949
1	1073		

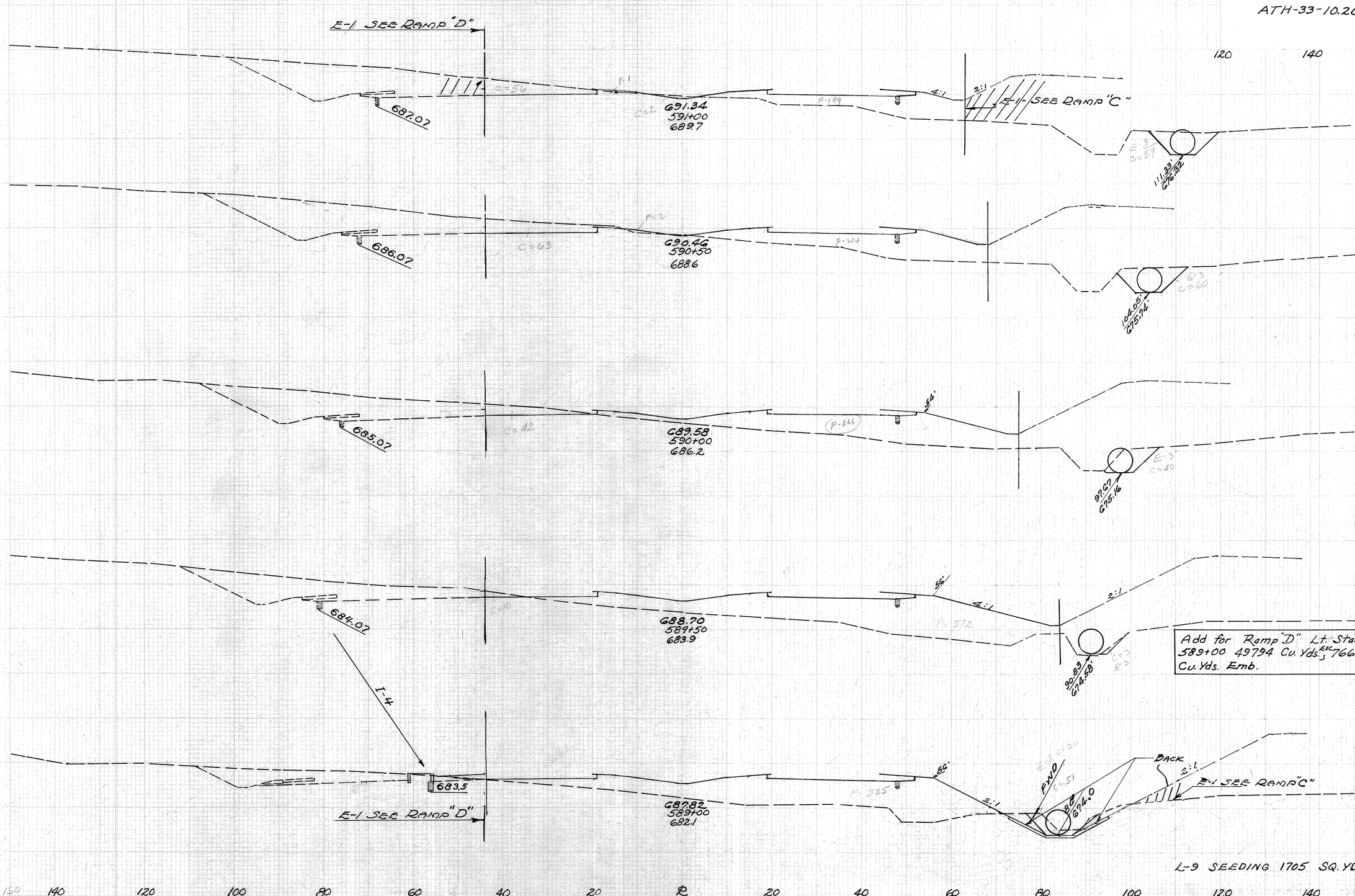
STA. 586+50 TO STA. 588+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

49

ATH-33-10.26

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140



END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		121	361
58	190		
		112	413
63	256		
		97	576
42	366		
		48	869
10	572		
		49794	7669
		9	1016
0	525		

Add for Ramp "D" Lt. Sta. 589+00 49794 Cu. Yds. Exc. 7669 Cu. Yds. Emb.

L-9 SEEDING 1705 SQ. YDS.

150 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

STA. 589+00 TO STA. 591+00

ATH-33-10.26

Add for Ramp "C" Rt. Sta. 593+00 110 Cu. Yds. Exc. 13500 Cu. Yds. Emb.

Sta.	End Area Cut	End Area Fill	Cu. Yds Cut	Cu. Yds Fill
			2759	6
594+00 FWD	1188	7		
Back	1167	0		
			1597	4
593+50 FWD	558	4		
Back	235	4		
			407	43
593+00	204	42		
Add for Ramp "C"			110	13500
			314	69
592+50	135	32		
			153	142
592+00	30	121		
			95	297
591+50	73	200		
			5435	14061

L-9 SEEDING 2398 SQ. YDS.

STA. 591+50 TO STA. 594+00

ATH-33-10.26

Channel E.A.		Exc. Cu. Yds.
		234
598+50	121	
		205
598+00	100	
		181
597+50	95	
		169
597+00	88	
		73
596+75	69	
		(862)

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		6	1210
0	653		
		0	1859
0	1355		
		395	1933
427	732		
		1151	1559
816	952		
		844	832
1007	845		
		2396	7393

L-9 SEEDING 4174 SQ. YDS.

STA. 596+75 TO STA. 598+50

NO. RD DIVISION	STATE	PROJECT	
2	OHIO		

51

ATH-33-10.26

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

2:1 C=1242 700.64 56' 700.83 44' 697.14 701.02 596+50 704.1 700.83 44' 700.48 66.16' 78.2' 2:1 F=382 C=41 F=41 1.18' 687.75 C=11

C=1744 699.26 56' 699.85 44' 696.26 700.14 596+00 707.8 699.95 44' 699.59 67.17' 79.2 F=70 2½:1 C=35 F=35 1.90' 687.5 C=9

C=1928 698.88 56' 699.07 44' 699.26 595+50 707.8 699.07 44' 698.69 68.16' 80.2 F=52 3:1 695.19 C=25 F=25 C=30 687.25 120'

C=1966 698.09 56' 698.19 44' 698.19 698.38 595+00 705.6 698.19 44' 698.04 697.90 69.15' 81.2 F=45 3:1 694.30 C=20 F=20 C=5 120.5 687.0

2:1 C=1792 697.12 56' 697.31 44' 693.62 697.50 594+56 703.9 697.31 697.04 696.90 70.14' 82.2 693.0 ℄ 12 UD-6"I-4 693.81 594+49 693.40 14 UD-6"-I-4 18' Outlet Pipe

Channel Exc.

	E.A.	CU.YDS.
596+50	11	37
		19
596+00	9	
		36
595+50	30	
		32
595+00	5	

124

END AREA CUT	END AREA FILL	CU.YDS CUT	CU.YDS FILL
		1060	587
1283	423		
		2835	489
1779	105		
		3459	171
1956	80		
		3595	134
1926	65		
		3443	60
1792	0		

L-9 SEEDING 4690 SQ.YDS

STA. 594+50 TO STA. 596+50

2	OHIO	

ATH-33-10.26

Sta.	Channel Exc. E.A.	Cu. Yds.
601+00	95	
		181
600+50	84	
		166
600+00	76	
		148
599+50	78	
		143
599+00	132.	
		194
		832

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		1106	651
712	357		
		1169	714
550	414		
		582	950
79	612		
		77	1195
4	679		
		9	1234
6	654		

L-9 SEEDING 3896 SQ. YDS.

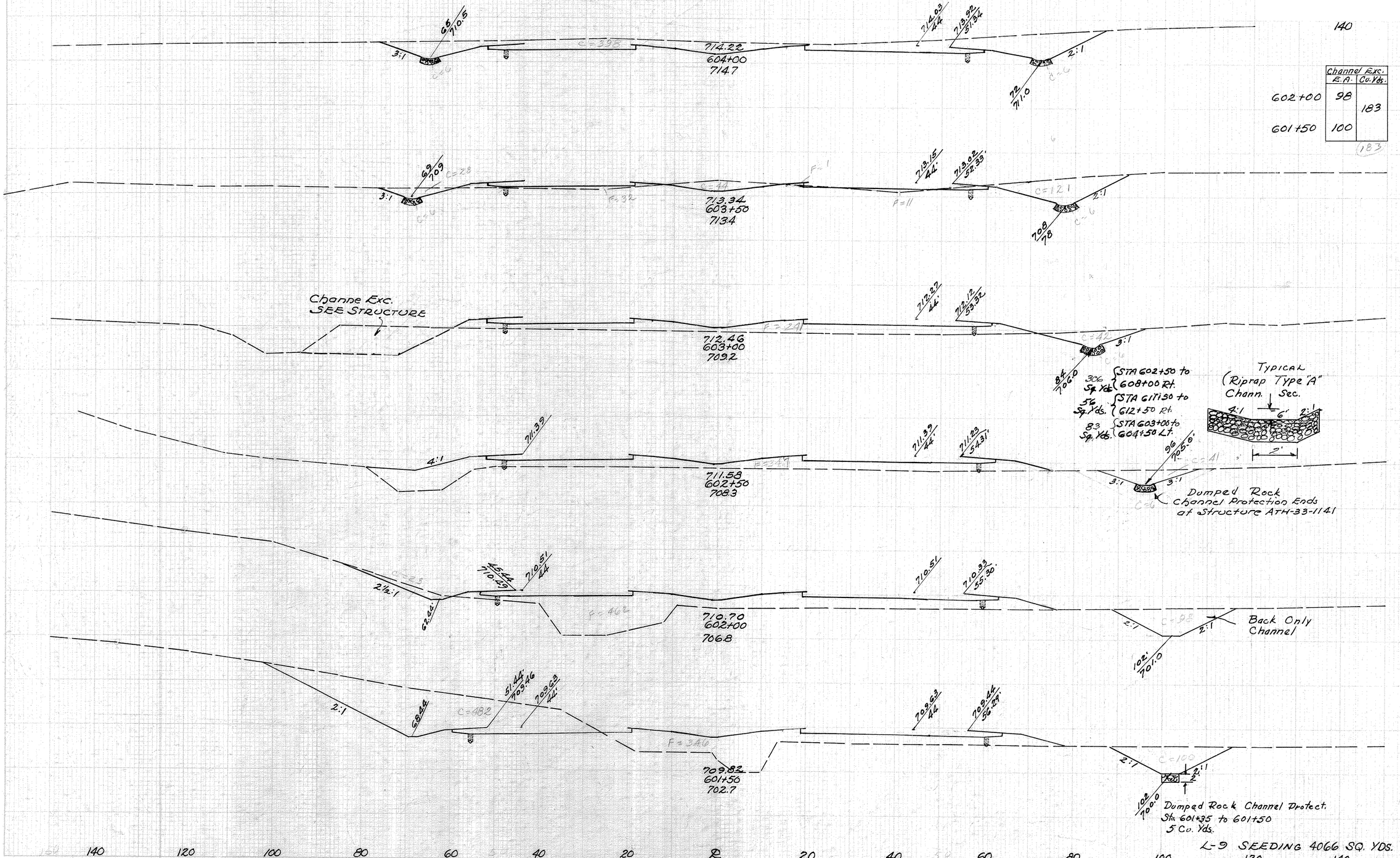
STA. 599+00 TO STA. 601+00

DIST. REG. DIVISION	STATE	PROJECT	
2	OHIO		

54

ATH-33-10.26

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140



Channel Exc.	E.A.	Cu. Yds.
602+00	98	183
601+50	100	

(183)

L-9 SEEDING 4066 SQ. YDS.

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		981	0
410	0		
		569	41
205	44		
		234	264
48	241		
		88	544
47	347		
		65	749
23	462		
		468	748
482	346		

STA 601+50 TO STA 604+00

ATH-33-10.26

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		5488	7
2675	4		
		4520	4
2206	0		
		3693	0
1782	0		
		2938	0
1391	0		
		2208	0
993	0		
		1520	0
649	0		

L-9 SEEDING 3803 SQ. YDS.

STA. 604+50 TO STA. 607+00

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		9149	7
4852	4		
		8574	7
4407	4		
		7591	7
3791	4		
		6522	7
3252	4		

L-9 SEEDING 5538 SQ. YDS.

STA. 607+50 TO STA 609+00

ATH-33-10.26
SR-682 ~OVERPASS~

APPROACH SLABS	
FROM SHEET NO.	SQ.YDS.
185	173.9

T-71 FLARE AREA		
FROM STA.	TO STA.	SQ.YDS.
2+50	3+50	233.3
18+00	19+00	238.9
	TOTAL	472.2

T-71 PAVT = 1096.52 × 24 ÷ 9 = 2924.0 SQ.YDS.
TOTAL T-71 = 3396.2 SQ.YDS.

I-18 STABILIZED BERM			
FROM STA.	TO STA.	LT. SIDE	RT. SIDE
2+50	19+00	1650 L.F.	1650 L.F.
DEDUCT RAMPS, BRIDGE & APPR.		793.5 L.F.	583.5 L.F.
NET LENGTH		856.5 L.F.	1066.5 L.F.

856.5 + 1066.5 = 1923 × 4 × .5 ÷ 27 = 143 C.Y.

PROPOSED STRUCTURE
ATH-33-1107
TYPE: Continuous Steel Beam with Reinf. Conc. deck and substructure
SPANS - 55.5': 92.5': 92.5': 55.5' c/c brgs.
ROADWAY: 30'-0" with 2'-2" Safety Curbs.
LOAD. Freq: C.F. - 130 (32) SKEW - 53°00'
Wearing Surface - 1¼" Monolithic Conc.
APPR. SLABS - AS-1-54 (Rev. 12-1-54) (25' long)
ALIGNMENT: TANGENT

ESTIMATED QUANTITIES SR 682

E-1 EXCAVATION	15985	CU. YDS.	TO RDY. SECTIONS
E-1 EMBANKMENT	39166	CU. YDS.	TO RDY. SECTIONS
L-9 SEEDING	18145	CU. YDS.	(To Sheet-10)
T-71 CONC. PAVT.	3396.2	SQ. YDS.	(To Sheet-10)
I-18 STABILIZED BERM	143	CU. YDS.	(To Sheet-10)
I-22 SUBBASE	1073	CU. YDS.	(To Sheet-10)

ATH-33-10.26

SR 682 ~ CURVE TABLE					
PC = 4+00.03			PT = 7+16.7		
D = 8°00 Rt.			Max S/E = 2'-0"		
LT. SIDE			℄	RT. SIDE	
ELEV.	WIDTH	STA.	ELEV.	WIDTH	ELEV.
700.42		2 + 50	700.45		699.84
699.85		+ 75	699.79		699.12
699.24		3 + 00	699.24		698.54
698.80		+ 25	698.60		698.01
698.48		+50	697.97		697.46
698.22		+ 75	697.57		696.93
698.04		4 + 00	697.29		696.54
697.93		+ 25	697.09		696.25
697.85		+50	696.94		696.02
697.80		+ 75	696.86		695.86
697.75		5 + 00	696.75		695.75
697.71		+ 25	696.71		695.71
697.72		+ 50	696.72		695.72
697.79		+ 75	696.79		695.79
697.92		6 + 00	696.93		695.93
698.05		+ 25	697.12		696.12
698.19		+50	697.33		696.46
698.32		+75	697.60		696.88
698.45		7 + 00	697.89		697.32
698.59		+25	698.20		697.81
698.72		+50	698.51		698.30
698.93		+ 75	699.04		698.77
699.19		8 + 00	699.38		699.19

BEGIN PROJECT ATH-682-4.23
STA. 3+50

BEGIN WORK - 2+50

L-9 SEEDING 5974 SQ. YDS.

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
			2020	171
	2039	59		
			3760	67
	2022	13		
			3698	17
	1972	5		
			3178	35
FWD	1460	33		
BACK	1445	33		
			1411	70
	79	43		
			84	40
	12	0		

"SR 682"

STA. 2+50 TO STA. 5+00

ATH-33-10.26

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		0	1595
0	1956		
		0	3363
0	1676		
		0	2608
0	1140		
		0	1801
0	805		
		0	1088
0	370		
		131	459
142	126		

EXCAVATION 14282 Cu.Yds.
EMBANKMENT 13204 Cu.Yds.
L-9 SEEDING 9898 Sq.Yds.

L-9 SEEDING 2962 SQ.YDS.

"SR 682"

STA. 5+30 TO STA. 8+00

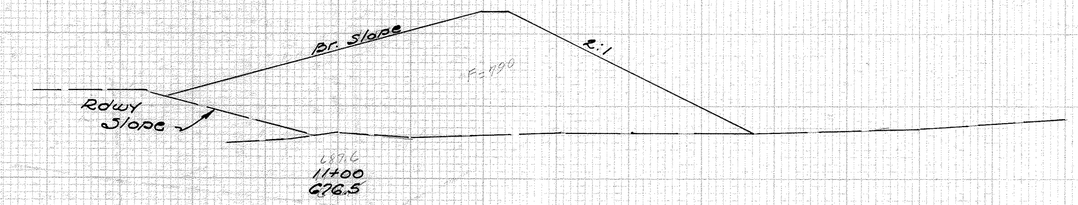
SEEDING	
ACRES WIDTH	SQ. YDS.

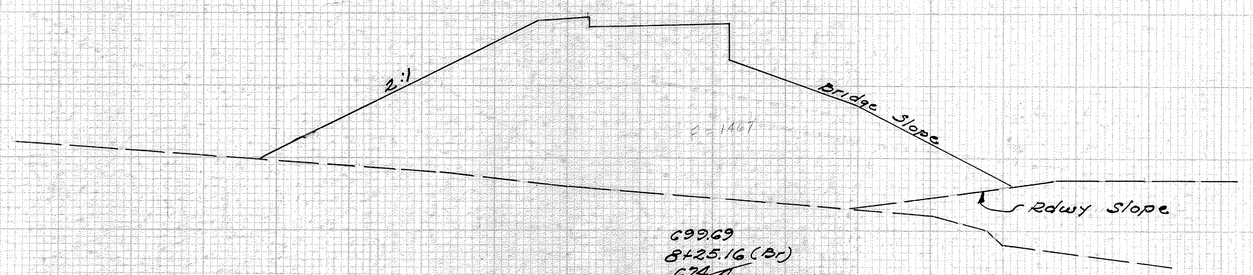
PROJECT NO. SECTION	STATE	PROJECT	
2	OHIO		

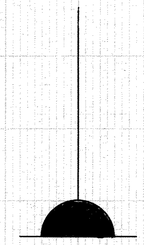
116

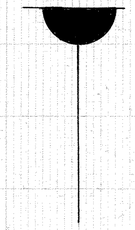
ATH-33-10.26

120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160









	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
				0 1128
		0 790		
				0 483
10+67 Zero FILL	0	0		
Bridge				0 0
8+78 Zero FILL	0	0		
				0 644
		0 1241		
				0 1246
		0 1467		

L-9 SEEDING 962 SQ. YDS.

"SR 682"

Sta 8+25.16 to Sta. 11+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

117

ATH-33-10.26

200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100

F=5 16' G98.06 12

G98.32

2:1 2:1

1322

G98.28
13+00
680.8

G98.99 G98.99 F=5

1529

G99.18
12+50
679.2

G99.79 G99.79 F=5

C=1953

G99.98
12+00
677.6

F=5 F=5

F=2090

2:1

Rdwy Slope

700.58
11+50
676.4

2:1

1498

Rdwy Slope

700.81
11+26.64 (End Bridge
11+26.64
675.0

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		0	2247
0	1327		
		0	2654
0	1539		
		0	3243
0	1963		
		0	3762
0	2100		
		0	1556
0	1498		

EXCAVATION	1703	Cu. Yds.
EMBANKMENT	25962	Cu. Yds.
L-9 SEEDING	8247	Sq. Yds.

L-9 SEEDING 3117 SQ. YDS.

"SR 682"

200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100

STA. 11+26.64 TO STA. 13+00

DIST. DIV. 2 | STATE OHIO

ATH-33- 10.26

200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100

17+00
700.7
F=5
701.30
702.10
2:1
C=14
F=3
F=90
2:1

16+50
697.7
F=5
693.10
693.71
12'
700.51
4:1
F=246

16+00
694.3
F=5
698.29
7'
698.46
699.26
F=596

15+50
690.9
F=5
698.10
697.23
21.0'
697.53
698.33
4:1

15+00
687.9
F=5
696.51
25'
696.94
697.74
4:1
F=1097

14+50
685.5
F=5
696.37
696.62
697.42
2:1
RAMP
F=984

14+00
683.8
RAMP
Slope
696.46
20'
696.24
697.54
RAMP
Slope
F=1100
2:1
2:1

13+50
682.2
℄

L-9 SEEDING 4203 SQ. YDS.

"SR 682"

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		106	152
14	90		
		19	323
7	251		
		10	620
		0	186
4	419		
		7	945
4	601		
		4	1234
		0	279
0	732		
		0	1698
		1038	1516
0	1102		
		0	1932
0	984		
		0	1930
0	1100		
		1134	10815

Add for Appr No 7-A-G Lt.
Sta. 16+30 186 Cu. Yds. Emb.

Add for Appr. No. 7-A-5 Rt.
Sta. 15+20 279 Cu. Yds. Emb.

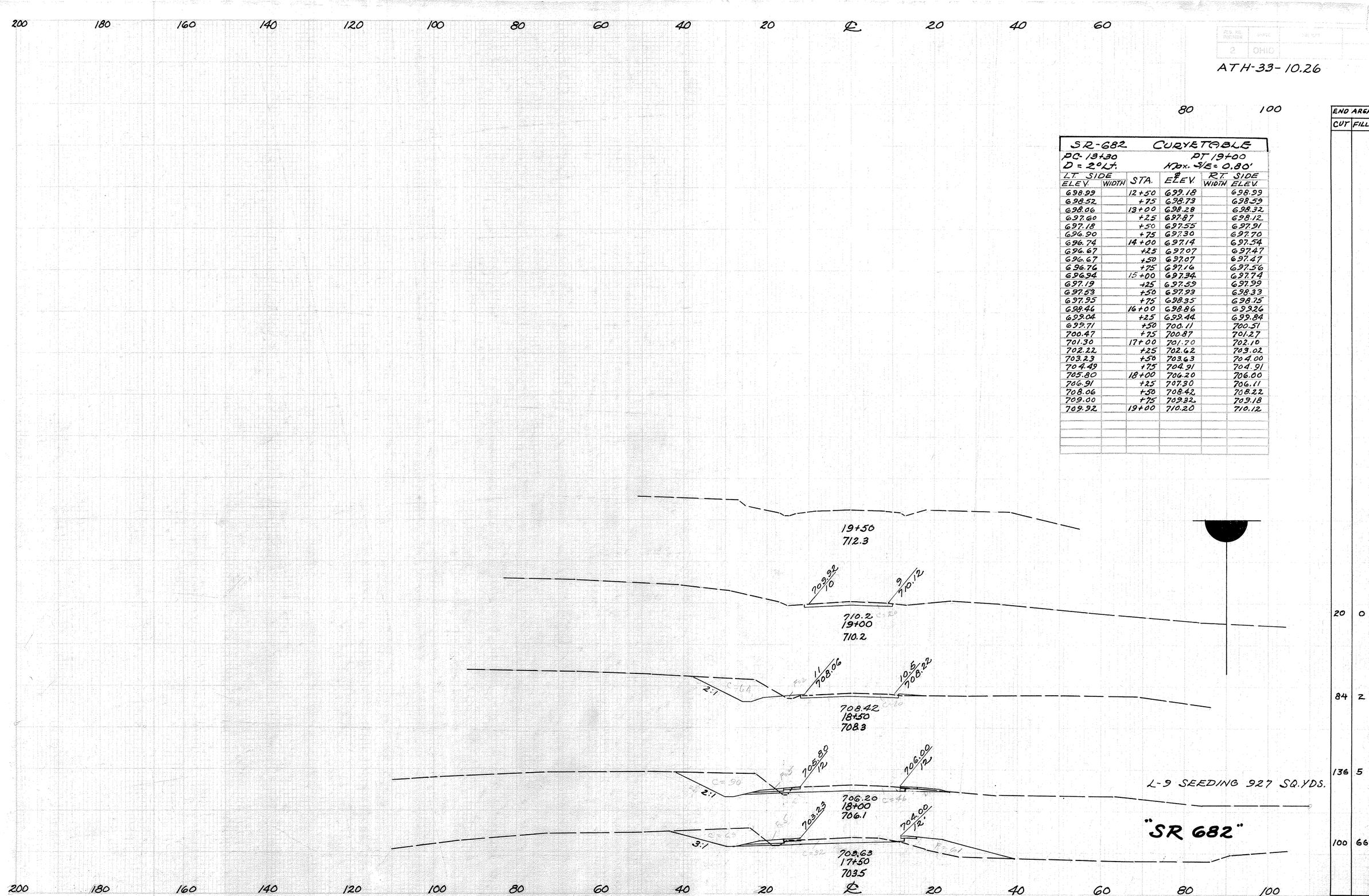
Add for Appr. No. 7-A-4
Rt. Sta. 14+30 1038 Cu. Yds.
Exc., 1516 Cu. Yds. Emb.

STA. 13+50 TO STA. 17+00

FED. AID PROJECT	STATE	SHEET
2	OHIO	

ATH-33-10.26

SR-682 CURVE TABLE					
PC 13+30 D = 2° LT.			PT 19+00 Max. S/E = 0.80'		
LT. SIDE ELEV.	WIDTH	STA.	℄ ELEV.	RT. SIDE WIDTH	RT. SIDE ELEV.
698.99		12+50	699.18		698.99
698.52		+75	698.73		698.59
698.06		13+00	698.28		698.32
697.60		+25	697.87		698.12
697.18		+50	697.55		697.91
696.90		+75	697.30		697.70
696.74		14+00	697.14		697.54
696.67		+25	697.07		697.47
696.67		+50	697.07		697.47
696.76		+75	697.16		697.56
696.94		15+00	697.34		697.74
697.19		+25	697.59		697.99
697.53		+50	697.93		698.33
697.95		+75	698.35		698.75
698.46		16+00	698.86		699.26
699.04		+25	699.44		699.84
699.71		+50	700.11		700.51
700.47		+75	700.87		701.27
701.30		17+00	701.70		702.10
702.22		+25	702.62		703.02
703.23		+50	703.63		704.00
704.49		+75	704.91		704.91
705.80		18+00	706.20		706.00
706.91		+25	707.30		706.11
708.06		+50	708.42		708.22
709.00		+75	709.32		709.18
709.92		19+00	710.20		710.12



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
20	0		
		96	2
84	2		
		204	6
136	5		
		219	66
100	66		

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

ATH-33~10.26

RAMP "A" ESTIMATED QUANTITIES

- I-18 STABILIZED BERM (TO SHEET 9) — 112 CU. YDS.
- I-22 SUBBASE (TO SHEET 9) — 468 CU. YDS.
- T-71 REINF. CONC. PAVT. (TO SHEET 9) — 2944 SQ. YDS.
- I-12 SPECIAL CONCRETE CURB AS PER PLAN (TO SHEET 13) — 440 LIN. FT.

RAMP "B" ESTIMATED QUANTITIES

- T-71 REINF. CONC. PAVT. (TO SHEET 9) — 3754 SQ. YDS.
- I-12 CONC. CURB TYPE 6 (TO SHEET 13) — 102 LIN. FT.
- I-12 TYPE 2.A CURB (TO SHEET 13) — 100 LIN. FT.
- I-18 STABILIZED BERM (TO SHEET 9) — 200 CU. YDS.
- I-21 CONCRETE MEDIAN (TO SHEET 13) — 30 SQ. YDS.
- I-22 SUBBASE (TO SHEET 9) — 673 CU. YDS.

CURVE ELEVATIONS RAMP "B"

LT. SIDE ELEV.	LT. SIDE WIDTH	STA.	ELEV.	RT. SIDE WIDTH	RT. SIDE ELEV.
		0+14	698.46		
698.02		+25	698.14		698.02
697.36		+50	697.42		697.21
696.80		+75	696.61		696.38
696.23		1+00	695.87		695.51
695.57		+25	695.12		694.67
694.83		+50	694.33		693.83
693.95		+75	693.45		692.95
693.02		2+00	692.52		692.02
692.04		+25	691.54		691.04
691.04		+50	690.54		690.04
690.04		+75	689.54		689.04
689.04		3+00	688.54		688.04
687.95		+25	687.54		687.13
686.78		+50	686.54		686.30
685.60		+75	685.54		685.47
684.42		4+00	684.54		684.66
683.42		+25	683.54		683.66
682.42		+50	682.54		682.66
681.42		+75	681.54		681.66
680.42		5+00	680.54		680.66
679.24		+25	679.54		679.75
678.10		+50	678.54		678.90
677.09		+75	677.59		678.09
676.28		6+00	676.72		677.22

CURVE ELEVATIONS RAMP "B"

LT. SIDE ELEV.	LT. SIDE WIDTH	STA.	ELEV.	RT. SIDE WIDTH	RT. SIDE ELEV.
675.60		+25	675.95		676.42
675.02		+50	675.28		675.59
674.49		+75	674.69		674.89
674.00		7+00	674.20		674.40
673.59		+25	673.79		673.96
673.28		+50	673.48		673.68
673.07		+75	673.27		673.47
672.94		8+00	673.14		673.34
672.86		+25	673.06		673.18
672.78		+50	672.98		673.23
672.70		+75	672.90		
672.62		9+00	672.82		
672.54		+25	672.74		
672.46		+50	672.66		
672.45		+75	672.65		
672.44		10+00	672.64		
672.45		+25	672.65		
672.45		+50	672.65		
672.49		+75	672.69		
672.54		11	672.74		
672.60		+25	672.80		
672.67		+50	672.87		
672.72		+75	672.92		
672.84		12+00	673.04		
672.95		+25	673.15		
673.12		+50	673.28		
673.29		+75	673.43		
673.50		13+00	673.62		

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

121

ATH-33~10.26

LEGEND

1. Standard Longitudinal Joint.
2. Standard Key Joint Without Tie Bars.
3. Expansion Joint Without Dowels (Located on radial lines)

ESTIMATED QUANTITIES RAMP "D"

T-71	Concrete Pavement (To sheet 9)	3666	Sq. Yds.
I-12	Concrete Curb Type 6 (To sheet 13)	104	Lin. Ft.
I-12	Type 2A Curb (To sheet 13)	100	Lin. Ft.
I-18	Stabilized Berm (To sheet 9)	202	Cu. Yds.
I-21	Concrete Median (To sheet 13)	30	Sq. Yds.
I-22	Subbase (To sheet 9)	686	Cu. Yds.

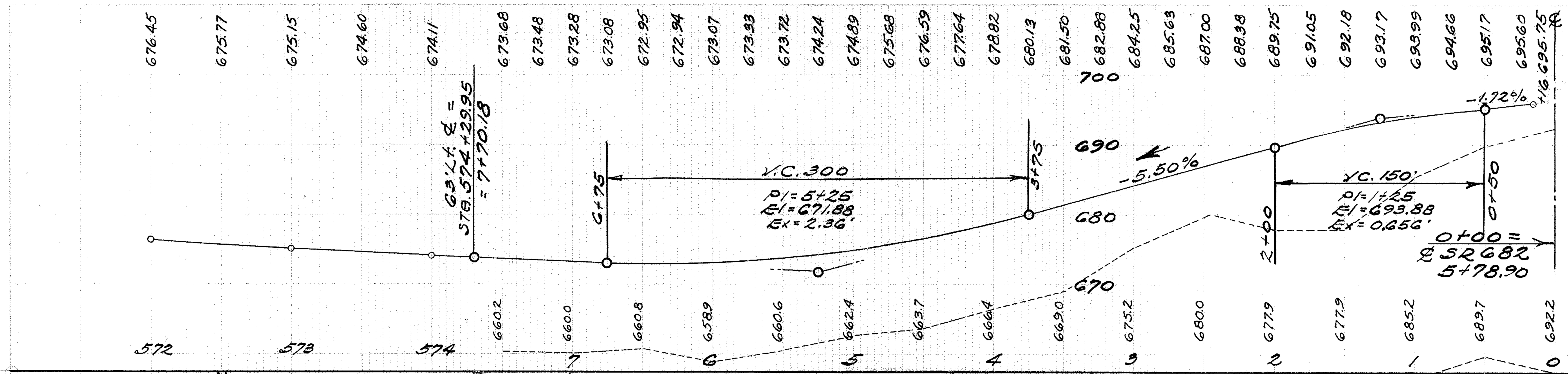
ESTIMATED QUANTITIES TOWNSHIP ROAD APPROACH 7 A 1 (To sheet 10)

T-30	Bituminous Prime Coat	657	Gals.
T-35	Asphaltic Concrete Surface Course (1½" Thick)	74	Cu. Yds.
B-119	Crushed Aggregate Base Course (5" Thick)	261	Cu. Yds.
I-22	Subbase (4" Thick)	221	Cu. Yds.
I-9	Stone Underdrains No 2	260	Lin. Ft.
I-15	Guard Rail	352	Lin. Ft.
I-1	24" Pipe (see sheet No 142)	48	Lin. Ft.

ESTIMATED QUANTITIES RAMP "C"

T-71	Concrete Pavement (To sheet 9)	3602	Sq. Yds.
I-12	Concrete Curb Type 2A (To sheet 13)	327	Lin. Ft.
I-12	Special Conc. Curb As Per Plan (To sheet 13)	454	Lin. Ft.
I-18	Stabilized Berm (To sheet 9)	132	Cu. Yds.
I-22	Subbase (To sheet 9)	426	Cu. Yds.

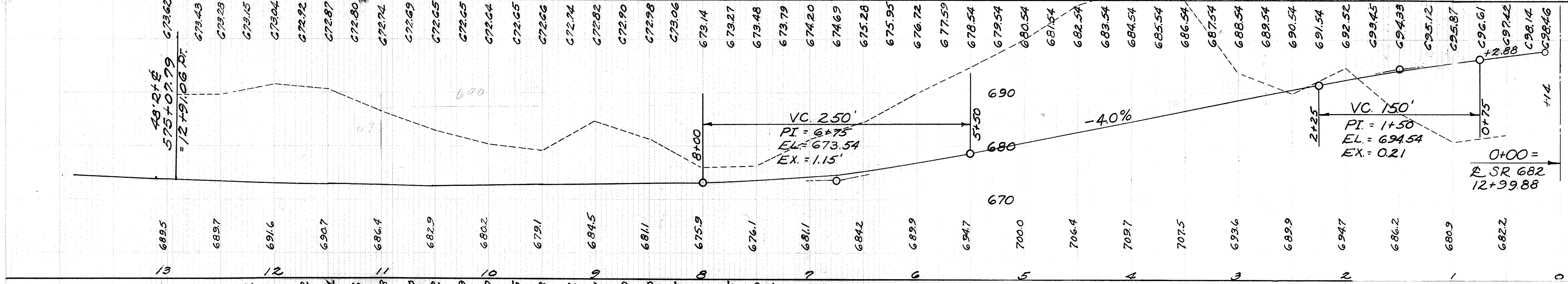
ATH-33-10.26



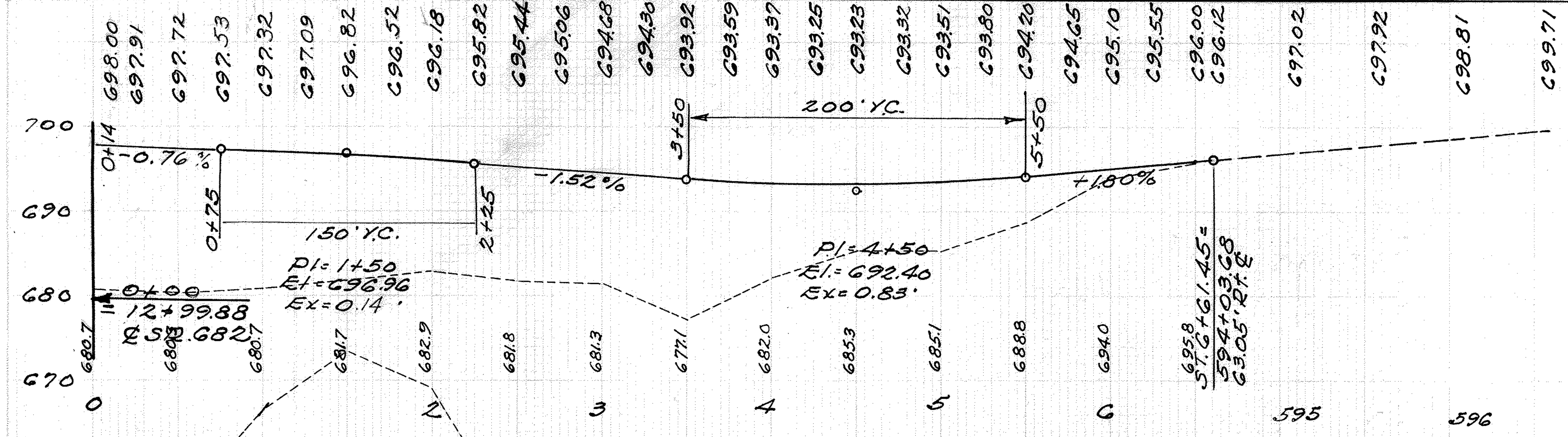
LT. SIDE ELEV.	LT. SIDE WIDTH	STA.	ELEV.	RT. SIDE WIDTH	RT. SIDE ELEV.
688.50	8'	2+25	688.38	8'	688.26
688.13	8'	+50	687.00	8'	686.87
685.75	8'	+75	685.63	8'	685.49
684.40	8'	3+00	684.25	8'	684.10
683.06	8'	+25	682.88	8'	682.70
681.70	8'	+50	681.50	8'	681.30
680.36	8'	+75	680.13	8'	679.90
679.07	8'	4+00	678.82	8'	678.57
677.95	8'	+25	677.64	8'	677.33
676.96	8'	+50	676.59	8'	676.23
676.18	8'	+75	675.68	8'	675.18
675.39	8'	5+00	674.89	8'	674.39
674.74	8'	+25	674.24	8'	673.74
674.08	8'-11'	+50	673.72	8'	673.36
673.64		+75	673.33	8'	673.02
673.34	8'	6+00	673.07	8'	672.80
673.17	8'	+25	672.94	8'	672.71
673.14	8'	+50	672.95	8'	672.75
673.26	8'	+75	673.08	8'	672.90
673.43	8'	7+00	673.28	8'	673.13
673.62	8'	+25	673.48	8'	673.34
673.81	8'	+50	673.68	8'	673.55
674.00	8'	+75	673.88	8'	673.76

CURVE - ELEVATIONS
TS 2+36.85 6°D. ST+70.18

ENTRANCE RAMP "A"
LT. LANE



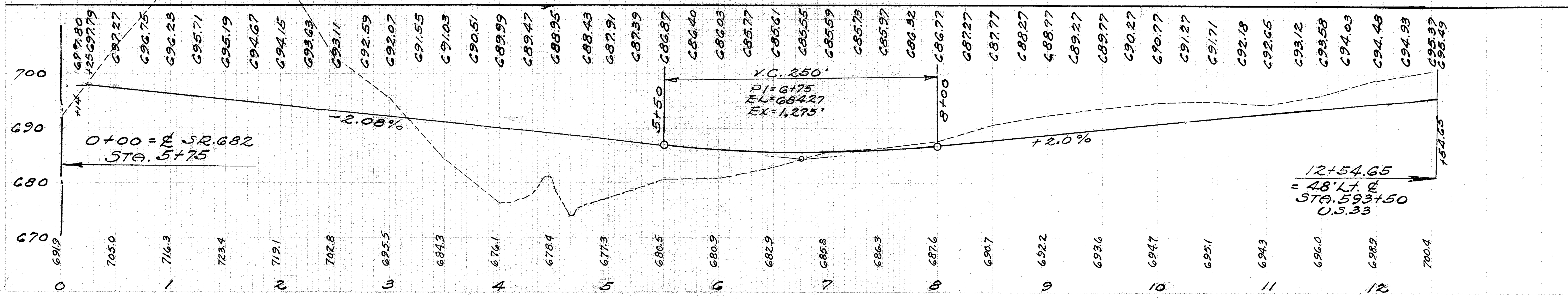
EXIT RAMP "B"
RT. LANE



CURVE ELEVATIONS

LT. SIDE ELEV.	LT. SIDE WIDTH	STA.	ELEV.	RT. SIDE WIDTH	RT. SIDE ELEV.
698.03		0+25	697.91		697.79
697.84		+50	697.72		697.60
697.65		+75	697.53		697.41
697.44		1+00	697.32		697.20
697.21		+25	697.09		696.97
696.96		+50	696.82		696.68
696.70		+75	696.52		696.36
696.36		2+00	696.18		696.00
696.03		+25	695.82		695.61
695.70		+50	695.44		695.18
695.37		+75	695.06		694.75
695.04		3+00	694.68		694.32
694.73		+25	694.30		693.87
694.42		+50	693.92		693.42
694.09		+75	693.59		693.09
693.87		4+00	693.37		692.87
693.68		+25	693.25		692.82
693.59		+50	693.23		692.87
693.63		+75	693.32		693.01
693.77		5+00	693.51		693.30
694.01		+25	693.80		693.59
694.38		+50	694.20		694.02
695.80		+75	695.65		695.50
695.24		6+00	695.10		694.96
695.68		+25	695.55		695.42
696.12		+50	696.00		695.88
696.24		+57.77	696.12		696.00

ENTRANCE RAMP "C"
RT. LANE



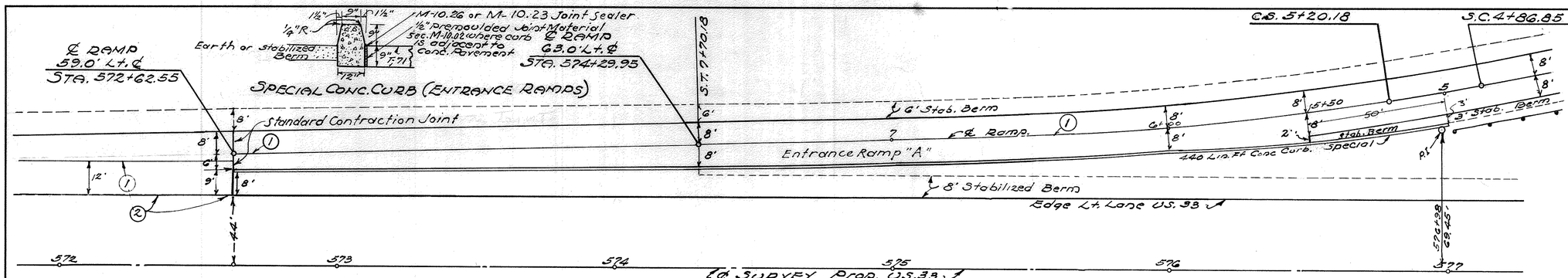
EXIT RAMP "D"
LT. LANE

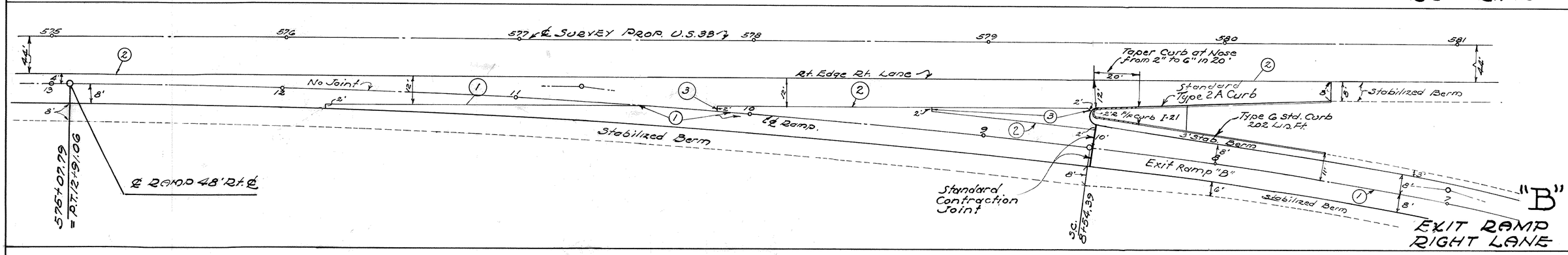
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

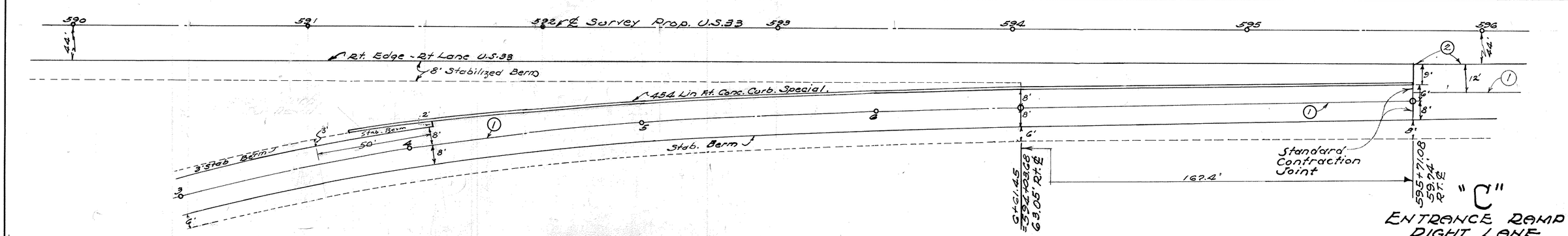
123

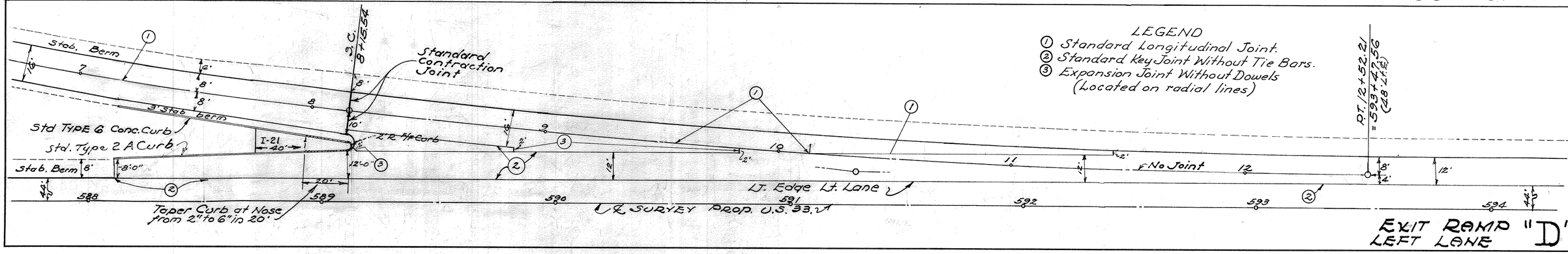
ATH-33-10.26

DETAILS OF RAMP TERMINALS









ATH-33-10.26

80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

689.87 689.63 F=4 681.0 3:1 C=12 2:1 F=765

689.75
2+00
677.9

692.30 692.06 F=4 4:1 685 3:1 C=8 F=152

692.18
1+50
677.9

694.11 693.87 F=4 4:1 690 3:1 C=10 F=195

693.99
1+00
685.2

8' Lt. 695.29 Edge Pavt. SR-682 ℄ -695. -695.72 2:1 F=199 SR-682 Slope. C=15

695.17
0+50
689.7

L-9 SEEDING 2297 SQ. YDS.

ZERO SEC. 0+32

RAMP "A"

STA. 0+50 TO STA. 2+00

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		16	1058
12	769		
		19	1412
8	756		
		17	1165
10	502		
		23	649
15	199		
		5	66
0	0		

Excavation 1611 Cu. Yds.
Embankment 14379 Cu. Yds.
Channel Excavation 902 Cu. Yds.
L-9 Seeding 6895 SQ. YDS.

90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60

670.5
42

3:1

RDWY. SEC.

679.07

678.82

F=4

4:1

674.0

3:1

C=5

E 101.08(d) Rock Emb.

E.A.	Cu. Yds.
23	73

4+00

F=319

6670

E-101.08(d)

C=18

R=3418

678.82
4+00
666.4

681.10

65998
78"

681.30

F=4

676.5

C=10

2:1

F=649

RDWY SEC.

681.50
3+50
669.0

R=368

684.40

65988
78"

684.10

F=4

677.0

C=13

F=637

2:1

684.25
3+00
675.2

RDWY. SEC.

E=390

1:1

687.60

687.36

F=4

4:1

679.0

3:1

C=7

F=497

2:1

687.48
2+45
680.0

RDWY SEC.

1:1

66088
78"

1:1

E=363

L-9 SEEDING 2046 SQ.YDS

RAMP "A"

90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60

STA. 2+45 TO STA. 4+00

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		8	594
5	323		
		14	904
10	653		
		21	1198
13	641		
		20	1163
7	501		

ATH-33-10.26

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80

RDWY. SEC.

G 73.34
G 72.80
F=4
F=221
665.0
F=254
E=101.08(d)
2:1
G 73.07
6+00
658.9
C=98
2:1
51.
657.75

G 74.08
G 73.36
F=4
F=234
666.0
2:1
F=256
G 73.72
5+50
660.6
51.5
658
1:1
2:1
C=89
E-3=89 Back
C=214

G 75.39
G 74.39
F=4
4:1
G 68.0
42.
3:1
F=379
665.0
F=96
E-3=12.7
G 74.89
5+00
662.4
G 68.4
78"

G 76.96
G 76.23
F=4
4:1
G 72.0
33.5
3:1
F=315
C=205
RDWY SEC.
666.0
F=50 E=101.08(d)
1:1
1:1
E-3=205
G 76.59
4+50
663.7
658.91
78"

L-9 SEEDING 1499 SQ.YDS.

RAMP-A

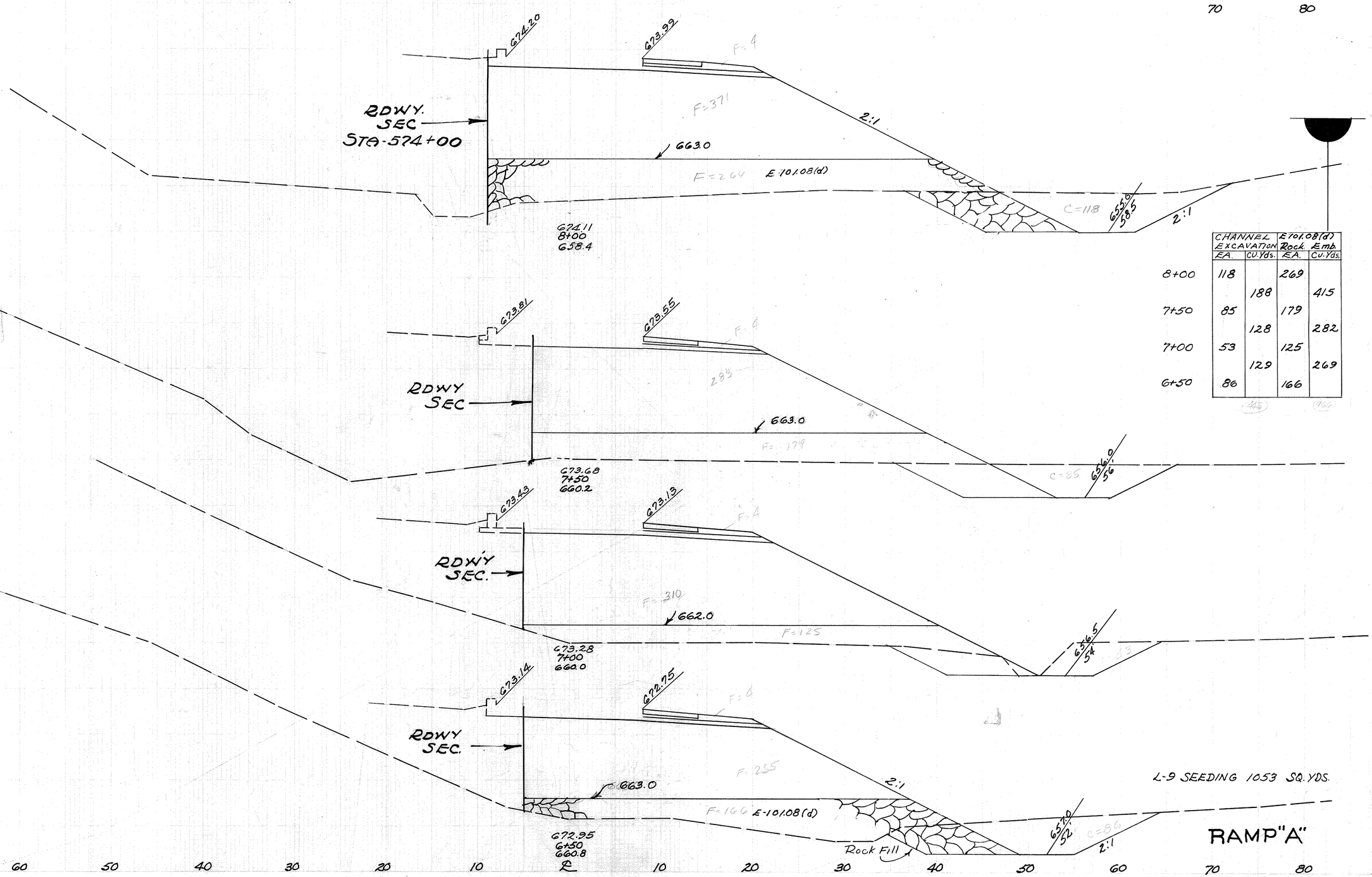
STA. 4+50 TO STA. 6+00

CHANNEL EXCAVATION		E 101.08 (d) Rock Emb.	
E.A.	CU.Yds	E.A.	CU.Yds.
	176		389
98		254	
	287		472
212		256	
		96	326
		56	141
	457		1328

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		0	448
0	225		
		0	429
0	238		
		7	375
8	383		
		11	650
4	319		
		10	437

ATH-33-10.26

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80



CHANNEL EXCAVATION		E 101.08(d) Rock	Emb.
EA.	CU.Yds.	EA.	CU.Yds.
8+00 118		269	
	188		415
7+50 85		179	
	128		282
7+00 53		125	
	129		269
6+50 86		166	

(445) (960)

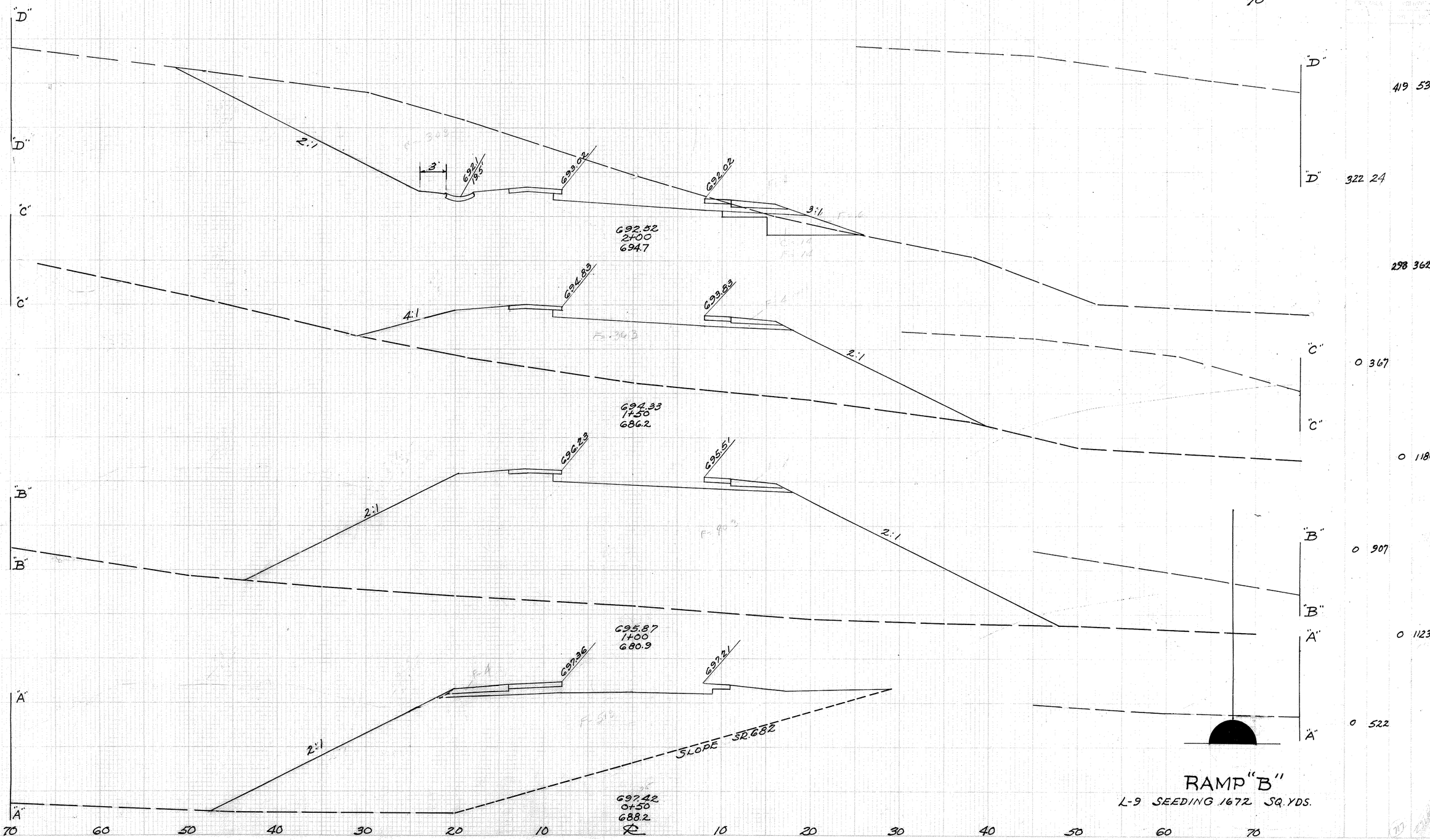
END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
0	375		
		0	613
0	287		
		0	557
0	314		
		0	531
0	259		

L-9 SEEDING 1053 SQ. YDS.

RAMP "A"

STA. 6+50 TO STA. 8+00

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70



419 53
322 24
298 362
0 367
0 1180
0 907
0 1123
0 522

RAMP "B"
L-9 SEEDING 1672 SQ. YDS.

STA 0+50 TO STA. 2+00

ATH-33-10.26

90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50

"A" "A" "A" "A"

2:1

C=20

2:1

15'

25'
682.0

+1":Ft.

684.42

684.66

-1/2":Ft.

684.54
4+00
709.7

50

5716 7

3043 4

4807 7

686.54
3+50
707.5

15'

23.5
685.0

686.78

686.30

2148 4

E-1 Excavation 95029 Cu.Yds.
E-1 Embankment 2833 Cu.Yds.
L-9 Seeding 20753 Sq.Yds.

2486 7

537 4

2:1

8'

+1":Ft.

2.5
688.0

689.04

688.54
3+00
693.6

688.04

-1/2":Ft.

619 34

2:1

3'

19.5'
690.4

691.04

690.04

2:1

131 33

690.54
2+50
689.9

RAMP "B"
L-9 SEEDING 3065 SQ.YDS.

90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50

STA 2+50 TO STA 4+00

STA. 4+50 TO STA. 5+50

ATH-33-10.26

100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40

"C" 2:1 "C"

3682 7

"B" 2:1

2017 4

15' +1": Ft. 25' 671.5 674.00 674.20 7+00 681.1 674.40 -1": Ft. Rdwy. Sec. 671.5 3:1

"B"

3895 7

"A"

2189 4

G+50 684.2 25' 672.5 675.02 675.59 -½": Ft. 4:1 4' 671.0

4288 7

2:1 2:1 A

G+00 689.9 15' +1": Ft. 25' 674.00 676.28 677.22 Rdwy. Sec. 4:1

RAMP "B"
L-9 SEEDING 2793 SQ.YDS. 2442 4

100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40

STA. 6+00 TO STA. 7+00

ATH-33-10.26


110 100 90 80 70 60 50 40 30 20 10 ℄ 10
20 30
"C"
"C"
2:1
5052 4
2830 4
"B"
2:1
RDW'Y SEC.
15'
+1":Ft.
3:1
669.0
31
672.78
672.98
8+50
681.1
673.23
672.83
673.58
4669 7
A
"B"
2:1
2212 4
RDW'Y. SEC.
670.0
27.5
672.94
673.34
673.28
673.90
673.14
8+00
675.9
3862 7
"A"
2:1
15'-0"
+1":Ft.
3:1
25'
671.0
673.28
673.68
RDW'Y SEC.
22.5
672.0
1959 4
673.48
7+50
676.1
110 100 90 80 70 60 50 40 30 20 10 ℄ 10
20 30
RAMP "B"
L-9 SEEDING 2850 SQ.YDS.
STA. 7+50 TO STA. 8+50

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

133

ATH-33-10.26

120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10

"C"

C=193

2:1

"C"

20

4411 0

2:1

"B"

2601 0

C=251

15'

+1":Ft.

669.70
27.5

3:1

672.64
10+00
680.2

672.44

673.01

4813 0

"B"

C=135

2597 0

C=2462

A

669.5
28'

672.46

672.66
9+50
679.1

673.13

4836 0

2:1

2:1

"A"

C=122

L-9 SEEDING 2828 SQ.YDS. 2626 0

RAMP "B"

672.82
9+00
684.5

15'

+1":Ft.

30
669.3

3:1

672.62

673.32

120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20

STA 9+00 TO STA 10+00

130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10

ATH-33-10.26

134

"C"

"C"

C=26

2:1

2:1

3485 0

2891 0

672.87
11+50
690.7

"B"

"B"

C=30

2:1

15'

+1'':Ft

3:1

670.6
25.6

672.67

673.04

5199 0

A

A

C=28

2:1

2:1

2723 0

672.74
11+00
686.4

670.10
26.

672.54

672.96

4524 0

L-9 SEEDING 2752 SQ.YDS 2162 0

RAMP "B"

672.65
10+50
682.9

669.9
26.6

672.45

672.95

15'

+1'':Ft

3:1

130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10

STA. 10+50 TO STA 11+50

FED. AID DIVISION	STATE	PROJECT
2	OHIO	

ATH-33-10.26

135

10

130 120 110 100 90 80 70 60 50 40 30 20 10 ℄

"C"

"C"

C=31

2:1

2:1

"B"

"B"

C=20

A

A

C=19

2:1

2:1

C=3025

15'

+1":Ft

3:1

671.30
25

673.50

673.66

673.62
13+00
689.5

3125 0

5695 0

STA 13+00
44' Lt. Sta. 575+00

673.28
12+50
689.7

5609 0

671.0
25

673.12

673.30

673.04
12+00
691.6

3092 0

RAMP "B"
L-9 SEEDING 1826 SQ. YDS.

15'

+1":Ft

3:1

670.70
25

672.84

673.18

130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10

STA. 12+00 TO STA. 13+00

ATH-33-10.26

E-1 EXCAVATION 110 Cu. Yds.
E-1 EMBANKMENT 13500 Cu. Yds.
E-3 CHANNEL Exc. 399 Cu. Yds.
L-9 SEEDING 5702 Sq. Yds.

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		2	1964
1	1259		
		1	2491
0	1431		
		0	1805
0	518		
		0	163
0	0		

Zero Fill 0+33

L-9 SEEDING 2087 SQ. YDS.

RAMP "C"

STA. 0+50 TO STA. 1+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

137

ATH-33-10.26

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80

RDWY-SEC.

2½:1

694.42 8'

693.42

F=4

2:1

F=633

42.5' G81.75

3:1

C=3

693.92
3+50
G77.1

695.04

694.32

F=4

685.75

2:1

F=764

43' G82.2

3:1

C=7

694.68
3+00
G81.3

695.70

695.18

F=4

F=821

44.5' G82.4

3:1

C=6

695.44
2+50
681.8

696.36

696.00-8'
695.98
5'

F=4

2:1

2:1

F=858

46.5' G82.60

RDWY SEC.

696.18
2+00
682.9

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80

L-9 SEEDING 1994 SQ.YDS.

C-1

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		3	988
3	637		
		9	1301
7	768		
		12	1475
6	825		
		6	1562
1	862		
		40	5926

RAMP "C"

STA. 2+00 TO STA 3+50

ATH-33-10.26

CHANNEL EXCAVATION	E.A.	Cu. Yds.
5+75	0	
		8
5+50	18	
		56
5+00	43	
		186
4+50	158	
		149
4+00	3	

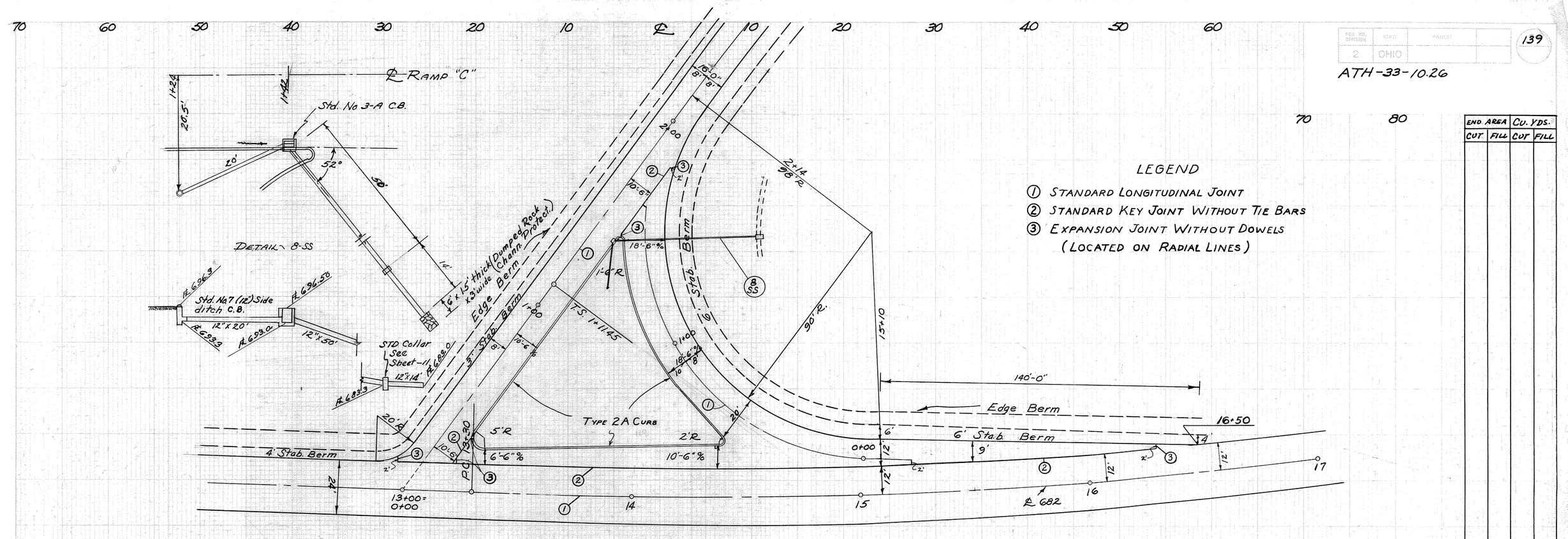
END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		41	6
6	3		
		17	76
12	79		
		11	331
0	278		
		0	598
0	368		
		0	739
0	430		

RAMP "C"

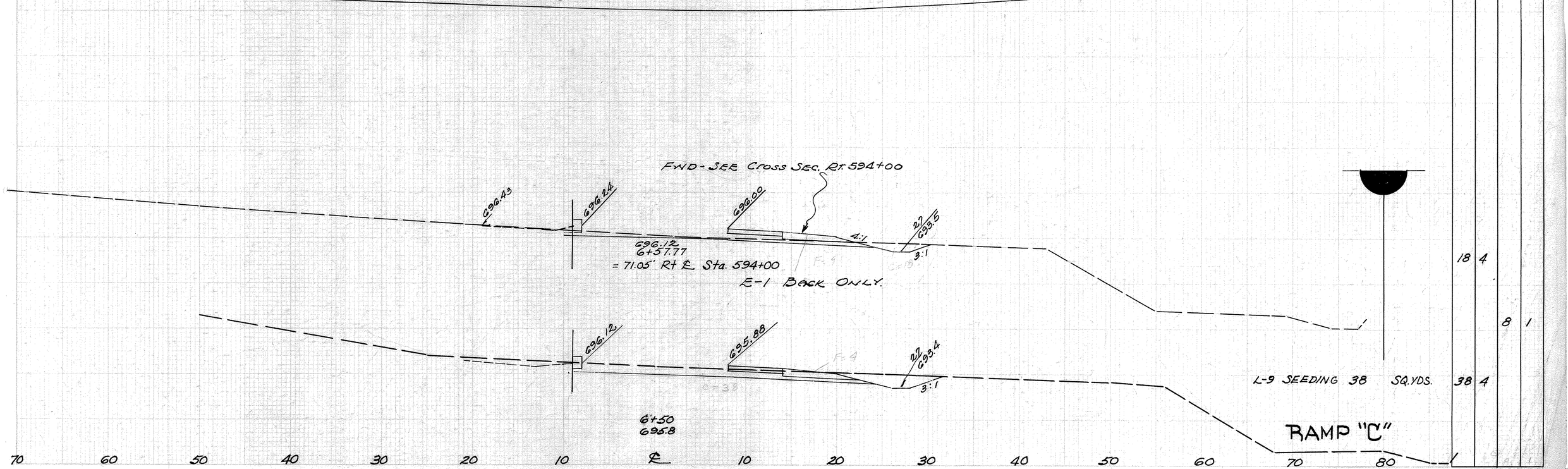
STA. 4+00 TO STA. 6+00

FED. RD. DIVISION	STATE	PROJECT		139
2	OHIO			

ATH-33-10.26



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		18	4
		8	1
		38	4



FED. DIV.	STATE	PROJECT
2	OHIO	

ATH-33-10.26

140

220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60

B — B

691.57

"A" — "A"

692

2:1

1½:1

694.15
2+00
719.1

TWP RD.

695.72 | 695.60 4A' | 695.48 | 694.65 | 693.69

691.57

"B" — "B"

49794 Cu. Yds.
7669 Cu. Yds.
13721 Sq. Yds.

5749 7

4202 4

10794 7

7455 4

14059 7

7728 4

8965 7

1953 4

1447 3

0 0

695.19
1+50
723.4

695.0 | 696.32 | 696.20 4A' | 696.08 | 695.69 | 694.69

692.07

E-1 EXCAVATION
E-1 EMBANKMENT
L-9 SEEDING

L-9 SEEDING 3586 SQ. YDS.

696.23
1+00
716.3

ROW'S SLOPE SR-682

695.25 | 696.92 | 696.80 4A' | 696.68 | 696.58 | 695.77

693.0

RAMP "D"

ZERO SECTION = 0+10

695.5 | 696.88 | 697.0 4A' | 696.88 | 697.20 | 697.10

697.27
0+56
704.9
℄

694.0

SR-682

220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60

STA. 0+50 TO STA. 2+00

ATH-33-10.26

RAMP "D"

STA. 2+50 TO STA. 4+00

ATH-33- 10.26

RAMP "D"

STA. 4+50 TO STA. 7+00

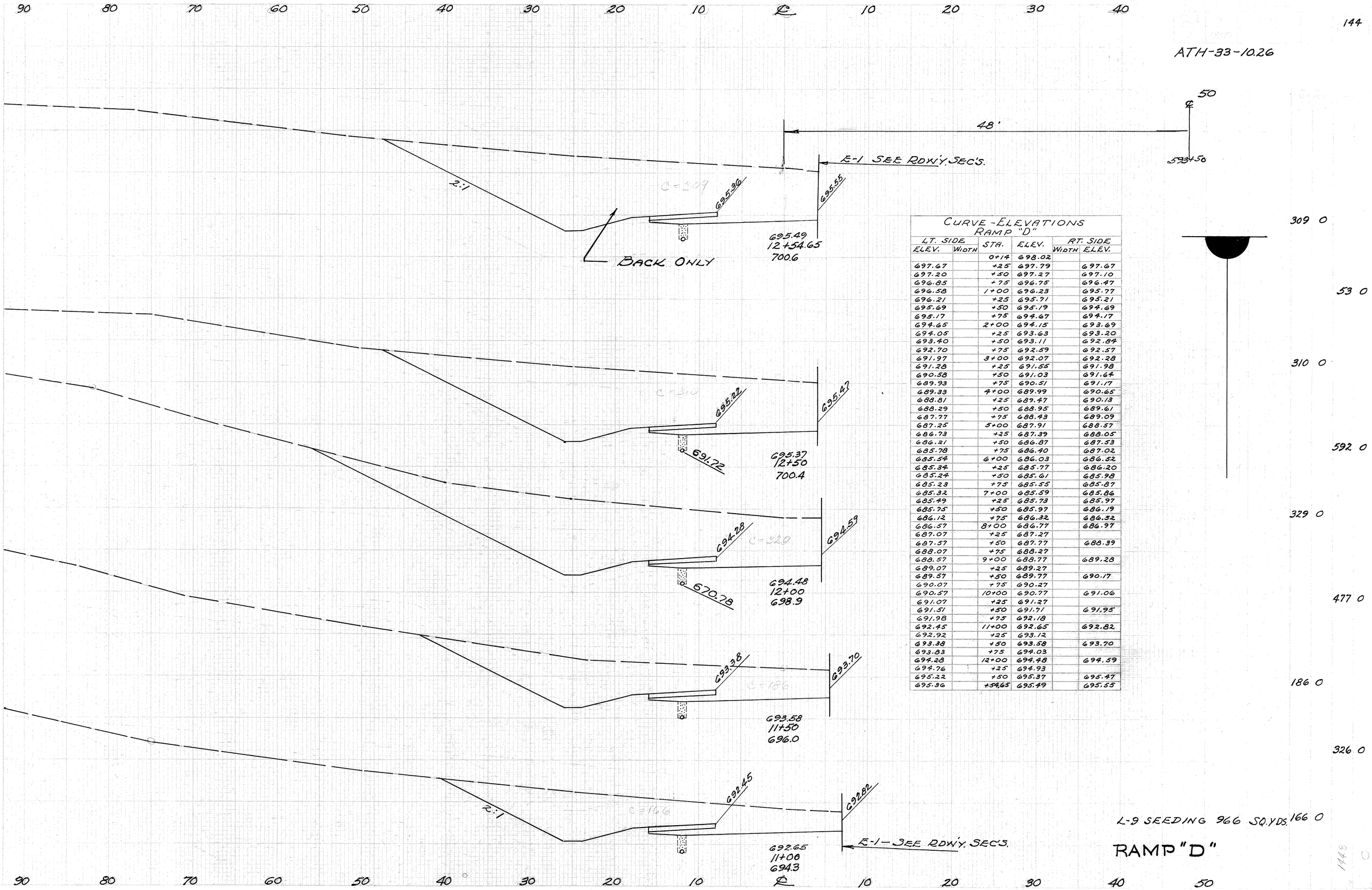
ATH-33-10.26

RAMP "D"

STA. 7+50 TO STA. 10+50

144

ATH-33-10.26



CURVE-ELEVATIONS RAMP "D"

LT. SIDE ELEV.	WIDTH	STA.	ELEV.	RT. SIDE WIDTH	RT. SIDE ELEV.
		0+14	698.02		
697.67		+25	697.79		697.67
697.20		+50	697.27		697.10
696.85		+75	696.75		696.47
696.58		1+00	696.23		695.77
696.21		+25	695.71		695.21
695.69		+50	695.19		694.69
695.17		+75	694.67		694.17
694.65		2+00	694.15		693.69
694.05		+25	693.63		693.20
693.40		+50	693.11		692.84
692.70		+75	692.59		692.57
691.97		3+00	692.07		692.28
691.28		+25	691.55		691.98
690.58		+50	691.03		691.64
689.93		+75	690.51		691.17
689.33		4+00	689.99		690.65
688.81		+25	689.47		690.13
688.29		+50	688.95		689.61
687.77		+75	688.43		689.09
687.25		5+00	687.91		688.57
686.73		+25	687.39		688.05
686.21		+50	686.87		687.53
685.78		+75	686.40		687.02
685.54		6+00	686.03		686.52
685.34		+25	685.77		686.20
685.24		+50	685.61		685.98
685.23		+75	685.55		685.87
685.32		7+00	685.59		685.86
685.49		+25	685.73		685.97
685.75		+50	685.97		686.19
686.12		+75	686.32		686.32
686.57		8+00	686.77		686.97
687.07		+25	687.27		
687.57		+50	687.77		688.39
688.07		+75	688.27		
688.57		9+00	688.77		689.28
689.07		+25	689.27		
689.57		+50	689.77		690.17
690.07		+75	690.27		
690.57		10+00	690.77		691.06
691.07		+25	691.27		
691.51		+50	691.71		691.95
691.98		+75	692.18		
692.45		11+00	692.65		692.82
692.92		+25	693.12		
693.38		+50	693.58		693.70
693.83		+75	694.03		
694.28		12+00	694.48		694.59
694.76		+25	694.93		
695.22		+50	695.37		695.47
695.36		+54.65	695.49		695.55

RAMP "D"

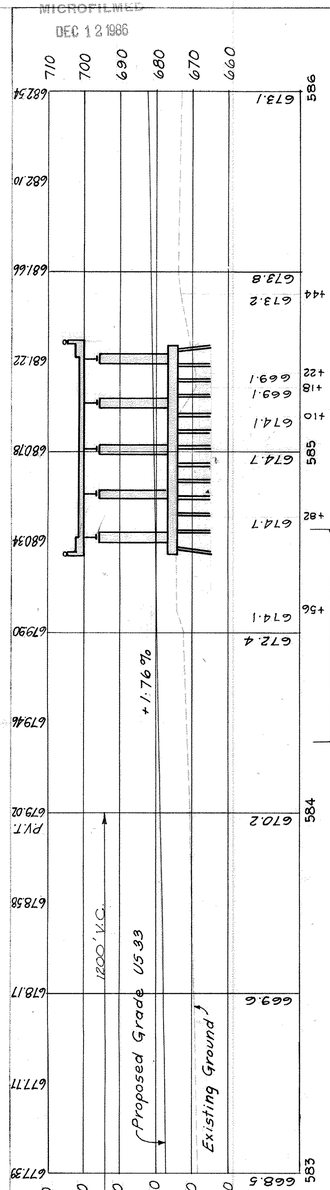
STA 11+00 TO STA 12+54.65

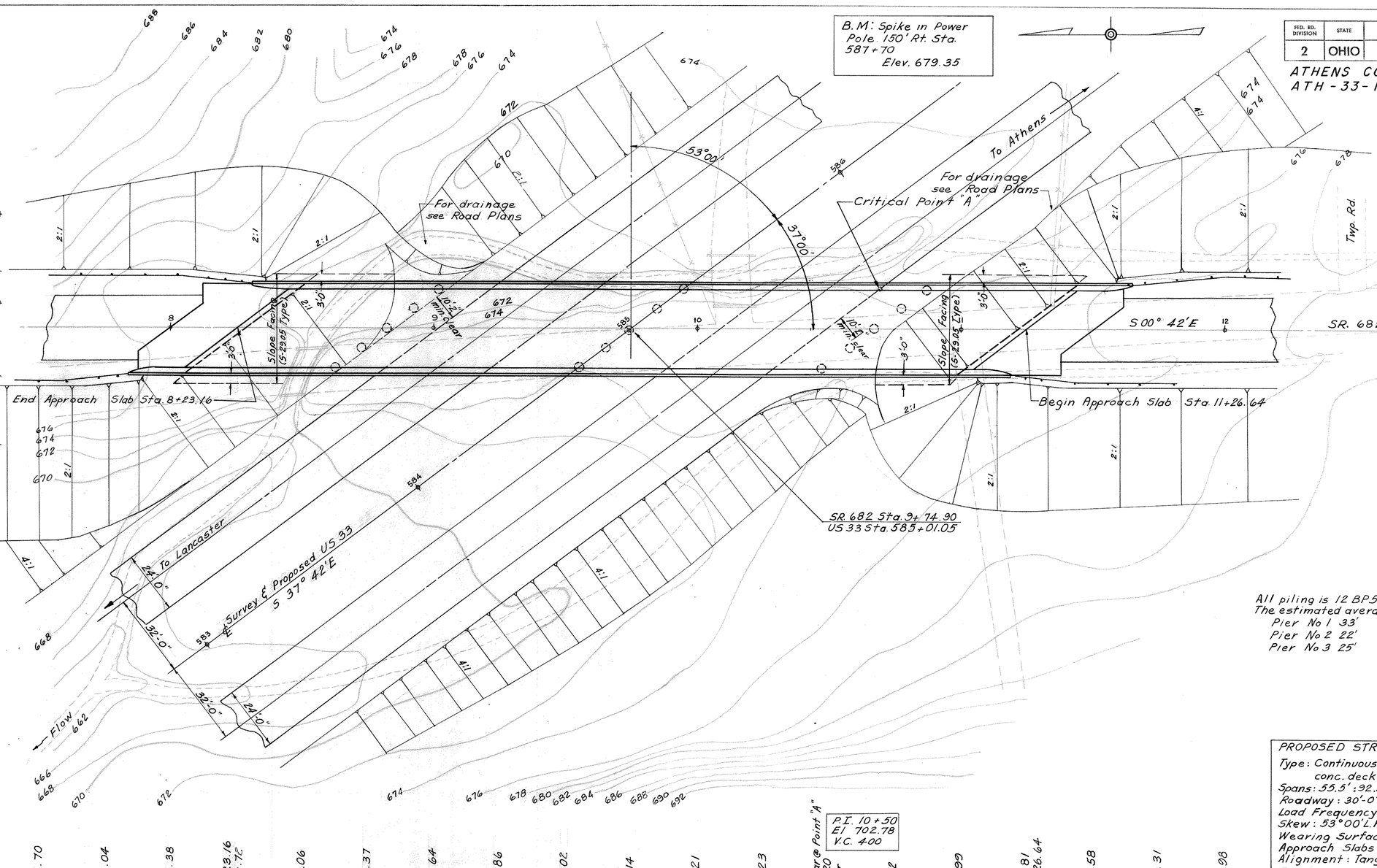
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

200

ATHENS COUNTY
ATH - 33 - 10.26

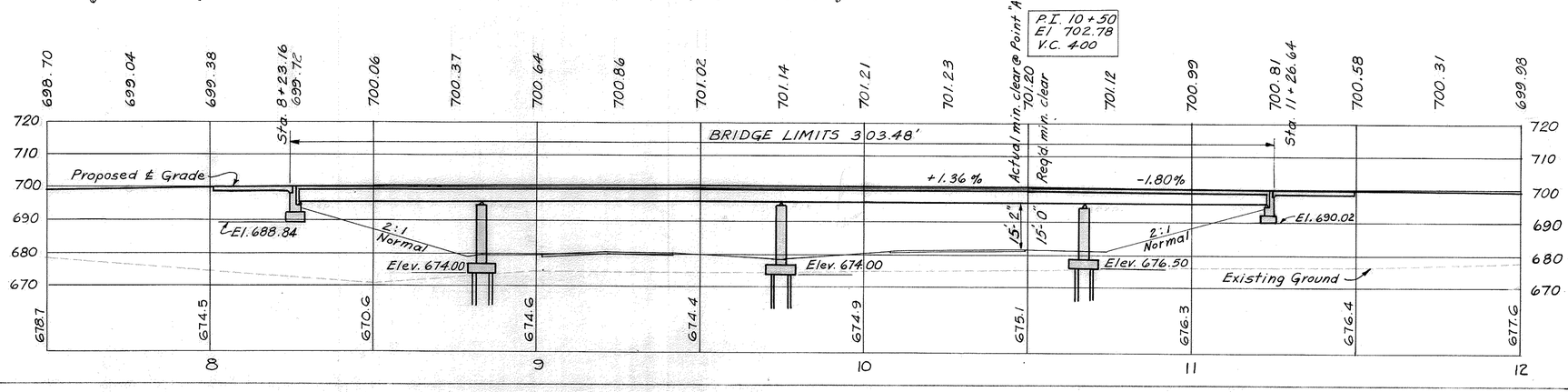
B.M: Spike in Power Pole 150' Rt. Sta. 587+70
Elev. 679.35





All piling is 12 BP53
The estimated average pay length is:
Pier No 1 33'
Pier No 2 22'
Pier No 3 25'

PROPOSED STRUCTURE
Type: Continuous steel beam with reinf conc. deck and substructure
Spans: 55.5' : 92.5' : 92.5' : 55.5' c.c. brgs.
Roadway: 30'-0" with 2'-2" safety curbs
Load Frequency: CF = 130(57).
Skew: 53°00' L.F.
Wearing Surface: ¾" monolithic concrete.
Approach Slabs: AS-1-54 (25' long).
Alignment: Tangent



YULE, STICKLEN, JORDAN & M°NEE
ENGINEERS
COLUMBUS OHIO

SITE PLAN

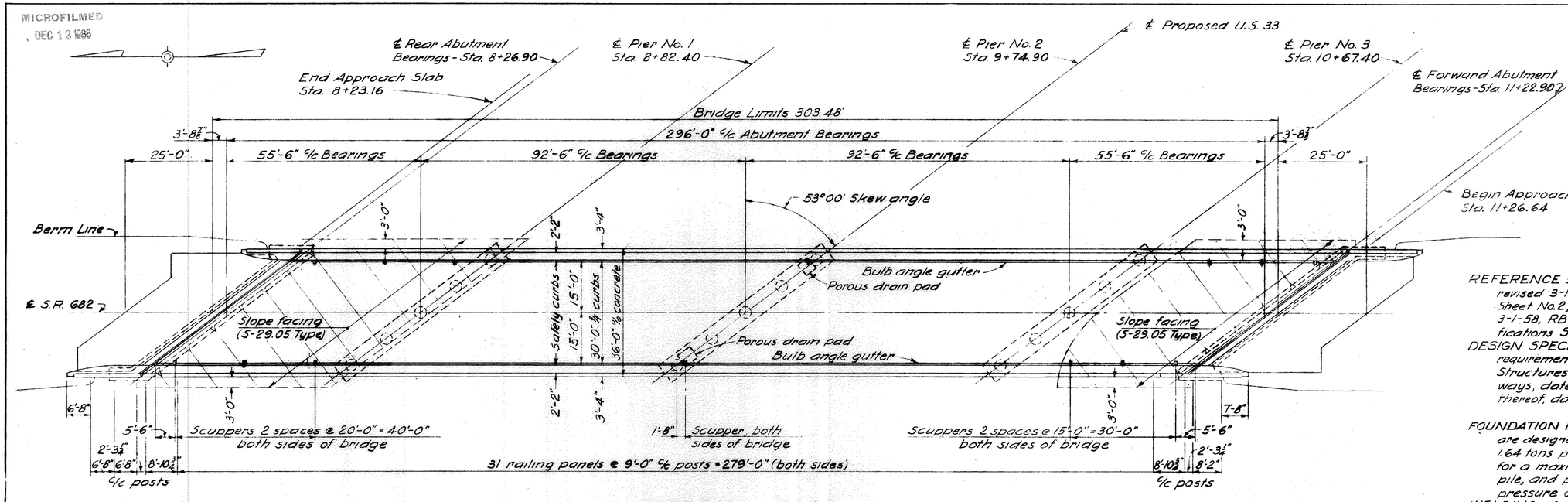
BRIDGE NO. ATH-33-1107
US 33 UNDER SR 682
ATHENS CO. US 33
STA. 585 + 01.05
SCALE: 1"=20' CONTOUR INTERVAL=2'

PRESENT TOPOGRAPHY		PROPOSED WORK				
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED	
W.C.R.	C.P.T.	J.C.L.	J.M.M.	E.W.T.	R.B.Y.	

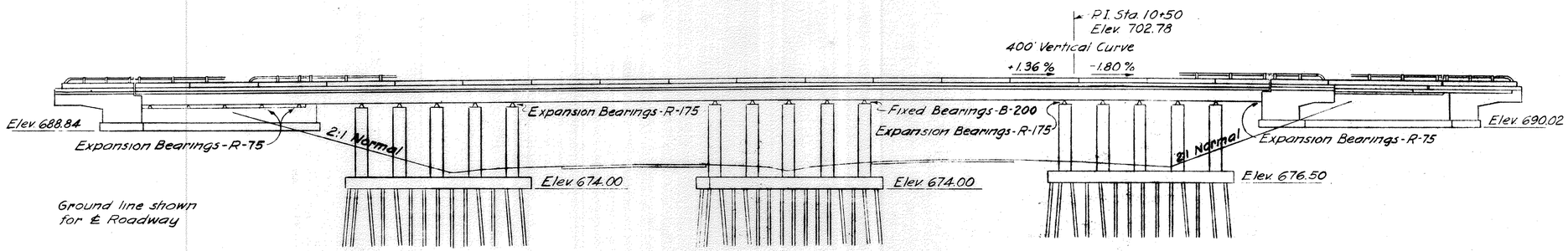
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

201

ATHENS COUNTY
ATH-33-10.26



GENERAL PLAN



ELEVATION

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super-struct.	Rear Abut.	Pier 1	Pier 2	Pier 3	Forward Abut.	General
E-2	550	Cu.Yds.	Unclassified excavation		133	95	88	101	133	
S-1	312	Cu.Yds.	Class "C" Concrete - Superstructure	312						
S-1	71	Cu.Yds.	Class "C" Concrete - Pier columns			24	25	22		
S-1	133	Cu.Yds.	Class "E" Concrete - Abutments		67				66	
S-1	117	Cu.Yds.	Class "E" Concrete - Pier footings			39	39	39		
S-4	124,757	Lbs.	Reinforcing steel	81,472	4,674	11,417	11,717	10,803	4,674	
S-7	366,000	Lbs.	Structural steel	366,000						
S-8	366,000	Lbs.	Field painting of structural steel	366,000						
S-14	667	Lin.Ft.	Railing (aluminum rail, supports & concrete parapet)	597	35				35	
S-16	Lump	Sum	First test pile							Lump Sum
S-18	2,200	Lin.Ft.	Steel piles 12 BP 53			870	670	660		
S-29	199	Cu.Yds.	Slope facing (S-29.05 Type)		98				101	
S-29	55	Cu.Yds.	Porous backfill		27		1		27	
S-29	35	Lin.Ft.	Downspouts (6"ø wrought iron or hot-dipped galvanized steel)				35			

EXCAVATION QUANTITY includes the removal of fill material for the construction of the abutments

GENERAL NOTES

REFERENCE shall be made to Standard Drawings AR-1-57, revised 3-1-58 (Type A), AS-1-54 revised 12-1-54, CSB-2-56 Sheet No.2, revised 3-1-58, CSB-2-56 Sheet No.3, revised 3-1-58, RB-1-55 dated 3-1-55 and supplemental specifications S-114 (aluminum for bridge railing), revised 8-1-57.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with the revisions thereof, dated 2-21-58.

FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 1.64 tons per sq.ft., pier 1 and 3 footings are designed for a maximum bearing pressure of 28.2 tons per pile, and pier 2 is designed for a maximum bearing pressure of 29.0 tons per pile.

WELDING of structural steel shall be class "A" except as otherwise shown. Class "B" welds show thus B. Any welds shown as field welds may, at the option of the contractor be made in the shop.

SLOPE FACING (S-29.05 TYPE) shall be provided under the structure at both abutments. The slope facing shall be 12" thick and shall extend from the face of the abutment to the flow line of the ditch and transversely to 3 feet outside of the edge of the superstructure.

WELDED STEEL: The steel for the 36 WF 230 beams shall conform to ASTM Designation A-373. All other structural steel shall conform to either ASTM A-7 (as per Sec. M-7.4 (a) of the Construction and Material Specifications) or to A-373.

PILES shall be driven to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. S-18.05 is not less than the following value for a pile hammer of the indicated energy rating for the pier piles:

60 tons per pile using a 11,000 ft. lb. hammer
50 tons per pile using a 15,000 ft.lb or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 30 tons per pile for the pier piles.

PROCEDURE: The embankments for the abutments and piers shall be placed and compacted up to the finished spill-thru slope and to the level of the subgrade for a distance of 200 feet back of the abutments along SR 682 and for a distance of 100 feet each side of center line of SR 682 along U.S. 33. Excavation for abutments and piers shall not begin before 90 days after placing the embankments unless observations indicate settlement has ceased, and approval of the Director is obtained.

YULE, STICKLEN, JORDAN & McNEE
ENGINEERS
COLUMBUS OHIO

GENERAL PLAN & ELEVATION ESTIMATED QUANTITIES

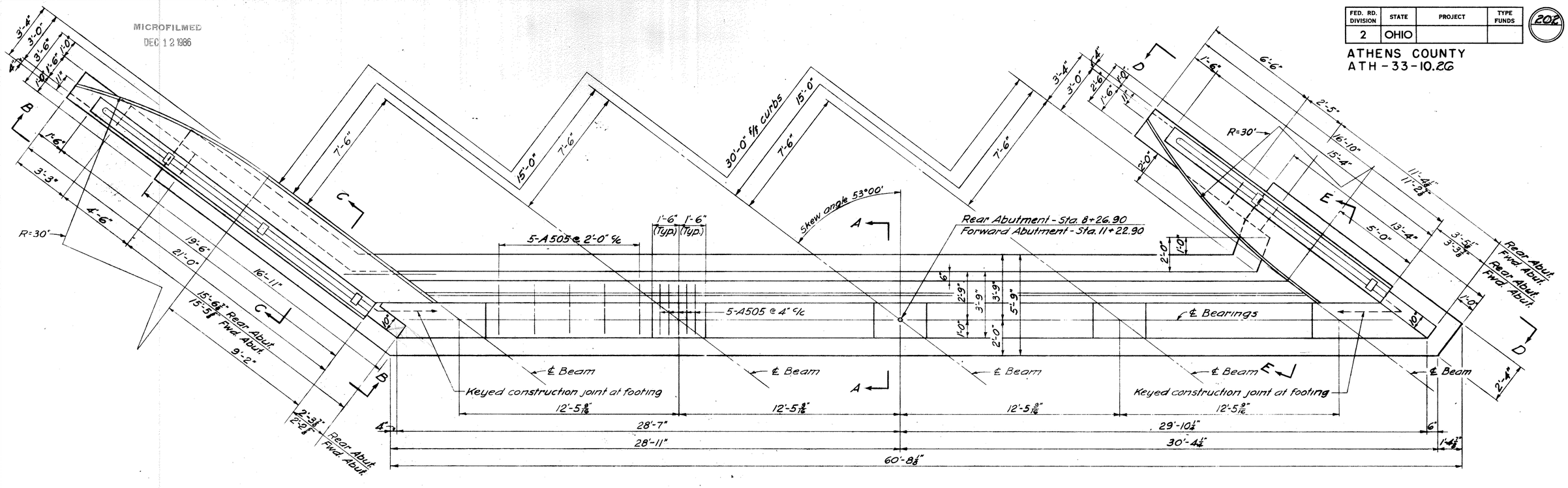
BRIDGE NO. ATH-33-1107
US 33 UNDER SR 682
ATHENS COUNTY STA. 585 + 01.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.P.T.	A.M.	A.M.	E.W.T.	J.C.L.	5/19/58	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

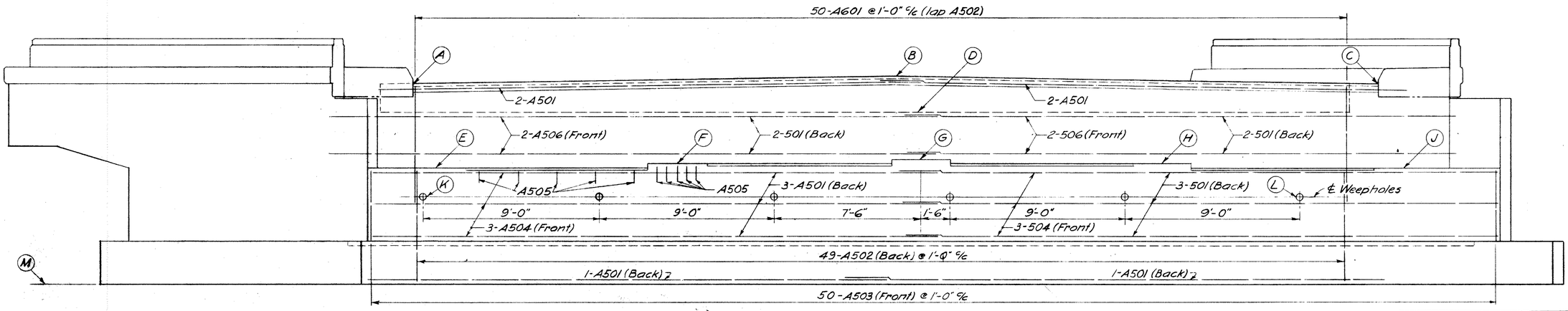
202

ATHENS COUNTY
ATH-33-10.26



ABUTMENT PLAN

For Sections A-A, B-B, C-C, D-D, and E-E see Sheet 203
For locations of points N, P, Q, R, S, and T see Sheet 203



ELEVATION

POROUS BACKFILL, 2 feet thick, full length of abutment and wings, shall extend up to the underside of the approach slab.

ELEVATIONS

Abutment	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
Rear	699.22	699.72	698.76	697.68	694.84	695.09	695.34	695.36	695.38	693.34	693.88	688.84	698.21	698.41	698.44	699.08	699.03	698.89
Forward	700.41	700.82	700.73	698.87	696.02	696.23	696.43	696.39	696.34	994.52	694.84	690.02	699.47	699.61	699.63	700.01	699.99	699.96

YULE, STICKLEN, JORDAN & McNEE
COLUMBUS ENGINEERS OHIO

ABUTMENT PLAN

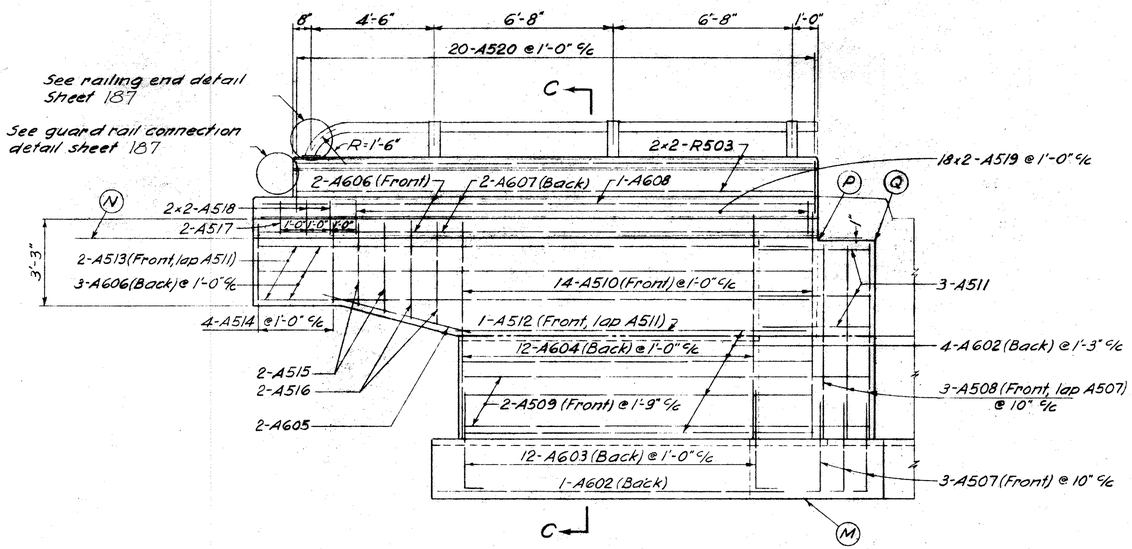
BRIDGE NO. ATH-33-1107
US 33 UNDER SR 682
ATHENS COUNTY STA. 565+01.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.M.	A.M.	A.M.	E.W.T.	J.C.L.	5/19/58	

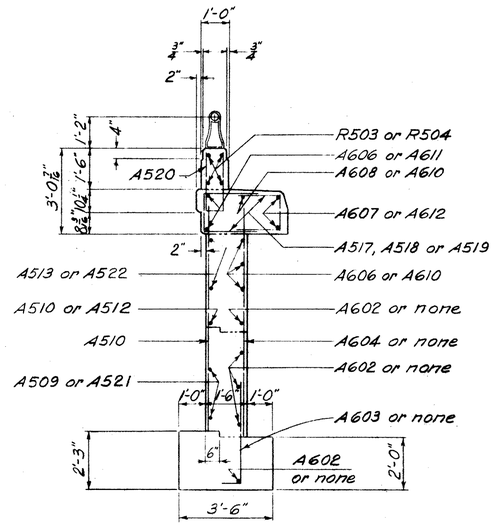
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

203

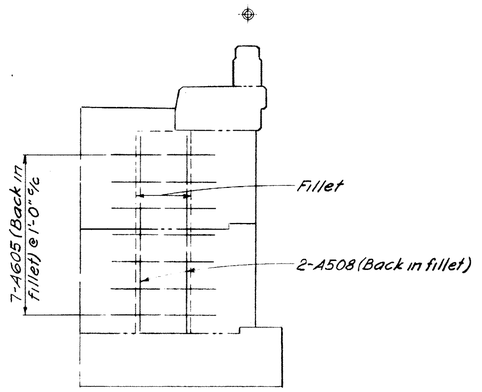
ATHENS COUNTY
ATH-33-10.26



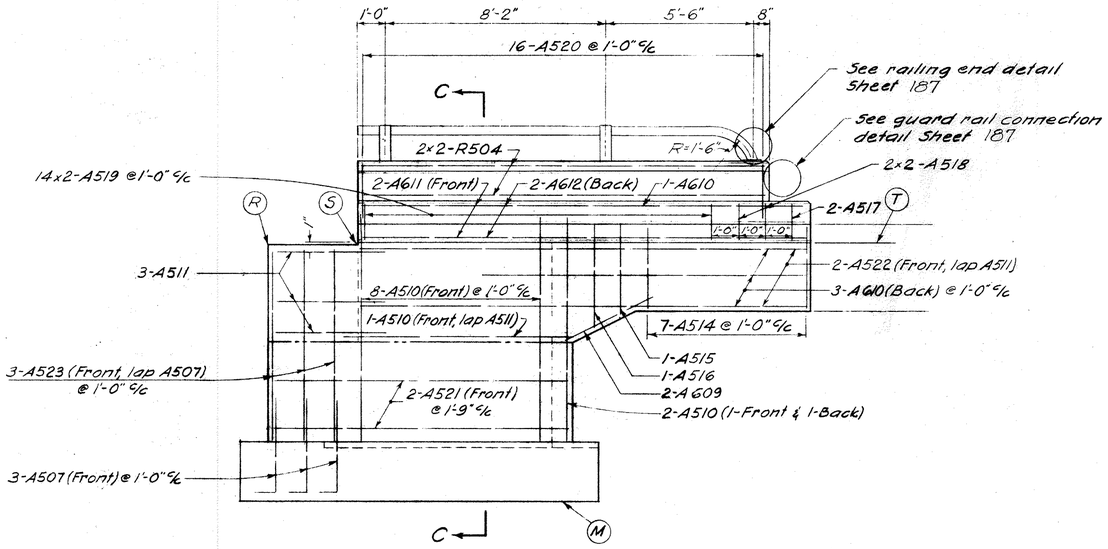
ELEVATION B - B



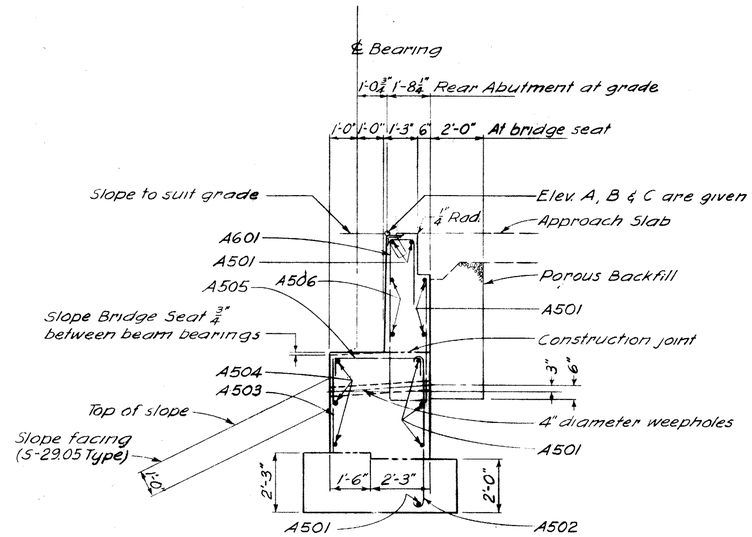
SECTION C - C



SECTION E - E



ELEVATION D - D



SECTION A - A

For locations of Elevations and Sections see Sheet 202

YULE, STICKLEN, JORDAN & McNEE
COLUMBUS ENGINEERS OHIO

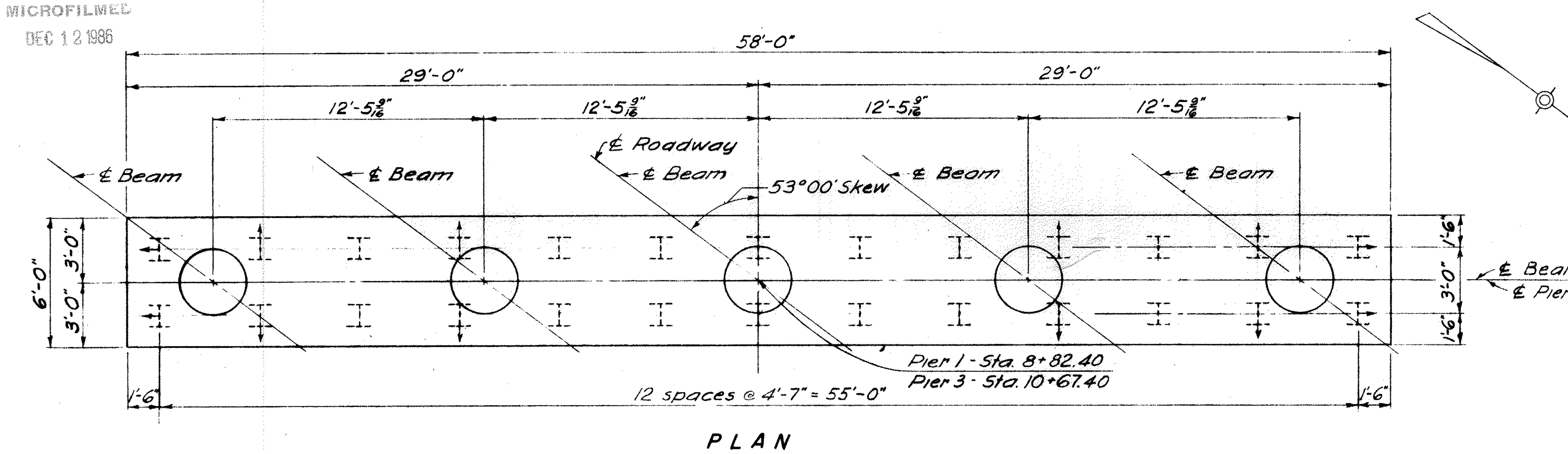
ABUTMENT DETAILS

BRIDGE NO. ATH-33-1107
US 33 UNDER SR 682
ATHENS COUNTY STA. 585 + 01.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.M.	A.M.	A.M.	E.W.T.	J.C.L.	5/19/58	

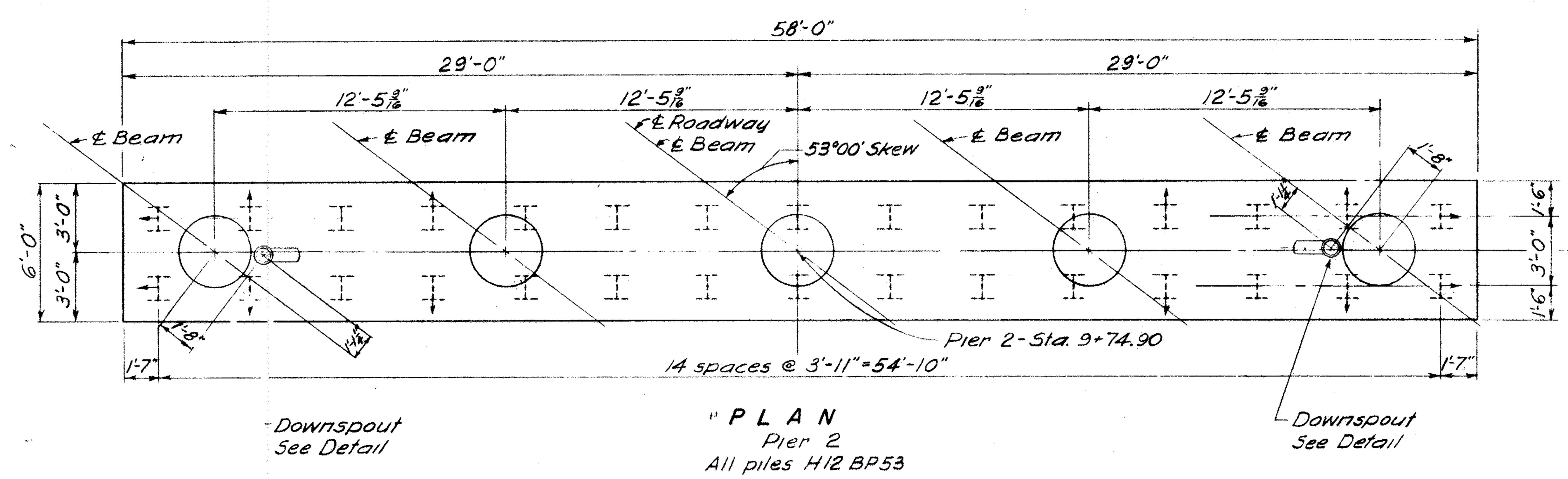
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

ATHENS COUNTY
ATH-33-10.26

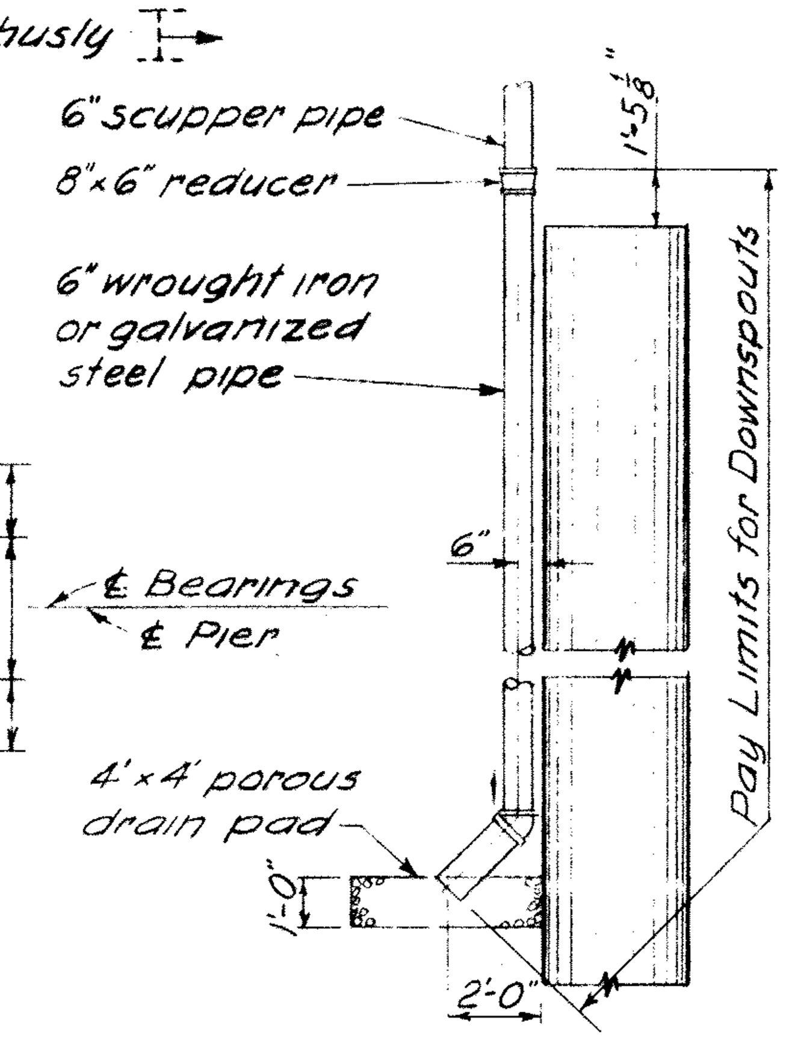


PLAN
Piers 1 and 3
All piles H 12 BP 53

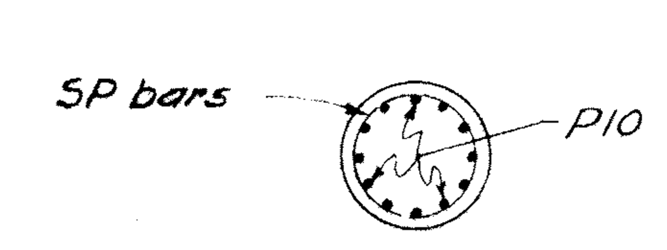
BATTERED PILES are indicated thusly



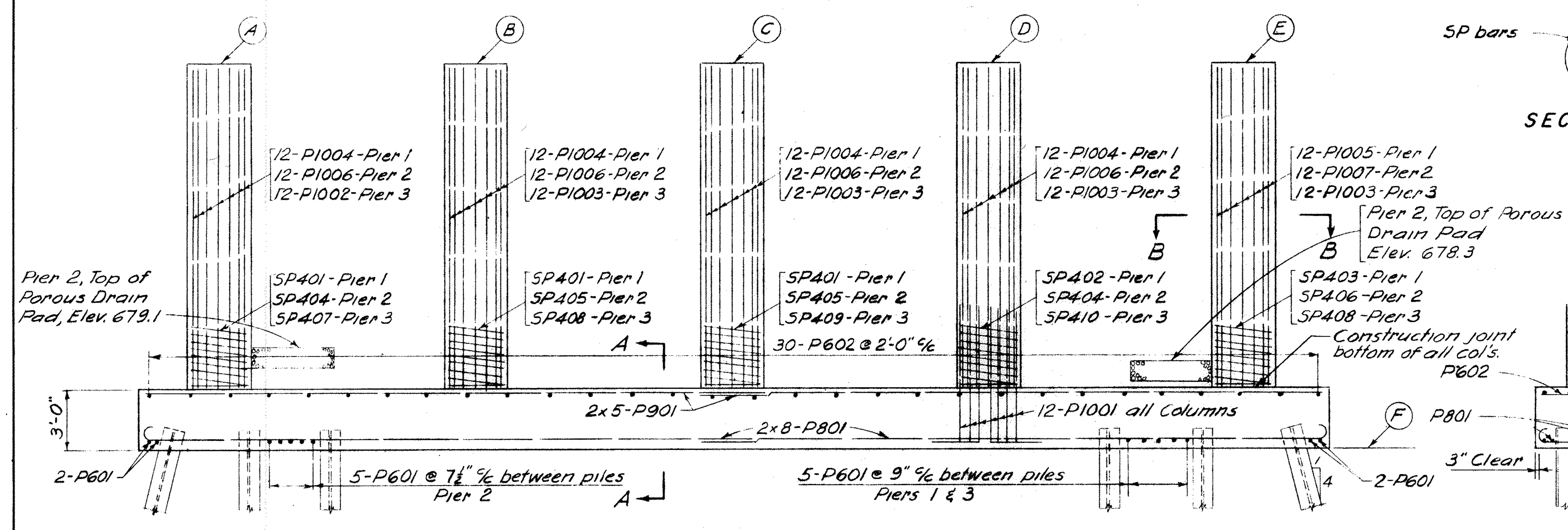
PLAN
Pier 2
All piles H12 BP53



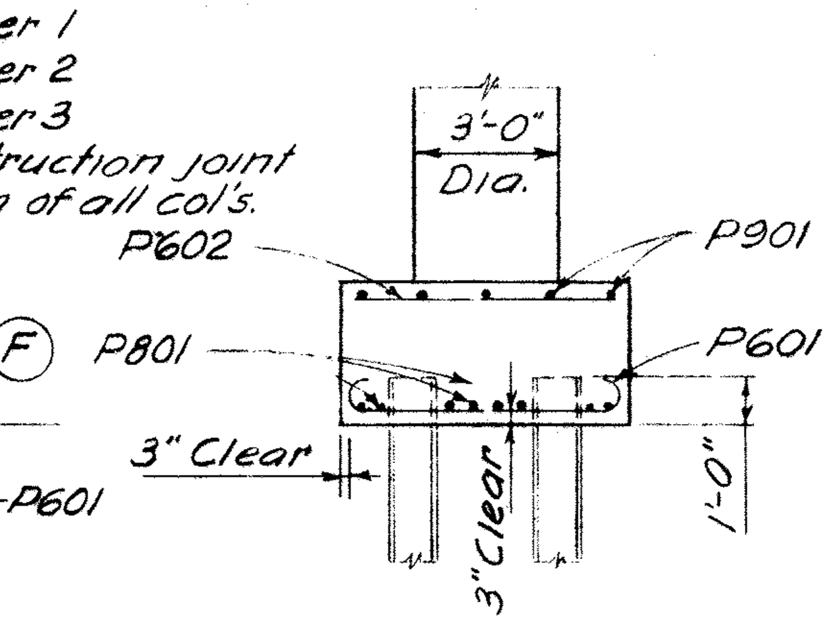
DOWNSPOUT DETAIL



SECTION B-B



ELEVATION



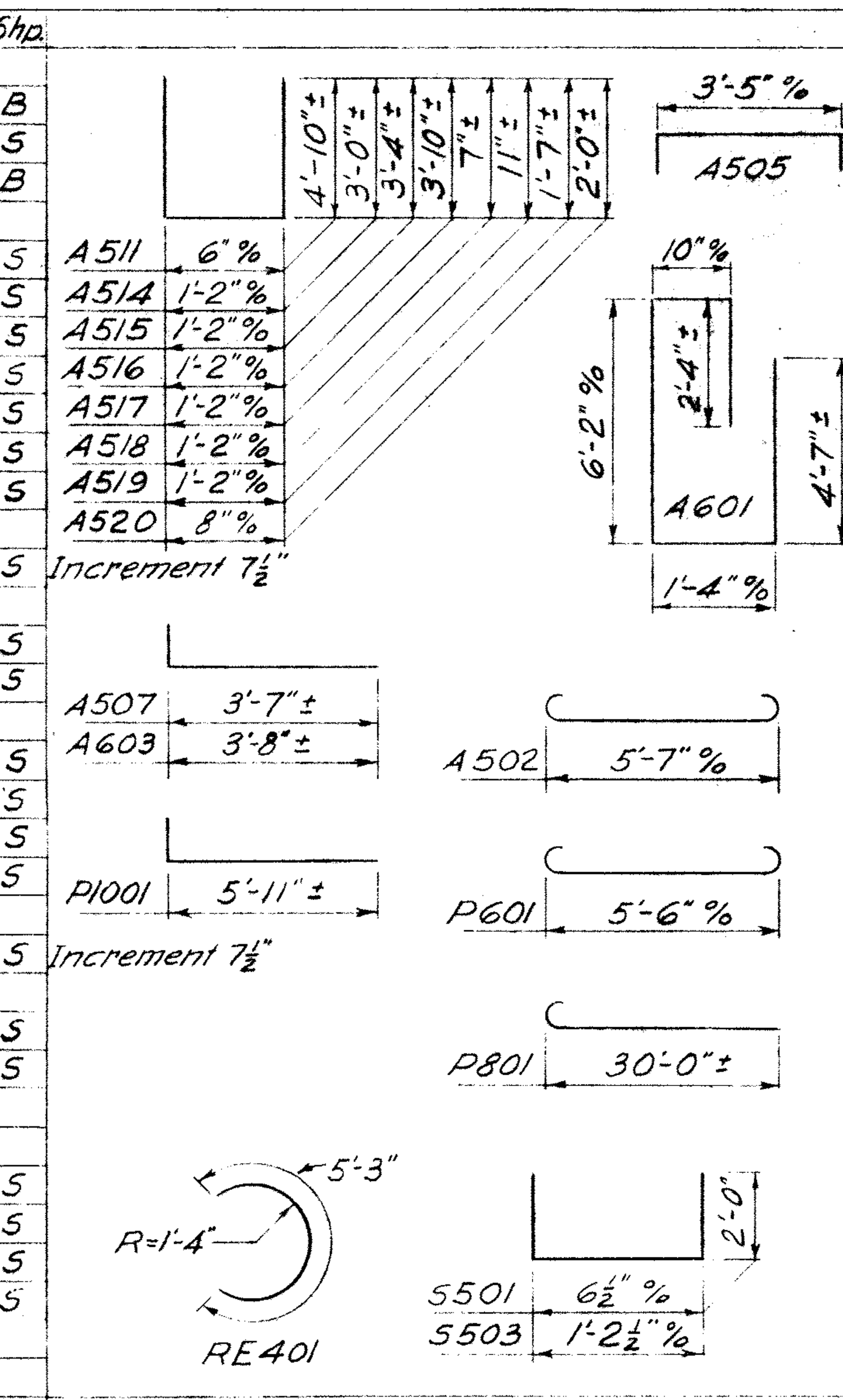
SECTION A-A

ELEVATIONS

Item	Elev. A	Elev. B	Elev. C	Elev. D	Elev. E	Elev. F
Pier 1	695.51	695.53	695.54	695.31	695.07	674.00
Pier 2	695.95	696.04	696.12	695.96	695.80	674.00
Pier 3	695.91	696.08	696.23	696.15	696.05	676.50

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
Superstructure				
S501	434	4'-6½"	2055	B
S502	434	2'-10"	1283	S
S503	868	2'-2½"	1999	B
S601	304	36'-0"	16438	S
S602	448	38'-11"	26189	S
S603	24	36'-0"	1298	S
S604	48	28'-0"	2019	S
S605	2	34'-1"	102	S
S606	2	33'-6"	101	S
S607	2	32'-11"	99	S
S608	2 Series 47	Vary from 3'-6½" to 32'-3½"	2530	S
S609	4	30'-6"	183	S
S610	10	19'-9"	297	S
S701	304	36'-0"	22370	S
S702	2	34'-1"	139	S
S703	2	33'-6"	137	S
S704	2	32'-11"	135	S
S705	2 Series 47	Vary from 3'-6½" to 32'-3½"	3443	S
S706	4	30'-8"	251	S
S707	10	19'-9"	404	S
Railing				
R501	16	14'-1"	*	S
R502	120	17'-8"	*	S
R503	8	19'-2"	*	S
R504	8	15'-0"	*	S
Piers				
P601	202	6'-10"	2072	B
P602	90	5'-6"	744	S
P801	48	31'-1"	3983	B
P901	30	30'-2"	3077	S
P1001	180	7'-0"	5422	B
P1002	12	16'-3"	839	S
P1003	48	16'-5"	3391	S
P1004	48	18'-2"	3753	S
P1005	12	17'-11"	925	S
P1006	48	18'-9"	3073	S
P1007	12	18'-6"	955	S



Mark	No.	Length	Weight	Shp.
Abutments				
A501	32	27'-9"	926	S
A502	100	6'-9"	704	B
A503	118	3'-6"	431	S
A504	12	30'-0"	375	S
A505	90	4'-5"	415	B
A506	8	30'-4"	253	S
A507	12	4'-1"	51	B
A508	14	7'-2	105	S
A509	4	15'-2"	63	S
A510	50	8'-6"	443	S
A511	12	10'-2"	127	B
A512	2	12'-0"	25	S
A513	4	19'-9"	82	S
A514	22	7'-2"	165	B
A515	6	7'-10"	49	B
A516	6	8'-10"	55	B
A517	8	2'-4"	19	B
A518	16	3'-0"	50	B
A519	128	4'-4"	578	B
A520	72	4'-8"	351	B
A521	4	10'-11"	46	S
A522	4	16'-8"	70	S
A523	6	7'-7"	47	S
A601	100	15'-3"	2291	B
A602	8	13'-0"	156	S
A603	24	4'-4"	156	B
A604	24	8'-9"	315	S
A605	18	5'-6"	149	S
A606	10	20'-8"	310	S
A607	4	23'-3"	140	S
A608	2	17'-0"	51	S
A609	4	4'-0"	24	S
A610	8	12'-0"	144	S
A611	4	16'-6"	99	S
A612	4	14'-0"	84	S
Replacement bars				
RE1001	1	7'-3"		S
RE901	1	6'-10"		S
RE801	1	6'-6"		S
RE701	2	6'-3"		S
RE601	3	5'-11"		S
RE501	1	5'-7"		S
RE401	1	5'-3"		B

*Included with railing for Payment.

Spiral Reinforcing List

Mark	No.	Core Dia. c/c Spiral	Length	Pitch	No. Turns	Weight
SP401	3	32"	18'-4"	4½"	52	1010
SP402	1	32"	18'-2"	4½"	51	330
SP403	1	32"	17'-11"	4½"	51	330
SP404	2	32"	18'-9"	4½"	53	687
SP405	2	32"	18'-11"	4½"	53	688
SP406	1	32"	18'-7"	4½"	53	344
SP407	1	32"	16'-3"	4½"	46	298
SP408	2	32"	16'-5"	4½"	47	607
SP409	1	32"	16'-7"	4½"	47	304
SP410	1	32"	16'-6"	4½"	47	304

The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to 2" below the top of the column. The "No. of Turns shown in the steel list for th spiral bars is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item S-4. 1½ closed coils shall be provided at the end of each spiral unit. Four steel channels, tees, or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four digits are used, indicates the bar size number. For example, P901 is a No. 9 size bar and P1001 is a No. 10 size bar.

REPLACEMENT BARS: If the bars are fabricated from stock that has previously been tested and approved by the Ohio Highway Laboratory, the furnishing of test samples and replacement bars will not be required.

DOWNSPOUTS shall be 6" standard wrought iron pipe or hot-dipped galvanized steel pipe. Joints shall be made by welding or by the use of a clamp-type coupling with a ring gasket. All welding shall be done before galvanizing. Straps or clamps for attaching downspouts shall be wrought iron or hot-dipped galvanized steel. Bolts shall be galvanized but this galvanizing need not be hot-dipped.

YULE, STICKLEN, JORDAN & McNEE
ENGINEERS
COLUMBUS OHIO

PIER DETAILS AND REINFORCING STEEL LIST

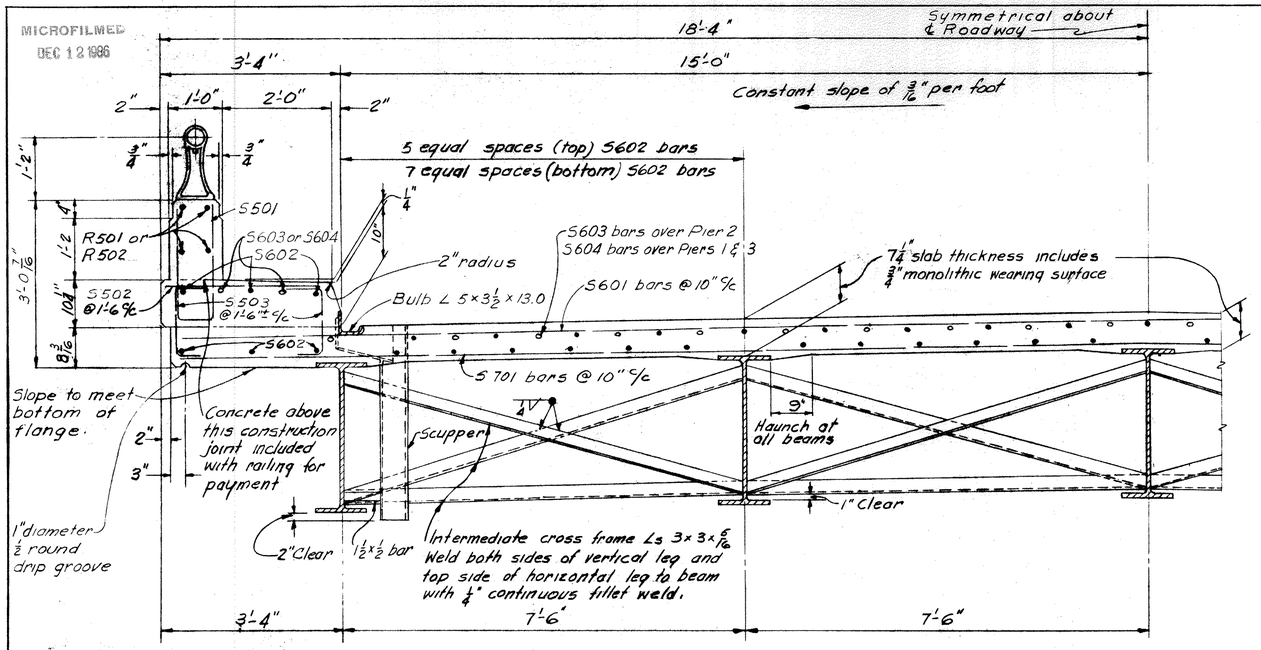
BRIDGE NO. ATH-33-1107
US 33 UNDER SR 682
ATHENS COUNTY STA. 585 + 01.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.P.T.	A.M.	A.M.	E.W.T.	J.C.L.	5/19/58	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

20.5

ATHENS COUNTY
ATH-33-10.26



Note: For bulb angle gutter support scupper and curb plate details, see Standard Drawing CSB-2-56 Sheet 3 revised 3-1-58

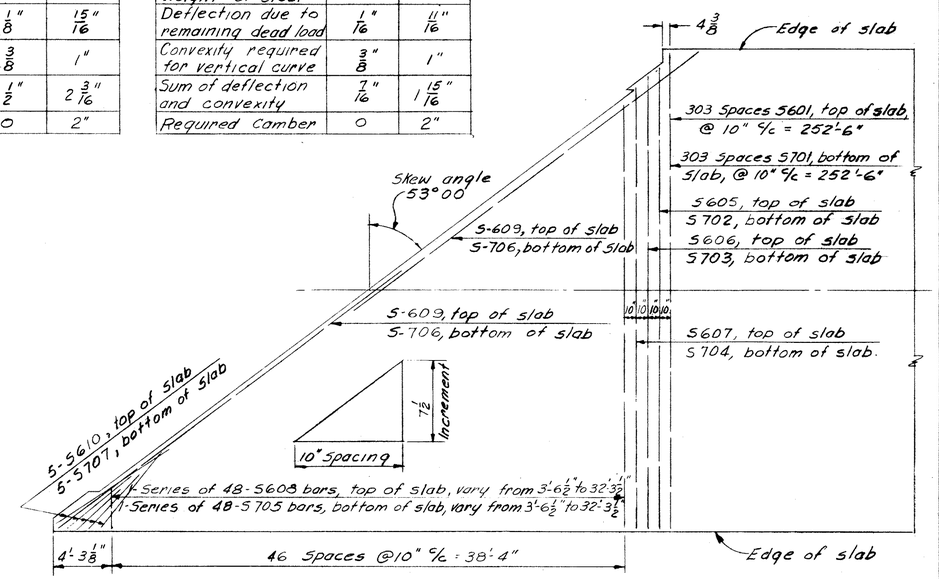
Beams shown are 36 WF 150

HALF TRANSVERSE SECTION

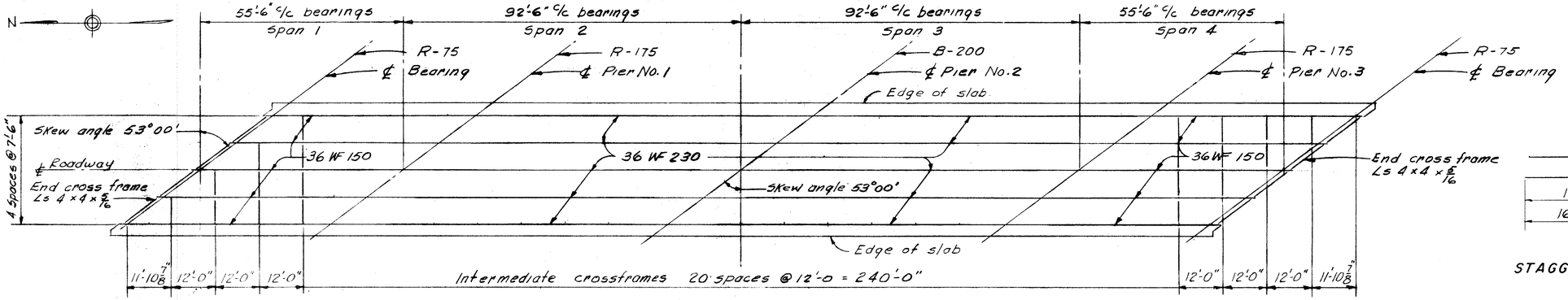
DEFLECTION AND CAMBER

Outside beams	Span 1 Span 4	Span 2 Span 3
Deflection due to weight of steel	0	1/4"
Deflection due to remaining dead load	1/8"	15/16"
Convexity required for vertical curve	3/8	1"
Sum of deflection and convexity	1/2"	2 3/16"
Required Camber	0	2"

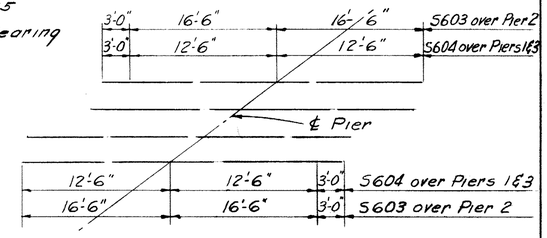
Inside beams	Span 1 Span 4	Span 2 Span 3
Deflection due to weight of steel	0	1/4"
Deflection due to remaining dead load	1/16"	11/16"
Convexity required for vertical curve	3/8"	1"
Sum of deflection and convexity	7/16"	1 15/16"
Required Camber	0	2"



REINFORCING STEEL LAYOUT AT END OF SUPERSTRUCTURE



STEEL FRAMING PLAN



STAGGER OF S603 & S604 OVER PIERS

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are normal to the centerline of bridge and are located near the center of any span.

For details of end crossframes, roadway end finish and beam cut-off at backwall, see Sections B-B, C-C and D-D respectively of Standard Drawing CSB-2-56 Sheet No. 2, revised 3-1-58

For detail of Welded Butt Joint in Superstructure End Finish Angles at ℄ of Roadway, see Standard Drawing CSB-2-56 Sheet No. 2, revised 3-1-58

For detail of aluminum railing, Type A, see Standard Drawing AR-1-57 revised 3-1-58

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ENGINEERS
COLUMBUS OHIO

SUPERSTRUCTURE DETAILS

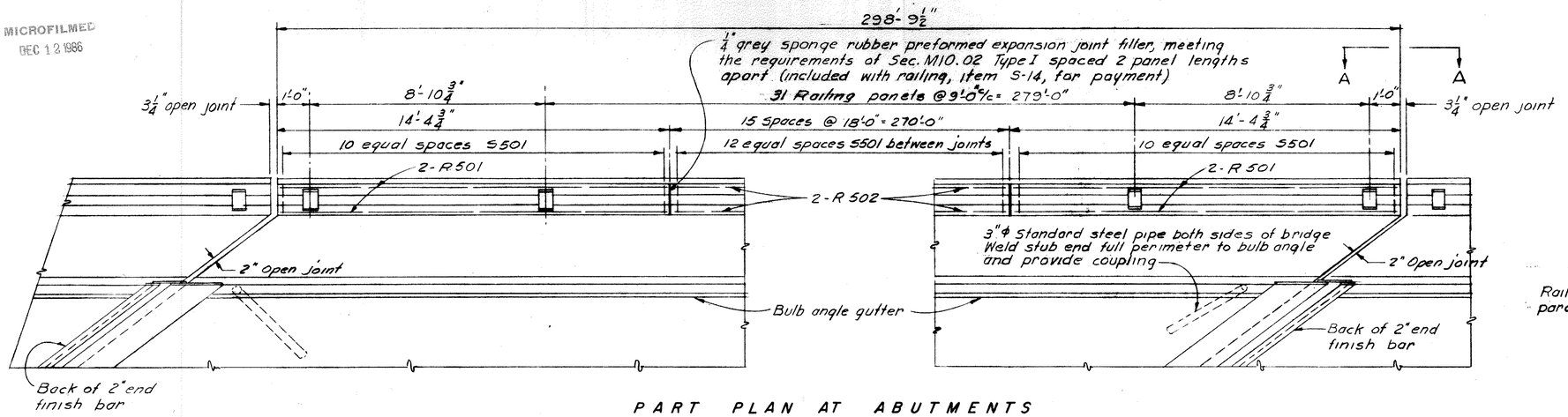
BRIDGE NO. ATH-33-1107
US 33 UNDER SR 682
ATHENS COUNTY STA. 585+01.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.S.	J.M.	J.M.	EWT	J.C.L.	5/19/58	

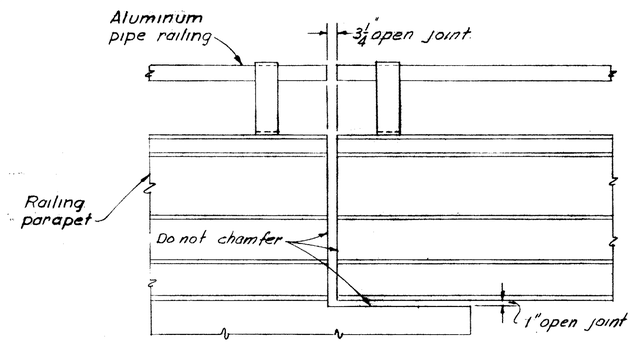
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

206

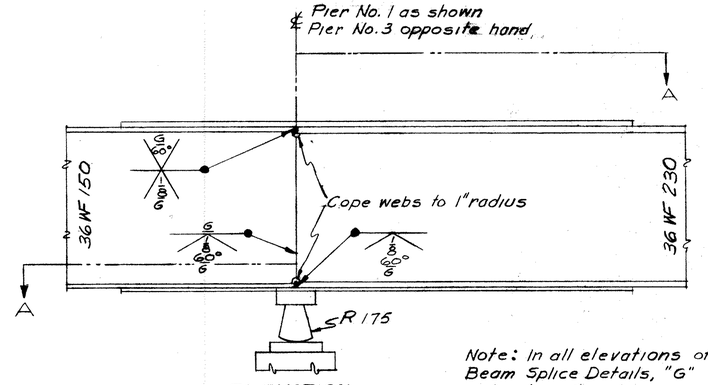
ATHENS COUNTY
ATH-33-10.26



PART PLAN AT ABUTMENTS

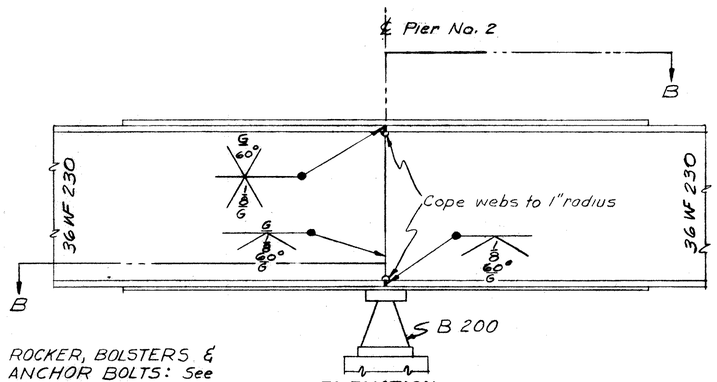


VIEW A-A



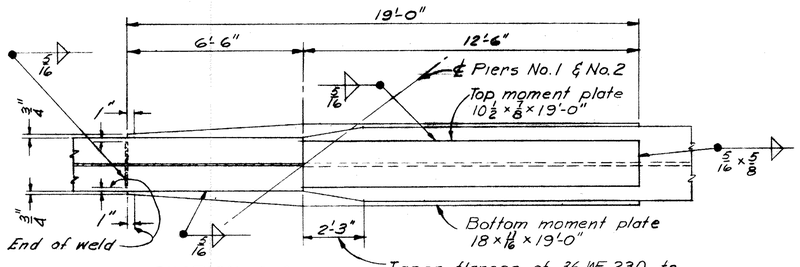
ELEVATION

Note: In all elevations of Beam Splice Details, "G" indicates grinding.



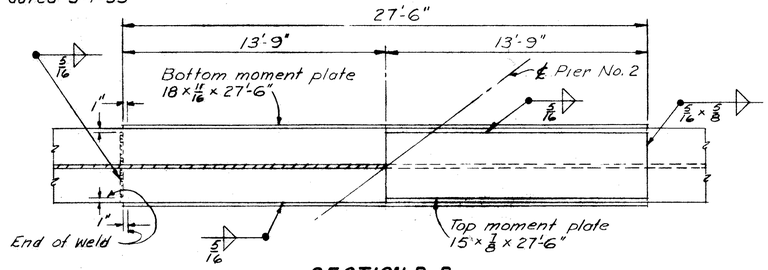
ROCKER, BOLSTERS & ANCHOR BOLTS: See Standard Drawing RB-1-55 dated 3-1-55

ELEVATION



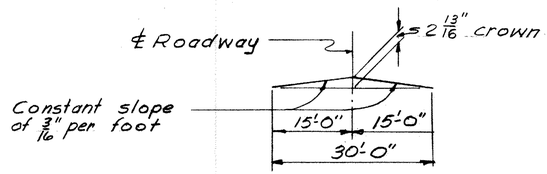
SECTION A-A

BEAM SPLICE DETAILS AT PIERS NO. 1 & 3



SECTION B-B

BEAM SPLICE DETAILS AT PIER NO. 2



BRIDGE ROADWAY CROWN

BEAM SPLICE WELDING PROCEDURE

1. Raise end of beam at third pier 5⅛"
2. Butt-weld beam flanges and web at second pier, using the following sequence: make one pass on each flange, then one on the web; repeat until welds are completed.
3. Weld top and bottom flange moment plates at second pier.
4. Lower end of beam at third pier.
5. Make splice at first and third piers in the same manner, raising the ends of the beams 1" at the abutments.

YULE, STICKLEN, JORDAN & McNEE
COLUMBUS ENGINEERS OHIO

SUPERSTRUCTURE DETAILS

BRIDGE NO. ATH-33-1107
US 33 UNDER SR 682
ATHENS COUNTY STA. 585+01.05

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.S.	J.M.	J.M.	E.W.T.	J.C.L.	5/19/58	

TE-54 A
125-6-56

Shale Limestone Sandstone Visual Classification

Auger boring-plan view. Core boring-plan view.

Auger boring plotted to vertical scale only.

Sod & Topsoil = X' ± Approximate depth

Berm material

W—— Free water

● Water content nearly equal to or greater than liquid limit.

◉ This A-4a soil will be rubbery and unstable at water contents which exceed the optimum.

Samples Taken
Lab. Nos. So
72863-73001 Incl;
73454-73495 Incl.

NOTE: Figures beside borings indicate water content in percent.

LEGEND FOR PROJECT - AVERAGE RESULTS OF TESTS - 178 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel	A-1-a (0)	A-1-a	64	22	8	5	1	NP	NP	13	4
Gravel with sand	A-1-b (0)	A-1-b	39	32	17	8	4	NP	NP	14	14
FS Fine sand	A-3 (0)	A-3	13	32	48	6	1	NP	NP	13	2
Coarse and fine sand	——	A-3a	7	37	44	9	3	NP	NP	23	9
Gravel or stone fragments with sand and silt	A-2-4 (0)	A-2-4	42	18	15	15	10	25	7	17	9
Gravel with sand, silt, and clay	A-2-6 (0)	A-2-6	40	21	13	13	13	33	13	17	9
Sandy silt	A-4 (4)	A-4a	12	8	23	35	22	26	6	17	37
Silt	A-4 (8)	A-4b	2	2	10	62	24	29	5	25	28
Elastic silt and clay with organic material	A-5 (8)	A-5	0	1	7	63	29	42	10	8	1
Silt and clay	A-6 (9)	A-6a	11	5	7	41	36	32	12	21	34
Silty clay	A-6 (11)	A-6b	7	5	6	41	41	36	17	20	12
Elastic clay with organic material unless otherwise noted	A-7-5 (18)	A-7-5	2	2	5	54	37	84	25	55	6
Clay	A-7-6 (15)	A-7-6	7	4	4	31	54	48	24	29	13

SOIL PROFILE
ATHENS COUNTY
ATH-33-10.26

1/7

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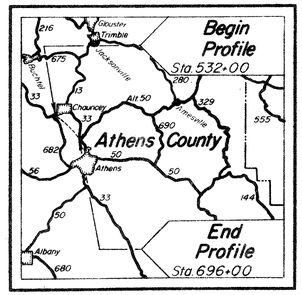
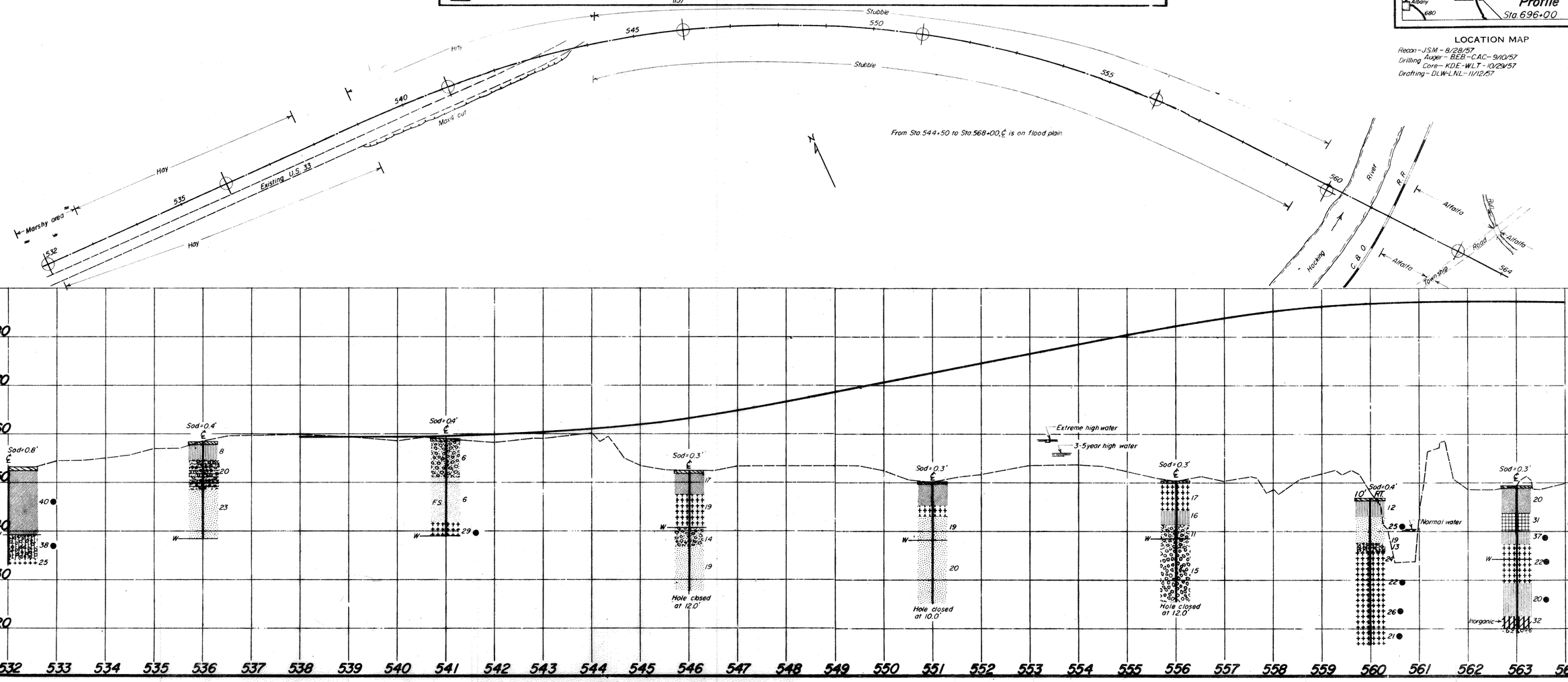
NOTE: THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS SECURED FOR THE USE OF THE STATE OF OHIO AND IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING THE CONSTRUCTION OF THE PROJECT.



LOCATION MAP

Recon - J.S.M. - 8/28/57
Drilling Auger - B.E.B.-C.A.C. - 9/10/57
Core - K.D.E.-W.L.T. - 10/29/57
Drafting - D.L.W.-L.N.L. - 11/12/57



SOIL PROFILE
ATHENS COUNTY
ATH-33-10.26

2/7

STATE HIGHWAY TESTING AND RESEARCH LABORATORY
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S.R. 682

Existing U.S. 33

From Sta. 577+20 to Sta. 586+00, ℄ is on flood plain.

For cross sections see sheet 6.

564 565 570 575 580 585 590 595 596

Corn — Alfalfa — Poorly drained — Seeps on ℄ — Woods & Brush — Poorly drained — All weather spring, feeds water trough — Garden — Stubble — Weeds — Pasture — Garden — Stubble — Weeds — Pasture — Run.

From Sta. 571+00 to Sta. 585+00, between elevations 660'-670', the high level terrace to right of ℄ furnishes water in the form of seeps to this area causing soft, springy, conditions.

700 690 680 670 660 650 640 630 620

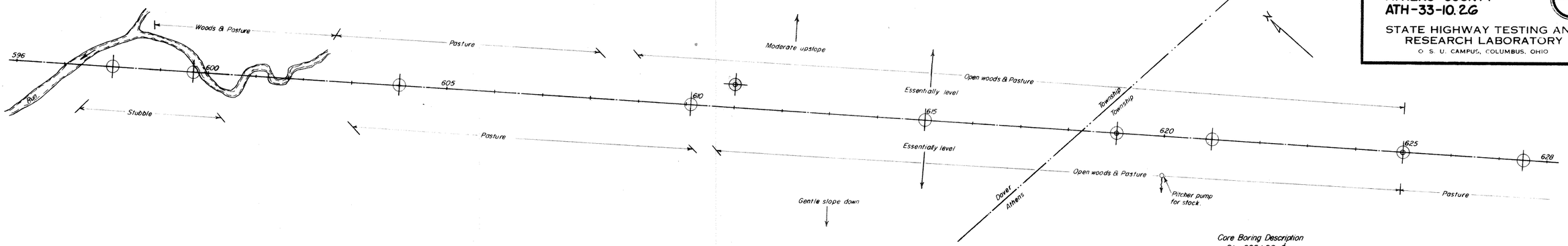
Sod=0.4'
Water seep
Refusal
Hole caved in
100' LT
Refusal (Hand auger)
LOG OF OFFSET BORING
75' LT
80' LT
Refusal (Boulder)

564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596

SOIL PROFILE
ATHENS COUNTY
ATH-33-10.26

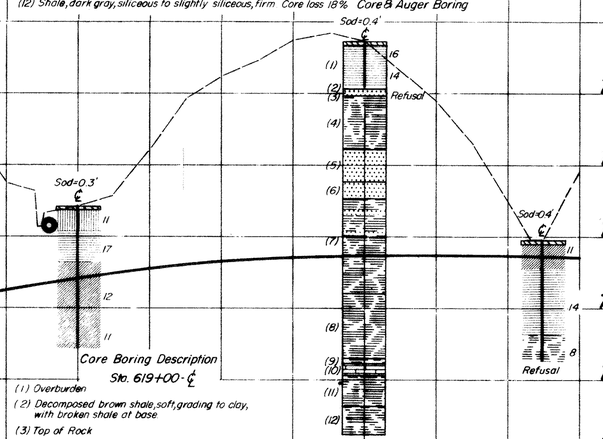
3/7

STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO



Core Boring Description
Sta. 625+00-℄

(1) Brown silt clay with limestone fragments near base
(2) Top of Rock
(3) Sandstone, brownish gray, argilliaceous, calcareous, firm. No loss.
(4) Shale, brown and brownish gray, slightly siliceous in part, firm, with 0.9' arenaceous limestone at 13.6'. No loss
(5) Sandstone, brown to gray in lower quarter, medium grained, firm, medium bedded. No loss.
(6) Sandstone, gray, fine grained, micaceous, firm. No loss.
(7) Shale, gray, siliceous, firm with fine grained sandstone at 23.4'-24.2' and 26.4'-27.1'. No loss.
(8) Clay shale, gray in top half to dark gray in remainder, hard, in bottom half, firm. Core loss 3%
(9) Shale, gray, variable, firm, jointed. No loss.
(10) Limestone, gray, arenaceous, hard, firm. Core loss 29%
(11) Shale, gray, siliceous, firm, grading to sandstone at top. Core loss 14%
(12) Shale, dark gray, siliceous to slightly siliceous, firm. Core loss 18%



Core Boring Description
Sta. 611+00-50' L.T.

(1) Brown sandy silt clay
(2) Top of Rock
(3) Clay shale, brown to brownish gray, firm to medium firm. No loss.
(4) Sandstone, brown and brownish gray, fine to medium grained, calcareous in top half, firm, jointed at top, thin bedded. No loss
(5) Shale, gray, siliceous, grading to argilliaceous sandstone in portions of top 7.0', firm. No loss.
(6) Shale, gray, siliceous to slightly siliceous, firm. Core loss 4%
(7) Clay shale, dark gray, hard, firm. No loss.
(8) Sandstone, gray, fine to medium grained, argillaceous and calcareous, well cemented and hard in top two-thirds, firm throughout, medium bedded. No loss.
(9) Indurated clay, gray, crumbly, soft to medium firm. Core loss 4%

Core Boring Description
Sta. 619+00-℄

(1) Overburden
(2) Decomposed brown shale, soft, grading to clay, with broken shale at base
(3) Top of Rock
(4) Sandstone, brown, medium grained, firm, intermittently jointed, medium bedded, with clay seams and with 0.6' shale at 6.7'. Core loss 4%
(5) Shale, brown, siliceous, firm. Core loss 5%
(6) Shale, gray, siliceous, firm. Core loss 3%
(7) Shale, gray, slightly siliceous to siliceous, firm. No loss.
(8) Clay shale, dark gray, firm. No loss.
(9) Sandstone, gray, fine to medium grained, calcareous, hard, firm, jointed in part. No loss.
(10) Sandstone, gray, fine grained, argillaceous, firm, massive. No loss.
(11) Shale, gray, siliceous, firm. No loss.

770 760 750 740 730 720 710 700 690 680

596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628

SOIL PROFILE
ATHENS COUNTY
ATH-33-10.26

4/7

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Moderate upslope
Level
Moderate slope down
Level
Level
Moderate upslope to left, slopes down to the right.
Pasture
Moderate sidehill downslope to right.
Slightly marshy area
Road
Weeds
Weeds
628
630
635
640
645
650
655
660

Core Boring
45' L.T.
(1)
(2)
(3)
(4)
(5)
(6)
(7)
(8)

Sod+0.3'
6
6
7
Refusal

Sod+0.4'
9
8
Refusal

Sod+0.3'
15
16
17

Sod+0.4'
10
W
23

Core & Auger Boring
Sod+0.4'
41
21
Refusal

Sod+0.4'
10
17

12
22
W
14

Core Boring Description
Sta. 629+00 - 45' L.T.

(1) Brown silt clay with shale fragments.
(2) Weathered shale, brown, soft and crumbly, with broken limestone and calcareous sandstone at base.
(3) Top of Rock
(4) Sandstone, gray to brown in top 3.0', medium grained, firm, medium bedded, with shale seams and thin clay seams. No loss.
(5) Shale, gray, siliceous, firm, grading intermittently to argillaceous sandstone between 20.0' and 23.0'. Core loss 3%
(6) Shale, gray, slightly siliceous to siliceous, hard, firm. No loss.
(7) Clay shale, gray, hard, firm. No loss.
(8) Clay shale, black, carbonaceous, hard, firm. No loss.

Core Boring Description
Sta. 651+50 - ℄

(1) Brown clay, dense, with shale fragments at base.
(2) Brown silt clay, crumbly.
(3) Top of Rock
(4) Sandstone, brown, medium grained, calcareous, firm, grading to shale at top. No loss.
(5) Shale, brown, siliceous, medium firm. No loss.
(6) Shale, brown, slightly siliceous, medium firm, jointed and broken, poorly fissile, with .06' impure limestone at 11.4'. Core loss 10%
(7) Shale, brown and gray, siliceous, firm. Core loss 4%
(8) Sandstone, brown to gray in lower third, medium grained, firm, medium bedded. No loss.
(9) Shale, gray, siliceous, firm. No loss.
(10) Clay shale, gray, slightly siliceous in part, hard, firm. Core loss 4%
(11) Limestone, brown and gray, arenaceous, hard, firm, grading in part to sandstone. No loss.
(12) Shale, gray to brown at top, siliceous, firm, grading to sandstone in portions of top 3.0'. Core loss 5%
(13) Indurated clay, gray and red, siliceous and ferruginous, firm. Core loss 1.5%
(14) Shale, gray, siliceous, firm. No loss.

760 750 740 730 720 710 700 690 680 670 660

628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660

760 750 740 730 720 710 700 690 680 670 660

700 690 680 670 660 650 640

TE-54-B
60-157

SOIL PROFILE

ATHENS COUNTY
ATH-33-10.26

5/7

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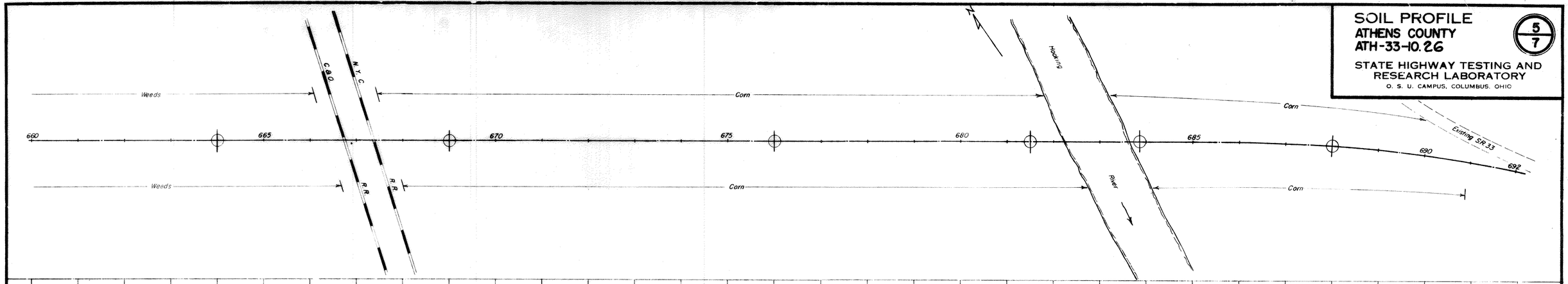

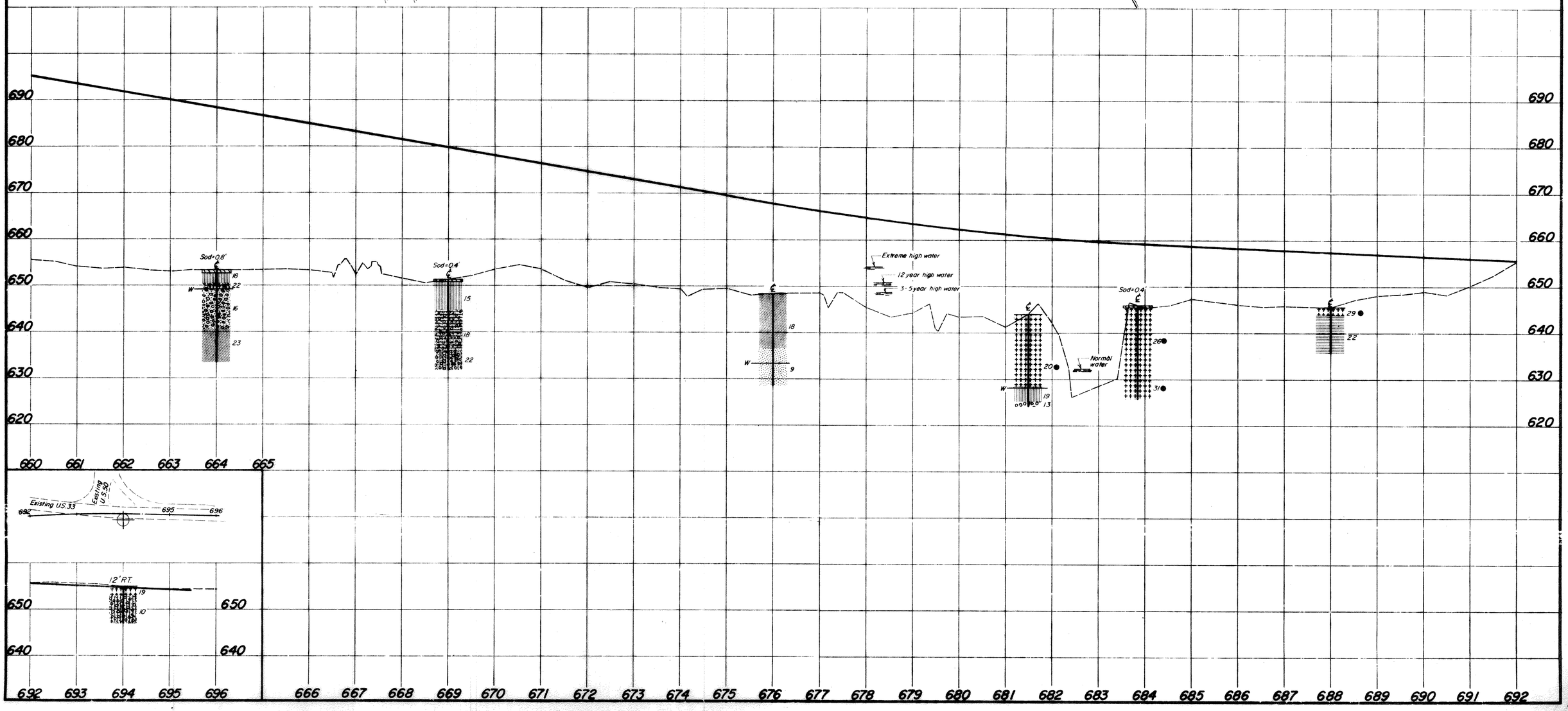

SOIL PROFILE
ATHENS COUNTY
ATH-33-10.26

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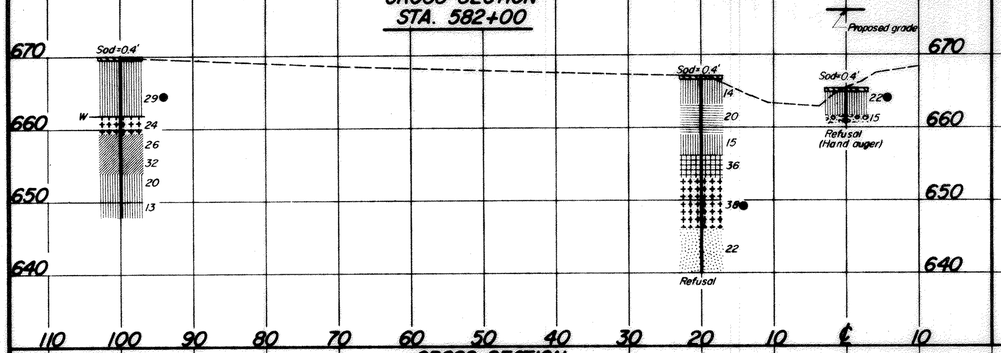
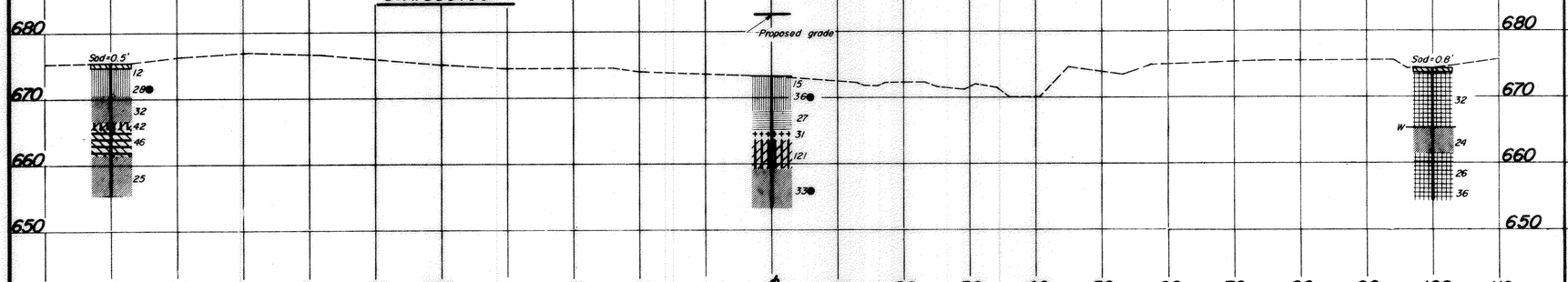
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

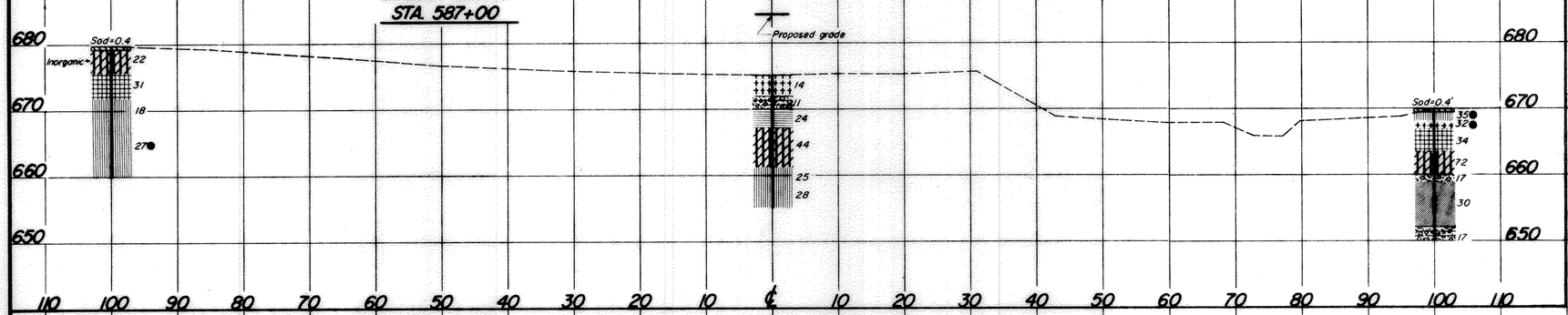
CROSS SECTION STA. 582+00



CROSS SECTION STA. 586+00



CROSS SECTION STA. 587+00



SOIL PROFILE
ATHENS COUNTY
ATH-33-10.26
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

SUMMARY OF SOIL TEST DATA

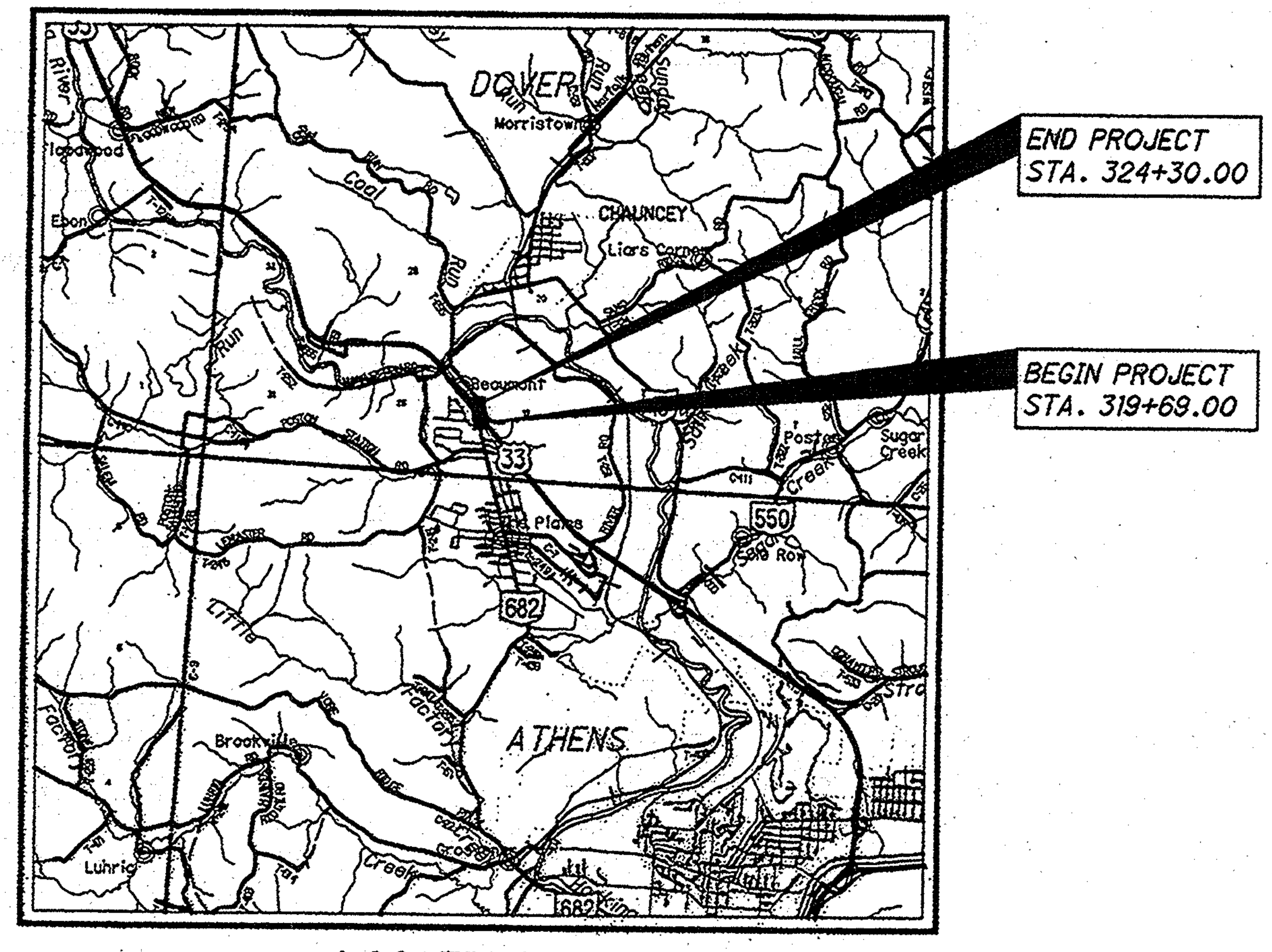
Station & Offset		Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
532+00	CL	0.8-13.0'	0	1	5	55	39	32	11	40	A-6a
		13.0-19.0'	41	20	11	15	13	26	9	38	A-2-4
		19.0-20.0'	0	1	12	50	37	30	8	25	A-4b
536+00	CL	0.4-4.0'	30	12	14	24	20	27	6	8	A-4a
		4.0-10.0'	39	21	15	8	17	37	20	20	A-2-6
		10.0-20.0'	1	11	71	10	7	NP	NP	23	A-3a
541+00	CL	0.4-8.0'	45	38	10	3	4	NP	NP	6	A-1-b
		8.0-17.0'	17	24	49	9	1	NP	NP	6	A-3
		17.0-20.0'	0	1	1	92	6	NP	NP	29	A-4b
546+00	CL	0.3-5.0'	0	1	5	51	43	38	13	17	A-6a
		5.0-12.0'	0	2	12	54	32	27	8	19	A-4b
		12.0-16.0'	47	29	20	3	1	NP	NP	14	A-1-b
		16.0-25.0'	14	65	15	6	0	NP	NP	19	A-3a
551+00	CL	7.0-12.0'	0	68	26	3	3	NP	NP	19	A-3a
		12.0-25.0'	16	46	33	5	0	NP	NP	20	A-3a
556+00	CL	0.3-6.0'	0	0	12	62	26	28	8	17	A-4b
		6.0-9.0'	0	4	51	36	9	NP	NP	16	A-4a
		9.0-14.0'	29	46	20	3	2	NP	NP	11	A-1-b
		14.0-25.0'	54	34	6	4	2	NP	NP	15	A-1-a
560+00	10'Rt.	0.4-3.5'	0	3	47	34	16	NP	NP	12	A-4a
		3.5-8.0'	0	3	78	13	6	NP	NP	25	A-3a
		8.0-9.0'	9	56	32	3	0	NP	NP	19	A-3a
		9.0-10.5'	61	20	13	5	1	21	8	13	A-2-4
		10.5-14.0'	10	3	5	50	32	20	5	24	A-4b
		14.0-20.0'	0	1	3	71	25	22	1	22	A-4b
		20.0-25.0'	0	1	6	80	13	23	2	26	A-4b
		25.0-30.0'	0	0	5	76	19	24	3	21	A-4b
563+00	CL	0.3-5.5'	2	1	3	53	41	40	14	20	A-6a
		5.5-9.0'	0	0	1	58	41	41	13	31	A-7-6
		9.0-12.0'	0	1	48	37	14	NP	NP	37	A-4a
		12.0-20.0'	2	3	5	68	22	23	2	22	A-4b
		20.0-27.0'	31	4	5	36	24	21	2	20	A-4a
		27.0-29.0'	0	1	0	33	66	48	15	32	A-7-5
566+00	CL	0.4-4.0'	0	1	6	60	33	34	13	32	A-6a
		4.0-13.0'	0	2	20	48	30	28	8	34	A-4a
		13.0-20.0'	0	2	10	61	27	30	6	35	A-4b
		20.0-26.0'	0	6	23	46	25	25	6	26	A-4a
		26.0-28.0'	0	4	16	42	38	33	12	6	A-6a
		28.0-30.0'	22	5	15	29	29	31	8	8	A-4a
566+00	75'Lt.	0.4-4.5'	0	0	3	46	51	43	21	23	A-7-6
		4.5-8.0'	0	0	1	56	43	39	18	27	A-6b
		8.0-13.0'	0	0	15	59	26	35	7	30	A-4b
		13.0-15.0'	51	15	17	12	5	NP	NP	21	A-1-b
		15.0-23.0'	27	36	25	6	6	NP	NP	20	A-1-b
		23.0-30.0'	37	42	11	7	3	NP	NP	15	A-1-b
570+00	CL'	3.5-5.0'	34	34	16	12	4	NP	NP	15	A-1-b
		5.0-11.0'	0	2	3	53	42	44	22	32	A-7-6
		11.0-14.0'	22	31	17	18	12	26	8		A-2-4
		14.0-18.0'	0	1	35	54	10	NP	NP	28	A-4b
		18.0-20.0'	28	22	20	21	9	24	5	19	A-2-4
		20.0-30.0'	51	32	11	5	1	NP	NP	12	A-1-a
570+00	80'Lt.	0.4-3.0'	0	1	2	62	35	37	10	37	A-4b
		3.0-11.0'	0	0	3	62	35	33	10	30	A-4b
		11.0-16.0'	26	41	23	9	1	NP	NP	17	A-1-b
		16.0-23.0'	82	11	3	3	1	NP	NP	13	A-1-a
		23.0-25.0'	9	13	20	40	18	22	4	17	A-4a
575+00	CL	0.4-4.0'	10	12	12	52	14	NP	NP	6	A-4b
		4.0-16.0'	40	28	19	9	4	NP	NP	3	A-1-b
575+00	100'Lt.	0.3-5.0'	0	2	12	60	26	28	5	23	A-4b
		5.0-8.0'	44	12	18	18	8	38	18	18	A-2-6
		8.0-12.0'	10	2	3	44	41	31	11	29	A-6a
		12.0-20.0'	0	2	73	22	3	NP	NP	28	A-3a
		20.0-27.0'	8	39	48	4	1	NP	NP	19	A-3
		27.0-30.0'	9	3	5	51	32	24	5	28	A-4b
578+00	100'Lt.	0.4-3.0'	0	5	44	26	25	24	6	13	A-4a
		3.0-9.0'	0	2	8	50	40	37	11	24	A-6a
		9.0-18.0'	17	23	16	22	22	34	16	15	A-6b
		18.0-24.0'	27	15	17	13	28	29	12	18	A-6a
		24.0-30.0'	5	21	63	7	4	NP	NP	21	A-3a
582+00	CL	0.4-4.0'	20	23	17	27	13	21	3	22	A-4a
		4.0-5.0'	35	27	18	13	7	23	3	15	A-1-b
582+00	20'Lt.	0.4-4.0'	0	9	25	44	22	27	8	14	A-4a
		4.0-8.0'	0	0	0	47	53	34	16	20	A-6b
		8.0-11.0'	35	13	13	23	16	24	7	15	A-4a
		11.0-14.0'	0	0	1	12	87	59	30	36	A-7-6
		14.0-21.0'	0	1	0	79	20	39	10	38	A-4b
		21.0-27.0'	Visual							22	A-3a
582+00	100'Lt.	4.0-8.0'	0	3	24	48	25	32	9	29	A-4a
		8.0-10.5'	0	2	9	54	35	28	9	24	A-4b
		10.5-14.0'	0	0	0	42	58	33	11	26	A-6a
		14.0-16.0'	0	0	5	34	61	38	14	32	A-6a
		16.0-19.0'	13	8	20	35	24	27	7	20	A-4a
		19.0-22.0'	15	16	22	25	22	25	7	13	A-4a
586+00	CL	0.0-2.0'	5	7	22	46	20	25	6	15	A-4a
		2.0-5.0'	0	10	21	48	21	25	6	36	A-4a
		5.0-8.0'	0	2	3	49	46	37	18	27	A-6b
		8.0-10.0'	4	9	7	58	22	37	8	31	A-4b
		10.0-14.0'	0	2	9	74	15	147	26	121	A-7-5
		14.0-20.0'	25	13	10	36	16	32	11	33	A-6a
586+00	100'Rt.	0.8-9.0'	0	0	0	39	61	44	23	32	A-7-6
		9.0-13.0'	14	16	11	36	23	31	11	24	A-6a
		13.0-18.0'	4	4	4	26	62	46	20	26	A-7-6
		18.0-20.0'	0	2	3	22	73	54	28	36	A-7-6
586+00	100'Lt.	0.5-2.0'	2	3	25	47	23	23	4	12	A-4a
		2.0-5.0'	3	6	19	41	31	31	9	28	A-4a
		5.0-9.0'	0	1	2	28	69	37	13	32	A-6a
		9.0-10.0'	9	2	4	61	24	80	30	42	A-7-5
		10.0-14.0'	0	1	7	63	29	42	10	46	A-5
		14.0-20.0'	12	8	6	39	35	31	11	25	A-6a
587+00	CL	0.0-3.0'	6	6	8	53	27	33	9	14	A-4b
		3.0-5.0'	53	10	6	18	13	31	11	11	A-2-6
		5.0-8.0'	9	10	5	36	40	36	16	24	A-6b
		8.0-13.0'	1	2	9	70	18	79	30	44	A-7-5
		13.0-17.0'	18	7	16	36	23	29	10	25	A-4a
		17.0-20.0'	22	14	13	33	18	32	9	28	A-4a
587+00	100'Rt.	0.4-2.0'	17	8	10	38	27	31	7	35	A-4a
		2.0-3.0'	0	0	1	71	28	31	4	32	A-4b
		3.0-6.5'	0	0	0	20	80	50	23	34	A-7-6
		6.5-10.0'	0	1	6	64	29	105	38	72	A-7-5
		10.-11.0'	45	36	9	7	3	NP	NP	17	A-1-b
		11.0-18.0'	6	3	2	29	60	39	15	30	A-6a
		18.0-20.0'	56	16	7	10	11	28	11	17	A-2-6
587+00	100'Lt	0.4-4.0'	0	3	3	23	71	46	11	22	A-7-5
		4.0-8.0'	0	0	1	29	70	47	27	31	A-7-6
		8.0-11.0'	30	14	16	22	18	26	10	18	A-4a
		11.0-20.0'	3	1	3	69	24	25	3	27	A-4b
588+50	CL	0.4-5.0'	13	15	15	42	15	26	5	12	A-4a
		5.0-7.0'	29	12	14	26	19	44	25	18	A-7-6
		7.0-12.0'	14	8	6	34	38	38	20	29	A-6b
		12.0-20.0'	29	28	8	21	14	35	13	24	A-2-6
592+00	CL	0.4-4.0'	5	10	8	49	28	30	11	16	A-6a
		4.0-10.0'	27	0	2	44	27	30	11	13	A-6a
595+50	CL	0.4-6.0'	46	23	8	10	13	28	11	12	A-2-6
		6.0-12.0'	44	28	8	7	13	62	41	16	A-7-6
595+50	100'Lt	0.4-6.0'	4	6	26	41	23	22	5	12	A-4a
		6.0-20.0'	42	32	9	8	9	33	13	19	A-2-6
598+00	CL	0.0-5.0'	44	22	16	13	5	NP	NP	10	A-1-b
		5.0-8.0'	70	16	6	5	3	24	7	18	A-2-4
599+70	CL	0.0-4.0'	53	12	6	19	11	29	10	8	A-2-4
		4.0-9.0'	23	9	26	23	19	28	5	9	A-4a
604+00	CL	0.4-4.0'	8	7	6	47	32	33	14	20	A-6a
		4.0-10.0'	36	15	8	23	18	33	13	15	A-6a
610+10	CL	0.4-7.0'	5	2	4	53	36	31	12	16	A-6a
		7.0-20.0'	3	4	11	39	43	34	15	17	A-6a
615+00	CL	0.3-10.0'	0	2	5	50	43	35	15	19	A-6a
		10.0-20.0'	6	3	6	51	34	31	13	20	A-6a
619+00	CL	0.3-3.5'	14	3	7	28	48	46	20	16	A-7-6
621+00	CL	0.3-4.0'	16	7	11	42	24	27	8	11	A-4a
		4.0-8.0'	27	7	14	27	25	35	16	17	A-6b
		8.0-17.0'	23	8	4	42	23	33	11	12	A-6a
		17.0-20.0'	21	2	2	43	32	37	12	11	A-6a
625+00	CL	0.4-3.0'	0	1	1	49	49	37	16	16	A-6b
		3.0-6.5'	11	1	0	40	48	39	18	14	A-6b
627+50	CL	0.4-4.0'	0	2	9	48	41	29	11	11	A-6a
		4.0-13.0'	7	3	15	43	32	33	17	14	A-6b
		13.0-17.0'	Visual							8	Shale
632+00	CL	0.3-4.0'	2	4	28	36	30	25	9	6	A-4a
		4.0-13.0'	23	3	14	39	21	28	11	6	A-6a
		13.0-17.0'	Visual							7	Shale
635+50	CL	0.4-4.0'	38	11	10	24	17	29	9	9	A-4a
		4.0-5.0'	26	8	12	34	20	28	8	8	A-4a
641+00	CL	0.3-8.0'	2	4	3	56	35	29	11	15	A-6a
		8.0-18.0'	2	2	7	46	43	37	16	15	A-6b
		18.0-20.0'	4	3	9	46	38	33	14	17	A-6a
642+50	CL	0.4-8.0'	39	11	14	22	14	27	9	10	A-4a
		8.0-12.0'	8	16	25	22	29	28	11	23	A-6a
651+50	CL	0.4-4.0'	2	2	4	42	50	41	19	41	A-7-6
		4.0-6.5'	48	5	6	20	21	39	15	21	A-6a
656+00	CL	0.4-4.0'	8	16	21	37	18	NP	NP	10	A-4a
		4.0-8.0'	19	27	23	12	19	36	11	17	A-2-6
659+06	CL	1.0-10.0'	8	10	15	40	27	27	9	12	A-4a
		10.0-14.0'	11	2	16	40	31	28	13	22	A-6a
		14.0-20.0'	48	27	10	10	5	NP	NP	14	A-1-b
664+00	CL	0.8-3.0'	0	4	56	18	22	NP	NP	8	A-4a
		[illegible].0-4.0'	23	20	31	10	16	26	10	22	A-2-4
		[illegible].0-13.0'	38	33	18	8	3	NP	NP	16	A-1-b
		13.0-20.0'	32	11	6	20	31	36	13	23	A-6a
669+00	CL	0.4-7.0'	0	7	19	43	31	24	9	15	A-4a
		7.0-16.0'	32	26	19	13	10	28	13	18	A-2-6
		16.0-20.0'	25	15	26	18	16	NP	NP	22	A-2-4
676+00	CL	0.0-12.0'	0	4	5	48	42	34	11	18	A-6a
		12.0-20.0'	16	64	9	7	4	NP	NP	9	A-3a
681+50	CL	0.0-16.0'	0	0	16	53	31	32	9	20	A-4b
683+85	CL	0.4-13.0'	0	0	14	66	20	27	6	26	A-4b
		13.0-20.0'	0	0	28	56	16	NP	NP	31	A-4b
688+00	CL	0.0-2.0'	0	1	21	55	23	NP	NP	29	A-4b
		2.0-10.0'	0	0	3	45	52	38	16	22	A-6b
694+00	12'Rt.	0.0-2.0'	0	1	7	63	29	27	9	19	A-4b
		2.0-8.0'	54	4	8	22	12	26	7	10	A-2-4

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

ATH-682-6.05

DOVER TOWNSHIP
ATHENS COUNTY



LOCATION MAP

LATITUDE: N 39°22'57" LONGITUDE: W 82°08'10"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

	S.R. 682	U.S. 33
CURRENT ADT (2013)	4,800	19,300
DESIGN YEAR ADT (2033)	6,500	26,400
DIRECTIONAL DISTRIBUTION	55%	55%
TRUCKS (24 HOUR B&C)	5%	9%
DESIGN SPEED	35 MPH	65 MPH
LEGAL SPEED	35 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN MINOR ARTERIAL	URBAN PRINCIPAL ARTERIAL
NHS PROJECT	NO	YES (NON-INTERSTATE)

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
CALL: 1-800-925-0988

PLAN PREPARED BY:
JONES-STUCKEY LTD., INC.
1655 W.MARKET ST., SUITE 355
AKRON, OHIO 44313

INDEX OF SHEETS:

ENGINEERS SEAL: STRUCTURES

STATE OF OHIO
RYAN CUMMINS
E-72391
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Ryan Cummins
DATE: 12/7/12

ENGINEERS SEAL: ROADWAY

STATE OF OHIO
RUTH A. KLEE
E-56481
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Ruth A. Klee
DATE: 12/7/12

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	4/20/12	RM-4.2	10/15/10	TC-41.20	1/19/01	MT-95.40	7/20/12	800	1/18/13
		RM-4.3	10/21/11	TC-42.20	1/21/11	MT-95.50	7/20/12	821	4/20/12
DM-4.1	7/20/12	RM-4.4	10/10/09	TC-52.20	1/19/07	MT-96.11	7/20/12	832	5/5/09
DM-4.3	7/20/12	RM-4.6	4/16/10	TC-61.30	4/20/12	MT-96.20	7/20/12	921	4/20/12
DM-4.4	7/20/12			TC-73.10	4/20/12	MT-96.26	1/16/09		
		AS-1-81	7/19/02			MT-97.10	7/20/12		
GR-1.1	7/20/12	EXJ-4-87	7/19/02			MT-97.12	7/20/12		
GR-2.1	7/20/12	SBR-1-99	7/19/02			MT-99.20	7/20/12	SPECIAL PROVISIONS	
GR-3.1	7/20/12	PCB-91	7/19/02			MT-101.70	4/15/11		
GR-5.1	4/16/10					MT-101.90	10/19/12		
GR-5.3	4/16/10					MT-105.10	7/20/12		
GR-6.1	4/16/10								

PROJECT DESCRIPTION

THE PROJECT INVOLVES THE REHABILITATION OF THE EXISTING BRIDGE CARRYING SR 682 OVER US 33 IN DOVER TOWNSHIP, ATHENS COUNTY. BRIDGE REHABILITATION INCLUDES DECK AND ABUTMENT REPLACEMENT. ROADWAY IMPROVEMENTS ALONG SR 682 INVOLVE MINOR APPROACH WORK, INCLUDING RECONSTRUCTED PAVEMENT AND GUARDRAIL. IMPROVEMENTS FOR US 33 INCLUDE CONCRETE BARRIER MEDIAN PIER PROTECTION.
TOTAL PROJECT LENGTH = .09 MILES

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	1.4 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.3 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.9 ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND IS WITHIN A LIMITED ACCESS HIGHWAY OR FREEWAY AS DECLARED BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2010 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL, SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED T. Steve Williams, P.E.
DATE 12/13/12 DISTRICT DEPUTY DIRECTOR

APPROVED [signature]
DATE 1-14-13 DIRECTOR, DEPARTMENT OF TRANSPORTATION

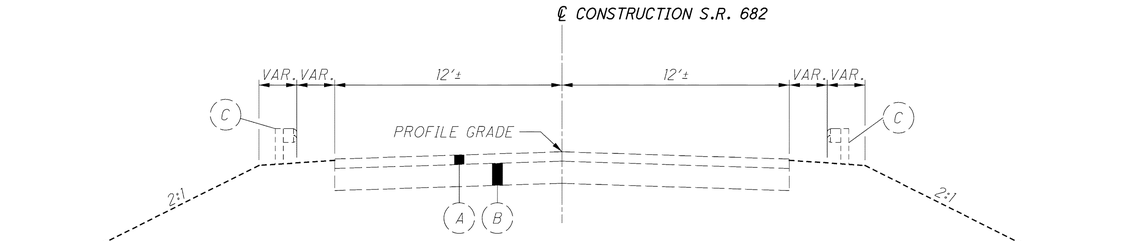
FEDERAL PROJECT NO. E111 (295)

PID NO. 92001

CONSTRUCTION PROJECT NO.

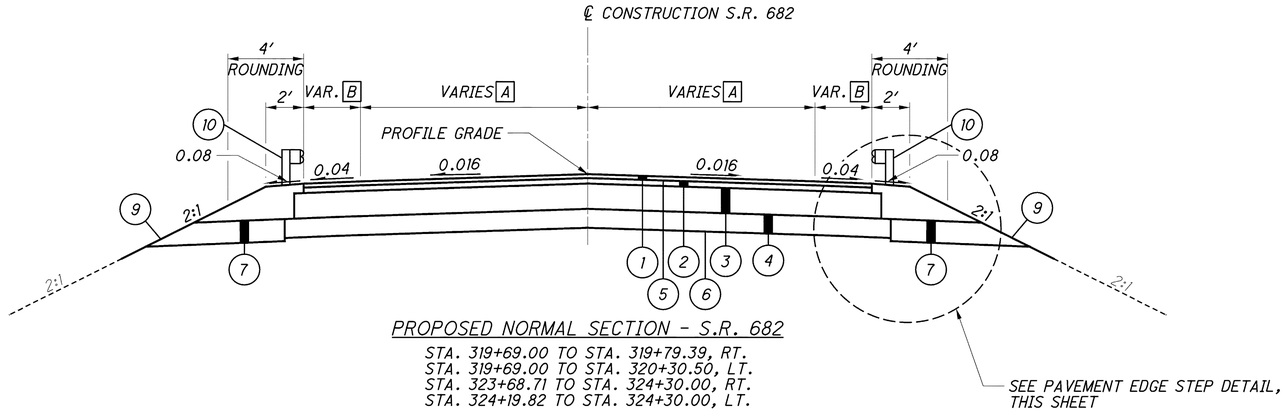
RAILROAD INVOLVEMENT NONE

ATH-682-6.05



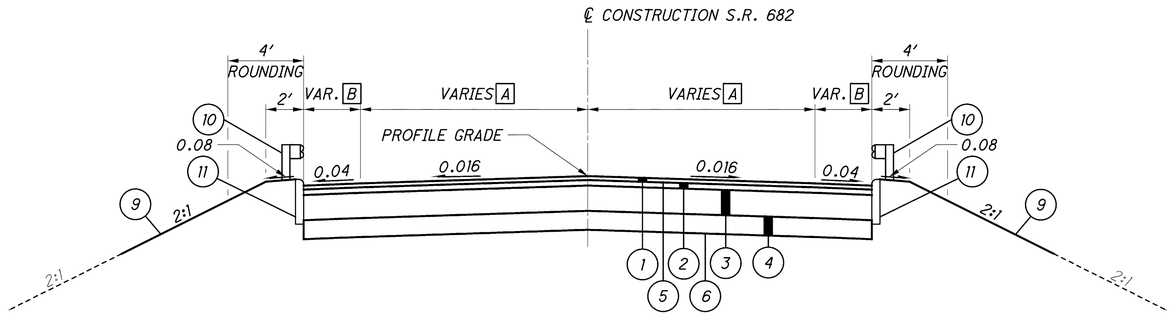
EXISTING NORMAL SECTION - S.R. 682

STA. 319+69.00 TO STA. 320+50.19
STA. 323+49.04 TO STA. 324+30.00



PROPOSED NORMAL SECTION - S.R. 682

STA. 319+69.00 TO STA. 319+79.39, RT.
STA. 319+69.00 TO STA. 320+30.50, LT.
STA. 323+68.71 TO STA. 324+30.00, RT.
STA. 324+19.82 TO STA. 324+30.00, LT.



PROPOSED CURBED SECTION - S.R. 682

STA. 319+79.39 TO STA. 319+96.08, RT.
STA. 320+30.50 TO STA. 320+39.66, LT.
STA. 323+59.56 TO STA. 323+68.71, RT.
STA. 324+03.13 TO STA. 324+19.82, LT.

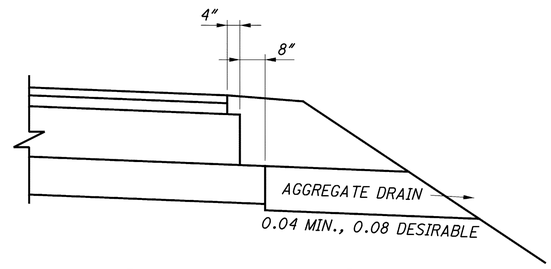
LEGEND

(1) ITEM 448 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
(2) ITEM 448 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
(3) ITEM 301 - 8" ASPHALT CONCRETE BASE, PG64-22
(4) ITEM 304 - 6" AGGREGATE BASE
(5) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ. YD.)
(6) ITEM 204 - SUBGRADE COMPACTION
(7) ITEM 605 - AGGREGATE DRAINS
(8) ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17")
(9) ITEM 659 - SEEDING AND MULCHING
(10) ITEM 606 - GUARDRAIL, TYPE 5
(11) ITEM 609 - CURB, TYPE 4-C
(12) ITEM 609 - CURB, TYPE 4-A
(A) EXISTING ASPHALT PAVEMENT
(B) EXISTING CONCRETE BASE
(C) EXISTING GUARDRAIL
(D) EXISTING CONCRETE PAVEMENT

[A] 12.3' TO 12' - STA. 319+69.00 TO STA. 319+96.08, RT.
13' TO 12' - STA. 319+69.00 TO STA. 319+96.08, LT.
12' - STA. 319+96.08 TO STA. 320+17.87, RT. & LT.
12' - STA. 323+81.35 TO STA. 324+03.13, RT. & LT.
12' - STA. 324+03.13 TO STA. 324+30.00, RT.
12' TO 12.7' - STA. 324+03.13 TO STA. 324+30.00, LT.

[B] 4.6' TO 4.2' - STA. 319+69.00 TO STA. 319+76.24, RT.
4.2' TO 4.5' - STA 319+76.24 TO STA. 319+96.08, RT.
6.9' TO 4.5' - STA. 319+69.00 TO STA. 320+27.35, LT.
4.5' - STA. 320+27.35 TO STA. 320+39.66, LT.
4.5' - STA. 323+59.56 TO STA. 323+71.86, RT.
4.5' TO 7' - STA. 323+71.86 TO STA. 324+30.00, RT.
4.5' TO 4.0' - STA. 324+03.13 TO STA. 324+22.97, LT.
4.0' TO 3.4' - STA. 324+22.97 TO STA. 324+30.00, LT.

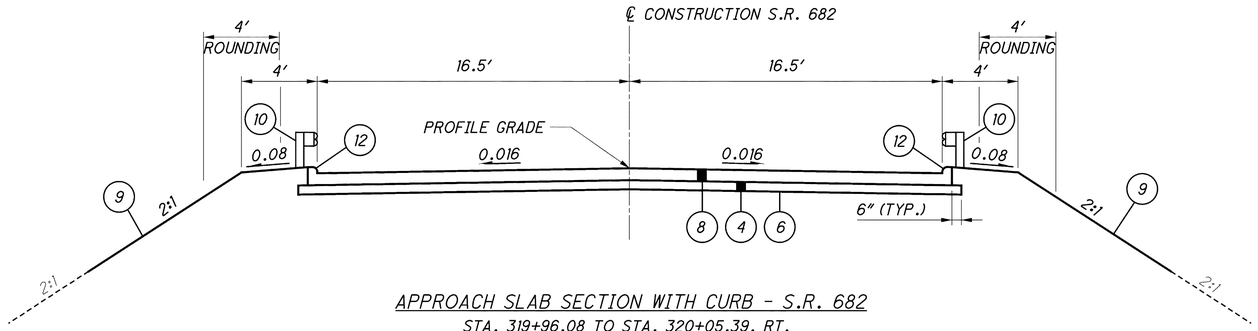
NOTE: ALL STATIONS SHOWN ARE BASED ON CENTERLINE CONSTRUCTION STATIONING.



PAVEMENT EDGE STEP DETAIL

TYPICAL SECTIONS

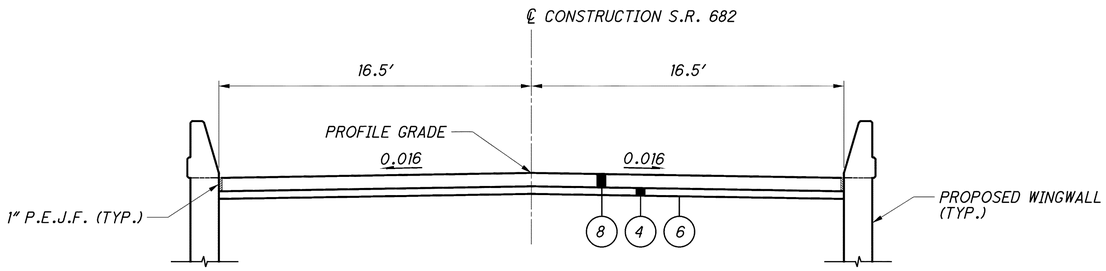
ATH-682-6.05



APPROACH SLAB SECTION WITH CURB - S.R. 682

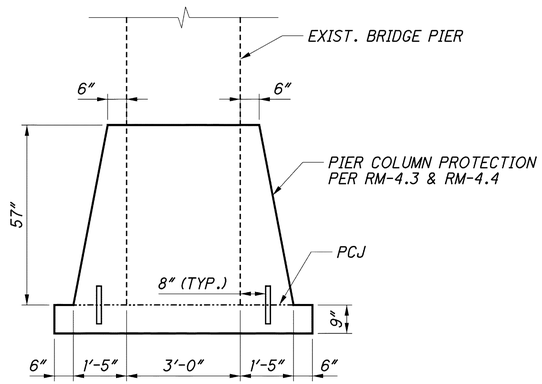
STA. 319+96.08 TO STA. 320+05.39, RT.
STA. 320+39.66 TO STA. 320+56.50, LT.
STA. 323+42.71 TO STA. 323+59.56, RT.
STA. 323+93.82 TO STA. 324+03.13, LT.

FOR LEGEND, SEE SHEET 2



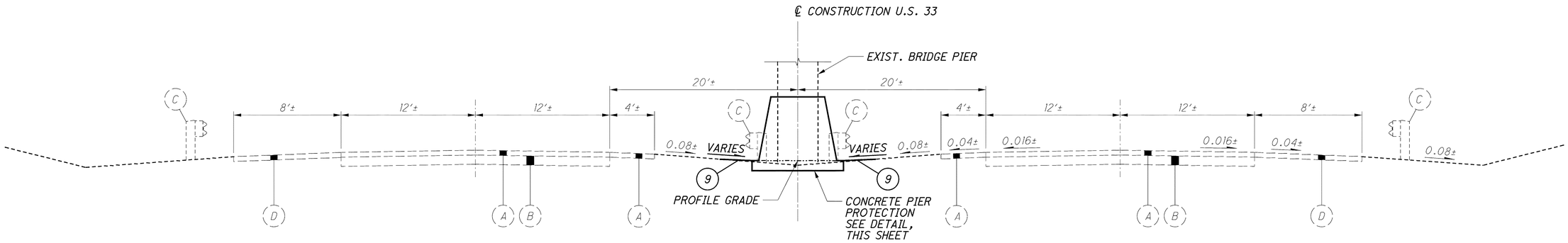
APPROACH SLAB SECTION WITH PARAPET/WINGWALL - S.R. 682

STA. 320+05.39 TO STA. 320+26.08, RT.
STA. 320+56.50 TO STA. 320+69.66, LT.
STA. 323+29.56 TO STA. 323+42.71, RT.
STA. 323+73.13 TO STA. 323+93.82, LT.



CONCRETE PIER PROTECTION DETAIL

FOR ADDITIONAL DETAILS, SEE SHEET 18.



PROPOSED NORMAL SECTION - U.S. 33

STA. 584+00.63 TO STA. 586+00.49

TYPICAL SECTIONS

ATH-682-6.05

3
48

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

ELECTRIC
AEP DISTRIBUTION
DENNIS DAUBENMIRE
9135 SR 682
ATHENS, OHIO 45701
(740) 592-1963

WATER
ATHENS COUNTY WATER & SEWER
RICH KASLER
11308 JACKSON DRIVE
THE PLAINS, OHIO 45780
(740) 593-7146

TELEPHONE
FRONTIER COMMUNICATIONS (VERIZON)
JEFF SCHOONOVER
754 WEST UNION STREET
ATHENS, OHIO 45701
(740) 592-0545

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

EXISTING PLANS

EXISTING PLANS ENTITLED ATH-33-10.26 MAY BE INSPECTED IN THE ODOT DISTRICT 10 OFFICE IN MARIETTA.

SURVEY PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE THIS SHEET FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: ODOT VRS
MONUMENT TYPE: IRON PIN WITH PUNCH MARK

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID09

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83(2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE SOUTH ZONE
COMBINED SCALE FACTOR: 0.999908690
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 823.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

S.R. 682 CENTERLINE OF SURVEY

THE ORIGINAL CENTERLINE OF SURVEY FOR S.R. 682 WAS STATIONED NORTH TO SOUTH. THE CURRENT CENTERLINE OF SURVEY FOR S.R. 682, WHICH IS IDENTIFIED IN PLANS AS THE CENTERLINE OF CONSTRUCTION, HAS BEEN RESTATIONED SOUTH TO NORTH UTILIZING STRAIGHT LINE MILEAGE. EXISTING PLANS WITH THE ORIGINAL CENTERLINE OF SURVEY DATA MAY BE INSPECTED AT THE DISTRICT 10 OFFICE IN MARIETTA.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

SOIL INFORMATION

SUBSURFACE INVESTIGATION INFORMATION IS AVAILABLE FROM THE ODOT DISTRICT 10 OFFICE IN MARIETTA.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

MEDIAN AND/OR CURBING ON APPROACH SLABS

WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. THE CONTRACTOR SHALL TRANSITION THE PROPOSED 29 INCH RAIL HEIGHT TO THE EXISTING RAIL HEIGHT OVER A LENGTH OF 25 FEET. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

LOCATION OF GUARDRAIL

THE LOCATIONS OF THE GUARDRAIL RUNS IN THE PLANS ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURE'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 2 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2 (65 MPH, 32 INCHES, BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS,TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. A TEST LEVEL 3 (TL-3) CONFIGURATION SHALL BE INSTALLED.

SEEDING AND MULCHING

THE FOLLOWING ITEMS ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

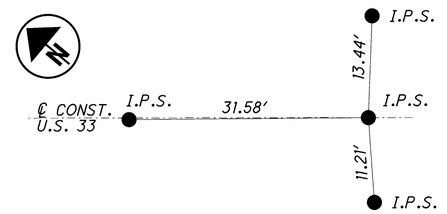
659, SEEDING AND MULCHING
659, REPAIR SEEDING AND MULCHING
659, COMMERCIAL FERTILIZER
659, LIME
659, WATER

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

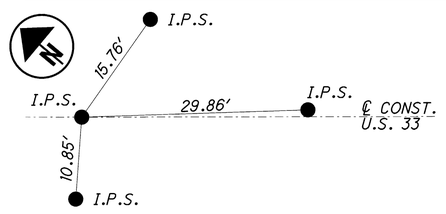
PROJECT CONTROL POINT COORDINATE TABLE
ALL GRID VALUES ARE NAD83(2011) OHIO SOUTH ZONE
COMBINED SCALE FACTOR FOR PROJECT (GROUND TO GRID) = 0.999908690
PROJECT ADJUSTMENT FACTOR (ENGLISH GROUND TO METRIC GRID) = 0.3047727783

CONTROL POINT	GRID VALUES (METRIC UNITS)		GROUND VALUES (ENGLISH UNITS)	
	NORTH (Y)	EAST (X)	NORTH (Y)	EAST (X)
STA. 318+32.98, 21.18' RT. ℄ CONST. S.R. 682	153411.3242	631362.8605	503362.9481	2071585.4745
STA. 320+53.70, 22.15' LT. ℄ CONST. S.R. 682	153477.8728	631346.4661	503581.3030	2071531.6826
STA. 324+00.31, 21.77' LT. ℄ CONST. S.R. 682	153583.4079	631341.5915	503927.5776	2071515.6881
STA. 326+18.76, 33.86' RT. ℄ CONST. S.R. 682	153652.2959	631349.4331	504153.6083	2071541.4174
STA. 585+68.39, 8.59' LT. ℄ CONST. U.S. 33	153508.4748	631366.3931	503681.7122	2071597.0655
STA. 584+01.81, 8.93' LT. ℄ CONST. U.S. 33	153547.6225	631334.0601	503810.1609	2071490.9768

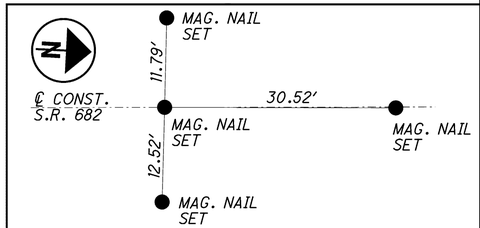
CENTERLINE REFERENCES (NOT TO SCALE)



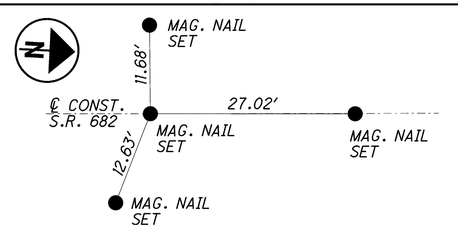
STA. 582+00.00 ℄ CONSTRUCTION U.S. 33



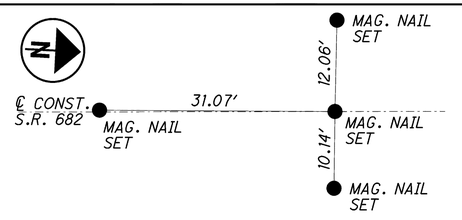
STA. 588+00.00 ℄ CONSTRUCTION U.S. 33



STA. 318+44.44 ℄ CONSTRUCTION S.R. 682



STA. 320+14.36 ℄ CONSTRUCTION S.R. 682



STA. 324+52.20 ℄ CONSTRUCTION S.R. 682

GENERAL NOTES

ATH-682-6.05

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF 1 LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT AND ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

THE WORK ZONE SIGNAL CONTROL REQUIRED FOR THIS PROJECT AND SHOWN ON SHEETS 8, 9, AND 10 AND SCDS MT-96.11, 96.20 AND 96.26 SHALL BE FULLY TRAFFIC-ACTUATED AND OPERATE IN A MANNER SIMILAR TO THAT DESCRIBED IN SECTION 733.02 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

THE CONTRACTOR SHALL ALSO DESIGN, FURNISH, INSTALL AND MAINTAIN A TRAFFIC DETECTOR ON EACH TRAFFIC APPROACH WHICH WILL RELIABLY DETECT ALL LEGAL TRAFFIC APPROACHING (BUT NOT LEAVING) THE SIGNAL AS IT PASSES OR WAITS IN THE DESIGNATED DETECTOR ZONE AS PROVIDED BY THE ENGINEER. DETECTOR DESIGNS WHICH DO NOT PROVIDE RELIABLE DETECTION, FREE FROM FALSE CALLS, SHALL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.

THE CONTRACTOR SHALL SET THE TIMING FOR ALL SIGNALS AS SHOWN ON THE PLANS AND MAKE ADJUSTMENTS AS NECESSARY TO MEET THE TRAFFIC NEEDS.

EXISTING SIGNAL HEADS 1 AND 2 FOR NORTHBOUND STATE ROUTE 682 (STA. 326+00±) SHALL BE COVERED DURING PHASE 1 AND PHASE 2 CONSTRUCTION.

THE EXISTING NORTHBOUND STOP LINE AT STA. 325+50 SHALL BE REMOVED FOR PHASE 1 AND PHASE 2 CONSTRUCTION.

PROVIDE 21 CALENDAR DAYS NOTICE IN WRITING TO THE DISTRICT CONSTRUCTION ENGINEER BEFORE INITIATING THE FIRST MAINTENANCE OF TRAFFIC OPERATION THAT REDUCES EXISTING LANE OR SHOULDER WIDTHS AVAILABLE TO MOTORISTS. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

MAINTENANCE OF TRAFFIC ALTERNATIVES

THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE MAINTENANCE OF TRAFFIC PLAN WHICH COMPLIES WITH THE REQUIREMENTS OF THE STANDARD DRAWINGS, THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE DROP-OFFS IN WORK ZONES SHEET AND VOLUME ONE OF THE LOCATION AND DESIGN MANUAL. THE PLAN SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL. ODOT RESERVES THE RIGHT TO REJECT ANY ALTERNATIVE FOR ANY REASON.

ITEM 614, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 3 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

EARTHWORK FOR MAINTAINING TRAFFIC

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY:

EXCAVATION FOR MAINTAINING TRAFFIC: 141 CU. YD.
EMBANKMENT FOR MAINTAINING TRAFFIC: 18 CU. YD.

WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

ITEM 614, REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 1 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS SHALL ALSO BE INSTALLED ON THE EXISTING BRIDGE PARAPET (PHASE 1) AND THE PROPOSED BRIDGE PARAPET (PHASE 2). BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 25 FEET.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.
- DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.
- WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/ DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE: 40 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

CALCULATED JDC CHECKED RAK

MAINTENANCE OF TRAFFIC GENERAL NOTES

ATH-682-6.05

SEQUENCE OF CONSTRUCTION

THE PROJECT SHALL BE CONSTRUCTED IN THE FOLLOWING PHASES:

PHASE 1A:

THIS PHASE CONSISTS OF THE CONSTRUCTION OF PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A ALONG THE SR 682 SOUTHBOUND SHOULDER AS SHOWN ON SHEET 7. TRAFFIC SHALL BE MAINTAINED USING FLAGGERS IN ACCORDANCE WITH SCD MT-97.10.

PHASE 1:

THIS PHASE CONSISTS OF THE DECK REMOVAL AND RECONSTRUCTION OF THE NORTHBOUND SIDE OF STRUCTURE ATH-682-0607, FULL-DEPTH RECONSTRUCTION OF THE NORTHBOUND APPROACH PAVEMENT AND SHOULDERS UP TO AND INCLUDING THE INTERMEDIATE COURSE, CURB, GUARDRAIL, SIGNING, AND CONSTRUCTION OF PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A ALONG THE SR 682 NORTHBOUND SHOULDER. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH SCD MT-96.11 AS SHOWN ON SHEET 8.

PHASE 2:

THIS PHASE CONSISTS OF THE REMAINING DECK REMOVAL AND RECONSTRUCTION OF THE SOUTHBOUND SIDE OF STRUCTURE ATH-682-0607, FULL-DEPTH RECONSTRUCTION OF THE SOUTHBOUND APPROACH PAVEMENT AND SHOULDERS UP TO AND INCLUDING THE INTERMEDIATE COURSE, CURB, GUARDRAIL, AND SIGNING. THE PREVIOUSLY CONSTRUCTED PAVEMENT FOR MAINTAINING TRAFFIC ALONG THE SR 682 SOUTHBOUND SHOULDER OUTSIDE OF THE FULL-DEPTH PAVEMENT RECONSTRUCTION LIMITS SHALL REMAIN IN PLACE. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH SCD MT-96.11 AS SHOWN ON SHEET 9.

PHASE 3:

THIS PHASE CONSISTS OF PLACING THE FINAL ASPHALT SURFACE COURSE AND FINAL PAVEMENT MARKINGS ON THE ENTIRE PROJECT LENGTH ON SR 682. ESTIMATED QUANTITIES OF WORK ZONE EDGE LINE AND WORK ZONE CENTER LINE ARE INCLUDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY TO BE USED ON THE INTERMEDIATE COURSE AND/OR THE FINAL SURFACE COURSE PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS. THE PREVIOUSLY CONSTRUCTED PAVEMENT FOR MAINTAINING TRAFFIC ALONG THE SR 682 NORTHBOUND SHOULDER OUTSIDE OF THE FULL-DEPTH PAVEMENT RECONSTRUCTION LIMITS SHALL REMAIN IN PLACE, EXCEPT FOR A PORTION OF THE PAVEMENT FOR MAINTAINING TRAFFIC WHICH SHALL BE REMOVED AS SHOWN ON SHEET 9. DURING PLACEMENT OF THE FINAL ASPHALT SURFACE COURSE AND THE REMOVAL OF THE PORTION OF PAVEMENT FOR MAINTAINING TRAFFIC, TRAFFIC SHALL BE MAINTAINED USING FLAGGERS IN ACCORDANCE WITH SCD MT-97.12. DURING THE PLACEMENT OF FINAL PAVEMENT MARKINGS, TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH SCD MT-99.20.

PHASE 4:

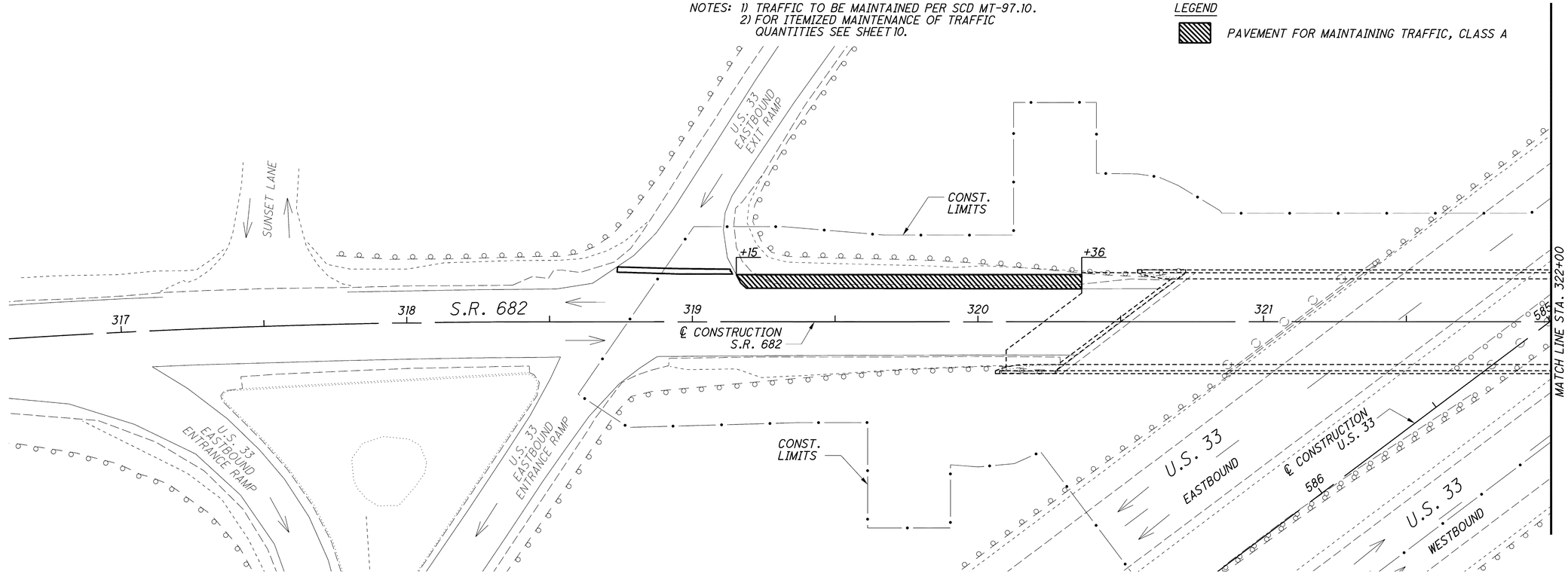
THIS PHASE CONSISTS OF CONSTRUCTION OF THE MEDIAN PIER PROTECTION ON US 33. THE INSIDE LANES OF US 33 SHALL BE CLOSED TO TRAFFIC AND THE OUTSIDE TRAFFIC LANE (12 FT) SHALL BE MAINTAINED IN ACCORDANCE WITH SCD MT-95.40. ESTIMATED QUANTITIES OF PORTABLE CONCRETE BARRIER, WORK ZONE IMPACT ATTENUATOR, WORK ZONE EDGE LINE, OBJECT MARKERS AND BARRIER REFLECTORS ARE ITEMIZED SEPARATELY AND INCLUDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY. PAYMENT FOR ALL REMAINING TRAFFIC CONTROL ITEMS INCLUDING, BUT NOT LIMITED TO, FLASHING ARROW BOARD, DRUMS, AND WORK ZONE SIGNS, INCLUDING LABOR, EQUIPMENT, AND MATERIALS, SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

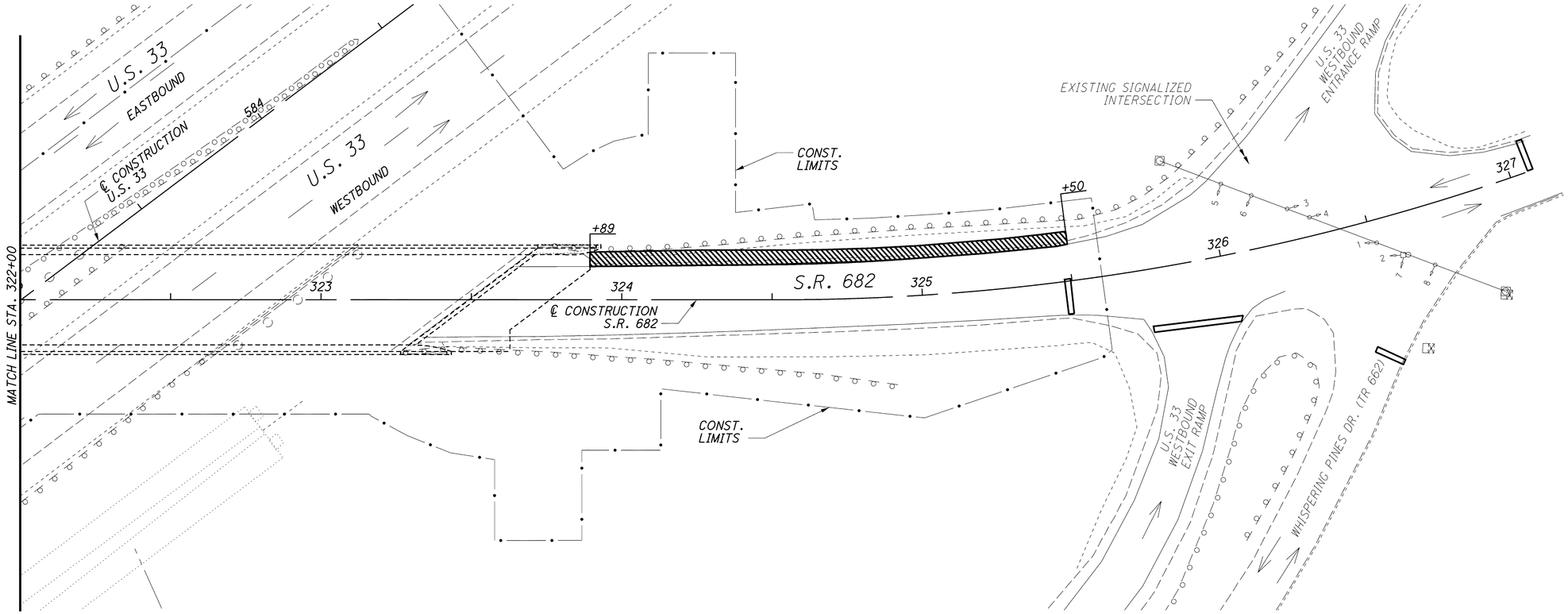
PHASE 4 MAY BE PERFORMED SIMULTANEOUSLY WITH PHASE 1A, PHASE 1, PHASE 2, AND/OR PHASE 3.

NOTES: 1) TRAFFIC TO BE MAINTAINED PER SCD MT-97.10.
2) FOR ITEMIZED MAINTENANCE OF TRAFFIC QUANTITIES SEE SHEET 10.

LEGEND

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A





HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN (PHASE 1A)

ATH-682-6.05

7
48

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NOTES: 1) TRAFFIC TO BE MAINTAINED PER SCD MT-96.11.
2) FOR ITEMIZED MAINTENANCE OF TRAFFIC QUANTITIES SEE SHEET 10.

LEGEND

- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
- WZEL — WORK ZONE EDGE LINE (WHITE)
- WZCL — WORK ZONE CENTER LINE (DOUBLE SOLID)
- WZSL — WORK ZONE STOP LINE
- WZIA — WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL) (24")
- PCB — PORTABLE CONCRETE BARRIER, 32"

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

MAINTENANCE OF TRAFFIC PLAN (PHASE 1)

ATH-682-6.05

8
48

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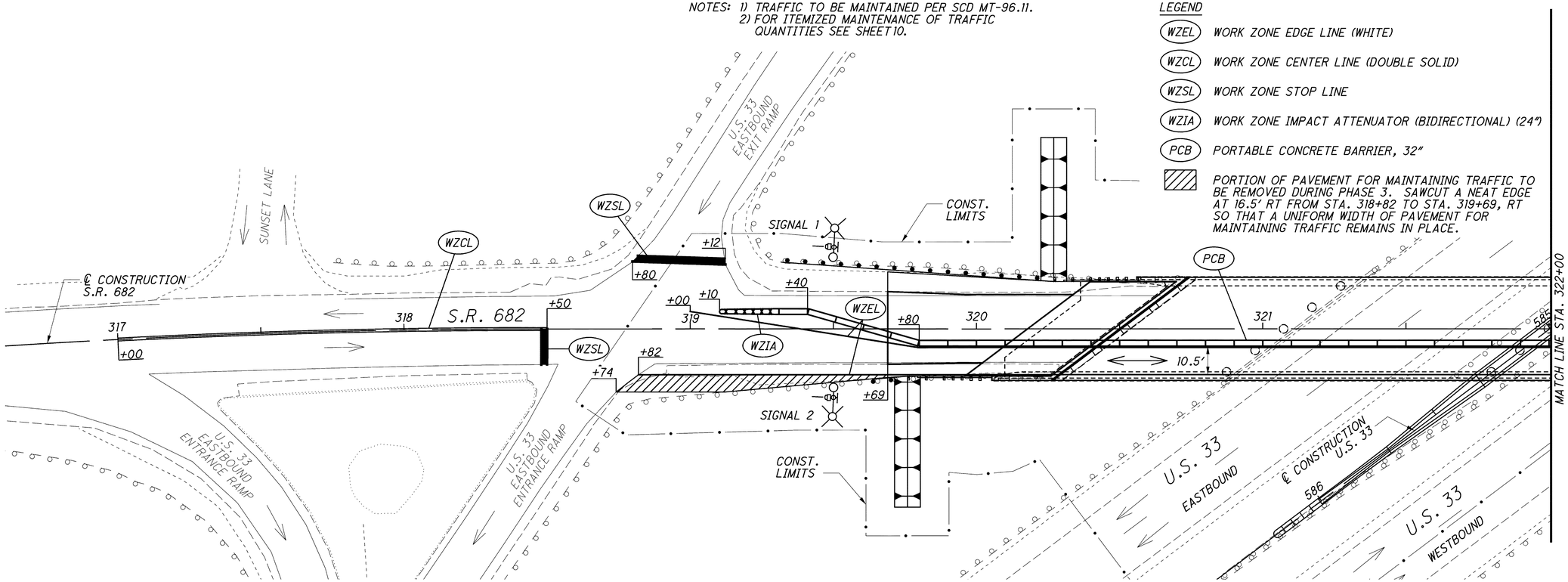
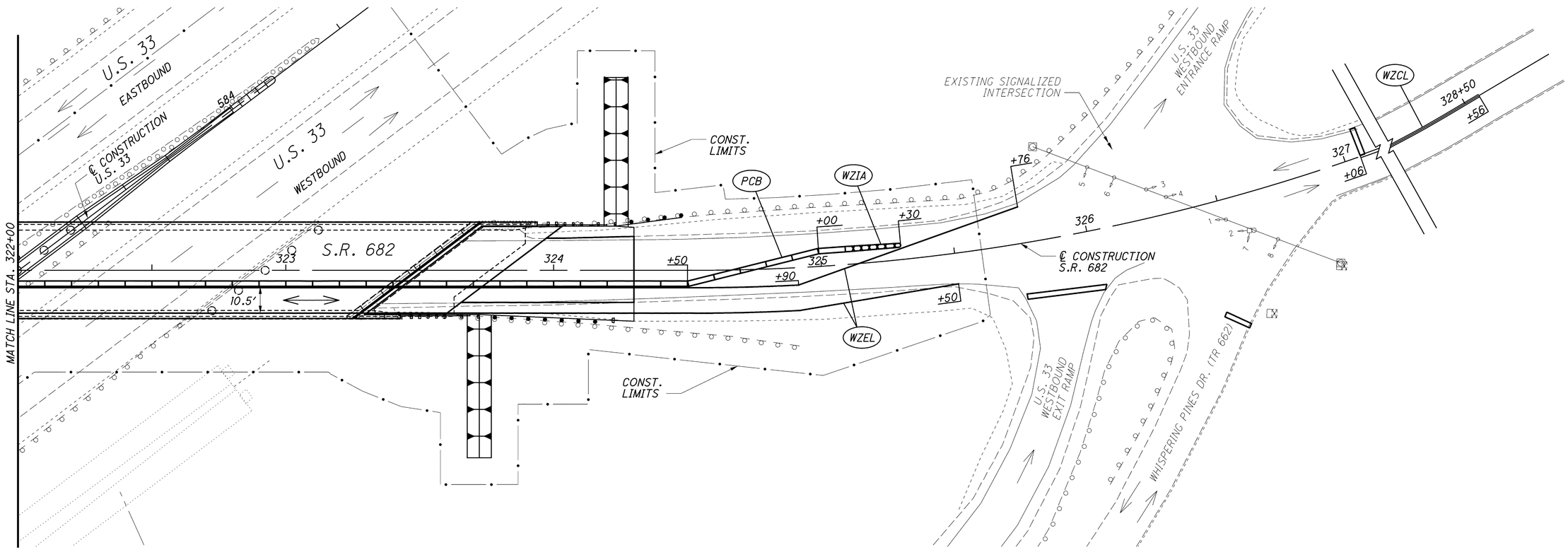
NOTES: 1) TRAFFIC TO BE MAINTAINED PER SCD MT-96.11.
2) FOR ITEMIZED MAINTENANCE OF TRAFFIC QUANTITIES SEE SHEET 10.

LEGEND

- WZEL — WORK ZONE EDGE LINE (WHITE)
- WZCL — WORK ZONE CENTER LINE (DOUBLE SOLID)
- WZSL — WORK ZONE STOP LINE
- WZIA — WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL) (24")
- PCB — PORTABLE CONCRETE BARRIER, 32"
- PORTION OF PAVEMENT FOR MAINTAINING TRAFFIC TO BE REMOVED DURING PHASE 3. SAWCUT A NEAT EDGE AT 16.5' RT FROM STA. 318+82 TO STA. 319+69, RT SO THAT A UNIFORM WIDTH OF PAVEMENT FOR MAINTAINING TRAFFIC REMAINS IN PLACE.





HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN (PHASE 2)

ATH-682-6.05

9
48

TEMPORARY TRAFFIC SIGNAL DETAILS

COLOR SEQUENCE CHART

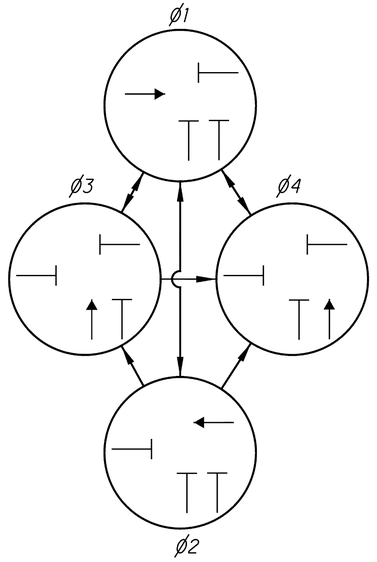
INDICATIONS FACINGS	No	Ø1			Ø2			Ø3			Ø4		
		1	2	3	4	5	6	7	8	9	10	11	12
NORTH BOUND S.R. 682	1&2	G	Y	R	R	R	R	R	R	R	R	R	R
SOUTH BOUND S.R. 682	3&4	R	R	R	G	Y	R	R	R	R	R	R	R
WEST BOUND S.R. 33 EXIT	5&6	R	R	R	R	R	R	G	Y	R	R	R	R
TOWNSHIP ROAD 662	7&8	R	R	R	R	R	R	R	R	R	G	Y	R

TIMING CHART

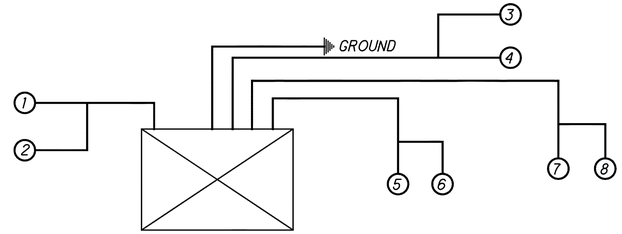
INTERVAL	Ø1			Ø2			Ø3			Ø4		
	1	2	3	4	5	6	7	8	9	10	11	12
INITIAL GREEN	10			10			10			5		
PASSAGE		3			3			3			3	
MAX. GREEN	21			15			15			8		
YELLOW CLEARANCE		3			3			3			3	
ALL RED CLEARANCE			25			✳ 25			✳✳25			25
MAX. CYCLE LENGTH	127											

✳ IF PHASE "2" GOES TO PHASE "3" OR "4" - THEN ALL RED IS 3 SEC.

✳✳ IF PHASE "3" GOES TO PHASE "4" - THEN ALL RED IS 3 SEC.



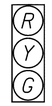
PHASING DIAGRAM



ACTUATED CONTROLLER

FOR ADDITIONAL DETAILS AND NOTES
SEE STANDARD DRAWING MT-96.20

1-2-3-4-5-6-7-8



12" LENS

SIGNAL INDICATORS

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES

STA. TO STA.	PHASE	614 Work Zone Impact Attenuator (Bidirectional)(24") EACH	614 Work Zone Impact Attenuator (Unidirectional)(24") EACH	614 Work Zone Center Line, Class 1 MILE	614 Work Zone Edge Line, Class 1 MILE	614 Work Zone Stop Line, Class 1 FT	614 Object Marker, ONE WAY (25' spacing) EACH	614 Object Marker, TWO WAY (25' spacing) EACH	614 Barrier Reflector, Type B, (25' spacing) EACH	614 Barrier Reflector, Type B2, (25' spacing) EACH	615 Pavement For Maintaining Traffic, Class A SQ YD	615 Roads For Maintaining Traffic LUMP	622 Portable Concrete Barrier, 32", Bridge Mounted FT	622 Portable Concrete Barrier, 32" FT
S.R. 682														
319+15 TO 320+36 LT	1A										65			
323+89 TO 325+50 LT	1A										81			
317+00 TO 318+50	1 & 2			0.03										
318+50 RT	1 & 2					12								
318+80 TO 319+12 LT	1 & 2					32								
327+06 TO 328+56	1 & 2			0.03										
318+74 TO 319+69 RT	1										82			
318+88 TO 325+38 RT	1				0.13									
319+00 TO 325+00 LT/RT	1	2						24		37			300 ✳	260
319+16 TO 325+50 LT	1				0.12									
324+30 TO 325+50 RT	1										90			
318+82 TO 325+50 RT	2				0.13									
319+00 TO 325+76 LT	2				0.13									
319+10 TO 325+30 LT/RT	2	2						24		37			300 ✳✳	280
319+00 TO 325+50	3			0.12	0.24									
U.S. 33														
569+99 TO 587+26 EASTBOUND	4				0.33									
582+74 TO 600+01 WESTBOUND	4				0.33									
581+80 TO 587+00 EASTBOUND	4		2				22		22					520
583+00 TO 588+20 WESTBOUND	4		2				22		22					520
TOTAL		4	4	0.18	1.41	44	44	48	44	74	318	LUMP	600	1,580

ALL QUANTITIES ARE CARRIED TO GENERAL SUMMARY

✳ ANCHORED
✳✳ UNANCHORED

CALCULATED JDC
CHECKED RAK

MAINTENANCE OF TRAFFIC

ATH-682-6.05

10
48

SHEET NUMBER											PARTICIPATION	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
			4		15	16	17	19	20		OFFICE CALCS	01/NHS/BR					
																ROADWAY	
			LUMP									LUMP	201	11000	LUMP		CLEARING AND GRUBBING
											303	303	202	23000	303	SQ YD	PAVEMENT REMOVED
											796	796	202	38000	796	FT	GUARDRAIL REMOVED
					2	381	89					472	203	10000	472	CU YD	EXCAVATION
						306	73					379	203	20000	379	CU YD	EMBANKMENT
											629	629	204	10000	629	SQ YD	SUBGRADE COMPACTION
											256.25	256.25	606	13000	256.25	FT	GUARDRAIL, TYPE 5
											1	1	606	26100	1	EACH	ANCHOR ASSEMBLY, TYPE E
											4	4	606	35000	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1
											2	2	606	60028	2	EACH	IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL)(65 MPH, 32")
											140	140	622	10100	140	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1
											2	2	622	24850	2	EACH	CONCRETE BARRIER END SECTION, TYPE B1
																EROSION CONTROL	
											218	218	601	21060	218	SQ YD	TIED CONCRETE BLOCK MAT, TYPE 2
					143	293	88	2,934	3,290			6,748	659	10000	6,748	SQ YD	SEEDING AND MULCHING
											337	337	659	14000	337	SQ YD	REPAIR SEEDING AND MULCHING
											0.91	0.91	659	20000	0.91	TON	COMMERCIAL FERTILIZER
											1.39	1.39	659	31000	1.39	ACRE	LIME
											36	36	659	35000	36	M GAL	WATER
											25,853	25,853	832	30000	25,853	EACH	EROSION CONTROL
																DRAINAGE	
											30	30	605	31100	30	FT	AGGREGATE DRAINS
																PAVEMENT	
											85	85	301	46000	85	CU YD	ASPHALT CONCRETE BASE, PG64-22
											103	103	304	20000	103	CU YD	AGGREGATE BASE
											15	15	407	14000	15	GALLON	TACK COAT FOR INTERMEDIATE COURSE
											18	18	448	46050	18	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
											13	13	448	47020	13	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
											52	52	609	24000	52	FT	CURB, TYPE 4-A
											52	52	609	24510	52	FT	CURB, TYPE 4-C
																TRAFFIC CONTROL	
											13	13	626	00100	13	EACH	BARRIER REFLECTOR
											22.0	22.0	630	02100	22.0	FT	GROUND MOUNTED SUPPORT, NO. 2 POST
											32.0	32.0	630	03100	32.0	FT	GROUND MOUNTED SUPPORT, NO. 3 POST
											4	4	630	84900	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
											6	6	630	85100	6	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
											8	8	630	86002	8	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
											0.25	0.25	644	00100	0.25	MILE	EDGE LINE, 4"
											0.12	0.12	644	00300	0.12	MILE	CENTER LINE
											12	12	644	00500	12	FT	STOP LINE

CALCULATED KJK
CHECKED RAK

GENERAL SUMMARY

ATH-682-6.05

SHEET NUMBER												PARTICIPATION	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
						5		10			OFFICE CALCS	01/NHS/BR						
																	STRUCTURES 20' AND OVER	
																	FOR STRUCTURE ATH-682-0607 GENERAL SUMMARY	26
																	MAINTENANCE OF TRAFFIC	
						40						40	614	11110	40	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
								4				4	614	12346	4	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)(24")	
								4				4	614	12348	4	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)(24")	
						1						1	614	12500	1	EACH	REPLACEMENT SIGN	
						3						3	614	12600	3	EACH	REPLACEMENT DRUM	
								44				44	614	13300	44	EACH	BARRIER REFLECTOR, TYPE B	
								74				74	614	13302	74	EACH	BARRIER REFLECTOR, TYPE B2	
								44				44	614	13350	44	EACH	OBJECT MARKER, ONE WAY	
								48				48	614	13360	48	EACH	OBJECT MARKER, TWO WAY	
								0.18				0.18	614	21000	0.18	MILE	WORK ZONE CENTER LINE, CLASS 1	
								1.41				1.41	614	22000	1.41	MILE	WORK ZONE EDGE LINE, CLASS 1	
								44				44	614	26000	44	FT	WORK ZONE STOP LINE, CLASS 1	
								LUMP				LUMP	615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC	
								318				318	615	20000	318	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
								1,580				1,580	622	40020	1,580	FT	PORTABLE CONCRETE BARRIER, 32"	
								600				600	622	40040	600	FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
												LUMP	614	11000	LUMP		MAINTAINING TRAFFIC	5
												7	619	16010	7	MONTH	FIELD OFFICE, TYPE B	
												LUMP	623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
												LUMP	624	10000	LUMP		MOBILIZATION	

CALCULATED KJK
CHECKED RAK

GENERAL SUMMARY

ATH-682-6.05

Ⓐ P.I. STA. 315+83.38
℄ CONST. S.R. 682
Δ= 10° 24′ 54″ (RT)
Dc= 1° 59′ 21″
R= 2,880.34′
T= 262.51′
L= 523.57′
E= 11.94′

Ⓑ P.I. STA. 320+14.36
℄ CONST. S.R. 682
Δ= 0° 1′ 13″ (RT)
NO CURVE

BEGIN WORK STA. 318+60

BEGIN PROJECT STA. 319+69.00
E111 (295)

U.S. 33 EASTBOUND EXIT RAMP

TAPER GUARDRAIL TO MEET EXISTING STA. 319+33.60 TO STA. 320+27.35

TAPER SHOULDER TO MEET EXISTING STA. 319+69.00 TO STA. 320+27.35

℄ FLUME +27, LT

CURB, TYPE 4-C STA. 320+30.50 TO STA. 320+39.66

CURB, TYPE 4-A STA. 320+39.66 TO STA. 320+56.50

BRIDGE TERMINAL ASSEMBLY, TYPE 1 (TYP. BOTH SIDES) +52.35 ✳

CONST. LIMITS

+96 #

LEGEND
✳ - FIRST POST OFF BRIDGE
- AGGREGATE DRAIN

SUNSET LANE

BM#1

317 318 S.R. 682 319 N 2° 43′ 39″ W 320 321 N 2° 42′ 26″ W

ASPHALT OVER CONCRETE

13′±
12.3′±
12′
12′

END APPROACH SLAB STA. 320+47.87

℄ CONSTRUCTION S.R. 682

16.5′
16.5′

BEGIN APPROACH SLAB STA. 320+17.87

+01.24 ✳

MATCH LINE STA. 322+00

TAPER SHOULDER TO MEET EXISTING STA. 319+69.00 TO STA. 319+76.24

CONST. LIMITS

TAPER GUARDRAIL TO MEET EXISTING STA. 319+63.74 TO STA. 319+76.24

℄ FLUME +76, RT

CURB, TYPE 4-A STA. 319+96.08 TO STA. 320+05.39

CURB, TYPE 4-C STA. 319+79.39 TO STA. 319+96.08

U.S. 33 EASTBOUND

U.S. 33 WESTBOUND

586

U.S. 33 EASTBOUND ENTRANCE RAMP

PT STA. 318+44.44

6" WATER

TAPER PAVEMENT TO MEET EXISTING STA. 319+69.00 TO STA. 319+96.08, LT & RT

℄ CONSTRUCTION U.S. 33

N 39° 40′ 16″ W

587

FOR CENTERLINE REFERENCES SEE SHEET 4.
FOR BENCHMARKS SEE SHEET 23.
FOR U.S. 33 PLAN AND PROFILE SEE SHEET 18.

PROPOSED PROFILE GRADE

EXISTING PROFILE GRADE

6" WATER

710
705
700
695
690
685
680

699.57 700.01 700.43 700.78 701.07 701.28 701.42 701.50 701.51 701.45

P.V.I. STA 321+54.12 ELEV = 702.74′
300.00′ VC

P.V.I. STA. 319+69.00
ELEV. = 699.47
MEET EXISTING PAVEMENT
BUTT JOINT

P.V.C. STA. 320+04.12
ELEV.=700.09

PROPOSED PROFILE GRADE

+1.77 %
-1.51 %
-1.07 %
+1.77 %

NO CURVE

PROVIDE DEBRIS PROTECTION AT ALL TIMES DURING CONSTRUCTION.

EXISTING PROFILE GRADE

697.25 697.04 696.93 696.69 696.98 697.11 697.36 697.93 697.96 698.34 698.73 699.11 699.57 699.94 700.16 700.34 700.65 700.90 701.05 701.11 701.08 701.02

317+00 318+00 319+00 320+00 321+00 322+00

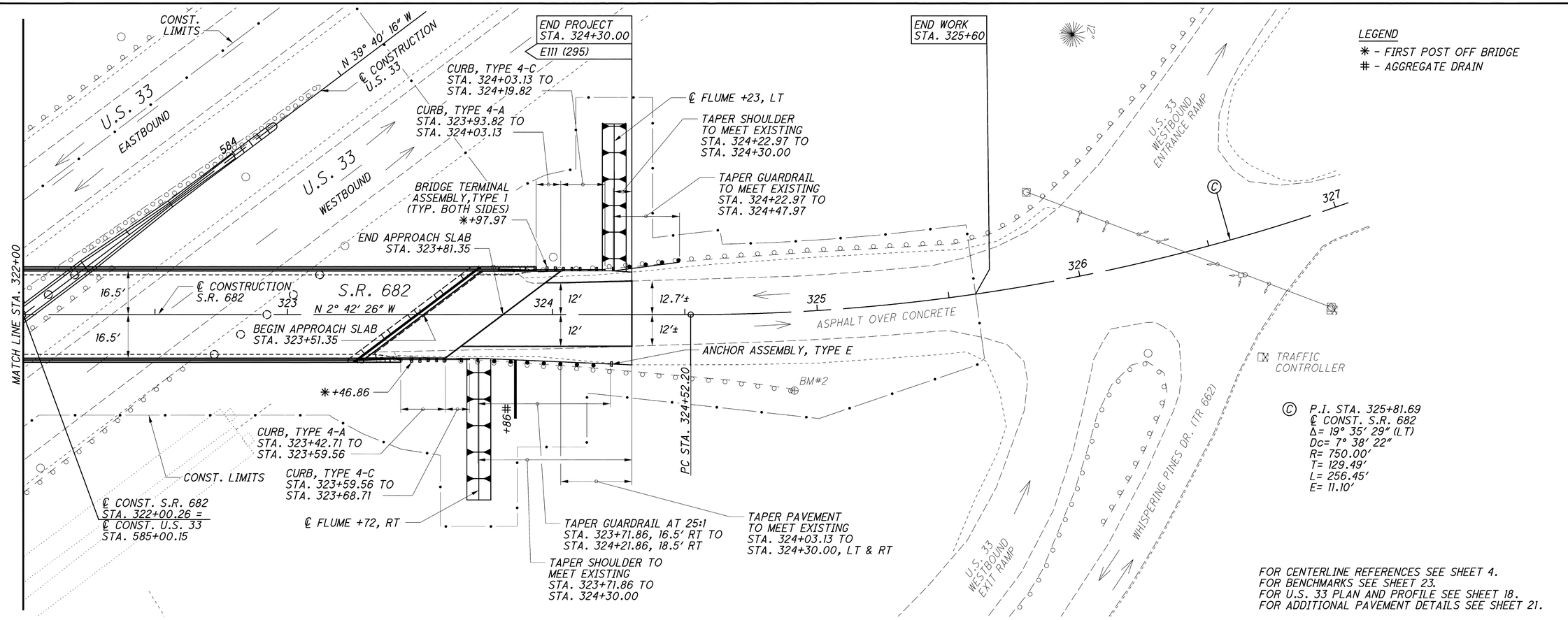
N

HORIZONTAL SCALE IN FEET
0 10 20 40

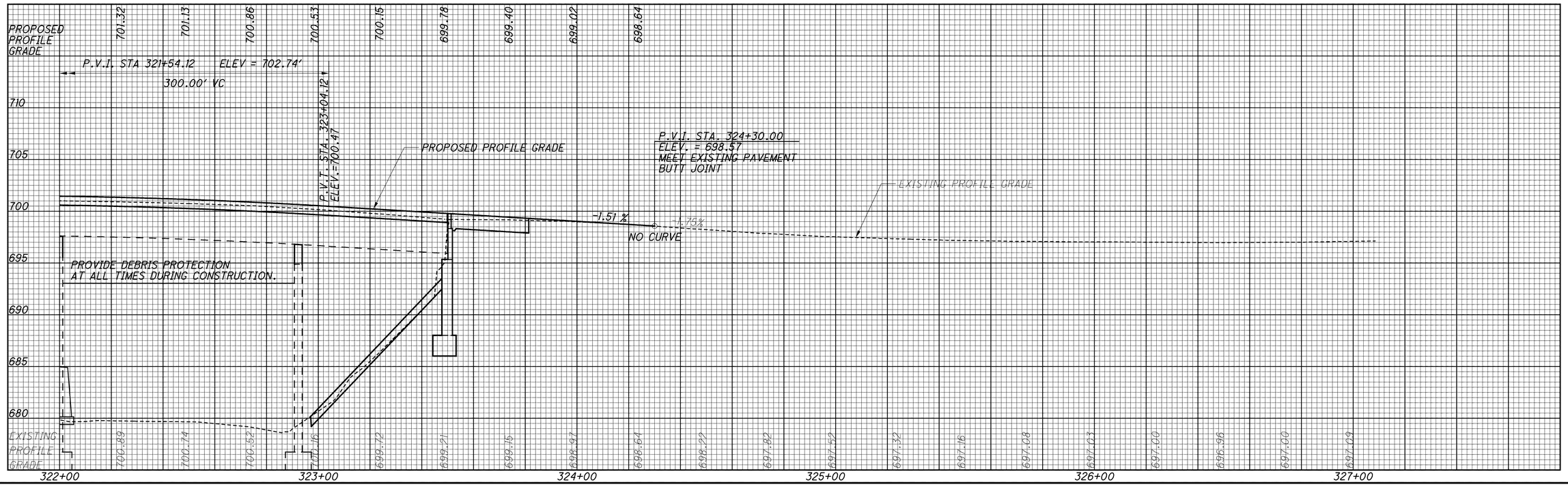
CALCULATED JDF
CHECKED RAK

PLAN AND PROFILE - S.R. 682 STA. 317+00 TO STA. 322+00

ATH-682-6.05



FOR CENTERLINE REFERENCES SEE SHEET 4.
FOR BENCHMARKS SEE SHEET 23.
FOR U.S. 33 PLAN AND PROFILE SEE SHEET 18.
FOR ADDITIONAL PAVEMENT DETAILS SEE SHEET 21.



PLAN AND PROFILE - S.R. 682
STA. 322+00 TO STA. 327+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JDF
CHECKED RAK

ATH-682-6.05

14
48

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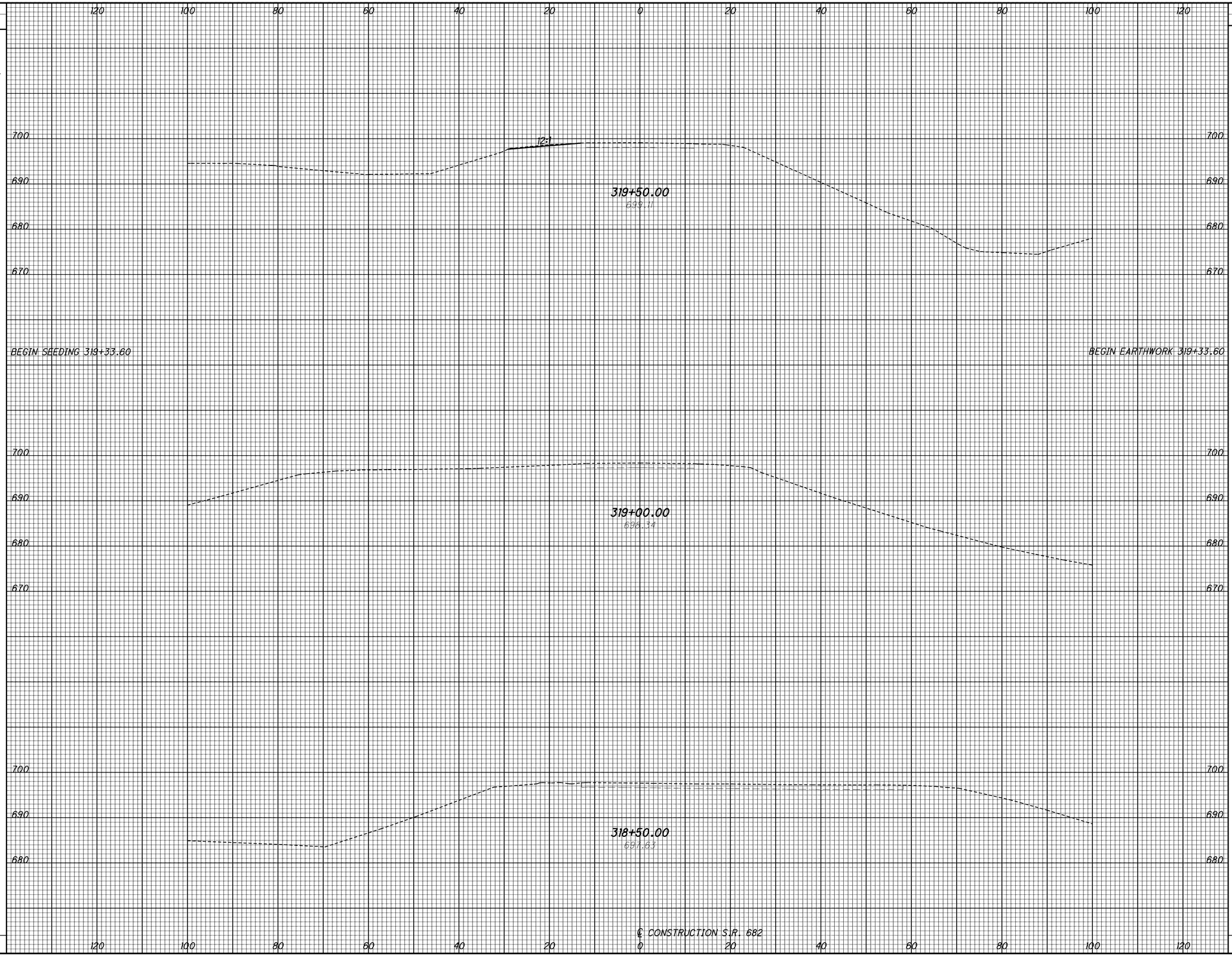
SEEDING	
END WIDTH	SQ. YDS.
16	125
4	18
	143



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		1	0
2	0		
		1	0
0	0		
		2	0

CALCULATED KJK
CHECKED RAK

CROSS SECTIONS - S.R. 682
318+50.00 TO 319+50.00

ATH-682-6.05

15
48

SEEDING END WIDTH	SEEDING SQ. YDS.
	49
18	
	90
36	
0	
0	
35	
	100
25	
	54
29	
	293

120 100 80 60 40 20 0 20 40 60 80 100 120

710
700
690
680
670

699.30
323+81.35
699.11
2:1
12'
SPECIAL BENCHING
SIDEHILL SLIVER FILL
END APPROACH SLAB

BRIDGE LIMITS
320+47.87 TO 323+51.35

AHEAD RESUME SEEDING 323+51.35
BACK

AHEAD
BACK SUSPEND SEEDING 320+47.87

700.32
320+17.87
700.10
2.5:1
1:1
14'
SPECIAL BENCHING
SIDEHILL SLIVER FILL
BEGIN APPROACH SLAB

700.01
320+00.00
699.94
1:1
2:1
19'
SPECIAL BENCHING
SIDEHILL SLIVER FILL
BEGIN PROJECT
319+69.00

℄ CONSTRUCTION S.R. 682

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL	
		67	59	
61	44			
		70	51	
79	57			RESUME EARTHWORK 323+54.27 AHEAD
0	0			BACK
0	0			AHEAD
85	66			SUSPEND EARTHWORK 320+44.95 BACK
		80	62	
74	57			
		70	61	
138	127			
		94	73	
26	0			319+69.00 AHEAD
2	0			BACK
		381	306	

▨ - TO BE REMOVED UNDER ITEM 202

CALCULATED KJK
CHECKED RAK

CROSS SECTIONS - S.R. 682
320+00.00 TO 323+81.35

ATH-682-6.05

16
48

SEEDING	
END WIDTH	SQ. YDS.
4	88
29	88

120 100 80 60 40 20 0 20 40 60 80 100 120

700
690
680
670

325+00.00
697.52

324+50.00
698.22

END SEEDING 324+47.97

END PROJECT
324+30.00

2:1
1:1
20'
SPECIAL BENCHING
SIDEHILL SLIVER FILL

699.02
324+00.00
698.91

℄ CONSTRUCTION S.R. 682

END EARTHWORK 324+47.97

324+30.00 AHEAD
BACK

▨ - TO BE REMOVED UNDER ITEM 202

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
0	2	0	1
26	2		
134	127	89	72
		89	73

CALCULATED KJK
CHECKED RAK

CROSS SECTIONS - S.R. 682
324+00.00 TO 325+00.00

ATH-682-6.05

17
48

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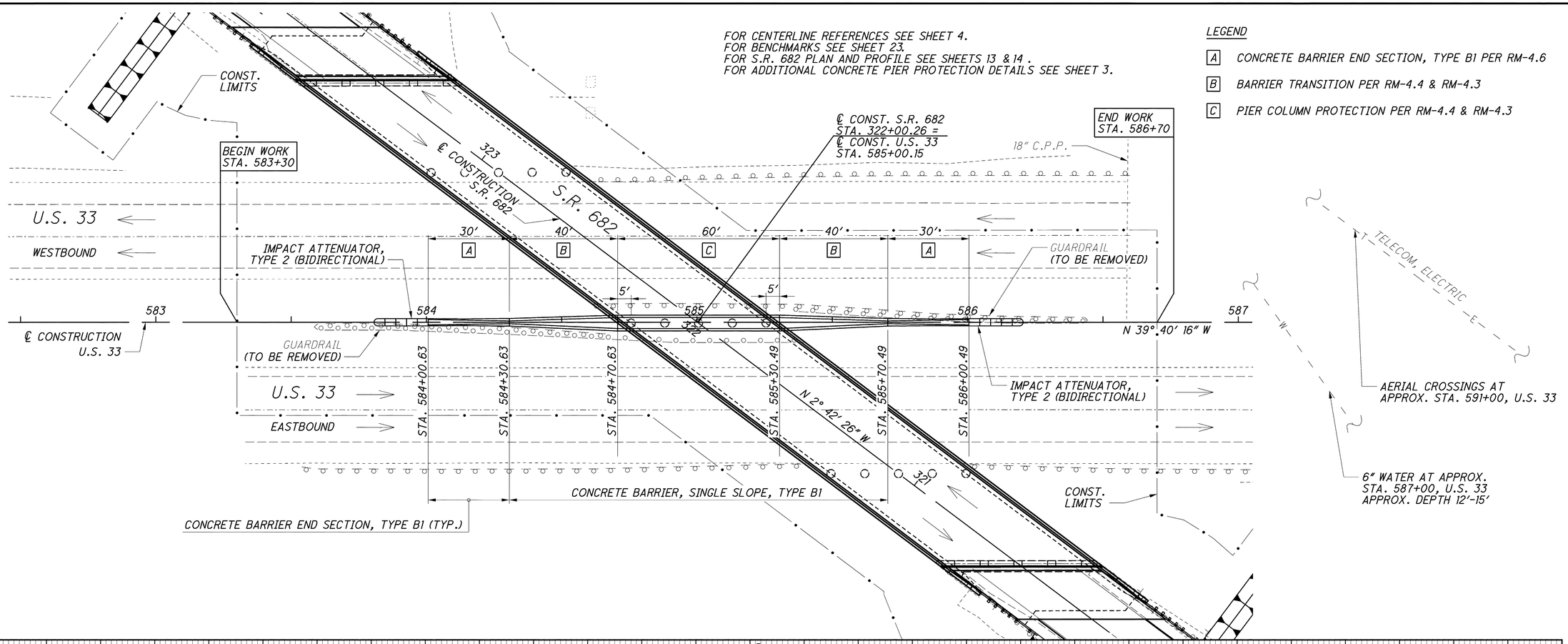
FOR CENTERLINE REFERENCES SEE SHEET 4.
FOR BENCHMARKS SEE SHEET 23.
FOR S.R. 682 PLAN AND PROFILE SEE SHEETS 13 & 14 .
FOR ADDITIONAL CONCRETE PIER PROTECTION DETAILS SEE SHEET 3.

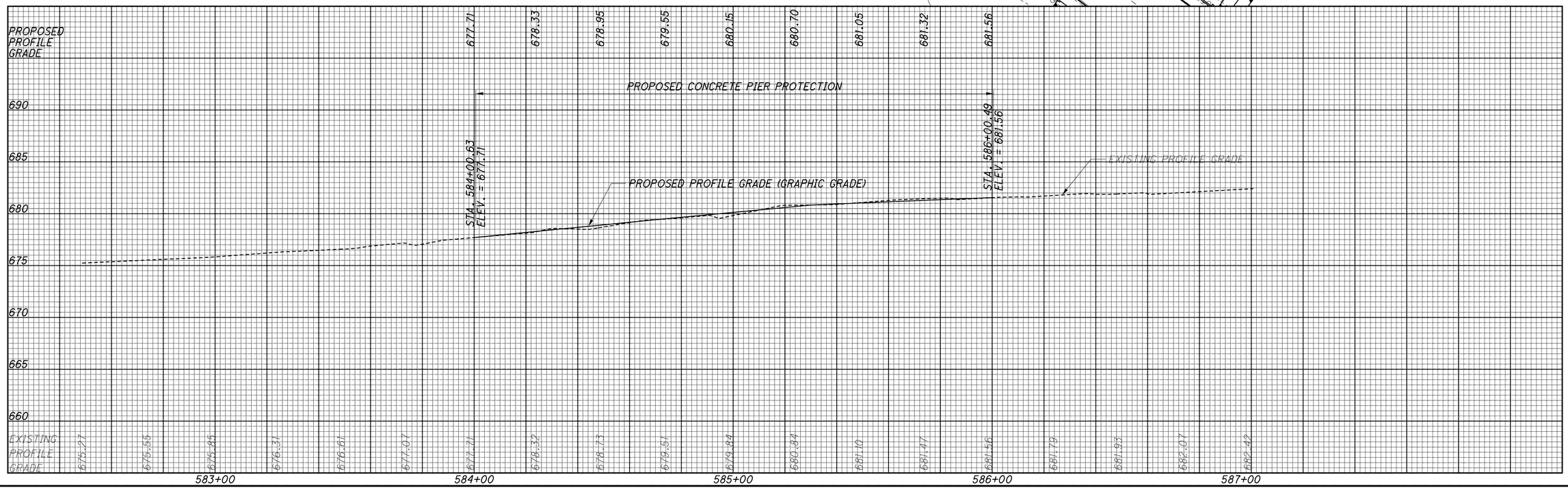
LEGEND

A CONCRETE BARRIER END SECTION, TYPE B1 PER RM-4.6

B BARRIER TRANSITION PER RM-4.4 & RM-4.3

C PIER COLUMN PROTECTION PER RM-4.4 & RM-4.3





CALCULATED JDF CHECKED RAK

HORIZONTAL SCALE IN FEET 0 10 20 40

PLAN AND PROFILE - U.S. 33
STA. 582+50 TO STA. 587+00

ATH-682-6.05

18
48

SEEDING	
END WIDTH	SQ. YDS.
32	
	178
32	
	178
32	
	2,578
0	
	2,934

BEGIN SEEDING 569+00

120 100 80 60 40 20 0 20 40 60 80 100 120

690 680 670

CONCRETE PIER PROTECTION

678.95
584+50.00
678.13

BEGIN CONCRETE PIER PROTECTION
STA. 584+00.63

IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL)

584+00.00
677.71

583+50.00
676.61

℄ CONSTRUCTION U.S. 33

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED JDF
CHECKED RAK

CROSS SECTIONS - U.S. 33
STA. 583+50.00 TO STA. 584+50.00

ATH-682-6.05

19
48

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SEEDING END WIDTH	SEEDING SQ. YDS.
0	
	2,578
32	
	178
32	
	178
32	
	178
	3,290

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

CALCULATED JDF

CHECKED RAK

END SEEDING 601+00

586+50.00
681.93

END CONCRETE PIER PROTECTION
STA. 586+00.48

CONCRETE PIER PROTECTION

681.56
586+00.00
681.56

CONCRETE PIER PROTECTION

681.05
585+50.00
681.10

BRIDGE PIER COLUMN

CONCRETE PIER PROTECTION

680.15
585+00.00
679.84

℄ CONSTRUCTION U.S. 33

700 690 680 670 660

120 100 80 60 40 20 0 20 40 60 80 100 120

CROSS SECTIONS - U.S. 33
STA. 585+00.00 TO STA. 586+50.00

ATH-682-6.05

20
48

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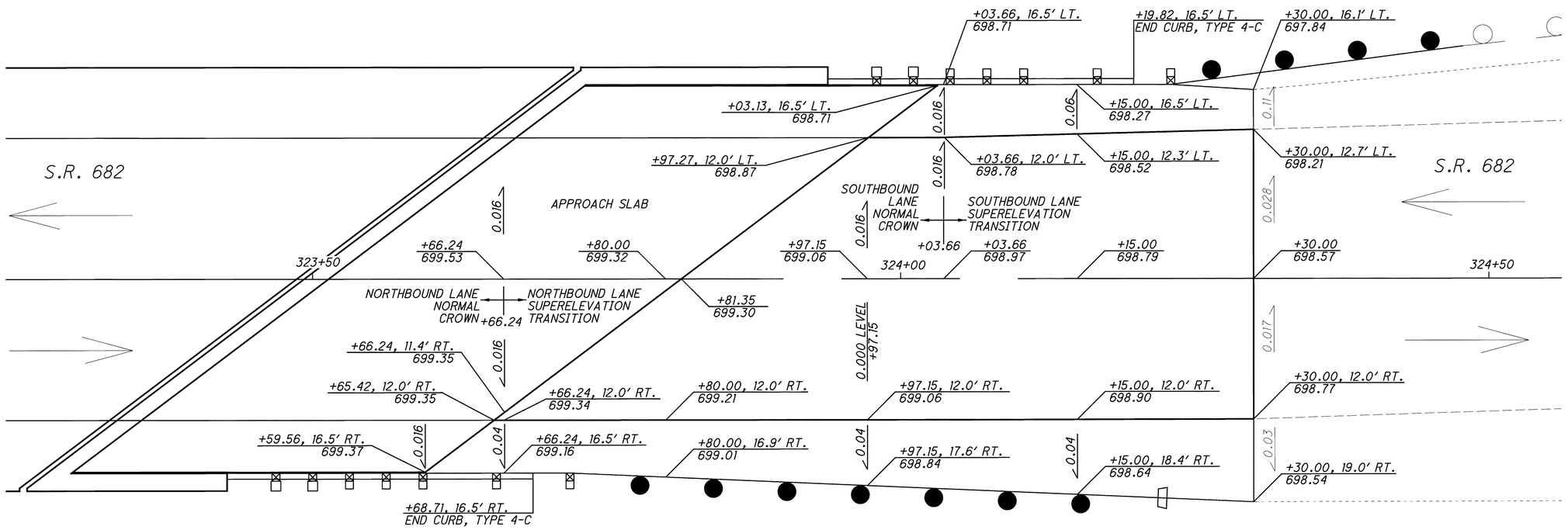


SUPERELEVATION TRANSITION

NOTE: ELEVATIONS ALONG THE CURB ARE PAVEMENT ELEVATIONS

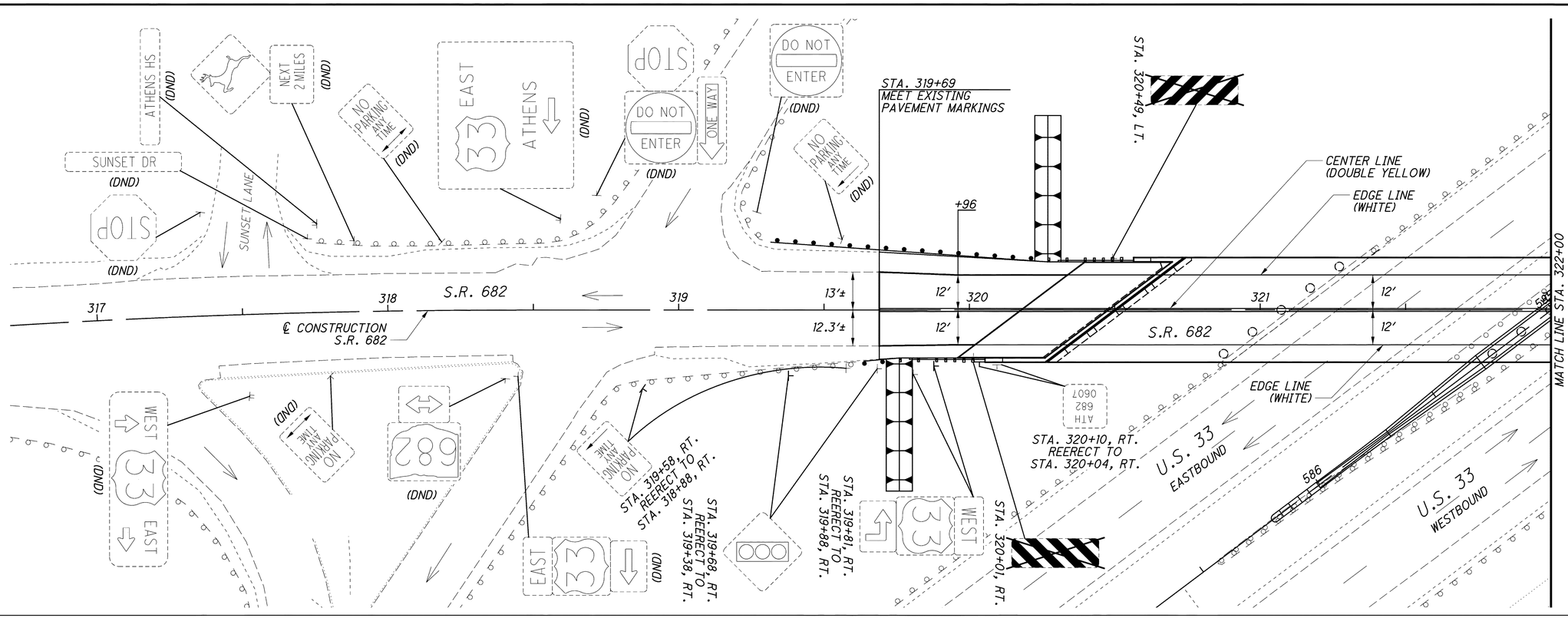
N

0 2.5 5 10
HORIZONTAL SCALE IN FEET

CALCULATED JDF
CHECKED RAK

PAVEMENT DETAILS

ATH-682-6.05

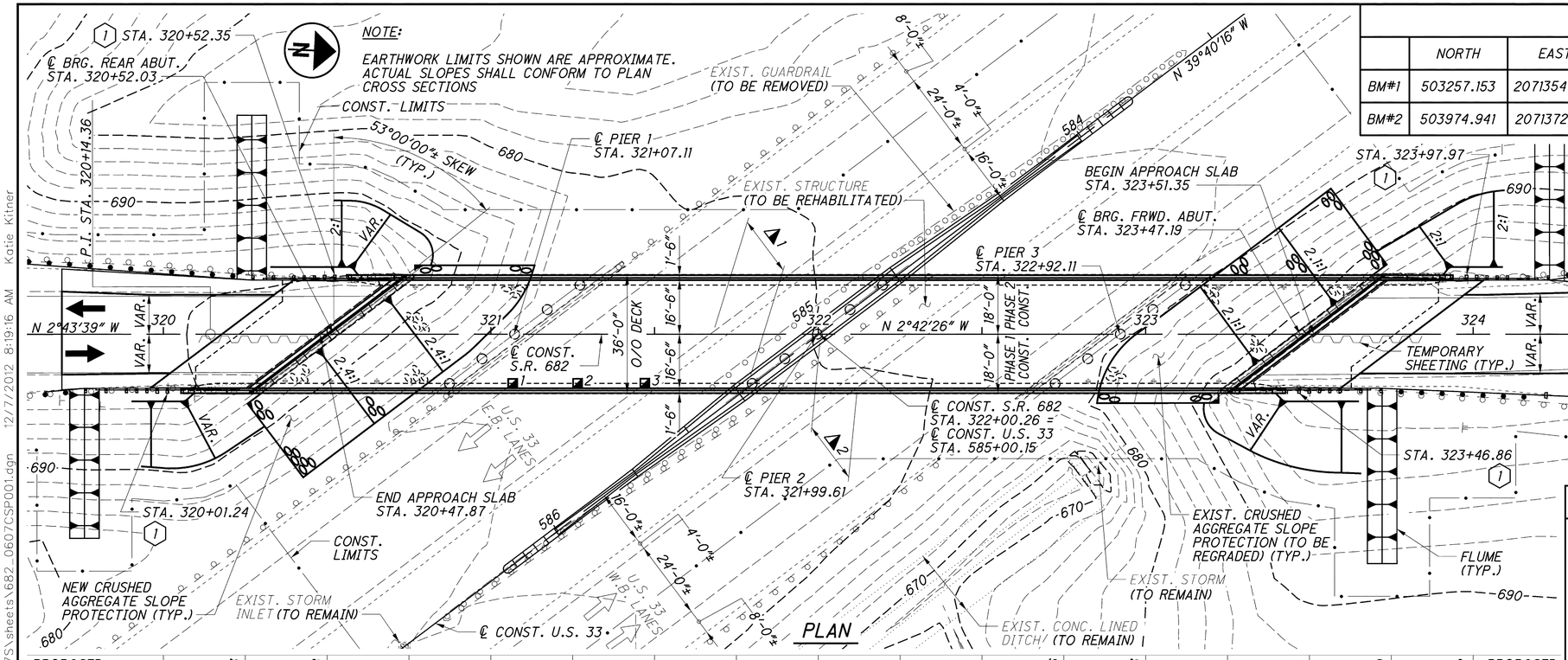


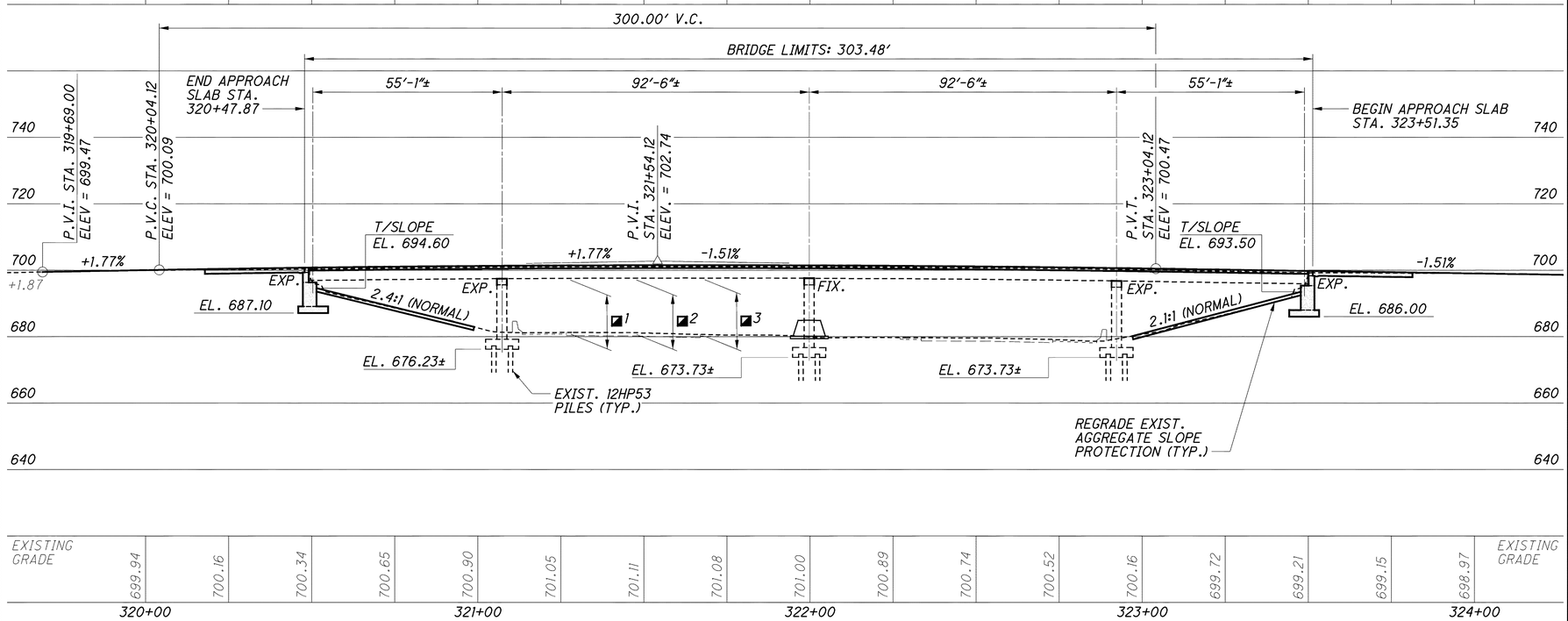
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JDF
CHECKED RAK

TRAFFIC CONTROL

ATH-682-6.05





BENCHMARKS

	NORTH	EAST	℄ CONST. STATION	OFFSET	ELEVATION	REMARKS
BM#1	503257.153	2071354.467	317+75.86	24.27' LT.	697.338	X ON GR BOLT
BM#2	503974.941	2071372.633	324+89.93	29.67' RT.	696.949	X ON GR BOLT

LEGEND

(1) BRIDGE TERMINAL ASSEMBLY, TYPE 1 (FIRST POST LOCATION)

VERTICAL CLEARANCE:

◪1	16.02'	PROPOSED	15.0'	REQUIRED
◪2	15.94'	PROPOSED	15.0'	REQUIRED
◪3	16.52'	PROPOSED	15.0'	REQUIRED

HORIZONTAL CLEARANCE:

◭1	18.23'	PROVIDED	12.81'	REQUIRED
◭2	18.82'	PROVIDED	12.81'	REQUIRED

DESIGN TRAFFIC - S.R. 682:

2013 ADT = 4,800 2013 ADTT = 240
2033 ADT = 6,500 2033 ADTT = 325
DIRECTIONAL DISTRIBUTION = 0.55

EXISTING STRUCTURE

TYPE:	CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS:	55'-6"±, 92'-6"±, 92'-6"±, 55'-6"± C/C BEARINGS
ROADWAY:	30'-0"± FACE/FACE OF CURBS
LOADING:	CF 130 (57) ORIGINAL
SKEW:	53°00'00"± L.F.
APPROACH SLABS:	25'-0"± (AS-1-54)
ALIGNMENT:	TANGENT
CROWN:	0.016±
WEARING SURFACE:	¾"± MONOLITHIC CONCRETE
STRUCTURE FILE NO.:	0504920
DATE BUILT:	1960
DISPOSITION:	TO BE REHABILITATED

PROPOSED STRUCTURE

PROPOSED WORK:	REPLACE EXIST. ABUTMENTS. REPLACE EXIST. DECK SLAB WITH NEW COMPOSITE DECK. REPLACE EXIST. BEARINGS WITH NEW ELASTOMERIC BEARINGS, PAINT EXIST. STEEL AND SEAL CONCRETE SURFACES.
TYPE:	CONTINUOUS COMPOSITE STEEL BEAMS WITH REINFORCED CONCRETE DECK SLAB AND SUBSTRUCTURE (EXISTING STEEL BEAMS AND PIERS TO BE SALVAGED)
SPANS:	55'-1"±, 92'-6"±, 92'-6"±, 55'-1"± C/C BEARINGS
ROADWAY:	33'-0" TOE/TOE PARAPETS
LOADING:	HS20 (CASE II) AND ALTERNATE MILITARY LOADING. FWS = 60 PSF
SKEW:	53°00'00"± L.F.
ALIGNMENT:	TANGENT
CROWN:	0.016
WEARING SURFACE:	1" MONOLITHIC CONCRETE
APPROACH SLABS:	30'-0" LONG (AS-1-81)
COORDINATES:	LATITUDE N39°22'57" LONGITUDE W82°08'10"

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DATE 11-27-12
REVIEWED EDW
DRAWN MDC
DESIGNED RHC
CHECKED RHC
REVISED
STRUCTURE FILE NUMBER 0504920

ATHENS COUNTY
STA. 320+47.87
STA. 323+51.35

SITE PLAN
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

1 / 26

23 / 48

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

A-1-69	REVISED 7-19-02
AS-1-81	REVISED 7-19-02
EXJ-4-87	REVISED 7-19-02
SBR-1-99	REVISED 7-19-02
PCB-91	REVISED 7-19-02

DESIGN LOADING

HS20-44, CASE II AND THE ALTERNATE MILITARY LOADING

FUTURE WEARING SURFACE (FWS) OF 60 PSF

DESIGN DATA

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE)

STRUCTURAL STEEL - ASTM A709 GRADE 50, YIELD STRENGTH 50,000 PSI

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI. SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

DECK PLACEMENT DESIGN ASSUMPTIONS (CONTINUED)

PHASE 1 CONSTRUCTION:

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.05 KIPS FOR A TOTAL MACHINE LOAD OF 8.4 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA BEAM TO THE FACE OF THE SAFETY HANDRAIL OF 65".

PHASE 2 CONSTRUCTION:

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.05 KIPS FOR A TOTAL MACHINE LOAD OF 8.4 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA BEAM TO THE FACE OF THE SAFETY HANDRAIL OF 65".

PROPOSED WORK / SUGGESTED CONSTRUCTION SEQUENCE

1. REMOVE PORTIONS OF THE EXISTING DECK, EXPANSION JOINTS, APPROACH SLABS AND ABUTMENTS AS INDICATED IN THE PLANS FOR PHASE 1 REMOVAL. PROVIDE ADEQUATE TEMPORARY SUPPORT OF EXISTING STRUCTURAL STEEL TO BE SALVAGED.
2. CONSTRUCT ABUTMENT FOOTING AND BEAM SEATS, MODIFY PIERS AND SET NEW BEARINGS AS DETAILED IN THE PLANS FOR PHASE 1 CONSTRUCTION.
3. INSTALL EXPANSION JOINT END DAMS AND END CROSSFRAMES AND PROCEED WITH PHASE 1 DECK POUR AS DETAILED IN PLANS.
4. CONSTRUCT ABUTMENT BACKWALLS AND PORTIONS OF THE APPROACH SLABS, BACKFILL AND SEAL CONCRETE SURFACES AND MOVE TRAFFIC TO THE NEWLY CONSTRUCTED EASTERN PART OF THE PROPOSED STRUCTURE.
5. REMOVE EXISTING DECK, EXPANSION JOINTS, PORTIONS OF THE EXISTING APPROACH SLABS AND ABUTMENTS AS INDICATED IN THE PLANS FOR PHASE 2 REMOVAL. PROVIDE ADEQUATE TEMPORARY SUPPORT OF EXISTING STRUCTURAL STEEL TO BE SALVAGED.
6. CONSTRUCT ABUTMENT FOOTING AND BEAM SEATS, MODIFY PIERS AND SET NEW BEARINGS FOR EXISTING BEAMS AS DETAILED IN THE PLANS FOR PHASE 2 CONSTRUCTION.
7. INSTALL EXPANSION JOINT END DAMS AND END CROSSFRAMES AND PROCEED WITH PHASE 2 DECK POUR.
8. CONSTRUCT ABUTMENT BACKWALLS AND THE REMAINDER OF THE APPROACH SLABS, BACKFILL, AND SEAL CONCRETE SURFACES FOR THE WESTERN PART OF THE PROPOSED STRUCTURE.
9. PAINT STRUCTURAL STEEL, REPAIR/REGRADE EXISTING AGGREGATE SLOPE PROTECTION AND INSTALL NEW AGGREGATE SLOPE PROTECTION AT THE WIDENED PORTION.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN

DESCRIPTION: THIS WORK SHALL CONSIST OF THE REMOVAL OF THE CONCRETE DECK INCLUDING THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. THE REMOVAL ITEMS SHALL INCLUDE BUT ARE NOT LIMITED TO EXISTING DECK, PARAPETS, RAILINGS, SCUPPERS, DECK JOINTS, PORTIONS OF THE ABUTMENT, APPROACH SLABS, WEARING SURFACES AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, CROSSFRAMES, ETC.) ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. IN ADDITION, ANY EXISTING ITEMS ATTACHED TO THE TOP FLANGE FROM CURRENT OR PREVIOUS CONSTRUCTION THAT ARE DETERMINED UNNESSESARY BY THE ENGINEER AFTER BEAM INSPECTION SHALL BE REMOVED TO THE SATISFACTION OF THE ENGINEER. CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF THE FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL BEAMS), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED MOJ | DRAWN MOJ | REVIEWED EDW | DATE 11-27-12
CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 0504920

GENERAL NOTES
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

FOUNDATION BEARING PRESSURE

FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 1.26 TONS PER SQUARE FOOT. THE ALLOWABLE BEARING PRESSURE IS 1.5 TONS PER SQUARE FOOT.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING THE EXISTING STEEL BEAMS TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

THE EXISTING BEAMS SHALL BE TEMPORARILY SUPPORTED UNTIL CONSTRUCTION OF THE BEAM SEATS IS COMPLETE DURING PHASE 1 AND 2 CONSTRUCTION. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 601 - SLOPE PROTECTION, MISC.: NEW AND REGRADED EXISTING CRUSHED AGGREGATE SLOPE PROTECTION

THIS ITEM SHALL INCLUDE THE FURNISHING AND PLACING OF ADDITIONAL CRUSHED AGGREGATE SLOPE PROTECTION TO SUPPLEMENT THE EXISTING CRUSHED AGGREGATE SLOPE PROTECTION, IN AREAS AS REQUIRED TO MEET FINAL GROUND LINE AND NEW CRUSHED AGGREGATE SLOPE PROTECTION AS DETAILED IN THE PLANS. PLACEMENT SHALL BE MADE AS DIRECTED BY THE ENGINEER. CRUSHED AGGREGATE SLOPE PROTECTION AT TERMINATION OF THE 6" NON-PERFORATED DRAINAGE PIPES AT THE ABUTMENTS IS ALSO INCLUDED WITH THIS ITEM. ALL MATERIAL AND WORK SHALL MEET THE REQUIREMENTS AS PER CMS 601, EXCEPT THAT THE USE OF RECYCLED, BROKEN PORTLAND CEMENT CONCRETE IS NOT ALLOWED.

ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 601 - SLOPE PROTECTION, MISC.: NEW AND REGRADED EXISTING CRUSHED AGGREGATE SLOPE PROTECTION.

EXISTING BEAM INSPECTION

THE ENGINEER SHALL NOTIFY WES BUCKLEY (740-568-3946) AFTER THE CONCRETE DECK HAS BEEN REMOVED AND BEFORE THE SHEAR STUDS ARE WELDED TO THE EXISTING TOP FLANGE. ONCE NOTIFIED, THE DISTRICT HAS FIVE DAYS TO VISUALLY INSPECT ALL EXISTING BEAMS, BUTT-WELDED SPLICES, AND/OR TOP FLANGE COVER PLATE FILLET WELDS AND CROSSFRAME CONNECTIONS TO ENSURE THAT THEY ARE FREE OF DEFECTS. THE DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS SHALL NOT BE ERECTED UNTIL AFTER THE INSPECTOR HAS COMPLETED THIS INSPECTION. THIS INSPECTION SHALL NOT TAKE PLACE UNTIL AFTER THE TOP FLANGES ARE CLEANED AS SPECIFIED IN 511.10, BUT IT SHALL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE COST ASSOCIATED WITH THIS INSPECTION AND SUBSEQUENT CLEANING SHALL BE INCLUDED WITH ITEM 511, CLASS S CONCRETE, BRIDGE DECK.

ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN :

IN ADDITION TO THE REQUIREMENTS OF ITEM 511, CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN, INSTALL A REFERENCE MONUMENT AT EACH END OF EACH SPREAD FOOTING. THE REFERENCE MONUMENT SHALL CONSIST OF A #8, OR LARGER, EPOXY COATED REBAR EMBEDDED AT LEAST 6" INTO THE FOOTING AND EXTENDED VERTICALLY 4 TO 6 INCHES ABOVE THE TOP OF THE FOOTING. INSTALL A SIX INCH DIAMETER, SCHEDULE 40, PLASTIC PIPE AROUND THE REFERENCE MONUMENT. CENTER THE PIPE ON THE REFERENCE MONUMENT AND PLACE THE PIPE VERTICAL WITH ITS TOP AT THE FINISHED GRADE. THE PIPE SHALL HAVE A REMOVABLE, SCHEDULE 40, PLASTIC CAP. PERMANENTLY ATTACH THE BOTTOM OF THE PIPE TO THE TOP OF THE FOOTING.

ESTABLISH A BENCHMARK TO DETERMINE THE ELEVATIONS OF THE REFERENCE MONUMENTS AT VARIOUS MONITORING PERIODS THROUGHOUT THE LENGTH OF THE CONSTRUCTION PROJECT. THE BENCHMARK SHALL BE THE SAME THROUGHOUT THE PROJECT AND SHALL BE INDEPENDENT OF ALL STRUCTURES.

RECORD THE ELEVATION OF EACH REFERENCE MONUMENT AT EACH MONITORING PERIOD SHOWN IN THE TABLE BELOW.

THE ORIGINAL COMPLETED TABLES WILL BECOME PART OF THE DISTRICTS PROJECT PLAN RECORDS. SEND A COPY OF THE COMPLETED TABLES TO THE OFFICE OF STRUCTURAL ENGINEERING.

PROJECT NUMBER: ATH-682-6.05	MAXIMUM BEARING PRESSURE: 1.26 TSF	
BRIDGE NUMBER: ATH-682-0607	STRUCTURE FILE NUMBER: 0504920	
BENCHMARK LOCATION:		
FOOTING LOCATION: REAR AND FORWARD ABUTMENT		
MONITORING PERIOD	LEFT MONUMENT	RIGHT MONUMENT
AFTER FOOTING CONCRETE IS PLACED		
BEFORE PLACEMENT OF SUPERSTRUCTURE MEMBERS		
BEFORE DECK PLACEMENT		
AFTER DECK PLACEMENT		
PROJECT COMPLETION		

ABBREVIATIONS

ABUT.	ABUTMENT
B.S.	BOTH SIDES
BRG.	BEARING
BOT.	BOTTOM
C.M.P.	CORRUGATED METAL PIPE
CONST.	CONSTRUCTION
DIA.	DIAMETER
EL.	ELEVATION
EXIST.	EXISTING
F.A.	FORWARD ABUTMENT
F/F	FACE-TO-FACE
F.S.	FAR SIDE OR FIELD SPLICE
FRWD.	FORWARD
HMWM	HIGH MOLECULAR WEIGHT METHACRYLATE RESIN
L	ANGLE
MIN.	MINIMUM
N.S.	NEAR SIDE
NO.	NUMBER
NON-PERF.	NON-PERFORATED
P.C.B.	PORTABLE CONCRETE BARRIER
P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
SPA.	SPACES OR SPACED
T/SLOPE	TOP OF SLOPE
TYP.	TYPICAL
VAR.	VARIES

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
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DESIGNED	DRAWN	REVIEWED	DATE
MOJ	MOJ	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

GENERAL NOTES
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

ESTIMATED QUANTITIES

CALCULATED: MOJ DATE: 9-13-12
CHECKED: RHC DATE: 9-21-12

PARTICIPATION 01/NHS/BR	ITEM	EXT.	TOTAL	UNITS	DESCRIPTION	SUPERSTRUCT.	PIERS	ABUTMENTS	GENERAL	SEE STRUCTURE SHT. NO.
LUMP	202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2
LUMP	503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP	
LUMP	503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
122,200	509	10000	122,200	POUND	EPOXY COATED REINFORCING STEEL	99,011	653	22,536		
90	510	10000	90	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		90			
4	511	43200	4	CU YD	CLASS C CONCRETE, PIER		4			
300	511	43501	300	CU YD	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN			300		3
328	511	34434	328	CU YD	CLASS S CONCRETE, BRIDGE DECK	328				
105	511	34436	105	CU YD	CLASS S CONCRETE, BRIDGE DECK (PARAPET)	105				
1,083	512	10100	1,083	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	630	260	193		
40	512	44400	40	SQ YD	TYPE B WATERPROOFING			40		
3,600	513	10200	3,600	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF	3,600				
3,094	513	20000	3,094	EACH	WELDED STUD SHEAR CONNECTORS	3,094				
17,500	514	00050	17,500	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	17,500				
17,500	514	00056	17,500	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	17,500				
17,500	514	00060	17,500	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	17,500				
17,500	514	00066	17,500	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	17,500				
25	514	00504	25	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	25				
12	514	10000	12	EACH	FINAL INSPECTION REPAIR	12				
120	516	11210	120	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	120				
10	516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (2.74" x 8 1/2" x 11"), AS PER PLAN	10				17
10	516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (2.56" x 12" x 18"), AS PER PLAN	10				17
5	516	44101	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (2.35" x 13" x 20"), AS PER PLAN	5				17
LUMP	516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	LUMP				3
LUMP	518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC			LUMP		
133	518	40000	133	FT	6" PERFORATED CORRUGATED PLASTIC PIPE			133		
66	518	40010	66	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS			66		
220	526	30000	220	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=17")				220	
605	601	21100	605	SQ YD	SLOPE PROTECTION, MISC.: NEW AND REGRADED EXISTING CRUSHED AGGREGATE SLOPE PROTECTION				605	3

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ESTIMATED QUANTITIES
BRIDGE NO. ATH-682-0607
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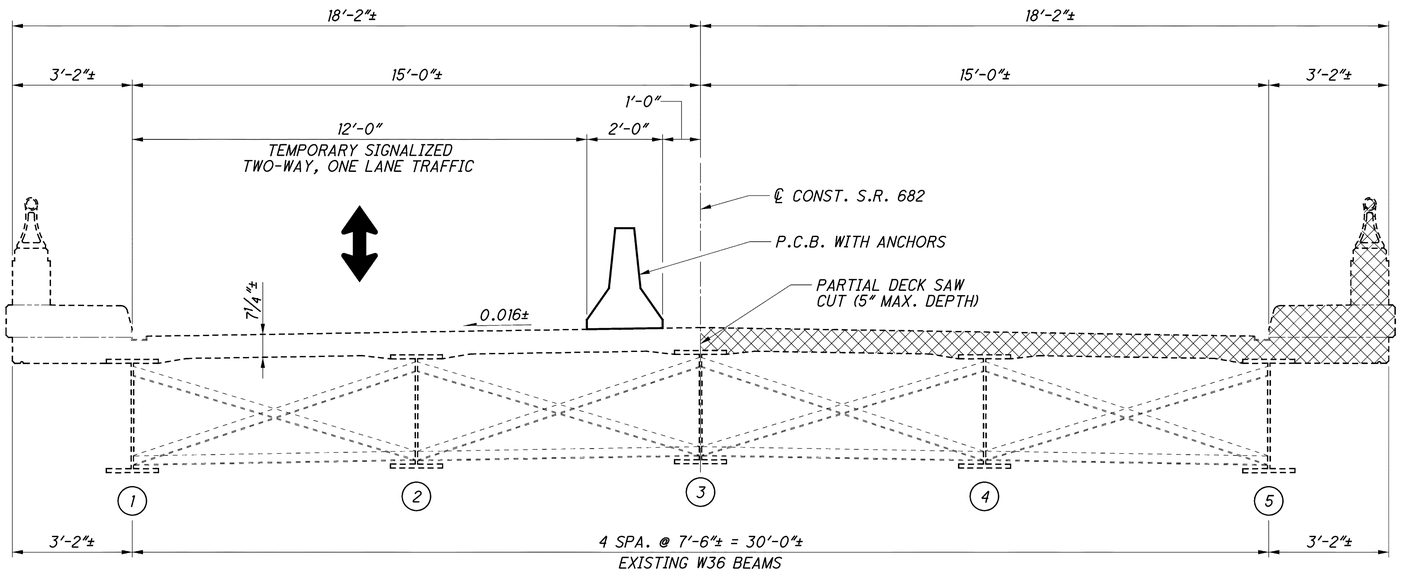
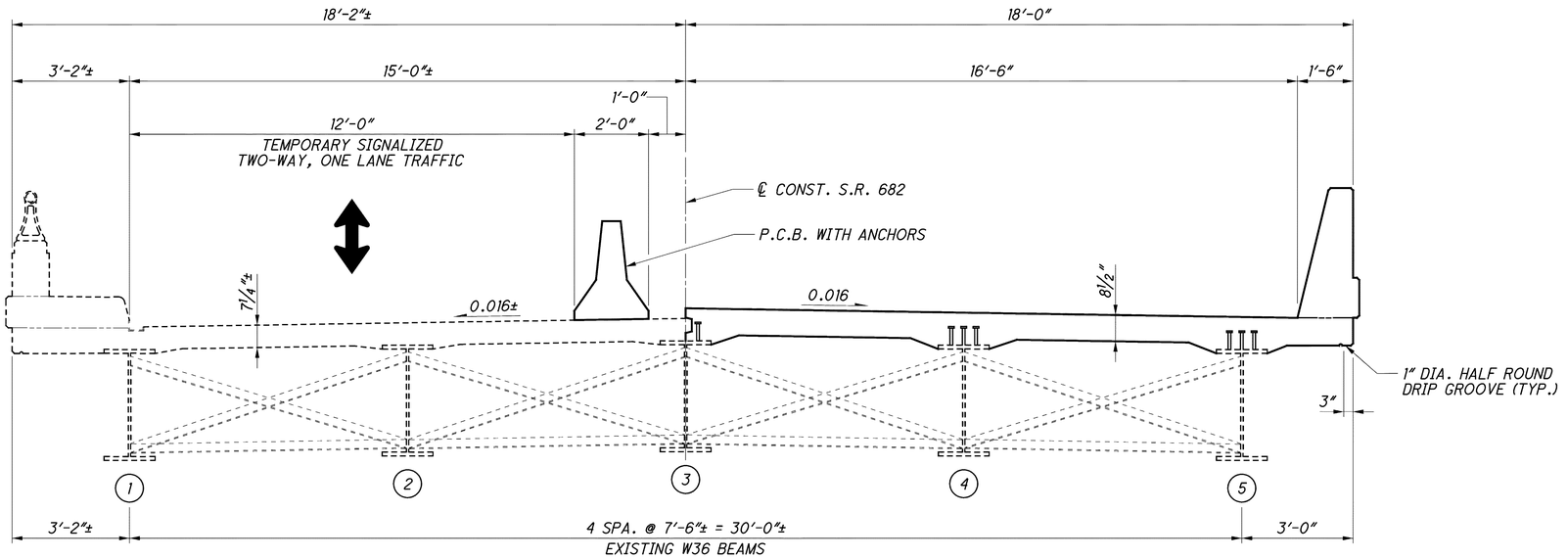
ATH-682-6.05
PID No. 92001



PHASE 1: DEMOLITION



PHASE 1: CONSTRUCTION

LEGEND:

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

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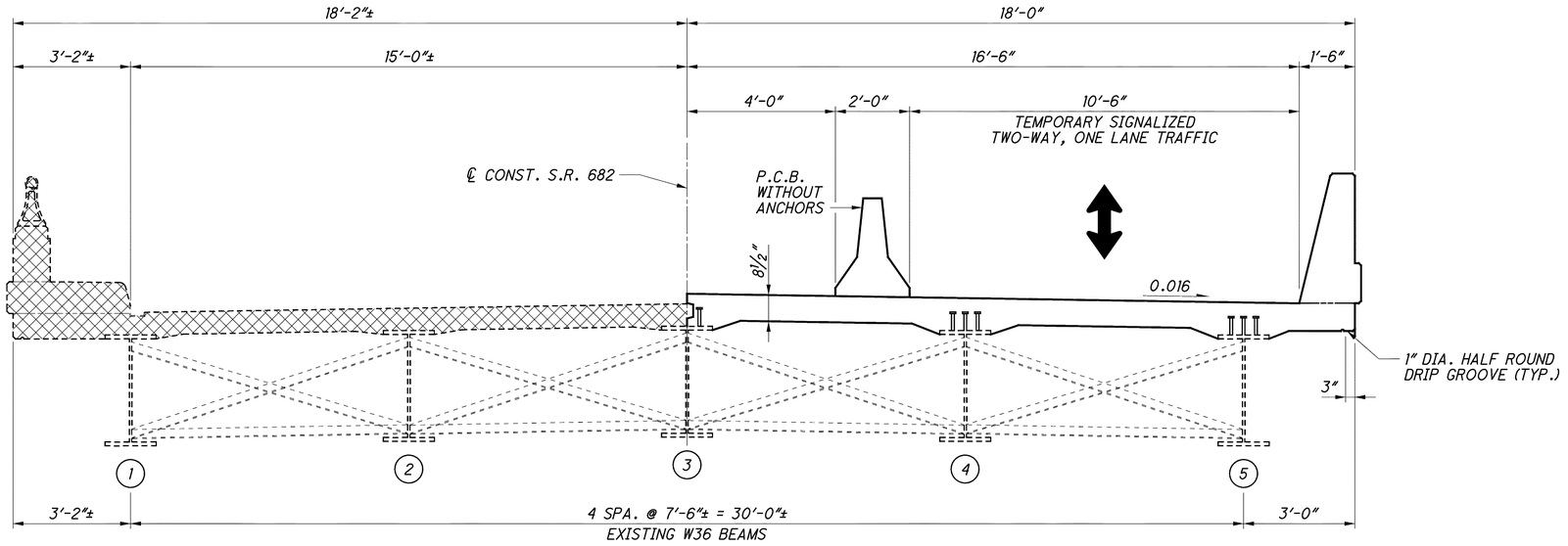
CONSTRUCTION PHASING
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

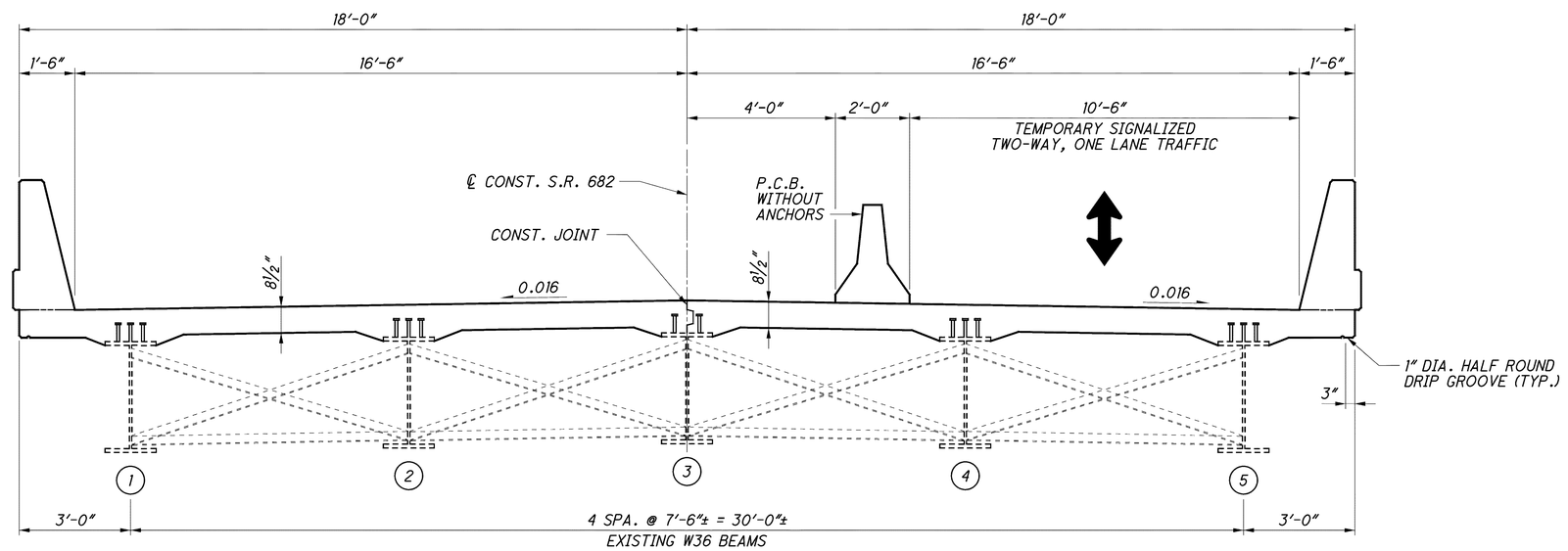
ATH-682-6.05
PID No. 92001

5 / 26

27 / 48



PHASE 2: DEMOLITION



PHASE 2: CONSTRUCTION

LEGEND:

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

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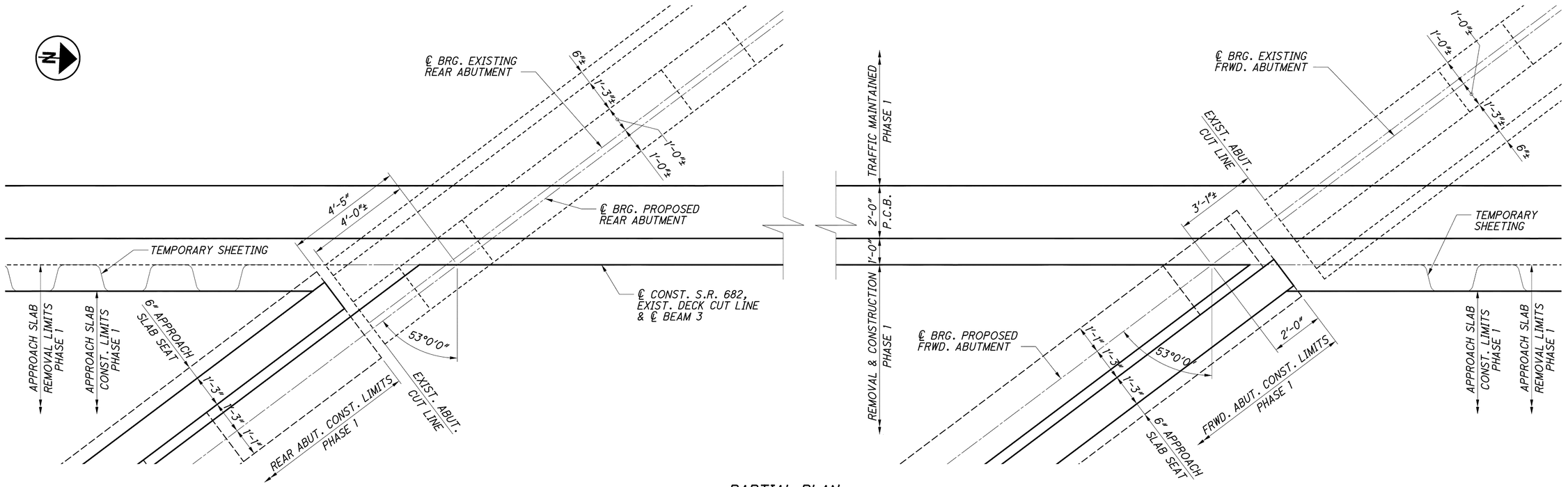
CONSTRUCTION PHASING
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

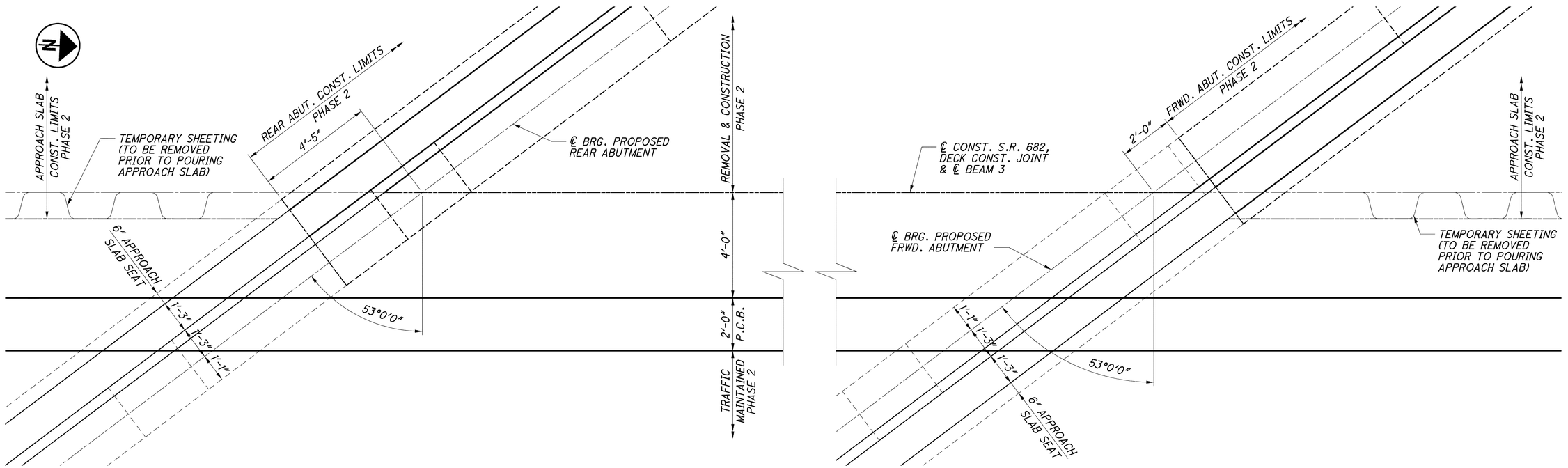
ATH-682-6.05
PID No. 92001

6 / 26

28 / 48



PARTIAL PLAN
PHASE 1



PARTIAL PLAN
PHASE 2

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED	DRAWN	REVIEWED	DATE
RHC	MOJ	EDW	11-27-12
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CONSTRUCTION PHASING
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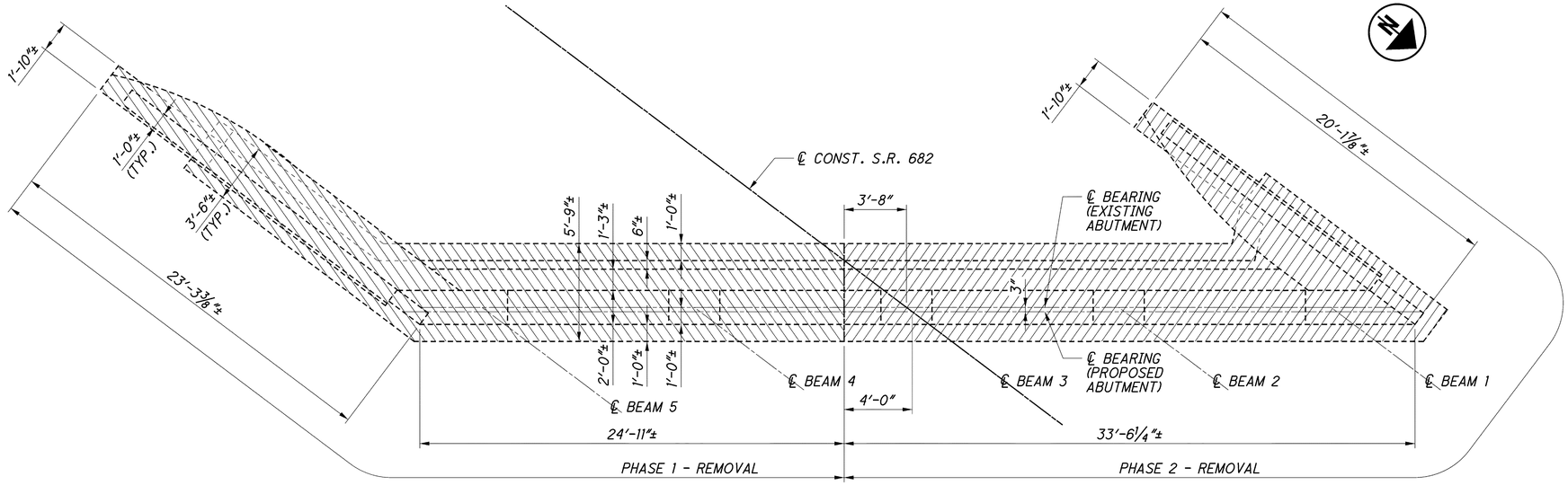
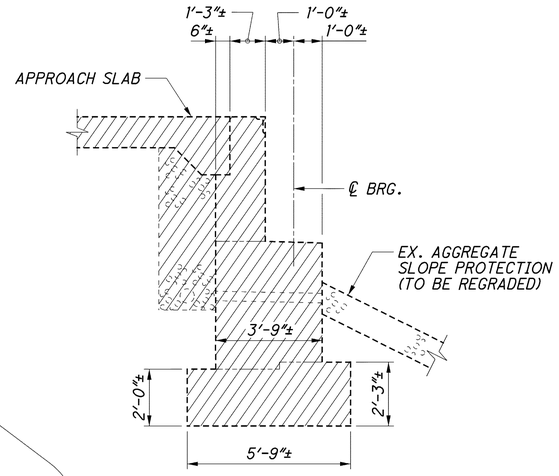
7 / 26

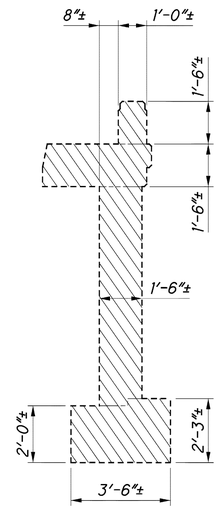
29 / 48



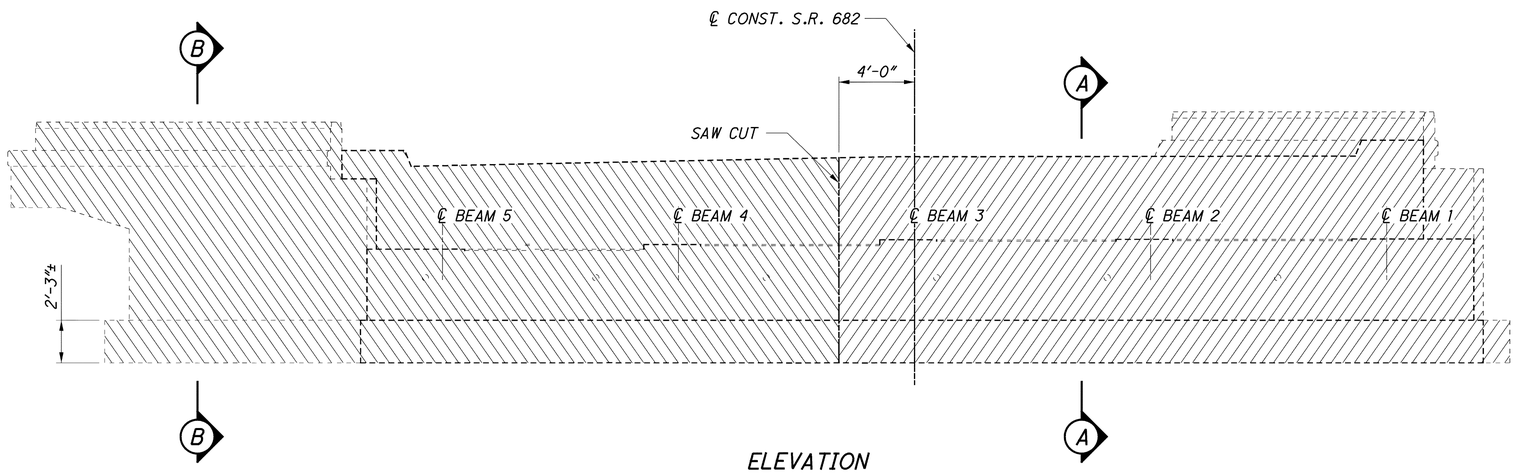
PLAN



SECTION A



SECTION B



ELEVATION

LEGEND

ITEM 202 - (PHASE 1)	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 202 - (PHASE 2)	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. FOR ADDITIONAL REMOVAL DETAILS, SEE SHEET 9 /26 .

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED	DRAWN	REVIEWED	DATE
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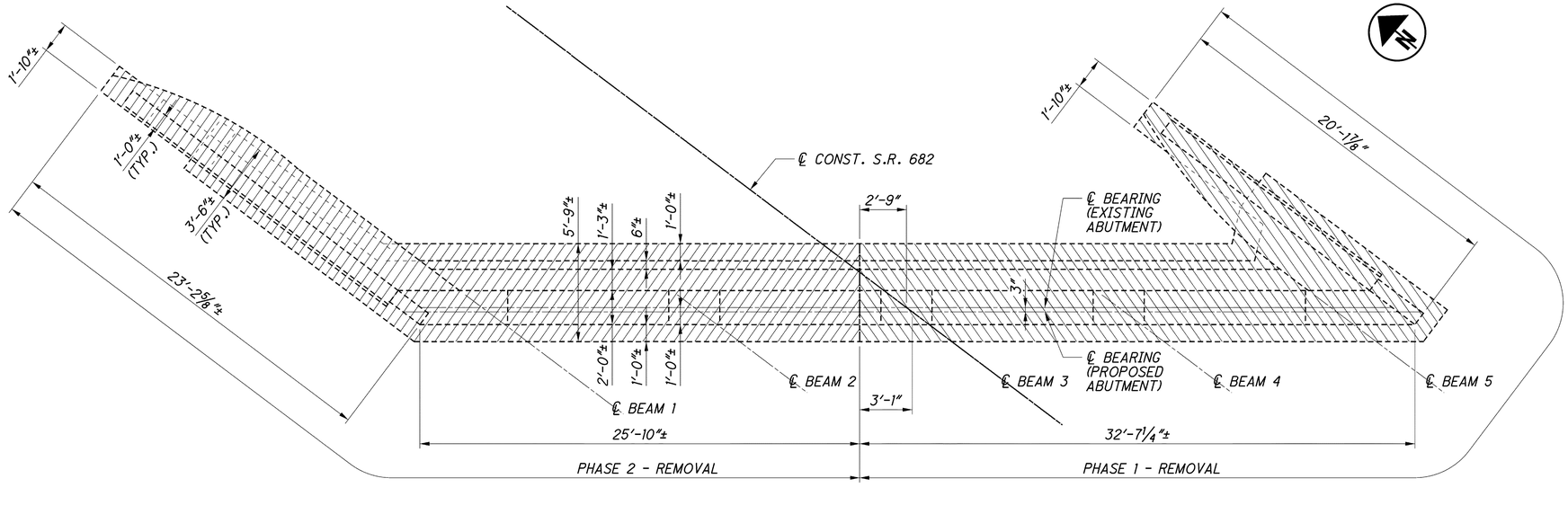
REMOVAL DETAILS - REAR ABUTMENT
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

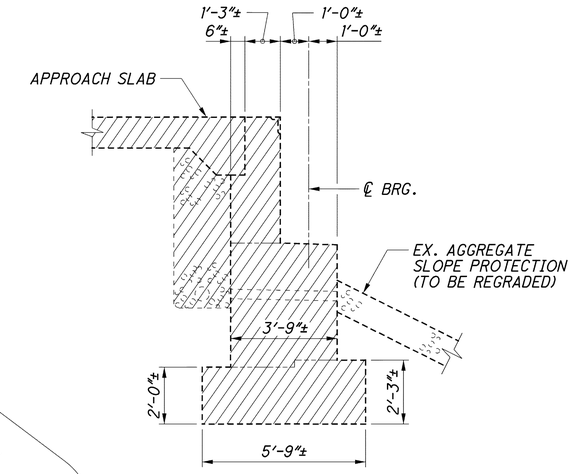
ATH-682-6.05
PID No. 92001

8 / 26

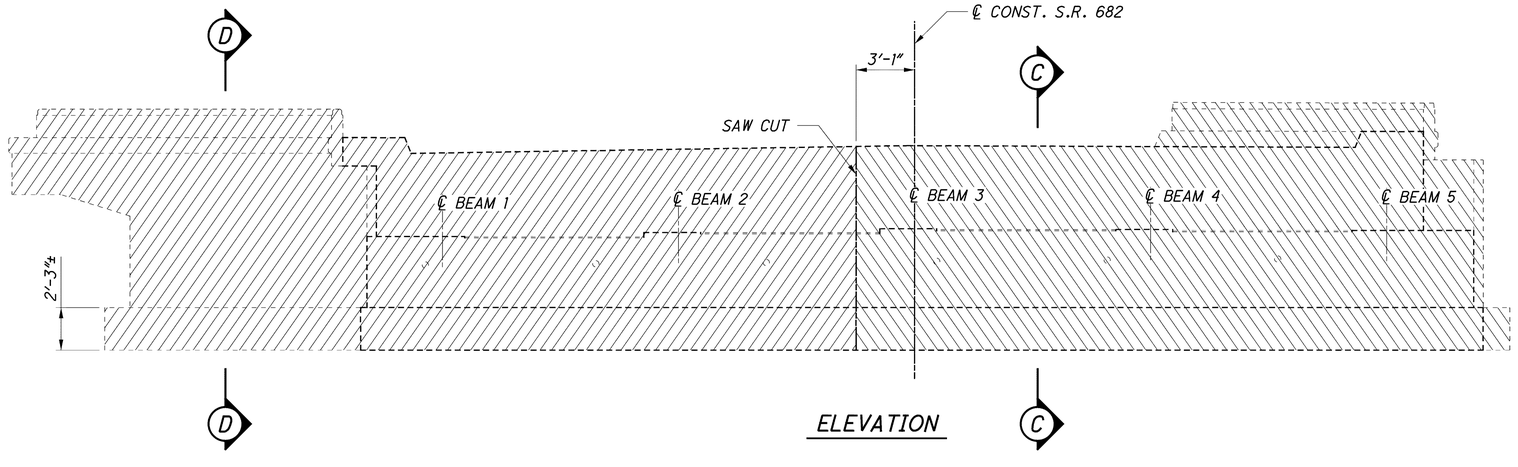
30 / 48



PLAN



SECTION C



ELEVATION

SECTION D

LEGEND

	ITEM 202 - (PHASE 1)	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
	ITEM 202 - (PHASE 2)	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. FOR ADDITIONAL REMOVAL DETAILS, SEE SHEET 8 26 .

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
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REMOVAL DETAILS - FORWARD ABUTMENT
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
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9 / 26

31 / 48

ELEVATIONS

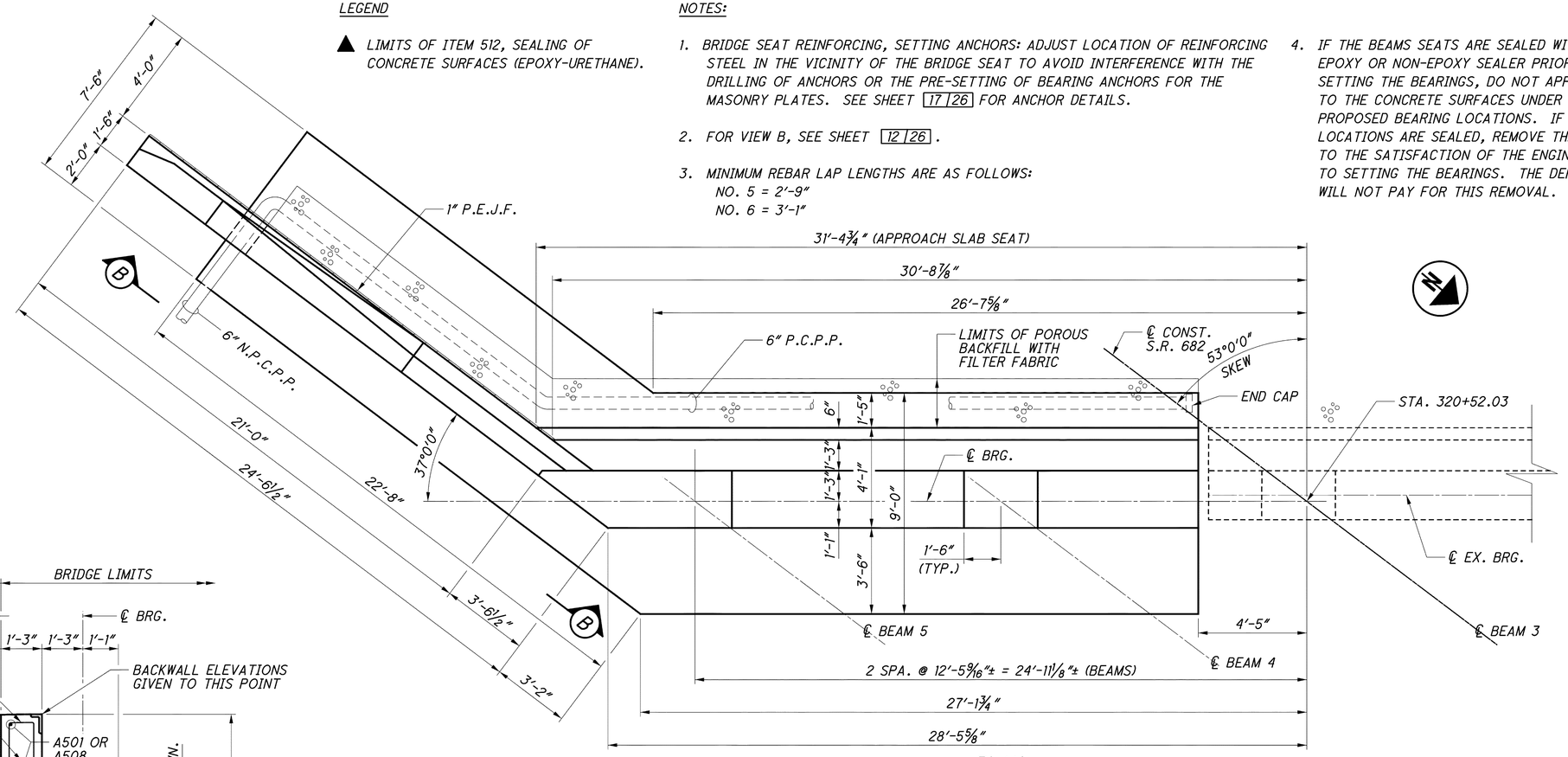
(A)	700.21
(B)	698.76
(C)	700.73
(D)	699.31
(E)	695.81
(F)	696.04
(G)	695.98
(H)	689.35
(J)	687.10

LEGEND

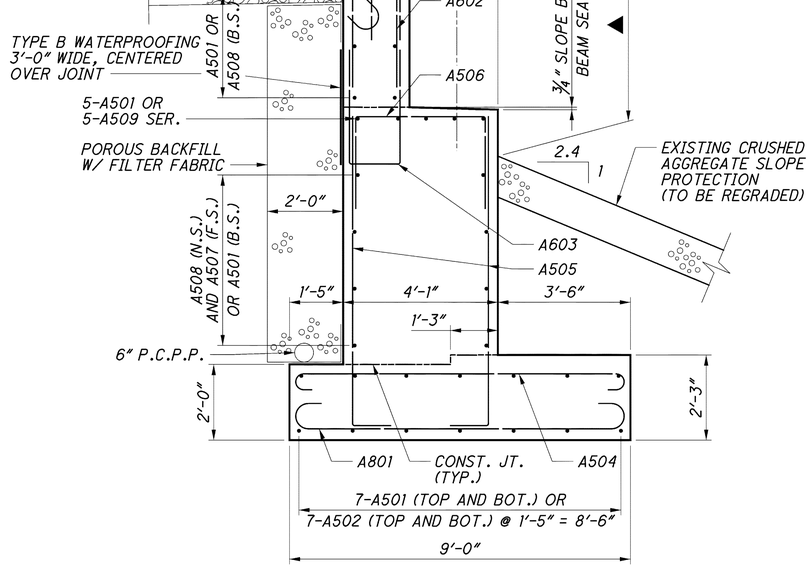
▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

NOTES:

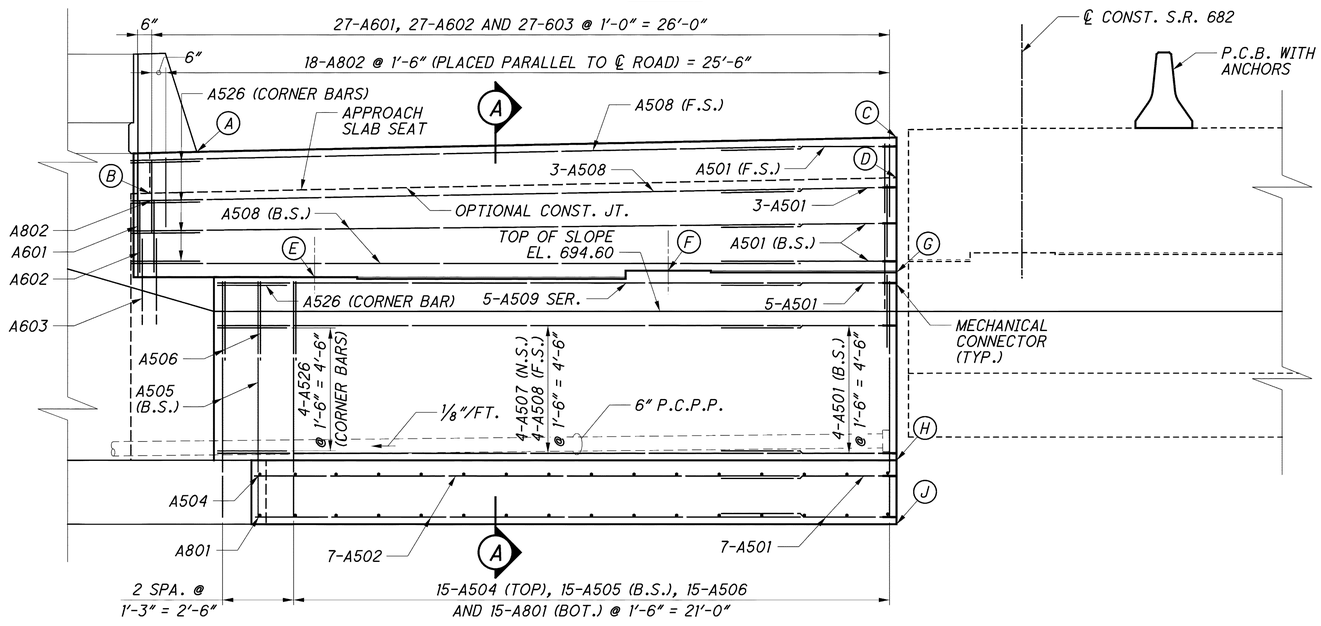
1. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ADJUST LOCATION OF REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHORS OR THE PRE-SETTING OF BEARING ANCHORS FOR THE MASONRY PLATES. SEE SHEET 17 | 26 FOR ANCHOR DETAILS.
2. FOR VIEW B, SEE SHEET 12 | 26 .
3. MINIMUM REBAR LAP LENGTHS ARE AS FOLLOWS:
   NO. 5 = 2'-9"
   NO. 6 = 3'-1"
4. IF THE BEAMS SEATS ARE SEALED WITH AN EPOXY OR NON-EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.



PLAN



SECTION A



ELEVATION

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

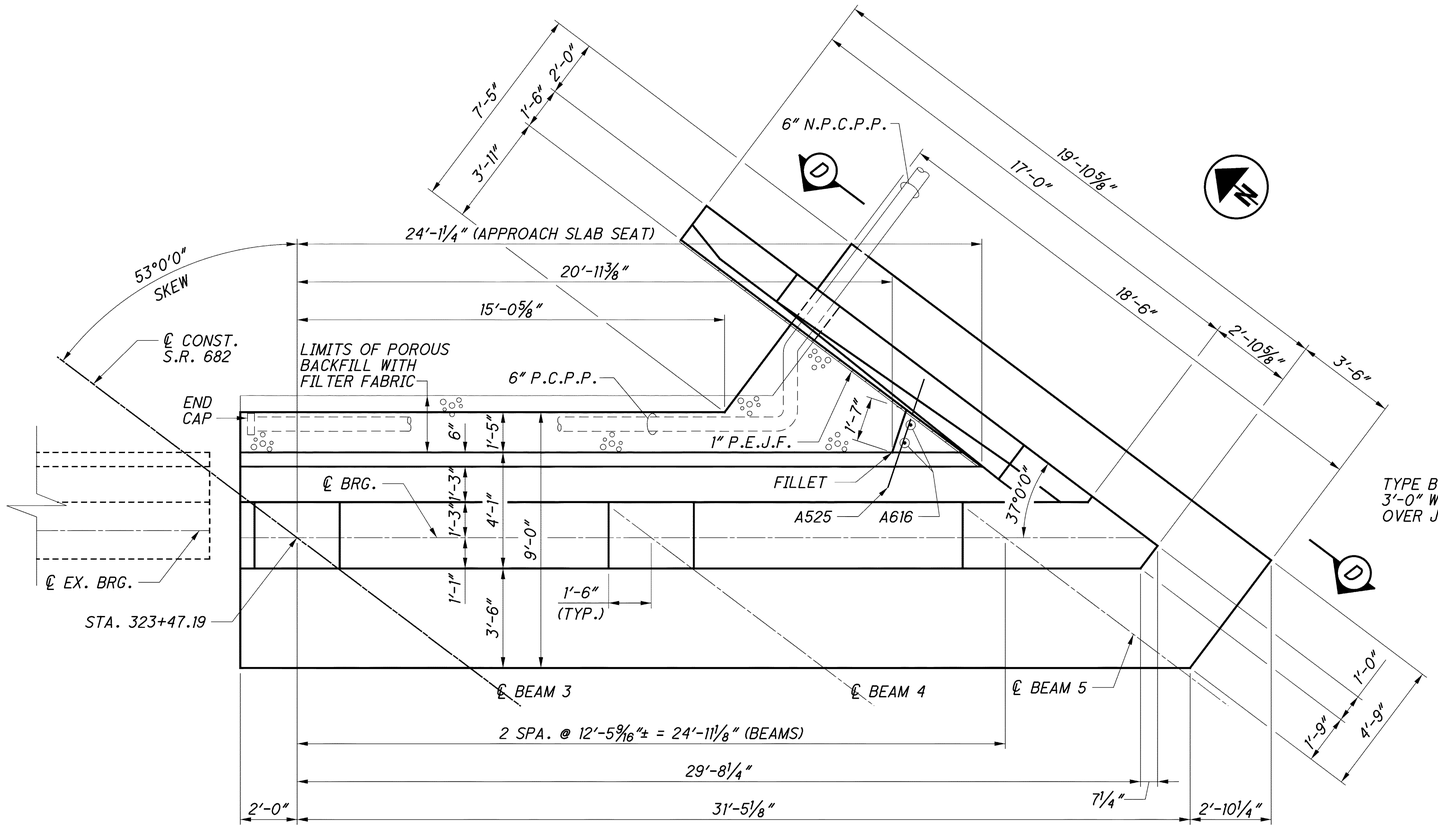
DESIGNED	DRAWN	REVIEWED	DATE
RHC	TMR	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

REAR ABUTMENT - PHASE 1
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

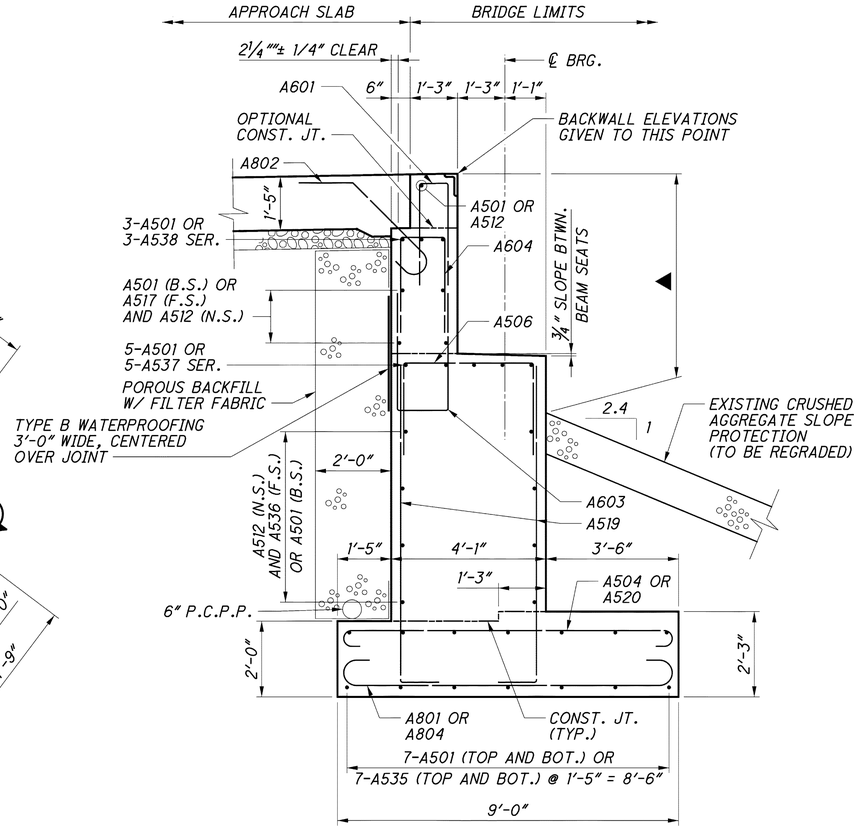
ATH-682-6.05
PID No. 92001

10 | 26

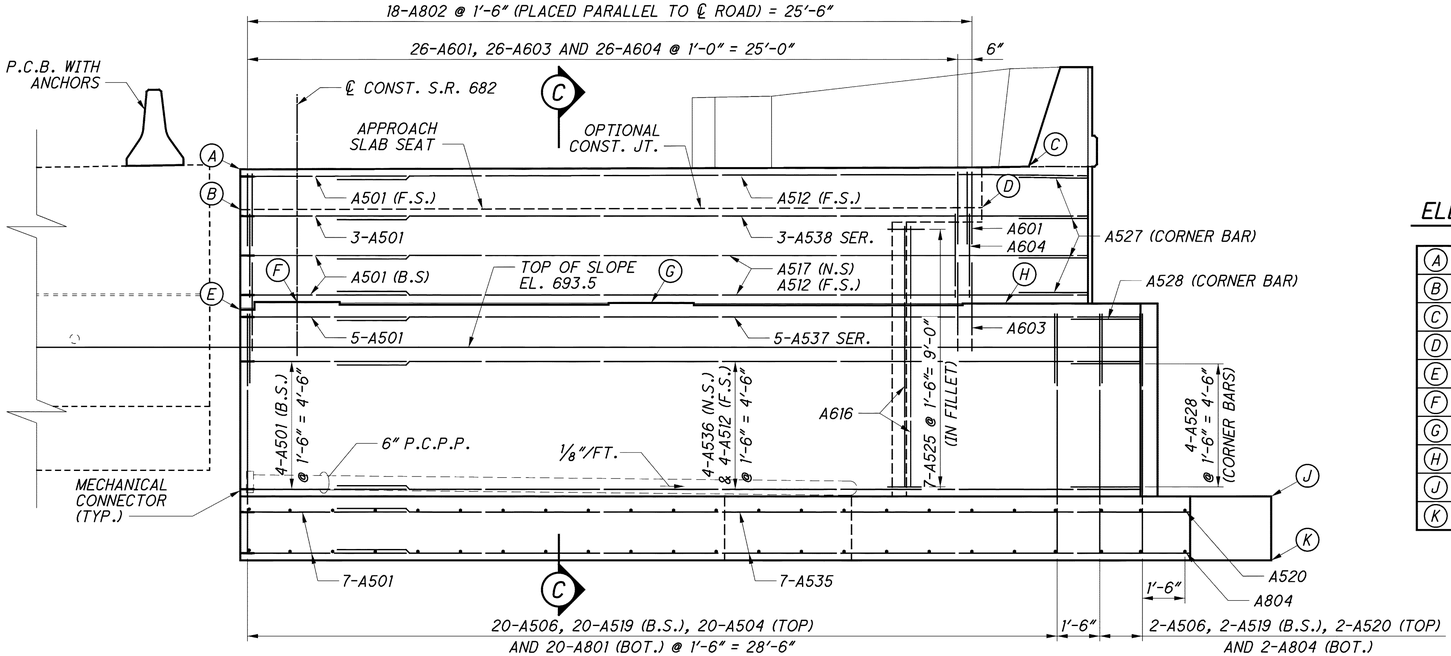
32
48



PLAN



SECTION C



ELEVATION

ELEVATIONS

A	699.67
B	698.23
C	699.83
D	698.37
E	694.82
F	695.09
G	695.06
H	695.04
J	688.25
K	686.00

LEGEND

▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

NOTES:

1. FOR VIEW D, SEE SHEET 12 | 26 .
2. FOR ADDITIONAL NOTES, SEE SHEET 10 | 26 .

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

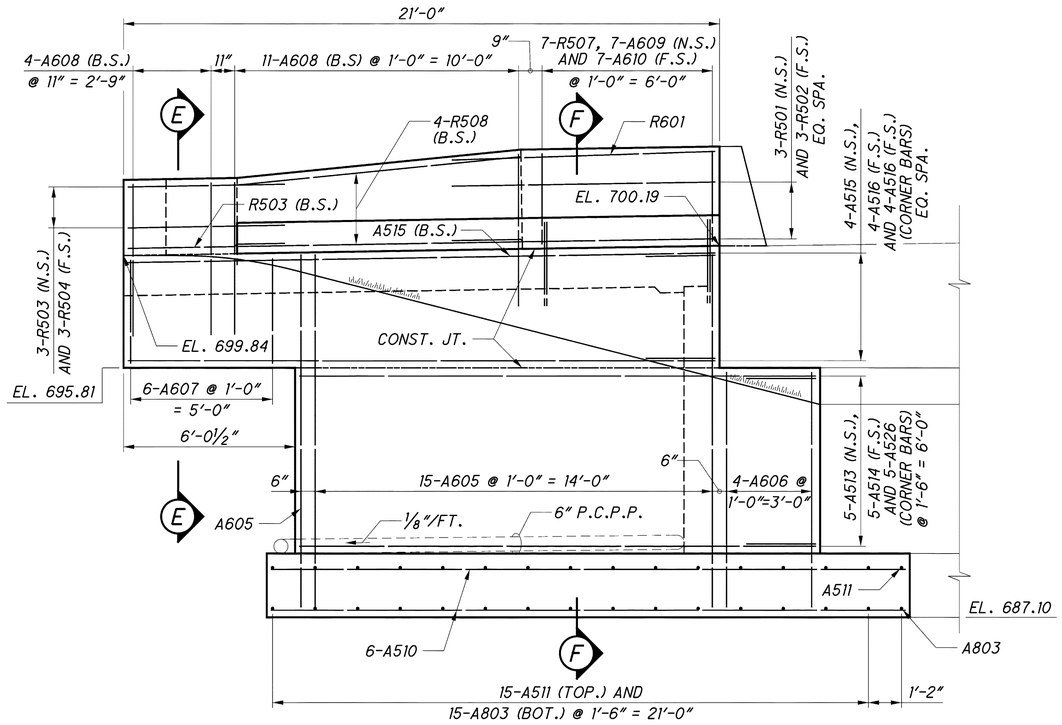
DESIGNED	DRAWN	REVIEWED	DATE
RHC	TMR	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

FORWARD ABUTMENT - PHASE 1
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

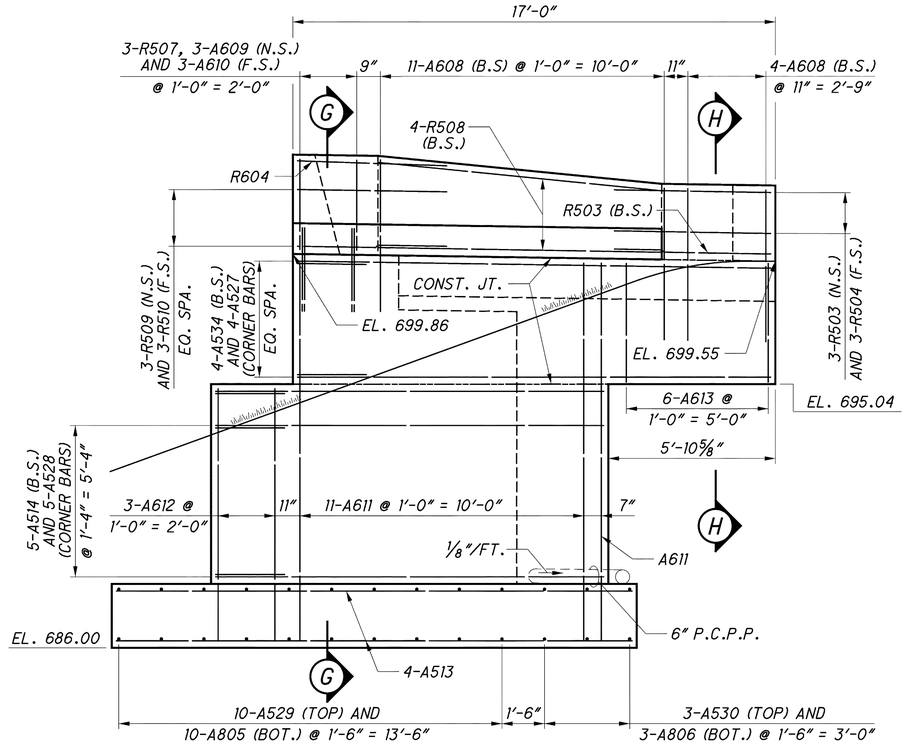
ATH-682-6.05
PID No. 92001

11 | 26

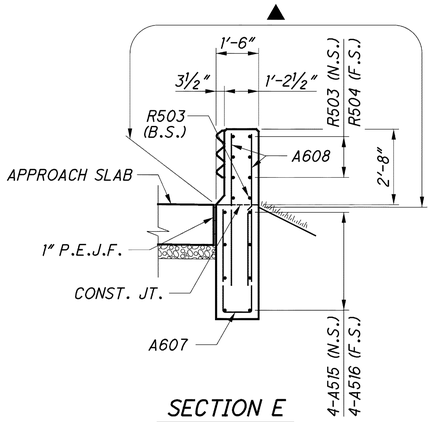
33
48



VIEW B



VIEW D



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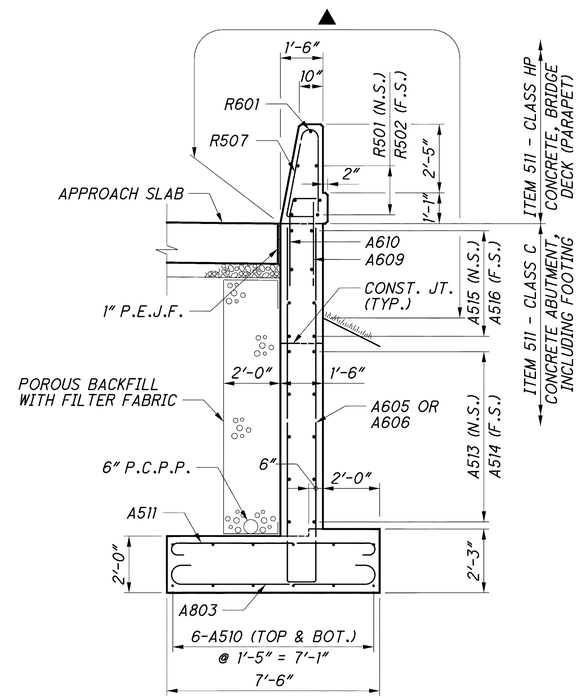
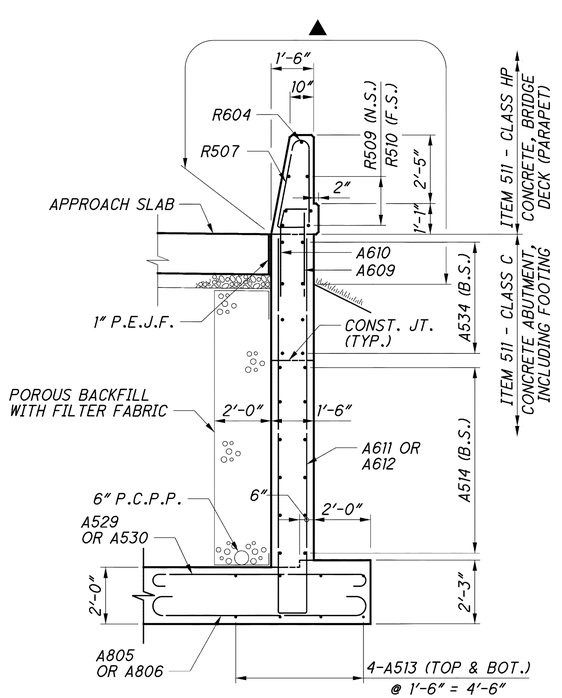
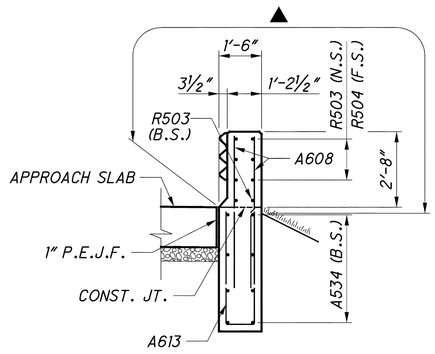


SECTION F



SECTION G



SECTION H

LEGEND

▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

NOTES:

1. FOR THE LOCATION OF VIEW B, SEE SHEET 10 | 26 .
2. FOR THE LOCATION OF VIEW D, SEE SHEET 11 | 26 .
3. FOR ADDITIONAL NOTES SEE SHEET 24 | 26 .

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

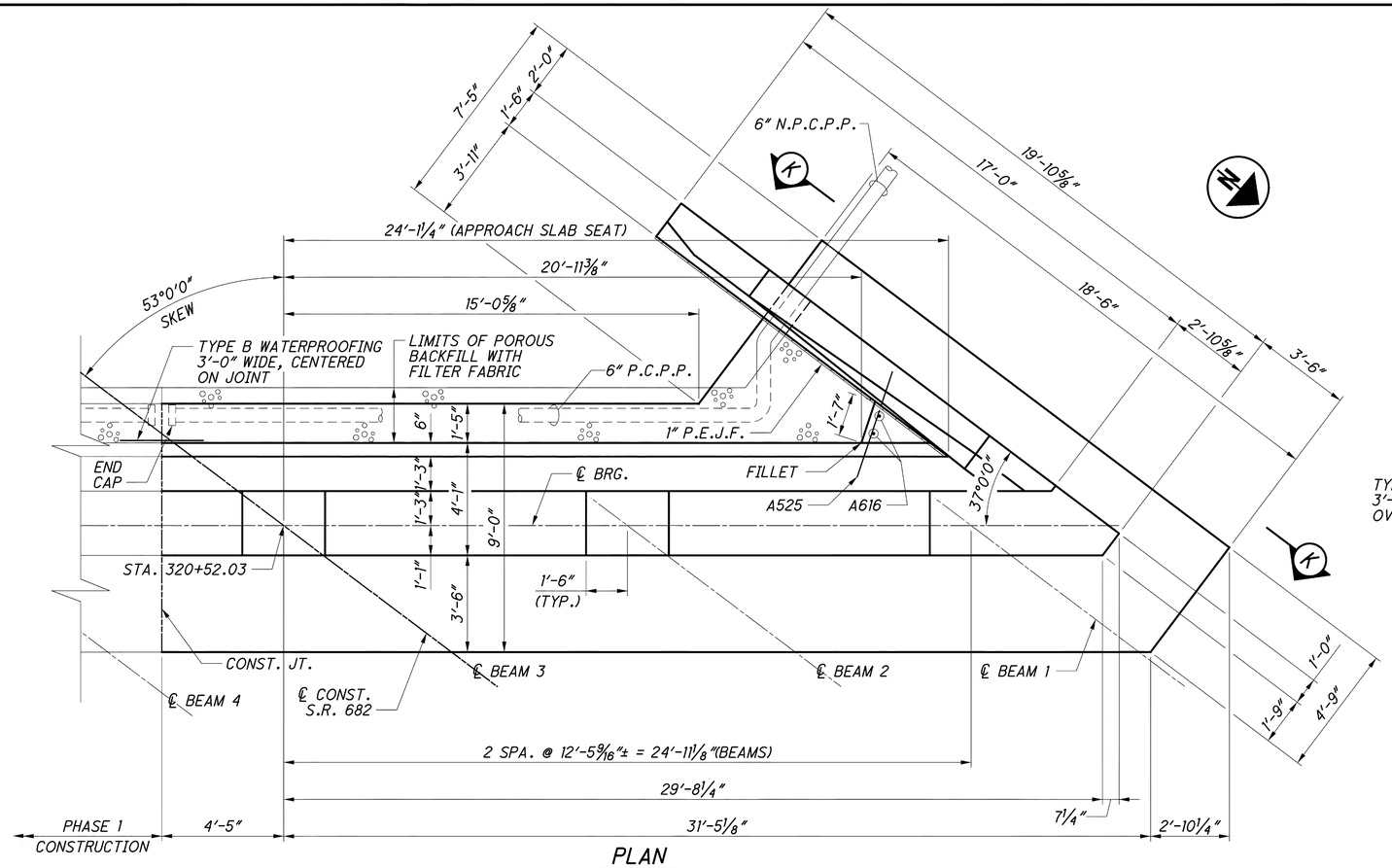
DESIGNED	DRAWN	REVIEWED	DATE
RHC	TMR	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

WING WALL DETAILS - PHASE 1
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

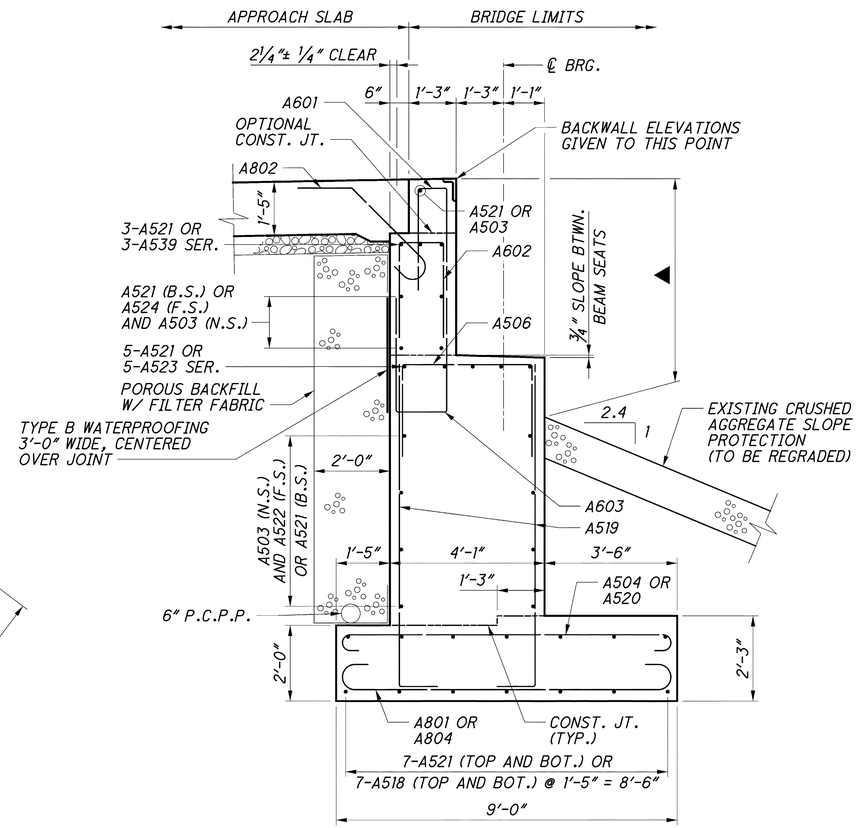
ATH-682-6.05
PID No. 92001

12 | 26

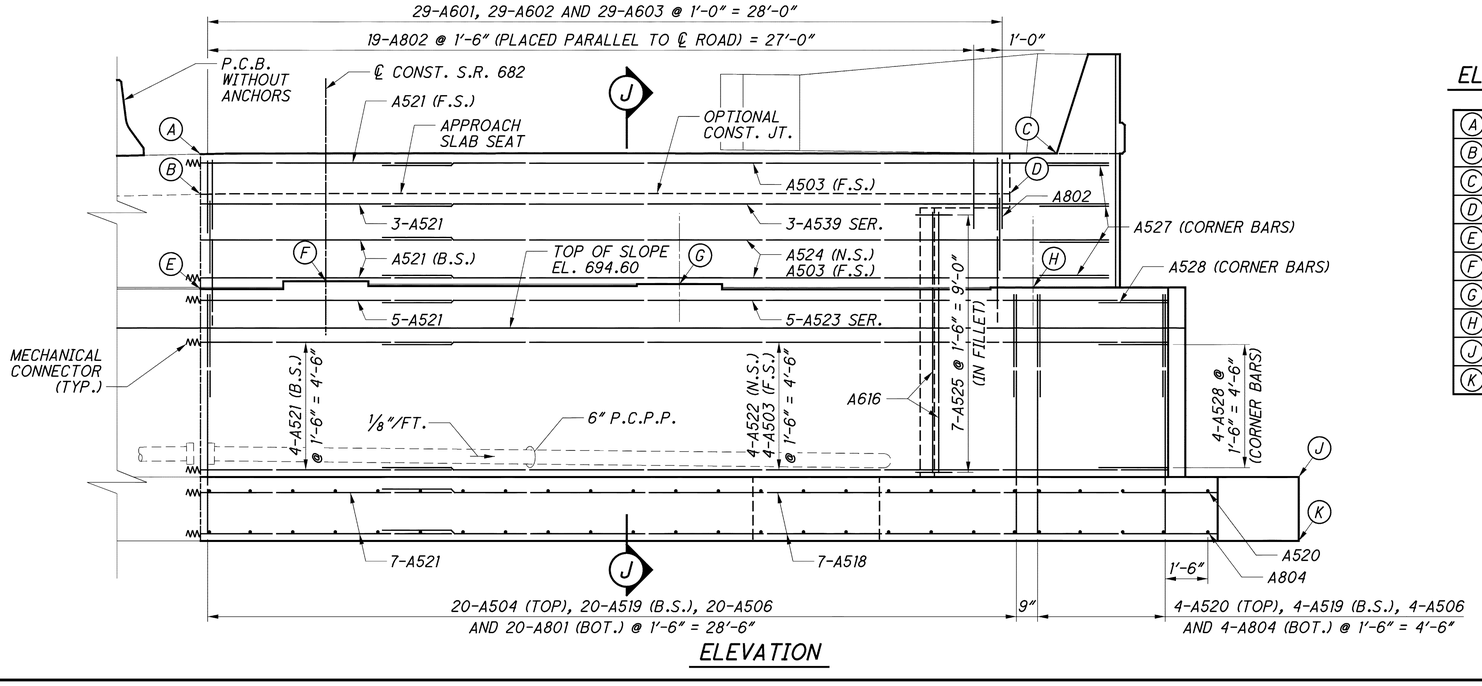
34
48



PLAN



SECTION J



ELEVATION

ELEVATIONS

A	700.21
B	698.76
C	700.77
D	699.33
E	695.98
F	696.25
G	696.15
H	696.03
J	689.35
K	687.10

LEGEND

▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

NOTES:

1. FOR VIEW K, SEE SHEET 15|26 .
2. FOR ADDITIONAL NOTES, SEE SHEET 10|26 .

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED	DRAWN	REVIEWED	DATE
RHC	TMR	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

REAR ABUTMENT - PHASE 2
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

13 / 26

35 / 48

ELEVATIONS

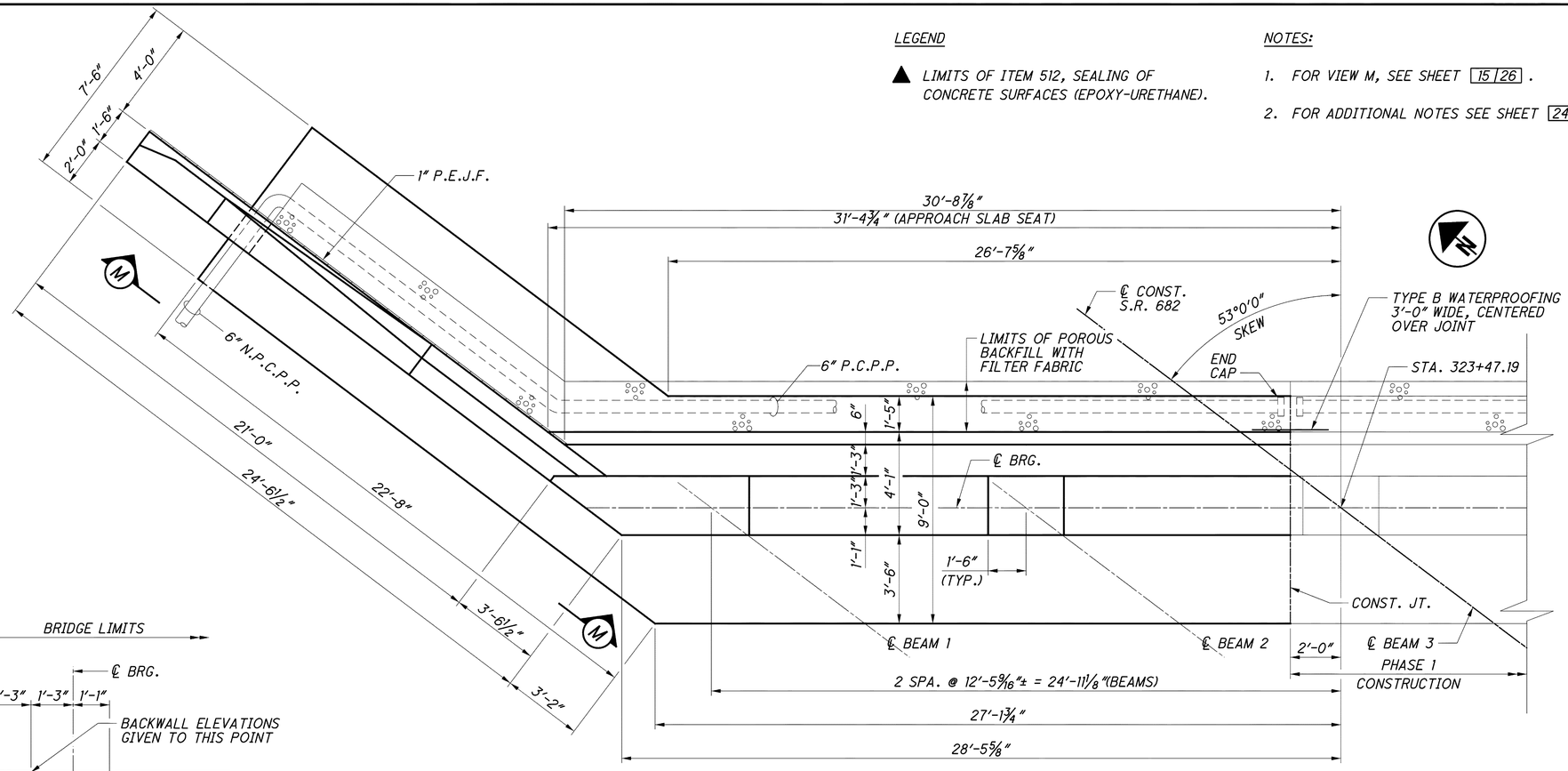
(A)	698.95
(B)	697.49
(C)	699.67
(D)	698.23
(E)	694.68
(F)	694.88
(G)	694.82
(H)	688.25
(J)	686.00

LEGEND

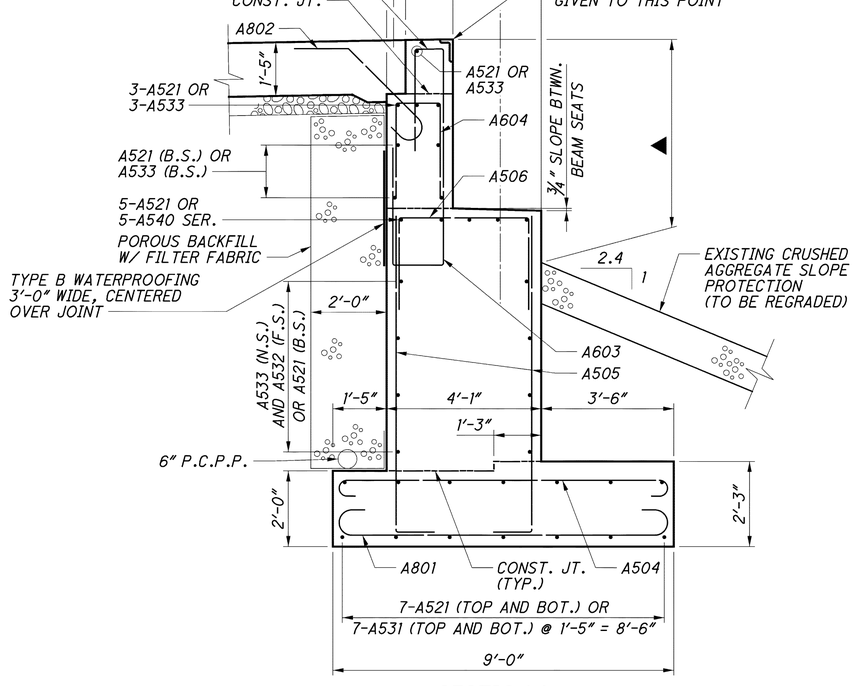
▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

NOTES:

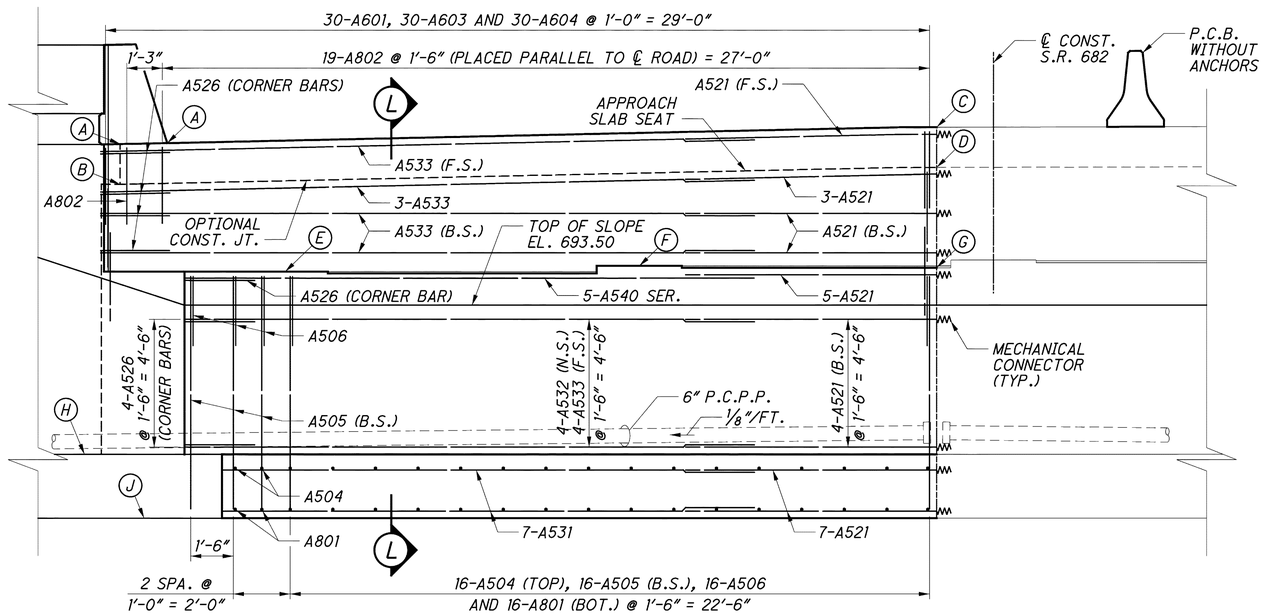
1. FOR VIEW M, SEE SHEET 15|26 .
2. FOR ADDITIONAL NOTES SEE SHEET 24|26 .



PLAN



SECTION L



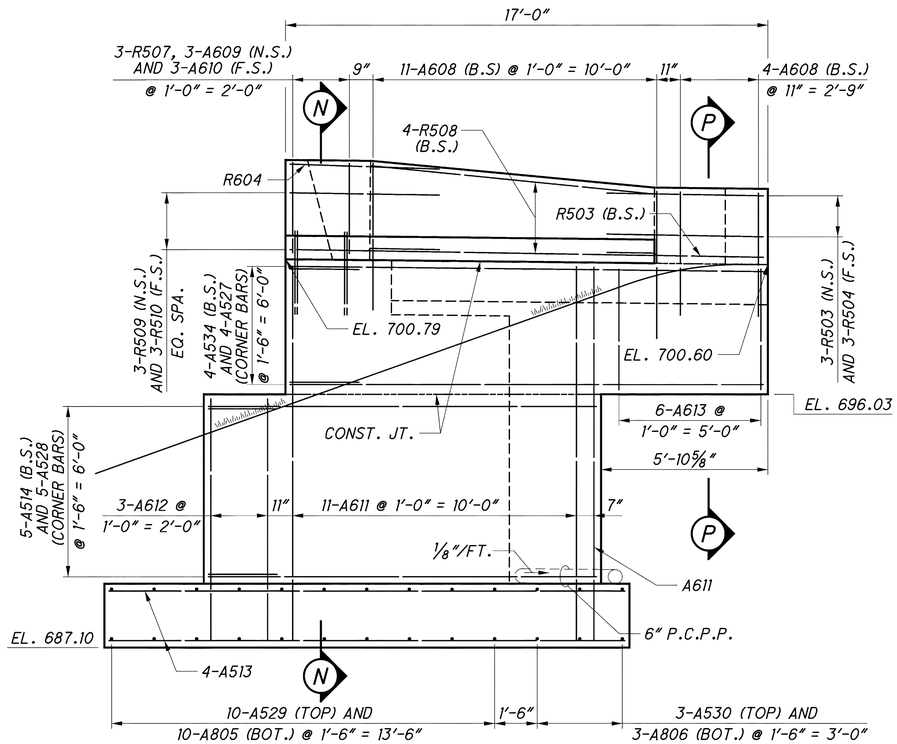
ELEVATION

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

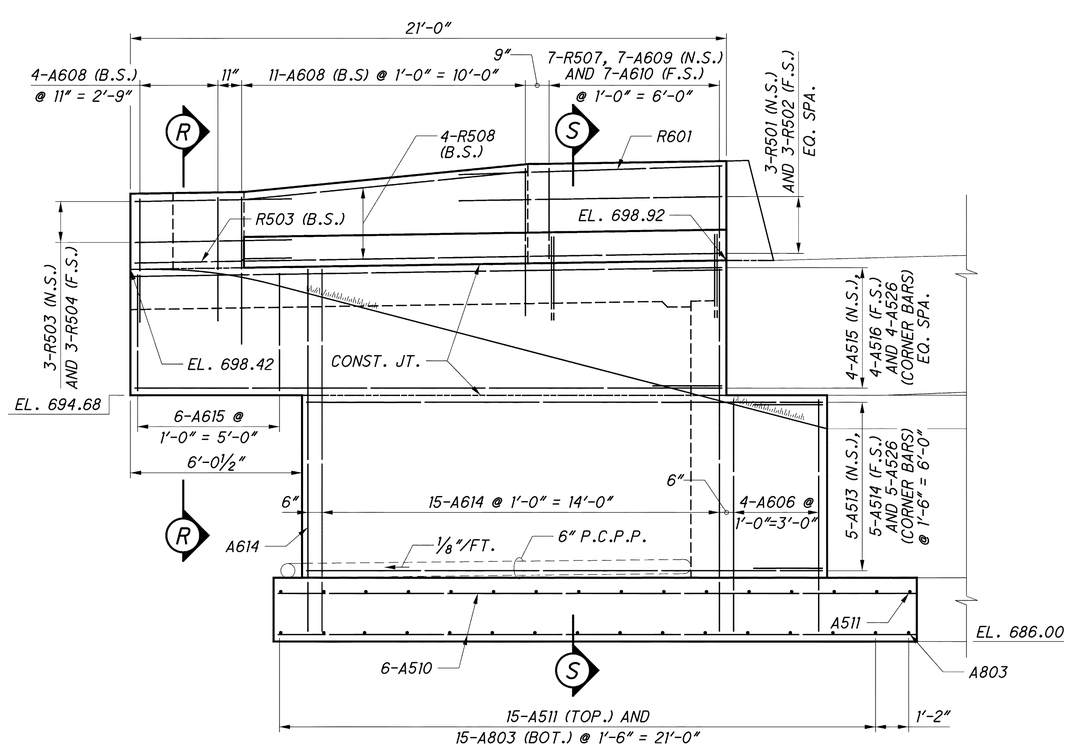
DESIGNED RHC | DRAWN TMR | REVIEWED EDW | DATE 11-27-12
CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 0504920

FORWARD ABUTMENT - PHASE 2
BRIDGE NO. ATH-682-06.07
S.R. 682 OVER U.S. 33

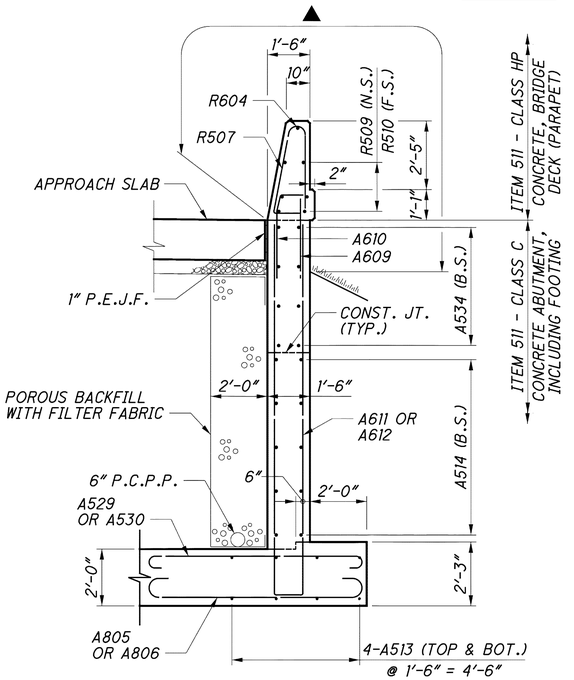
ATH-682-6.05
PID No. 92001



VIEW K



VIEW M



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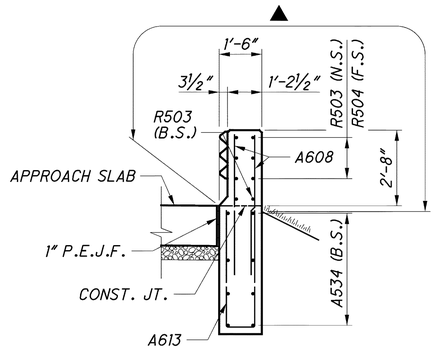
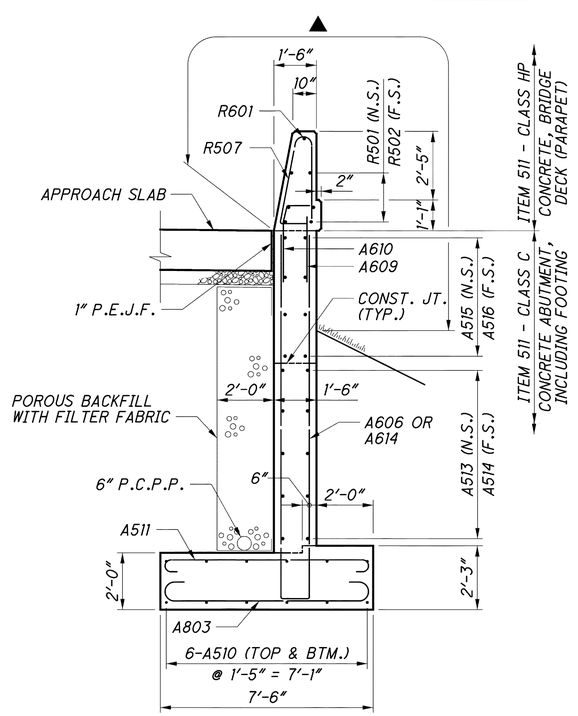
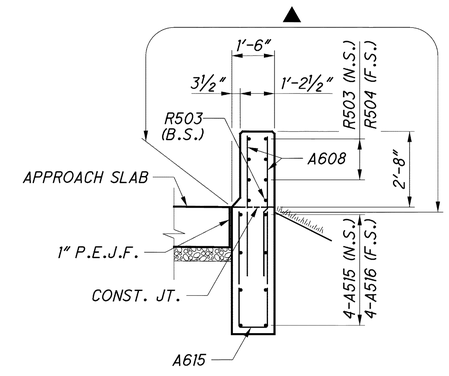


SECTION P



SECTION S



SECTION R

LEGEND

▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

NOTES:

1. FOR THE LOCATION OF VIEW K, SEE SHEET 13|26 .
2. FOR THE LOCATION OF VIEW M, SEE SHEET 14|26 .
3. FOR ADDITIONAL NOTES SEE SHEET 24|26 .

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED RHC | DRAWN TMR | REVIEWED EDW | DATE 11-27-12
CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 0504920

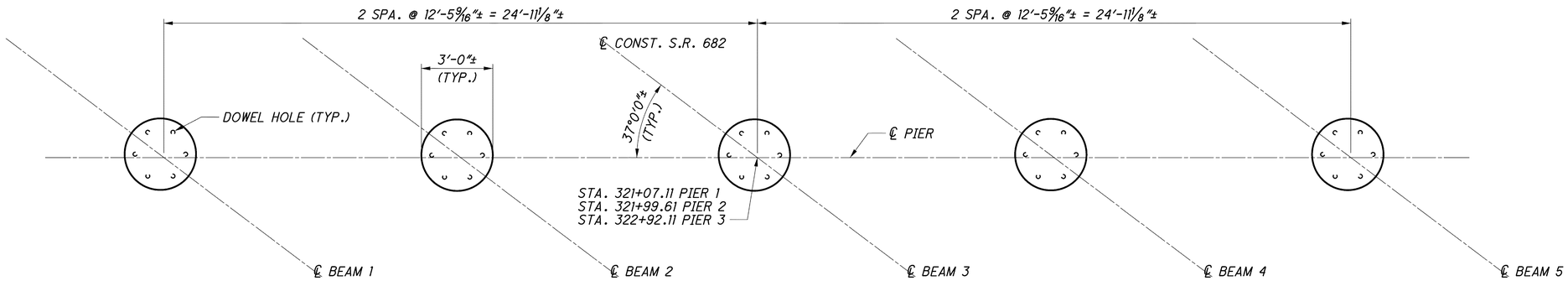
WING WALL DETAILS - PHASE 2

BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

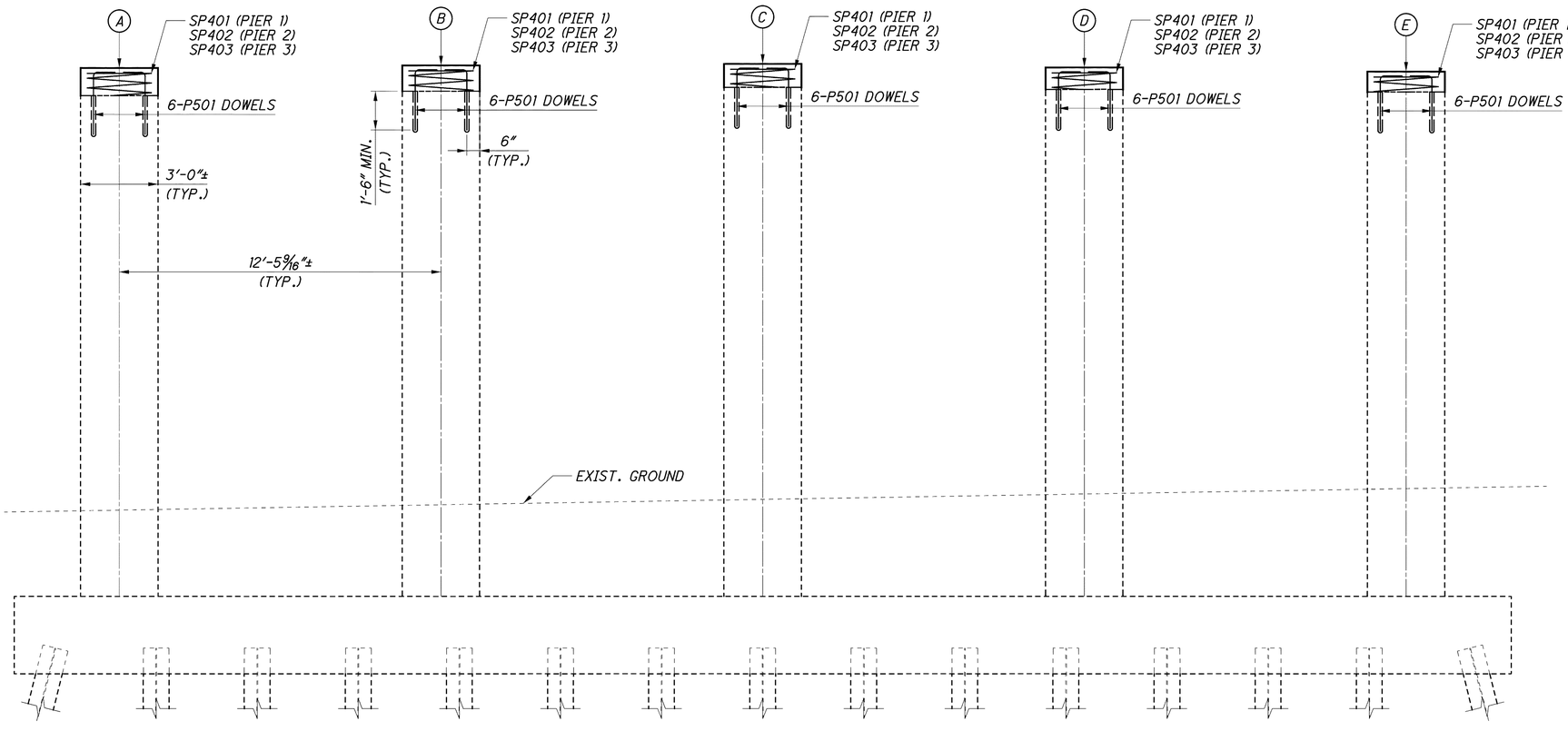
ATH-682-6.05
PID No. 92001

15 | 26

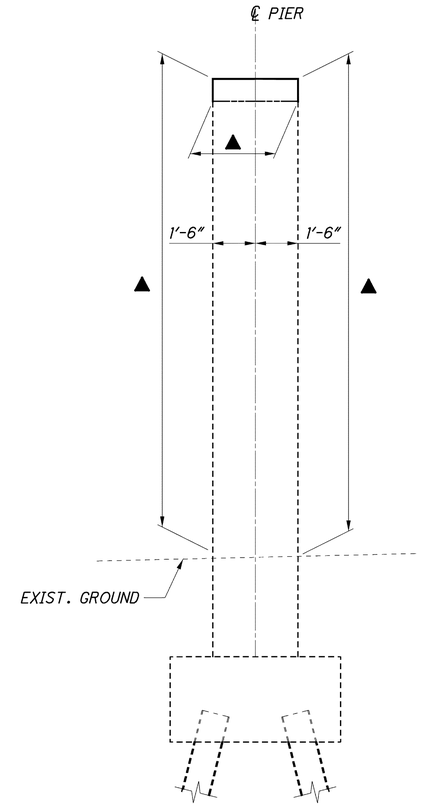
37
48



PLAN



ELEVATION



PIER END VIEW

ELEVATIONS

	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
PIER 1	696.71	696.81	696.87	696.73	696.57
PIER 2	696.53	696.69	696.85	696.79	696.68
PIER 3	695.71	695.95	696.17	696.15	696.14

LEGEND

▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED RHC | DRAWN MOJ | REVIEWED EDW | DATE 11-27-12
CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 0504920

PIER MODIFICATIONS
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

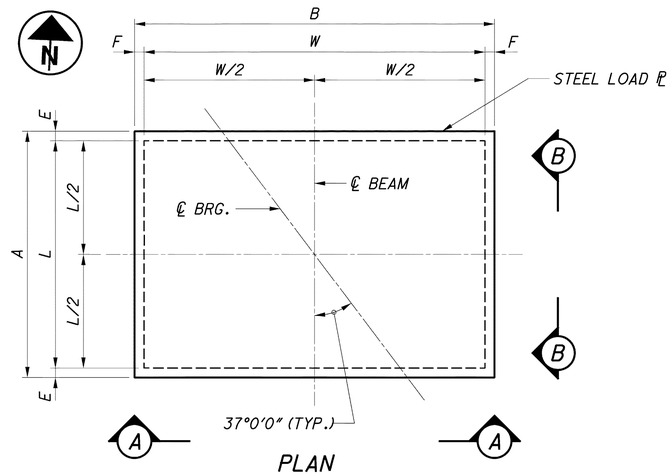
ATH-682-6.05
PID No. 92001

16 / 26
38 / 48

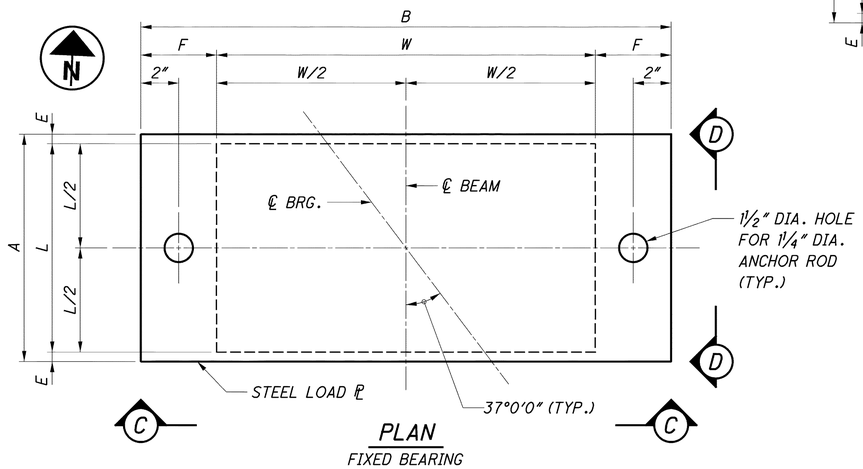
BEARING SCHEDULE

* WITHOUT IMPACT

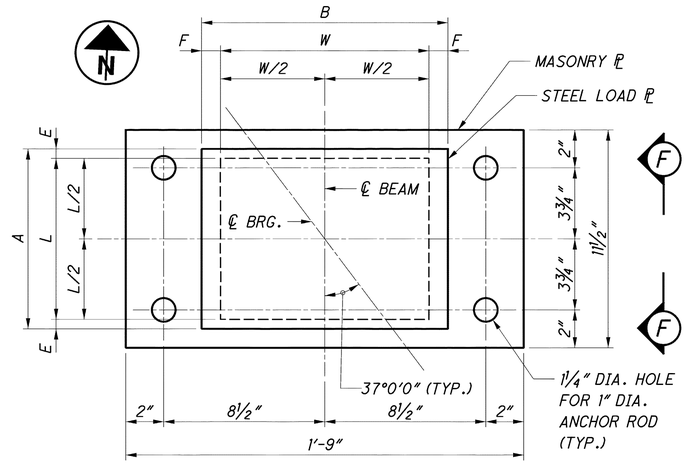
	TOP LOAD PLATE						ELASTOMERIC PAD						STEEL LAMINATES		TYPE	DEAD LOAD (K)	LIVE * LOAD (K)	TOTAL LOAD (K)
	A	B	E	F	G	H	L	W	T	NO. OF INTER. LAYERS	ti	te	NO.	THICK.				
REAR ABUT.	9½″	1′-2″	½″	1½″	1½″	1⅝″	8½″	11″	2.74″	7	0.26″	0.16″	8	0.0747″	EXP.	29.7	43.7	73.4
PIER 1	1′-1″	1′-8″	½″	1″	1⅝″	1 1/16″	1′-0″	1′-6″	2.56″	5	0.33″	0.23″	6	0.0747″	EXP.	142.4	57.1	199.5
PIER 2	1′-2″	2′-4″	½″	4″	2″	2 1/16″	1′-1″	1′-8″	2.35″	4	0.37″	0.25″	5	0.0747″	FIX.	180.7	64.1	244.8
PIER 3	1′-1″	1′-8″	½″	1″	1⅝″	1 1/16″	1′-0″	1′-6″	2.56″	5	0.33″	0.23″	6	0.0747″	EXP.	142.4	57.1	199.5
FRWD. ABUT.	9½″	1′-2″	½″	1½″	1½″	1⅝″	8½″	11″	2.74″	7	0.26″	0.16″	8	0.0747″	EXP.	29.7	43.7	73.4



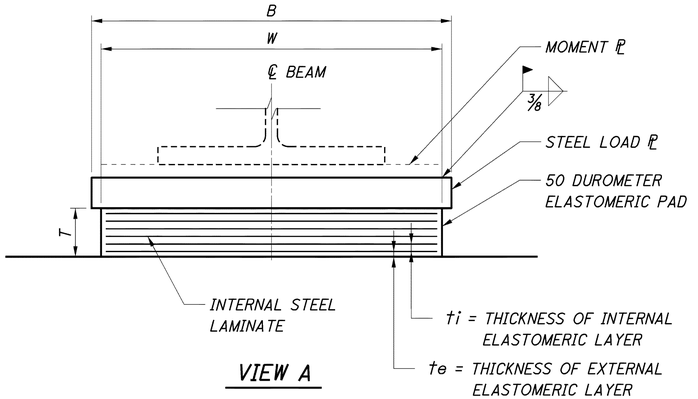
PLAN
EXPANSION BEARING
(PIERS 1 & 3)



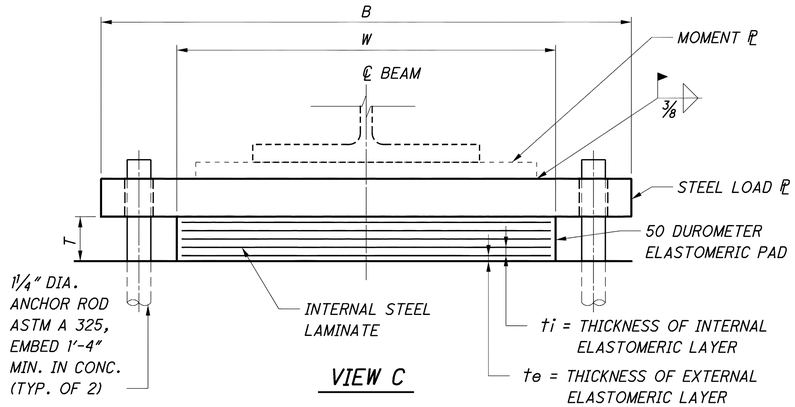
PLAN
FIXED BEARING
(PIER 2)



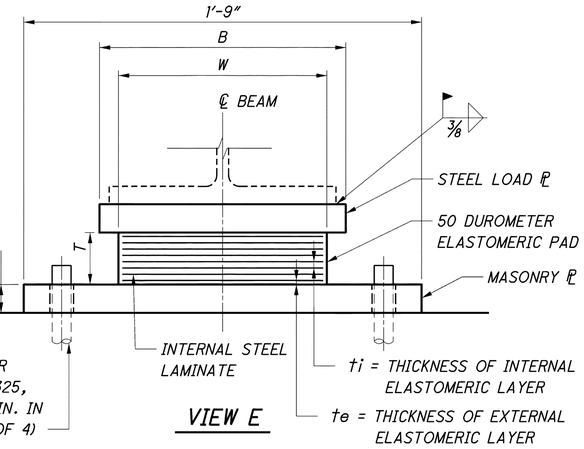
PLAN
EXPANSION BEARING
(REAR & FRWD. ABUTMENTS)



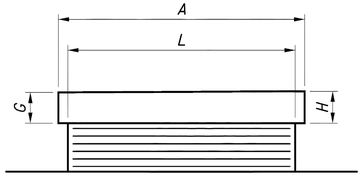
VIEW A



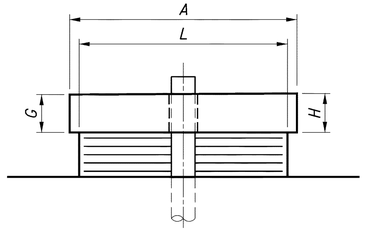
VIEW C



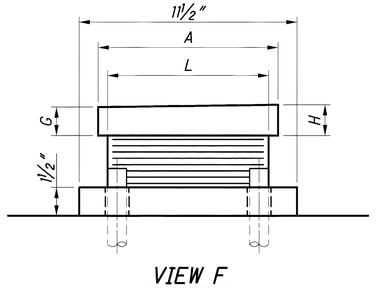
VIEW E



VIEW B



VIEW D



VIEW F

NOTES:

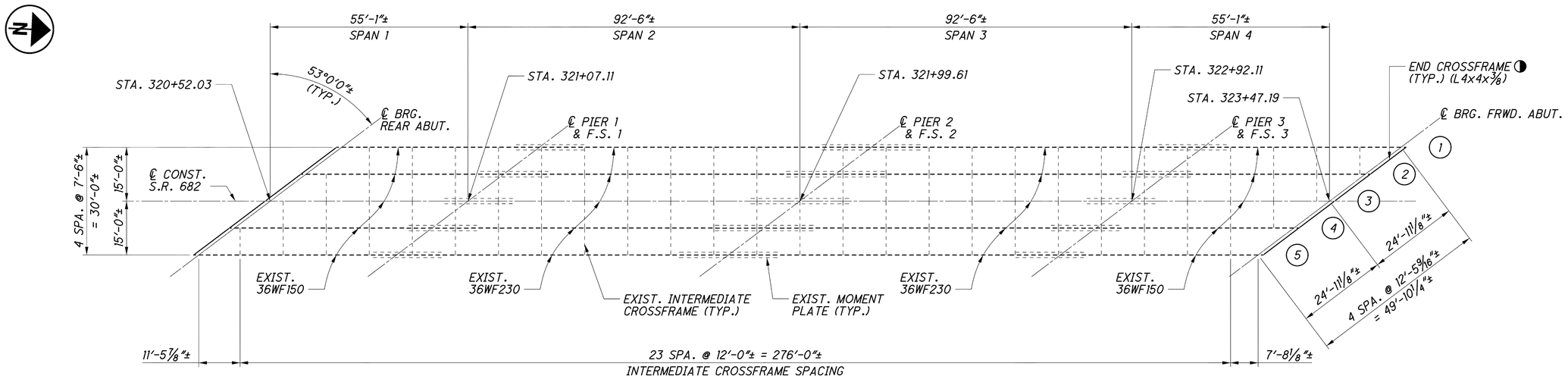
1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. GRADE 50 STEEL (PAINTED) SHALL BE USED FOR ALL STEEL PLATES. THE LAMINATED ELASTOMERIC PAD SHALL BE BONDED BY VULCANIZATION TO THE LOAD PLATE (AND THE MASONRY PLATE AT THE ABUTMENTS) DURING THE MOLDING PROCESS.
3. ANCHOR RODS SHALL BE GALVANIZED AS PER CMS 711.02. ANCHOR RODS SHALL EXTEND 1 INCH ABOVE THE LOAD PLATE AND MASONRY PLATE.
4. BASIS OF PAYMENT: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE LAMINATED ELASTOMERIC BEARINGS, STEEL LOAD PLATES, MASONRY PLATES AND ANCHORS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

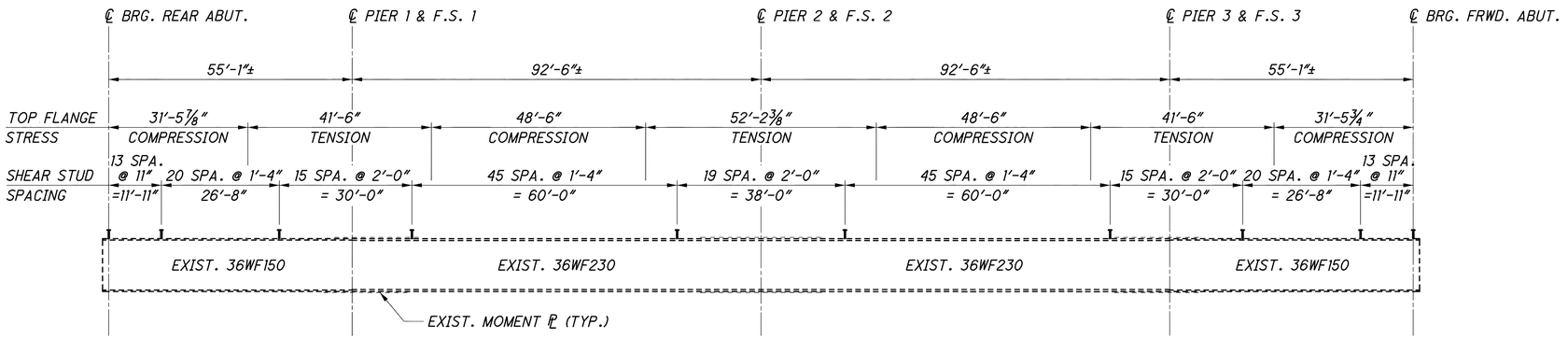
DESIGNED MOJ | DRAWN MOJ | REVIEWED EDW | DATE 11-27-12
CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 0504920

BEARING DETAILS
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

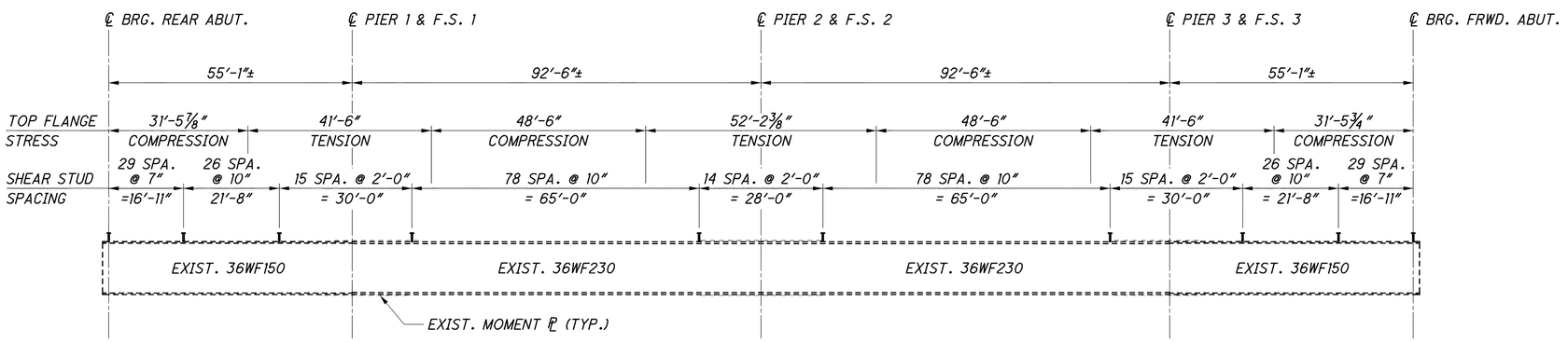


FRAMING PLAN



BEAM ELEVATION

BEAMS 1, 2, 4 & 5



BEAM ELEVATION

BEAM 3

LEGEND:

◑ ALL EXISTING END CROSSFRAMES ARE TO BE REPLACED. SEE STD. DWG. GSD-1-96 FOR DETAILS. COST IS TO BE INCLUDED WITH ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF.

NOTES:

1. WELD ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA BEAM FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM THE EDGE OF THE FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 5/16".
2. FOR ADDITIONAL SHEAR STUD DETAILS, SEE SHEET 20/26.

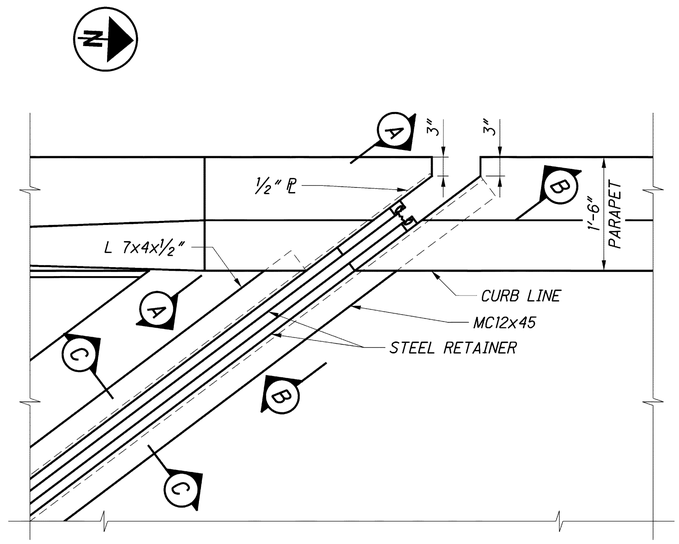
DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED MOJ | DRAWN MOJ | REVIEWED EDW | DATE 11-27-12
CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 0504920

FRAMING PLAN & ELEVATION
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

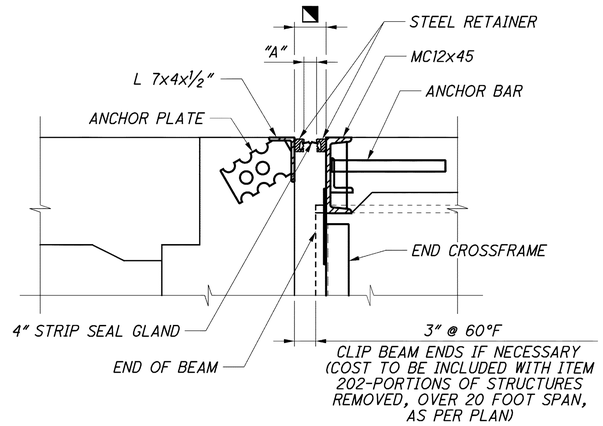
ATH-682-6.05
PID No. 92001

JOINT INSTALLATION TABLE		
AMBIENT TEMPERATURE AT JOINT INSTALLATION (°F)	DIMENSION "A"	
	REAR ABUT.	FRWD. ABUT.
80	2"	2"
70	2 1/16"	2 1/16"
60	2 1/8"	2 1/8"
50	2 3/16"	2 3/16"
40	2 1/4"	2 1/4"
30	2 5/16"	2 5/16"

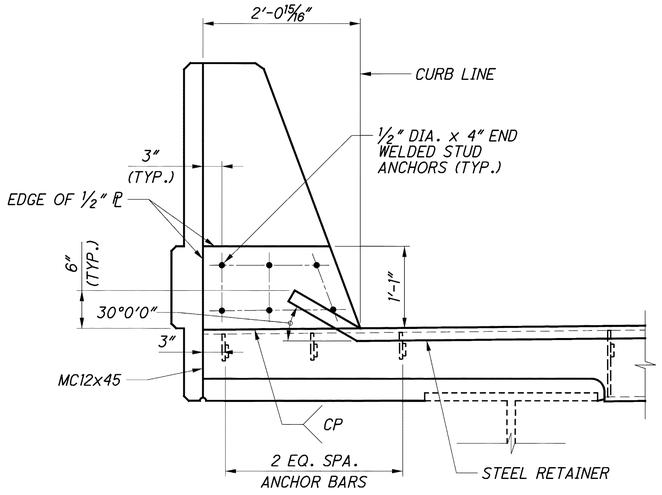


PARTIAL PLAN VIEW

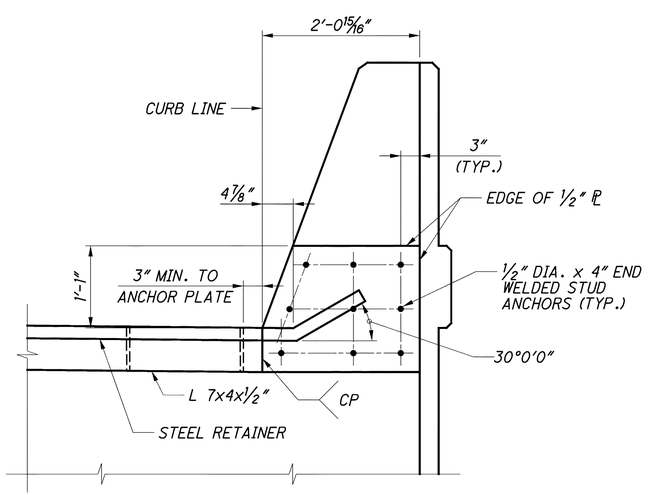
LEFT REAR ABUT. SHOWN, RIGHT FRWD. ABUT. SIMILAR
RIGHT REAR ABUT. & LEFT FRWD. ABUT. OPPOSITE HAND



SECTION C



VIEW A



VIEW B

LEGEND

CP COMPLETE PENETRATION JOINT WELD

◥ THIS DIMENSION IS THE SUM OF
(2 X THE STEEL RETAINER WIDTH + DIM. "A").

NOTES:

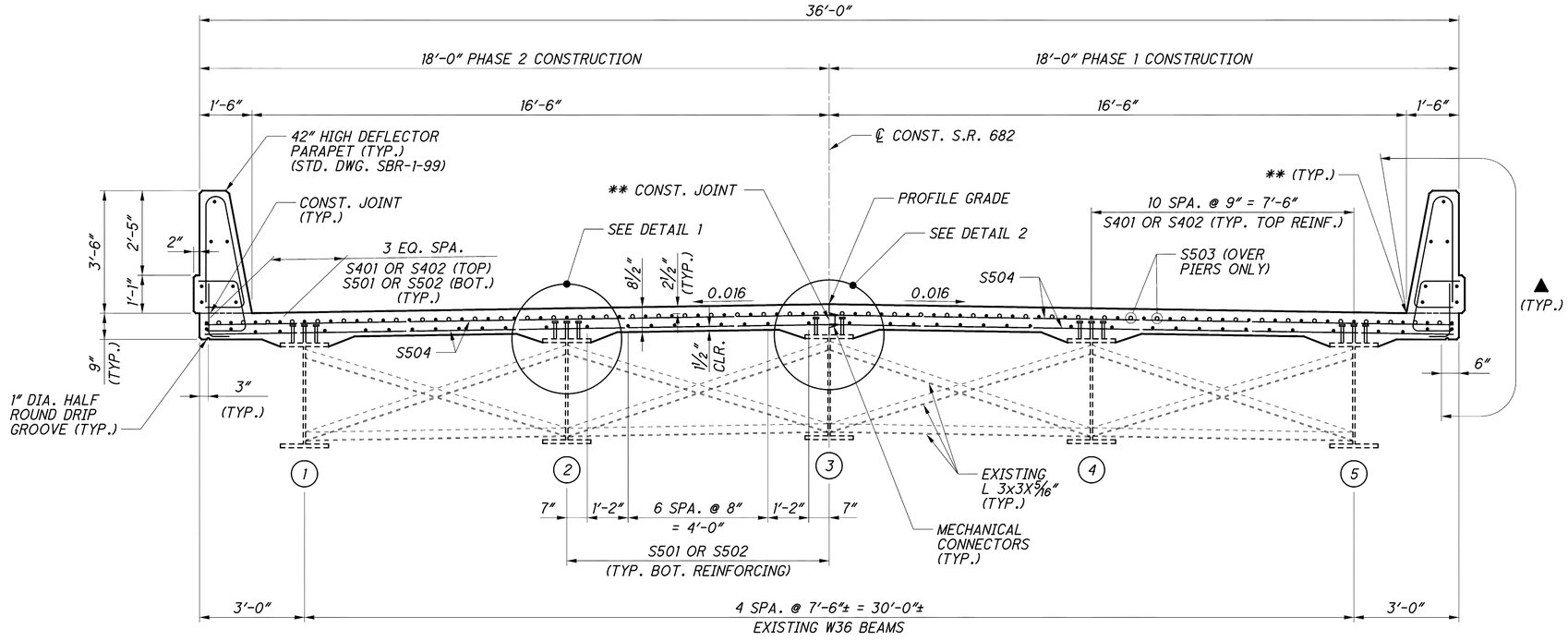
1. FOR ADDITIONAL EXPANSION JOINT DETAILS NOT SHOWN, SEE STD. DWG. EXJ-4-87.
2. AT THE PHASE CONSTRUCTION JOINTS, PROVIDE A FULL PENETRATION BUTT WELD FOR THE 7x4x1/2" ANGLE AND THE MC12X45 CHANNEL.
3. FOR PARAPET DETAILS, SEE SHEET 24/26.

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

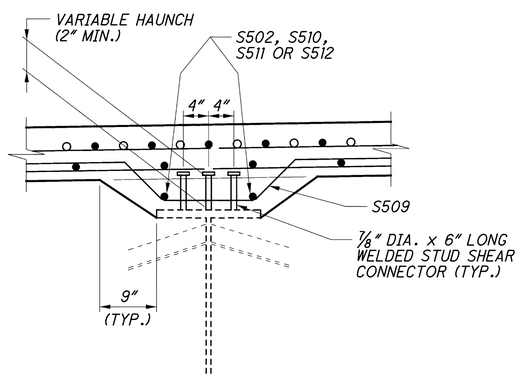
DESIGNED	DRAWN	REVIEWED	DATE
RHC	MOJ	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

EXPANSION JOINT DETAILS
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

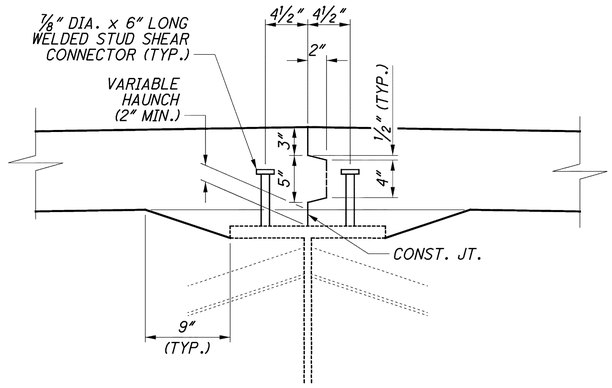


TRANSVERSE SECTION



DETAIL 1

TYP. BEAMS 1, 2, 4 AND 5



BEAMS 3

BEAMS 3
(REINF. NOT SHOWN)

LEGEND

▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

** SEAL THE CONSTRUCTION JOINT AS PER CMS 511.22 WITH A 1'-0" WIDE STRIP OF HMWM (705.15). USE A 2'-0" WIDE STRIP CENTERED OVER THE PHASED CONSTRUCTION JOINTS.

NOTES:

1. FOR DECK SLAB PLAN, SEE SHEET 21/26.
2. FOR PARAPET DETAILS, SEE SHEET 24/26.
3. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF 5.1 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS ±3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

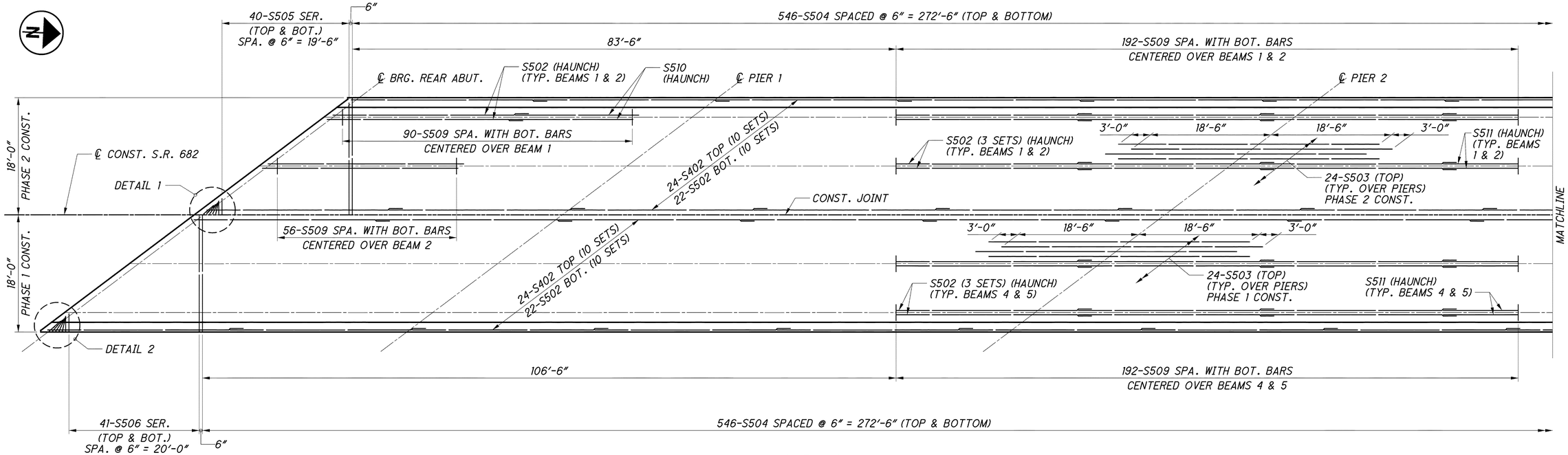
DESIGNED RHC | DRAWN MOJ | REVIEWED EDW | DATE 11-27-12
CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 0504920

TRANSVERSE SECTION
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

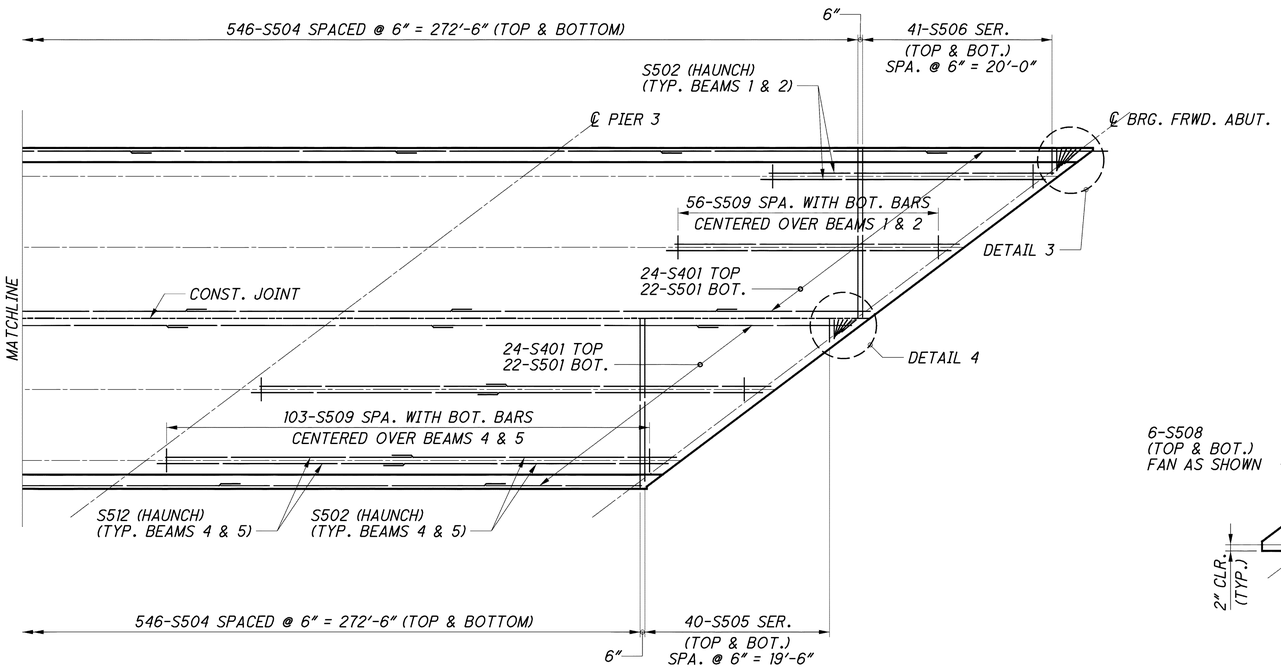
20/26

42/48



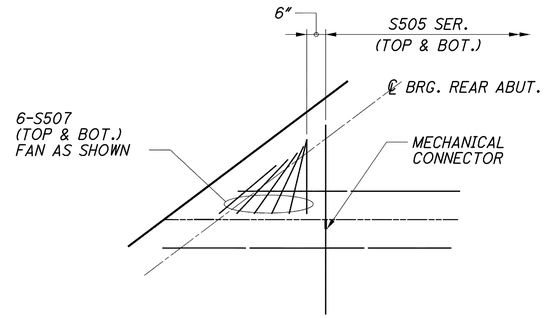
PARTIAL PLAN

SPANS 1 TO 3



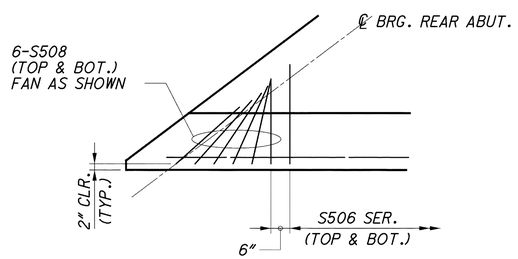
PARTIAL PLAN

SPAN 4



DETAIL 1

DETAIL 4 IS SIMILAR,
BUT OPPOSITE HAND



DETAIL 2

DETAIL 3 IS SIMILAR,
BUT OPPOSITE HAND

NOTES:

1. FOR TRANSVERSE SECTION, SEE SHEET 20/26.
2. FOR SCREED, TOP OF HAUNCH AND FINISHED PAVEMENT ELEVATIONS, SEE SHEET 23/26.
3. MINIMUM REINFORCING STEEL LAP LENGTHS ARE AS FOLLOWS:

LONGITUDINAL BARS	
NO. 4 BARS	1′-7″
NO. 5 BARS	2′-0″

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

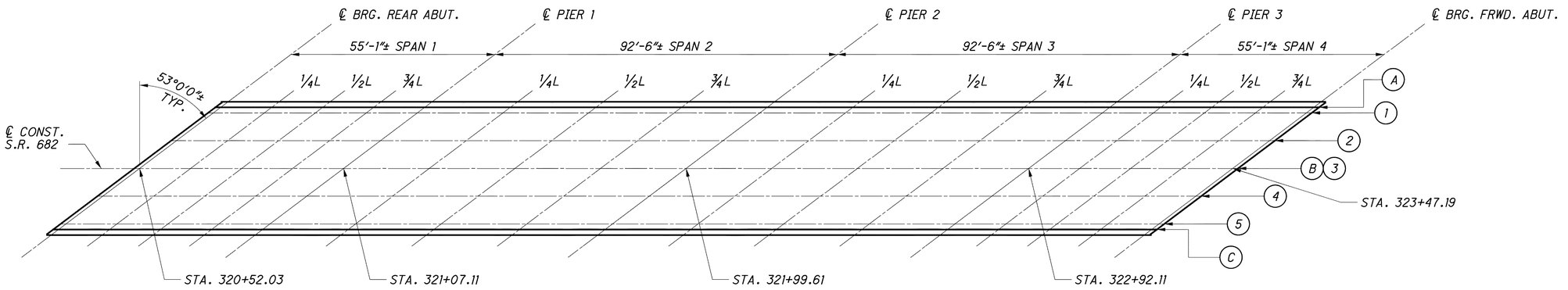
DESIGNED	DRAWN	REVIEWED	DATE
MOJ	MOJ	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

DECK SLAB PLAN
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

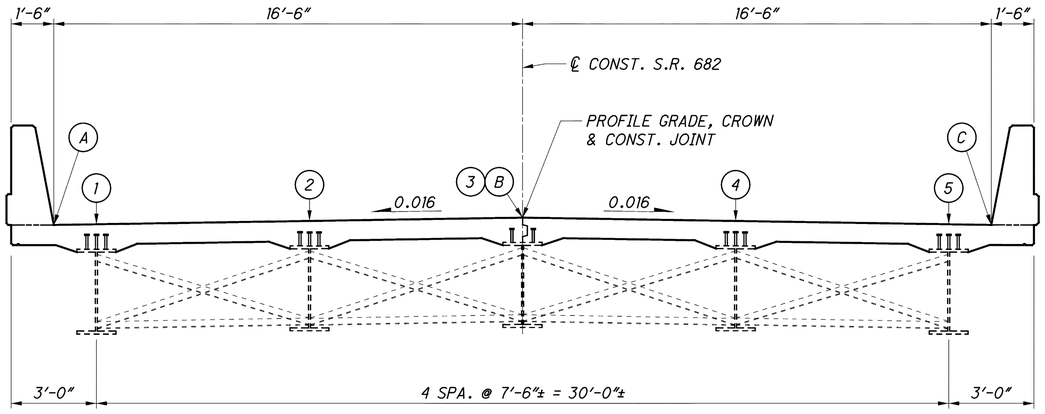
ATH-682-6.05
PID No. 92001

21/26

43/48



PLAN



TRANSVERSE SECTION

SCREED & FINISHED PAVEMENT ELEVATION LOCATIONS

NOTE:

FOR SCREED, TOP OF HAUNCH AND FINISHED PAVEMENT ELEVATIONS, SEE SHEET 23/26.

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED	DRAWN	REVIEWED	DATE
MOJ	MOJ	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

SCREED ELEVATION DIAGRAMS
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

SCREED ELEVATIONS

LOCATION	℄ BRG. REAR ABUT.	SPAN 1			℄ PIER 1	SPAN 2			℄ PIER 2	SPAN 3			℄ PIER 3	SPAN 4			℄ BRG. FRWD. ABUT.
		¼L	½L	¾L		¼L	½L	¾L		¼L	½L	¾L		¼L	½L	¾L	
(A)	700.79	700.93	701.04	701.11	701.18	701.29	701.32	701.23	701.09	700.95	700.75	700.45	700.06	699.85	699.66	699.45	699.23
* (B)	700.81	700.98	701.12	701.23	701.33	701.49	701.58	701.54	701.46	701.37	701.24	700.98	700.65	700.45	700.25	700.04	699.82
(C)	700.24	700.45	700.62	700.76	700.90	701.12	701.25	701.28	701.25	701.22	701.14	700.94	700.66	700.49	700.31	700.11	699.89

TOP OF HAUNCH ELEVATIONS

LOCATION	℄ BRG. REAR ABUT.	SPAN 1			℄ PIER 1	SPAN 2			℄ PIER 2	SPAN 3			℄ PIER 3	SPAN 4			℄ BRG. FRWD. ABUT.
		¼L	½L	¾L		¼L	½L	¾L		¼L	½L	¾L		¼L	½L	¾L	
(1)	700.09	700.23	700.34	700.41	700.49	700.60	700.63	700.55	700.41	700.28	700.09	699.79	699.41	699.20	699.00	698.80	698.58
(2)	700.10	700.26	700.38	700.47	700.56	700.70	700.76	700.70	700.59	700.48	700.32	700.04	699.68	699.47	699.27	699.07	698.85
* (3)	700.10	700.27	700.41	700.52	700.62	700.78	700.87	700.84	700.75	700.67	700.53	700.27	699.94	699.74	699.54	699.34	699.12
(4)	699.85	700.04	700.19	700.31	700.43	700.62	700.73	700.72	700.66	700.60	700.49	700.26	699.95	699.76	699.57	699.37	699.15
(5)	699.59	699.79	699.96	700.10	700.23	700.45	700.58	700.60	700.56	700.53	700.44	700.24	699.95	699.78	699.60	699.40	699.18

FINISHED PAVEMENT ELEVATIONS

LOCATION	℄ BRG. REAR ABUT.	SPAN 1			℄ PIER 1	SPAN 2			℄ PIER 2	SPAN 3			℄ PIER 3	SPAN 4			℄ BRG. FRWD. ABUT.
		¼L	½L	¾L		¼L	½L	¾L		¼L	½L	¾L		¼L	½L	¾L	
(A)	700.79	700.92	701.03	701.11	701.18	701.24	701.25	701.20	701.09	700.92	700.69	700.40	700.06	699.85	699.65	699.44	699.23
(1)	700.79	700.93	701.04	701.13	701.19	701.26	701.27	701.23	701.12	700.96	700.73	700.45	700.12	699.91	699.70	699.49	699.28
(2)	700.81	700.95	701.08	701.18	701.27	701.36	701.40	701.37	701.29	701.15	700.96	700.70	700.39	700.18	699.97	699.76	699.55
(B)(3)	700.81	700.97	701.11	701.23	701.33	701.45	701.51	701.51	701.46	701.34	701.17	700.94	700.65	700.45	700.24	700.03	699.82
(4)	700.56	700.73	700.89	701.02	701.14	701.28	701.37	701.40	701.37	701.28	701.13	700.92	700.66	700.48	700.27	700.06	699.85
(5)	700.30	700.49	700.66	700.81	700.94	701.11	701.22	701.27	701.27	701.20	701.08	700.90	700.66	700.49	700.30	700.09	699.89
(C)	700.24	700.44	700.61	700.76	700.90	701.07	701.19	701.25	701.25	701.19	701.07	700.89	700.66	700.49	700.30	700.10	699.89

LEGEND:

* THE SCREED AND TOP OF HAUNCH ELEVATIONS GIVEN REPRESENT THE ELEVATIONS PRIOR TO PHASE 1 DECK POUR. FOR PHASE 2 DECK POUR, MATCH THE TOP OF DECK AND TOP OF HAUNCH THAT OCCURS AFTER PHASE 1 DECK POUR.

NOTES:

1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

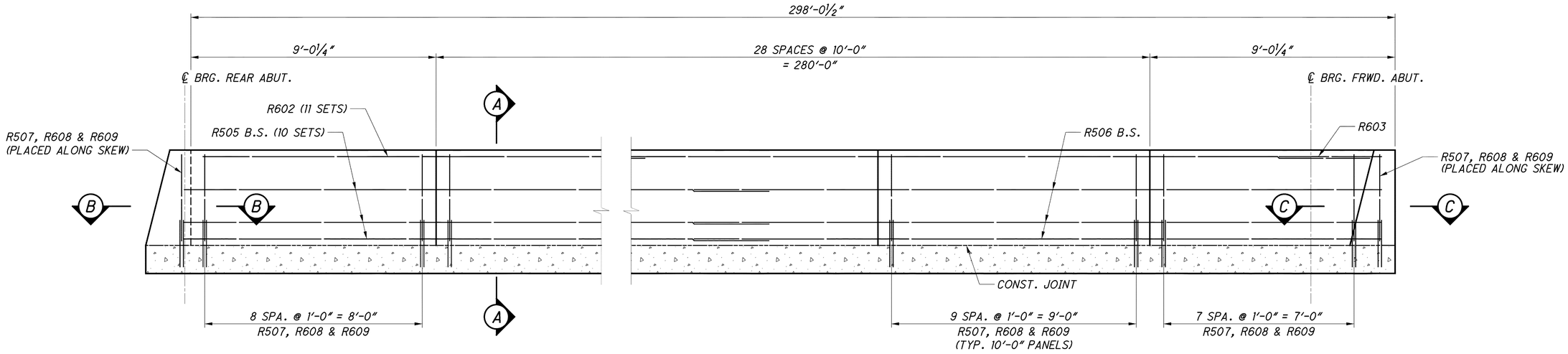
DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED	DRAWN	REVIEWED	DATE
MOJ	MOJ	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

SCREED, TOP OF HAUNCH & FINISHED PAVEMENT ELEVATIONS

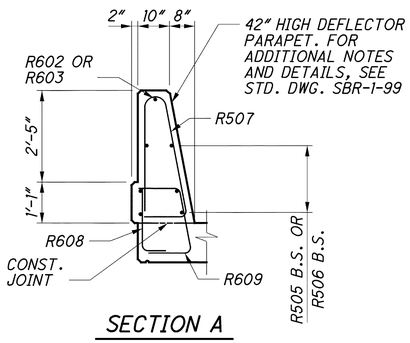
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

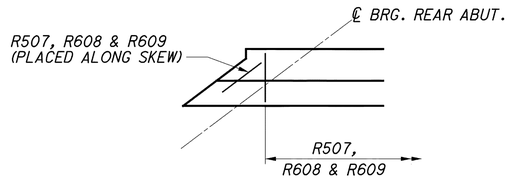


WEST PARAPET ELEVATION

DEVELOPED ALONG TOE OF PARAPET
EAST PARAPET IS SIMILAR, BUT OPPOSITE HAND



SECTION A



SECTION B

SECTION C IS SIMILAR, BUT OPPOSITE HAND

NOTES:

1. FOR SLAB DETAILS, SEE SHEET 21/26.
2. FOR TRANSVERSE SECTION, SEE SHEET 20/26.
3. MINIMUM REINFORCING STEEL LAP LENGTHS ARE AS FOLLOWS:

NO. 5 BARS	2′-9″
NO. 6 BARS	3′-4″

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED	DRAWN	REVIEWED	DATE
MOJ	MOJ	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

PARAPET DETAILS
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

24/26

46
48

MARK	NUMBER			LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS				INC.
	REAR	FORWARD	TOTAL				A	B	C	D	
ABUTMENT BARS											
A501	35	35	70	6'- 3"	456	ST					
A502	14		14	19'- 4"	282	ST					
A503	7		7	27'- 0"	197	ST					
A504	36	38	74	9'- 8"	746	17	8'- 6"				
A505	34	38	72	9'- 2"	688	1	1'- 0"	8'- 3"			
A506	41	41	82	8'- 10"	755	2	2'- 9"	3'- 7"	2'- 9"		
A507	4		4	20'- 6"	86	ST					
A508	12		12	23'- 6"	294	ST					
A509	1 SER. OF 5		1 SER. OF 5	20'- 6" TO 23'- 6"	115	ST					0'- 9"
A510	12	12	24	22'- 4"	559	ST					
A511	16	16	32	8'- 2"	273	17	7'- 0"				
A512		7	7	25'- 7"	187	ST					
A513	9	9	18	18'- 2"	341	ST					
A514	15	15	30	13'- 8"	428	ST					
A515	4	4	8	20'- 8"	172	ST					
A516	4	4	8	19'- 10"	165	ST					
A517		2	2	26'- 6"	55	ST					
A518	14		14	29'- 5"	430	ST					
A519	48	44	92	9'- 4"	896	1	8'- 5"	1'- 0"			
A520	5	3	8	6'- 10"	57	17	5'- 8"				
A521	35	35	70	9'- 2"	669	ST					
A522	4		4	27'- 8"	115	ST					
A523	1 SER. OF 5		1 SER. OF 5	24'- 0" TO 27'- 8"	135	ST					0'- 11"
A524	2		2	28'- 10"	60	ST					
A525	7	7	14	4'- 0"	58	ST					
A526	9	9	18	5'- 6"	103	19	2'- 9"	2'- 3"	1'- 8"		
A527	4	4	8	5'- 5"	45	11	1'- 8"	2'- 3"	2'- 9"		
A528	5	5	10	6'- 2"	64	10	1'- 8"	2'- 3"	0'- 9"	2'- 9"	
A529	10	10	20	5'- 8"	118	17	4'- 6"				
A530	3	3	6	8'- 8"	54	17	7'- 6"				
A531		14	14	18'- 9"	274	ST					
A532		4	4	20'- 0"	83	ST					
A533		12	12	23'- 0"	288	ST					
A534	8	8	16	16'- 8"	278	ST					
A535		14	14	30'- 0"	438	ST					
A536		4	4	28'- 3"	118	ST					
A537		1 SER. OF 5	1 SER. OF 5	25'- 7" TO 28'- 3"	140	ST					0'- 8"
A538		1 SER. OF 3	1 SER. OF 3	25'- 7" TO 26'- 6"	81	ST					0'- 5 1/2"
A539	1 SER. OF 3		1 SER. OF 3	27'- 0" TO 28'- 10"	87	ST					0'- 11"
A540		1 SER. OF 5	1 SER. OF 5	20'- 0" TO 23'- 0"	112	ST					0'- 9"

MARK	NUMBER			LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS				INC.
	REAR	FORWARD	TOTAL				A	B	C	D	
ABUTMENT BARS (CONTINUED)											
A601	57	57	114	6'- 3"	1,070	2	2'- 11"	0'- 9"	2'- 11"		
A602	57		57	6'- 1"	521	2	2'- 7"	1'- 3"	2'- 7"		
A603	57	57	114	7'- 1"	1,213	2	3'- 1"	1'- 3"	3'- 1"		
A604		57	57	5'- 7"	478	2	2'- 4"	1'- 3"	2'- 4"		
A605	16		16	25'- 6"	613	2	12'- 5"	1'- 0"	12'- 5"		
A606	4	4	8	17'- 2"	206	2	8'- 3"	1'- 0"	8'- 3"		
A607	6		6	7'- 10"	71	2	3'- 7"	1'- 0"	3'- 7"		
A608	60	60	120	5'- 4"	961	ST					
A609	10	10	20	2'- 11"	88	ST					
A610	10	10	20	3'- 11"	118	13	2'- 0"	0'- 11"	0'- 2"	1'- 1"	
A611	12	12	24	27'- 0"	973	2	13'- 2"	1'- 0"	13'- 2"		
A612	3	3	6	17'- 8"	159	2	8'- 6"	1'- 0"	8'- 6"		
A613	6	6	12	9'- 0"	162	2	4'- 2"	1'- 0"	4'- 2"		
A614		16	16	25'- 0"	601	2	12'- 2"	1'- 0"	12'- 2"		
A615		6	6	7'- 4"	66	2	3'- 4"	1'- 0"	3'- 4"		
A616	2	2	4	9'- 2"	55	ST					
A801	36	38	74	10'- 4"	2,042	17	8'- 6"				
A802	39	38	77	6'- 0"	1,234	18	3'- 9"	1'- 0"	1'- 0"		
A803	16	16	32	8'- 10"	755	17	7'- 0"				
A804	5	3	8	7'- 6"	160	17	5'- 8"				
A805	10	10	20	6'- 4"	338	17	4'- 6"				
A806	3	3	6	9'- 4"	150	17	7'- 6"				
TOTAL					22,536						

NOTE:

FOR ADDITIONAL NOTES AND STANDARD BAR TYPES, SEE SHEET 26|26.

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

DESIGNED MOJ
DRAWN TMR
CHECKED RHC
REVIEWED EDW
DATE 11-27-12
REVISED
STRUCTURE FILE NUMBER 0504920

REINFORCING STEEL LIST
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

25/26

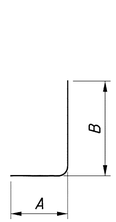
47/48

MARK	NUMBER				LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS		
	PIER 1	PIER 2	PIER 3	TOTAL				A	B	C
PIER BARS										
SP401	5			5	0'-7"	120	27	4 1/2"	2'-6"	0'-7"
SP402		5		5	0'-9"	130	27	4 1/2"	2'-6"	0'-9"
SP403			5	5	0'-6"	114	27	4 1/2"	2'-6"	0'-6"
P501	30	30	30	90	3'-1"	289	1	0'-10"	2'-4"	
TOTAL						653				

MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					INC.
					A	B	C	D	E	
PARAPET BARS										
R501	6	9'-7"	60	ST						
R502	6	11'-0"	69	ST						
R503	20	5'-6"	115	ST						
R504	12	5'-6"	69	25	1'-8"	2'-5"	1'-5"	0'-2"	0'-5"	
R505	120	30'-0"	3,755	ST						
R506	12	26'-2"	328	ST						
R507	618	7'-5"	4,595	23	1'-1"	3'-2"	3'-0"			
R508	16	10'-0"	167	ST						
R509	6	5'-7"	35	ST						
R510	6	5'-1"	32	ST						
R601	2	10'-0"	30	ST						
R602	22	30'-0"	991	ST						
R603	2	4'-9"	14	ST						
R604	2	6'-0"	18	ST						
R608	598	2'-7"	2,320	1	1'-1"	1'-8"				
R609	598	3'-8"	3,293	28	1'-8"	1'-1"				
TOTAL			15,891							

MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS				INC.
					A	B	C	D	
DECK SLAB BARS									
S401	48	12'-9"	409	ST					
S402	480	30'-0"	9,619	ST					
S501	44	17'-0"	780	ST					
S502	476	30'-0"	14,894	ST					
S503	144	40'-0"	6,008	ST					
S504	2,184	17'-10"	40,623	ST					
S505	4 SER. OF 40	2'-6" TO 17'-2"	1,641	ST					4 1/2"
S506	4 SER. OF 41	2'-7" TO 17'-8"	1,732	ST					4 1/2"
S507	24	1'-11"	48	ST					
S508	24	2'-3"	56	ST					
S509	1,232	5'-6"	7,067	21	1'-0"	0'-7"	1'-6"	0'-7"	
S510	2	18'-11"	39	ST					
S511	8	11'-6"	96	ST					
S512	4	25'-11"	108	ST					
TOTAL			83,120						

STANDARD BAR TYPES



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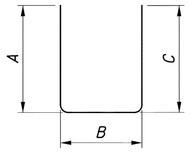

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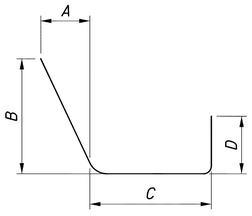

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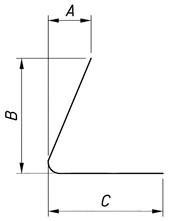

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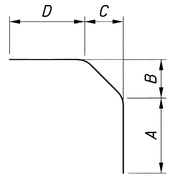

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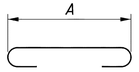

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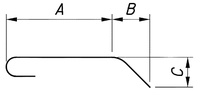

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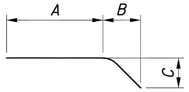

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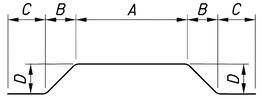

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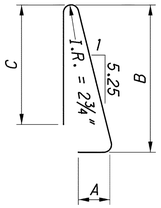

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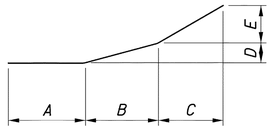

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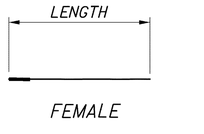
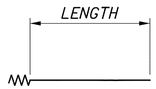
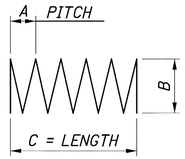


FEMALE



MALE

MECHANICAL CONNECTORS



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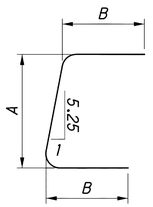


TYPE-28

NOTES:

1. BAR DIMENSIONS ARE OUT TO OUT UNLESS NOTED OTHERWISE.
2. ALL BARS ARE EPOXY COATED.
3. O.R. DENOTES OUTER RADIUS, I.R. DENOTES INNER RADIUS.
4. WHEN NO BAR LEG DIMENSIONS ARE SHOWN, A STANDARD BEND SHALL BE MADE.
5. BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST ALPHABETICAL LETTER(S) INDICATES LOCATION. THE NEXT DIGIT OF THE THREE DIGIT SERIES AND THE NEXT TWO DIGITS OF THE FOUR DIGIT SERIES INDICATES THE BAR SIZE NUMBER.

EXAMPLES:

A501 — NO. 5 SIZE BAR, ABUTMENT

P1001 — NO. 10 SIZE BAR, PIER

DESIGN AGENCY
Jones Stuckey
1655 W. MARKET STREET, SUITE 355
AKRON, OHIO 44313

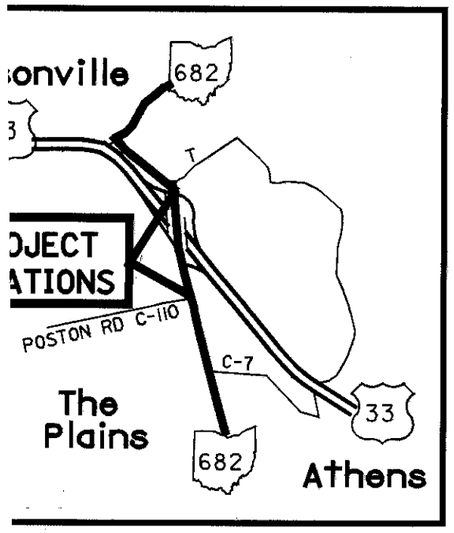
DESIGNED	DRAWN	REVIEWED	DATE
MOJ	MOJ	EDW	11-27-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		0504920	

REINFORCING STEEL LIST
BRIDGE NO. ATH-682-0607
S.R. 682 OVER U.S. 33

ATH-682-6.05
PID No. 92001

ATH - SR 682 (5.86)(6.19)
990259
DIST 10

PID# 19042
04-28-99



LOCATION MAP

SCALE IN MILES

0 1/4 1/2 3/4 1

PORTION TO BE IMPROVED _____
STATE ROUTES _____
FEDERAL ROUTES _____

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

ATH-682-(5.86)(6.19)

DOVER TOWNSHIP
ATHENS COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

IMPROVEMENT OF THE INTERSECTION OF STATE ROUTE 682 AND POSTON ROAD AND THE INTERSECTION OF STATE ROUTE 682 AND THE WEST BOUND OFF RAMP FROM UNITED STATES ROUTE 33 BY INSTALLING TRAFFIC SIGNALS.

1997 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THE PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

DESIGN DESIGNATION

CURRENT ADT (1999)	10433
DESIGN YEAR ADT (2019)	13421
DESIGN HOURLY VOLUME (2019)	1342
DIRECTIONAL DISTRIBUTION	50/50
TRUCKS (24 HOUR B&C)	4%
LEGAL SPEED	35 mph.

DESIGN FUNCTIONAL CLASSIFICATION -MINOR ARTERIAL

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:
DISTRICT NO. 10
OHIO DEPT. OF TRANSPORTATION
PRODUCTION DEPARTMENT

ENGINEERS SEAL
STATE OF OHIO
JOHN D. COEN E-56542
REGISTERED PROFESSIONAL ENGINEER
SIGNED: John D. Coen
DATE: 1-26-99

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
MT-97.10	4-29-88			962	10-21-98
MT-105.10	7-1-92				
MT-105.11	7-1-92				
HL-30.11	5-1-87				
TC-21.20	9-1-92				
TC-41.20	6-24-94				
TC-42.20	3-26-79				
TC-52.10	4-3-79				
TC-81.10	1-20-84				
TC-82.10	8-29-84				
TC-83.10	3-18-92				
TC-83.20	1-20-84				
TC-84.20	1-20-84				
TC-85.10	1-20-84				
TC-85.20	1-20-84				

APPROVED John D Dowler
DATE 1/26/99 DISTRICT DEPUTY DIRECTOR

APPROVED Gordon Proctor, Jr.
DATE 2-8-99 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.

PID NO. 19042

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

ATH-682-(5.86)(6.19)

1
17

POWER SUPPLY FOR TRAFFIC SIGNALS

Electric power will be obtained from American Electric Power Co. at the location indicated on the plans. Power supplied will be 120 volts.

CONTINGENCY QUANTITIES

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

DEPARTMENT OF INDUSTRIAL RELATIONS, INSPECTION

There is a rule that all new or relocated electric service enclosures are to be inspected by a licensed state inspector prior to connection to a utility distribution line. This rule is now being enforced by the utility companies and the Ohio Department of Industrial Relations. This is a new situation for ODOT because state inspections are now being required for traffic control devices and lighting installations.

The Contractor shall apply for the Industrial Relation Inspection(s); pay the appropriate fee(s) to the Industrial Relations Department, and advise Roadway Services Engineer, Don Johnson, Telephone (614)-373-0212 of the time of the Inspection(s) so that he may have a representative in attendance. It is to be noted that the Industrial Relations Inspection does not substitute for ODOT's final inspection, nor does it supersede requirements of the plans and specifications.

The cost of the Industrial Relations Inspections (approximately $100.00) shall be considered as incidental to and included in the contract unit price of the various items making up the traffic control devices.

DOCUMENTATION

The Contractor shall provide an "as built" drawing indicating any revisions to the original operation plan or quantities. The drawing shall be submitted to Tom Camden within two (2) weeks following the energizing of the traffic signal. Submit drawings to ODOT, 338 Muskingum Drive, Marietta, Ohio 45750.

STRAIN POLE, TYPE TC 81-10, DESIGN 7, INSTALLATION ONLY
STRAIN POLE, TYPE TC 81-10, DESIGN 10, INSTALLATION ONLY

The Contractor shall pick up the department supplied strain poles at the Ohio Department of Transportation Athens County garage on State Route 56, phone 740-593-7933.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

The Contractor shall be responsible for maintaining traffic signal installations within the project under the following conditions:

a) New signal installations or devices, installed by the Contractor. The Contractor shall be responsible for maintenance of these from the time of installation until the work is accepted.

The Contractor shall correct as quickly as possible all outages or malfunctions. He shall provide the Engineer such addresses and phone numbers where his maintenance forces can be contacted. The Contractor shall provide one or more persons to receive all calls and dispatch the necessary maintenance forces to correct outages. Such person or persons may be used to perform other duties as long as prompt attention is given to these calls and a person is readily available continuously 24 hours a day, 7 days a week. All lamp outages, cable outages, electrical failures, equipment malfunctions and misaligned signal heads shall be corrected to the satisfaction of the Engineer with the signal back to service within four hours after the Contractor has been notified of the outage.

In the event the new signals are damaged prior to acceptance all damaged equipment except poles and control equipment will be replaced by the contractor to the satisfaction of the Engineer with the signal back in service within 8 hours after the Contractor's notification of the outage.

If poles and/or control equipment are damaged and must be replaced, the Contractor shall make temporary repairs as necessary to bring the signal back into full operation within the 8-hour period, and shall make permanent repairs or replacement as soon thereafter as possible.

None of the above shall be construed as collective or consecutive outage time periods at any one location. That is, where more than one outage occures at any one location, then the allotted time limit shall be for the worst single outage.

Where outages are the direct result of a vehicle accident, the response of the Contractor shall be as outlined above. The Contractor shall be responsible for collection of any compensation for this work from those parties responsible for the damage.

Where the Contractor has failed to or cannot respond to an outage or signal equipment malfunction, at these locations within his responsibility, within periods as specified above, the Engineer may invoke the provisions of Section 105.15 and any subsequent billings to the State for Police Services and maintenance services shall be deducted from monies due or to become due the Contractor in accordance with provisions of Section 105.15.

The Contractor shall provide the maintenance services entirely with his forces or he may choose to enter into a cooperative understanding with the local maintaining agency to provide the maintenance. The Contractor shall inform the Engineer, in writing, of the maintenance method selected.

The Contractor shall be responsible for any damage to any traffic signal components required to be handled during the installation of the new signal system.

Any vehicular traffic signal head which will be out of operation shall be covered in the manner described in 632.24.

All costs resulting from the above requirements shall be considered to be included in the lump sum price bid for Item 614 - Maintaining Traffic.

UTILITY OWNERSHIP

The Contractor shall call the Ohio Utilities Protection Service at 1-800-362-2764 two working days before digging.

The following utilities and owners are located within the work limits of this project:

American Electric Power
9135 SR 682
Athens, Ohio 45701
740-594-1960
Power supplied shall be 240 volts.

Columbia Gas of Ohio, Inc.
2009 East State Street
P.O. Box 4220
Athens, Ohio 45701
740-597-2459

Columbia Gas Transmission Corporation
2009 East State Street
Athens, Ohio 45701
740-597-2479

Gatheroo
2009 East State Street
Athens, Ohio 45701
740-593-5016

GTE Telephone Operations-North Area
754 West Union Street
Athens, Ohio 45701
740-792-0549

Nelsonville TV Cable, Inc.
1 West Columbus Street
Nelsonville, Ohio 45764
740-753-2686

Media One Cablevision Of Ohio
28 Station Street
Athens, Ohio 45701
740-594-3777

The Plains, Water & Sewage
14 Jackson Road
The Plains, Ohio 45780
740-593-7146

ITEM 614 MAINTAINING TRAFFIC

Traffic shall be maintained at all times. The length of the restricted traffic zones will be kept to a minimum. Directional traffic will be maintained by use of the existing pavement and all work in a directional lane will be completed before work may be initiated in the adjacent directional lane.

A vehicle (Contractor's or private), when used as a flagger within the traffic control operation, will be equipped with a 360° rotation or flashing beacon clearly visible a minimum of one-quarter mile at all times.

Two-way traffic shall be maintained at all times
Any lane closing shall be implemented during non-peak hours. (non-peak hours are 8:00 am - 3:00 pm).

Procedures for maintaining traffic shall be in compliance with standard drawings MT-95.30 and MT-97.10, with the Ohio Manual of Uniform Control Devices, and Item 614 in the CMS.

All advance warning signs for any condition which restricts traffic shall be erected before any such restriction is put into effect. All such signs shall be covered or removed from the view of traffic when they are not applicable, as determined by the Engineer.

Before work begins, the Contractor shall submit the names and telephone numbers of the Contractor's responsible foreman who can be contacted 24 hours a day by the Ohio Department of Transportation and all interested police agencies. These persons shall be responsible for placing or replacing necessary traffic control devices to maintain the traveled pavement safely.

If the Contractor fails to comply with the provisions for traffic control as set forth in these plans or with provisions of the manual, and such failure results in a condition at the work site which is unsafe for traffic, the Engineer shall suspend work until the Contactor complies with the necessary requirements.

ACCEPTANCE OF TRAFFIC SIGNAL

All signals to be owned or maintained by the state shall be inspected by the Office of Traffic Engineering. The signal shall be inspected just prior to the ten day performance test specified in CMS 632.27(6). All other construction pay items shall be completed including the electrical tests specified in 632.27(1)-(4) and functional test specified in 632.27(5). Items identified during the inspection as deficient shall be corrected and the signal reinspected prior to initiation of the ten day burn test.

At the inspection, all deficiencies shall be available to anyone upon request. The Office of Traffic Engineering shall prepare the formal report. Initiation of the ten day performance test shall not proceed until all deficiencies of an operationally critical nature are corrected. Upon successful completion of the burn test as determined by the Roadway Services Engineer, the Construction Field Engineer shall notify the maintaining agency or department in writing that it is now responsible for maintenance. The Contractor shall be held responsible for defects in workmanship and materials beyond normal maintenance until the project is accepted.

The Roadway Services Engineer shall assume responsibility for the operation and maintenance of a contract-installed traffic signal upon written notification of transfer of maintenance responsibilities by the District Construction Engineer.

TRAFFIC CONTROL SYSTEM GUARANTEE

The Contractor shall guarantee that the traffic control system installed as part of this contract shall operate satisfactorily for a period of 90 days following completion of the 10-day performance test. In the event of unsatisfactory operation, the Contractor shall correct faulty installations, make repairs and replace defective parts with new parts of equal or better quality. Equipment, material, and labor costs incurred in correcting an unsatisfactory operation shall be borne by the Contractor.

The guarantee shall cover the following items of the traffic control system: controller and associated equipment, and detector units.

Customary manufacturer's guarantees for the foregoing items shall be turned over to the state or the maintaining agency following acceptance of the equipment.

The cost of guaranteeing the traffic control system will be incidental to and included in the contract price of the various items making up the system.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

In addition to the requirements of 614 and the latest edition of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD), two uniformed Law Enforcement Officers and two official patrol cars with working top mounted emergency flashing lights shall be provided for controlling traffic during the hanging of the messenger wire portion of the traffic signal installation.

Law Enforcement Officers (LEO's) should not be used where the OMUTCD intends that flaggers be used. The LEO's are considered to be employed by the Contractor and the Contractor shall be responsible for their actions. Although they are employed by the Contractor, the Project Engineer shall have control over their placement. The official patrol cars shall be public safety vehicles as required by the Ohio Revised Code.

The Contractor shall make arrangements for these services with:

Ohio State Highway Patrol
Columbus Road
Athens, Ohio 45701
Phone 740-593-6611

or

Athens County Sheriff
Washington Street
Athens, Ohio 45701
Phone 740-593-6633

Law Enforcement Officers With Patrol Cars required by the traffic maintenance tasks above shall be paid for on a unit price (hourly) basis under Item 614 - Law Enforcement Officer With Patrol Car. The following estimated quantity has been carried to the General Summary:

Item 614 - Law Enforcement Officer With Patrol Car - 8 hours (4 hours per intersection)

The hours paid shall include minimum show-up time required by the Law Enforcement Agency involved.

If the Contractor wishes to utilize LEO's for flagging and traffic control other than for that required in these plans, he may do so at his own expense. Payment for the excess above the contract requirements will be included under Item 614 Maintaining Traffic.

ITEM 632 - VEHICLE SIGNAL HEAD, 3 SECTION, 12 INCH, AS PER PLAN

GENERAL:

The LED traffic signal lamp unit shall be designed as a retrofit replacement for existing signal lamps which will not require any special tools for installation. The 300mm retrofit replacement LED traffic signal lamp unit shall fit into existing 300mm traffic signal housings without modifications.

Installation of a retrofit replacement LED traffic signal lamp unit into an existing signal housing shall only require removal of the existing lens, reflector, and incandescent lamp, fitting of the new unit securely in the housing door, and connecting to existing electrical wiring or terminal block by means of simple connectors.

If proper orientation of the LED unit is required for optimum performance, prominent and permanent directional marking(s), that is an "UP arrow", for correct indexing and orientation shall exist on the unit.

The manufacturer's name, serial number and other necessary identification shall be permanently marked on the backside of the LED traffic signal lamp unit. A label shall be placed on the unit certifying compliance to ITE standards.

PHYSICAL AND MECHANICAL REQUIREMENTS:

The LED traffic signal lamp unit shall be a single, self-contained device, not requiring on-site assembly for installation into an existing traffic signal housing.

The assembly and manufacturing process for the LED traffic signal lamp unit assembly shall be such as to assure all internal LED and electronic components are adequately supported to withstand mechanical shock and vibration from high winds and other sources.

Each LED traffic signal lamp shall comprise a UV stabilized polymeric outer shell, multiple LED light sources, a regulated power supply and a polycarbonate back cover assembled in a silicon sealed unit. LEDs are to be mounted on a polycarbonate positioning plate or conformally coated PC board.

OPTICAL AND LIGHT OUTPUT REQUIREMENTS:

The LEDs shall be manufactured using AlInGaP technology or other LEDs with low susceptibility to temperature degradation (AlGaS LEDs will not be allowed).

The color of the LED signal lamp shall be specified in the Invitation for Bids.

Each LED traffic signal lamp shall meet minimum laboratory light intensity values, color (chromaticity), and light output distribution as described in I.T.E. Standards, as shown in Section 11.04 Table 1 and Section 8.04 Figure 1 of the VTCSH (Vehicle Traffic Control Signal Head Standard). Each LED traffic signal lamp unit shall meet the minimum requirements for light output for the entire range from 80 to 135 volts.

ELECTRICAL:

Each unit shall incorporate a regulated power supply engineered to electrically protect the LEDs and maintain safe and reliable operations. The power supply shall provide capacitor filtered DC regulated current to the LEDs manufacturer's specification.

The LED traffic signal lamp unit shall operate on a 60 Hz AC line voltage ranging from 80 volts RMS to 135 volts RMS. The circuitry shall prevent flickering over this voltage range. Nominal rated voltage for all measurements shall be 117 volts RMS.

The LED traffic signal lamp unit shall be operationally compatible with controllers and conflict monitors currently used by the Ohio Department of Transportation.

The LED lamp unit shall contain a disconnect that will show an open switch to the conflict monitor when less than 60% of the LEDs in the unit are operational.

Two, captive, color coded, 1 meter long, 600 V, 18 AWG minimum jacketed wires, conforming to the National Electric Code, rated for service at 105C, are to be provided for an electrical connection.

One schematic diagram shall be provided for each LED lamp unit, along with any necessary installation instructions.

LEDs shall be arranged in no less than 5 equally loaded circuits.

The LED signal shall operate with a minimum 0.90 power factor.

Total harmonic distortion (current and voltage) induced into an ac power line by a signal module shall not exceed 20 percent.

ENVIRONMENTAL REQUIREMENTS:

The LED traffic signal lamp unit shall be rated for use in the ambient operating temperature range of -40 degrees F to + 165 degrees F.

The unit shall be dust and moisture tight to protect all internal LED and electrical components.

The unit shall consist of a housing that is a sealed watertight enclosure that eliminates dirt contamination and allows for safe handling in all weather conditions.

PRODUCTION TESTING REQUIREMENTS:

Each new LED traffic signal lamp unit shall be energized for a minimum of 24 hours at operating voltage and at a temperature of 140 degrees F in order to cause any electonic infant mortality to occur, and to ensure electronic component reliability prior to shipment.

After the burn-in procedure is completed, each LED traffic signal lamp unit shall be tested by the manufacturer for rated initial intensity at rated operating voltage.

DOCUMENTATION REQUIREMENTS:

Each LED traffic signal lamp unit shall be provided with the following documentation:

A. Complete and accurate installation wiring guide.
B. Contact name, address, telephone number for the representative, manufacturer, or distributor for warrant/repair.

Bidders shall be required to submit a copy of a test report certified by an independent laboratory that the LED traffic signal lamp model submitted meets, I.T.E. Standards for light distribution, chromaticity, and power (consumption, power factor and harmonic distortion) with the bid.

WARRANTY:

The LED traffic signal lamp unit shall be warranted against failure due to workmanship or material defects within the first 60 months of field operation.

If any one LED circuit shall fail, it should be easily identifiable by visual inspection and replaced or repaired per the warranty.

MEASUREMENT:

Measurement shall be made for each LED traffic signal lamp unit as specified in the invitation for bids, complete in place.

STRAIN POLE FOUNDATIONS

Elevations shown in the plans for strain pole foundations are for computational purposes only. The actual elevation of the foundation shall be in accordance with TC-21.20 provided the existing slope is less than 6%.

At locations where the existing slope is 6% or greater, the buried depth of foundation, as shown in standard drawing TC-21.20, shall apply to the low side of the slope. The top of the foundation shall be set 2-inches above the existing surface on the high side of the slope. The additional depth of foundation necessary to meet these requirements shall be added to the formed top.

Payment for additional concrete shall be at the contract unit price bid for Item 632 Concrete For Anchor Base Foundation.

ITEM 625 - CONDUIT, 1½", 713.07, TYPE DB, AS PER PLAN

The 713.07 Polyvinyl Chloride Conduit furnished under these specifications shall conform to NEMA Standards Publication No. TC-6 with the exception that conduit and fittings composed of Acrylonitrile-Butadiene-Stryrene (ABS) shall be acceptable.

As an alternate to polyvinyl chloride, corregated collable polypropylene conforming to NEMA Standards Publication No. TC-5 may be used

ITEM 632 - LOOP DETECTOR UNITS, DELAY AND EXTENSION TYPE, AS PER PLAN

In addition to the requirements of 632 and 732.07 and 732.08, loop detector units shall have the following requirements or features:

The output device shall be a relay, and all contacts shall be included in the wiring harness.

The unit shall be self tuning.

The unit's electrical connection plugs or wiring shall allow ready replacement with a single channel amplifier as described in the final paragraph of 732.07.

DESIGNED GBS
DRAWN JDC

GENERAL NOTES

ATH-682-(5.86)(6.19)

633 ITEM SPECIAL-CONTROLLER, MODEL 170E, WITH MODEL 336 CABINET AND ACCESSORIES (POLE OR BASE MOUNT)
THE CONTROLLER SUPPLIED SHALL BE COMPLETE WITH THE SPECIFIED CABINET INCLUDING ALL NECESSARY COMPONENTS AND CABLES NOT SPECIFICALLY MENTIONED BELOW. ALL EQUIPMENT AND CABINETS SHALL CONFORM TO ODOT SPECIFICATIONS 633, 733 AND THE FOLLOWING:

MODEL 170E CONTROLLERS:
SPECIFICATIONS FOR THESE CONTROLLERS SHALL BE 'TRAFFIC SIGNAL CONTROL EQUIPMENT SPECIFICATIONS', CALIFORNIA DEPARTMENT OF TRANSPORTATION, JANUARY 1989. THESE SPECIFICATIONS SHALL INCLUDE ADDENDUM 8, NOVEMBER 1993 OR LATEST REVISION. THE CONTROLLER UNITS SHALL CURRENTLY BE LISTED ON THE CALTRANS 'QUALIFIED PRODUCTS LIST'.

IN ADDITION:

1. THE CONTROLLER UNIT SHALL NOT BE SUPPLIED WITH THE M170E BOARD.
2. FOR CABINETS THAT ARE TO BE INCLUDED IN A HARDWIRE (TWISTED PAIR) INTERCONNECTED SIGNAL SYSTEM, THE CONTROLLER UNIT SHALL INCLUDE A MODEL 400 MODEM AND COMMUNICATION SYSTEM INTERFACE AS SPECIFIED IN THE CALTRANS SPECIFICATIONS. IN ADDITION TO THE CALTRANS SPECIFICATION, MODEMS SHALL BE DESIGNED SUCH THAT IF ONE MODEM LOSES COMMUNICATION WITH THE MASTER, SUBSEQUENT MODEMS SHALL STILL BE ABLE TO COMMUNICATE.
3. A 412C PROM MODULE SHALL BE SUPPLIED FOR MEMORY SELECT #4 CONFIGURATION WITHOUT LOCAL CONTROLLER SOFTWARE TO THE ODOT DISTRICT OFFICE 14 DAYS IN ADVANCE OF WHEN SOFTWARE IS NEEDED. THE DISTRICT WILL PROVIDE THE LOCAL PROGRAM TO THE CONTRACTOR FOR HIS USE ON THE 412C PROM MODULE. ACCOMPANYING EACH PROM MODULE SUPPLIED TO THE DISTRICT SHALL BE THE TRAFFIC SIGNAL PLAN SHEET(S) THAT SHOW THE REQUIRED PHASING AND TIMING.
4. AS PER CALTRANS REQUIREMENTS, ALL MEMORY, MICROPROCESSOR AND ACIA DEVICES SHALL BE SOCKET MOUNTED. SOCKETS SHALL HAVE MACHINED BERYLLIUM COPPER CONTACTS WITH GOLD PLATING.
5. THE CONTROLLER SHALL BE SUPPLIED WITH THE APPROPRIATE COMMUNICATION PORT, CABLES AND CONNECTORS FOR COMMUNICATING WITH THE PORTABLE ARTERIAL MONITORING LAPTOP COMPUTER.
6. ALL CIRCUIT BOARDS SHALL BE VERTICALLY MOUNTED.
7. THE POWER SUPPLY SHALL BE MODULAR AND EASILY REMOVABLE FROM THE CHASSIS
8. THE UNIT SHALL CONTAIN SEPARATE INPUT AND OUTPUT MODULES

2 SETS OF CONTROLLER SCHEMATICS AND SERVICE MANUALS SHALL BE SUPPLIED WITH EACH CONTROLLER. ONE SET OF C1 AND C2 WRAPAROUND CONNECTORS AND EXTENDER CARDS SHALL BE SUPPLIED AS PART OF THIS PROJECT.

SOFTWARE. EITHER THE CALTRANS 'DAT' DIAGNOSTIC AND TESTING OR LICENSED THIRD PARTY SOFTWARE SHALL BE PROVIDED ON A SEPARATE PROGRAM MODULE THAT WILL BE INSERTED INTO THE UNIT FOR TESTING BOTH THE CONTROLLER AND CABINET. FOR THE PROJECT TWO SEPARATE PROGRAM MODULES WITH THE DIAGNOSTIC SOFTWARE AND TWO INSTRUCTION MANUALS SHALL BE PROVIDED.

CONFLICT MONITORS, TYPE 2010
CONFLICT MONITORS SHALL BE ON THE ODOT PRE-APPROVED LIST. (S.S. 962)

TWO SETS OF OPERATIONS INSTRUCTIONS AND MONITOR SCHEMATICS SHALL BE SUPPLIED WITH EACH MONITOR. PERMISSIVE CHANNELS SHALL BE PROGRAMMED WITH THE USE OF A DIODE CARD (CALTRANS STANDARD) WHICH SHALL BE INCLUDED WITH THE MONITOR.

CABINET, MODEL 336:
MODEL 336 CABINETS SHALL MEET THE SPECIFICATIONS 'TRAFFIC SIGNAL CONTROL EQUIPMENT SPECIFICATIONS', CALIFORNIA DEPARTMENT OF TRANSPORTATION, JANUARY 1989, OR LATEST EDITION, AND SHALL PREVIOUSLY HAVE BEEN ON THE CALTRANS 'QUALIFIED PRODUCTS LIST' (QPL) FOR 336 CABINETS.

THE CALTRANS SPECIFICATION FOR MODEL 336 CABINETS SHALL BE MODIFIED SO THAT THE MODEL 336 CABINETS PROVIDED AS PART OF THIS CONTRACT ARE THE STRETCH TYPE THAT PROVIDES AN ADDITIONAL (10 INCHES) 250mm CABINET HEIGHT.

CABINETS SHALL BE CONSTRUCTED OF ALUMINUM AND SHALL BE SUPPLIED UNPAINTED. ANODIC COATING IS NOT REQUIRED. CABINETS SHALL BE FULLY EQUIPPED WITH CONFLICT MONITOR, FLASHERS, AC ISOLATORS, DC ISOLATORS, AND FLASH TRANSFER RELAYS. THE APPROPRIATE NUMBER OF SWITCH PACKS AND MODEL 222 LOOP DETECTOR SENSOR UNITS SHALL BE SUPPLIED TO OPERATE THE INTERSECTION AS SHOWN IN THE PLANS. ALL COMPONENTS SHALL MEET CALTRANS SPECIFICATIONS AND SHALL BE ON THE QPL AS APPLICABLE.

FOR POLE MOUNTED CABINETS, MOUNTING BRACKETS AND BOTTOM PLATES SHALL BE SUPPLIED AND INSTALLED. DOOR HINGED ON POLE MOUNTED SIDE. FOR BASE MOUNTED CABINETS, GALVANIZED ANCHOR BOLTS WITH NUTS AND WASHERS SHALL BE SUPPLIED. ANCHOR BOLTS SHALL BE (3/4 "19mm DIAM. BY (16") 406mm MINIMUM LENGTH WITH AN 'L' BEND ON THE UNTHREADED END.

CABINETS SHALL BE FITTED WITH A PDA-2 POWER DISTRIBUTION ASSEMBLY. CABINETS SHALL BE EQUIPPED WITH AN EDCO SHA12-10 OR APPROVED EQUAL SURGE PROTECTOR IN LIEU OF THE CALTRANS SPECIFIED SURGE PROTECTION. THE SHA12-10 UNIT SHALL BE INSTALLED IN AN ENCLOSURE WITHIN THE CABINET.

THE FRONT OF THE INPUT AND OUTPUT FILES SHALL BE LABELED USING A WRITABLE TAPE. IN THE CASE OF THE OUTPUT FILE, THE TAPE SHALL CLEARLY DESIGNATE THE PURPOSE OF THE CORRESPONDING SWITCH PACK. AN EXAMPLE OF SWITCH PACK LABELING IS 'PHASE 2' OR 'PHASE 2 PED'. IN THE CASE OF THE INPUT FILE, THE TAPE SHALL CLEARLY DESIGNATE THE PURPOSE OF THE CORRESPONDING DETECTOR UNIT. EVERY USED CHANNEL OF THE 222 DETECTOR SHALL BE LABELED. AN EXAMPLE OF DETECTOR UNIT LABELING IS 'PHASE 2 C' OR 'PHASE 2 EC' OR 'PHASE 2 EXT' WHERE:
C - IS A CALL INPUT ONLY DURING RED
EC- IS EXTEND AND CALL DURING RED, YELLOW AND GREEN
EXT- IS AN EXTENSION ONLY DURING GREEN

CABINET WIRING SHALL COMPLY WITH THE FOLLOWING:

1. OUTPUT FILES SHALL BE 'HARDWIRED'. NO PRINTED CIRCUIT WIRING SHALL BE USED IN THE OUTPUT FILE EXCEPT FOR THE RED MONITOR BOARD.
2. CABINETS SHALL HAVE RED MONITOR CABLING INSTALLED. A PROGRAM BOARD SHALL BE INSTALLED TO ENABLE/DISABLE RED MONITORING. CABINETS SHALL BE SHIPPED WITH THE RED MONITOR JUMPERS SET IN THE 'ENABLE' POSITION.
3. PEDESTRIAN YELLOW LOADSWITCH OUTPUTS SHALL NOT BE CONNECTED TO THE CONFLICT MONITOR CARD-EDGE CONNECTOR.
4. FIELD WIRING FOR LOOP DETECTOR LEAD-IN CABLES AND PEDESTRIAN DETECTORS SHALL BE TERMINATED ON A LOWER LOOP INPUT PANEL. EDCO MODEL SRA-6LCA, SRA-6LCB OR SRA-6LC SURRESTORS SHALL BE PROVIDED ON THE LOWER INPUT PANEL FOR PROTECTION AGAINST INCOMING ELECTRICAL SURGES AND LIGHTNING. FIELD WIRING TERMINALS ON THE LOWER INPUT PANEL SHALL BE LABELED BY A PERMANENT SCREENING PROCESS TO IDENTIFY THE INPUT FILE (I), THE INPUT FILE SLOT NUMBER (1-14) AND THE CHANNEL TERMINAL (D, E, J OR K). AN EXAMPLE IS 'I4-E' STANDING FOR INPUT FILE 'I'; SLOT 4; CHANNEL TERMINAL 'E'.
5. FOR CABINETS THAT ARE TO BE INCLUDED IN A HARDWIRE (TWISTED PAIR) INTERCONNECTED SIGNAL SYSTEM, INCOMING INTERCONNECT CABLE SHALL BE TERMINATED ON AN APPROPRIATE TERMINAL BASE THAT IS MOUNTED ON THE SIDE OF THE CABINET. PROTECTION FROM INCOMING ELECTRICAL SURGES/LIGHTNING ON INTERCONNECT PAIRS SHALL BE PROVIDED BY INSTALLATION OF EDCO PC642 SURGE ARRESTORS ON THE TERMINAL BASE. THE PROTECTED OUTPUTS FROM THE TERMINAL BASE SHALL THEN BE ROUTED THROUGH TO THE CONTROLLER.
6. A WIRING HARNESS WITH A DB-9 CONNECTOR SHALL BE BROUGHT FROM THE C2 ON THE BACK OF THE CONTROLLER TO THE FRONT OF THE CABINET RACK NEAR THE PULL OUT SHELF. THE HARNESS SHALL BE CONNECTED TO THE CONTROLLER TO ALLOW A LAPTOP COMPUTER TO UPLOAD/DOWNLOAD DATA.

THE FOLLOWING AUXILIARY ITEMS SHALL BE SUPPLIED:

1. CABINETS SHALL HAVE TWO FLUORESCENT LIGHTS (FRONT AND REAR) WITH DOOR SWITCHES.
2. A RACK MOUNTED DETECTOR TEST PANEL SHALL BE FURNISHED WITH SEPARATE TEST SWITCHES FOR ALL POSSIBLE VEHICLE AND PEDESTRIAN PHASES. THE SWITCHES SHALL BE MOMENTARY CONTACT PUSHBUTTONS OR ON/OFF SWITCHES. SWITCHES OR BUTTONS CAPABLE OF PROVIDING A PERMANENT 'ON' POSITION SHALL NOT BE SUPPLIED. A CONSTANT CALL SHALL BE SIMULATED BY CONTINUOUSLY HOLDING THE BUTTON OR SWITCH IN THE ON POSITION.
3. EACH CABINET SHALL BE PROVIDED WITH A POLICE PANEL WHICH WILL INCLUDE A PUSHBUTTON WITH CORD AND THREE SWITCHES LABELED AUTO/FLASH, SIGNALS ON/OFF, AND AUTO/MANUAL. THE PUSHBUTTON CORD SHALL NOT BE WIRED THROUGH AN AC ISOLATOR, BUT SHALL BE CONNECTED TO THE CONTROLLER HARNESS WIRING BY A MOLEX PLUG CONNECTION. WHEN PLACED IN THE MANUAL POSITION, 'MANUAL CONTROL ENABLE' SHALL BE APPLIED TO THE CONTROLLER AND 'RECALL' SHALL BE APPLIED TO ALL PHASES. ACTIVATION OF THE PUSHBUTTON SHALL 'ADVANCE' THE CONTROLLER EXCEPT THAT MANUAL ADVANCEMENT WILL BE PROHIBITED IN THE MINIMUM GREEN, YELLOW AND RED INTERVALS.
4. AN ALUMINUM SHELF WITH INTEGRAL STORAGE COMPARTMENT SHALL BE PROVIDED IN THE RACK BELOW THE CONTROLLER. THE STORAGE COMPARTMENT WILL HAVE TELESCOPING DRAWER GUIDES FOR FULL EXTENSION. THE COMPARTMENT TOP SHALL HAVE A NON-SLIP PLASTIC LAMINATE ATTACHED.

TWO SETS OF CABINET WIRING DIAGRAMS, SERVICE MANUALS, PROGRAMMING AND MAINTENANCE INSTRUCTIONS SHALL BE FURNISHED FOR EACH CABINET AND EQUIPMENT ITEM. THE CABINET WIRING DIAGRAMS SHALL BE SUPPLIED IN A CLEAR PLASTIC POUCH FASTENED TO THE INSIDE OF THE CONTROLLER CABINET.

GENERATOR POWER PANEL:
THIS ITEM SHALL ALLOW SIGNAL ELECTRICIANS TO OPERATE THE TRAFFIC SIGNAL DURING POWER OUTAGES, WITHOUT OPENING THE CABINET DOOR OR CONNECTING OR DISCONNECTING PERMANENT POWER CABLES. THE ENCLOSURE SHALL BE INSTALLED ON THE POWER PANEL SIDE OF THE CONTROLLER CABINET. DESIGN AND LAYOUT OF THE CONTROLLER CABINET SHALL DETERMINE EXACT PLACEMENT OF THE ENCLOSURE BUT IT SHOULD BE PLACED NEAR THE TOP OF GROUND MOUNTED CABINETS AND ABOUT 5 FEET FROM THE GROUND ON POLE MOUNTED CABINETS. DETAIL DRAWING SHOWING THE ENCLOSURE, FRONT VIEW OF THE GENERATOR POWER PANEL AND THE ELECTRICAL HOOK-UP ARE INCLUDED IN THE SPECIFICATION. THE ENCLOSURE SHALL BE SEALED WITH A HIGH QUALITY SILICON CAULK AND ALL HOLES DRILLED INTO THE SIDE OF THE CONTROLLER CABINET SHALL BE CAULKED AND SEALED AFTER THE ELECTRICAL EQUIPMENT IS INSTALLED. ALL ELECTRICAL CONNECTIONS, SOLDERED OR SCREW TYPE TERMINALS, SHALL BE COVERED WITH A CLEAR SILICON CAULK.

THE GENERATOR INLET SHALL BE 30 AMP, LOCKING, FOUR WIRE GROUNDING AND MEET THE NEMA 114-30-P 30A 125/250V SPECIFICATION. THE INLET SHALL BE A HUBBLE CATALOG #2715.

THE LINE VOLTAGE GENERATOR SWITCH SHALL BE 30 AMP, 125/250V AC, TWO (2) POLE, THREE (3) POSITION, (ON, OFF, ON HUBBLE #1368).

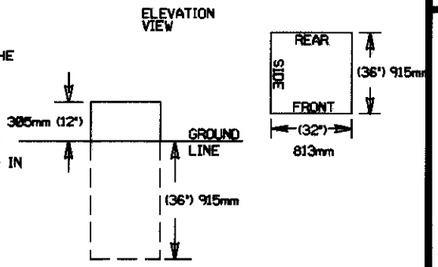
THE LINE VOLTAGE INDICATOR LIGHT SHALL BE 125V AC LIGHT EMITTING DIODE WITH A RED LENS.

THE LINE VOLTAGE CIRCUIT BREAKER SHALL BE SINGLE POLE SINGLE THROW AND A MINIMUM OF 30 AMPS. THE AMPERAGE SHALL BE INCREASED TO ACCOMMODATE GREATER LOADS, IF NECESSARY. THE GAUGE OF THE POWER CABLE SHALL BE OF PROPER SIZE PER THE NATIONAL ELECTRICAL CODE (NEC).

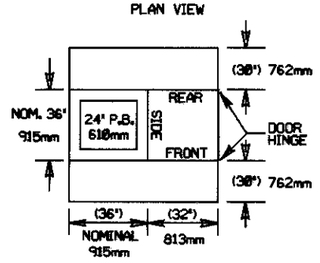
CABINET RISER:
AN ALUMINUM RISER SHALL BE PROVIDED WITH EACH BASE MOUNTED 336 CABINET WHICH WILL RAISE THE CABINET APPROXIMATELY (8") 203mm ABOVE THE CONCRETE FOUNDATION. THE BOTTOM OF THE RISER SHALL BOLT TO THE STANDARD CABINET FOUNDATION ANCHOR BOLTS AND THE TOP OF THE RISER SHALL BOLT TO THE BOTTOM OF THE CABINET. ALL NECESSARY BOLTS, WASHERS AND NUTS SHALL BE SUPPLIED.

PAYMENT
COST FOR ALL OF THE ABOVE INCLUDING LABOR, MATERIAL, TOOLS AND EQUIPMENT TO PROVIDE AND INSTALL A COMPLETELY OPERATIONAL CABINET AND CONTROLLER SHALL BE INCLUDED IN THE BID ITEM PRICE FOR 633 ITEM SPECIAL, CONTROLLER, MODEL 170E, WITH MODEL 336 CABINET AND ACCESSORIES.

(WHEN GROUND MOUNTING SPECIFIED)
336 CABINET FOUNDATION



336 CONTROLLER WORK PAD



NOTE: PULLBOX SHALL BE PLACED ON OPPOSITE SIDE OF DOOR HINGE

SEPARATE BID ITEMS:
625 PULLBOX, 713.08, 24"
633 CONTROLLER WORK PAD
633 CONC. FOR CAB. FOUNDATION

INPUT FILE TERMINAL ASSIGNMENT

TERM.	PIN	FUNCTION
1	SP	SPARE
2	F	CHANNEL 1 OUTPUT
3	W	CHANNEL 2 OUTPUT
4	D	CHANNEL 1 INPUT
5	E	CHANNEL 1 INPUT
6	J	CHANNEL 2 INPUT
7	K	CHANNEL 2 INPUT
8	L	EQUIPMENT GROUND

FRONT VIEW OF TOP INPUT FILE I

	SLOT 1	SLOT 2	SLOT 3	SLOT 4	SLOT 5	SLOT 6	SLOT 7	SLOT 8	SLOT 9	SLOT 10	SLOT 11	SLOT 12	SLOT 13	SLOT 14
Channel #1	1 EC	2 EC	3 EC	4 EC	5 EC	6 EC	7 EC	8 EC	PED. INHIB	EV-A	EV-B	2 PPB	6 PPB	FLSH
Field Term.	I 1-D,E	I 2-D,E	I 3-D,E	I 4-D,E	I 5-D,E	I 6-D,E	I 7-D,E	I 8-D,E	I 9-D,E	I 10-D,E	I 11-D,E	I 12-D,E	I 13-D,E	I 14-D,E
Channel #2	2 C	2 EC	4 C	4 EC	6 C	6 EC	8 C	8 EC	RR	EV-C	EV-D	4 PPB	8 PPB	STOP TIME
Field Term.	I 1-J,K	I 2-J,K	I 3-J,K	I 4-J,K	I 5-J,K	I 6-J,K	I 7-J,K	I 8-J,K	I 9-J,K	I 10-J,K	I 11-J,K	I 12-J,K	I 13-J,K	I 14-J,K

FRONT VIEW OF BOTTOM INPUT FILE J

C - INPUT ONLY DURING RED
EC - EXTEND AND CALL (RED, YELLOW, GREEN)
EXT - INPUT ONLY DURING GREEN

TERMINATION OF FIELD WIRING SHALL CONFORM TO THE ABOVE CHART. THE CONTRACTOR SHALL DUPLICATE THE INPUT ASSIGNMENT CHART AND INCLUDE IT IN THE CABINET DOCUMENTATION. THE CHART SHALL CLEARLY INDICATE WHICH INPUT FILE SLOTS AND CHANNEL TERMINALS ARE USED IN THE CABINET. A RED PEN SHALL BE USED TO CIRCLE SLOT NUMBERS AND CHANNEL TERMINALS THAT ARE USED.

08/12/98

CONTROLLER TYPE 170E WITH MODEL 336 CABINET AND ACCESSORIES

ATH-682-(5.86)(6.19)

6/17

MATERIAL SPECIFICATIONS FOR GENERATOR POWER PANEL EQUIPMENT

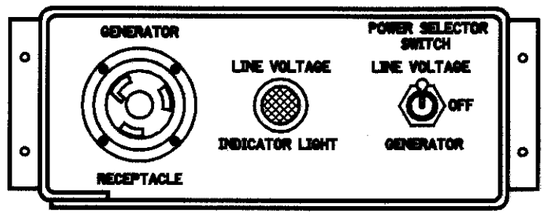
GENERATOR POWER PANEL ENCLOSURE - THIS ITEM CAN BE FABRICATED TO MEET THE ATTACHED SPECIFICATIONS, OR IT CAN BE PURCHASED THROUGH GAMMATRONIX AT 6879 SHIER RINGS ROAD, DUBLIN, OHIO 43017. PHONE (614) 889-2511.

GENERATOR RECEPTACLE - THE RECEPTABLE SHALL BE 15 amp. 125/250V, LOCKING, THREE (3) WIRE GROUNDING AND MEET THE NEMA CONFIGURATION NUMBER _____ 125/250 SPECIFICATIONS. THE RECEPTLE SHALL BE A HUBBELL CATALOG # 4718C

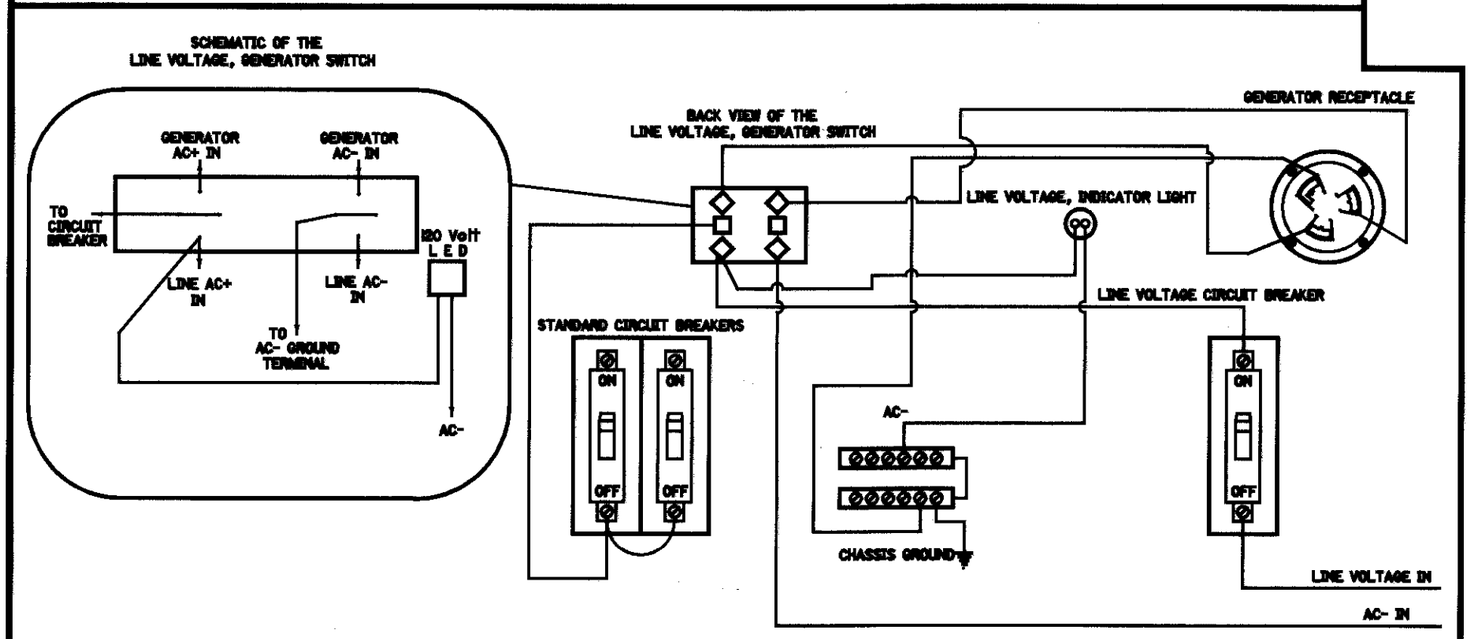
LINE VOLTAGE GENERATOR SWITCH - THE SWITCH SHALL BE 15 amp, 125/250V AC, TWO (2) POLE, THREE (3) POSITION (ON, OFF, ON, HUBBELL 1988).

LINE VOLTAGE INDICATOR LIGHT - THE INDICATOR LIGHT SHALL BE 125V AC LIGHT EMITTING DIODE WITH A RED LENS.

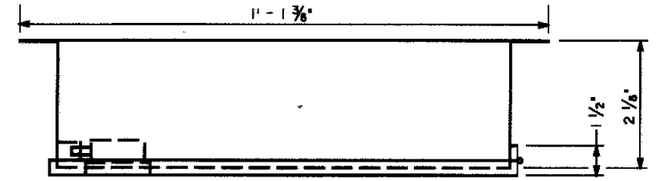
LINE VOLTAGE CIRCUIT BREAKER - THE CIRCUIT BREAKER SHALL BE SINGLE POLE SINGLE THROW AND A MINIMUM OF 30 amps. THE AMPERAGE SHALL BE INCREASED TO ACCOMMODATE GREATER LOADS, IF NECESSARY. THE GAUGE OF THE POWER CABLE SHALL BE OF PROPER SIZE PER THE N.E.C.



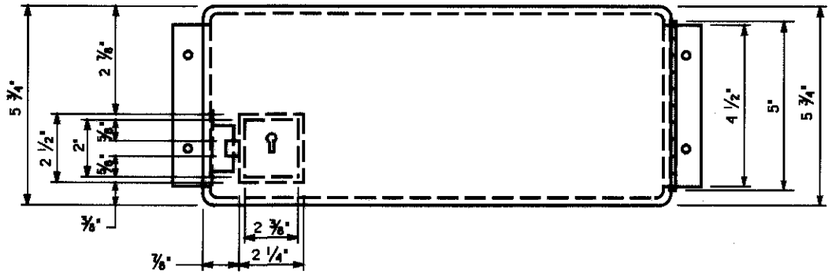
FRONT VIEW OF GENERATOR POWER PANEL



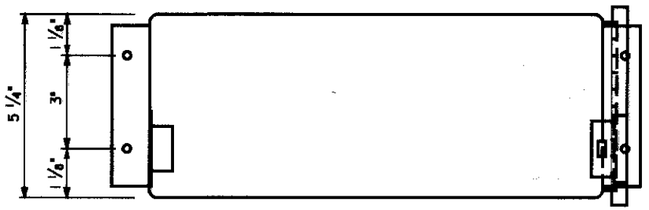
ELECTRICAL HOOK UP DETAIL FOR THE GENERATOR POWER PANEL



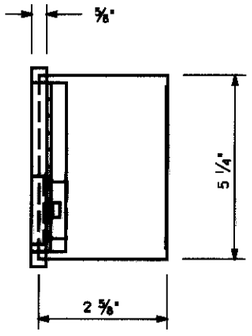
TOP VIEW



FRONT VIEW - CLOSED DOOR



FRONT VIEW - OPEN DOOR



RIGHT SIDE VIEW
CLOSED DOOR

GENERATOR POWER PANEL ENCLOSURE

NOTES

1. THE ENCLOSURE SHALL BE CONSTRUCTED OF 1 / 8 " THICK ALUMINUM.
2. THE LOCK SHALL BE THE STANDARD POLICE DOOR TYPE, KEYED WITH THE STANDARD FLASHER DOOR SKELETON KEY.
3. THE DOOR SHALL BE SEALED WITH A FOAM RUBBER GASKET TO PREVENT MOISTURE FROM ENTERING THE ENCLOSURE.
4. THE ENCLOSURE SHALL BE MOUNTED ONTO THE OUTSIDE OF THE CONTROLLER CABINET WITH NON-ACCESSIBLE BOLTS AND SEALED WITH A HIGH QUALITY SILICON CAULK AT ALL SURFACES TOUCHING THE CABINET.
5. THE HINGE SHALL BE OF STAINLESS STEEL OF EQUIVALENT CORROSIVE-RESISTANT MATERIAL.

DATE 1/94 REV. 6/94

GENERATOR POWER PANEL

ATH-682-(5.86)(6.19)

SHEET NUMBER										ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
						3	9	13							
						8				614	11100	8	HOURS	LAW ENFORCTMENT OFFICER WITH PATROL CAR	
							83	35		625	25303	118	LIN FT	CONDUIT, 1½ INCH, 713.07, TYPE DB, AS PER PLAN	
							28			625	25602	28	LIN FT	CONDUIT, 3 INCH, 713.07	
								37		625	25900	37	LIN FT	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3 INCH, 713.04	
							83	35		625	29000	118	LIN FT	TRENCH	
							28			625	29300	28	LIN FT	TRENCH IN PAVED AREA, TYPE A	
							3	2		625	30700	5	EACH	PULL BOX, 713.08, 18 INCH	
							3	2		625	32000	5	EACH	GROUND ROD	
							42	56		630	03100	98	LIN FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
							1	2		630	79000	3	EACH	SIGN HANGER ASSEMBLY, SPAN WIRE	
							2			630	79300	2	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
							32.5	38		630	80100	71	SQ FT	SIGN, FLAT SHEET	
							1	3		630	84900	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
							1	1		630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
							1	4		632	00301	5	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 12 INCH LENS, 1-WAY, AS PER PLAN	
								2		632	01101	2	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 12 INCH LENS, 2-WAY, AS PER PLAN	
							1			632	02201	1	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 12 INCH LENS, 3-WAY, AS PER PLAN	
							1			632	02901	1	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 12 INCH LENS, 4-WAY, AS PER PLAN	
							8	8		632	25000	16	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
							2			632	26000	2	EACH	PEDESTRAIN PUSH BUTTON	
							2	3		632	26500	5	EACH	DETECTOR LOOP	
								2		632	27004	2	EACH	LOOP DETECTOR UNIT	
							2			632	27009	2	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN	
							62	124		632	30200	186	LIN FT	MESSENGER WIRE, 7 STRAND, ⅜ INCH DIAMETER WITH ACCESSORIES	
							478	390		632	40500	868	LIN FT	SIGNAL CABLE, 5 CONDUCTOR, NO.14 AWG	
							100	113		632	40700	213	LIN FT	SIGNAL CABLE, 7 CONDUCTOR, NO.14 AWG	
							2	2		632	64000	4	EACH	STRAIN POLE FOUNDATION	
							1			632	64020	1	EACH	PEDESTAL FOUNDATION	
							215	139		632	65300	354	LIN FT	LOOP DETECTOR LEAD IN CABLE, 2 CONDUCTOR, NO. 14 AWG	
							35	35		632	68300	70	LIN FT	POWER CABLE, 3 CONDUCTOR, NO.6 AWG	
							25	480		632	69800	505	LIN FT	SERVICE CABLE, 3 CONDUCTOR, NO.6 AWG	
							1	1		632	70000	2	EACH	POWER SERVICE	
							2	1		632	83504	3	EACH	STRAIN POLE, TYPE TC-8IJO, DESIGN 7, INSTALLATION ONLY	
								1		632	83506	1	EACH	STRAIN POLE, TYPE TC-8IJO, DESIGN 10, INSTALLATION ONLY	
								1		632	89300	1	EACH	WOOD POLE	
							1			632	89900	1	EACH	PEDESTAL, 8 FOOT, TRANSFORMER BASE	
							1	1		633	39200	2	EACH	CONTROLLER, TYPE 170E, WITH MODEL 336 CABINET AND ACCESSORIES	
							7.5	7.5		633	70500	15	SQ FT	CONTROLLER WORK PAD	
							56	52		644	00500	108	LIN FT	STOP LINE	
							148			644	00600	148	LIN FT	CROSSWALK LINE	
										614	11000	LUMP		MAINTAINING TRAFFIC	
										623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
										624	10000	LUMP		MOBILIZATION	

DESIGNED GMS
DRAWN JDC

GENERAL SUMMARY

ATH-682-(5.86)(6.19)

REF NO.	LOCATION	SIGN CODE	SIZE	625 GROUND ROD EACH	630 SIGN HANGER ASSEMBLY, SPAN WIRE EACH	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	630 GROUND MOUNTED SUPPORT, NO.3 POST LIN FT	630 SIGN, FLAT SHEET SQ FT	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	632 STRAIN POLE, TYPE TC-81.10, DESIGN 7, INSTALLATION ONLY EACH	632 VEHICULAR SIGNAL HEAD, 3 SECTION, 12 INCH LENS, 1-WAY, AS PER PLAN EACH	632 VEHICULAR SIGNAL HEAD, 3 SECTION, 12 INCH LENS, 3-WAY, AS PER PLAN EACH	632 VEHICULAR SIGNAL HEAD, 3 SECTION, 12 INCH LENS, 4-WAY, AS PER PLAN EACH	632 COVERING OF VEHICULAR SIGNAL HEAD EACH	632 POWER SERVICE EACH	632 SERVICE CABLE, 3 CONDUCTOR, NO.6 AWG LIN FT	632 POWER CABLE, 3 CONDUCTOR, NO.6 AWG LIN FT	632 MESSENGER WIRE, 7 STRAND, ¾ INCH DIA WITH ACCESSORIES LIN FT	632 SIGNAL CABLE, 5 CONDUCTOR, NO.14 AWG LIN FT	632 SIGNAL CABLE, 7 CONDUCTOR, NO.14 AWG LIN FT	632 STRAIN POLE FOUNDATION EACH	633 CONTROLLER WORK PAD SQ FT
SP-1	S.R. 682 STA 275+76, 30' LT			1							1					1	25	35					1	7.5
SP-2	S.R. 682 STA 276+08, 24' RT			1							1												1	
	SP1 TO SP2											1	1	1	8				62	478	100			
PPB	S.R. 682 STA 275+55, 20' RT			1																				
S-1	POSTON RD STA 0+57 LT	R-1-30	30 X 30						1	1														
S-2	POSTON RD STA 0+85 LT	R-4L-24	24 X 36				14	9																
S-3	S.R. 682 STA 270+50 RT	W-47-36	36 X 36				14	9																
S-4	S.R. 682 STA 281+00 LT	W-47-36	36 X 36				14	9																
S-5	MESSENGER WIRE	R-23-24	24 X 24		1			4																
S-6	S.R. 682 STA 275+76, 30' LT	R-73B-9	9 X 12			1		0.75																
S-7	S.R. 682 STA 275+55, 20' RT	R-73B-9	9 X 12			1		0.75																
TOTALS CARRIED TO GENERAL SUMMARY				3	1	2	42	32.5	1	1	2	1	1	1	8	1	25	35	62	478	100	2	7.5	

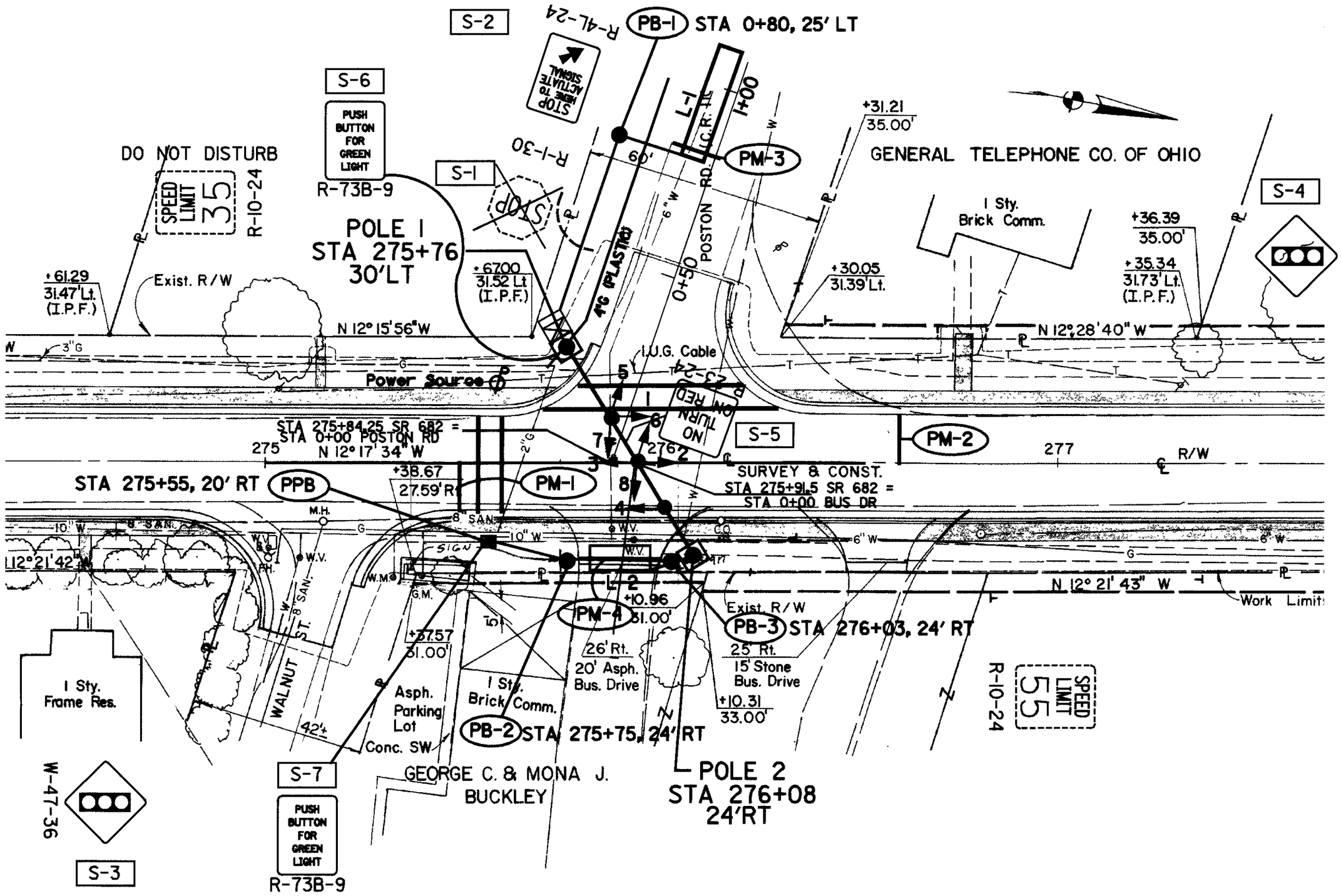
REF NO.	LOCATION	625 PULL BOX, 713.08, 18 INCH EACH	625 TRENCH IN PAVED AREA, TYPE A LIN FT	625 CONDUIT, 1½ INCH, 713.07, TYPE DB, AS PER PLAN LIN FT	625 CONDUIT, 3 INCH, 713.07 LIN FT	625 TRENCH LIN FT	632 DETECTOR LOOP EACH	632 LOOP DETECTOR LEAD-IN CABLE LIN FT	632 LOOP DETECTOR UNIT DELAY & EXTENSION TYPE, AS PER PLAN EACH	632 PEDESTRIAN PUSH BUTTON EACH	632 PEDESTAL FOUNDATION EACH	632 PEDESTAL, 8 FOOT, TRANSFORMER BASE EACH	633 CONTROLLER, TYPE 170E, WITH MODEL 336 CABINET AND ACCESSORIES EACH	644 STOP LINE LIN FT	644 CROSSWALK LINE LIN FT	
PB-1	POSTON RD STA 0+60, 20' LT	1														
PB-2	S.R. 682 STA 275+75, 24' RT	1														
PB-3	S.R. 682 STA 276+03, 24' RT	1														
SP-1	S.R. 682 STA 275+76, 30' LT									1			1			
	PB-1 TO SP-1			56		56										
L-1	POSTON RD STA 0+60						1	73	1							
L-2	BUSINESS DR STA 0+20						1	142	1							
PPB	S.R. 682 STA 275+55, 20' RT									1	1	1				
	PPB TO PB-2			21		21										
	PB-2 TO PB-3		28		28											
	PB-3 TO SP-2			6		6										
	PPB TO SP-1													12		
PM-1	S.R. 682 STA 275+50														48	
	S.R. 682 STA 275+55													12		
PM-2	S.R. 682 STA 276+60													12		
PM-3	POSTON RD STA 0+65														100	
	POSTON RD STA 0+14													20		
PM-4	BUS DR STA 0+24															
TOTALS CARRIED TO GENERAL SUMMARY		3	28	83	28	83	2	215	2	2	1	1	1	56	148	

DESIGNED GNS
DRAWN JDC
CHECKED

SR 682 & POSTON ROAD TRAFFIC SIGNAL SUBSUMMARY

ATH-682-(5.86)(6.19)

9
15



W-47-36

HORIZONTAL SCALE IN FEET

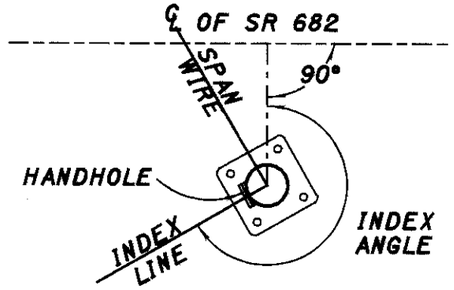
DESIGNED GRS
DRAWN JDC

SR 682 & POSTON ROAD SIGNAL DETAILS

ATH-682-(5.86)(6.19)

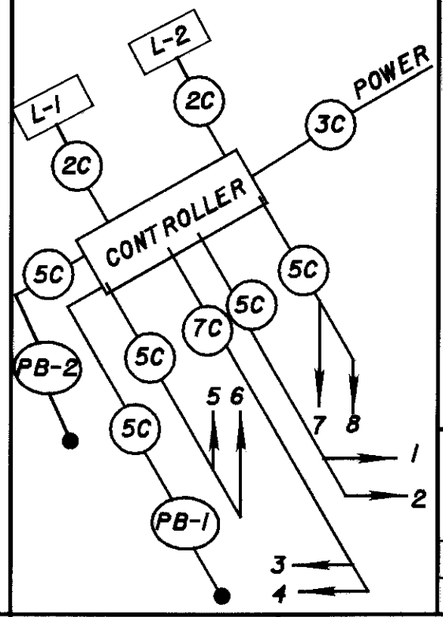
16
17

POLE DIAGRAM

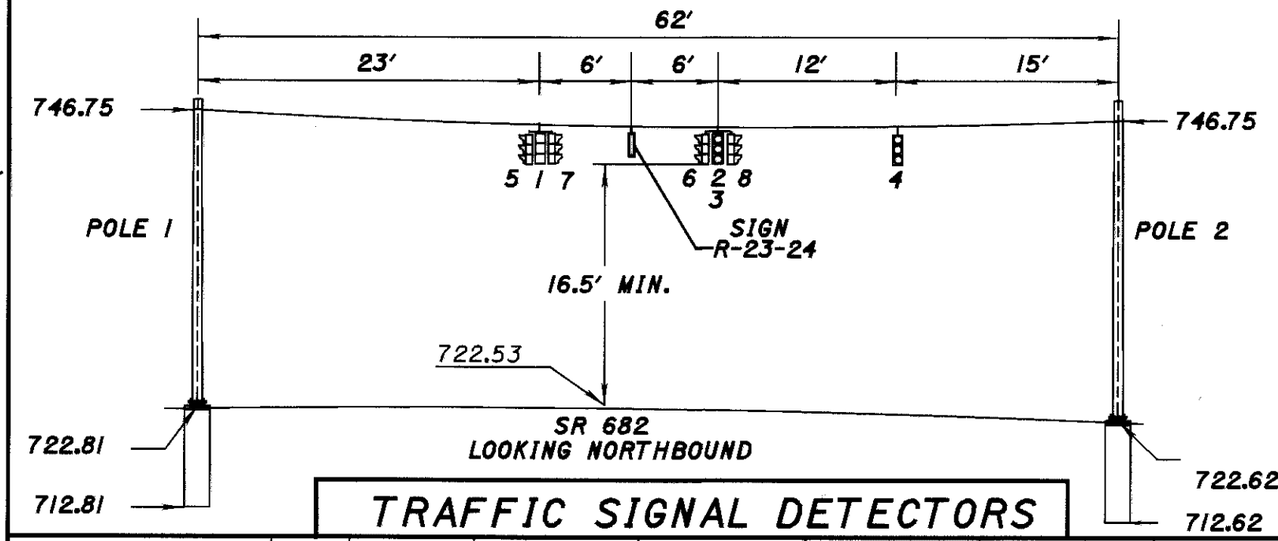


NOTE:
1. ALL ANGLES MEASURED CLOCKWISE
2. INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE

WIRING DIAGRAM



ELEVATION VIEW



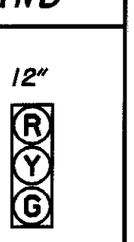
TRAFFIC SIGNAL DETECTORS

STATION LOCATION	LOOP NO	SIZE	SHAPE	PULSE OR PRESENCE	CONNECT TO DETECTOR UNIT No	DELAY	ASSOCIATED CONTROLLER PHASE
0+80 POSTON RD	L-1	8' x 30'	RECTANGLE	PRESENCE	1		4
0+20 BUSINESS DR	L-2	6' x 16'	RECTANGLE	PRESENCE	2	5 SEC	8

COLOR SEQUENCE CHART

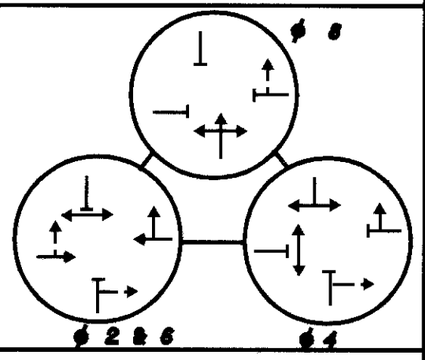
INDICATIONS FACINGS	No	ϕ 2 & 6			ϕ 4			ϕ 8		
		1	2	3	4	5	6	7	8	9
SOUTH BOUND S.R. 682	1	G	Y	R	R	R	R	R	R	R
	2	G	Y	R	R	R	R	R	R	R
NORTH BOUND S.R. 682	3	G	Y	R	R	R	R	R	R	R
	4	G	Y	R	R	R	R	R	R	R
EAST BOUND C.R. 110	5	R	R	R	G	Y	R	R	R	R
	6	R	R	R	G	Y	R	R	R	R
WEST BOUND BUS. DR.	7	R	R	R	R	R	R	G	Y	R
	8	R	R	R	R	R	R	G	Y	R

SIGNAL IND



1-2-3-4
5-6-7-8

PHASING DIAGRAM



TIMING

NOTE
FOR TIMING SEE SHEET 12

POLE ORIENTATION CHART

POLE	STATION	OFFSET	INDEX LINE ANGLE	ANGLES FROM INDEX LINE			
				SIGNAL CABLE ENTRANCE	CONTROLLER	POWER SERVICE	2" CAPPED CONDUIT ELL (FUTURE USE)
1	275+76	30' Lt	237°	90°	270°	270°	90°
2	276+08	24' Rt	237°	90°			90°

POLE 1: STRAIN POLE, TYPE TC-81.10, DESIGN 7

POLE 2: STRAIN POLE, TYPE TC-81.10, DESIGN 7

DESIGNED GRS
DETAILED
CHECKED JDC

SR 682 & POSTON ROAD SIGNAL DETAILS

ATH-682-(5.86)(6.19)

11
17

TABLE 1 - PHASE FUNCTION, PHASE TIMING

FUNCTION	K	1	2	3	4	5	6	7	8
Vehicle Recall	0								
Ped. Recall	1								
Red Lock	2								
Yellow Lock	3								
Permit Phase	4		X		X		X		X
Ped. Phase	5				X				
Lead Phase	6	X		X		X		X	
Double Entry	7								
Seq. Timing	8								
Start-Up Green	9		X				X		
Overlap A	A								
Overlap B	B								
Overlap C	C								
Overlap D	D								
Exclusive Phase	E				X				X
Simultaneous Gap	F								

Phase • Key

FUNCTION	K	PHASE 1	2	3	4	5	6	7	8
MAX. I	0		48		30		48		15
MAX. II/HFDW	1								
Walk	2				5				
Flash DW	3				10				
Maximum Initial	4		10		10		10		10
Minimum Green	5								
Time Before Reduc.	6								
Time to Reduce	7								
Gap Observe	8	///	///	///	///	///	///	///	///
Passage	9				3.0				3.0
Minimum Gap	A				3.0				3.0
Added Actuation	B								
Yellow	C		4		4		4		3
Red Clear	D		2		2		2		2
Red Revert	E								
Walk II	F								

TABLE 2 - MISCELLANEOUS

FUNCTION	K	VALUE
Short Power Down	0	
Long Power Down	1	
RR Delay Type	6	
Ped. Inhibit	7	
OLA Green	8	
OLA Yellow	9	
OLB Green	A	
OLB Yellow	B	
OLC Green	C	
OLC Yellow	D	
OLD Green	E	
OLD Yellow	F	

C • F • Key

FUNCTION	K	V
Page ID	0	
OLA Red	4	
OLB Red	5	
OLC Red	6	
OLD Red	7	

Phase No. Use OAD Lis.

FUNCTION	K	1	2	3	4	5	6	7	8
Overlap E	8								
Overlap F	9								
Red Rest	A								
Maximum Recall	B		X				X		
Flash Green	C								
Flash Walk	D								
Advance Walk	E								
Restrictive Phase	F								

TABLE 3

E • Key

FUNCTION	K	V
OL Red Revert	8	
RR Delay	9	
RR Clear	A	

Phase No. Use OAD Lis.

FUNCTION	K	1	2	3	4	5	6	7	8
RR Clear Phase	B								
RR Permit	C								
RR OL Permit	D								
NEMA Hold Phase	E								

C • Key

FUNCTION	K	V
Trips on Flash	8	2

Phase No. Use OAD Lis.

FUNCTION	K	1	2	3	4	5	6	7	8
Start Up Yellow	9								
Handicap Ped	E								

TABLE 4 - MODEL 336 CABINET DETECTOR MAP

The 336 cabinet has one input file. NOTE: The "key" column numbers are not sequential, the channel labels are.

D • column • key

[illegible]	[illegible]	2 PHASE	2 TIME	3 PHASE	3 TIME	4 PHASE	4 TIME	5 PHASE	5 TIME
0	Upper 1	1 E/C		/////	/////	1 E/C		/////	/////
6	Lower 1	2 Call		/////	/////	-----		/////	/////
2	Upper 2	2 E/C		/////	/////	2 E/C		/////	/////
3	Lower 2	2 E/C		/////	/////	2 E/C		/////	/////
7	Upper 3	3 E/C		/////	/////	3 E/C		/////	/////
D	Lower 3	4 Call		/////	/////	-----		/////	/////
9	Upper 4	4 E/C		/////	/////	4 E/C		/////	/////
A	Lower 4	4 E/C		/////	/////	4 E/C		/////	/////
0	Upper 5	/////	/////	7 E/C		/////	/////	7 E/C	
6	Lower 5	/////	/////	6 Call		/////	/////	-----	
2	Upper 6	/////	/////	6 E/C		/////	/////	6 E/C	
3	Lower 6	/////	/////	6 E/C		/////	/////	6 E/C	
7	Upper 7	/////	/////	7 E/C		/////	/////	7 E/C	
D	Lower 7	/////	/////	8 Call		/////	/////	-----	
9	Upper 8	/////	/////	8 E/C	5	/////	/////	8 E/C	
A	Lower 8	/////	/////	8 E/C		/////	/////	8 E/C	

E/C = Extend and Call

TABLE 5 - TIME CLOCK CONTROL

A • CODE

EVENT NO.	S 1	M 2	T 3	W 4	T 5	F 6	S 7	HR	MIN	FUNC
1	80							81	82	83
	X	X	X	X	X	X	X	0	1	1
	84							85	86	87
	88							89	8A	8B
	8C							8D	8E	8F
	90							91	92	93
	94							95	96	97
	98							99	9A	9B
	9C							9D	9E	9F
	A0							A1	A2	A3
	A4							A5	A6	A7

TABLE 6

B • 0 • Key

FUNCTION	K	V
Mode (0 - 4)	4	1
Master (0 = OFF)	5	

Phase No. Use OAD Lis.

FUNCTION	K	1	2	3	4	5	6	7	8
Future	C								
NEMA CNA Phase	D								
Adv Warning Phase	E								
MRI Phase	F								

D • Key 1 • Key 2

FUNCTION	K	V
Floating Ped	2E	
ID Number	2F	
No Coord Ped Recall	3E	
Rest In Walk	3F	
Adv Warn EoG	4E	
Adv Warn SoG	4F	
RR Red Clear	5E	
RR Clear Color	5F	

TABLE 7 - COORDINATION TIMING

8 • Plan • Key

FUNCTION	K	PLAN 1	2	3	4
Cycle Length	0	110			
Forceoff 01	1				
Forceoff 02	2				
Forceoff 03	3				
Forceoff 04	4	36			
Forceoff 05	5				
Forceoff 06	6				
Forceoff 07	7				
Forceoff 08	8	57			
Offset	9	55			
Perm. Length	A	10			
Max Dwell	B	30			

FUNCTION	K	1	2	3	4	5	6	7	8
PLAN 1									
Lead Ph. S	C	X		X		X		X	
Coord. Ph. S	D		X				X		
Perm. 2 Ph. S	E								
Min. Recall	F								
PLAN 2									
Lead Ph. S	C								
Coord. Ph. S	D								
Perm. 2 Ph. S	E								
Min. Recall	F								
PLAN 3									
Lead Ph. S	C								
Coord. Ph. S	D								
Perm. 2 Ph. S	E								
Min. Recall	F								
PLAN 4									
Lead Ph. S	C								
Coord. Ph. S	D								
Perm. 2 Ph. S	E								
Min. Recall	F								

Phase No. Use OAD Lis.

TABLE 8

B • A • Key

FUNCTION	K	V
Perm. 2 P1	9	
Perm. 2 P2	A	
Perm. 2 P3	B	

Phase No. Use OAD Lis.

FUNCTION	K	1	2	3	4	5	6	7	8
Flash Yellow	C								
Flash Circuit	D								
TOD/DOW Ped	E								
OLB Switchpack	F								

B • B • Key

FUNCTION	K	V
Perm. 2 P4	9	
Perm. 2 P5	A	
Perm. 2 P6	B	

Phase No. Use OAD Lis.

FUNCTION	K	1	2	3	4	5	6	7	8
OL Flash Yel.	C								
OL Flash Clear	D								
TOD/DOW Ped	E								
OLC Switchpack	F								

B • C • Key

FUNCTION	K	V
Perm. 2 P7	9	
Perm. 2 P8	A	
Perm. 2 P9	B	

Phase No. Use OAD Lis.

FUNCTION	K	1	2	3	4	5	6	7	8
Coord Max	C		X				X		
TOD Red Rest	D								
OLA Switchpack	E								
OLD Switchpack	F								

TABLE 9 - INPUT REASSIGNMENT

A • 4 • Key

CI PIN	K	CODE
39	0	
40	1	
41	2	
42	3	
43	4	
44	5	
45	6	
46	7	
47	8	
48	9	
49	A	
50	B	
51	C	
52	D	
53	E	
54	F	

A • 5 • Key

CI PIN	K	CODE
55	0	
56	1	
57	2	
58	3	
59	4	
60	5	
61	6	
62	7	
	8	
	9	
	A	
	B	
63	C	
64	D	
65	E	
66	F	

A • 6 • Key

CI PIN	K	CODE
67	0	
68	1	
69	2	
70	3	
71	4	
72	5	
73	6	
74	7	
75	8	
76	9	
77	A	
78	B	
79	C	
80	D	
81	E	
82	F	

TABLE 10 - OUTPUT REASSIGNMENT

A • 0 • Key

FUNCTION	K	CODE
04 D/W	0	
04 WALK	1	
04 RED	2	
04 YEL	3	
04 GRN	4	
03 RED	5	
03 YEL	6	
03 GRN	7	
02 D/W	8	
02 WALK	9	
02 RED	A	
02 YEL	B	
02 GRN	C	
01 RED	D	
01 YEL	E	
01 GRN	F	

A • 1 • Key

FUNCTION	K	CODE
08 D/W	0	
08 WALK	1	
08 RED	2	
08 YEL	3	
08 GRN	4	
07 RED	5	
07 YEL	6	
07 GRN	7	
06 D/W	8	
06 WALK	9	
06 RED	A	
06 YEL	B	
06 GRN	C	
05 RED	D	
05 YEL	E	
05 GRN	F	

A • 2 • Key

FUNCTION	K	CODE
02 PED Y	0	
06 PED Y	1	
04 PED Y	2	
08 PED Y	3	
03 PED Y	4	
01 PED Y	5	
FLASH	6	
WATCHDOG	7	
03 D/W	8	
03 WALK	9	
OLD RED	A	
OLD YEL	B	
OLD GRN	C	
OLC RED	D	
OLC YEL	E	
OLC GRN	F	

A • 3 • Key

FUNCTION	K	CODE
01 D/W	0	
01 WALK	1	
OLB RED	2	
OLB YEL	3	
OLB GRN	4	
OLA RED	5	
OLA YEL	6	
OLA GRN	7	
	8	
SD	9	
LTT	A	2

TABLE 11 - EXTENDED OUTPUT REASSIGNMENT

D • 8 • 0 • Key

FUNCTION	K	V
05 D/W	0	
05 WALK	1	
OLL RED	2	
OLL YELLOW	3	
OLL GREEN	4	
OLK RED	5	
OLK YELLOW	6	
OLK GREEN	7	
07 D/W	8	
07 WALK	9	
OLJ RED	A	
OLJ YELLOW	B	
OLJ GREEN	C	
OLH RED	D	
OLH YELLOW	E	
OLH GREEN	F	

D • 8 • 1 • Key

FUNCTION	K	V
OLE GREEN	0	
OLF GREEN	1	
OLE YELLOW	2	
OLF YELLOW	3	
ADV WARNING	4	
RR FL YELLOW	5	
DET. RESET	6	
RR ON	7	

D • 8 • 2 • Key

FUNCTION	K	V
CYCLE 2	0	
CYCLE 3	1	
OFFSET 1	2	
OFFSET 2	3	
OFFSET 3	4	
————	5	
FREE	6	
FLASH	7	

TABLE 13 - PED. PERMISSIVE

E • F • Key

FUNCTION	K	V
RR MAX II	0	
PED PERM PI 1	1	
PED PERM PI 2	2	
PED PERM PI 3	3	
PED PERM PI 4	4	
PED PERM PI 5	5	
PED PERM PI 6	6	
PED PERM PI 7	7	
PED PERM PI 8	8	
PED PERM PI 9	9	

TABLE 14 - COMMAND BOX

KEYSTROKES
D • 9 • Key1 • Key2

[illegible]	V
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

[illegible]	V
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

TABLE 15 - COMMAND BOX OUTPUT

D • 8 • 3 • Key

FUNCTION	K	V
CB OUTPUT #1	0	
CB OUTPUT #2	1	
CB OUTPUT #3	2	
CB OUTPUT #4	3	
CB OUTPUT #5	4	
CB OUTPUT #6	5	
CB OUTPUT #7	6	
CB OUTPUT #8	7	
CB FLSH OUTPUT #9	8	
CB FLSH OUTPUT #10	9	
CB FLSH OUTPUT #11	A	
CB FLSH OUTPUT #12	B	

CALCULATED JDC CHECKED

DATE

WAPITI SOFTWARE INTERSECTION TIMING - 336 CABINET
DISTRICT: 10 LOCATION: S.R. 682 & POSTON RD.

ATH-682-(5.86)(6.19)

REF NO.	LOCATION	SIGN CODE	SIZE	625 GROUND ROD EACH	625 SIGN, FLAT SHEET SQ FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST LIN FT	630 SIGN HANGER ASSEMBLY, SPAN WIRE EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	632 STRAIN POLE, TYPE TC-6.10, DESIGN 7, INSTALLATION ONLY EACH	632 STRAIN POLE, TYPE TC-6.10, DESIGN 10, INSTALLATION ONLY EACH	632 VEHICULAR SIGNAL HEAD, 3 SECTION, 12 INCH LENS, 1-WAY, AS PER PLAN EACH	632 VEHICULAR SIGNAL HEAD, 3 SECTION, 12 INCH LENS, 2-WAY, AS PER PLAN EACH	632 COVERING OF VEHICULAR SIGNAL HEAD EACH	632 POWER SERVICE EACH	632 SERVICE CABLE, 3 CONDUCTOR, NO.6 AWG LIN FT	632 POWER CABLE, 3 CONDUCTOR, NO.6 AWG LIN FT	632 MESSENGER WIRE, 7 STRAND, 3/8 INCH DIA WITH ACCESSORIES LIN FT	632 SIGNAL CABLE, 5 CONDUCTOR, NO.14 AWG LIN FT	632 SIGNAL CABLE, 7 CONDUCTOR, NO.14 AWG LIN FT	632 STRAIN POLE FOUNDATION EACH	633 CONTROLLER WORK PAD SQ FT	633 CONTROLLER, TYPE 170E, WITH MODEL 336 CABINET AND ACCESSORIES EACH
SP-3	S.R. 682 STA 4+82, 40' LT			1						1					1	480	35				1	7.5	1
SP-4	S.R. 682 STA 5+76, 38' RT			1							1										1		
	SP-3 TO SP-4											4	2	8				124	390	113			
S-8	S.R. 682 STA 0+00 RT	W-17-36	36 X 36		9	14																	
S-9	TWP. RD. STA 0+40 LT,	R-1-30	30 X 30					1	1														
S-10	TWP. RD. STA 0+55 LT.	R-4L-24	24 X 36		6	14																	
S-11	U.S.R. 33 OFF RAMP STA 0+40 LT,	R-1-36	36 X 36					1															
S-12	S.R. 682 STA 1+50 LT	R-4L-24	24 X 36		6	14																	
S-13	U.S.R. 33 OFF RAMP STA 0+40 RT,	R-1-36	36 X 36					1															
S-14	U.S.R. 33 OFF RAMP STA 0+40 LT,	W-17-36	36 X 36		9	14																	
S-15	MESSENGER WIRE	R-23-24	24 X 24		4		1																
S-16	MESSENGER WIRE	R-23-24	24 X 24		4		1																
TOTALS CARRIED TO GENERAL SUMMARY				2	38	56	2	3	1	1	1	4	2	8	1	480	35	124	390	113	2	7.5	1

REF NO.	LOCATION	SIZE	625 PULL BOX, 713.08, 18 INCH EACH	625 CONDUIT, 1½ INCH, 713.07 TYPE DB, AS PER PLAN LIN FT	625 CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3 INCH, 713.04 LIN FT	625 TRENCH LIN FT	632 WOOD POLE EACH	632 DETECTOR LOOP EACH	632 LOOP DETECTOR LEAD-IN CABLE LIN FT	632 LOOP DETECTOR UNIT EACH	644 STOP LINE LIN FT
PB-4	S.R. 682 STA 5+13 41' LT		1								
PB-5	S.R. 682 STA 5+41 25' LT		1								
SP-3	S.R. 682 STA 4+82, 40' LT										
	PB-2 TO PB-3				37						
	PB-3 TO SP-3			35		35					
L-3	TWP. RD. STA 0+50							1	51	1	
L-4	U.S.R. 33 OFF RAMP STA 0+30							1	88	1	
L-5	U.S.R. 33 OFF RAMP STA 0+35							1			
	S.R. 682 STA 2+25						1				
PM-5	S.R. 682 STA 4+75										12
PM-6	S.R. 682 STA 6+35										12
PM-7	TWP. RD. STA 0+55										10
PM-8	U.S.R. 33 OFF RAMP STA 0+40										18
TOTALS CARRIED TO GENERAL SUMMARY			2	35	37	35	1	3	139	2	52

SR 682 & USR 33 RAMPS TRAFFIC SIGNAL SUBSUMMARY

CALCULATED GRS
CHECKED JDC

ATH-682-(5.86)(6.19)

NOTE

Loops 4 and 5 shall be connected in series.

PB-4
STA 5+13, 47' LT

POLE 3
STA 4+82
40'LT

S-9
R-1-30

S-10
R-4L-24
STOP MAKE TO ACTUATE SIGNAL

S-11
R-1-36
R-43L-48
ONE WAY
DO NOT ENTER
R-41B-36

S-12
R-4L-24
STOP MAKE TO ACTUATE SIGNAL

S-13
R-1-36
DO NOT ENTER
R-41B-36

S-14
W-47-36
STA 11+50

L-3
L-4
L-5
0+50
TWP RD
USR 33 OFF RAMP

PM-7
PB-5
PM-8
PM-6
PM-5

STA 5+13, 47' LT

6+00
7+00
STA 5+75 SR 682 =
STA 0+00 USR 33 RAMPS
12'
12'

5+00
STA 5+00 SR 682 =
STA 0+00 TWP RD

4+00
SR 682

R-23-24
NO TURN ON RED

S-15
S-16

USR 33 ON RAMP

POLE 4
STA 5+78
38'RT

M-52A-108

EAST 33 WEST

33 WEST
Logan
GH-1

Proposed Wood Pole
Sta 2+25 (+/-)

SPEED LIMIT 35
R-10-24

NORTH
M-37-24

682
M-2-24-3

DOVER TOWNSHIP
TOWNSHIP ROAD
D-7-48

Power Source
Sta 0+00 Rt (+/-)

W-47-36
STA 0+00

S-8

1 2 3 4 5 6 7 8

HORIZONTAL SCALE IN FEET

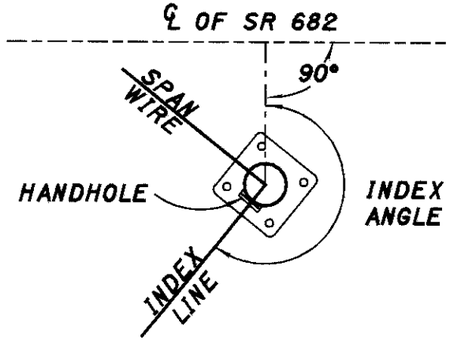
DESIGNED GRS
DRAWN JDC

SR 682 & USR 33 RAMPS SIGNAL DETAILS

ATH-682-(5.86)(6.19)

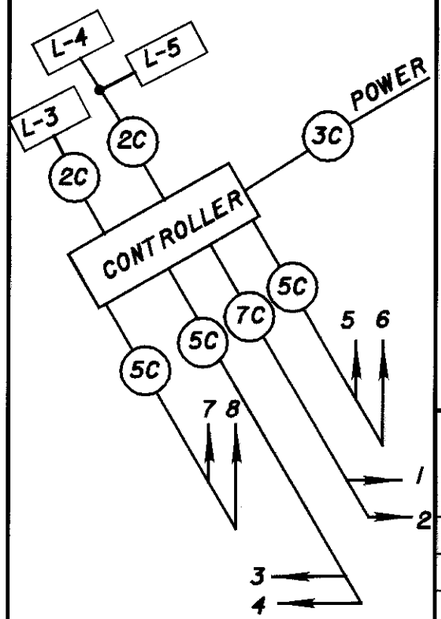
14

POLE DIAGRAM

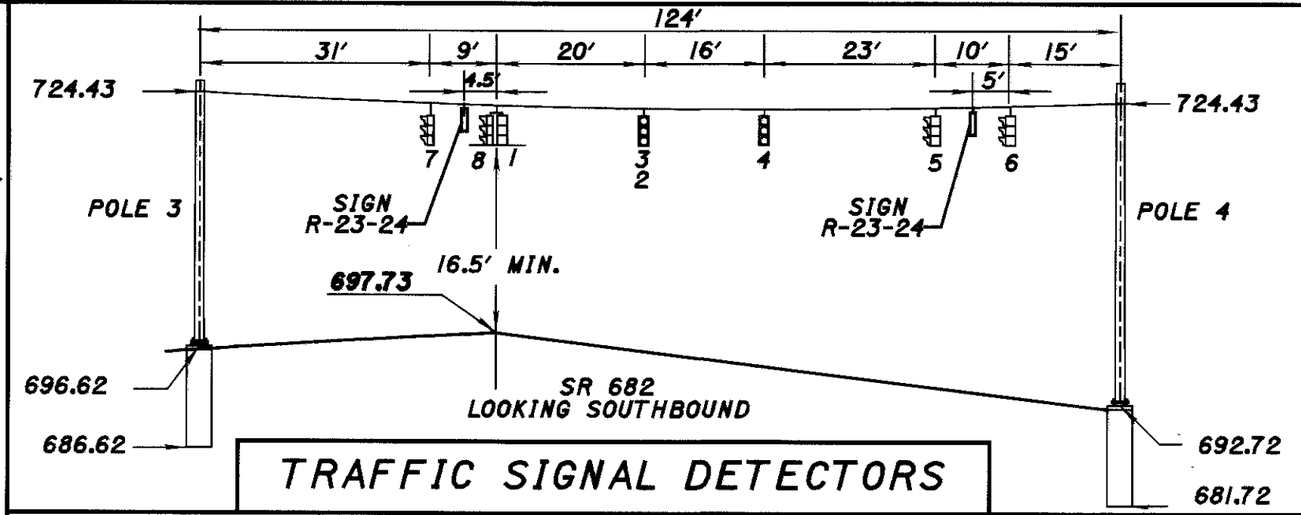


NOTE:
1. ALL ANGLES MEASURED CLOCKWISE
2. INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE

WIRING DIAGRAM



ELEVATION VIEW



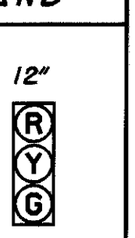
TRAFFIC SIGNAL DETECTORS

STATION LOCATION	LOOP NO	SIZE	SHAPE	PULSE OR PRESENCE	CONNECT TO DETECTOR UNIT No	ASSOCIATED CONTROLLER PHASE
0+50 TWP RD	L-3	6' x 30'	RECTANGLE	PRESENCE	3	4
0+30 OFF RAMP	L-4	6' x 30'	RECTANGLE	PRESENCE	4	8
0+35 OFF RAMP	L-5	6' x 30'	RECTANGLE	PRESENCE	4	8

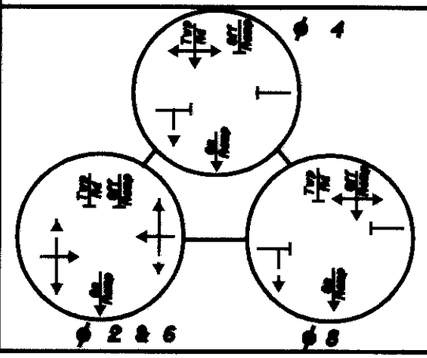
COLOR SEQUENCE CHART

INDICATIONS FACINGS	No	ϕ 2 & 6			ϕ 8			ϕ 4		
		1	2	3	4	5	6	7	8	9
SOUTH BOUND S.R. 682	1	G	Y	R	R	R	R	R	R	R
	2	G	Y	R	R	R	R	R	R	R
NORTH BOUND S.R. 682	3	G	Y	R	R	R	R	R	R	R
	4	G	Y	R	R	R	R	R	R	R
WEST BOUND USR 33 RAMP	5	R	R	R	G	Y	R	R	R	R
	6	R	R	R	G	Y	R	R	R	R
WEST BOUND TWP. RD.	7	R	R	R	R	R	R	G	Y	R
	8	R	R	R	R	R	R	G	Y	R

SIGNAL IND



PHASING DIAGRAM



TIMING

NOTE
FOR TIMING SEE SHEET 16

POLE ORIENTATION CHART

POLE	STATION	OFFSET	INDEX LINE ANGLE	ANGLES FROM INDEX LINE			
				SIGNAL CABLE ENTRANCE	CONTROLLER	POWER SERVICE	2" CAPPED CONDUIT ELL (FUTURE USE)
3	4+82	40' Lt	227°	85°	270°	270°	90°
4	5+78	38' Rt	125°	180°			180°

POLE 3: STRAIN POLE, TYPE TC-81.10, DESIGN 7

POLE 4: STRAIN POLE, TYPE TC-81.10, DESIGN 10

DESIGNED GRS
DRAWN JDC

SR 682 & USR 33 RAMPS SIGNAL DETAILS

ATH-682-(5.86)(6.19)

15
17

TABLE 1 - PHASE FUNCTION, PHASE TIMING

Function	K	1	2	3	4	5	6	7	8
Vehicle Recall	0								
Ped. Recall	1								
Red Lock	2								
Yellow Lock	3								
Permit Phase	4		X		X		X		X
Ped. Phase	5								
Lead Phase	6	X		X		X		X	
Double Entry	7								
Seq. Timing	8								
Start-Up Green	9		X				X		
Overlap A	A								
Overlap B	B								
Overlap C	C								
Overlap D	D								
Exclusive Phase	E				X				X
Simultaneous Gap	F								

Phase • Key

Function	K	Phase 1	2	3	4	5	6	7	8
MAX. I	0		52		15		52		15
MAX. II/MFDW	1								
Walk	2								
Flash DW	3								
Maximum Initial	4		10		10		10		10
Minimum Green	5								
Time Before Reduc.	6								
Time to Reduce	7								
Gap Observe	8	///	///	///	///	///	///	///	///
Passage	9				3.0				3.0
Minimum Gap	A				3.0				3.0
Added Actuation	B								
Yellow	C		4		4		4		4
Red Clear	D		2		2		2		2
Red Revert	E								
Walk II	F								

TABLE 2 - MISCELLANEOUS

Function	K	Value
Short Power Down	0	
Long Power Down	1	
RR Delay Type	6	
Ped. Inhibit	7	
OLA Green	8	
OLA Yellow	9	
OLB Green	A	
OLB Yellow	B	
OLC Green	C	
OLC Yellow	D	
OLD Green	E	
OLD Yellow	F	

C • F • Key

Function	K	V	1	2	3	4	5	6	7	8
Page ID	0									
OLA Red	4									
OLB Red	5									
OLC Red	6									
OLD Red	7									
Overlap E	8									
Overlap F	9									
Red Rest	A									
Maximum Recall	B			X				X		
Flash Green	C									
Flash Walk	D									
Advance Walk	E									
Restrictive Phase	F									

TABLE 3

E • Key

Function	K	V	1	2	3	4	5	6	7	8
OL Red Revert	8									
RR Delay	9									
RR Clear	A									
RR Clear Phase	B									
RR Permit	C									
RR OL Permit	D									
NEMA Hold Phase	E									

C • Key

Function	K	V	1	2	3	4	5	6	7	8
Trips on Flash	8	2								
Start Up Yellow	9									
Handicap Ped	E									

TABLE 4 - MODEL 336 CABINET DETECTOR MAP

The 336 cabinet has one input files. NOTE: The "key" column numbers are not sequential, the channel (slots) are.

Key	Channel	2 Phase	2 Time	3 Phase	3 Time	4 Phase	4 Time	5 Phase	5 Time
0	Upper 1	1 E/C		/////	/////	1 E/C		/////	/////
6	Lower 1	2 Call		/////	/////	------		/////	/////
2	Upper 2	2 E/C		/////	/////	2 E/C		/////	/////
3	Lower 2	2 E/C		/////	/////	2 E/C		/////	/////
7	Upper 3	3 E/C		/////	/////	3 E/C		/////	/////
D	Lower 3	4 Call		/////	/////	------		/////	/////
9	Upper 4	4 E/C		/////	/////	4 E/C		/////	/////
A	Lower 4	4 E/C		/////	/////	4 E/C		/////	/////
0	Upper 5	/////	/////	7 E/C		/////	/////	7 E/C	
6	Lower 5	/////	/////	6 Call		/////	/////	------	
2	Upper 6	/////	/////	6 E/C		/////	/////	6 E/C	
3	Lower 6	/////	/////	6 E/C		/////	/////	6 E/C	
7	Upper 7	/////	/////	7 E/C		/////	/////	7 E/C	
D	Lower 7	/////	/////	8 Call		/////	/////	------	
9	Upper 8	/////	/////	8 E/C		/////	/////	8 E/C	
A	Lower 8	/////	/////	8 E/C		/////	/////	8 E/C	

E/C = Extend and Call

TABLE 5 - TIME CLOCK CONTROL

A • CODE

Event No.	S 1	M 2	T 3	W 4	T 5	F 6	S 7	HR	MIN	FUNC
1	80							81	82	83
	X	X	X	X	X	X	X	0	1	1
	84							85	86	87
	88							89	8A	8B
	8C							8D	8E	8F
	90							91	92	93
	94							95	96	97
	98							99	9A	9B
	9C							9D	9E	9F
	A0							A1	A2	A3
	A4							A5	A6	A7

TABLE 6

Function	K	V	1	2	3	4	5	6	7	8
Mode (0 - 4)	4	1								
Master (0 = OFF)	5									
Future	C									
NEMA CNA Phase	D									
Adv Warning Phase	E									
MRI Phase	F									

Function	K	V
Floating Ped	2E	
ID Number	2F	
No Coord Ped Recall	3E	
Rest in Walk	3F	
Adv Warn EoG	4E	
Adv Warn SoG	4F	
RR Red Clear	5E	
RR Clear Color	5F	

TABLE 7 - COORDINATION TIMING

B • Plan • Key

Function	K	Plan 1	2	3	4
Cycle Length	0	110			
Forceoff 01	1				
Forceoff 02	2				
Forceoff 03	3				
Forceoff 04	4	21			
Forceoff 05	5				
Forceoff 06	6				
Forceoff 07	7				
Forceoff 08	8	52			
Offset	9	0			
Perm. Length	A	10			
Max Dwell	B	30			

Function	K	1	2	3	4	5	6	7	8
Plan 1									
Lead Ph. S	C	X		X		X		X	
Coord. Ph. S	D		X				X		
Perm. 2 Ph. S	E								
Min. Recall	F								
Plan 2									
Lead Ph. S	C								
Coord. Ph. S	D								
Perm. 2 Ph. S	E								
Min. Recall	F								
Plan 3									
Lead Ph. S	C								
Coord. Ph. S	D								
Perm. 2 Ph. S	E								
Min. Recall	F								
Plan 4									
Lead Ph. S	C								
Coord. Ph. S	D								
Perm. 2 Ph. S	E								
Min. Recall	F								

TABLE 8

B • A • Key

Function	K	V	1	2	3	4	5	6	7	8
Perm. 2 P1	9									
Perm. 2 P2	A									
Perm. 2 P3	B									
Flash Yellow	C									
Flash Circuit	D									
TOD/DOW Ped	E									
OLB Switchpack	F									

B • B • Key

Function	K	V	1	2	3	4	5	6	7	8
Perm. 2 P4	9									
Perm. 2 P5	A									
Perm. 2 P6	B									
OL Flash Yel.	C									
OL Flash Clear	D									
TOD/DOW Ped	E									
OLC Switchpack	F									

B • C • Key

Function	K	V	1	2	3	4	5	6	7	8
Perm. 2 P7	9									
Perm. 2 P8	A									
Perm. 2 P9	B									
Coord Max	C			X				X		
TOD Red Rest	D									
OLA Switchpack	E									
OLD Switchpack	F									

TABLE 9 - INPUT REASSIGNMENT

A • 4 • Key: DI PIN	K	CODE	A • 5 • Key: DI PIN	K	CODE	A • 6 • Key: DI PIN	K	CODE
39	0		55	0		67	0	
40	1		56	1		68	1	
41	2		57	2		69	2	
42	3		58	3		70	3	
43	4		59	4		71	4	
44	5		60	5		72	5	
45	6		61	6		73	6	
46	7		62	7		74	7	
47	8			8		75	8	
48	9			9		76	9	
49	A			A		77	A	
50	B			B		78	B	
51	C		63	C		79	C	
52	D		64	D		80	D	
53	E		65	E		81	E	
54	F		66	F		82	F	

TABLE 10 - OUTPUT REASSIGNMENT

A • 0 • Key: Function	K	CODE	A • 1 • Key: Function	K	CODE
04 D/W	0		08 D/W	0	
04 WALK	1		08 WALK	1	
04 RED	2		08 RED	2	
04 YEL	3		08 YEL	3	
04 GRN	4		08 GRN	4	
03 RED	5		07 RED	5	
03 YEL	6		07 YEL	6	
03 GRN	7		07 GRN	7	
02 D/W	8		06 D/W	8	
02 WALK	9		06 WALK	9	
02 RED	A		06 RED	A	
02 YEL	B		06 YEL	B	
02 GRN	C		06 GRN	C	
01 RED	D		05 RED	D	
01 YEL	E		05 YEL	E	
01 GRN	F		05 GRN	F	

A • 2 • Key: Function	K	CODE	A • 3 • Key: Function	K	CODE
02 PED Y	0		01 D/W	0	
06 PED Y	1		01 WALK	1	
04 PED Y	2		OLB RED	2	
08 PED Y	3		OLB YEL	3	
03 PED Y	4		OLB GRN	4	
01 PED Y	5		OLA RED	5	
FLASH	6		OLA YEL	6	
WATCHDOG	7		OLA GRN	7	
03 D/W	8			8	
03 WALK	9		SD	9	
OLD RED	A		LTT	A	2
OLD YEL	B				
OLD GRN	C				
OLC RED	D				
OLC YEL	E				
OLC GRN	F				

TABLE 11 - EXTENDED OUTPUT REASSIGNMENT

D • 8 • 0 • Key

Function	K	V
05 D/W	0	
05 WALK	1	
OLL RED	2	
OLL YELLOW	3	
OLL GREEN	4	
OLK RED	5	
OLK YELLOW	6	
OLK GREEN	7	
07 D/W	8	
07 WALK	9	
OLJ RED	A	
OLJ YELLOW	B	
OLJ GREEN	C	
OLH RED	D	
OLH YELLOW	E	
OLH GREEN	F	

D • 8 • 1 • Key

Function	K	V
OLE GREEN	0	
OLF GREEN	1	
OLE YELLOW	2	
OLF YELLOW	3	
ADV WARNING	4	
RR FL YELLOW	5	
DET. RESET	6	
RR ON	7	

D • 8 • 2 • Key

Function	K	V
CYCLE 2	0	
CYCLE 3	1	
OFFSET 1	2	
OFFSET 2	3	
OFFSET 3	4	
----------	5	
FREE	6	
FLASH	7	

TABLE 13 - PED. PERMISSIVE

E • F • Key

Function	K	V
RR MAX II	0	
PED PERM PI 1	1	
PED PERM PI 2	2	
PED PERM PI 3	3	
PED PERM PI 4	4	
PED PERM PI 5	5	
PED PERM PI 6	6	
PED PERM PI 7	7	
PED PERM PI 8	8	
PED PERM PI 9	9	

TABLE 14 - COMMAND BOX

KEYSTROKES
D • 9 • Key1 • Key2

Key = 8	V	Key = 9	V
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
A		A	
B		B	
C		C	
D		D	
E		E	
F		F	

TABLE 15 - COMMAND BOX OUTPUT

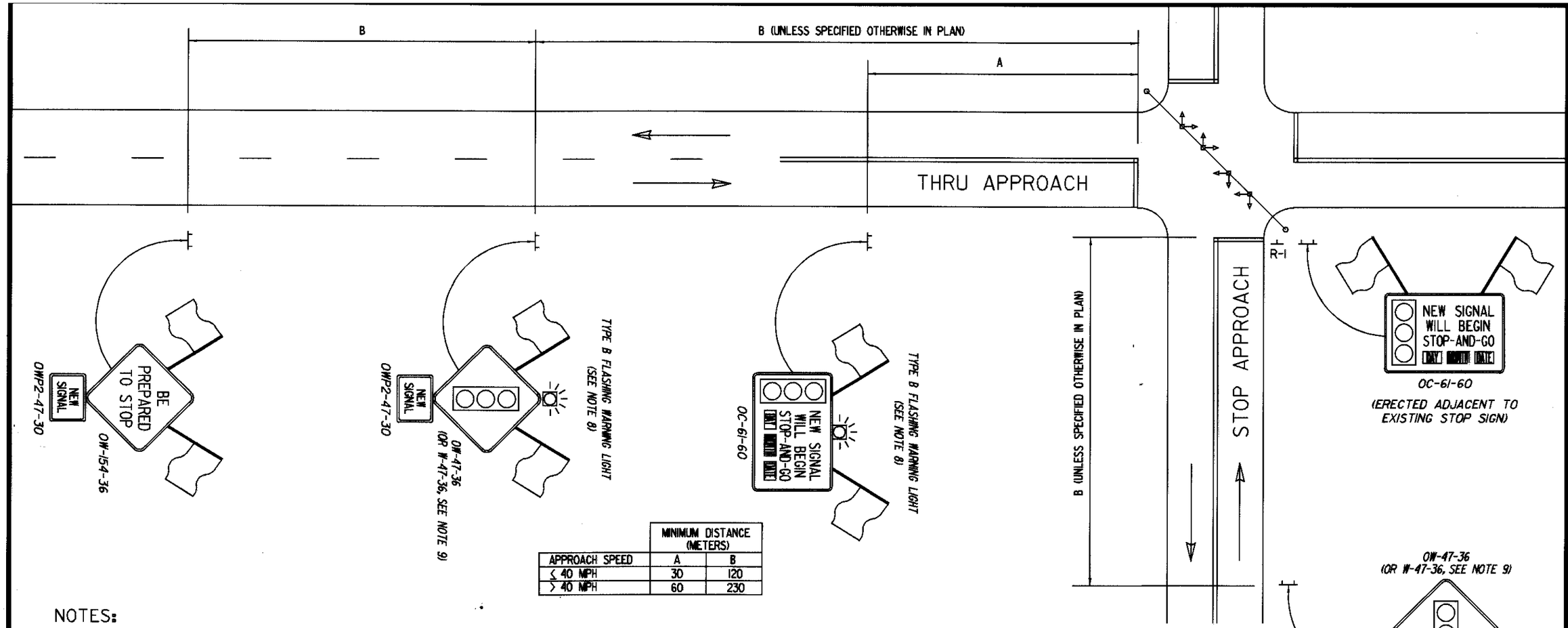
D • 8 • 3 • Key

Function	K	V
CB OUTPUT #1	0	
CB OUTPUT #2	1	
CB OUTPUT #3	2	
CB OUTPUT #4	3	
CB OUTPUT #5	4	
CB OUTPUT #6	5	
CB OUTPUT #7	6	
CB OUTPUT #8	7	
CB FLSH OUTPUT #9	8	
CB FLSH OUTPUT #10	9	
CB FLSH OUTPUT #11	A	
CB FLSH OUTPUT #12	B	

WAPITI SOFTWARE INTERSECTION TIMING - 336 CABINET
DISTRICT: 10 LOCATION: S.R. 682 & U.S.R. 33 RAMP

ATH-682-(5.86)(6.19)

CALCULATED JDC CHECKED DATE



APPROACH SPEED	MINIMUM DISTANCE (METERS) A	B
≤ 40 MPH	30	120
> 40 MPH	60	230

NOTES:

1. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN ALL SIGNS, FLASHING WARNING LIGHTS (WHEN REQUIRED) AND FLAGS AS SHOWN ABOVE, INCLUDING SUPPORTS AND ALL NECESSARY MOUNTING HARDWARE.
2. AFTER RECEIVING APPROVAL FROM THE ENGINEER TO ACTIVATE THE SIGNAL, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST TEN (10) DAYS PRIOR TO PLACING SIGNAL IN STOP-AND-GO MODE TO ALLOW THE ENGINEER TIME TO NOTIFY LOCAL MEDIA AND LAW ENFORCEMENT OF THE SCHEDULED SIGNAL ACTIVATION.
3. A PERMANENT NEW SIGNAL OR SIGNAL UPGRADE FROM A FLASHER, SHALL OPERATE IN FLASH MODE FOR THREE (3) TO TEN (10) CONSECUTIVE DAYS BEFORE BEING PLACED IN A STOP-AND-GO MODE FOR THE TEN (10) DAY BURN TEST, AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL ERECT THE OC-61-60 (WITH ACTIVATION DAY, MONTH, AND DATE; E.G. MON AUG 12) SIGNS EQUIPPED WITH ORANGE FLAGS AND FLASHING WARNING LIGHTS (WHEN REQUIRED) AS SHOWN ABOVE ON EACH APPROACH OF THE INTERSECTION AT THE TIME THE SIGNAL IS PLACED IN FLASH MODE.
5. IMMEDIATELY BEFORE PLACING THE NEW SIGNAL INSTALLATION IN STOP-AND-GO MODE, THE CONTRACTOR SHALL REMOVE THE OC-61-60 SIGNS AND INSTALL OR UNCOVER THE (O)W-47 AND OW-154 SIGN ASSEMBLIES AS SHOWN ABOVE.
6. IMMEDIATELY AFTER CHANGING THE SIGNAL TO STOP-AND-GO OPERATION, THE CONTRACTOR SHALL REMOVE THE EXISTING STOP SIGNS AND POST SUPPORTS.
7. THE CONTRACTOR SHALL REMOVE THE FLASHING WARNING LIGHTS, FLAGS, BRACKETS, OWP2-47, OW-47, AND OW-154 SIGNS 21-30 DAYS AFTER THE SIGNAL IS PLACED IN STOP-AND-GO MODE.
8. FLAGS SHALL BE ERECTED AS SHOWN ABOVE. THE FLAGS SHALL BE 450 mm X 450 mm IN SIZE, MADE OF ORANGE VINYL MATERIAL, AND SECURELY FASTENED TO THE SIGN OR SIGN SUPPORT. WHEN REQUIRED BY PLAN NOTE, TYPE B FLASHING WARNING LIGHTS SHALL BE INSTALLED AS SHOWN ABOVE.
9. THE OW-154 SIGN INSTALLATION (INCLUDING THE OWP2-47 SIGN AND FLAGS) ON THE THRU APPROACH SHALL BE OMITTED WHEN A PERMANENT 'PREPARE TO STOP WHEN FLASHING' (W-44) SIGN IS ERECTED. WHEN SPECIFIED IN THE PLAN, A W-47 SIGN SHALL BE USED IN PLACE OF THE OW-47 SIGN ON THE THRU APPROACH. THE 'NEW SIGNAL' (OWP2-47) SIGN, FLAGS, AND FLASHING WARNING LIGHT, WHEN REQUIRED, SHALL BE INSTALLED WITH THE W-47 SIGN AS SHOWN. WHEN SPECIFIED IN THE PLAN, A W-47 SIGN SHALL BE USED IN PLACE OF THE OW-47 SIGN ON THE STOP APPROACH. THE 'NEW SIGNAL' (OWP2-47) SHALL BE INSTALLED WITH THE (O)W-47 SIGN AS SHOWN.
10. ON MULTILANE THRU APPROACHES, REPLACE THE OW-154-36 SIGN WITH AN OW-154-48 SIGN, AND REPLACE THE OW-47-36 SIGN WITH AN OW-47-48 SIGN. ON MULTILANE DIVIDED THRU APPROACHES, ERECT SIGNS IN MEDIAN IDENTICAL TO THOSE ON RIGHT TO CREATE DUAL INSTALLATIONS, INCLUDING SUPPLEMENTAL SIGNS AND FLAGS, AND, WHEN REQUIRED BY PLAN NOTE, FLASHING WARNING LIGHTS.
11. FOR MULTI-WAY STOP APPROACHES, EACH APPROACH CONTROLLED BY A STOP SIGN SHALL BE TREATED AS SHOWN ABOVE FOR THE STOP APPROACH.
12. THE SIGNAL SHALL NOT BE ACTIVATED TO STOP-AND-GO OPERATION ON A FRIDAY, SATURDAY OR SUNDAY, OR THE DAY PRECEDING OR DURING A NATIONAL HOLIDAY, (NEW YEARS, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING, OR CHRISTMAS).
13. PERMANENT SUPPORTS, PERMANENT SIGNS (W-44 AND W-47), AND TYPE B FLASHING WARNING LIGHTS SHALL BE PAID FOR UNDER SEPARATE PAY ITEM IN THE PLAN. PAYMENT FOR ALL OTHER LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR 614 MAINTAINING TRAFFIC.

DATE 5/01/98

MAINTENANCE OF TRAFFIC NEW SIGNAL ACTIVATION

ATH-682-(5.86)(6.19)

17

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