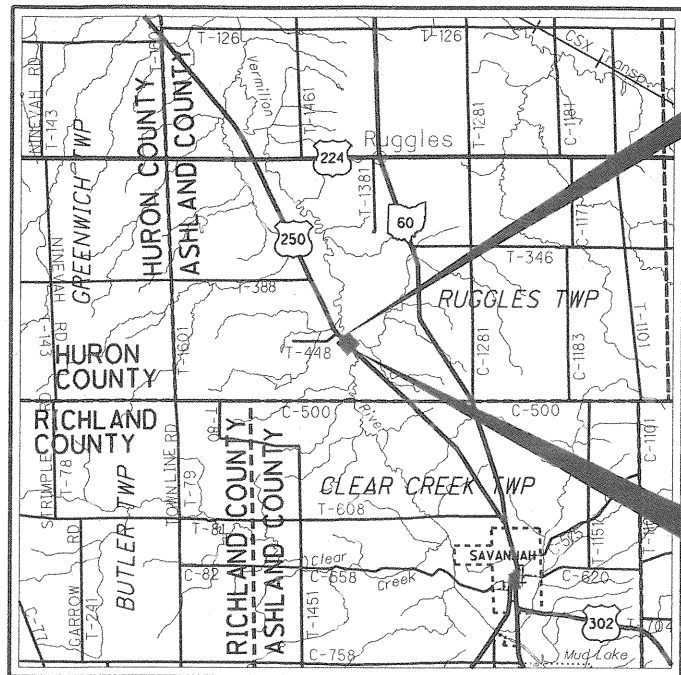


STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

# ASD-250-3.77

## RUGGLES TOWNSHIP ASHLAND COUNTY



BEGIN PROJECT  
STA. 197+10

END PROJECT  
STA. 200+00

LOCATION MAP

LATITUDE: N41°00'05" LONGITUDE: W82°23'55"

SCALE IN MILES



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

### DESIGN DESIGNATION

CURRENT ADT (2011)	4040
DESIGN YEAR ADT (2031)	5380
DESIGN HOURLY VOLUME (2031)	540
DIRECTIONAL DISTRIBUTION	52%
TRUCKS (24 HOUR B&C)	47%
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
RURAL PRINCIPAL ARTERIAL	
NHS PROJECT	YES

### 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 PROTECTIVE  
SERVICE CALL: 1-800-925-0988

### INDEX OF SHEETS:

TITLE SHEET	1
TYPICAL SECTIONS	2
GENERAL NOTES	3, 4
MAINTENANCE OF TRAFFIC	5-7
GENERAL SUMMARY	8, 9
ESTIMATED QUANTITIES	10
PLAN & PROFILE	11-13
CROSS SECTIONS - U.S.R. 250	14-20
TRAFFIC CONTROL	21, 22
STRUCTURES 20' AND OVER	23-37
RIGHT OF WAY	38, 38A, 39-42
STRUCTURE FOUNDATION EXPLORATION	

ENGINEERS SEAL:

STRUCTURES



SIGNED: *Stephen C. Tomasi*  
DATE: 12-20-11

ENGINEERS SEAL:

ROADWAY



SIGNED: *Scott A. Cook*  
DATE: Dec 20, 2011

### STANDARD CONSTRUCTION DRAWINGS

NO.	DATE	NO.	DATE	NO.	DATE	SUPPLEMENTAL SPECIFICATIONS
BP-2.3	7-16-04	MH-1.1	7-19-02	AS-1-81	7-19-02	800 11-8-10
BP-3.1	10-19-07			CPA-1-08	7-18-08	802 10-15-10
BP-4.1	7-16-04	MT-96.11	1-16-09	CPP-1-08	7-18-08	823 10-15-10
		MT-96.20	10-15-10	CS-1-08	7-18-08	832 5-5-09
CB-1.1	7-15-05	MT-96.26	1-16-09	DS-1-92	7-18-03	898 10-15-10
		MT-105.10	1-16-09	PCB-91	7-19-02	902 7-16-10
DM-1.1	4-21-06			TST-1-99	4-18-08	
DM-1.2	4-21-06	RM-4.2	10-15-10			
DM-1.4	4-21-06					
GR-1.1	7-16-04	TC-41.20	1-19-01			
GR-2.1	1-16-04	TC-42.10	1-19-07			
GR-3.6	10-16-09	TC-52.10	1-19-07			
GR-4.2	1-19-07	TC-52.20	1-19-07			
		TC-73.10	1-19-01			
HW-2.2	7-30-07					

SUPPLEMENTAL SPECIFICATIONS

SPECIAL PROVISIONS

NWP# 404  
RGP,  
B & C  
DATE 4-13-10

### PROJECT DESCRIPTION

REPLACEMENT OF THE EXISTING BRIDGE OVER THE VERMILION RIVER, INCLUDING REPLACEMENT OF THE APPROACH SLABS AND MINOR APPROACH WORK. THE PROJECT LENGTH IS 0.05 MILES.

### EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.92 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.9 ACRES

### 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: *John C. Bud*  
DATE 12-20-11 DISTRICT DEPUTY DIRECTOR

APPROVED: \_\_\_\_\_  
DATE \_\_\_\_\_ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.  
**E100 (689)**

PID NO.  
**80058**

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT  
**NONE**

**ASD-250-3.77**

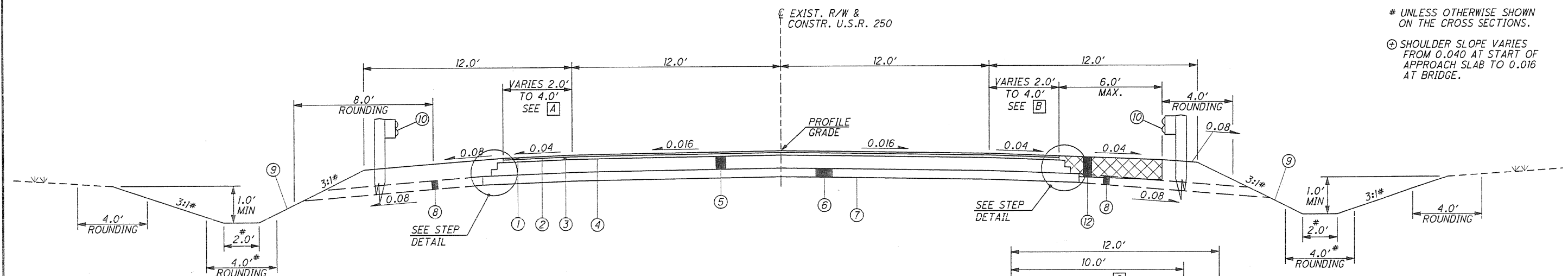
PLAN PREPARED BY:

**KCI** ASSOCIATES OF OHIO

ENGINEERS  
PLANNERS  
SCIENTISTS  
CONSTRUCTION MANAGERS

388 SOUTH MAIN STREET  
SUITE 401  
AKRON, OHIO 44311  
PHONE (330) 564-9100  
FAX (330) 564-9101  
www.kci.com

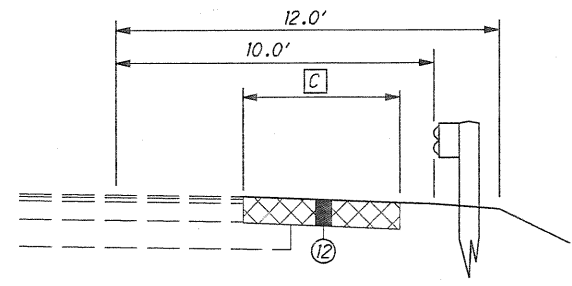
NOTES:  
 # UNLESS OTHERWISE SHOWN ON THE CROSS SECTIONS.  
 ⊕ SHOULDER SLOPE VARIES FROM 0.040 AT START OF APPROACH SLAB TO 0.016 AT BRIDGE.



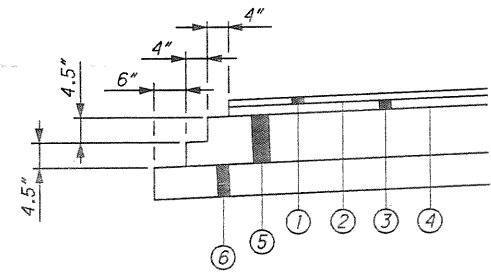
[A] VARIES FROM 1.6'± AT STA. 197+10 TO 2.0' AT STA. 197+20.  
 VARIES FROM 4.0' AT STA. 199+90 TO 4.1'± AT STA. 200+00.

[B] VARIES FROM 4.2'± AT STA. 197+10 TO 4.0' AT STA. 197+20.  
 VARIES FROM 2.0' AT STA. 199+90 TO 1.6'± AT STA. 200+00.

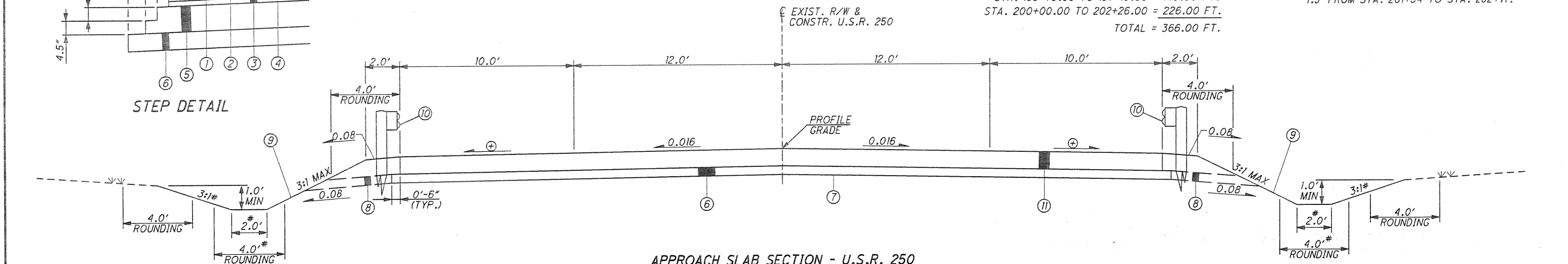
**NORMAL SECTION - U.S.R. 250**  
 STA. 197+10.00 TO 197+80.55 = 70.55 FT.  
 STA. 199+32.45 TO 200+00.00 = 67.55 FT.  
 TOTAL = 138.10 FT.



[C] 1.5' FROM STA. 195+70 TO STA. 195+98.  
 VARIES FROM 1.5' AT STA. 195+98 TO 6.0' AT STA. 196+83.  
 6.0' FROM STA. 196+83 TO STA. 197+10.00.  
 6.0' FROM STA. 200+00 TO STA. 200+78.  
 VARIES FROM 6.0' AT STA. 200+78 TO 1.5' AT STA. 201+94.  
 1.5' FROM STA. 201+94 TO STA. 202+17.



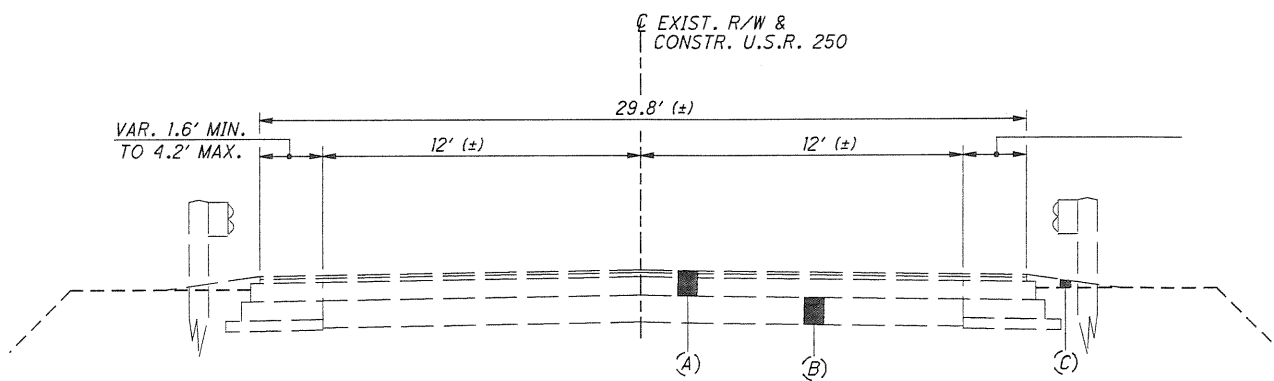
STEP DETAIL



**APPROACH SLAB SECTION - U.S.R. 250**  
 STA. 197+80.55 TO 197+95.55 = 15.00 FT.  
 STA. 199+17.45 TO 199+32.45 = 15.00 FT.  
 TOTAL = 30.00 FT.

**LEGEND**

- ① ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)
- ② ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (@ 0.04 GAL/SQ YD)
- ③ ITEM 442 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)
- ④ ITEM 407 - TACK COAT (@ 0.075 GAL/SQ YD)
- ⑤ ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22
- ⑥ ITEM 304 - 6" AGGREGATE BASE
- ⑦ ITEM 204 - SUBGRADE COMPACTION
- ⑧ ITEM 605 - AGGREGATE DRAINS
- ⑨ ITEM 659 - SEEDING AND MULCHING
- ⑩ ITEM 606 - GUARDRAIL, TYPE 5
- ⑪ ITEM 898 - QC/OA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=12"), AS PER PLAN
- ⑫ ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
- (A) ASPHALT CONCRETE
- (B) SAND AND GRAVEL BASE
- (C) AGGREGATE SHOULDER



**EXISTING SECTION - U.S.R. 250**  
 STA. 195+00 TO STA. 203+00

TYPICAL SECTIONS

ASD-250-3.7.7

80058GY001.dgn

**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:

**WATER:**

RURAL LORAIN COUNTY WATER AUTHORITY  
42401 S.R. 303  
LAGRANGE, OHIO 44050  
(440) 355-5121  
ATTN: JAMES TRUESDELL

**ELECTRIC:**

FIRELANDS ELECTRIC  
1 ENERGY PLACE  
NEW LONDON, OHIO 44851  
(419) 929-1571  
ATTN: DENNY MARUGG

**TELEPHONE:**

FRONTIER COMMUNICATIONS  
1534 STATE ROUTE 511 SOUTH  
ASHLAND, OHIO 44805  
(419) 282-6551  
ATTN: JIM SAUBER

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:  
ASHLAND-NORWALK ROAD, S.H. 142, SECTION "c" BRIDGE, 1931; ASD-250-(1.61-6.30), 1969;  
MAY BE INSPECTED IN THE ODOT DISTRICT 3 OFFICE IN ASHLAND, OHIO.

**ELEVATION DATUM**

ALL ELEVATIONS ARE ORTHOMETRIC HEIGHTS USING THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). HORIZONTAL POSITIONS ARE BASED ON THE OHIO STATE PLANE NORTH ZONE, A LAMBERT CONFORMAL CONIC MAP PROJECTION, THE NORTH AMERICAN DATUM OF 1983 (CORS96), NORTH ZONE, AND WHERE DERIVED FROM GPS OBSERVATIONS MADE BY ODOT DISTRICT 3 IN 2008.

**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.

**CLEARING AND GRUBBING**

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES NO.	TREES NO.	STUMPS	TOTAL
18"	3	0	3
30"	0	0	0
48"	0	0	0
60"	0	0	0

**ITEM 606 - ANCHOR ASSEMBLY, TYPE E**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT [WWW.DOT.STATE.OH.US/DRRC/](http://WWW.DOT.STATE.OH.US/DRRC/) UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

1. THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0" [15.24 m], INCLUSIVE OF TWO 25'-0" [7.62 m] LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION & SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION & SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS & HBA POSTS 1-4 PLAN, ELEVATION & SECTION	5/22/00	7/31/00
SS330	ET2000 PLUS 50'-0" WITH FOUR FOUNDATION TUBES AND FOUR CRT POSTS	3/28/06	3/29/06
SS373	ET2000 PLUS 50'-0" WITH 7 SYT POSTS AND ONE HBA POST	6/20/09	1/20/09

2. THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0" [15.24 m], INCLUSIVE OF FOUR 12'-6" [3.81 m] LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98
SKT HINGED CRT	SEQUENTIAL KINKING TERMINAL (SKT-350) FOUR POSTS ARE STEEL HINGED AND FIVE POSTS ARE CRT	4/30/06	5/23/06
SFT-SP	SKT-SP SEQUENTIAL KINKING TERMINAL (SKT-350) A SEVEN POST OPTION USING STANDARD STEEL POST	3/30/09	3/4/09

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18" [450 mm X 450 mm.], OR 12" [30 mm] X 18" [450 mm] IF APPLIED TO A RECTANGULAR ET-2000 "PLUS" EXTRUDER HEAD.

REFER TO THE MANUFACTURER'S INSTRUCTION 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 [100 mm] 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 27-3/4-INCHES [706 mm] 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 [100 mm] 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.

**SEEDING AND MULCHING**

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

659, SEEDING AND MULCHING,	1954 SQ. YD.
659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	221 CU. YD.
659, REPAIR SEEDING AND MULCHING	100 SQ. YD.
659, INTER-SEEDING	100 SQ. YD.
659, COMMERCIAL FERTILIZER	0.28 TON
659, LIME	0.41 ACRE
659, WATER	11 M. GAL.

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.

**CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES**

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

CALCULATED  
CMK  
CHECKED  
SCT

GENERAL NOTES

ASD-250-3.77

3  
42

80058GN001.dgn

**FARM DRAINS**

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE RIGHT OF WAY LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS. EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM -1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

**AGGREGATE DRAINS**

AGGREGATE DRAINS SHALL BE PLACED AT 50 FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, STAGGERED SO THAT EACH DRAIN IS 25 FEET FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE, AND AT 25 FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

THE FOLLOWING LOCATIONS AND LENGTHS ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY:

STATION	SIDE	LENGTH
197+20	LT	16 FT
197+20	RT	14 FT
197+70	LT	16 FT
197+70	RT	14 FT
199+40	LT	13 FT
199+43	RT	16 FT
199+90	LT	11 FT
199+90	RT	16 FT
TOTAL CARRIED TO GEN SUMM:		116 FT

**POST CONSTRUCTION STORM WATER TREATMENT**

THIS PROJECT WILL TREAT THE PROJECT DISTURBED AREA BY USING EXISTING AND PROPOSED DITCHES AS VEGETATED BIOFILTERS.

**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.

**ENVIRONMENTAL**

THIS PROJECT IS COVERED BY USACE REGIONAL GENERAL PERMIT SECTION B (MAINTENANCE) AND SECTION C (TEMP. CONSTRUCTION, ACCESS AND DEWATERING). ALL RELEVANT GENERAL AND ALL SPECIAL CONDITIONS LISTED IN THE AUTHORIZED US ARMY CORPS OF ENGINEERS PERMIT SHALL BE ADHERED TO DURING CONSTRUCTION. AS A CONDITION OF THE PERMIT, SINCE THE VERMILION RIVER IS CONSIDERED A SENSITIVE STREAM, NO INSTREAM WORK IS PERMITTED BETWEEN APRIL 15 - JUNE 30.

**ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF THE C.M.S., THE CONTRACTOR SHALL LEAVE A PORTION OF THE PAVEMENT IN PLACE TO SERVE AS THE APRON FOR THE DRIVE AT STA. 200+47, RT. SEE SHEET 12 FOR DIMENSIONS. PAYMENT FOR THIS WORK SHALL BE INCLUDED WITH THE ABOVE REFERENCED ITEM.

**ASBESTOS NOTIFICATION**

AN ASBESTOS SURVEY OF BRIDGE SCHEDULED FOR DEMOLITION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE. THE BRIDGE WHICH WAS SURVEYED AND CONTAINED NO ASBESTOS IS: ASD-250-0377, SFN 0304689.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER AT THE PRECONSTRUCTION MEETING. THE CONTRACTOR SHALL COMPLETE THE FORM AND RETURN IT TO THE DISTRICT CONSTRUCTION ENGINEER ALONG WITH THE PERMIT FEE IF APPLICABLE. THE COMPLETION OF THIS FORM MAY BE PERFORMED AT THE PRECONSTRUCTION MEETING. THE DISTRICT CONSTRUCTION ENGINEER SHALL SUBMIT THE FORM AND CONTRACTORS FEE TO THE OEPA DISTRICT OFFICE AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF DEMOLITION OF THE BRIDGE. THE DISTRICT CONSTRUCTION ENGINEER SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE CONTRACTOR. THE CONTRACTOR SHALL NOT COMMENCE DEMOLITION OF THE STRUCTURE UNTIL THE ABOVE REQUIREMENTS ARE MET.

**INFORMATION ON THE FORM WILL INCLUDE:**

- THE CONTRACTOR'S NAME AND ADDRESS
- THE SCHEDULE DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL
- A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND METHOD(S) TO BE USED.

A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 3 OFFICE AT 906 N. CLARK STREET, ASHLAND, OHIO 44805

**BASIS OF PAYMENT**

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIALS NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE BID ITEM 202 FOR STRUCTURE REMOVAL.

**ENDANGERED SPECIES HABITAT**

THIS PROJECT IS WITHIN THE KNOWN SUMMER BREEDING RANGE OF THE FEDERAL ENDANGERED INDIANA BAT. UNAVOIDABLE CUTTING OF TREES DEFINED AS POTENTIAL HABITAT FOR THE INDIANA BAT (i.e. LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES, OR CAVITIES) WILL BE PERFORMED ONLY BEFORE APRIL 15 OR AFTER SEPTEMBER 15 WHEN THE SPECIES WOULD NOT BE USING SUCH HABITAT.

PRIOR TO THE REMOVAL OR MAINTENANCE, FROM APRIL 15 TO SEPTEMBER 15, THE UNDERSIDE OF THE BRIDGE WILL BE INSPECTED FOR THE PRESENCE OF BATS. IF ANY ARE FOUND, U.S. FISH & WILDLIFE SERVICES WILL BE CONTACTED PRIOR TO BRIDGE REMOVAL.

**WETLAND AVOIDANCE**

A WETLAND IS LOCATED AT THE SOUTHEAST QUADRANT OF THE BRIDGE, AS DELINEATED ON THE PLANS. THIS WETLAND AREA SHOULD BE AVOIDED DURING CONSTRUCTION AND NOT USED AS STAGING AREAS. METHODS TO PROTECT THIS WETLAND ARE TO BE INCLUDED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

**6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET**

THIS ITEM SHALL BE PLACED AS SHOWN IN THE SLEEPER SLAB DETAILS, SHEET 36.

LOCATION	LENGTH
REAR LEFT APPROACH	16 FT
REAR RIGHT APPROACH	16 FT
FORWARD LEFT APPROACH	16 FT
FORWARD RIGHT APPROACH	16 FT
TOTAL CARRIED TO GEN SUMM:	64 FT

**6" UNCLASSIFIED PIPE UNDERDRAINS**

THIS ITEM SHALL BE PLACED AS SHOWN IN THE SLEEPER SLAB DETAILS, SHEET 36.

LOCATION	LENGTH
REAR APPROACH	48 FT
FORWARD APPROACH	48 FT
TOTAL CARRIED TO GEN SUMM:	96 FT

**PRECAST REINFORCED CONCERTED PIPE OUTLET**

THIS ITEM SHALL BE PLACED AS SHOWN IN THE SLEEPER SLAB DETAILS, SHEET 36.

LOCATION	QUANTITY
REAR LEFT APPROACH	1 EACH
REAR RIGHT APPROACH	1 EACH
FORWARD LEFT APPROACH	1 EACH
FORWARD RIGHT APPROACH	1 EACH
TOTAL CARRIED TO GEN SUMM:	4 EACH

GENERAL NOTES

ASD-250-3.77

**ITEM 614-MAINTAINING TRAFFIC**

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

- ONE LANE OF THE TWO-LANE HIGHWAY SHALL REMAIN OPEN THROUGH THE USE OF WORK ZONE TRAFFIC SIGNALS.
- THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.
- THE CONTRACTOR SHALL MAINTAIN VEHICULAR ACCESS TO ALL PROPERTIES AT ALL TIMES.

4. AT THE COMPLETION OF THE BRIDGE CONSTRUCTION OR AS DIRECTED BY THE ENGINEER, THE EXISTING PAVEMENT MARKINGS BEYOND THE WORK ZONE THAT WERE REMOVED DUE TO MAINTENANCE OF TRAFFIC PHASES SHALL BE REPLACED WITH PERMANENT MARKINGS AND SHALL BE REPLACED AT THEIR LOCATIONS PRIOR TO CONSTRUCTION.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE CMS ITEM 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.

**ITEM 614 - WORK ZONE LIGHTING SYSTEM**

LIGHTING SHALL BE PROVIDED AT EACH END OF THE LANE CLOSURE FOR THE CLOSING OF ONE LANE OF A TWO-LANE HIGHWAY AT THE LOCATIONS SHOWN IN THE PLANS.

LIGHTING SHALL BE BY CONVENTIONAL METHODS, WITH LUMINAIRE ARMS ATTACHED TO THE SIGNAL SUPPORTS. AREA ILLUMINATION SHALL BE PROVIDED BY USING 150 WATT MINIMUM HIGH PRESSURE SODIUM LUMINARIES OR 250 WATT MINIMUM MERCURY LUMINARIES. THE MINIMUM HEIGHT OF THE LUMINAIRE SHALL BE 27 FT FROM THE GROUND SURFACE.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS, DELIVERY, ERECTION, MAINTENANCE AND REMOVAL FOR EACH LIGHTING SYSTEM COMPLETE AND IN-PLACE, AND SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 614 - WORK ZONE LIGHTING SYSTEM.

**WORK ZONE MARKINGS AND SIGNS**

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

ITEM 614, WORK ZONE MARKING SIGN 18 EACH  
 ITEM 614, WORK ZONE EDGE LINE, CLASS I (WHITE) 0.25 MILE

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

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ONE OF THE FOLLOWING IMPACT ATTENUATORS:

- THE QUADGUARD CZ, (24 INCHES (610 MILLIMETERS) WIDE SIX-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE SIX-BAY QUADGUARD CZ IS 20'-9" (6.33 METERS). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER	DRAWING NAME	DRAWING/ REVISION DATE	ODOT APPROVAL DATE
QSCZCVR-T4	QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES	5/13/99 REV. J	8/27/99
35-40-10	QUADGUARD SYSTEM CONCRETE PAD, CZ, OG	11/19/97 REV. D	8/27/99
35-40-16	QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, OG	7/30/99 REV. F	8/27/99
354051Z	QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, OG, 24, 30, 36	5/17/99	8/27/99
35-40-18	TRANSITION ASSEMBLY, 4 OFFSET, OG	6/25/99 REV. F	8/27/99
35400260	QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY	11/19/97 REV. C	8/27/99

- THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373). THE TRACC IS 21'-0" (6.4 METERS) LONG AND 2'-7" (0.8 METER) WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER	DRAWING NAME	DRAWING/ REVISION DATE	ODOT APPROVAL DATE
SS450	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS	3/12/99 REV. I	8/27/99
SS455	TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS	2/18/99	8/27/99
SS461	TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS	6/30/99 REV. I	8/27/99
SS462	TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS	6/30/99	8/27/99

- THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR, DISTRIBUTED BY ROAD SYSTEMS, INC., SALES SUPPORT, 2183 ELM TRACE, AUSTINTOWN, OH 44515, (TELEPHONE 330-799-9291). THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT 24' LONG AND 35" WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER	DRAWING NAME	DRAWING/ REVISION DATE	ODOT APPROVAL DATE
A040416	UNIVERSAL TAU-II PARTS LIST	4/22/04	10/16/04
A040420	UNIVERSAL TAU-II FOUNDATION, FLUSH MOUNT BACKSTOP	4/28/04	10/16/04
A040105	UNIVERSAL TAU-II FOUNDATION, PCB BACKSTOP (REFERENCED ON A04020)	1/07/04	10/16/04
B040239	APPLICATION, FLUSH MOUNT BACKSTOP (TYPICAL FOR PARALLEL 60 MPH UNIT)	4/21/04	10/16/04

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT. THE CONTRACTOR SHALL HAVE AT LEAST ONE SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

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.

**DUST CONTROL**

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 3 M. GAL.

**BARRIER REFLECTORS AND OBJECT MARKERS**

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED AND ARE CARRIED TO THE GENERAL SUMMARY

ITEM 614 BARRIER REFLECTOR, TYPE B 18 EACH  
 ITEM 614 OBJECT MARKER, ONE WAY 4 EACH

**EARTHWORK FOR MAINTAINING TRAFFIC**

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY. SEE CROSS SECTIONS FOR FURTHER INFORMATION.

EXCAVATION FOR MAINTAINING TRAFFIC 9 CU. YD.  
 EMBANKMENT FOR MAINTAINING TRAFFIC 13 CU. YD.

**ITEM SPECIAL - WORK ZONE TRAFFIC SIGNAL**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, ADJUST, AND SUBSEQUENTLY REMOVE A WORK ZONE TRAFFIC SIGNAL INSTALLATION FOR MAINTAINING TRAFFIC AS SHOWN IN THE PLANS. THE INSTALLATION SHALL BE IN COMPLIANCE WITH THE CMS AND VARIOUS STANDARD CONSTRUCTION DRAWINGS LISTED THROUGHOUT THE PLANS.

THE WORK ZONE TRAFFIC SIGNAL INSTALLATION SHALL BE TWO-PHASE FIXED-TIMING FOR U.S.R. 250 TRAFFIC WITH A TRAFFIC ACTUATED THIRD PHASE FOR THE DRIVEWAY AT STA. 200+28 LT. SEE STANDARD DRAWING MT-96.26 FOR FURTHER INFORMATION. NON-INTRUSIVE VEHICLE DETECTORS MAY BE USED INSTEAD OF LOOP DETECTORS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF AND PAYMENT FOR ELECTRIC POWER FROM THE LOCAL UTILITY OR FOR PROVIDING AND MAINTAINING A GENERATOR FOR THE WORK ZONE SIGNAL INSTALLATION.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM SPECIAL - WORK ZONE TRAFFIC SIGNAL.

**TEMPORARY TRAFFIC SIGNAL ACTIVATION FOR PARTIAL ROADWAY CLOSURE**

THE CONTRACTOR SHALL NOTIFY ODOT DISTRICT 3 PUBLIC INFORMATION OFFICER (PIO) A MINIMUM TEN (10) CALENDAR DAYS ADVANCE NOTICE BEFORE ACTIVATING A TEMPORARY TRAFFIC SIGNAL TO STOP-AND-GO OPERATION FOR PARTIAL ROADWAY CLOSURE.

THE PIO CONTACT INFORMATION IS AS FOLLOWS:  
 PUBLIC INFORMATION OFFICER  
 ODOT DISTRICT 3  
 906 CLARK AVENUE  
 ASHLAND, OH 44805  
 PHONE 419-207-7182

IN ADDITION, THE TEMPORARY TRAFFIC SIGNAL SHALL BE ACTIVATED PER THE REQUIREMENTS OF ODOT SCD MT-120.00. THE TEMPORARY TRAFFIC SIGNAL SHALL OPERATE IN FLASH MODE FIVE (5) TO SEVEN (7) DAYS PRIOR TO ACTIVATING TO STOP-AND-GO OPERATION. SIGNAL ACTIVATION SHALL NOT OCCUR ON WEEKENDS, MONDAYS, FRIDAYS, OR ANY DAY IMMEDIATELY BEFORE OR AFTER A STATE OBSERVED HOLIDAY.

ALL COSTS ASSOCIATED WITH THE ABOVE DESCRIBED WORK SHALL BE INCLUDED WITH ITEM 614, MAINTAINING TRAFFIC.

**DURATION OF SINGLE LANE TWO-WAY TRAFFIC OPERATION**

THE MAXIMUM LENGTH OF TIME FOR THE SINGLE LANE TWO-WAY TRAFFIC OPERATION TO BE IN EFFECT SHALL BE SIXTY (60) CONSECUTIVE DAYS FOR PHASE 2 AND SIXTY (60) CONSECUTIVE DAYS FOR PHASE 3. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE SINGLE LANE TWO-WAY OPERATION IS IN EFFECT, BUT THERE SHALL BE NO RESTRICTIONS (LANE WIDTH REDUCTIONS, TEMPORARY ROADWAYS, OR ONE WAY TRAFFIC) TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE NECESSARY CONSTRUCTION WORK WITHIN THE SINGLE LANE TWO-WAY TRAFFIC TIME FRAME. THE FAILURE OF THE CONTRACTOR TO MEET THIS RESTRICTION WILL CAUSE SEPARATE LIQUIDATED DAMAGES AS PER 108.07 OF THE CMS TO BE ASSESSED. THE CONTRACTOR WILL COMPLY WITH ALL PROVISIONS OF 108.07 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

SHEET NO.	PHASE	STATION		SIDE	614	614	614	614	614	615	615	622	622								
		FROM	TO		WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	SPECIAL - WORK ZONE TRAFFIC SIGNAL	WORK ZONE EDGE LINE, CLASS I	WORK ZONE CENTER LINE, CLASS I (DOUBLE SOLID)	WORK ZONE STOP LINE, CLASS I	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	ROADS FOR MAINTAINING TRAFFIC	PORTABLE CONCRETE BARRIER, 32"	PORTABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED, AS PER PLAN								
					EACH	EACH	MILE	MILE	FT	SY	LUMP	FT	FT								
7	2				2																
7	3				4																
7	2-3					1															
7	2	196+38	200+64	LT			0.081														
7	2	195+46	202+36	RT			0.131														
7	3	195+80	202+72	LT			0.131														
7	3	195+46	202+36	RT			0.131														
7	2-3	193+46	194+96	RT				0.028													
7	2-3	203+02	204+52	LT				0.028													
7		194+96		RT					12												
7		203+02		LT					12												
7	2	195+70	197+88	RT						110											
7	2	199+39	202+26	RT						215											
7	1	196+52	198+13	LT						30											
7	2	196+50	200+24									370									
7	3	196+62	198+00									140									
7	3	199+20	200+00									80									
7	3	200+61.5	201+66									100									
7	3	198+00	199+20										120								
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>					6	1	0.47	0.06	24	355	LUMP	690	120								

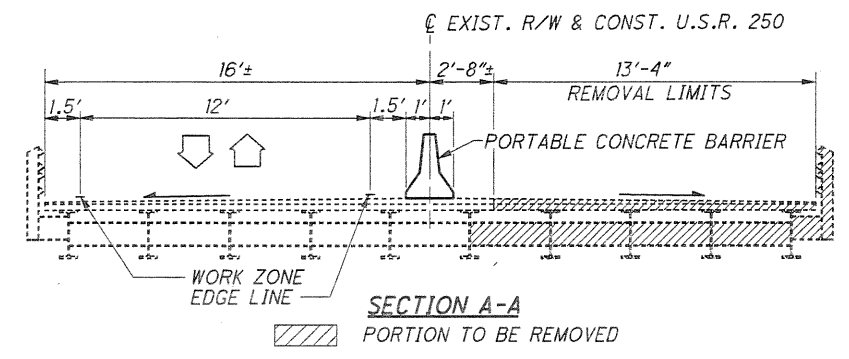
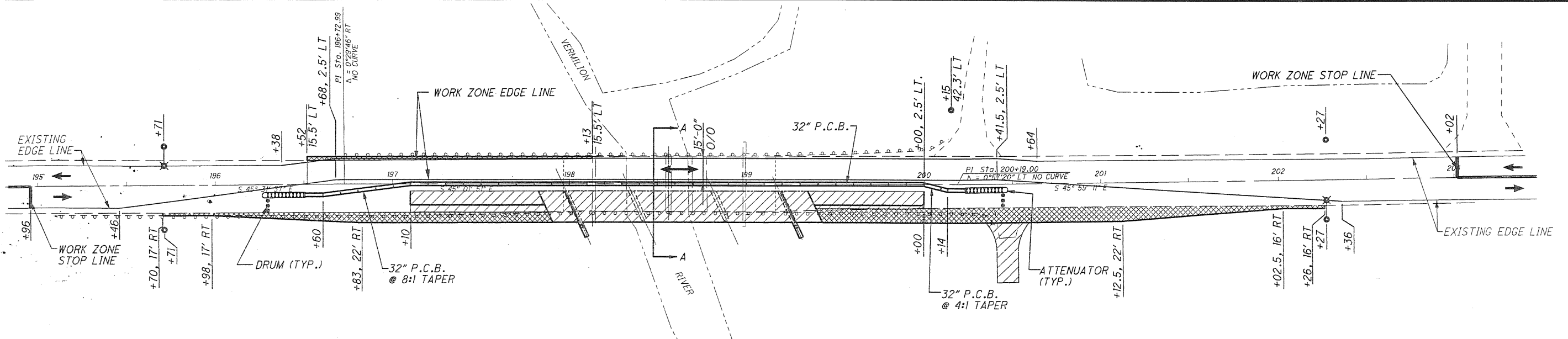
MAINTENANCE OF TRAFFIC SUBSUMMARY

ASD-250-3.77

6  
42

CALCULATED  
CMK  
CHECKED  
SAC

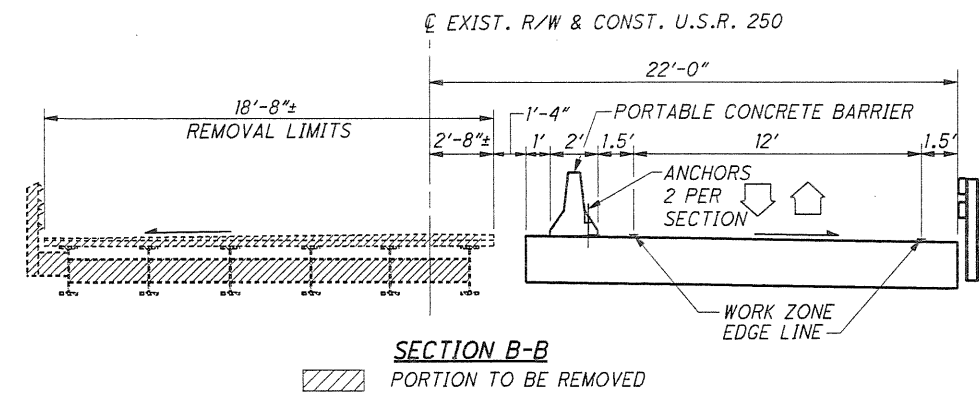
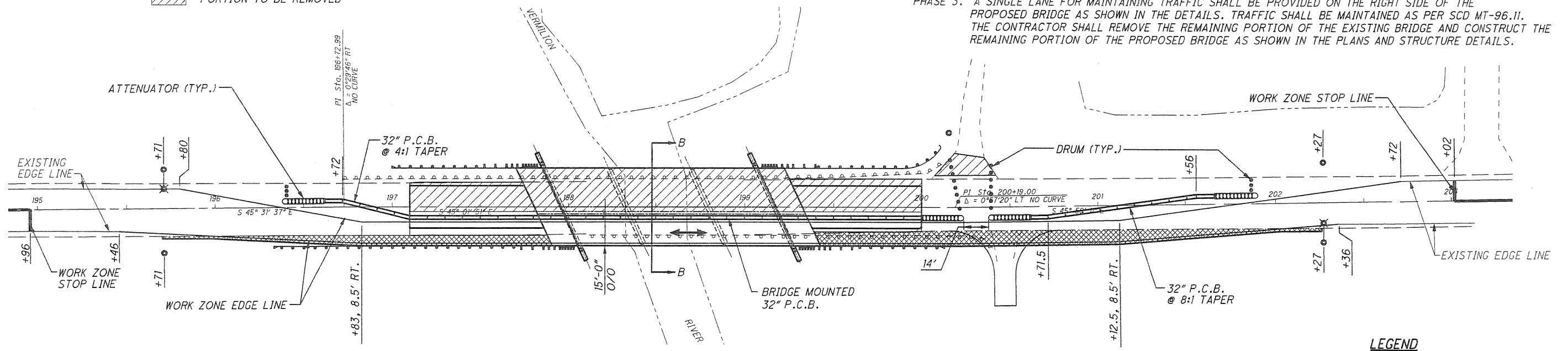
80058M5001.dgn



**PHASE 2 CONSTRUCTION**  
AREA TO BE CONSTRUCTED

**SEQUENCE OF CONSTRUCTION**

- PHASE 1.** CONSTRUCT PAVEMENT FOR MAINTAINING TRAFFIC ON THE LEFT SIDE WITH FLAGGERS, FROM STA. 196+52 TO STA. 198+13, AND ON THE RIGHT SIDE, FROM STA. 195+70 TO STA. 197+10 AND FROM STA. 200+00 TO STA. 202+26. THE MAINTENANCE OF TRAFFIC SIGNAL SHALL ALSO BE CONSTRUCTED IN THIS PHASE AS PER SCD MT-96.20.
- PHASE 2.** A SINGLE LANE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED ON THE LEFT SIDE OF THE EXISTING BRIDGE AS SHOWN IN THE DETAILS. TRAFFIC SHALL BE MAINTAINED AS PER SCD MT-96.11. THE CONTRACTOR SHALL REMOVE THE RIGHT SIDE OF THE EXISTING BRIDGE AND CONSTRUCT THE RIGHT SIDE OF THE PROPOSED BRIDGE AS SHOWN IN THE PLANS AND STRUCTURE DETAILS. THE CONTRACTOR SHALL ALSO CONSTRUCT THE RIGHT SIDE OF THE PROPOSED ROADWAY, INCLUDING PAVEMENT FOR MAINTAINING TRAFFIC, FROM STA. 197+10 TO STA. 200+00.
- PHASE 3.** A SINGLE LANE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED ON THE RIGHT SIDE OF THE PROPOSED BRIDGE AS SHOWN IN THE DETAILS. TRAFFIC SHALL BE MAINTAINED AS PER SCD MT-96.11. THE CONTRACTOR SHALL REMOVE THE REMAINING PORTION OF THE EXISTING BRIDGE AND CONSTRUCT THE REMAINING PORTION OF THE PROPOSED BRIDGE AS SHOWN IN THE PLANS AND STRUCTURE DETAILS.



**PHASE 3 CONSTRUCTION**  
AREA TO BE CONSTRUCTED

PHASE	1						3		
	1	2	3	4	5	6	7	8	9
INTERVAL	T	T	T	T	T	T	T	T	T
TIMING (SEC)	23	4	18	23	4	18	4	4	18
ACTUATED PHASE									

- LEGEND**
- PAVEMENT FOR MAINTAINING TRAFFIC
  - WORK ZONE TRAFFIC SIGNAL
  - WORK ZONE TRAFFIC SIGNAL WITH LUMINAIRE
  - DIRECTION OF TRAVEL

- NOTES**
- ONE LANE, TWO WAY TRAFFIC SHALL BE MAINTAINED ON THE BRIDGE PER MT-96.11.
  - FOR DETAILS OF PORTABLE CONCRETE BARRIER, SEE STANDARD DRAWING PCB-91.
  - FOR DETAILS OF TRAFFIC SIGNAL, SEE STANDARD DRAWINGS MT-96.20 AND MT-96.26.







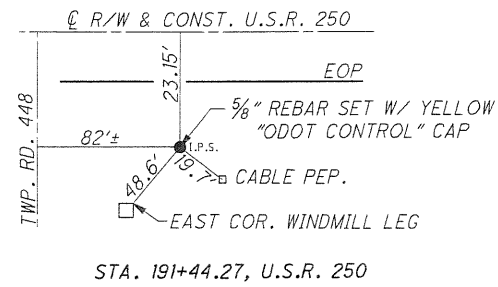
REF NO.	SHEET NO.	STATION		SIDE															CALCULATED SAC CHECKED CMK
					202		202		601	602	603	604	606	606	606	606			
		GUARDRAIL REMOVED	PIPE REMOVED			ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER	CONCRETE MASONRY	15" CONDUIT, TYPE D	MANHOLE NO. 1	GUARDRAIL, TYPE 5	BRIDGE TERMINAL ASSEMBLY, TYPE TST	ANCHOR ASSEMBLY, TYPE E	ANCHOR ASSEMBLY, TYPE T						
FROM	TO	FT	FT																
R-1	11-12	195+12.00	198+13.00	RT	301														
R-2	12	196+72.00	198+13.00	LT	141														
R-3	12	198+99.00	200+14.00	LT	115														
R-4	12	198+99.00	200+40.00	RT	141														
GR-1	12	196+35.83	198+07.62	RT															
GR-2	12	197+02.77	197+87.35	LT															
GR-3	12	199+05.39	200+10.71	LT															
GR-4	12	199+25.66	200+10.74	RT															
D-1	12	199+66.00		LT				1	0.25	9	1								
D-2	12	199+66.00	200+54.00	LT						88									
D-3	12	200+29.00	200+65.00	RT			20			36									
RCP-1	12	197+97	198+13	LT/RT				102											
RCP-2	12	198+99	199+15	LT/RT				89											
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>					698	20		192	0.25	133	1	322	4	3	1				

ESTIMATED QUANTITIES

ASD - 250 - 3.77

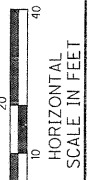
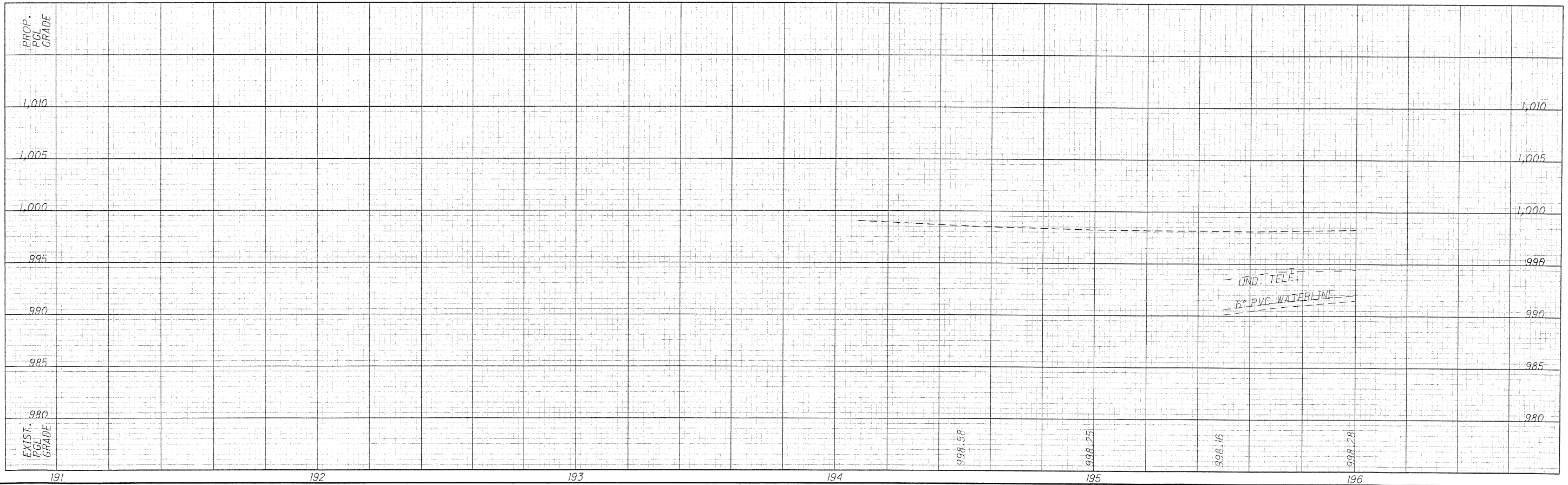
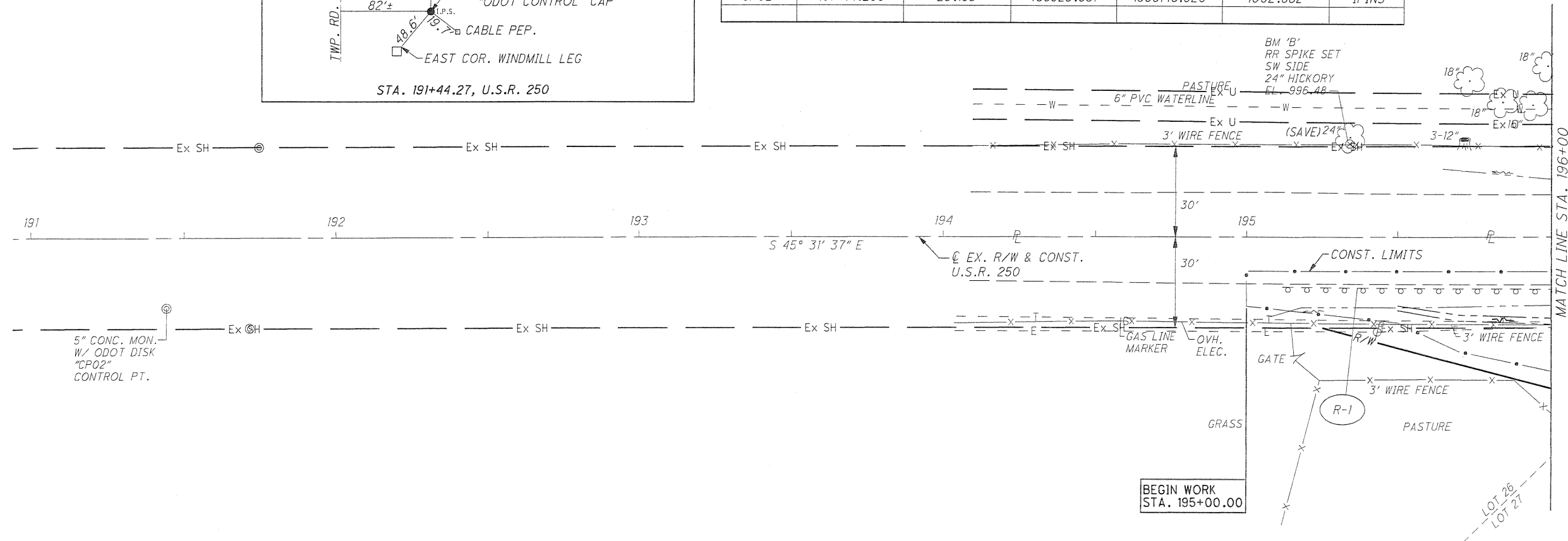
80058GQ001.dgn

CENTERLINE REFERENCE CP02 (NOT TO SCALE)



PROJECT GROUND COORDS. - US SURVEY FEET

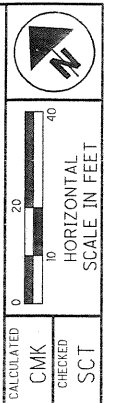
PRIMARY CONTROL POINTS						
CENTERLINE R/W USR 250			SH 142 - SEC 'C' & ASD-250-(1.61-6.30) (1971)			
NAME	STATION	OFFSET (FT)	NORTH (FT)	SOUTH (FT)	ELEVATION (FT)	FEATURE
CP02	191+44.266	23.153	486923.681	1996146.920	1002.882	IPINS



CALCULATED  
CMK  
CHECKED  
SCT

**PLAN AND PROFILE - U.S.R. 250**  
**Sta. 191+00 to Sta. 196+00**

**ASD-250-3.77**



CALCULATED  
CMK  
CHECKED  
SCT

**PLAN AND PROFILE - U.S.R. 250**  
**Sta. 196+00 to Sta. 201+00**

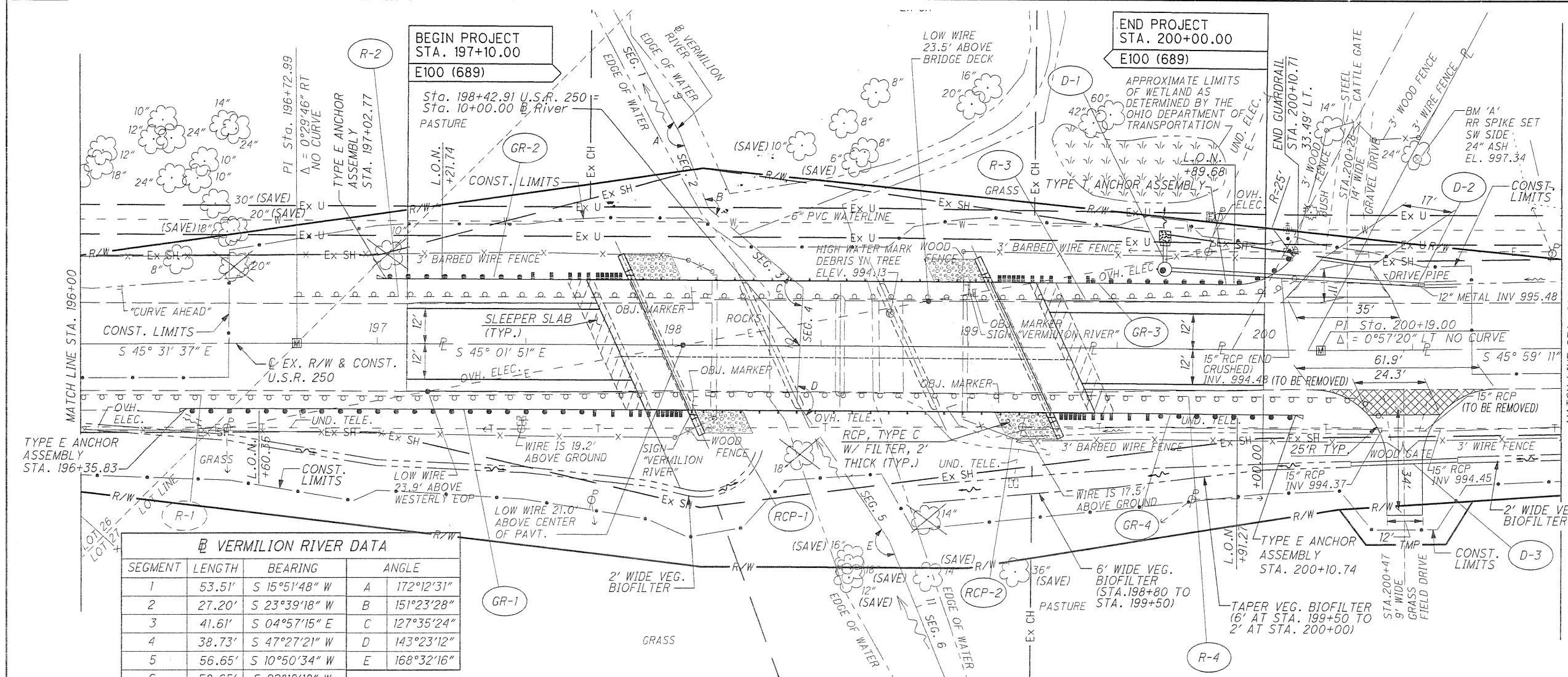
**ASD-250-3.77**

- NOTES:
1. PROPOSED DRIVEWAY MATERIAL COMPOSED OF 8" OF ITEM 304 AGGREGATE BASE.
  2. FENCE ENCROACHMENTS TO BE REMOVED BY OTHERS.

**B.M. A**  
RR SPIKE SET SW SIDE OF 24" ASH STA. 200+51.82, 64.69' LT. ELEV. 997.34

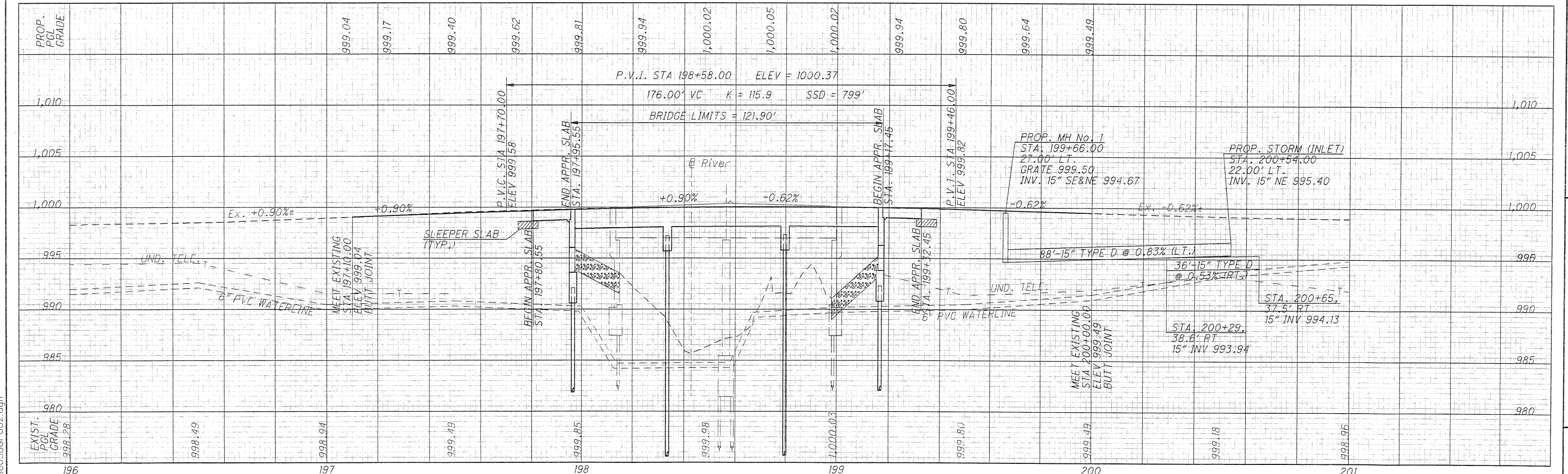
**B.M. B**  
RR SPIKE SET SW SIDE OF 24" HICKORY STA. 195+33.87, 30.91' LT. ELEV. 996.48

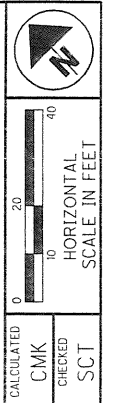
PORTION OF PAVEMENT FOR MAINTAINING TRAFFIC TO REMAIN IN PLACE.



**B VERMILION RIVER DATA**

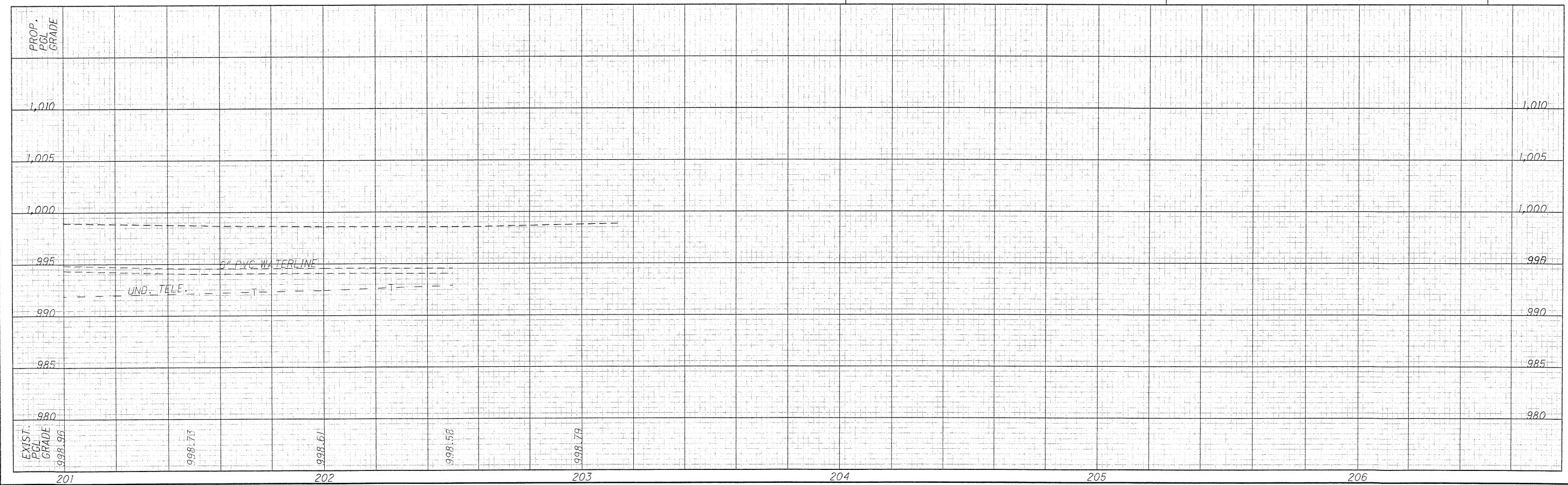
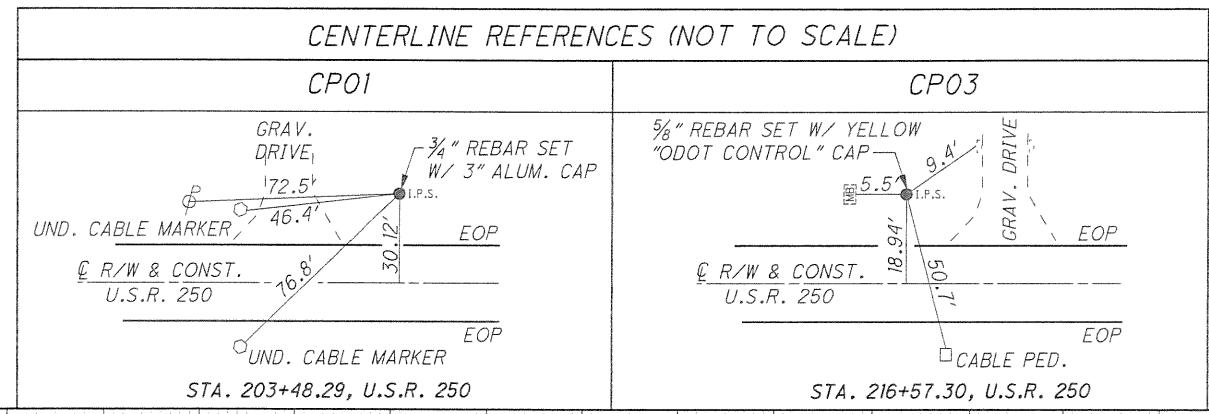
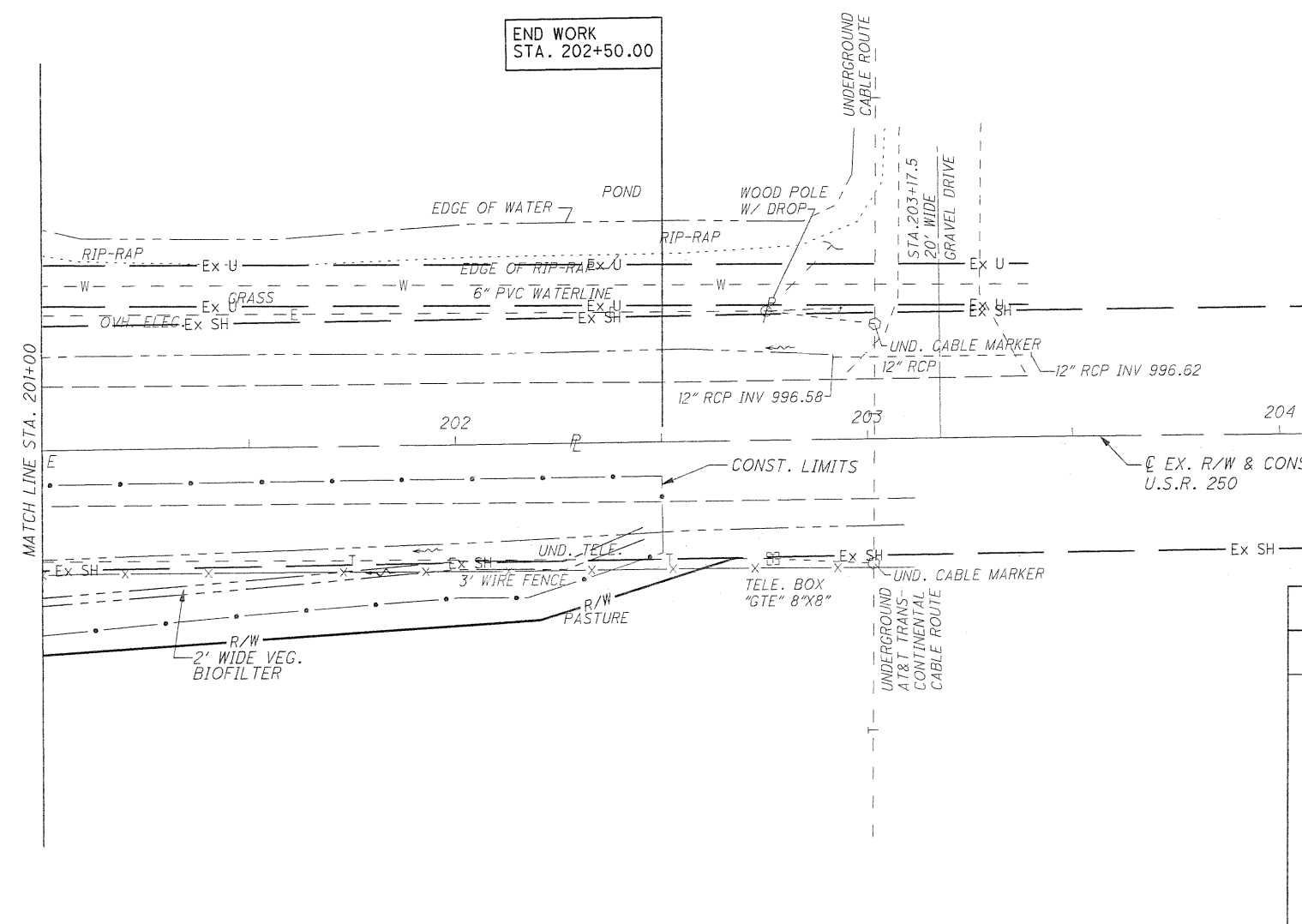
SEGMENT	LENGTH	BEARING	ANGLE
1	53.51'	S 15°51'48" W	A 172°12'31"
2	27.20'	S 23°39'18" W	B 151°23'28"
3	41.61'	S 04°57'15" E	C 127°35'24"
4	38.73'	S 47°27'21" W	D 143°23'12"
5	56.65'	S 10°50'34" W	E 168°32'16"
6	58.65'	S 22°18'18" W	





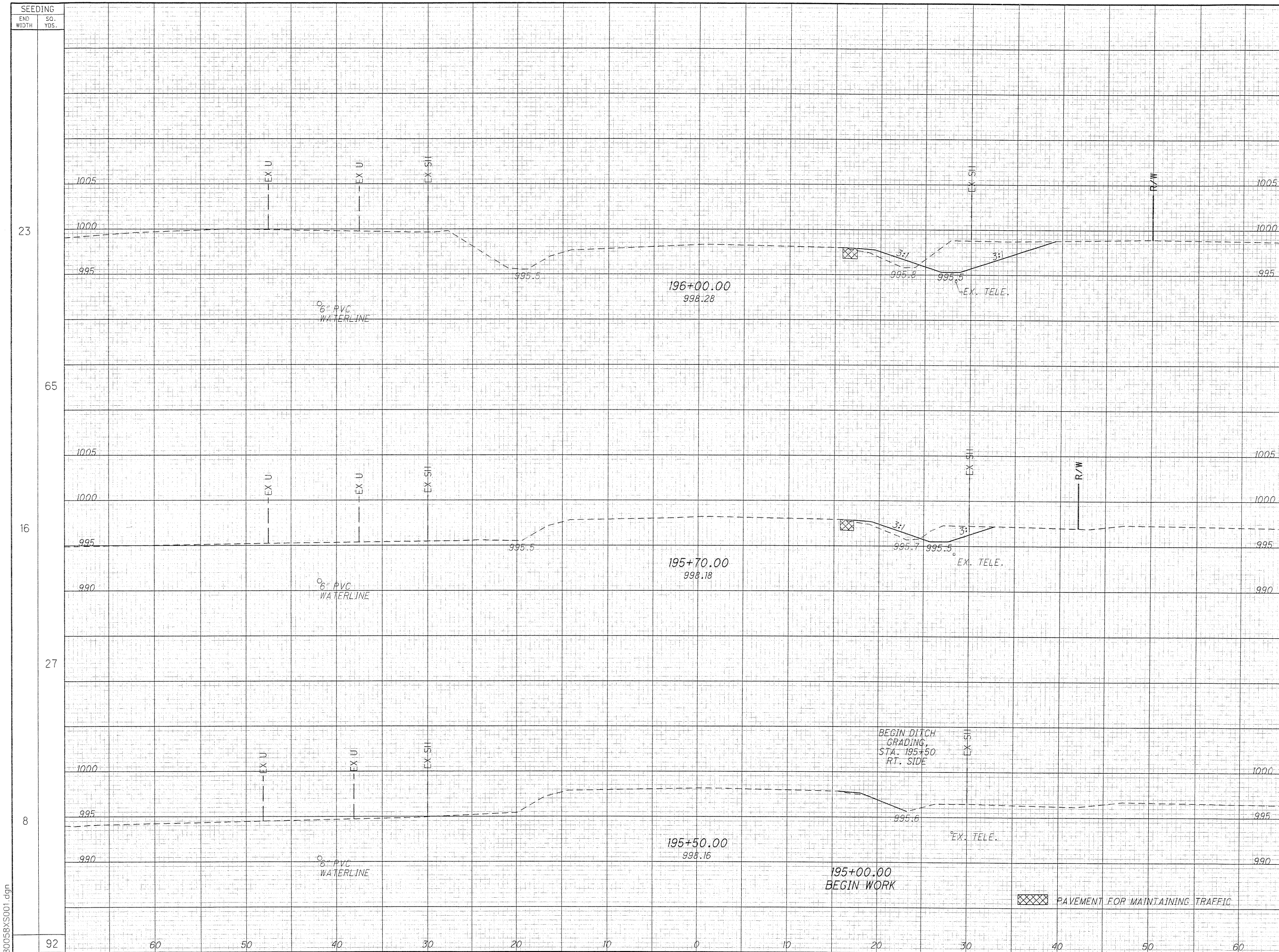
**PROJECT GROUND COORDS. - US SURVEY FEET**

PRIMARY CONTROL POINTS						
	CENTERLINE R/W USR 250		SH 142 - SEC 'C' & ASD-250-(1.61-6.30) (1971)			
NAME	STATION	OFFSET (FT)	NORTH (FT)	SOUTH (FT)	ELEVATION (FT)	FEATURE
CP01	203+48.289	-30.115	486118.116	1997042.967	998.335	IPINS
CP03	216+57.296	-18.943	485202.629	1997978.332	1059.010	IPINS



**PLAN AND PROFILE - U.S.R. 250**  
**Sta. 201+00 to Sta. 206+00**

**ASD-250-3.77**



END AREA	VOLUME	
	CUT	FILL
28	4	4
8	3	4
0	1	1
23	5	5

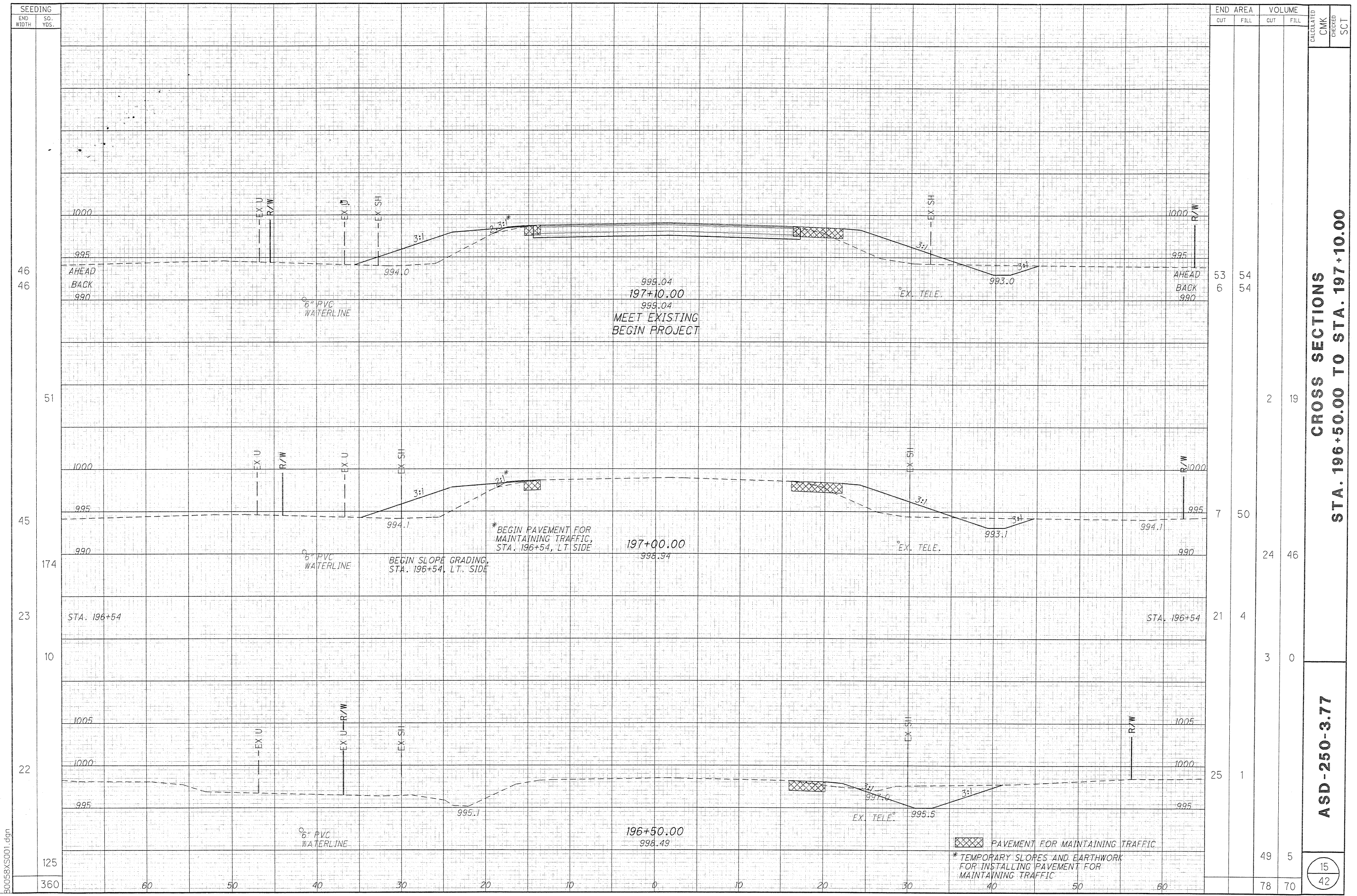
**CROSS SECTIONS**  
**STA. 195+50.00 TO STA. 196+00.00**

**ASD - 250 - 3.77**

CALCULATED	CHECKED	SCT

14  
 42

80058XS001.dgn



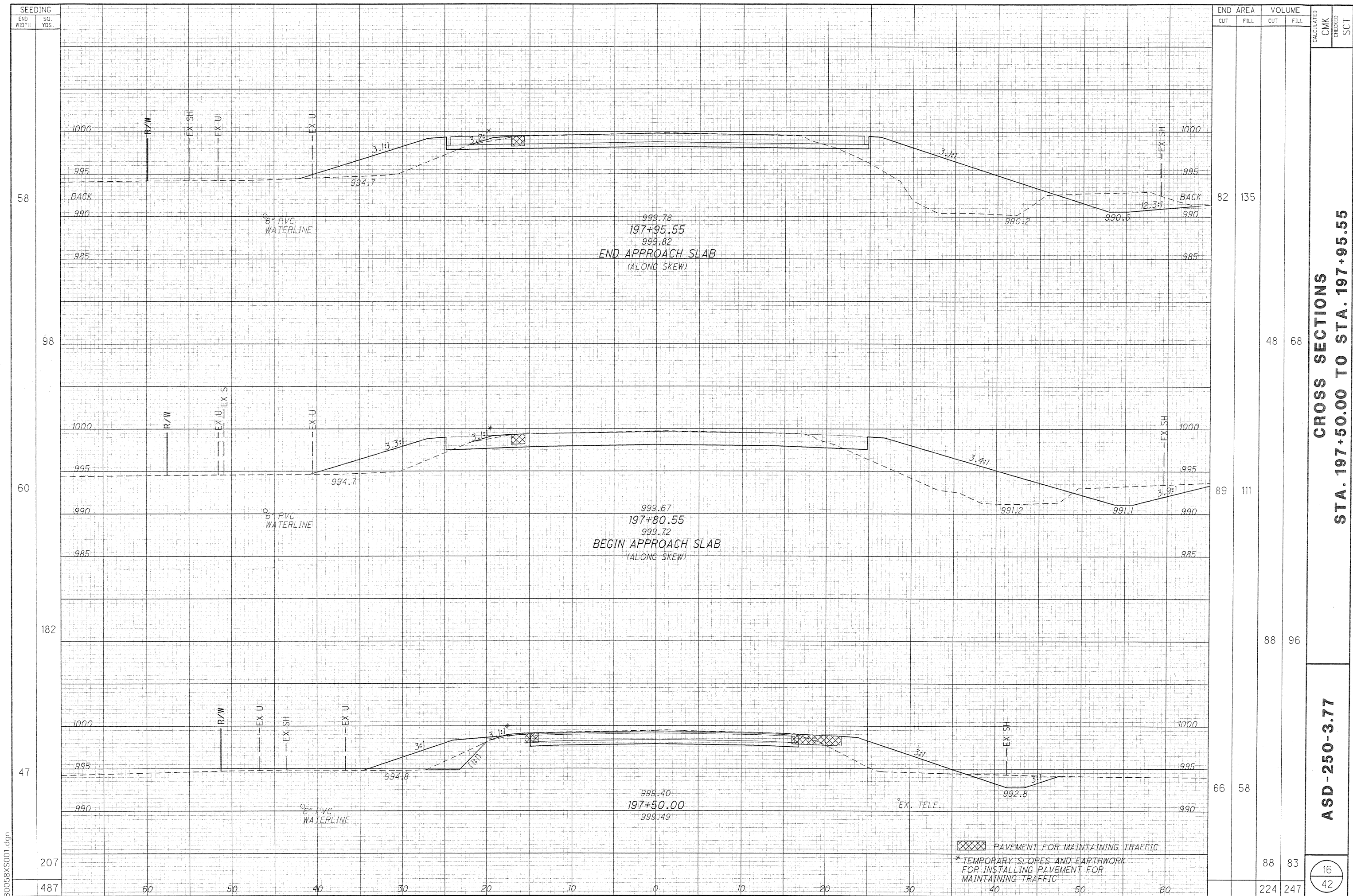
SEEDING	
END WIDTH	SO. YDS.
46	46
51	51
45	174
23	10
22	125
360	360

END CUT	AREA FILL	VOLUME		CALCULATED	CMK CHECKED	SCT
		CUT	FILL			
53	54	6	54			
2	19					
7	50					
24	46					
21	4					
3	0					
25	1					
49	5					
78	70					

**CROSS SECTIONS**  
**STA. 196+50.00 TO STA. 197+10.00**

**ASD-250-3.77**

15  
 42

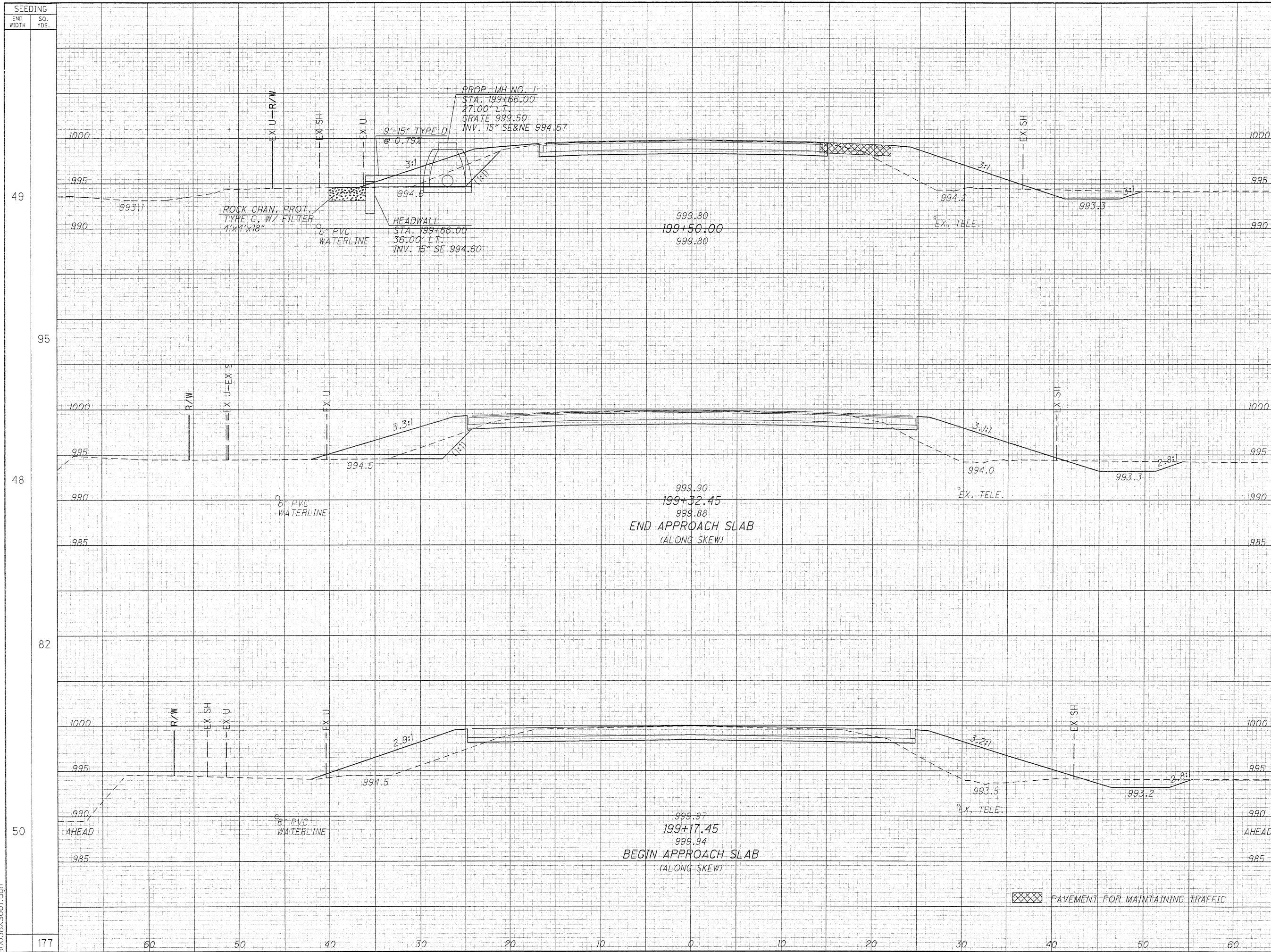


SEEDING	END WIDTH	SO. YDS.
	60	487
	50	207
	40	47
	30	182
	20	60
	10	98
	0	58

END AREA	VOLUME		CALCULATED	CMK CHECKED	SCT
	CUT	FILL			
82	135				
89	111				
66	58				
88	83				
224	247				

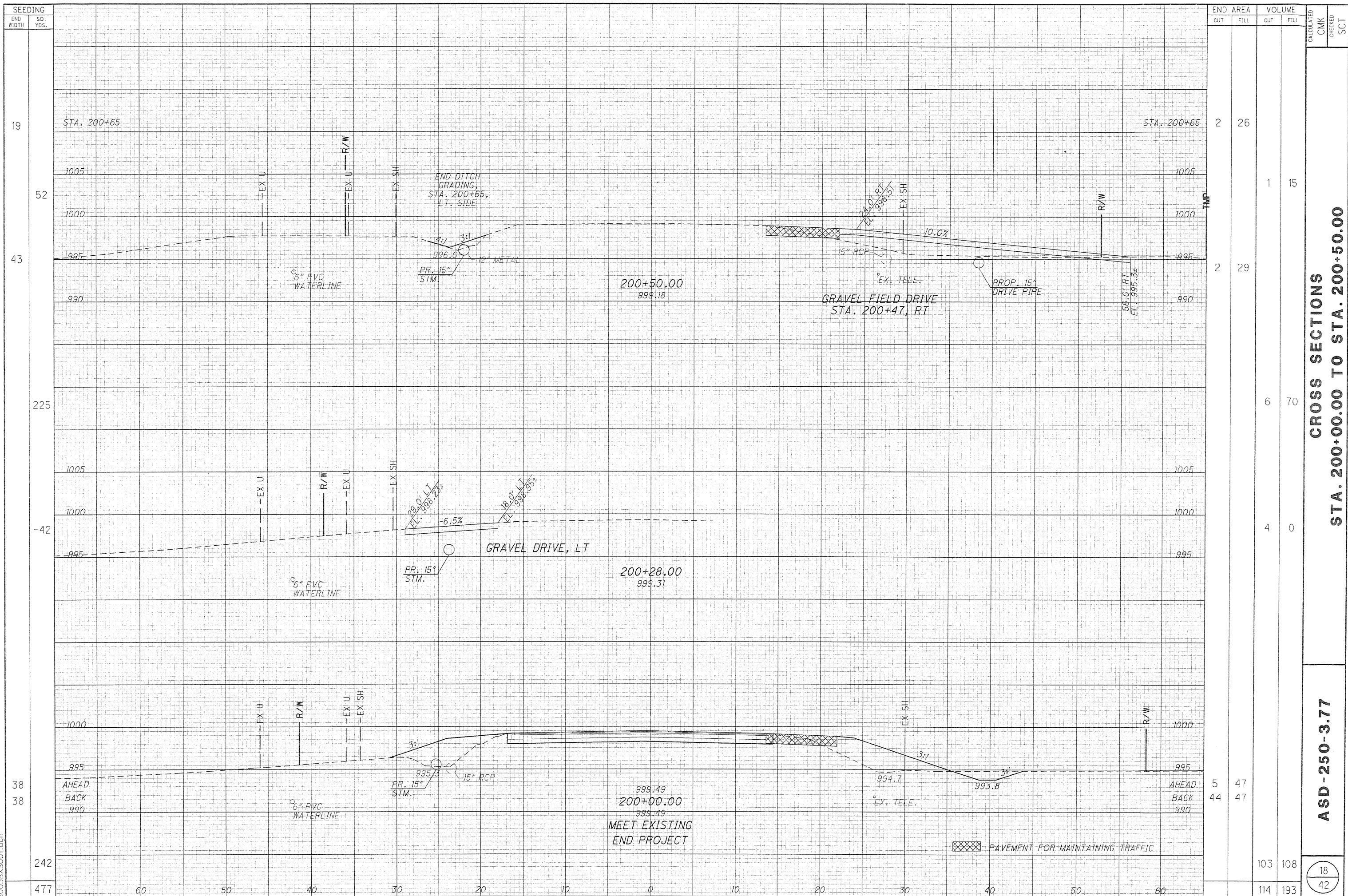
**CROSS SECTIONS**  
**STA. 197+50.00 TO STA. 197+95.55**  
**ASD-250-3.77**



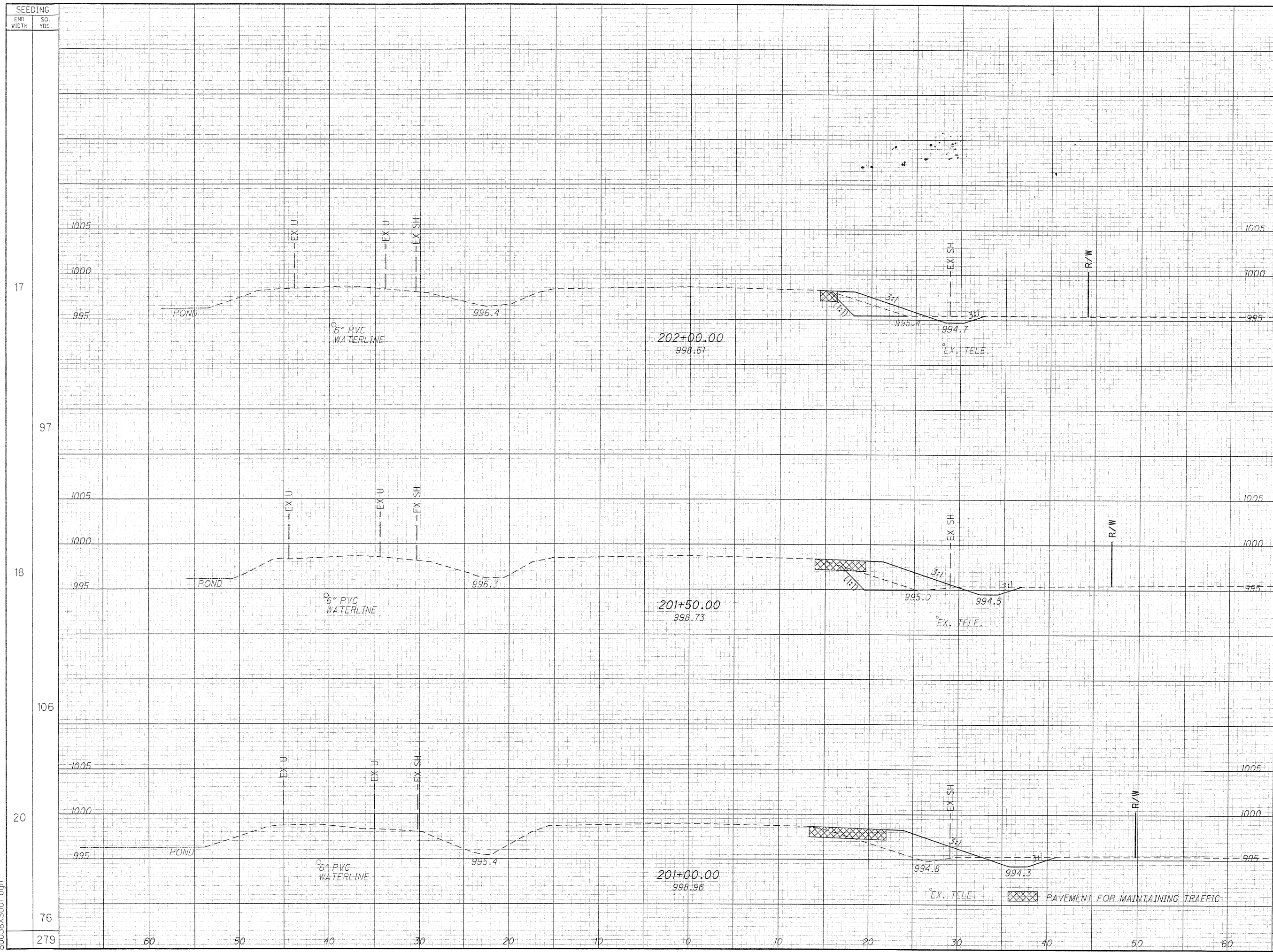


STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
199+50.00	67	70		
199+32.45	80	80		
199+17.45	66	84		
TOTAL	89	95		

**CROSS SECTIONS**  
**STA. 199+17.45 TO STA. 199+50.00**  
**ASD-250-3.77**  
 CALCULATED  
 CMK  
 CHECKED  
 SCT  
 17  
 42

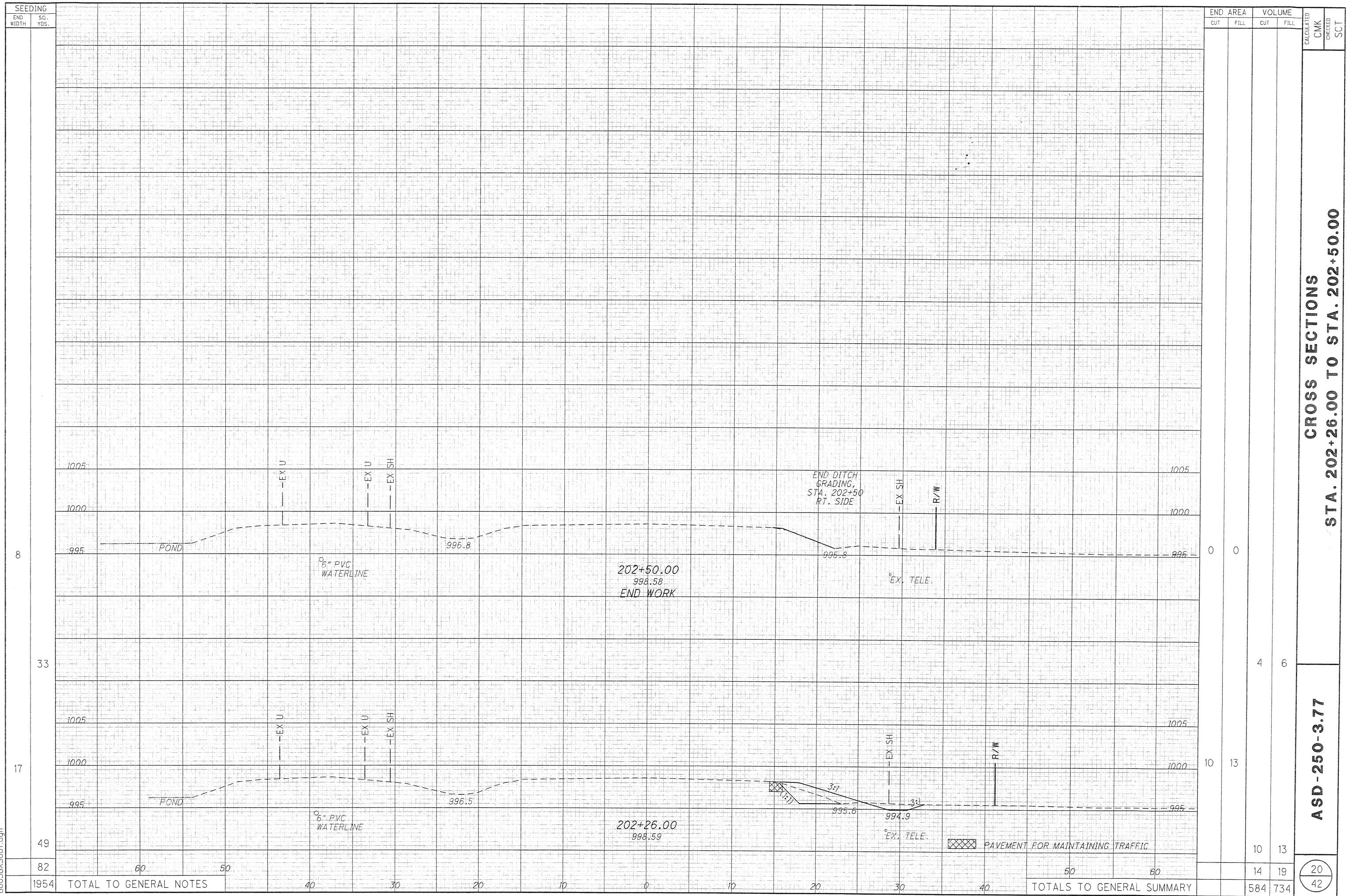


B0058XS001.dgn



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
202+00.00	11	14		
201+50.00	12	23		
201+00.00	5	21		
TOTAL	42	105		

**ASD-250-3.77**  
**CROSS SECTIONS**  
**STA. 201+00.00 TO STA. 202+00.00**  
 CALCULATED  
 CMK  
 CHECKED  
 SCT

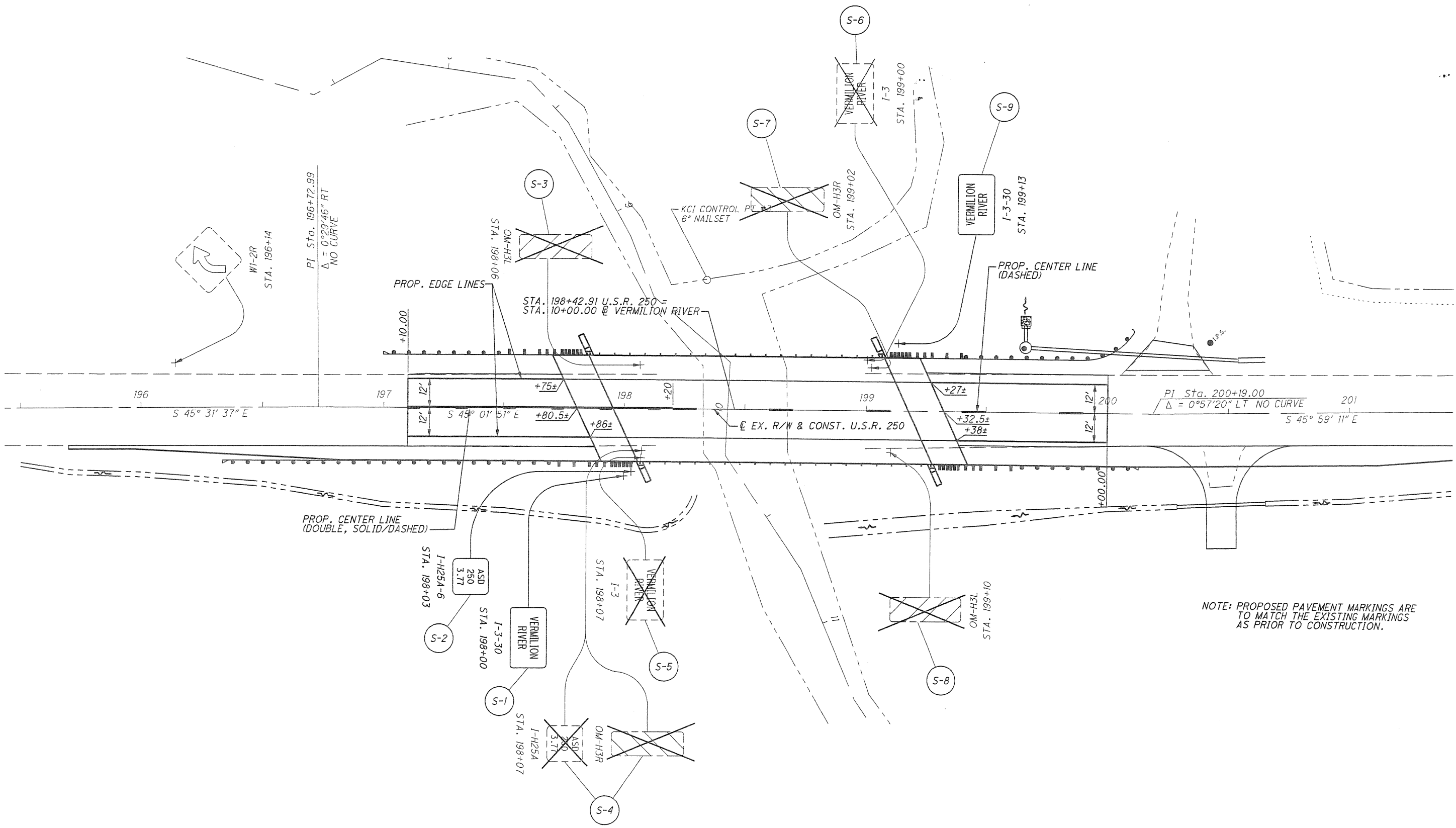


END AREA	VOLUME	CALCULATED	CMK	CHECKED	SCT
0	0				
10	13				
10	13				
14	19	20			
584	734	42			

**CROSS SECTIONS**  
**STA. 202+26.00 TO STA. 202+50.00**

**ASD-250-3.77**

80058XS001.dgn



NOTE: PROPOSED PAVEMENT MARKINGS ARE TO MATCH THE EXISTING MARKINGS AS PRIOR TO CONSTRUCTION.

CALCULATED  
KDB  
CHECKED  
CMK

0 10 20 40  
HORIZONTAL SCALE IN FEET

**TRAFFIC CONTROL PLAN**  
**U.S.R. 250**

**ASD-250-3.77**

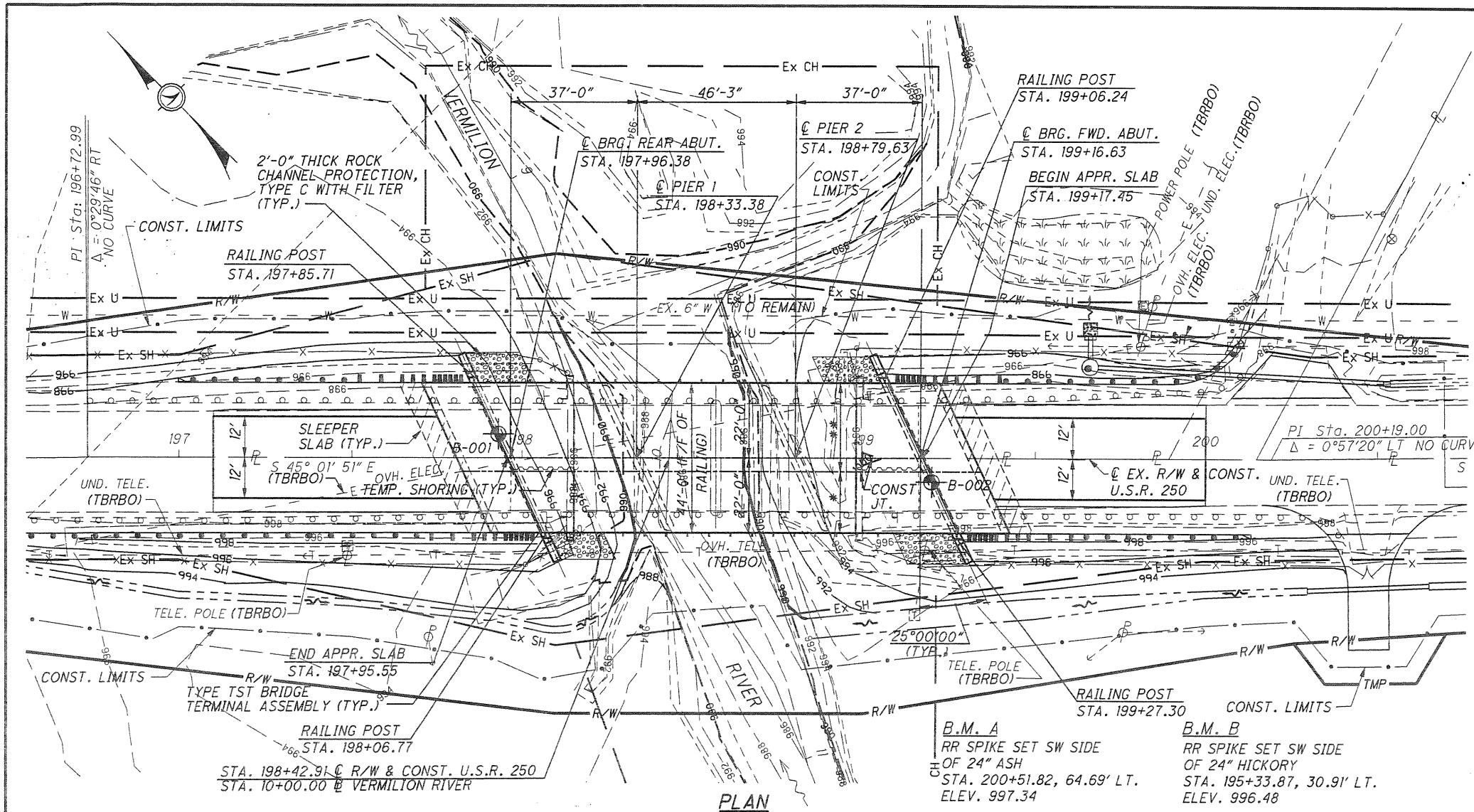
SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630	630	630	630		642	642	642	646	646	646		
							REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	GROUND MOUNTED SUPPORT, NO. 2 POST	SIGN, FLAT SHEET		EDGE LINE, TYPE 1 (WHITE)	CENTER LINE, TYPE 1 (SOLID/DASHED)	CENTER LINE, TYPE 1 (DASHED)	EDGE LINE (WHITE)	CENTER LINE (SOLID/DASHED)	CENTER LINE (DASHED)		
							EACH	EACH	FT	SQ FT		MILE	MILE	MILE	MILE	MILE	MILE		
21	S-1	USR 250	198+00	RT	I-3-30	30 x 15			10.75	3.125									
21	S-2		198+03	RT	I-H25A-6	6 x 6			10.00	0.25									
21	S-3		198+06	LT	OM-H3L		1	1											
21	S-4		198+07	RT	OM-H3A I-H25A		1 1	1											
21	S-5		198+07	RT	I-3		1	1											
21	S-6		199+00	LT	I-3		1	1											
21	S-7		199+02	LT	OM-H3R		1	1											
21	S-8		199+10	RT	OM-H3L		1	1											
21	S-9		199+13	LT	I-3-30	30 x 15			10.75	3.125									
21			197+10 TO 197+75	LT								0.012							
21			197+10 TO 197+80.5	C									0.013						
21			197+10 TO 197+86	RT								0.014							
21			197+75 TO 199+27	LT											0.029				
21			197+80.5 TO 198+20	C												0.007			
21			198+20 TO 199+32.5	C													0.021		
21			197+86 TO 199+38	RT											0.029				
21			199+27 TO 200+00	LT								0.014							
21			199+32.5 TO 200+00	C									0.013						
21			199+38 TO 200+00	RT								0.012							
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>							7	6	31.5	6.5		0.05	0.03	0.06	0.03				

CALCULATED  
KDB  
CHECKED  
CMK

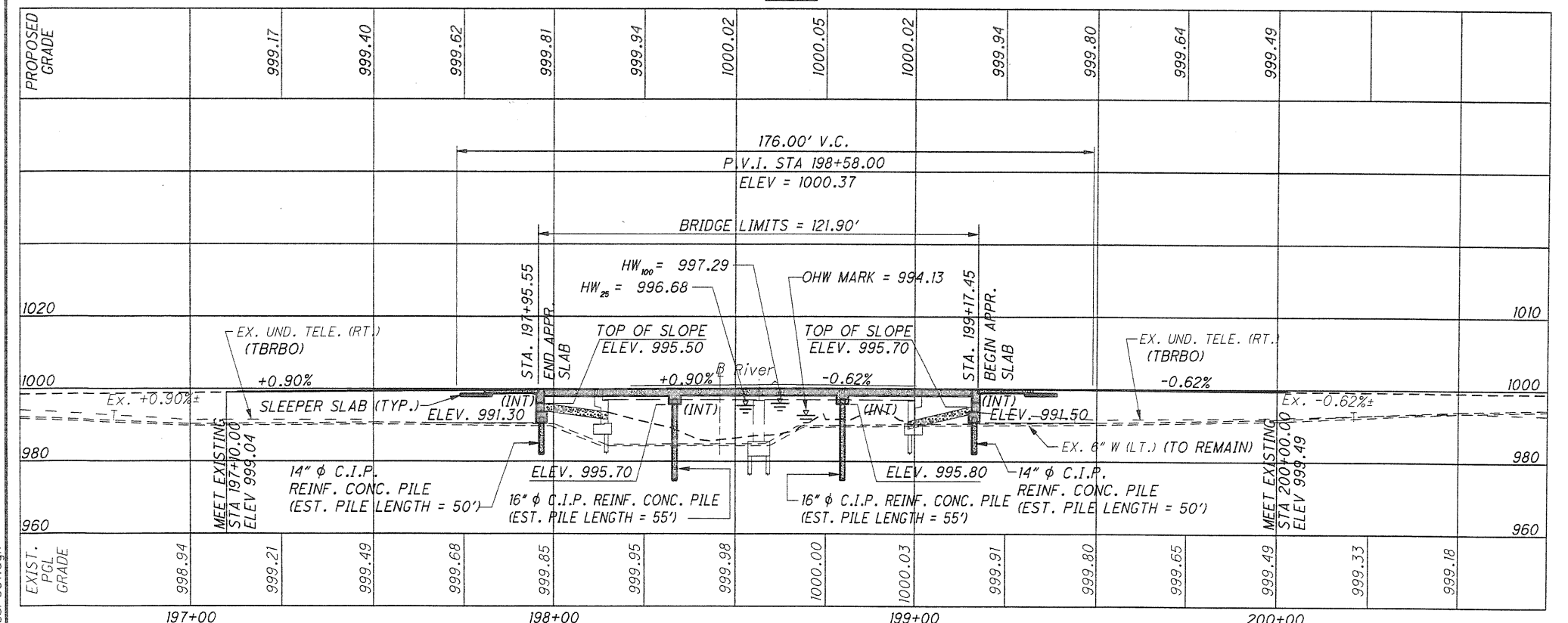
**SIGNING SUBSUMMARY**

**ASD-250-3.77**

80058TS001



PLAN



PROFILE ALONG C CONST. U.S.R. 250

**NOTES**  
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

**FLOOD HAZARD STATEMENT**  
THE LIMIT OF THE PROPOSED 100 YR. FLOOD PLAIN AREA IS LESS THAN THAT OF THE EXISTING BRIDGE AND THE SURROUNDING AREA IS SPARSELY POPULATED, THEREFORE, THE POTENTIAL RISK FOR PROPERTY LOSS IS NEGLIGIBLE. NO BUILDINGS ARE WITHIN THE PROPOSED 100 YR. FLOOD PLAIN.

**DESIGN TRAFFIC:**  
2011 ADT = 4,040      2031 ADTT = 2,529  
2031 ADT = 5,380      DIRECTIONAL DISTRIBUTION = 0.52

**LEGEND**  
\* - PHASE 2 CONSTRUCTION = 18'-0"  
\*\* - PHASE 3 CONSTRUCTION = 26'-0"  
(TBRBO) - TO BE RELOCATED BY OTHERS  
[Pattern] ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (2'-0" THICK)  
[Pattern] APPROXIMATE LIMITS OF EXISTING WETLAND AS DETERMINED BY THE ODOT.  
[Symbol] SOIL BORING LOCATION

BORING	STATION	OFFSET	ELEVATION
B-001	193+93.00	7.00' LT.	999.70
B-002	199+20.00	7.00' RT.	999.80

**HYDRAULIC DATA**  
DRAINAGE AREA = 26.4 SQ. MI.  
Q25 = 2810 CFS      Q100 = 3710 CFS  
V25 = 4.10 FPS      V100 = 4.94 FPS  
EST. 25 YR. H.W. EL. 996.68      EST. 100 YR. H.W. EL. 997.29

**EXISTING STRUCTURE**  
TYPE: STEEL BEAM WITH CORRUGATED SHEET STEEL FLOOR & ASPHALT DECK AND REINFORCED CONCRETE SUBSTRUCTURE  
SPANS: 44'-9" (±), 44'-9" (±) C/C BEARING  
ROADWAY: 32'-0"±  
LOADING: H20-44  
SKEW: NONE  
APPROACH SLABS: 15'-0" (±)  
ALIGNMENT: TANGENT  
CROWN: NORMAL, 0.0104 (±)  
STRUCTURE FILE NUMBER: 0304689  
DATE BUILT: 1969  
DISPOSITION: SUPERSTRUCTURE AND SUBSTRUCTURE TO BE REMOVED IN PHASES.

**PROPOSED STRUCTURE**  
PROPOSED WORK: REMOVE AND REPLACE EXISTING DECK, ABUTMENTS AND PIER.  
TYPE: CONTINUOUS REINFORCED CONCRETE SLAB SUPERSTRUCTURE WITH REINFORCED CONCRETE SUBSTRUCTURE.  
SPANS: 37'-0", 46'-3", 37'-0" C/C BEARINGS  
ROADWAY: 44'-0" F/F RAILING  
LOADING: HL-93. FUTURE WEARING SURFACE (FWS) 60 P.S.F.  
SKEW: 25°00'00" R.F.  
APPROACH SLABS: 15'-0" LONG (AS-1-81)  
ALIGNMENT: TANGENT  
WEARING SURFACE: MONOLITHIC CONCRETE  
CROWN: 0.016  
COORDINATES: LATITUDE N 41°00'05"  
LONGITUDE W 82°23'55"

DESIGN AGENCY: KCI ASSOCIATES OF OHIO, P.A.  
388 S. MAIN ST., SUITE 401  
AKRON, OHIO 44311

DATE: 7/12/10  
REVIEWED: BAW  
STRUCTURE FILE NUMBER: 0304689

DRAWN: WEB  
REVISED:

DESIGNED: SCT  
CHECKED: CMK

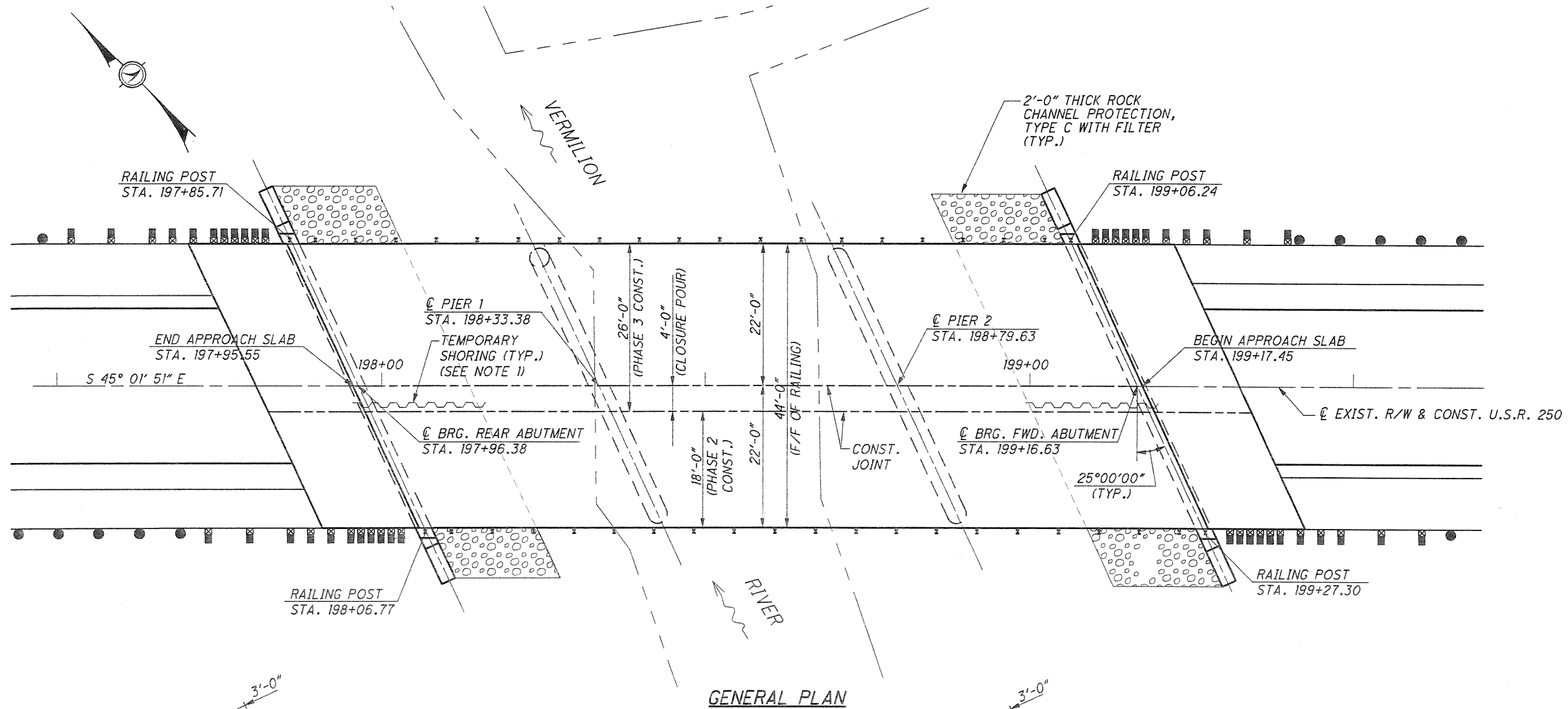
ASHLAND COUNTY  
STA. 197+95.55  
STA. 199+17.45

**SITE PLAN**  
BRIDGE NO. ASD-250-0377  
U.S.R. 250 OVER VERMILION RIVER

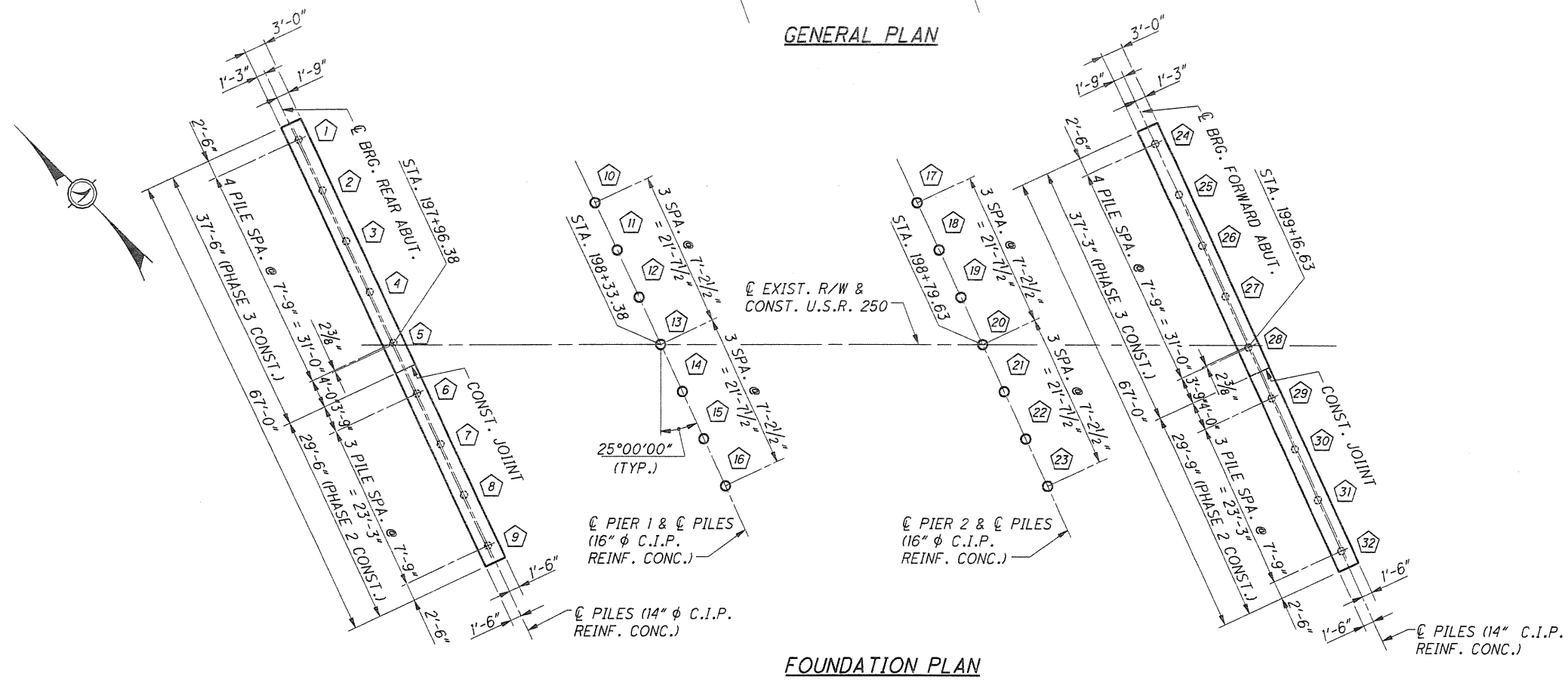
**ASD-250-3.77**  
PID No. 80058

1 / 15

23  
42



GENERAL PLAN



FOUNDATION PLAN

**LEGEND**  
 (1) PILE IDENTIFICATION NUMBER

**NOTE**  
 1. TEMPORARY SHORING SHALL BE INCLUDED WITH ITEM 503, COFFERDAMS AND EXCAVATION BRACING, FOR PAYMENT.

DESIGN AGENCY  
 KCI ASSOCIATES OF OHIO, P.A.  
 388 S. MAIN ST., SUITE 401  
 AKRON, OHIO 44311

DATE  
 7/12/10  
 REVIEWED  
 BAW  
 STRUCTURE FILE NUMBER  
 0304697  
 DRAWN  
 WEB  
 DESIGNED  
 SCT  
 CHECKED  
 CMK

GENERAL PLAN AND FOUNDATION PLAN  
 BRIDGE NO. ASD-250-0377  
 U.S.R. 250 OVER VERMILION RIVER

ASD-250-3.77  
 PID No. 80058

2 / 15

24  
 42



# STRUCTURE GENERAL NOTES

## REFERENCE

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81	REVISED	07-19-02
CPA-1-08	DATED	07-18-08
CPP-1-08	DATED	07-18-08
CS-1-08	DATED	07-18-08
DS-1-92	REVISED	07-18-03
PCB-91	REVISED	07-19-02
TST-1-99	REVISED	04-18-08

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:  
898 DATED 10-15-10

## DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FOURTH EDITION" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2007, AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

## DESIGN DATA

DESIGN METHOD - LOAD AND RESISTANCE FACTOR DESIGN

DESIGN LOADING - HL-93

FUTURE WEARING SURFACE - 0.060 KIPS/FT<sup>2</sup>

WEARING SURFACE - ONE INCH MONOLITHIC

DESIGN STRESSES:

CONCRETE - COMPRESSIVE OSC2 STRENGTH = 4.5 KSI (SUPERSTRUCTURE)

COMPRESSIVE OSC1 STRENGTH = 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MIN. YIELD STRENGTH = 60 KSI

## REMOVAL OF EXISTING STRUCTURE

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED TO THE LIMITS SHOWN UPON RECEIVING PERMISSION FROM THE ENGINEER.

## MAINTENANCE OF TRAFFIC

REFER TO SHEETS NUMBERED 5-6 OF THE MAINTENANCE OF TRAFFIC PLANS.

## DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL, STEEL DRIP STRIP AND 2 1/2" CONCRETE COVER.

## MONOLITHIC WEARING SURFACE

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

## ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 203 MATERIAL PLACED IN 6 INCH LIFTS.

## ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN

ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET OF THE DRAINAGE PIPES. THE STEEL BOLTS OR RODS FOR THE ANIMAL GUARDS SHALL BE GALVANIZED PER CMS 711.02. SEE STANDARD DRAWING DM-1.1 FOR ADDITIONAL DETAILS AND NOTES. THE ANIMAL GUARDS ARE INCIDENTAL TO ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN.

## MECHANICAL CONNECTORS

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES.

CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATION. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATION WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER, OR THEY SHALL BE REPLACED WITH MATERIAL WHICH MEETS THE SPECIFICATIONS. CONNECTORS SHALL CONFORM WITH 509 AND BE INCLUDED IN ITEM 898.

## PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

THE ULTIMATE BEARING VALUE IS 274 KIPS PER PILE FOR THE REAR ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 385 KIPS PER PILE AT PIER 1, WHICH INCLUDES AN ADDITIONAL 18 KIPS PER PILE OF ULTIMATE BEARING VALUE DUE TO THE POSSIBILITY OF LOSING 6.44 FEET OF FRICTIONAL RESISTANCE DUE TO SCOUR. THE ULTIMATE BEARING VALUE IS 376 KIPS PER PILE AT PIER 2, WHICH INCLUDES AN ADDITIONAL 9 KIPS PER PILE OF ULTIMATE BEARING VALUE DUE TO THE POSSIBILITY OF LOSING 6.44 FEET OF FRICTIONAL RESISTANCE DUE TO SCOUR. THE ULTIMATE BEARING VALUE IS 260 KIPS FOR THE FORWARD ABUTMENT PILES.

### ABUTMENT PILES:

18 PILES 55 FEET LONG, ORDER LENGTH  
2 DYNAMIC LOAD TESTING ITEMS

### PIER PILES:

14 PILES 60 FEET LONG, ORDER LENGTH  
2 DYNAMIC LOAD TESTING ITEMS

ABUTMENT CAST-IN-PLACE REINFORCED CONCRETE PILES SHALL BE 8 1/2" X 14" X 40' CAST-IN-PLACE REINFORCED CONCRETE PILES WITH A 0.14"/FT TAPER AND MINIMUM WALL THICKNESS OF 0.2391". CONSTANT DIAMETER EXTENSIONS SHALL BE SPLICED TO THE TAPERED SECTION AND FURNISHED IN LENGTHS TO MAKE UP THE REMAINDER OF THE REQUIRED PILE LENGTHS.

PIER CAST-IN-PLACE REINFORCED CONCRETE PILES SHALL BE 8" X 16" X 33' CAST-IN-PLACE REINFORCED CONCRETE PILES WITH A 0.25"/FT TAPER AND A MINIMUM WALL THICKNESS OF 0.2391". CONSTANT DIAMETER EXTENSIONS SHALL BE SPLICED TO THE TAPERED SECTION AND FURNISHED IN LENGTHS TO MAKE UP THE REMAINDER OF THE REQUIRED PILE LENGTHS.

## ITEM 898 - QC/QA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK), AS PER PLAN

THE COARSE AGGREGATE SHALL BE LIMESTONE.

THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

## ITEM 898 - QC/QA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (APPROACH SLAB) (T=12"), AS PER PLAN

THE COARSE AGGREGATE SHALL BE LIMESTONE.

FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, QC/QA CONCRETE, CLASS OSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, SLEEPER SLAB, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

## ITEM 898 - QC/QA CONCRETE, CLASS OSC1, SUBSTRUCTURE, AS PER PLAN

THE COARSE AGGREGATE SHALL BE LIMESTONE.

## ITEM 898 - QC/QA CONCRETE, CLASS OSC2, SUBSTRUCTURE, (CAPPED PILE PIER), AS PER PLAN

THE COARSE AGGREGATE SHALL BE LIMESTONE.

## DRIP GROOVES

THE DRIP GROOVES AS DETAILED ON STANDARD CONSTRUCTION DRAWINGS SHALL NOT BE CONSTRUCTED.

## ITEM 516 - INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1/4" X #10 GAUGE GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAUGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE, WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY-DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094±0.01
BREAKING STRENGTH, GRAB, LBS, MINIMUM (LONG. X TRANS.)	D751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212°F, 180° BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLINESS, 1 HR, -40°F, BEND AROUND 1/4" MANDREL	D2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

## ABBREVIATIONS

CL	- CENTERLINE	STA.	- STATION
BRG.	- BEARING	RT.	- RIGHT
TYP.	- TYPICAL	LT.	- LEFT
@	- AT	SER.	- SERIES
SPA.	- SPACES	BOTT.	- BOTTOM
MIN.	- MINIMUM	INT.	- INTEGRAL
VAR.	- VARIES	APPR.	- APPROACH
ELEV.	- ELEVATION	STD.	- STANDARD
STR.	- STRAIGHT	DWG.	- DRAWING
FT.	- FOOT	F/F	- FACE TO FACE
ABUT.	- ABUTMENT	CONC.	- CONCRETE
FWD.	- FORWARD	P.S.I.	- POUNDS PER SQUARE INCH
CONST.	- CONSTRUCTION	N.S.	- NEAR SIDE
EXIST.	- EXISTING	F.S.	- FAR SIDE
EX.	- EXISTING	E.S.	- EACH SIDE
P.E.J.F.	- PREFORMED EXPANSION JOINT FILLER	C/C	- CENTER TO CENTER
C.I.P.	- CAST-IN-PLACE	TEMP	- TEMPORARY
C.P.P.	- CORRUGATED PLASTIC PIPE	REINF.	- REINFORCED
EST	- ESTIMATED	SPEC.	- SPECIAL

DESIGN AGENCY  
KCI ASSOCIATES OF OHIO, P.A.  
388 S. MAIN ST., SUITE 401  
AKRON, OHIO 44311

DATE  
7/12/10  
REVIEWED  
BAW  
STRUCTURE FILE NUMBER  
030469T

DRAWN  
WEB  
CHECKED  
SCT  
CMK

STRUCTURE GENERAL NOTES  
BRIDGE NO. ASD-250-0377  
U.S.R. 250 OVER VERMILION RIVER

ASD-250-3.77  
PID No. 80058

3 / 15

25  
42

800585GN001.dgn

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	GENERAL	AS PER PLAN SHEET
202	11002	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN				LUMP	
202	22900	107	SQ YD	APPROACH SLAB REMOVED				107	
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP	
503	21101	160	CU YD	UNCLASSIFIED EXCAVATION, AS PER PLAN	160				3/15
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	98000	990	FT	PILING, MISC.: 14" CAST-IN-PLACE REINFORCED CONCRETE PILES, 8 1/2" X 14" X 40' TAPER, FURNISHED	990				3/15
507	98000	840	FT	PILING, MISC.: 16" CAST-IN-PLACE REINFORCED CONCRETE PILES, 8" X 16" X 40' TAPER, FURNISHED		840			3/15
507	98000	900	FT	PILING, MISC.: 14" CAST-IN-PLACE REINFORCED CONCRETE PILES, 8 1/2" X 14" X 40' TAPER, DRIVEN	900				3/15
507	98000	770	FT	PILING, MISC.: 16" CAST-IN-PLACE REINFORCED CONCRETE PILES, 8" X 16" X 40' TAPER, DRIVEN		770			3/15
509	10000	94,646	POUND	EPOXY COATED REINFORCING STEEL	7711	2975	83,960		
512	10100	246	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	25	116	105		
512	33000	2	SQ YD	TYPE 2 WATERPROOFING	2				
516	14015	118	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	118				3/15
517	70000	251	FT	RAILING (TWIN STEEL TUBE)			251		
518	21200	65	CU YD	POROUS BACKFILL WITH FILTER FABRIC	65				
SPEC.	51822300	294	FT	STEEL DRIP STRIP			294		
518	40000	134	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	134				
518	40011	32	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	32				3/15
523	20000	2	EACH	DYNAMIC LOAD TESTING	1	1			
523	20500	2	EACH	RESTRIKE	1	1			
898	10221	391	CU YD	QC/OA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN			391		3/15
898	10689	233	SQ YD	QC/OA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB) (T=12"), AS PER PLAN				233	3/15
898	20001	66	CU YD	QC/OA CONCRETE, CLASS QSC1, SUBSTRUCTURE, AS PER PLAN	66				3/15
898	20131	21	CU YD	QC/OA CONCRETE, CLASS OSC2, SUBSTRUCTURE (CAPPED PILE PIER), AS PER PLAN		21			3/15

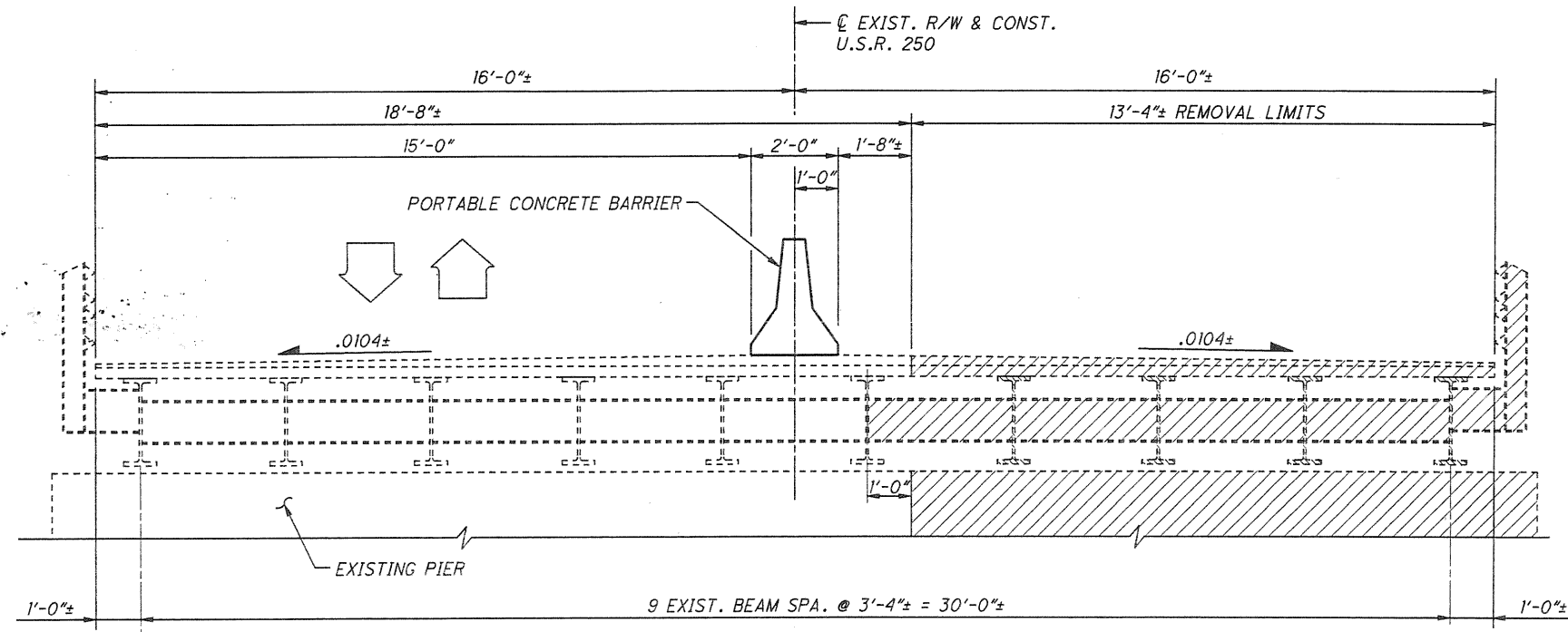
CALC. BY: CMK    DATE: 7-17-10  
 CHKD BY: SCT    DATE: 7-12-10

DESIGN AGENCY  
 KCI ASSOCIATES OF OHIO, P.A.  
 388 S. MAIN ST., SUITE 401  
 AKRON, OHIO 44311

DATE  
 7/12/10  
 REVIEWED  
 BAW  
 STRUCTURE FILE NUMBER  
 0304697  
 DRAWN  
 WEB  
 REVISIONS  
 DESIGNED  
 CMK  
 CHECKED  
 SCT

ESTIMATED QUANTITIES  
 BRIDGE NO. ASD-250-0377  
 U.S.R. 250 OVER VERMILION RIVER

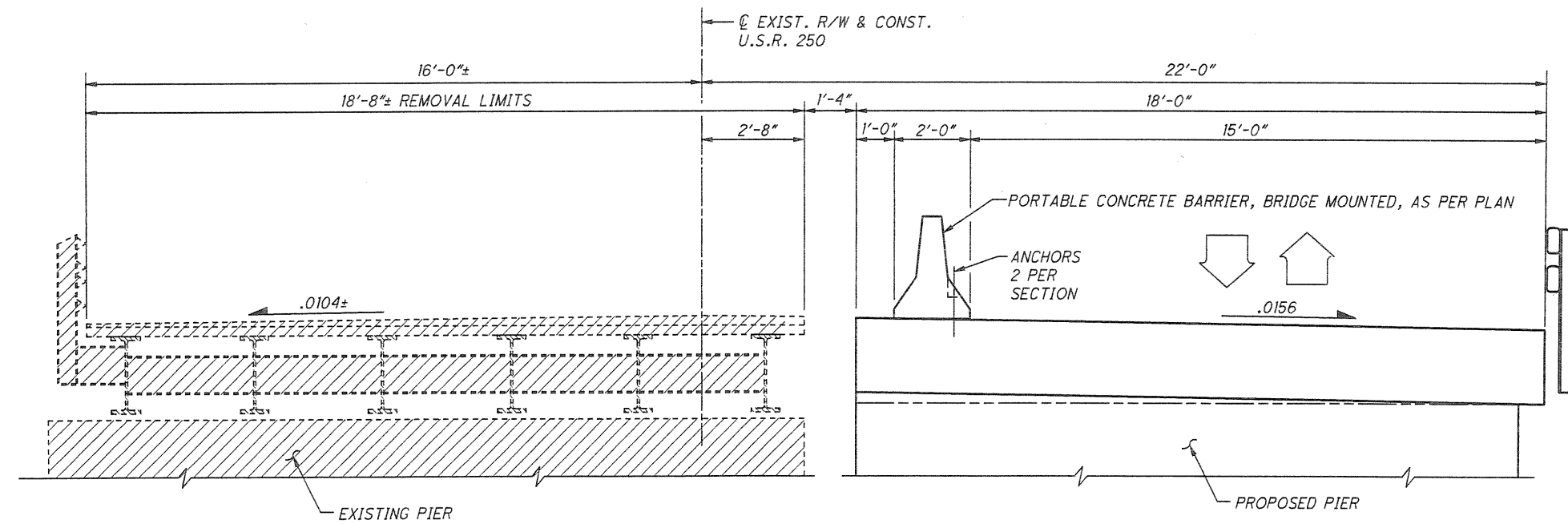
ASD-250-3.77  
 PID No. 80058



**PHASE 2**

**SEQUENCE OF CONSTRUCTION**

**PHASE 2**  
 A SINGLE LANE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED ON THE LEFT SIDE OF THE EXISTING BRIDGE AS SHOWN IN THE DETAILS. TRAFFIC SHALL BE MAINTAINED, AS PER SCD MT-96.11. THE CONTRACTOR SHALL REMOVE THE RIGHT SIDE OF THE EXISTING BRIDGE AND CONSTRUCT THE RIGHT SIDE OF THE PROPOSED BRIDGE AS SHOWN IN THE PLANS AND STRUCTURE DETAILS. THE CONTRACTOR SHALL ALSO CONSTRUCT THE RIGHT SIDE OF THE PROPOSED ROADWAY, INCLUDING PAVEMENT FOR MAINTAINING TRAFFIC, FROM STA. 197+10 TO STA. 200+00.



**PHASE 3**

**PHASE 3**  
 A SINGLE LANE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED ON THE RIGHT SIDE OF THE PROPOSED BRIDGE AS SHOWN IN THE DETAILS. TRAFFIC SHALL BE MAINTAINED AS PER SCD MT-96.11. THE CONTRACTOR SHALL REMOVE THE REMAINING PORTION OF THE EXISTING BRIDGE AND CONSTRUCT THE REMAINING PORTION OF THE PROPOSED BRIDGE AS SHOWN IN THE PLANS AND STRUCTURE DETAILS.

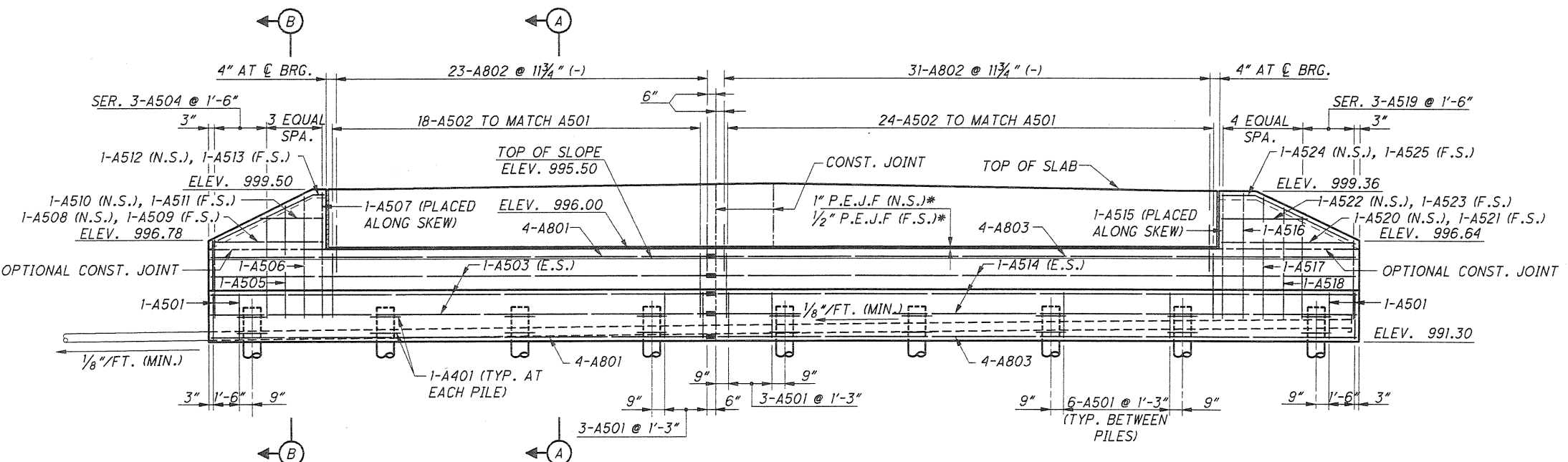
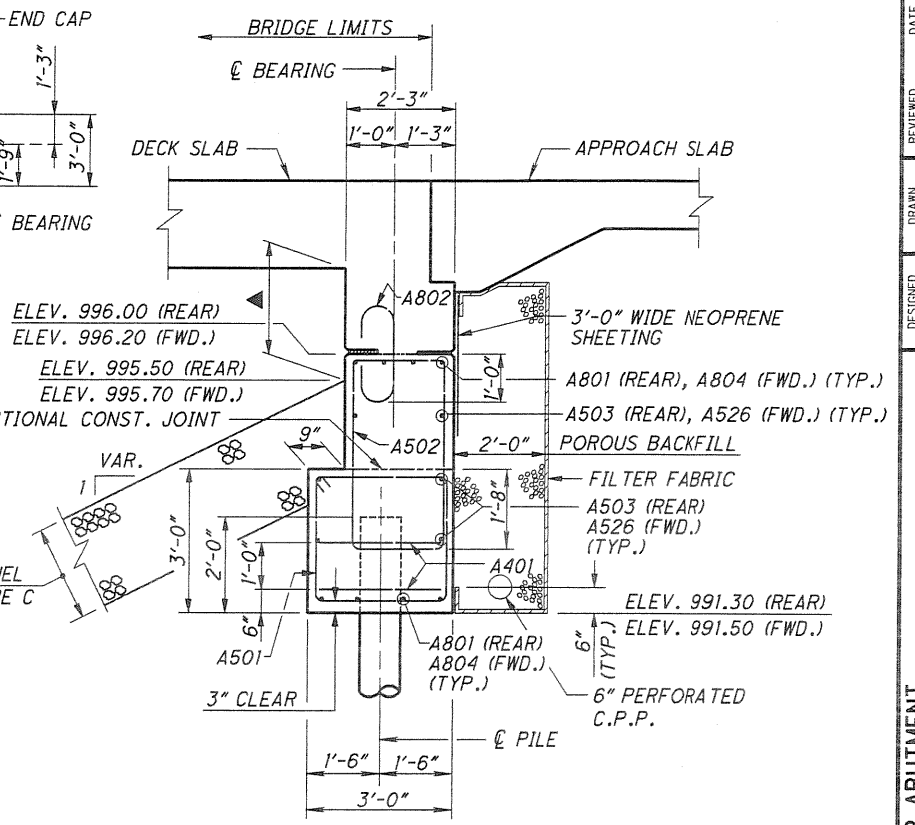
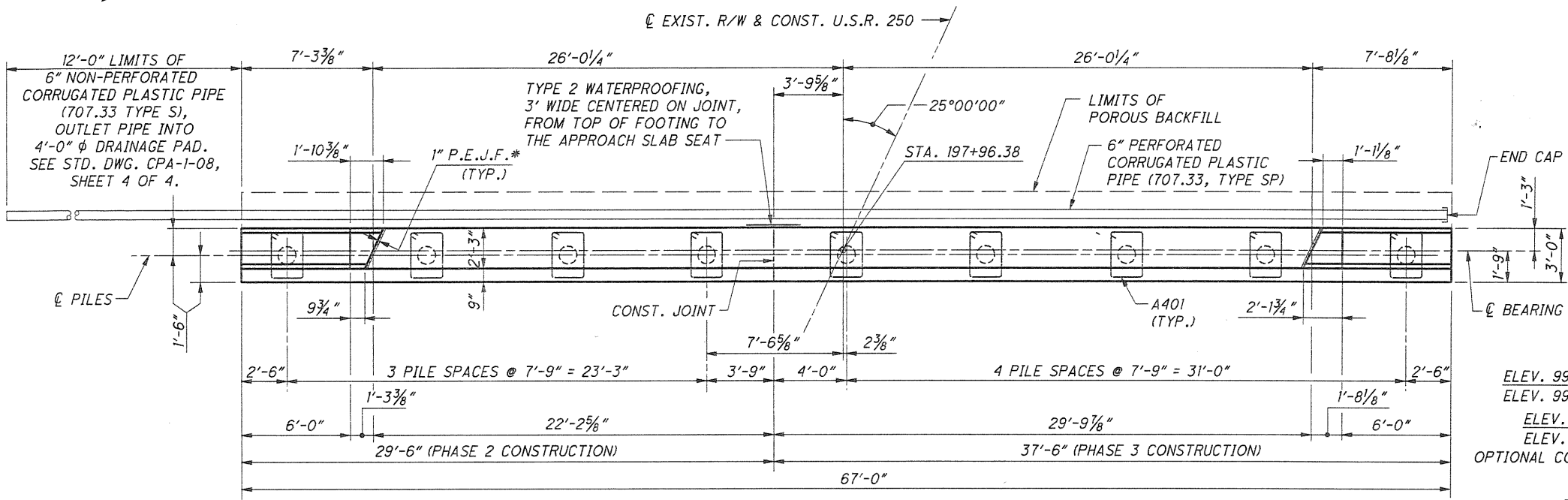
**LEGEND**

INDICATES PORTION OF STRUCTURE TO BE REMOVED.

- NOTES**
- ONE LANE, TWO WAY TRAFFIC SHALL BE MAINTAINED ON THE BRIDGE PER MT-96.11.
  - ITEM 622 - PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN, IS CARRIED IN THE ROADWAY QUANTITY.
  - FOR DETAILS OF PORTABLE CONCRETE BARRIER, SEE STANDARD DRAWING PCB-91.

**LEGEND**

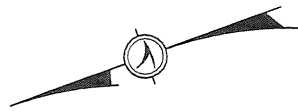
- ▲ INDICATES LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
- INDICATES MECHANICAL CONNECTOR.



**NOTES**

1. FOR SECTION B-B, SEE SHEET 7/15.
2. ABUTMENT PILES ARE 14" φ C.I.P. REINF. CONC. PILES.
3. FOR FOUNDATION PLAN, SEE SHEET 2/15.
4. MINIMUM REINFORCING CLEARANCE SHALL BE 2" UNLESS OTHERWISE NOTED.
5. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE ENDS OF THE WINGWALLS.
6. FOR ADDITIONAL DETAILS AND NOTES, SEE STD. DWG. CPA-1-08.
7. FOR ABBREVIATIONS, SEE SHEET 3/15.

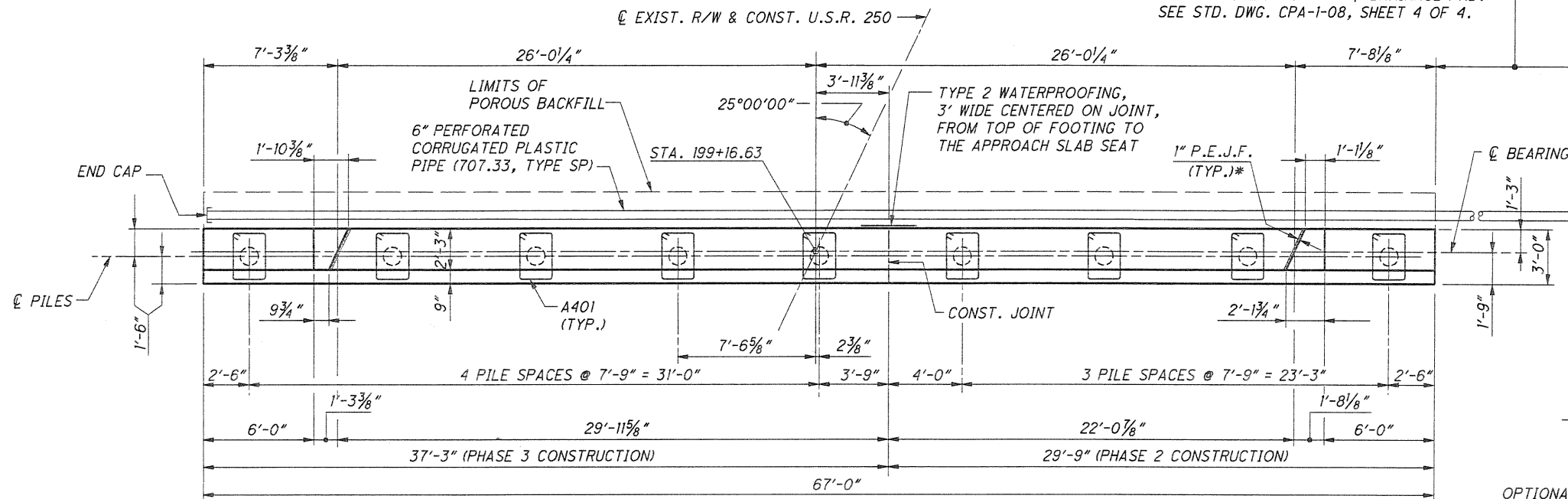
\* INCLUDE WITH ITEM 898 QC/QA CONCRETE CLASS QSCI SUBSTRUCTURE, AS PER PLAN



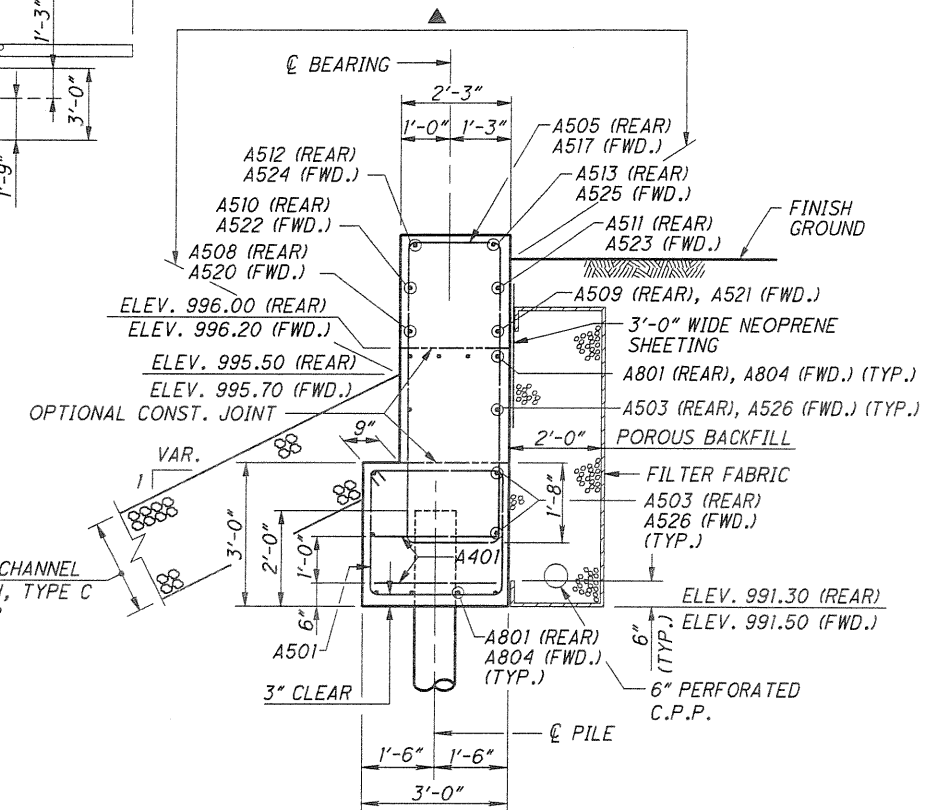
15'-0" LIMITS OF 6" NON-PERFORATED CORRUGATED PLASTIC PIPE (703.33 TYPE S). OUTLET PIPE INTO 4'-0" φ DRAINAGE PAD. SEE STD. DWG. CPA-1-08, SHEET 4 OF 4.

**LEGEND**

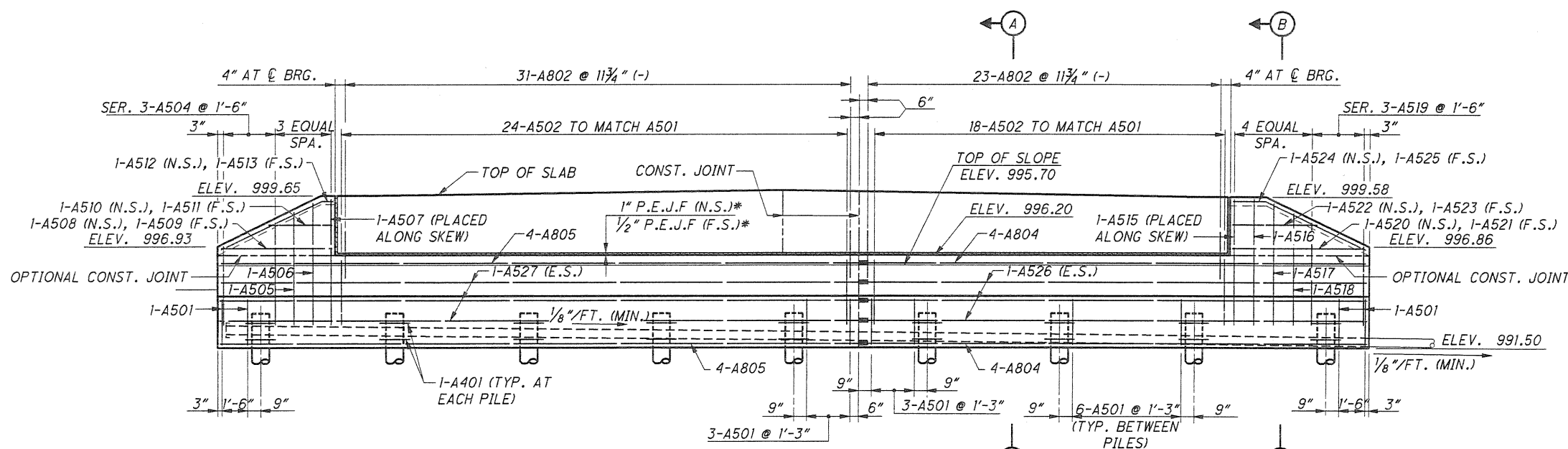
- ▲ INDICATES LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
- INDICATES MECHANICAL CONNECTOR.



**PLAN**  
(DECK SLAB AND APPROACH SLAB NOT SHOWN)



**SECTION B-B**



**ELEVATION**

**NOTES**

1. FOR SECTION A-A, SEE SHEET 6/15.
  2. ABUTMENT PILES ARE 14" φ C.I.P. REINF. CONC. PILES.
  3. FOR ADDITIONAL NOTES, SEE SHEET 6/15.
- \* INCLUDE WITH ITEM 898 QC/QA CONCRETE CLASS QSC1 SUBSTRUCTURE, AS PER PLAN

DESIGN AGENCY  
KCI ASSOCIATES OF OHIO, P.A.  
388 S. MAIN ST., SUITE 401  
AKRON, OHIO 44311

DATE  
7/12/10

REVIEWED  
BAW

DRAWN  
WEB

DESIGNED  
SCT

CHECKED  
CMK

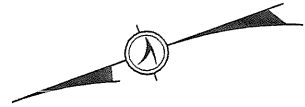
STRUCTURE FILE NUMBER  
0304697

FORWARD ABUTMENT  
BRIDGE NO. ASD-250-0377  
U.S.R. 250 OVER VERMILION RIVER

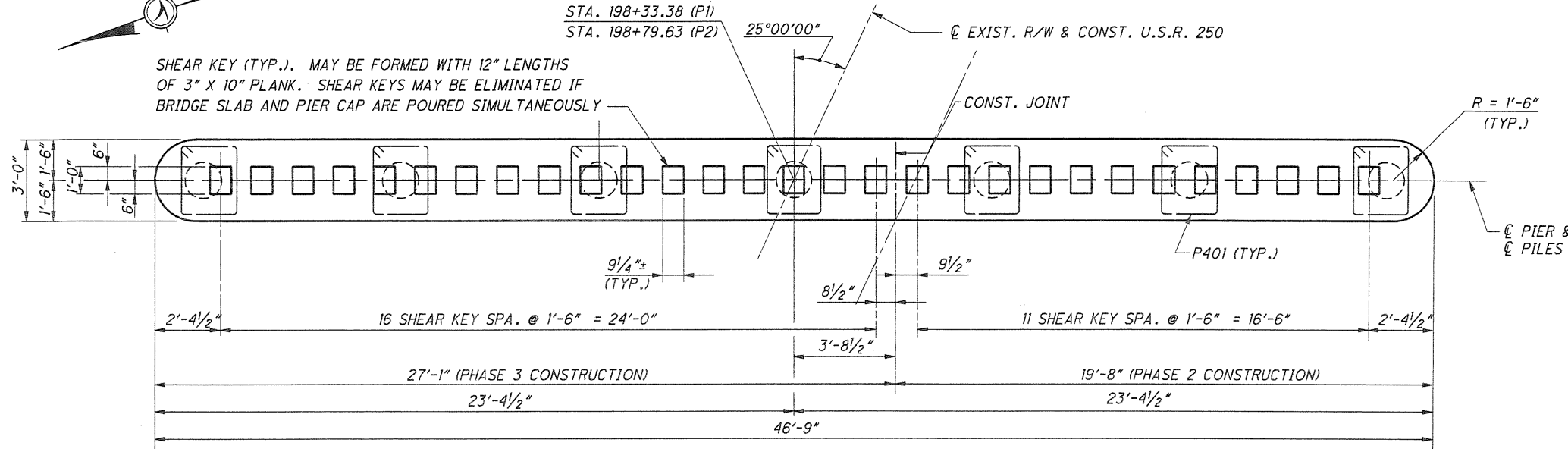
ASD-250-3.77  
PID No. 80058

7 / 15

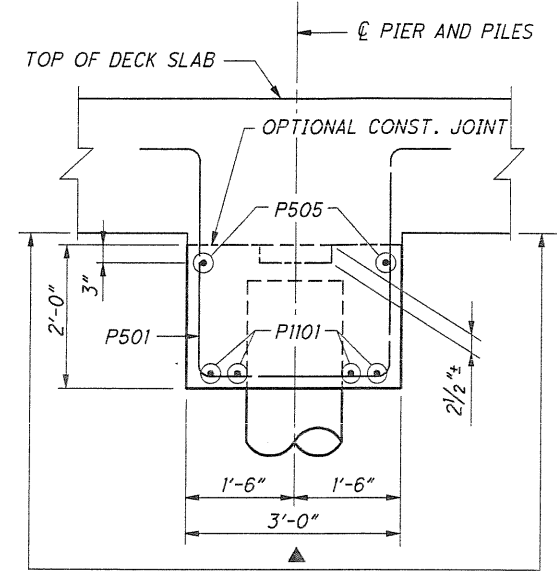
29  
42



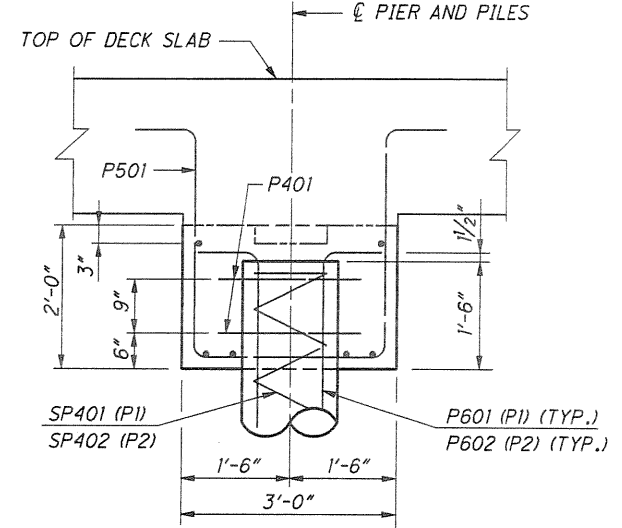
SHEAR KEY (TYP.), MAY BE FORMED WITH 12" LENGTHS OF 3" X 10" PLANK. SHEAR KEYS MAY BE ELIMINATED IF BRIDGE SLAB AND PIER CAP ARE POURED SIMULTANEOUSLY



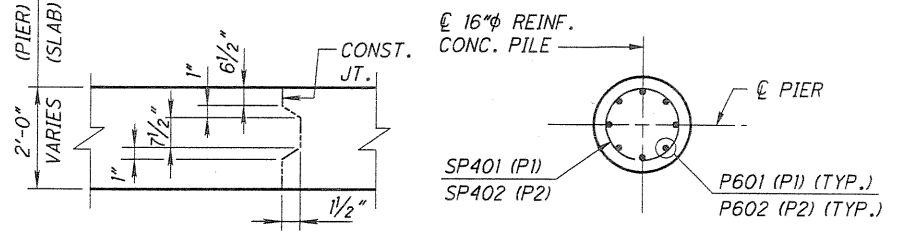
**PLAN**  
(DECK SLAB NOT SHOWN)



**SECTION A-A**

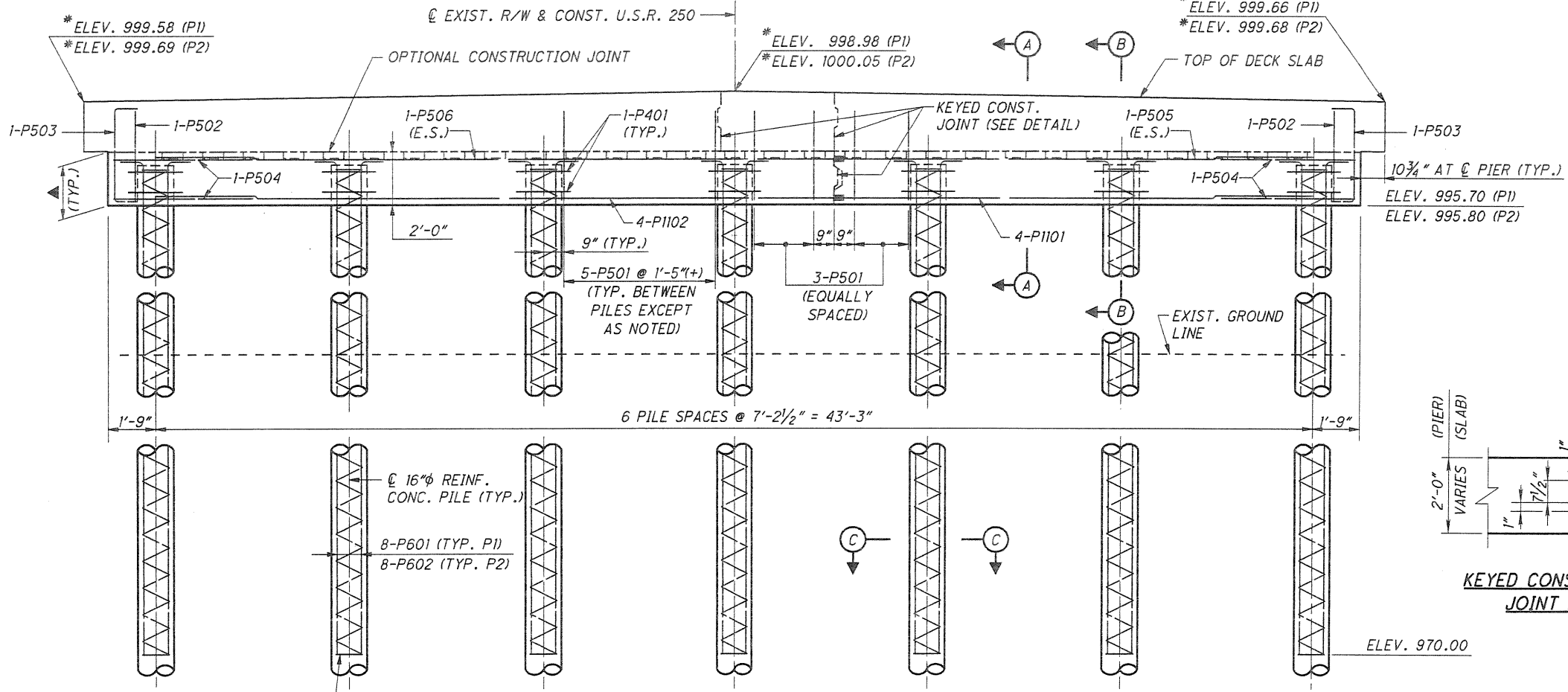


**SECTION B-B**  
(FOR ADDITIONAL DETAILS, SEE SECTION A-A)



**KEYED CONSTRUCTION JOINT DETAIL**

**SECTION C-C**



**ELEVATION**

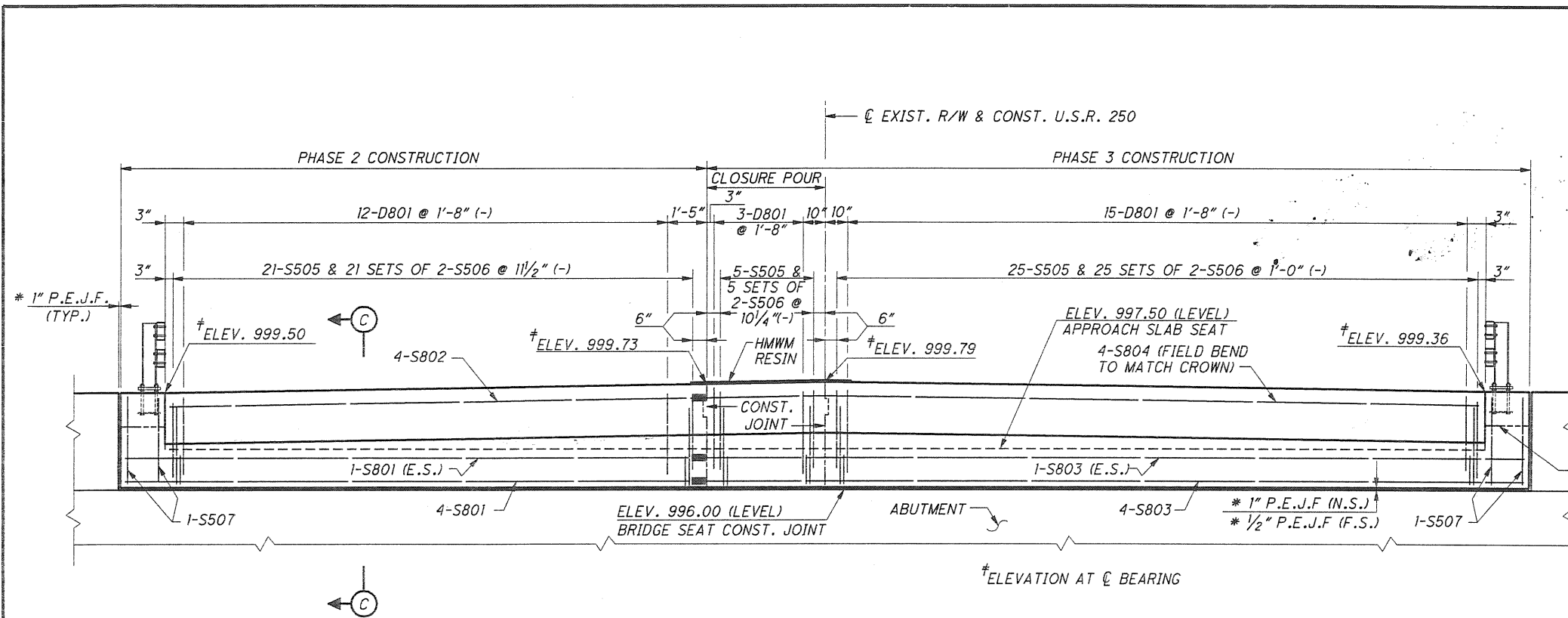
**LEGEND**

- ▲ INDICATES LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
- INDICATES MECHANICAL CONNECTOR.
- \* INDICATES ELEVATION AT CL PIER.
- P1 DENOTES PIER 1.
- P2 DENOTES PIER 2.

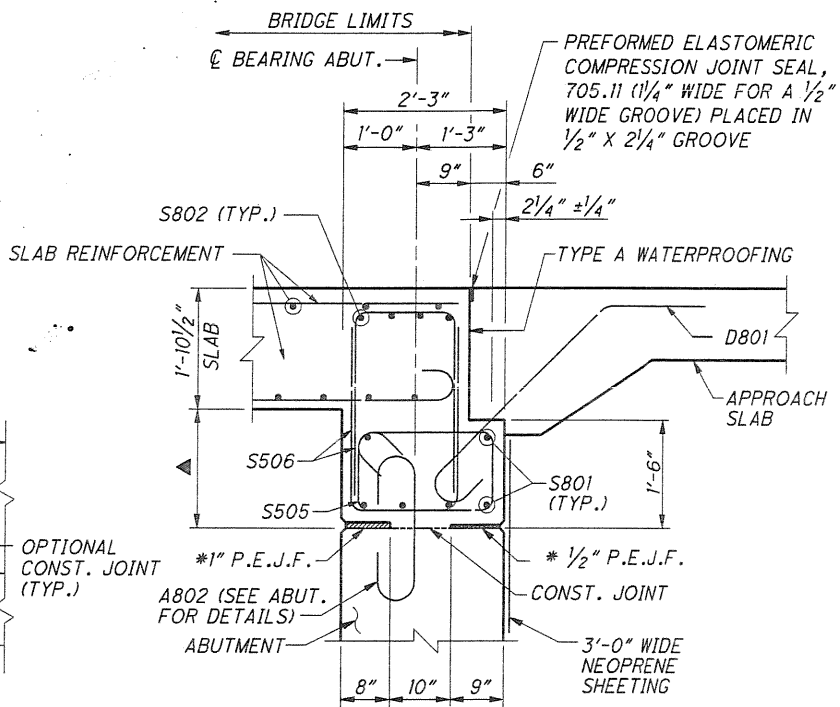
- NOTES**
1. PIER PILES ARE 16" φ C.I.P. REINF. CONC. PILES.
  2. FOR FOUNDATION PLAN, SEE SHEET 2/15.
  3. MINIMUM REINFORCING CLEARANCE SHALL BE 2" UNLESS OTHERWISE NOTED.
  4. MINIMUM LAP LENGTH:  
NO. 5 BAR = 3'-7"
  5. FOR ABBREVIATIONS, SEE SHEET 3/15.

DESIGN AGENCY	KCI ASSOCIATES OF OHIO, P.A. 388 S. MAIN ST., SUITE 401 AKRON, OHIO 44311	DATE	7/12/10	STRUCTURE FILE NUMBER	0304697
DRAWN	WEB	REVIEWED	BAW	CHECKED	SCT
DESIGNED	CMK	CHECKED	SCT	PIERS 1 AND 2	
BRIDGE NO. ASD-250-0377 U.S.R. 250 OVER VERMILION RIVER					
ASD-250-3.77 PID No. 80058					
8 / 15					
30 42					

80058sP1001.dgn



**SECTION A-A**  
(FOR ADDITIONAL REINFORCEMENT, SEE SLAB PLAN)



**SECTION C-C**

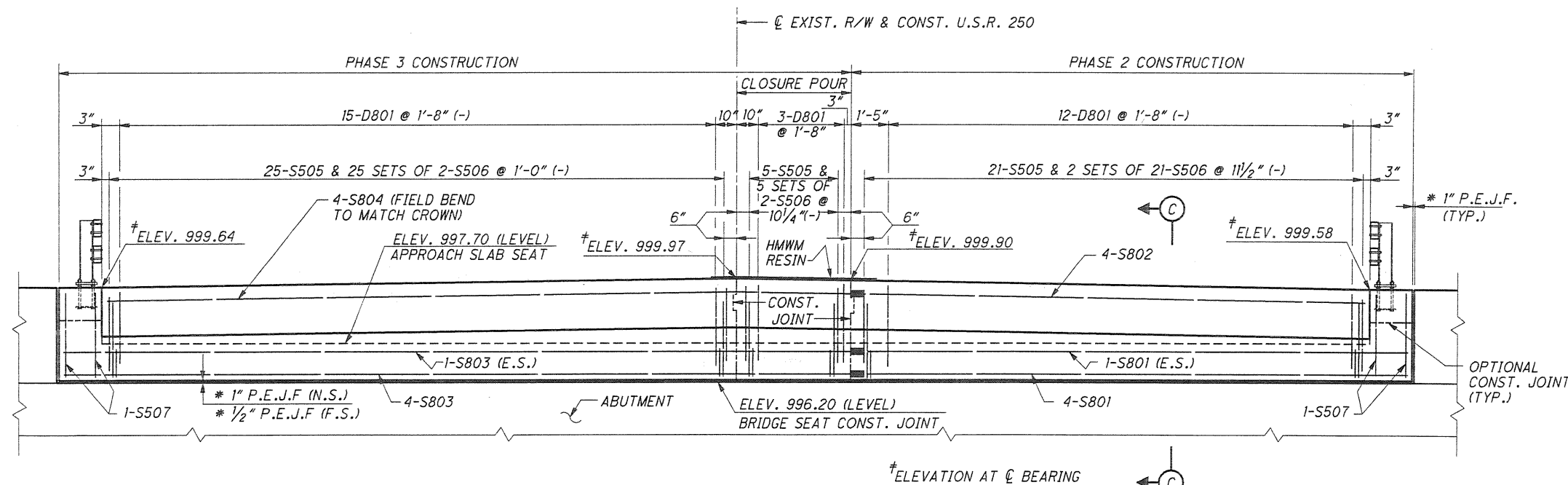
**LEGEND**

- ▲ INDICATES LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
- INDICATES MECHANICAL CONNECTOR.

**NOTES**

1. FOR LOCATION OF SECTIONS A-A AND B-B, SEE SHEET 12/15.
2. ALL VERTICAL REINFORCEMENT SHALL BE PLACED PARALLEL TO THE EDGE OF SLAB.
3. CLOSURE POUR SHALL BE SEALED WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN IN ACCORDANCE WITH ITEM 898. RESIN SHALL COVER ENTIRE CLOSURE POUR SECTION AND OVERLAP EACH CONSTRUCTION JOINT 1'-0".
4. MINIMUM REINFORCING CLEARANCE SHALL BE 2" UNLESS NOTED OTHERWISE.
5. FOR ABBREVIATIONS, SEE SHEET 3/15.
6. TYPE A WATERPROOFING SHALL BE INCLUDED WITH ITEM 898 - QC/QA CONCRETE CLASS OSC2, SUPERSTRUCTURE (APPROACH SLAB) (T=12"), AS PER PLAN, FOR PAYMENT.
7. MINIMUM LAP LENGTH UNLESS NOTED OTHERWISE:  
NO. 5 = 2'-11"
8. FOR ADDITIONAL NOTES AND DETAILS, SEE STD. DWG. CS-1-08.

\* INCLUDE WITH ITEM 898 - QC/QA CONCRETE CLASS OSC1, SUBSTRUCTURE, AS PER PLAN, FOR PAYMENT.



**SECTION B-B**  
(FOR ADDITIONAL REINFORCEMENT, SEE SLAB PLAN)

DESIGN AGENCY  
KCI ASSOCIATES OF OHIO, P.A.  
388 S. MAIN ST., SUITE 401  
AKRON, OHIO 44311

DATE  
7/12/10

REVIEWED  
BAW  
STRUCTURE FILE NUMBER  
0304697

DESIGNED  
SCT  
CHECKED  
CMK

SLAB PLAN DETAILS  
BRIDGE NO. ASD-250-0377  
U.S.R. 250 OVER VERMILION RIVER

ASD-250-3.77  
PID No. 80058

9 / 15

31  
42

FINISH ELEVATIONS				
LOCATION	22'-0" LEFT	PROFILE GRADE	4'-0" RIGHT	22'-0" RIGHT
CL BRG. REAR ABUT.	999.36	999.79	999.73	999.50
1/2 PT.	999.49	999.90	999.84	999.59
CL PIER 1	999.58	999.98	999.92	999.66
1/2 PT.	999.66	1000.03	999.97	999.69
CL PIER 2	999.69	1000.05	999.98	999.68
1/2 PT.	999.69	1000.02	999.95	999.64
CL BRG. FWD ABUT.	999.64	999.97	999.90	999.58

DESIGN AGENCY  
KCI ASSOCIATES OF OHIO, P.A.  
388 S. MAIN ST., SUITE 401  
AKRON, OHIO 44311

DATE  
7/12/10

REVIEWED  
BAW

STRUCTURE FILE NUMBER  
0304697

DESIGNED  
SCT/CMK

DRAWN  
WEB

CHECKED  
CMK/SCT

END & MIDDLE SPAN TRANSVERSE SECTIONS

BRIDGE NO. ASD-250-0377

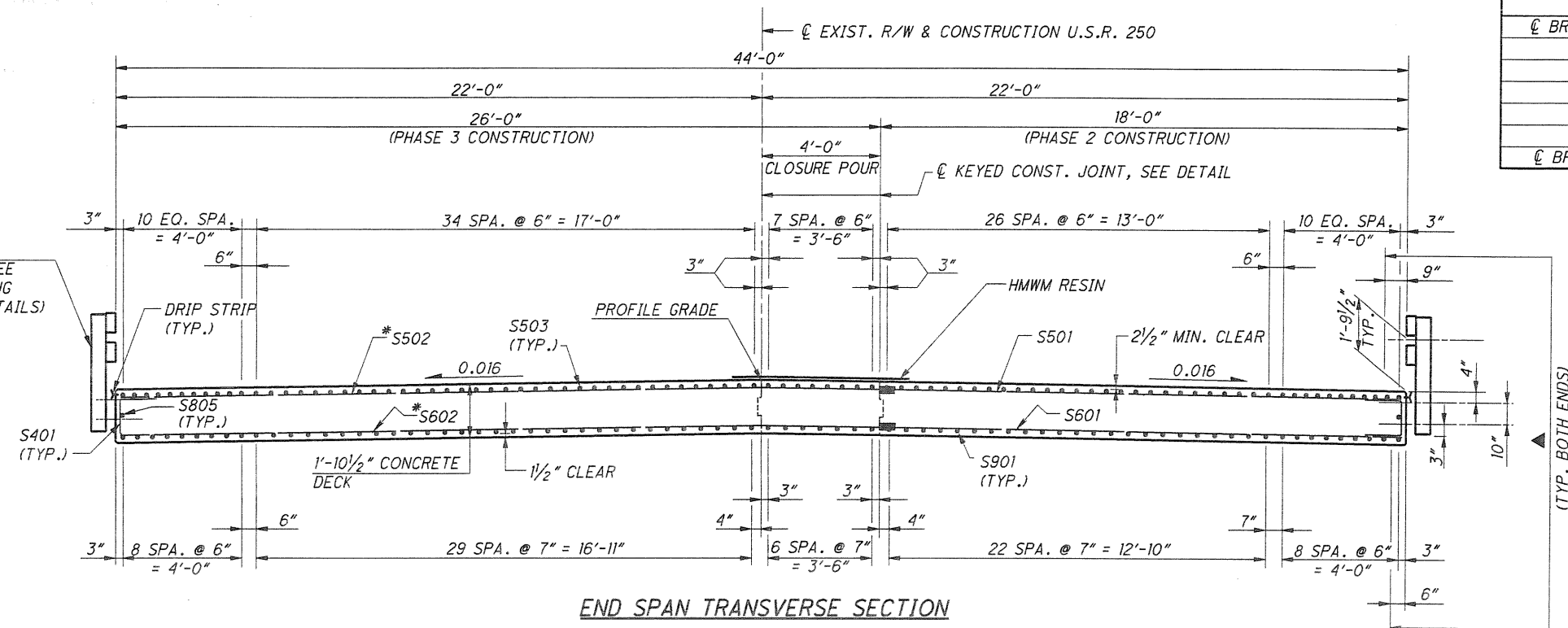
U.S.R. 250 OVER VERMILION RIVER

ASD-250-3.77

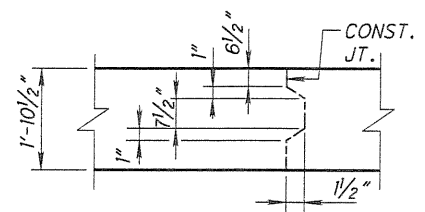
PID No. 80058

10 / 15

32  
42



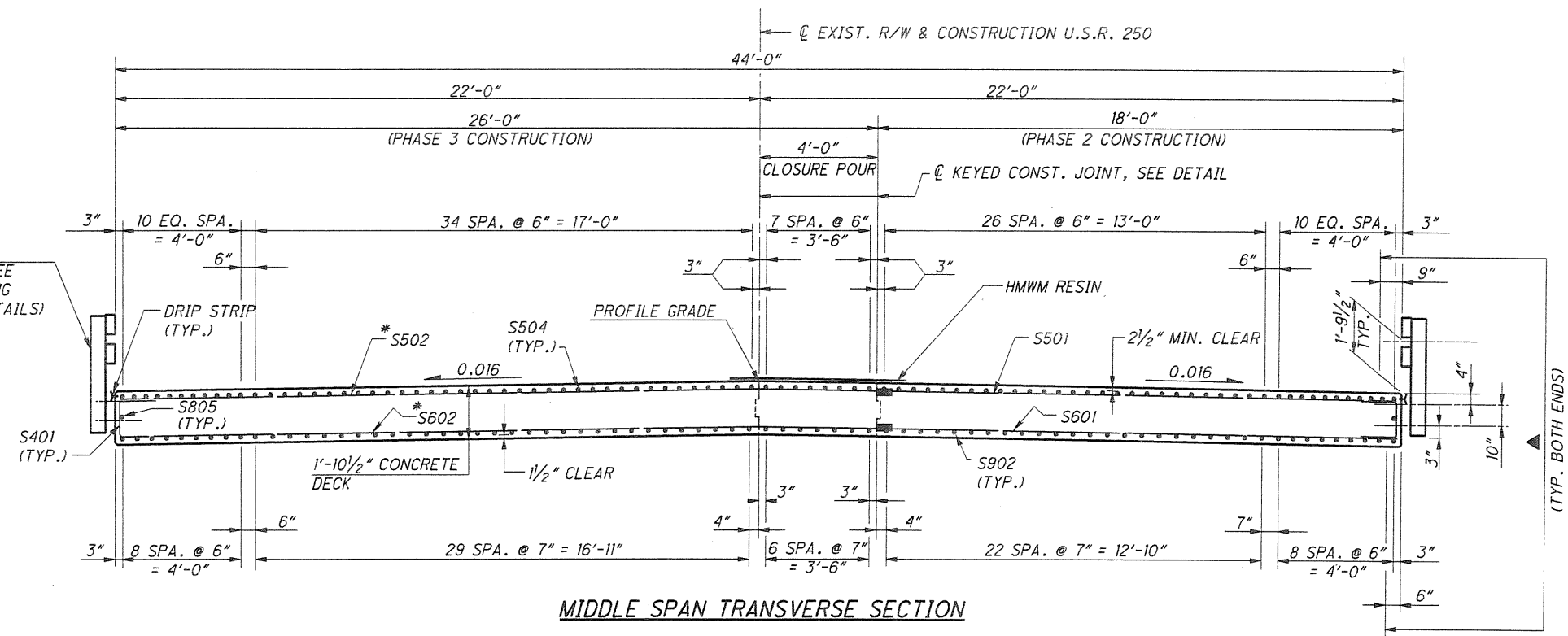
END SPAN TRANSVERSE SECTION



KEYED CONSTRUCTION JOINT DETAIL

- LEGEND**
- ▲ INDICATES LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
  - INDICATES MECHANICAL CONNECTOR.
  - \* FIELD BEND TRANSVERSE BARS TO MATCH DECK CROWN.

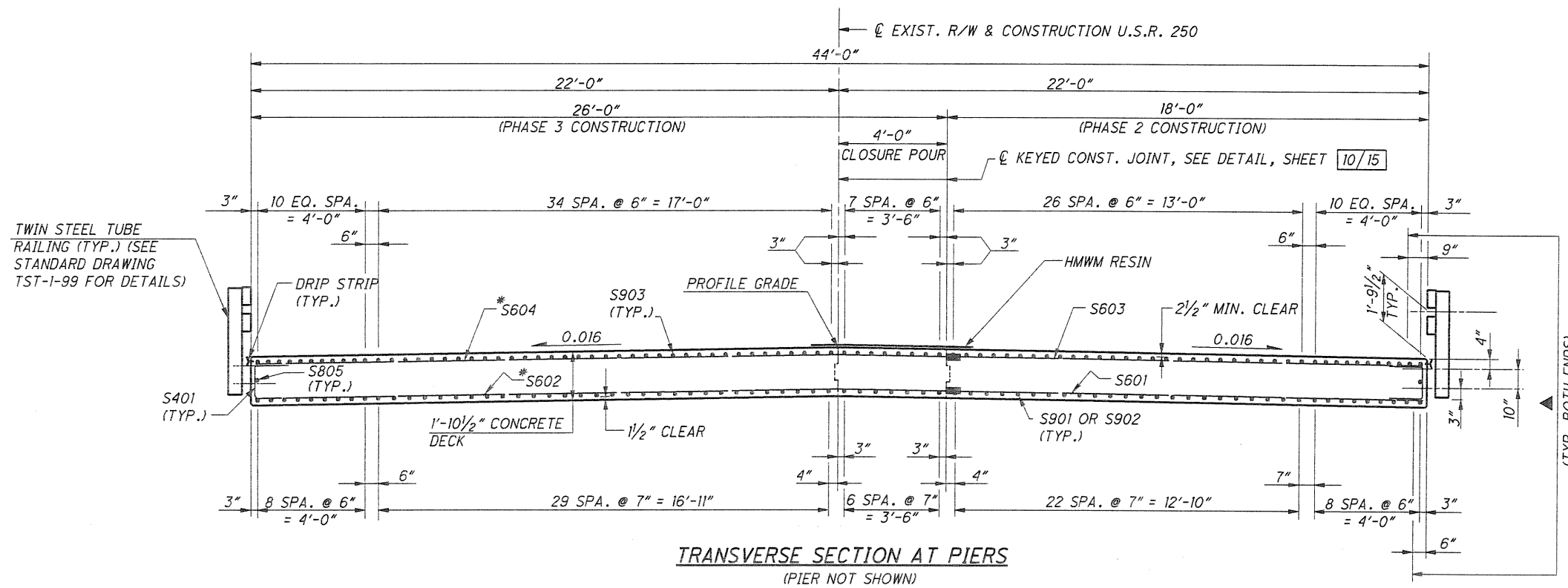
- NOTES**
1. FOR SLAB PLAN, SEE SHEET 12/15.
  2. FOR DRIP STRIP DETAILS, SEE STANDARD DRAWING DS-1-92.
  3. CLOSURE POUR SHALL BE SEALED WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN IN ACCORDANCE WITH ITEM 898. RESIN SHALL COVER ENTIRE CLOSURE POUR SECTION AND OVERLAP EACH CONSTRUCTION JOINT 1'-0".
  4. MINIMUM REINFORCING CLEARANCE SHALL BE 2" UNLESS NOTED OTHERWISE.
  5. FOR ABBREVIATIONS, SEE SHEET 3/15.
  6. MINIMUM LAP LENGTH UNLESS NOTED OTHERWISE:  
NO. 5 BARS = 3'-6"  
NO. 8 BARS = 3'-0"  
NO. 9 BARS = 3'-10"
  7. FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD DRAWING CS-1-08.



MIDDLE SPAN TRANSVERSE SECTION

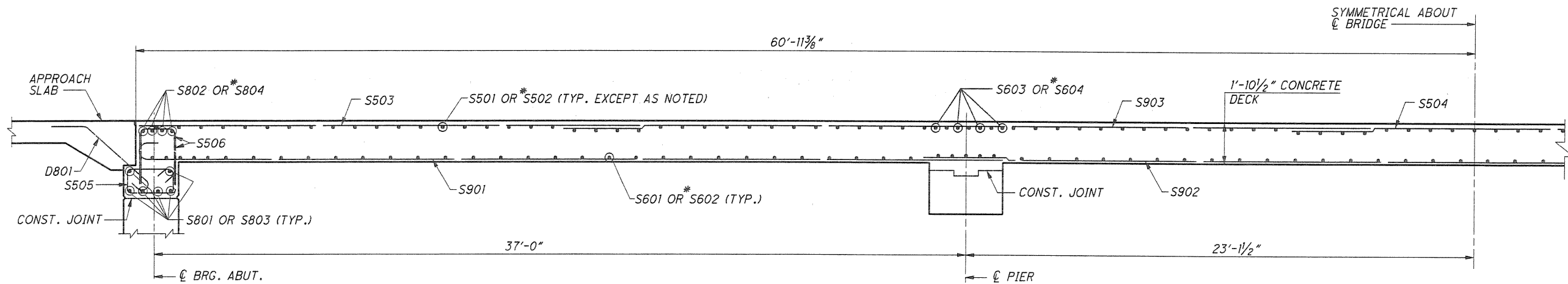
80058sTS001.dgn





**TRANSVERSE SECTION AT PIERS**  
(PIER NOT SHOWN)

- NOTES**
- FOR SLAB PLAN, SEE SHEET 12/15.
  - FOR DRIP STRIP DETAILS, SEE STANDARD DRAWING DS-1-92.
  - CLOSURE POUR SHALL BE SEALED WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN IN ACCORDANCE WITH ITEM 898. RESIN SHALL COVER ENTIRE CLOSURE POUR SECTION AND OVERLAP EACH CONSTRUCTION JOINT 1'-0".
  - MINIMUM REINFORCING CLEARANCE SHALL BE 2" UNLESS NOTED OTHERWISE.
  - FOR ABBREVIATIONS, SEE SHEET 3/15.
  - MINIMUM LAP LENGTH UNLESS NOTED OTHERWISE:  
 NO. 5 BARS = 3'-6"  
 NO. 8 BARS = 3'-0"  
 NO. 9 BARS = 3'-10"
  - FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD DRAWING CS-1-08.

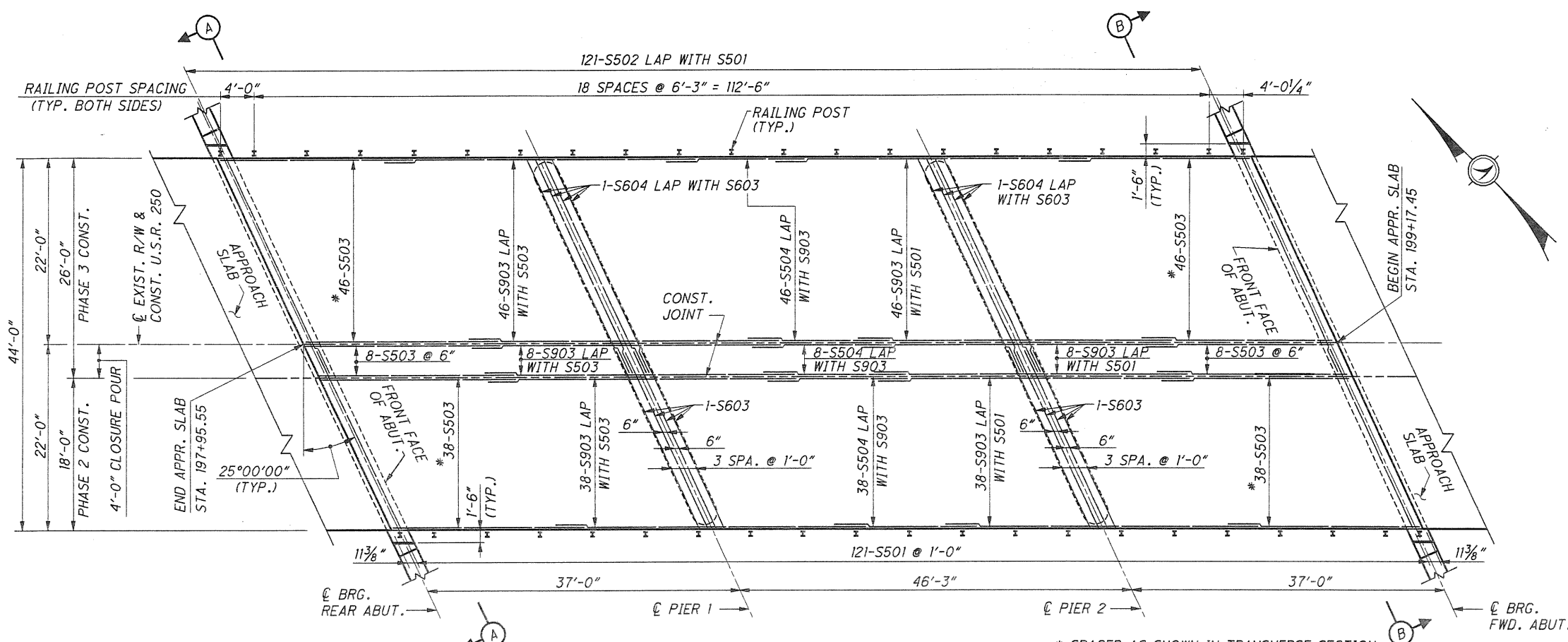


**LONGITUDINAL SECTION**

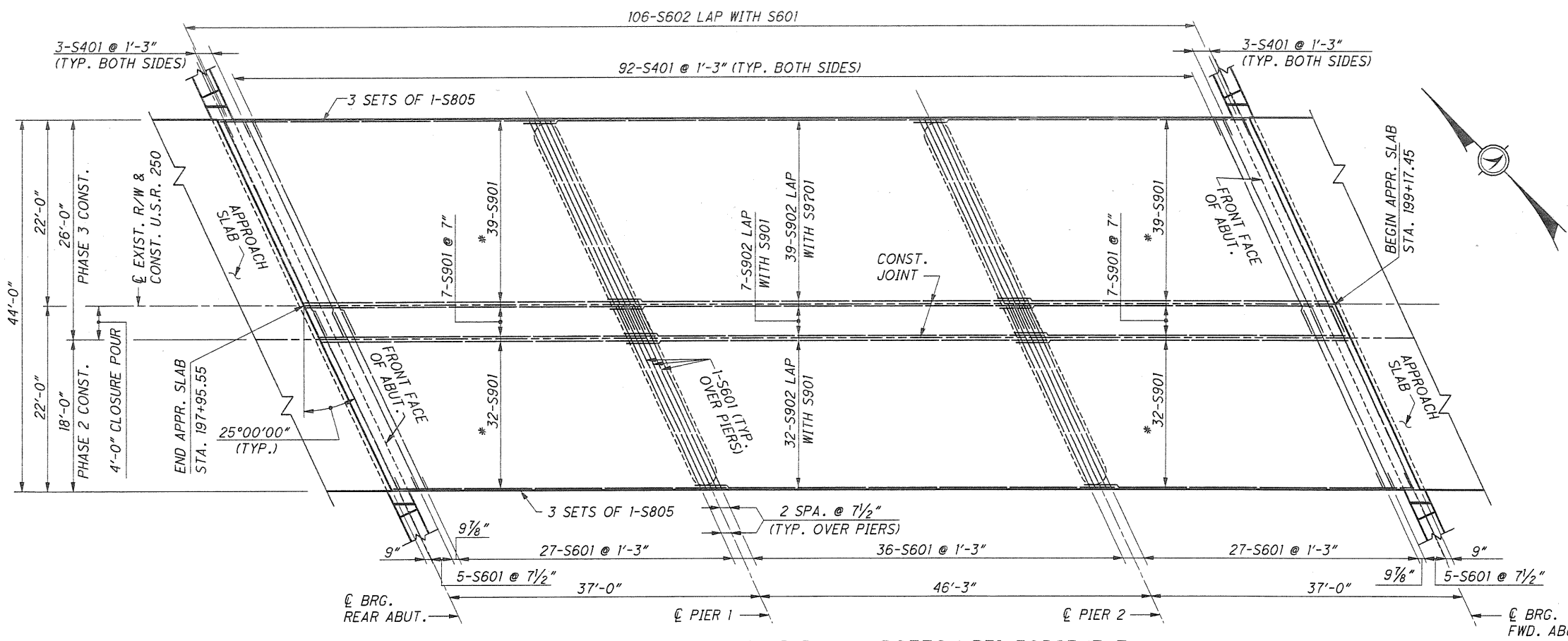
- LEGEND**
- ▲ INDICATES LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
  - INDICATES MECHANICAL CONNECTOR.
  - \* FIELD BEND TRANSVERSE BARS TO MATCH DECK CROWN.

DESIGN AGENCY KCI ASSOCIATES OF OHIO, P.A. 388 S. MAIN ST., SUITE 401 AKRON, OHIO 44311	DATE 7/12/10	REVIEWED BAW	STRUCTURE FILE NUMBER 0304697
DESIGNED SCT	DRAWN WEB	REVISOR REVISED	CHECKED CMK
TRANSVERSE SECTION AT PIERS & LONGITUDINAL SECTION BRIDGE NO. ASD-250-0377 U.S.R. 250 OVER VERMILION RIVER			
<b>ASD-250-3.77</b> <b>PID No. 80058</b>			
11 / 15			
33 42			

80058s1S002.dgn



**SLAB PLAN - TOP REINFORCEMENT** \* SPACED AS SHOWN IN TRANSVERSE SECTION.

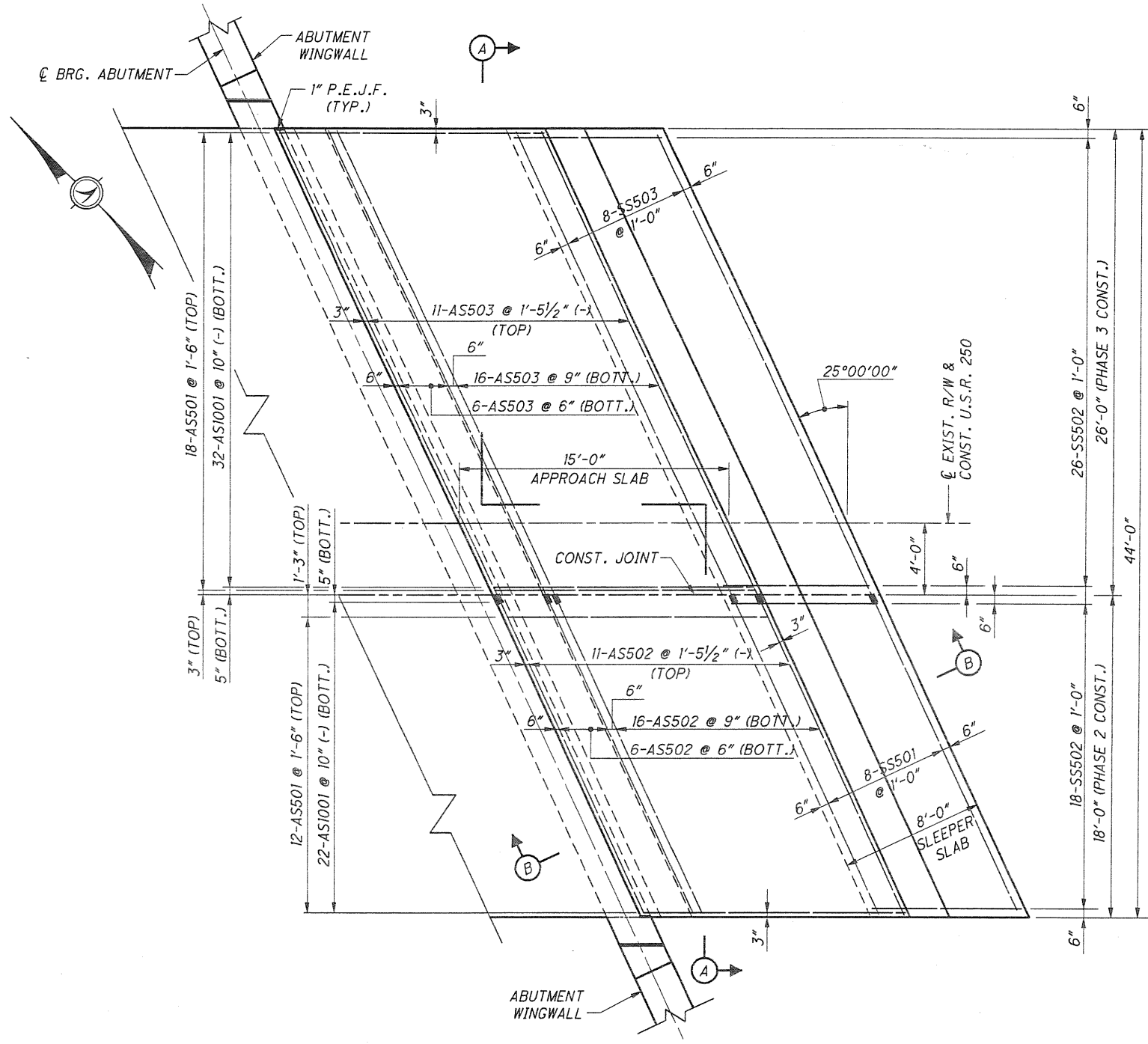


**SLAB PLAN - BOTTOM REINFORCEMENT**  
(RAILING POSTS NOT SHOWN) \* SPACED AS SHOWN IN TRANSVERSE SECTION.

**LEGEND**  
 INDICATES MECHANICAL CONNECTOR.

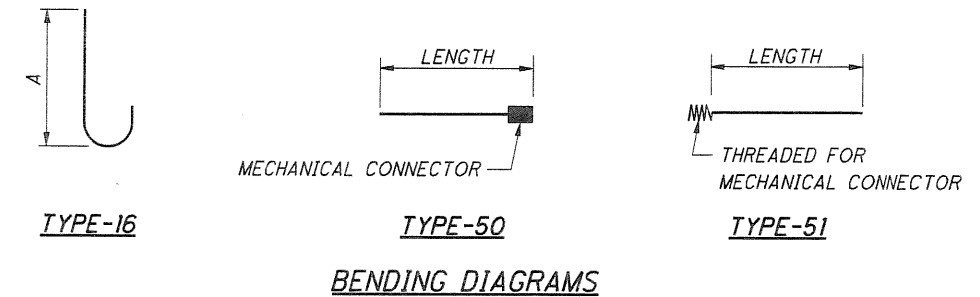
- NOTES**
1. FOR TRANSVERSE SECTIONS, SEE SHEETS 10/15 AND 11/15.
  2. FOR LONGITUDINAL SECTION, SEE SHEET 11/15.
  3. FOR SECTIONS A-A AND B-B, SEE SHEET 9/15.
  4. MINIMUM REINFORCING CLEARANCE SHALL BE 2" UNLESS NOTED OTHERWISE.
  5. FOR ABBREVIATIONS, SEE SHEET 3/15.
  6. MINIMUM LAP LENGTH UNLESS NOTED OTHERWISE:  
 NO. 5 BARS = 3'-6"  
 NO. 8 BARS = 3'-0"  
 NO. 9 BARS = 3'-10"
  7. FOR ADDITIONAL NOTES AND DETAILS, SEE STD. DWG. CS-1-08.

DESIGNED SCT	DRAWN WEB	REVIEWED BAW	DATE 7/12/10	DESIGN AGENCY KCI ASSOCIATES OF OHIO, P.A. 388 S. MAIN ST., SUITE 401 AKRON, OHIO 44311
			STRUCTURE FILE NUMBER 0304697	
SLAB PLAN		BRIDGE NO. ASD-250-0377 U.S.R. 250 OVER VERMILION RIVER		
ASD-250-3.77		PID No. 80058		
12/15		34 42		

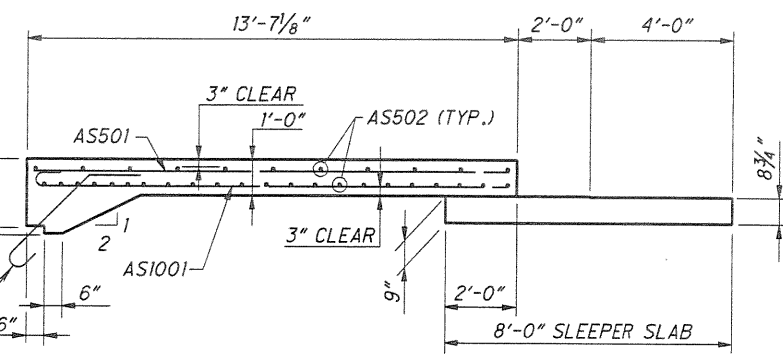


**APPROACH & SLEEPER SLAB PLAN**  
(FORWARD SLABS SHOWN, REAR SLABS SIMILAR)

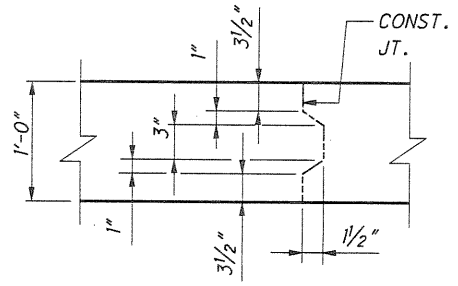
MARK	NUMBER				LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS				
	REAR		FORWARD					TOTAL	A	B	C	INC.
	PHASE 2	PHASE 3	PHASE 2	PHASE 3								
AS501	12	18	12	18	60	14'-6"	907	STR.				
AS502	33		33		66	19'-7"	1348	50				
AS503		33		33	66	28'-5"	1956	51				
AS1001	22	32	22	32	108	15'-11"	7397	16	14'-6"			
					TOTAL = 11,608							



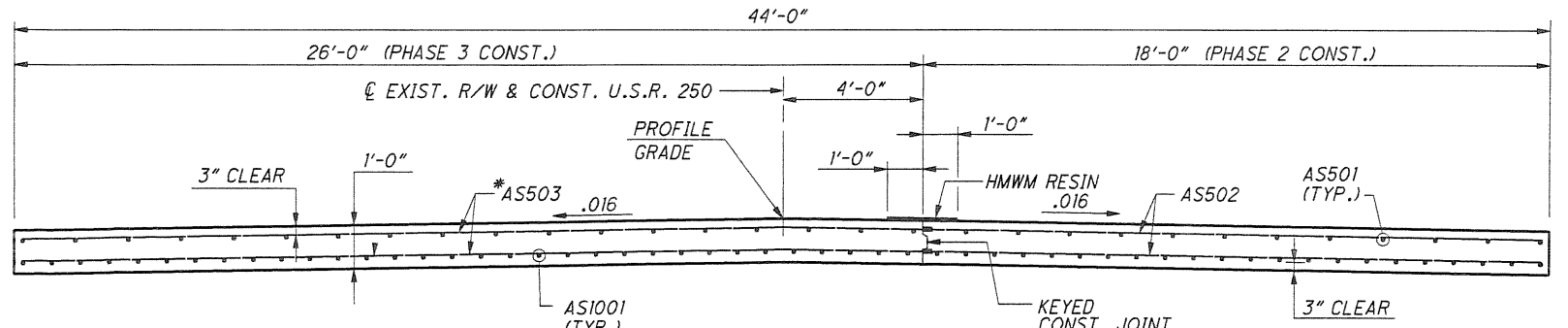
DIMENSION A			
LOCATION	LEFT G.L.	CROWN	RIGHT G.L.
REAR	1'-10 3/8"	2'-2 3/4"	2'-0"
FORWARD	1'-11 1/4"	2'-3 1/4"	1'-10 1/2"



**SECTION B-B**



**KEYED CONSTRUCTION JOINT DETAIL**



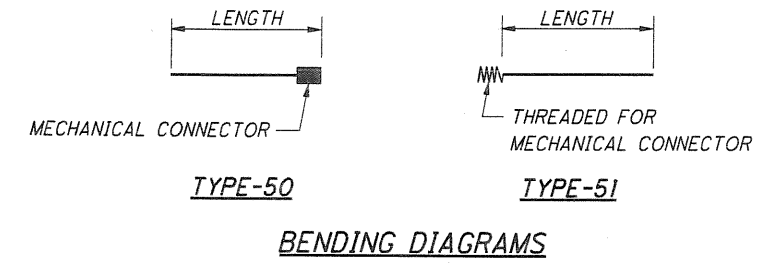
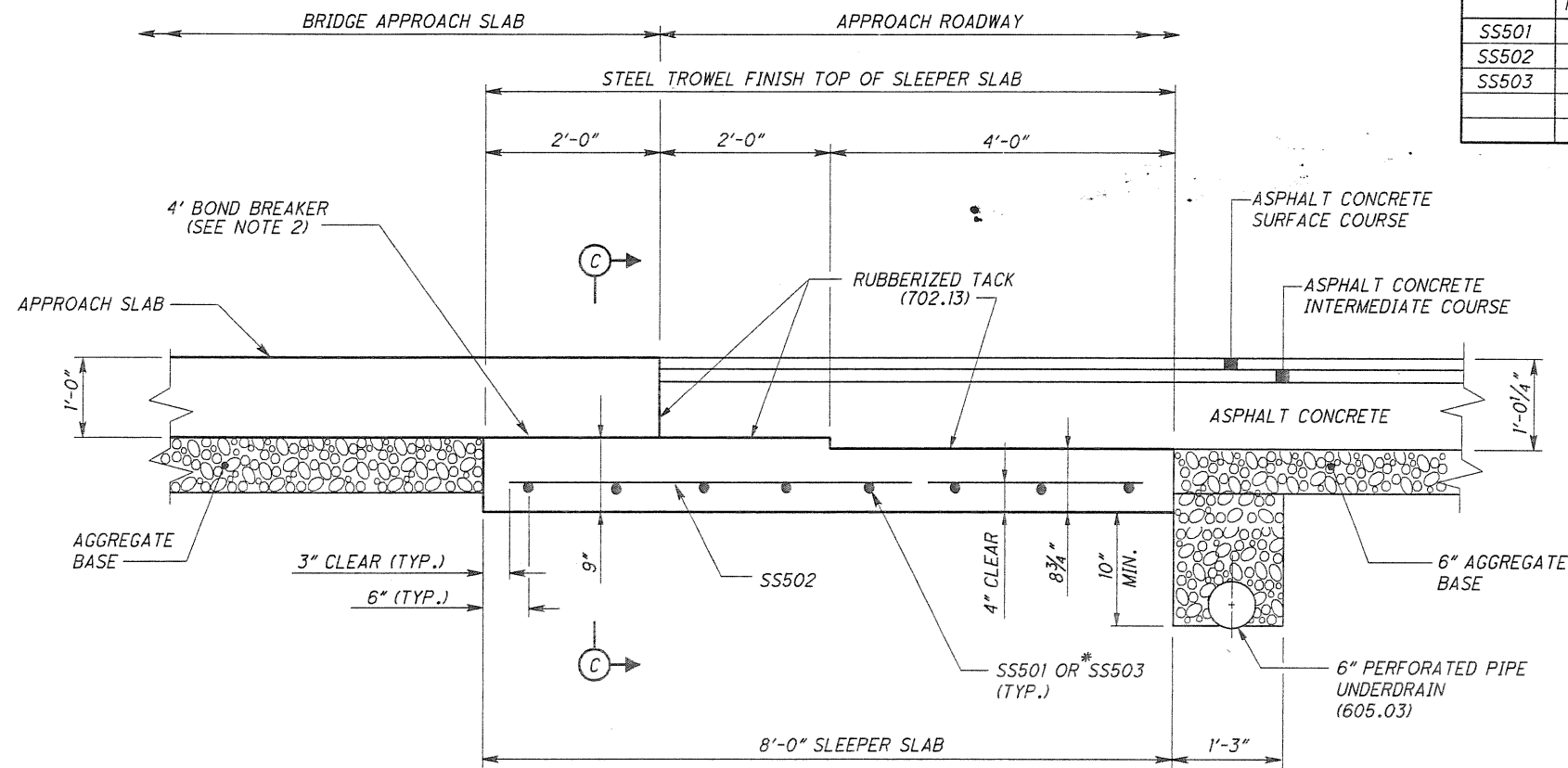
**SECTION A-A**

- LEGEND**
- INDICATES MECHANICAL CONNECTOR.
  - \* FIELD BEND TRANSVERSE BARS TO MATCH DECK CROWN.

- NOTES**
- ALL REINFORCING STEEL TO BE EPOXY COATED.
  - THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGIT WHERE FOUR DIGITS ARE USED INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, AS501 IS A NO. 5 BAR. BAR DIMENSIONS ARE OUT TO OUT UNLESS OTHERWISE NOTED.
  - FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STD. DWG. AS-1-81.
  - FOR ADDITIONAL SLEEPER SLAB DETAILS, SEE SHEET 14/15.
  - FOR ABBREVIATIONS, SEE SHEET 3/15.

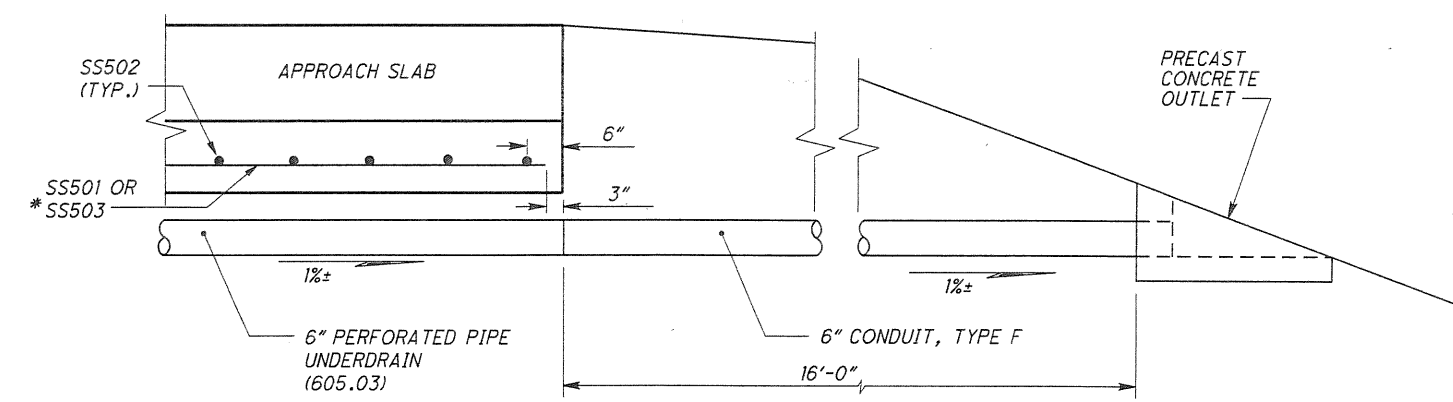
DESIGN AGENCY: KCI ASSOCIATES OF OHIO, P.A.  
 388 S. MAIN ST., SUITE 401  
 AKRON, OHIO 44311  
 DATE: 7/12/10  
 REVIEWED: BAW  
 STRUCTURE FILE NUMBER: 0304697  
 DRAWN: WEB  
 CHECKED: CMK  
 DESIGNED: SCT  
 APPROACH AND SLEEPER SLABS  
 BRIDGE NO. ASD-250-0377  
 U.S.R. 250 OVER VERMILION RIVER  
 ASD-250-3.77  
 PID No. 80058  
 13 / 15  
 35  
 42

SLEEPER SLAB REINFORCING STEEL LIST (FOR INFORMATION ONLY)											
MARK	NUMBER				LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS			
	REAR		FORWARD					TOTAL	A	B	C
	PHASE 2	PHASE 3	PHASE 2	PHASE 3							
SS501	8		8		16	19'-7"	327	50			
SS502	18	26	18	26	88	8'-3"	757	STR.			
SS503		8		8	16	28'-5"	474	51			
					TOTAL =	1558					



**LEGEND**  
 \* FIELD BEND TRANSVERSE BARS TO MATCH DECK CROWN.

**SLEEPER SLAB AND PAVEMENT DETAIL**



**SECTION C-C**

- NOTES**
- FOR SLEEPER SLAB PLAN, SEE SHEET **13/15**.
  - A BOND BREAKER CONSISTING OF TWO 4 FOOT SHEETS OF CLEAR OR OPAQUE POLYETHYLENE FILM, ITEM 705.06, SHALL BE CENTERED ABOVE THE JOINT BETWEEN THE SUBBASE AND THE SLEEPER SLAB. CARE SHALL BE TAKEN IN THE AREA BENEATH THE POLYETHYLENE FILM TO ENSURE THE SURFACE OF THE SUBBASE IS FINISHED SMOOTH AND IS FLUSH WITH OR SLIGHTLY HIGHER THAN THE SURFACE OF THE SLEEPER SLAB. THE FILM SHALL HAVE A NOMINAL THICKNESS OF 4 MILS.
  - A PERFORATED UNDERDRAIN SHALL BE PLACED AS SHOWN. IT SHALL EXTEND FROM EDGE TO EDGE OF THE SLEEPER SLAB AND BE OUTLETTED THROUGH THE EMBANKMENT AS SHOWN IN SECTION C-C. FOR ADDITIONAL INFORMATION, SEE STD. CONST. DWG. DM-1.2.
  - FOR ABBREVIATIONS, SEE SHEET **3/15**.
  - THE SQ. YD. QUANTITY OF THE SLEEPER SLABS SHALL BE INCLUDED WITH ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB) (T=12"), AS PER PLAN, FOR PAYMENT.
  - ALL REINFORCING STEEL TO BE EPOXY COATED.
  - THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, SS501 IS A NO. 5 BAR. BAR DIMENSIONS ARE OUT TO OUT UNLESS OTHERWISE NOTED.

DESIGN AGENCY  
 KCI ASSOCIATES OF OHIO, P.A.  
 388 S. MAIN ST., SUITE 401  
 AKRON, OHIO 44311

DATE  
 7/12/10  
 REVIEWED  
 BAW  
 STRUCTURE FILE NUMBER  
 0304697

DRAWN  
 WEB  
 CHECKED  
 CMK

**SLEEPER SLAB DETAILS**  
 BRIDGE NO. ASD-250-0377  
 U.S.R. 250 OVER VERMILION RIVER

**ASD-250-3.77**  
 PID No. 80058

**REINFORCING STEEL LIST**

MARK	NUMBER		TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS			INCRM.	
	REAR	FORWARD					A	B	C		
<b>ABUTMENTS</b>											
	PHASE 2	PHASE 3	PHASE 2	PHASE 3							
A401	8	10	8	10	36	9'-1"	218	3	2'-6 <sup>3</sup> / <sub>4</sub> "	1'-9"	
A501	23	29	23	29	104	11'-0"	1193	3	2'-8"	2'-7"	
A502	18	24	18	24	84	10'-8"	935	3	1'-11"	3'-2"	
A503	6				6	29'-4"	184	50			
A504	1 SER. OF 3			1 SER. OF 3	2 SER. OF 3	12'-6" TO 15'-4"	87	3	1'-11"	4'-1" TO 5'-6"	1'-5"
A505	1			1	2	16'-0"	33	3	1'-11"	5'-10"	
A506	1			1	2	17'-0"	35	3	1'-11"	6'-4"	
A507	1			1	2	18'-0"	38	3	2'-1"	6'-8"	
A508	1			1	2	6'-6"	14	STR.			
A509	1			1	2	7'-4"	15	STR.			
A510	1			1	2	3'-10"	8	STR.			
A511	1			1	2	4'-8"	10	STR.			
A512	1			1	2	6'-11"	14	19	7"	5'-9" 2'-9"	
A513	1			1	2	7'-11"	17	19	1'-7" 5'-9"	2'-9"	
A514		6			6	37'-4"	234	51			
A515		1	1		2	17'-8"	37	3	2'-1"	6'-6"	
A516		1	1		2	17'-4"	36	3	1'-11"	6'-6"	
A517		1	1		2	16'-10"	35	3	1'-11"	6'-3"	
A518		1	1		2	15'-10"	33	3	1'-11"	5'-9"	
A519		1 SER. OF 3	1 SER. OF 3		2 SER. OF 3	12'-2" TO 14'-10"	84	3	1'-11"	3'-11" TO 5'-3"	1'-4"
A520		1	1		2	7'-7"	16	STR.			
A521		1	1		2	6'-9"	14	STR.			
A522		1	1		2	5'-0"	10	STR.			
A523		1	1		2	4'-2"	9	STR.			
A524		1	1		2	8'-2"	17	19	1'-11"	5'-8" 2'-9"	
A525		1	1		2	7'-4"	15	19	1'-1"	5'-8" 2'-9"	
A526			6		6	29'-7"	185	50			
A527				6	6	37'-1"	232	51			
TOTAL = 7711											

**PIERS**

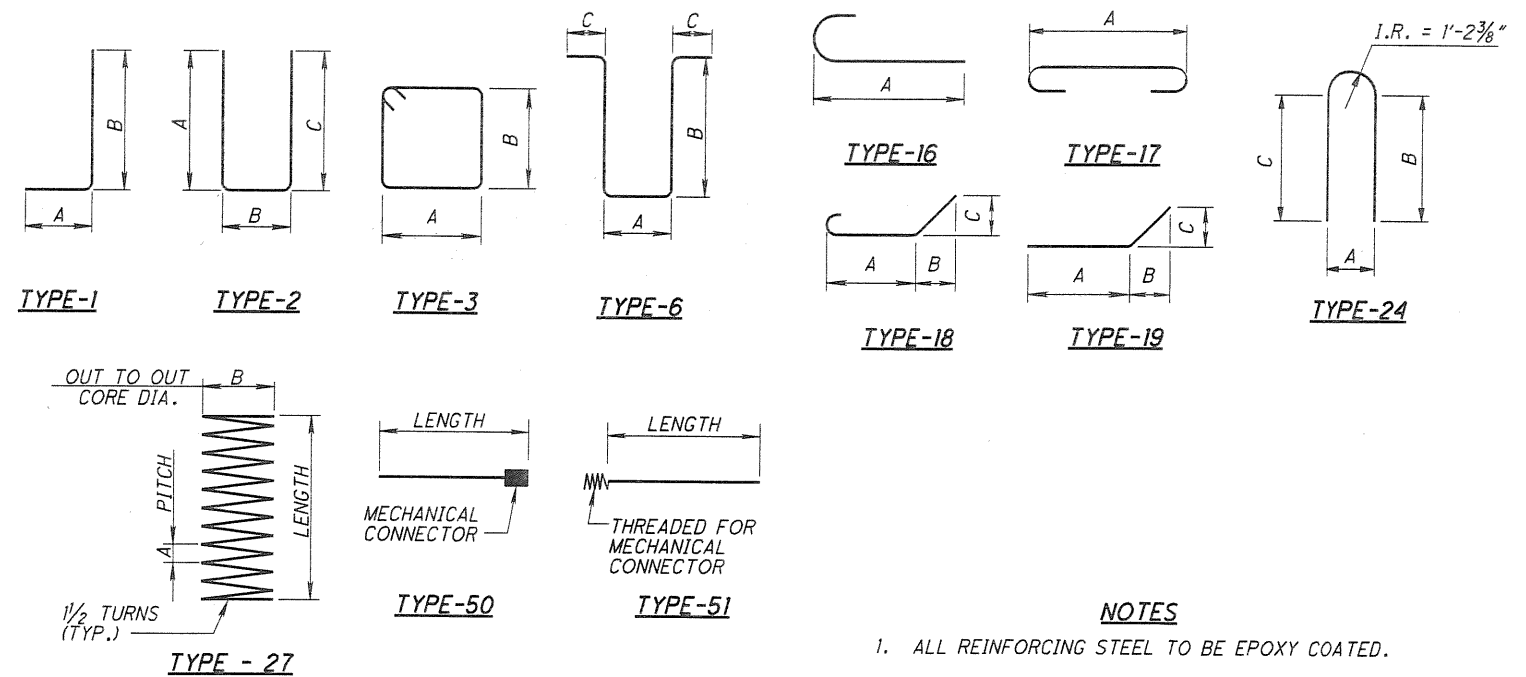
MARK	PIER 1		PIER 2		TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS		INCRM.
	PHASE 2	PHASE 3	PHASE 2	PHASE 3					A	B	
P401	6	8	6	8	28	9'-6"	178	3	2'-6"	2'-0"	
SP401	3	4			7	27'-0"	**	27	1'-0"	1'-0"	
SP402			3	4	7	27'-2"	**	27	1'-0"	1'-0"	
P501	13	18	13	18	62	10'-8"	690	6	2'-8"	3'-3" 1'-0"	
P502	1	1	1	1	4	9'-9"	41	6	1'-9"	3'-3" 1'-0"	
P503	1	1	1	1	4	4'-11"	21	2	1'-0"	3'-2" 1'-0"	
P504	2	2	2	2	8	10'-8"	89	24	2'-6"	3'-5" 3'-5"	
P505	2	2	2	2	4	17'-3"	72	50			
P506		2		2	4	24'-8"	103	51			
P601	24	32			56	28'-0"	**	1	10"	27'-4"	
P602			24	32	56	28'-2"	**	1	10"	27'-6"	
P1101	4		4		8	17'-3"	733	50			
P1102		4		4	8	24'-8"	1048	51			
TOTAL = 2975											

\*\* INCLUDE WITH ITEM 507 - PILING, MISC.: 16" C.I.P. REINF. CONC. PILES, 8" X 16" X 40' TAPER, FURNISHED, FOR PAYMENT.

**REINFORCING STEEL LIST**

MARK	NUMBER		TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS			INCRM.
	PHASE 2	PHASE 3					A	B	C	
<b>SUPERSTRUCTURE</b>										
S401	98	98	196	3'-8"	480	2	1'-3"	1'-4"	1'-3"	
S501	121		121	19'-8"	2482	50				
S502		121	121	28'-6"	3597	51				
S503	76	108	184	22'-7"	4334	STR.				
S504	38	54	92	16'-7"	1591	STR.				
S505	42	60	102	7'-0"	745	3	2'-1"	1'-2"		
S506	42	60	102	7'-5"	789	2	3'-1"	1'-6"	3'-1"	
S507	4	4	8	11'-0"	92	3	2'-1"	3'-2"		
S601	106		106	19'-8"	3131	50				
S602		106	106	28'-6"	4538	51				
S801	12		12	21'-4"	684	50				
S802	8		8	19'-8"	420	50				
S803		12	12	30'-2"	967	51				
S804		8	8	28'-6"	609	51				
S805	3	3	6	42'-8"	684	STR.				
D801	24	36	60	6'-1"	975	18	3'-9"	1'-0"	1'-0"	
S901	64	92	156	40'-8"	21,570	16	39'-5"			
S902	32	46	78	50'-1"	13,281	STR.				
S903	76	108	184	36'-9"	22,991	STR.				
TOTAL = 83,960										

**BENDING DIAGRAMS**



**NOTES**

- ALL REINFORCING STEEL TO BE EPOXY COATED.
- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. I.R. INDICATES INSIDE RADIUS.
- FOR ABBREVIATIONS, SEE SHEET 3/15.

DESIGN AGENCY  
KCI ASSOCIATES O F OHIO, P.A.  
388 S. MAIN ST., SUITE 401  
AKRON, OHIO 44311

DATE  
10-28-10

REVIEWED  
CMK

STRUCTURE FILE NUMBER  
0304697

DRAWN  
WEB

CHECKED  
SCT

REINFORCING STEEL LIST  
BRIDGE NO. ASD-250-0377  
U.S.R. 250 OVER VERMILION RIVER

ASD-250-3.77  
PID No. 80058

80058sRL001.dgn

UTILITY OWNERS:

WATER:
RURAL LORAIN COUNTY WATER AUTHORITY
42401 S.R. 303, P.O. BOX 567
LAGRANGE, OHIO 44050
(440) 355-6060

ELECTRIC:
FIRELANDS ELECTRIC CO-OP
1 ENERGY PLACE
NEW LONDON, OHIO 44851
(419) 929-1571

TELEPHONE:
FRONTIER COMMUNICATIONS
1534 STATE ROUTE 511 SOUTH
ASHLAND, OHIO 44805
(419) 282-6551

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

NEW DESCRIPTION APPROVED BY ASHLAND CO. ENGINEER NEW PARCEL (4-Parcels)

APPROVED BY Ashland County Planning Commission
[Signature]
E-11-31(1-WD)
E-11-32(1-WD-1)
E-11-33(2-WD)
E-11-34(3-WD)

STRUCTURE KEY

- RESIDENTIAL
COMMERCIAL
OUT-BUILDING

CONVENTIONAL SYMBOLS

Table of symbols for Property Line, County Line, Great Lot Line, Section Line, Corporation Line, Fence Line, etc.

RIGHT OF WAY LEGEND SHEET ASD-250-3.77 ASHLAND COUNTY RUGGLES TOWNSHIP SECTION 4 GREAT LOTS 26 & 27 T-1-N, R-20-W

Received ODOT

JUL 05 2011

District Three Planning & Engineering Dept.

INDEX OF SHEETS:

Table with 2 columns: Description (R/W LEGEND SHEET, CENTERLINE PLAT & COORDINATE TABLE, etc.) and Page Number (1, 2, 3, 4, 5-6)

PARCEL LEGEND:

WD = WARRANTY DEED
TMP = TEMPORARY EASEMENT



PLAN PREPARED BY:



PROJECT DESCRIPTION

REPLACEMENT OF THE EXISTING BRIDGE OVER THE VERMILION RIVER, INCLUDING REPLACEMENT OF THE APPROACH SLABS AND MINOR APPROACH WORK. THE PROJECT LENGTH IS 0.05 MILES.

PROJECT CONTROL

BEARINGS ARE BASED ON THE OHIO STATE PLANE GRID, NORTH ZONE, NAD83 (CORS96), AND WHERE DERIVED FROM GPS OBSERVATIONS OF "CP01" AND "CP02" MADE BY ODOT DISTRICT THREE IN FEBRUARY, 2008.

DATA USED

EXISTING PLANS: ASHLAND-NORWALK ROAD, S.H. 142, SECTION "c" BRIDGE, 1931; RIGHT-OF-WAY PLAN: ASD-250-(1.61-6.30), 1969; MAP OF SURVEY OF 5.001 ACRE TRACT BY LAUGHERY, INC., DATED JUNE, 1999. DEEDS: VOL.577, PG.759 VOL.577, PG.761 VOL.577, PG.763 VOL.579, PG.141 VOL.579, PG.143 VOL.521, PG.79 O.R. VOL.0635, PG.0469, O.R VOL. 0465, PG. 0308, O.R.VOL. 0159, PG. 0952

PLANS PREPARED BY:

FIRM NAME : KCI ASSOCIATES OF OHIO, P.A.
PLANS PREPARED BY: LELAND B. DILLWORTH P.S.
FIELD REVIEW BY: ADAM S. YODER
DATE COMPLETED: 3/2/11
OWNERSHIP VERIFIED BY: PAUL K. MILLER P.S.
DATE COMPLETED: 3/14/11
DATE COMPLETED: 4/28/11

I, Leland B. Dillworth, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in July, 2010. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates System NAD 83(CORS96), North Zone, and were derived from GPS observations made by ODOT District Three in February, 2008.

[Signature]
Leland B. Dillworth, Professional Land Surveyor #7481

Date: 7-1-11

SURVEYORS SEAL

FEDERAL PROJECT NO. E100 (689)
PID NO. 80058
CALCULATED PKM CHECKED LBD
RIGHT OF WAY LEGEND SHEET
ASD-250-3.77
1/6
38/42

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

THE PLACING OF MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE CENTERLINE MONUMENT ASSEMBLY BOX(S) WILL BE INSTALLED BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION.

THE IRON PIN AND CAP(WHEN REQUIRED)ARE TO BE INSTALLED BY THE CONTRACTOR'S SURVEYOR.

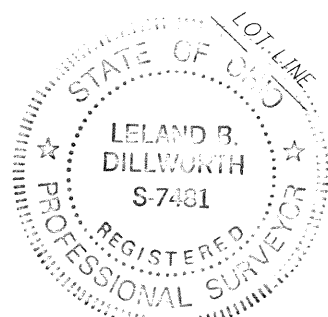
CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN ON THIS PLAT, REQUIRES PRIOR APPROVAL OF THE DISTRICT REAL ESTATE ADMINISTRATOR OF THE OHIO DEPARTMENT OF TRANSPORTATION. A REVISED CENTERLINE PLAT WITH THE NEW LOCATIONS SHALL BE RECORDED IN THE APPLICABLE COUNTY RECORDS AND THE OHIO DEPARTMENT OF TRANSPORTATION. SPECIFICATIONS FOR CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 (10-15-10 REV.) OF THE OHIO DEPARTMENT OF TRANSPORTATION.

**MONUMENT LEGEND**

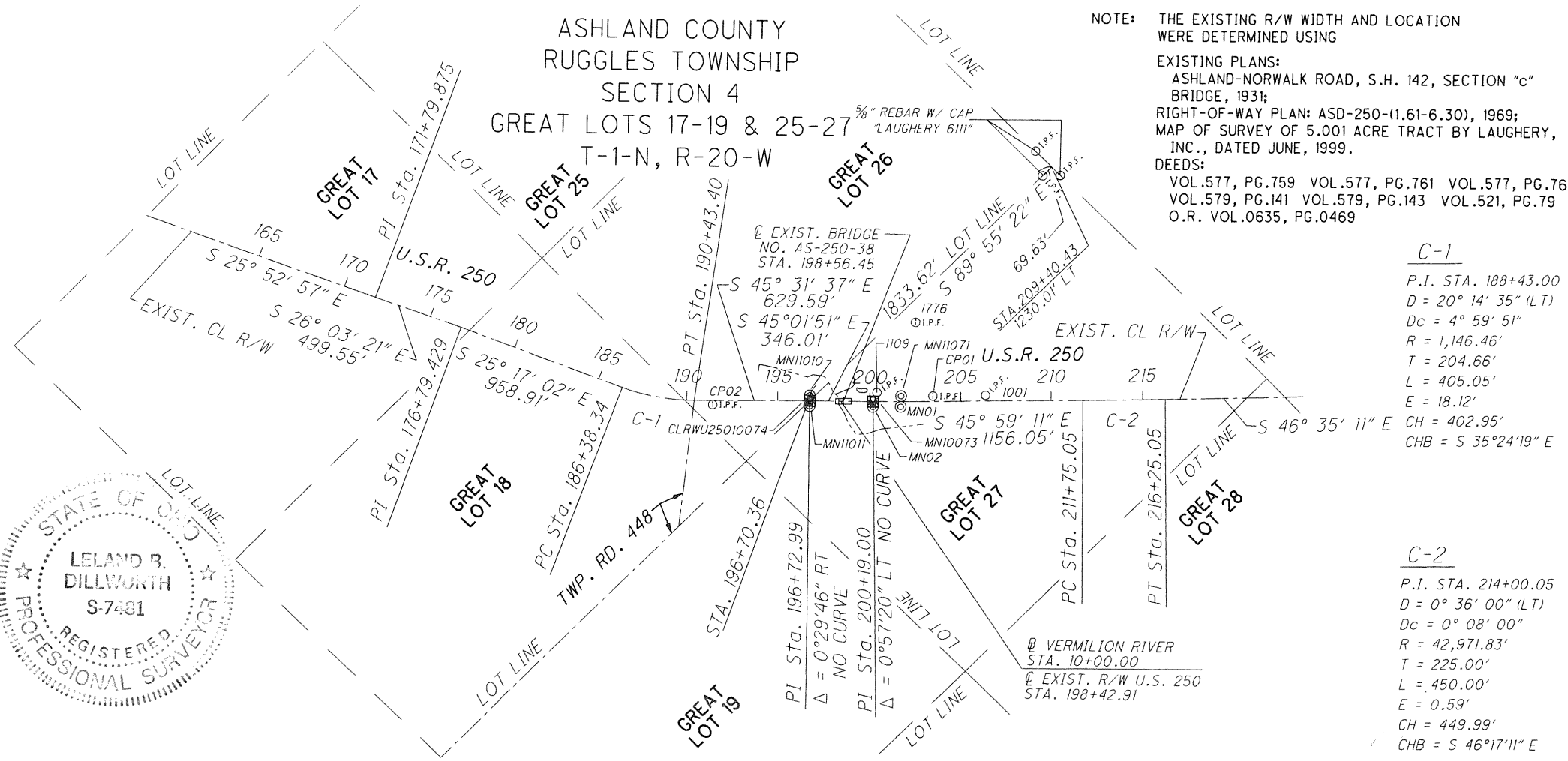
- PROPOSED ADJUSTABLE CENTERLINE MONUMENT
- ⊙ EXISTING CONCRETE R/W MONUMENT
- ♣ RAILROAD SPIKE FOUND
- ⊙ I.P.F. IRON PIN FOUND
- ⊙ I.P.F. IRON PIN FOUND W/ ID CAP
- ⊙ I.P.S. IRON PIN SET W/ ID CAP (3/4" X 30" REBAR SET WITH 2" ALUMINUM CAP STAMPED "ODOT R/W LELAND B. DILLWORTH PS 7481"

**BASIS FOR BEARINGS.**

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY. BEARINGS ARE BASED ON THE OHIO STATE PLANE GRID, NORTH ZONE, NAD83 (CORS96), AND WHERE DERIVED FROM GPS OBSERVATIONS OF "CP01" AND "CP02" MADE BY ODOT DISTRICT THREE IN FEBRUARY, 2008. PROJECT ADJUSTMENT FACTOR (PAF) 1.000108025.



ASHLAND COUNTY  
RUGGLES TOWNSHIP  
SECTION 4  
GREAT LOTS 17-19 & 25-27  
T-1-N, R-20-W



NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING EXISTING PLANS: ASHLAND-NORWALK ROAD, S.H. 142, SECTION "c" BRIDGE, 1931; RIGHT-OF-WAY PLAN: ASD-250-(1.61-6.30), 1969; MAP OF SURVEY OF 5.001 ACRE TRACT BY LAUGHERY, INC., DATED JUNE, 1999. DEEDS: VOL.577, PG.759 VOL.577, PG.761 VOL.577, PG.763 VOL.579, PG.141 VOL.579, PG.143 VOL.521, PG.79 O.R. VOL.0635, PG.0469

C-1  
P.I. STA. 188+43.00  
D = 20° 14' 35" (LT)  
Dc = 4° 59' 51"  
R = 1,146.46'  
T = 204.66'  
L = 405.05'  
E = 18.12'  
CH = 402.95'  
CHB = S 35°24'19" E

C-2  
P.I. STA. 214+00.05  
D = 0° 36' 00" (LT)  
Dc = 0° 08' 00"  
R = 42,971.83'  
T = 225.00'  
L = 450.00'  
E = 0.59'  
CH = 449.99'  
CHB = S 46°17'11" E

I, Leland B. Dillworth, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in July, 2010. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates System NAD 83(CORS96), North Zone, and were derived from GPS observations made by ODOT District Three in February, 2008. The Project Adjustment Factor used for this project is 1.000108025. As a part of this project, I have reestablished the locations of the existing property lines for property takes contained herein. ODOT District Three established the existing centerline of right of way for this project. As a part of this project, I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein. As a part of this work, I have set the monuments at the proposed Property corners, Section Corners and other points as shown herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "A Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

*Leland B. Dillworth*  
Leland B. Dillworth, Professional Land Surveyor #7481

Date: 7-1-11

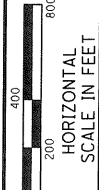
SEEN BY  
ASHLAND COUNTY TAX MAP OFFICE  
ASHLAND COUNTY ENGINEER

RECEIVED \_\_\_\_\_, 20\_\_\_\_  
RECORDED \_\_\_\_\_, 20\_\_\_\_  
BOOK \_\_\_\_\_ PAGE \_\_\_\_\_  
COUNTY RECORDER

PROJECT GROUND COORDS. - US SURVEY FEET							STATE PLANE GRID COORDS. - METERS					
Primary Control Points							Primary Control Points					
NAME	STATION	OFFSET	NORTH(ft)	EAST(ft)	ELEV.(ft)	FEATURE	NAME	NORTH(m)	EAST(m)	ORTHO HT(m)	DESCRIPTION	
CP01	203+48.29	-30.12	486118.116	1997042.967	998.34	IPF	CP01	148153.0939	608634.1661	304.293	3/4" IRON REBAR W/3" DIA. ALUMINUM ODOT CAP	
CP02	191+44.27	23.15	486923.681	1996146.920	1002.88	IPF	CP02	148398.6041	608361.0799	305.679	5/8" IRON REBAR W/YELLOW 'ODOT CONTROL' CAP	
USR 250 MONUMENTATION/ ALIGNMENT							USR 250 MONUMENTATION/ ALIGNMENT					
NAME	STATION	OFFSET	NORTH(ft)	EAST(ft)	ELEV.(ft)	FEATURE	NAME	NORTH(m)	EAST(m)	ORTHO HT(m)	DESCRIPTION	
MN11011	196+72.85	29.91	486548.551	1996519.377	0.00	CMON	MN11011	148284.2766	608474.5928	0.000	CONC ODOT R/W MON - LOCATED 2001	
MN11010	196+72.99	-29.90	486591.037	1996561.469	0.00	CMON	MN11010	148297.2249	608487.4211	0.000	CONC ODOT R/W MON - LOCATED 2001	
MNO2	200+19.00	29.99	486303.730	1996764.341	995.02	CMON	MNO2	148209.6630	608549.2499	303.282	CONC ODOT R/W MON - LOCATED 2008	
MN10073	200+19.00	0.00	486325.258	1996785.225	0.00	RSPK	MN10073	148216.2241	608555.6147	0.000	RAILROAD SPIKE FND. - LOCATED 2008	
MNO1	201+71.19	29.62	486198.210	1996874.097	995.38	CMON	MNO1	148177.5039	608582.7000	303.392	CONC ODOT R/W MON - LOCATED 2008	
CLRWU25010074	196+72.99	0.00	486569.795	1996540.424	0.00	RSPK	CLRWU25010074	148290.7510	608481.0072	0.000	RAILROAD SPIKE FND. - PT (NO CURVE)	
MN11071	201+73.51	-30.56	486239.874	1996917.579	0.00	RSPK	MN11071	148190.2018	608595.9519	0.000	CONC ODOT R/W MON - LOCATED 2008	
1109	200+41.24	-50.26	486345.950	1996836.140	0.00	IPF	1109	148222.5303	608571.1319	0.000	5/8" REBAR WITH "LAUGHERY 6111" CAP	
1776	202+50.92	-440.86	486481.172	1997258.337	0.00	IPF	1776	148263.7416	608699.8039	0.000	5/8" REBAR WITH "LAUGHERY 6111" CAP	
1001	206+38.16	-31.56	485917.743	1997252.436	0.00	IPF	1001	148092.0267	608698.0055	0.000	5/8" REBAR WITH "LAUGHERY 6111" CAP	
PROPOSED R/W MONUMENTATION							PROPOSED R/W MONUMENTATION					
NAME	STATION	OFFSET	NORTH(ft)	EAST(ft)	ELEV.(ft)	FEATURE	NAME	NORTH(m)	EAST(m)	ORTHO HT(m)	DESCRIPTION	ITEM 604
R9	196+72.99	0.00	486569.795	1996540.424	0.000	CMONS	R9	148290.7510	608481.0072	0.000	ADJUSTABLE CENTERLINE MONUMENT TO BE SET	1
R10	200+19.00	0.00	486325.258	1996785.225	0.000	CMONS	R10	148216.2241	608555.6147	0.000	ADJUSTABLE CENTERLINE MONUMENT TO BE SET	1
R1	196+00.00	-30.00	486642.330	1996509.360	0.000	IPINS	R1	148312.8574	608471.5399	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R2	198+10.00	-60.00	486515.410	1996679.760	0.000	IPINS	R2	148274.1762	608523.4723	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R3	200+34.81	-37.71	486341.390	1996822.800	0.000	IPINS	R3	148221.1406	608567.0663	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R7	201+00.00	-30.20	486290.695	1996864.462	0.000	IPINS	R7	148205.6904	608579.7635	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R14	202+68.00	28.50	486131.750	1996944.500	0.000	IPINS	R14	148157.2491	608604.1565	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R15	202+20.00	43.00	486154.673	1996899.902	0.000	IPINS	R15	148164.2353	608590.5645	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R16	200+25.00	54.00	486282.254	1996752.020	0.000	IPINS	R16	148203.1178	608545.4949	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R21	199+00.00	75.00	486356.300	1996648.030	0.000	IPINS	R21	148225.6847	608513.8021	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R22	198+10.00	75.000	486419.900	1996584.360	0.000	IPINS	R22	148245.0679	608494.3975	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R23	196+19.31	50.00	486571.723	1996467.091	0.000	IPINS	R23	148291.3387	608458.6579	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R24	195+25.00	30.00	486652.060	1996413.810	0.000	IPINS	R24	148315.8228	608442.4194	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R27	200+10.25	-40.32	486359.968	1996807.526	0.000	IPINS	R27	148226.8025	608562.4113	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
R30	197+16.99	-46.45	486571.558	1996604.384	0.000	IPINS	R30	148291.2884	608500.5004	0.000	3/4" IRON REBAR W/2" DIA. ALUMINUM ODOT CAP	
QUANTITY CARRIED TO GENERAL SUMMARY SHEET											TOTAL	2

CENTERLINE PLAT  
 PID NO. 80058  
 R/W DESIGNER PKM  
 R/W REVIEWER LBD  
 ASD-250-3.77  
 2 / 6  
 38A  
 42

ASHLAND COUNTY  
RUGGLES TOWNSHIP  
SECTION 4  
GREAT LOTS 17-20 & 25-27  
T-1-N, R-20-W



PID NO. **80058**

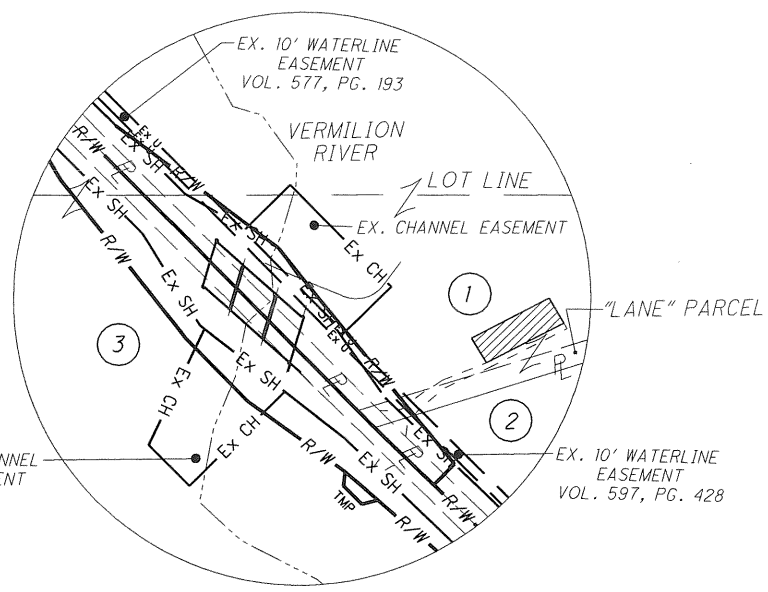
RAW DESIGNER: PKM  
RAW REVIEWER: LBD

**PROPERTY MAP**

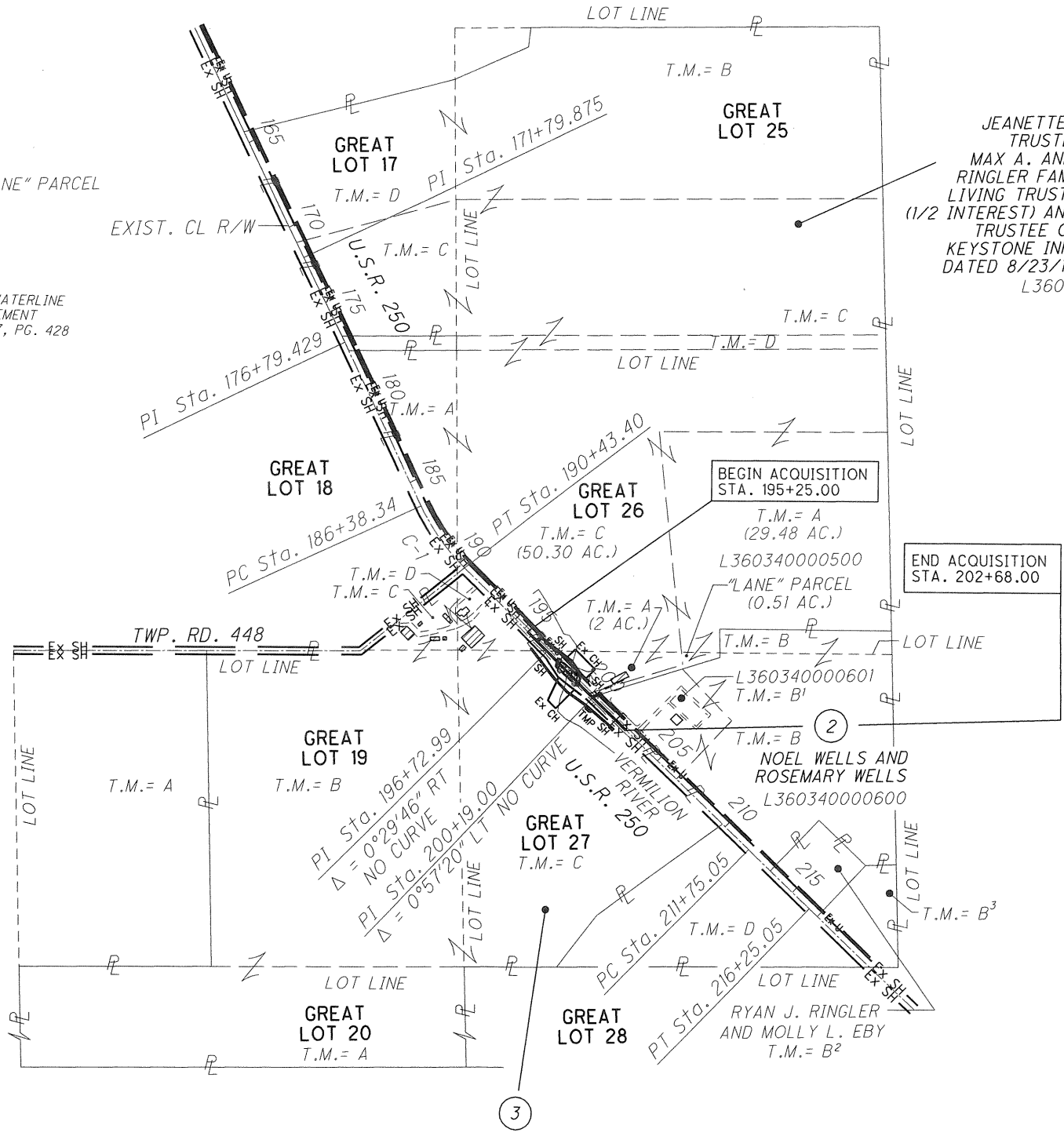
**ASD-250-3.77**

3 / 6

39  
42



DETAIL  
NOT TO SCALE



①  
JEANETTE A. RINGLER  
TRUSTEE OF THE  
MAX A. AND JEANETTE A.  
RINGLER FAMILY REVOCABLE  
LIVING TRUST DATED 11/22/99  
(1/2 INTEREST) AND HELEN K. WILLIAMS,  
TRUSTEE OF THE RINGLER  
KEYSTONE INHERITANCE TRUST  
DATED 8/23/10, (1/2 INTEREST)  
L360330000100

BEGIN ACQUISITION  
STA. 195+25.00

END ACQUISITION  
STA. 202+68.00

③  
JEANETTE A. RINGLER  
TRUSTEE OF THE  
MAX A. AND JEANETTE A.  
RINGLER FAMILY REVOCABLE  
LIVING TRUST DATED 11/22/99  
L360310000200

REV. BY	DATE	DESCRIPTION
LBD	6/21/11	PARCELS 1 & 3 OWNERS NAMES
DATE COMPLETED 4-28-11		



RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE ALL AREAS IN ACRES UNLESS OTHERWISE SHOWN.  
 GROSS TAKE - PRO IN TAKE = NET TAKE

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF STATE OF OHIO UNLESS OTHERWISE NOTED.

TOTAL NUMBER OF :  
 OWNERSHIPS 3 TOTAL TAKES 0  
 PARCELS 5 OWNERSHIPS W/ STRUCTURES INVOLVED 0

# SUMMARY OF ADDITIONAL RIGHT OF WAY

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
1-WD	JEANETTE A. RINGLER, TRUSTEE OF THE MAX A. AND JEANETTE A. RINGLER FAMILY REVOCABLE LIVING TRUST, DATED 11/22/99 (1/2 INTEREST) AND HELEN K. WILLIAMS, TRUSTEE OF THE RINGLER KEYSTONE INHERITANCE TRUST DATED 8/23/10, (1/2 INTEREST)	5-6	OR 0673 OR 0465 DV 577 DV 577 OR 160 OR 0676 DV 579 DV 579 OR 0159	0640 0308 759 761 947 8 141 143 0950	L360330000100     L360340000500 TOTAL	176.760     29.990 206.750	2.500     0.018 2.518	0.437     0.023 0.460	0.387     0.018 0.405	0.050     0.005 0.055			STATE	G. L. 26, T.M. = C (50.30 AC.) & G. L. 27, T.M. = A (2 AC.) 0.080 AC. IN GREAT LOT 26 & 0.357 AC. IN GREAT LOT 27     G.L. LOT 27 "LANE" PARCEL (0.51 AC.) & G.L. 26, T.M. = A (29.48 AC.) * 215 FEET OF 5 STRAND OF BARBED WIRE FENCE TO BE REMOVED, OF WHICH 215 FEET ENCROACHES EXIST. R/W. * 110 FEET OF 5 STRAND OF BARBED WIRE FENCE TO BE REMOVED, OF WHICH 110 FEET ENCROACHES EXIST. R/W. * 10 FEET OF WOOD & WIRE (1 STRAND) FENCE TO BE REMOVED, OF WHICH 10 FEET ENCROACHES EXIST. R/W. * 10 FEET OF WOOD FENCE TO BE REMOVED, OF WHICH 2 FEET ENCROACHES EXIST. R/W. PORTION OF EX. CHANNEL ESMT. 0.033 AC. TO BE ACQUIRED, PORTION OF EX. WATERLINE ESMT. 0.007 AC. TO BE ACQUIRED, RECORDED IN DEED VOL. 577, PG. 193	OR 746	257	
1-WD-1																	
2-WD	NOEL WELLS AND ROSEMARY WELLS	6	OR 0635	0469	L360340000600 L360340000601 TOTAL	26.436 5.001 31.437	0.844 0.436 1.280	0 0.060 0.060	0 0.053 0.053	0 0.007 0.007				GREAT LOT 27, T.M. = B GREAT LOT 27, T.M. = B' PORTION OF EX. WATERLINE ESMT. 0.001 AC. TO BE ACQUIRED, RECORDED IN DEED VOL. 597, PG. 428	OR 696	515	
3-WD	JEANETTE A. RINGLER, TRUSTEE OF THE MAX A. AND JEANETTE A. RINGLER FAMILY REVOCABLE LIVING TRUST, DATED 11/22/99	5-6	OR 0465 DV 521 OR 0159 DV 577 DV 577	0308 79 0952 763 761	L360310000200	179.950	2.053	0.958	0.592	0.366				G.L. 27, T.M. = C (34.95 AC.) & G.L. 26, T.M. = D (2.50 AC.) 0.116 AC. IN GREAT LOT 26 & 0.842 AC. IN GREAT LOT 27 * 276 FEET OF 5 STRAND OF BARBED WIRE FENCE TO BE REMOVED, OF WHICH 276 FEET ENCROACHES EXIST. R/W. * 16 FEET OF WOOD FENCE TO BE REMOVED, OF WHICH 16 FEET ENCROACHES EXIST. R/W. * 363 FEET OF 5 STRAND OF BARBED WIRE FENCE AND WOOD GATE TO BE REMOVED, OF WHICH 95 FEET ENCROACHES EXIST. R/W. PORTION OF EX. CHANNEL ESMT. 0.056 AC. TO BE ACQUIRED, FOR RECONSTRUCTION OF A DRIVEWAY AND SEEDING & GRADING	OR 746	257	
3-TMP		6						0.011	0	0.011							

**PARCEL LEGEND:**  
 TMP = TEMPORARY EASEMENT  
 WD= WARRANTY DEED

DV = DEED VOLUME  
 ORV = OFFICIAL RECORD VOLUME  
 TM = TAX MAP PARCEL

\* DENOTES RIGHT OF WAY ENCROACHMENT  
 (c) = CALCULATED AREA

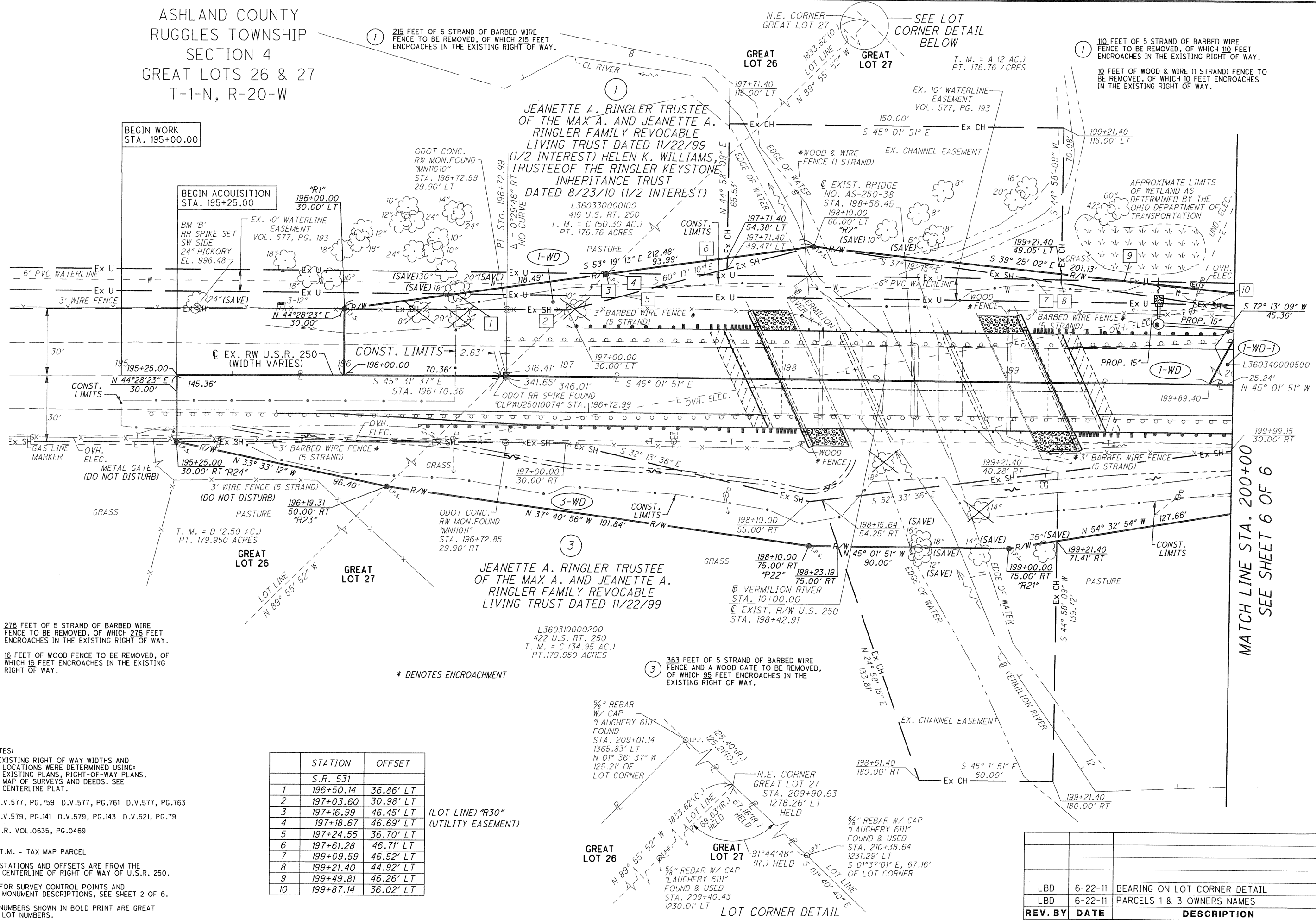
NOTES: ALL TEMPORARY PARCELS TO BE OF 12 MONTH DURATION.

UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS OTHERWISE NOTED.

EAS	10-7-14	ADD AS ACQUIRED
LBD	8-3-11	OWNER RECORD CORRECTIONS
LBD	6-22-11	PARCELS 1 & 3 OWNERS NAMES
LBD	6-22-11	PARCEL 2 NET TAKE & RESIDUE
<b>REV. BY</b>	<b>DATE</b>	<b>DESCRIPTION</b>
FIELD REVIEW BY ASY	DATE: 3-2-11	
OWNERSHIP VERIFIED BY PKM	DATE: 3-14-11	
DATE COMPLETED 4-28-11		

FEDERAL PROJECT NO. E100 (689)  
 PID NO. 80058  
 STATE JOB NO. 43743(4)  
 R/W DESIGNER PKM  
 R/W REVIEWER LBD  
 SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 1-3)  
 ASD-250-3.77  
 4 / 6  
 40  
 42

ASHLAND COUNTY  
RUGGLES TOWNSHIP  
SECTION 4  
GREAT LOTS 26 & 27  
T-1-N, R-20-W



BEGIN WORK  
STA. 195+00.00

BEGIN ACQUISITION  
STA. 195+25.00

1 215 FEET OF 5 STRAND OF BARBED WIRE FENCE TO BE REMOVED, OF WHICH 215 FEET ENCLOSES IN THE EXISTING RIGHT OF WAY.

2 110 FEET OF 5 STRAND OF BARBED WIRE FENCE TO BE REMOVED, OF WHICH 110 FEET ENCLOSES IN THE EXISTING RIGHT OF WAY.

3 276 FEET OF 5 STRAND OF BARBED WIRE FENCE TO BE REMOVED, OF WHICH 276 FEET ENCLOSES IN THE EXISTING RIGHT OF WAY.

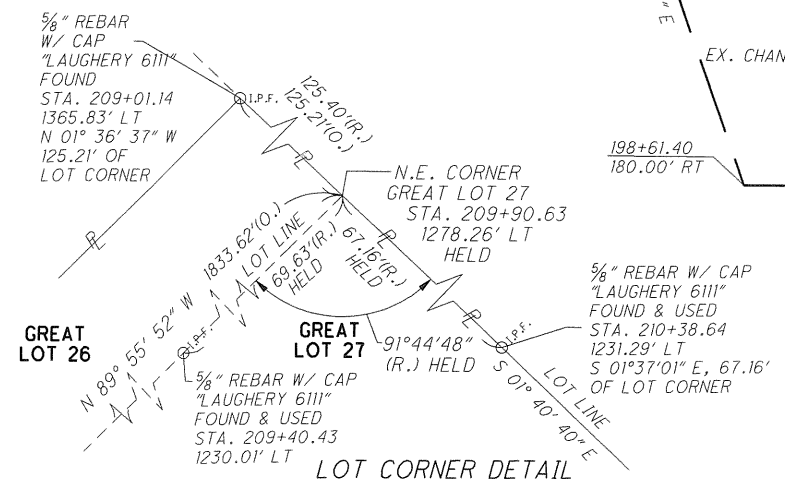
10 10 FEET OF WOOD & WIRE (1 STRAND) FENCE TO BE REMOVED, OF WHICH 10 FEET ENCLOSES IN THE EXISTING RIGHT OF WAY.

\* DENOTES ENCROACHMENT

- NOTES:
- EXISTING RIGHT OF WAY WIDTHS AND LOCATIONS WERE DETERMINED USING: EXISTING PLANS, RIGHT-OF-WAY PLANS, MAP OF SURVEYS AND DEEDS. SEE CENTERLINE PLAT.
  - D.V.577, PG.759 D.V.577, PG.761 D.V.577, PG.763 D.V.579, PG.141 D.V.579, PG.143 D.V.521, PG.79 O.R. VOL.0635, PG.0469
  - T.M. = TAX MAP PARCEL
  - STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF RIGHT OF WAY OF U.S.R. 250.
  - FOR SURVEY CONTROL POINTS AND MONUMENT DESCRIPTIONS, SEE SHEET 2 OF 6.
  - NUMBERS SHOWN IN BOLD PRINT ARE GREAT LOT NUMBERS.

	STATION	OFFSET
	S.R. 531	
1	196+50.14	36.86' LT
2	197+03.60	30.98' LT
3	197+16.99	46.45' LT
4	197+18.67	46.69' LT
5	197+24.55	36.70' LT
6	197+61.28	46.71' LT
7	199+09.59	46.52' LT
8	199+21.40	44.92' LT
9	199+49.81	46.26' LT
10	199+87.14	36.02' LT

(LOT LINE) "R30"  
(UTILITY EASEMENT)



LOT CORNER DETAIL

REV. BY	DATE	DESCRIPTION
LBD	6-22-11	BEARING ON LOT CORNER DETAIL
LBD	6-22-11	PARCELS 1 & 3 OWNERS NAMES
DATE COMPLETED		4-28-11

  
 HORIZONTAL SCALE IN FEET  
 0 20 40  
 PID NO. **80058**  
 R/W DESIGNER PKM  
 R/W REVIEWER LBD  
**RIGHT OF WAY DETAIL SHEET**  
**STA. 194+50 TO 200+00**  
**ASD - 250 - 3.77**  
 5 / 6  
 41  
 42

	BEARING	DISTANCE
A	S 49° 12' 55" E	45.07'
B	S 75° 46' 23" W	17.10'
C	N 45° 59' 11" W	27.00'
D	N 07° 08' 37" E	15.00'
E	S 72° 13' 09" W	42.70'
F	S 39° 25' 02" E	201.13'
G	S 72° 13' 09" W	45.36'

ASHLAND COUNTY  
RUGGLES TOWNSHIP  
SECTION 4  
GREAT LOT 27  
T-1-N, R-20-W

	STATION	OFFSET
	S.R. 531	
1	200+06.59	33.39' LT
2	200+10.17	40.32' LT
3	200+30.69	30.00' LT
4	200+34.82	37.70' LT
5	200+25.00	54.00' RT
6	200+34.00	66.00' RT
7	200+61.00	66.00' RT
8	200+70.00	51.46' RT

- NOTES:
- EXISTING RIGHT OF WAY WIDTHS AND LOCATIONS WERE DETERMINED USING EXISTING PLANS, RIGHT-OF-WAY PLANS, MAP OF SURVEYS AND DEEDS. SEE CENTERLINE PLAT.
  - D.V.577, PG.759 D.V.577, PG.761 D.V.577, PG.763 D.V.579, PG.141 D.V.579, PG.143 D.V.521, PG.79 O.R. VOL.0635, PG.0469
  - T.M. = TAX MAP PARCEL
  - STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF WAY OF U.S.R. 250.
  - FOR SURVEY CONTROL POINTS AND MONUMENT DESCRIPTIONS, SEE SHEET 2 OF 6.
  - NUMBERS SHOWN IN BOLD PRINT ARE GREAT LOT NUMBERS.



PID NO.  
**80058**

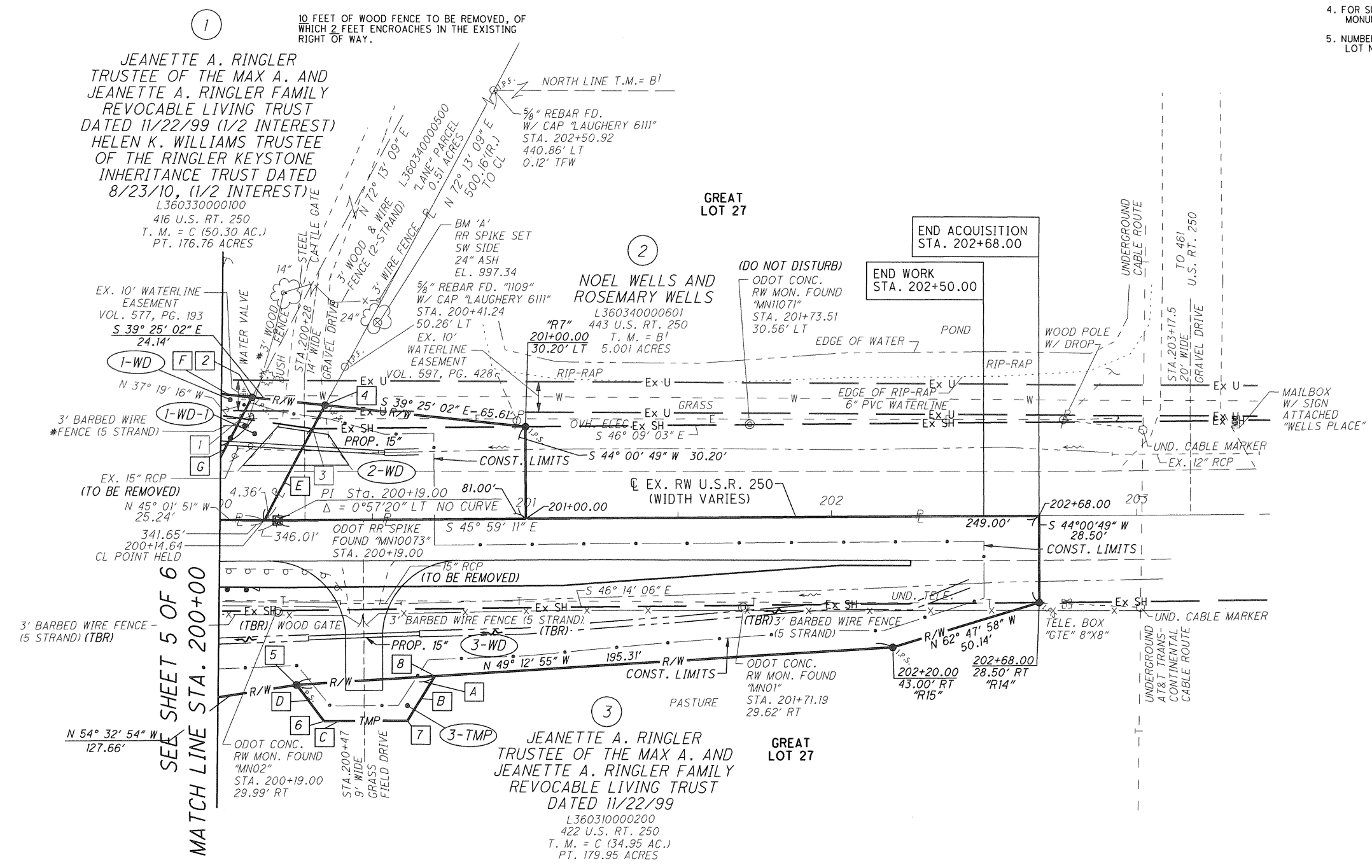
R/W DESIGNER PKM  
R/W REVIEWER LBD

RIGHT OF WAY DETAIL SHEET  
STA. 200+00 TO 203+80

ASD-250-3.77

6 / 6

REV. BY	DATE	DESCRIPTION
LBD	6-22-11	PARCELS 1 & 3 OWNER NAMES
42		
42		



1 10 FEET OF WOOD FENCE TO BE REMOVED, OF WHICH 2 FEET ENCR OACHES IN THE EXISTING RIGHT OF WAY.

JEANETTE A. RINGLER  
TRUSTEE OF THE MAX A. AND  
JEANETTE A. RINGLER FAMILY  
REVOCABLE LIVING TRUST  
DATED 11/22/99 (1/2 INTEREST)  
HELEN K. WILLIAMS TRUSTEE  
OF THE RINGLER KEYSTONE  
INHERITANCE TRUST DATED  
8/23/10, (1/2 INTEREST)  
L360330000100  
416 U.S. RT. 250  
T. M. = C (50.30 AC.)  
PT. 176.76 ACRES

NOEL WELLS AND  
ROSEMARY WELLS  
L360340000601  
443 U.S. RT. 250  
T. M. = B1  
5.001 ACRES

JEANETTE A. RINGLER  
TRUSTEE OF THE MAX A. AND  
JEANETTE A. RINGLER FAMILY  
REVOCABLE LIVING TRUST  
DATED 11/22/99  
L360310000200  
422 U.S. RT. 250  
T. M. = C (34.95 AC.)  
PT. 179.95 ACRES

(TBR) = (TO BE REMOVED)  
\* DENOTES ENCROACHMENT

**PROJECT DESCRIPTION**

IT IS PROPOSED TO REPLACE THE EXISTING TWO-SPAN BRIDGE CARRYING US ROUTE 250 OVER THE VERMILION RIVER (BRIDGE No. ASD-250-0377) IN ASHLAND COUNTY, OHIO, WITH A 120-FOOT-LONG THREE-SPAN BRIDGE. THE HORIZONTAL AND VERTICAL ALIGNMENT ARE TO REMAIN ESSENTIALLY THE SAME, ALTHOUGH SOME WIDENING OF THE EXISTING APPROACH EMBANKMENTS MAY BE NECESSARY TO ACCOMMODATE THE NEW, WIDER BRIDGE STRUCTURE.

**ODOT EXPLORATION REQUIREMENTS AND SPECIFICATIONS**

THE ODOT SCOPE OF SERVICES FOR THIS PROJECT SPECIFIED THAT THE EXPLORATION PROGRAM CONSIST OF 2 STRUCTURE BORINGS AND 2 PAVEMENT CORES. ODOT DISTRICT 3 WAS CONTACTED, AS THE ODOT "SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS" REQUIRES 4 BORINGS FOR A THREE-SPAN BRIDGE. DISTRICT 3 RESPONDED THAT ONLY 2 BORINGS WERE REQUIRED AT THIS SITE.

THE REMAINDER OF THIS INVESTIGATION WAS PERFORMED IN ACCORDANCE WITH THE 2007 ODOT "SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS", INCLUDING REVISIONS THROUGH JANUARY 16, 2009.

**HISTORIC RECORDS**

THE ODOT OFFICE OF GEOTECHNICAL ENGINEERING WAS CONTACTED REGARDING THE AVAILABILITY OF HISTORIC BORING INFORMATION WHICH MIGHT BE UTILIZED DURING THIS INVESTIGATION. HOWEVER, OGE INDICATED THAT NO SUCH INFORMATION WAS AVAILABLE.

**GEOLOGY**

THIS SITE IS LOCATED OVER A RELATIVELY NARROW BURIED VALLEY WITHIN THE GALION GLACIATED LOW PLATEAU PHYSIOGRAPHIC REGION OF OHIO, WHERE THE SOIL OVERBURDEN CONSISTS OF VARIABLY THICK DEPOSITS OF SAND AND GRAVEL INTERBEDDED WITH THICK, DISCONTINUOUS LAYERS OF COHESIVE SOIL. ODNR BEDROCK MAPPING INDICATES THAT THE UPPERMOST BEDROCK IN THE VICINITY OF THIS SITE IS LOCATED AT DEPTHS IN EXCESS OF 100 FEET BELOW THE GROUND SURFACE.

**SUBSURFACE EXPLORATION PROGRAM**

BORING B-001-0-09 WAS PERFORMED ON MARCH 24 AND 25, 2009, USING A TRUCK-MOUNTED DRILLING RIG TO ADVANCE THE BORING TO A DEPTH OF 90.0 FEET BELOW THE EXISTING ROADWAY SURFACE NEAR THE PROPOSED REAR ABUTMENT. BORING B-001 WAS ADVANCED TO A DEPTH OF 68.5 FEET USING A 3-1/4-INCH I.D. HOLLOW-STEM AUGER, WITH DISTURBED SOIL SAMPLES OBTAINED BY LOWERING A 2-INCH O.D. SPLIT-BARREL SAMPLER THROUGH THE AUGER STEM TO THE BOTTOM OF THE BORING AND THEN DRIVING THE SAMPLER INTO THE SOIL WITH BLOWS FROM A 140-POUND HAMMER FREELY FALLING 30 INCHES (STANDARD PENETRATION TEST). AS BORING B-001 WAS BEING ADVANCED, ARTESIAN FLOWS OF GROUNDWATER WERE ENCOUNTERED AT ROUGHLY 33.5 FEET BELOW THE GROUND SURFACE (2 GALLONS PER MINUTE OF GROUNDWATER FLOWING FROM THE AUGERS AT THE GROUND SURFACE), AND AT 68.5 FEET (3 TO 5 GALLONS PER MINUTE). HEAVING SAND ALSO OCCURRED AT EACH SAMPLING DEPTH FROM 53.5 TO 63.5 FEET. A CHANGEOVER TO ROTARY DRILLING METHODS AND BENTONITIC SLURRY WAS MADE AT 68.5 FEET; HOWEVER, THE UPWARD FLOW OF GROUNDWATER WAS NOT ALLOWING A SLURRY WALL-CAKE TO DEVELOP, AND AT 73.5 FEET, THE DRILLING TOOLS SANK PAST THE PLANNED SAMPLING DEPTH. BELOW 73.5 FEET, HOLLOW-STEM AUGERS WERE USED TO ADVANCE THE BORING TO COMPLETION AT 90 FEET, WITH SIGNIFICANT DRILLING DIFFICULTIES BEING EXPERIENCED. BORING B-001 WAS SEALED BY PLACING BENTONITE CHIPS BETWEEN 30 AND 42 FEET TO RETARD THE UPWARD FLOW OF GROUNDWATER, AND THEN A MIXTURE OF BENTONITE AND CEMENT WAS USED BETWEEN THE DEPTHS OF 3 FEET AND 30 FEET. THE REMAINDER OF THE BORING WAS THEN PLUGGED WITH NEAT CEMENT TOPPED WITH 6 INCHES OF COLD-PATCH ASPHALT.

BORING B-002-0-09 WAS DRILLED ON JULY 8 AND 9, 2009, TO A DEPTH OF 100.0 FEET. A HOLLOW-STEM AUGER WAS USED TO ADVANCE THIS BORING TO A DEPTH OF 17 FEET, BELOW WHICH BORING B-002 WAS DRILLED USING ROTARY DRILLING METHODS, BENTONITIC DRILLING SLURRY, AND A CASING ADVANCER. SLIGHT ARTESIAN GROUNDWATER FLOW WAS NOTED BETWEEN THE DEPTHS OF 68.5 AND 83.5 FEET, WITH "HEAVING" SAND ALSO OCCURRING. BORING B-002 WAS TERMINATED AT A DEPTH OF 100 FEET IN ACCORDANCE WITH THE ODOT "SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS." AS THE DRILLING CASING WAS BEING REMOVED AND THE REMAINING BENTONITIC SLURRY LEVEL DROPPED, THE BORE HOLE CAVED BELOW THE CASING AT A DEPTH OF 23.5 FEET. BBCM SEALED THE BORING BETWEEN 23.5 AND 11.0 FEET USING THREE TUBES OF GEOSYNTHETIC FABRIC WHICH WERE FILLED WITH GRANULATED BENTONITE. ABOVE THIS DEPTH, THE BORING WAS SEALED WITH BENTONITE CHIPS TOPPED WITH COLD-PATCH ASPHALT.

**FINDINGS OF THE EXPLORATIONS**

BENEATH 10 AND 19 INCHES OF ASPHALT PAVEMENT, BORINGS B-001 AND B-002 ENCOUNTERED 2.2 TO 2.9 FEET OF EXISTING FILL CONSISTING OF MEDIUM-DENSE GRAY AND BROWN GRAVEL WITH SAND (A-1-b) OR GRAVEL WITH SAND, SILT AND CLAY (A-2-6). A HYDROCARBON ODOR WAS NOTED WITHIN THE FILL IN BORING B-001. THE GENERAL STRATIGRAPHY ENCOUNTERED IN THE REMAINDER OF THE BORINGS MAY BE DESCRIBED IN DESCENDING ORDER AS FOLLOWS:

- 12 TO 21 FEET OF INTERMIXED AND INTERBEDDED DEPOSITS OF VERY-LOOSE TO LOOSE OR VERY-SOFT ORGANIC SILT (A-8a), FINE SAND (A-3), SANDY SILT (A-4a), COARSE AND FINE SAND (A-3a), AND GRAVEL WITH SAND AND SILT (A-2-4). MOST OF THESE MATERIALS EITHER CONTAINED DECAYED WOOD, WOOD FRAGMENTS, OR DECAYED ROOTS, OR WERE DESCRIBED AS BEING SLIGHTLY ORGANIC.
- 6 TO 18 FEET OF STIFF TO VERY-STIFF GRAY AND BROWNISH-GRAY SILT AND CLAY (A-6a). THIS STRATUM WAS UNDERLAIN BY 5 FEET OF VERY-LOOSE GRAY COARSE AND FINE SAND (A-3a) AND 4 FEET OF MEDIUM-STIFF SILT AND CLAY (A-6a) IN BORING B-001, AND BY 10.5 FEET OF DENSE BROWNISH-GRAY SANDY SILT (A-4a) IN BORING B-002.
- 29.5 TO 34.0 FEET OF GRANULAR SOIL CONSISTING VARIABLY OF MEDIUM-DENSE TO DENSE GRAVEL WITH SAND (A-1-b), COARSE AND FINE SAND (A-3a), GRAVEL WITH SAND AND SILT (A-2-4), AND SANDY SILT (A-4a). SEVERAL ZONES OF THESE MATERIALS WERE DESCRIBED AS BEING EITHER INTERBEDDED WITH OR CONTAINING SEAMS OF SILT, SILTY CLAY, AND FINE SAND.

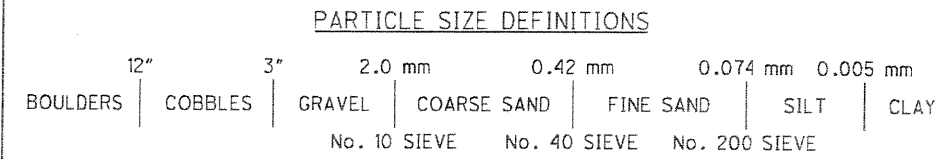
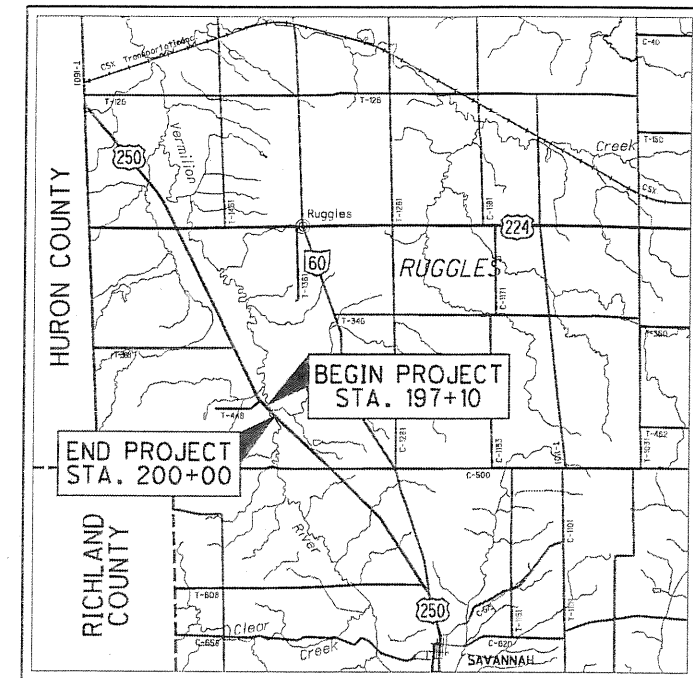
LEGEND		ODOT CLASS	CLASSIFIED MECH./VISUAL
	GRAVEL AND/OR STONE FRAGMENTS	A-1-a	1 -
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	4 7
	FINE SAND	A-3	- 2
	COARSE AND FINE SAND	A-3a	4 5
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND AND SILT	A-2-4	1 1
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT AND CLAY	A-2-6	- 1
	SANDY SILT	A-4a	5 4
	SILT	A-4b	- 1
	SILT AND CLAY	A-6a	5 6
	ORGANIC SILT	A-8a	2 4
	TOTAL		22 31
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL	
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL	
	BORING LOCATION - PLAN VIEW		
	DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.		
WC	INDICATES WATER CONTENT IN PERCENT.		
N <sub>60</sub>	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.		
W	INDICATES FREE WATER ELEVATION.		
⊕	INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.		
*	INDICATES A SAMPLE TAKEN WITHIN 3 FT OF PROPOSED GRADE.		
NP	INDICATES A NON-PLASTIC SAMPLE.		
SS	INDICATES A SPLIT-SPOON SAMPLE, STANDARD PENETRATION TEST.		
SH	INDICATES SPLIT-BARREL SAMPLER ADVANCED BY WEIGHT OF DRILL RODS AND DRIVE HAMMER.		
SD	INDICATES SPLIT-BARREL SAMPLER ADVANCED BY WEIGHT OF DRILL RODS		

- 5.5 FEET OF VERY-STIFF GRAY SILT AND CLAY (A-6a) IN BORING B-002.
- 9 TO 14 FEET OF MEDIUM-DENSE TO DENSE GRAVEL (A-1-a) OR GRAVEL WITH SAND (A-1-b), IN WHICH BORING B-001 WAS TERMINATED.
- BORING B-002 WAS TERMINATED AFTER PENETRATING 14 FEET INTO VERY-STIFF TO HARD GRAY SANDY SILT (A-4a).

DURING DRILLING, GROUNDWATER WAS INITIALLY ENCOUNTERED IN BORINGS B-001 AND B-002 AT DEPTHS OF 15.0 AND 11.0 FEET BELOW THE EXISTING GROUND SURFACE, RESPECTIVELY. SIGNIFICANT ARTESIAN GROUNDWATER FLOW WAS NOTED DURING DRILLING BETWEEN THE DEPTHS OF 33.5 AND 52.5 FEET, AND BELOW A DEPTH OF 68.5 FEET IN BORING B-001. SLIGHT ARTESIAN GROUNDWATER FLOW WAS NOTED IN BORING B-002 FROM 68.5 TO 83.5 FEET BELOW THE GROUND SURFACE.

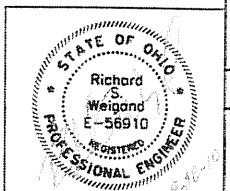
**AVAILABLE INFORMATION**

ALL AVAILABLE SOIL INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET, OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

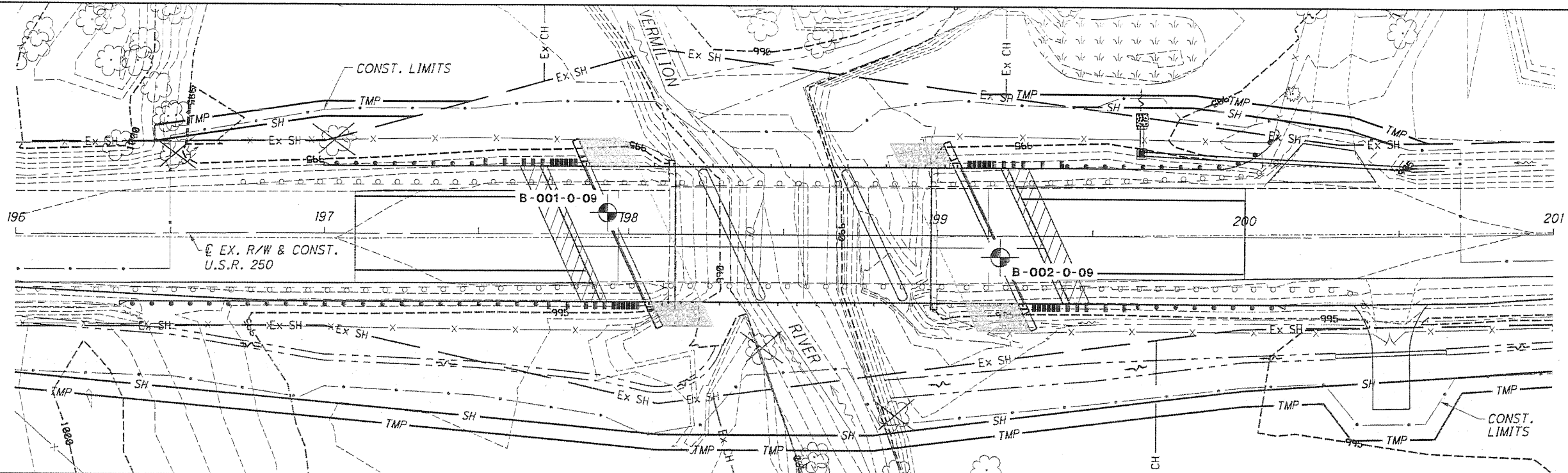


BORING NO.	SAMPLE NO.	SAMPLE ELEVATION	D <sub>50</sub> (mm)	D <sub>95</sub> (mm)
B-001	SS-6	985.0 - 985.7	0.2946	11.5082
	SS-7	983.4 - 984.2	0.0056	0.0638
	SS-8	982.1 - 982.7	0.0096	3.7093
	SS-9	980.6 - 981.2	0.0153	2.1796
B-002	SS-11	975.6 - 976.2	0.0096	2.0000
	SS-7	985.1 - 985.8	0.3053	7.1807
	SS-8	983.6 - 984.3	0.0364	1.2834
	SS-9	982.2 - 982.8	0.4697	10.7502
	SS-10	980.8 - 981.3	0.2005	9.9993
	SS-13	973.3 - 973.8	0.0111	1.4982

DRILLING - BBCM (3/25-25/09)  
 DRAWN - TJM (9/23-27/10)  
 REVIEWED - RSW (9/27/10)

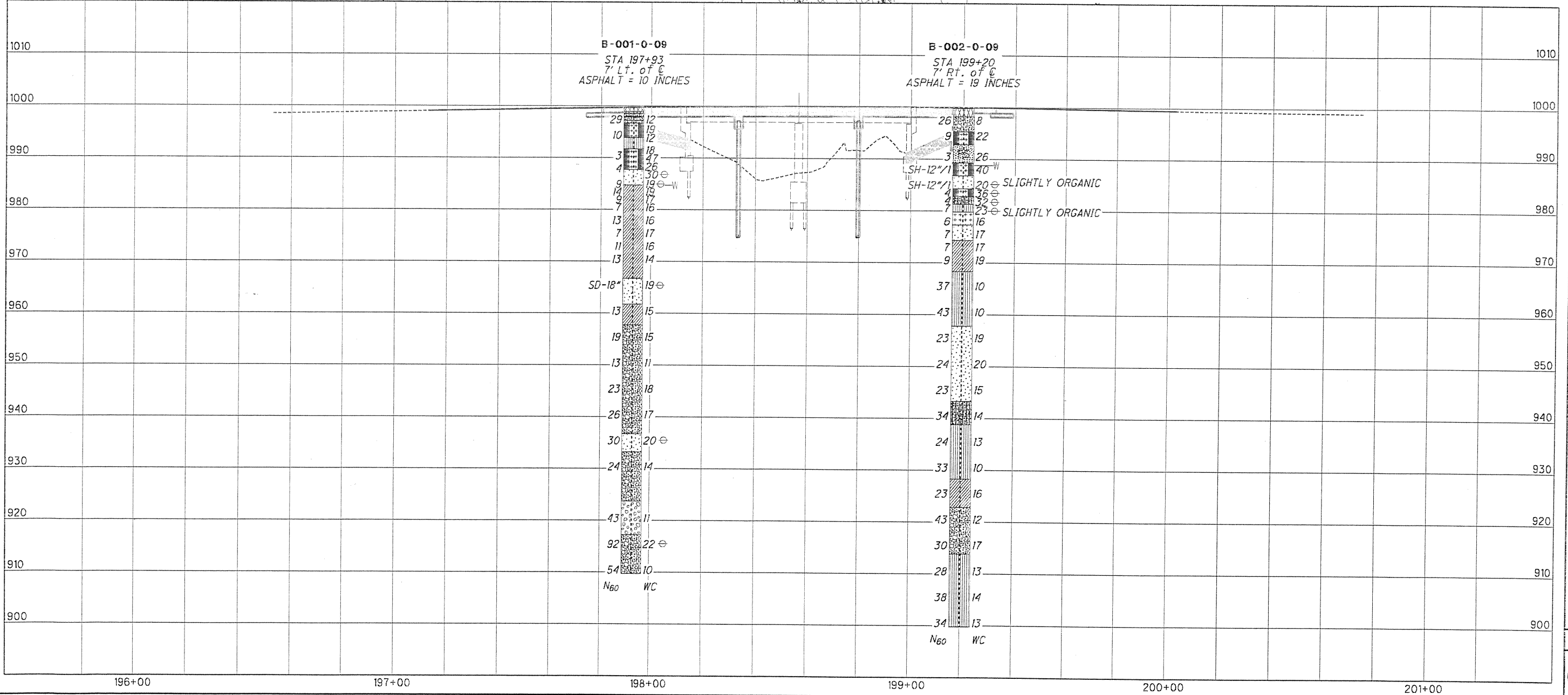


**BBCM**  
 PID NO. 80058  
 STRUCTURE FOUNDATION EXPLORATION  
 BRIDGE NO. ASD-250-0377  
 U.S.R. 250 OVER VERMILION RIVER  
 ASD-250-3.77  
 1/6



**STRUCTURE FOUNDATION EXPLORATION**  
**BRIDGE NO. ASD-250-0377**  
**U.S.R. 250 OVER VERMILION RIVER**

**ASD-250-3.77**



196+00

197+00

198+00

199+00

200+00

201+00

PROJECT: 01111310

C-R-S: ASD-250-3.77  
PID No.: 80058  
Bridge No.: ASD-250-0377

LOG OF BORING NO. B-001-0-09  
REPLACEMENT BRIDGE NO. ASD-250-0377  
ASHLAND COUNTY, OHIO



TYPE: 3-1/4" I.D. Hollow-stem Auger  
2" and 2-1/2" O.D. Split-barrel Samplers  
3-1/8" Tricone Bit

LOCATION: STA 197+93.7' E. of Centerline  
COORDINATES: N 486490; E 1976630

COMPLETION DEPTH: 90.0'  
ELEVATION: ± 999.7  
DATE: 3/24/09 - 3/25/09

Elev. (feet)	Depth (feet)	Samp. No.	Std. Pen. / RQD-%	No.	Hand Pen (ft)	Sample Rec-%	Description	Physical Characteristics							ODOT Class			
								CS	FS	Silt:Clay	LL	PL	PI	WC				
998.9	0		Core															
996.7	2.3	1	9/12/8	29		100	0.8 Fill: Medium-dense brown and gray GRAVEL WITH SAND, SILT AND CLAY, contains hydrocarbon odor, wet (from pavement coating).											12 A-2-6 (Vis.)
993.9	5	2	3/3/4 7	10	4.5+	67	3.0 Fill: Loose gray and dark-gray ORGANIC SILT, some fine sand, trace coarse sand, trace clay, damp.											19 A-8a (Vis.) 12 A-4a (I)
991.7	10	3A	2/1/1	3		100	5.8 Fill: Loose brown and gray SANDY SILT, some fine gravel, little clay, damp.											18 A-8a (Vis.) 47 A-3 (Vis.)
987.7	15	4A	1/1/2	4		60	8.0 Very-loose to loose gray ORGANIC SILT, interbedded with fine sand, trace clay, trace coarse sand, contains wood fragments, moist to wet.											26 A-8a (Vis.) 30 A-3a (Vis.)
981.7	20	5A	3/3/3	9		47	12.0 Loose gray and dark-gray COARSE AND FINE SAND, little to some fine to coarse gravel, little organic silt, trace clay, wet.											19 A-3a (I)
	25	6	3/4/6	14	2.2-3.2	53	15.0 Stiff to very-stiff brownish-gray becoming gray SILT AND CLAY, trace to some fine to coarse sand, trace fine gravel, few seams and lenses of silt, damp.											17 A-6a (I) 16 A-6a (Vis.)
	30	7	2/3/3	9	1.3-3.2	40												16 A-6a (Vis.)
		8	1/2/3	7	1.1-1.6	40												17 A-6a (I) 16 A-6a (Vis.)
		9	3/4/5	13	1.0-2.2	67												16 A-6a (Vis.)
		10	1/3/2	7	1.3-2.1	40												17 A-6a (I) 16 A-6a (Vis.)
		11	3/3/5	11	1.1-2.3	67												16 A-6a (Vis.)
		12	3/4/5	13	2.8-3.4	60												14 A-6a (Vis.)

WATER LEVEL:  See notes at end of log  
WATER NOTE: \_\_\_\_\_  
DATE: \_\_\_\_\_

Drill Rod Energy Ratio: 0.86  
Last Calibration Date: 02/17/09  
Drill Rig Number: TRUCK 55

-CONTINUED-

PROJECT: 01111310

C-R-S: ASD-250-3.77  
PID No.: 80058  
Bridge No.: ASD-250-0377

LOG OF BORING NO. B-001-0-09  
REPLACEMENT BRIDGE NO. ASD-250-0377  
ASHLAND COUNTY, OHIO



TYPE: 3-1/4" I.D. Hollow-stem Auger  
2" and 2-1/2" O.D. Split-barrel Samplers  
3-1/8" Tricone Bit

LOCATION: STA 197+93.7' E. of Centerline  
COORDINATES: N 486490; E 1976630

COMPLETION DEPTH: 90.0'  
ELEVATION: ± 999.7  
DATE: 3/24/09 - 3/25/09

Elev. (feet)	Depth (feet)	Samp. No.	Std. Pen. / RQD-%	No.	Hand Pen (ft)	Sample Rec-%	Description	Physical Characteristics							ODOT Class				
								CS	FS	Silt:Clay	LL	PL	PI	WC					
998.7	0		SD-18"																
961.7	35	14					13.0 Very-loose gray COARSE AND FINE SAND, some fine gravel, little silt, trace clay, wet.												19 A-3a (Vis.)
937.7	40	15	3/4/5	13	0.7-1.8	33	38.0 Medium-stiff to stiff gray SILT AND CLAY, some fine to coarse sand, trace fine gravel, damp to moist.												15 A-6a (Vis.)
	45	16	6/6/7	19		53	12.0 Medium-dense gray GRAVEL WITH SAND, trace to little silt, trace clay, interbedded with silt and fine sand below 53 feet, wet.												15 A-1-b (I)
	50	17	3/5/4	13		53													11 A-1-b (Vis.)
	55	18	4/8/8	23		40													18 A-1-b (Vis.)
	60	19	9/9/9	26		47													17 A-1-b (Vis.)
936.7	65	20	10/9/12	30		40	63.0 Medium-dense gray COARSE AND FINE SAND, little silt, trace clay, trace fine to coarse gravel, wet.												20 A-3a (I)

WATER LEVEL:  See notes at end of log  
WATER NOTE: \_\_\_\_\_  
DATE: \_\_\_\_\_

Drill Rod Energy Ratio: 0.86  
Last Calibration Date: 02/17/09  
Drill Rig Number: TRUCK 55

-CONTINUED-

C-R-S: ASD-250-3.77  
 PID No.: 80058  
 Bridge No.: ASD-250-0377

LOG OF BORING NO. B-001-0-09  
 REPLACEMENT BRIDGE NO. ASD-250-0377  
 ASHLAND COUNTY, OHIO



TYPE: 3-1/4" I.D. Hollow-stem Auger  
 2" and 2-1/2" O.D. Split-barrel Samplers  
 3-1/8" Tricone Bit

LOCATION: STA 197+93.7' L.L. of Centerline  
 COORDINATES: N 486499; E 1996639

COMPLETION DEPTH: 90.0'  
 ELEVATION: 4.999.7  
 DATE: 3/24/09 - 3/25/09

Elev. Depth (feet)	Std. Pen. RQD-%	No. of Sps.	Hand Pen. (tsf)	Sample Rec-%	Description	Physical Characteristics							ODOT Class	
						Silt	Clay	LL	PL	PI	WC			
933.2	5/8/9	24	100	100	Medium-dense gray COARSE AND FINE SAND, little silt, trace clay, trace fine to coarse gravel, wet									
923.7	11/14/16	43	67	67	Medium-dense gray GRAVEL WITH SAND, little silt, trace clay, wet									14 A-1-b (0)
917.200	21/28/36	92	100	100	Dense gray GRAVEL, some fine to coarse sand, little silt, trace clay, wet									11 A-1-a (0)
909.7	16/18/20	54	40	40	Dense gray GRAVEL WITH SAND, little silt, trace clay, wet									22 A-1-b (Vis.)
900.0					- Encountered water at 15.0' - Upon extraction of split-barrel at Sample 14, an artesian flow of groundwater was encountered. Approximately 2 gpm were flowing from the augers at the ground surface. - Encountered 3 feet of "heaving sand" upon removal of center plug. Added column of bentonite slurry into the auger stem.									10 A-1-b (0)

WATER LEVEL:  See notes at end of log  
 WATER NOTE: \_\_\_\_\_  
 DATE: \_\_\_\_\_

Drill Rod Energy Ratio: 0.86  
 Last Calibration Date: 02/17/09  
 Drill Rig Number: TRUCK 55

(CONTINUED)

C-R-S: ASD-250-3.77  
 PID No.: 80058  
 Bridge No.: ASD-250-0377

LOG OF BORING NO. B-001-0-09  
 REPLACEMENT BRIDGE NO. ASD-250-0377  
 ASHLAND COUNTY, OHIO



TYPE: 3-1/4" I.D. Hollow-stem Auger  
 2" and 2-1/2" O.D. Split-barrel Samplers  
 3-1/8" Tricone Bit

LOCATION: STA 197+93.7' L.L. of Centerline  
 COORDINATES: N 486499; E 1996639

COMPLETION DEPTH: 90.0'  
 ELEVATION: 4.999.7  
 DATE: 3/24/09 - 3/25/09

Elev. Depth (feet)	Std. Pen. RQD-%	No. of Sps.	Hand Pen. (tsf)	Sample Rec-%	Description	Physical Characteristics							ODOT Class	
						Silt	Clay	LL	PL	PI	WC			
-100-					- Artesian groundwater flow no longer noticeable as augers were advanced past 52.5'. - From 53.5' to 63.5', 1 to 2 feet of "heave" were encountered at each sampling depth. - Artesian groundwater flow again at 68.5'. - After sampling at 68.5', the augers "dropped" 1.3'. Switched to rotary drilling techniques with a bentonite slurry. - At approximately 73.5', tricone bit and drilling rods sank past the planned sampling depth while preparing to remove the tools from the boring prior to lowering the split-barrel to the bottom of the boring. Approximately 3-5 gpm of artesian groundwater flow was observed at the top of the augers. - Upward groundwater flow was sufficient to dilute the bentonite drilling slurry below 73.5'. - Augers re-advanced to 78.5' in attempt to contain drilling slurry in this disturbed zone. Still having to pump large quantities of slurry into boring, and fluid being returned to mud pan was mostly water. - Below 80', rotary drilling abandoned. Hollow-stem augers used to advance the boring to completion. - At 83.5', augers sank 1 foot and 4 feet of "heave" into the auger stem occurred. - Boring terminated at 90 feet at end of second day. - From 42' to 90', Boring sealed with remaining bentonite slurry as additional grout could not be added because of upward artesian groundwater flow. - From 42' (bottom of confining layer) to 30', Added 4 bags of Holeplug (3/8" chips). Upward groundwater flow stopped. - At 30', removed augers from the boring. Sealed borehole from 3' to 30' with Bentonite Holeplug/Cement (60%/40%). - Above 3', placed neat cement to 6", then topped with cold-patch asphalt.									
-105-														
-110-														
-115-														
-120-														
-125-														
-130-														

WATER LEVEL:  See notes at end of log  
 WATER NOTE: \_\_\_\_\_  
 DATE: \_\_\_\_\_

Drill Rod Energy Ratio: 0.86  
 Last Calibration Date: 02/17/09  
 Drill Rig Number: TRUCK 55



**LOG OF BORING NO. B-002-0-09**  
**REPLACEMENT BRIDGE NO. ASD-250-0377**  
**ASHLAND COUNTY, OHIO**

C-R-S : ASD-250-3.77  
 PID No. : 80058  
 Bridge No. : ASD-250-0377

LOCATION: STA 199+20.77 Rt. of Centerline  
 COORDINATES: N 486399; E 1996710  
 COMPLETION DEPTH: 100.0'  
 ELEVATION: ± 999.8  
 DATE: 7/8/09 - 7/9/09

Elev. (feet)	Depth (feet)	Std. Pen. / RQP-%	No. / Hand Pen (tsf)	Sample Rec-%	Description	Physical Characteristics						ODOT Class						
						Agg. %	CS	FS	Silt:Clay	LL	PL		PI	WC				
998.2	0	Core		100	ASPHALT - 19 INCHES													
995.3	5	17/1/7 Grab	26	67	Fill: Medium-dense gray and brown GRAVEL WITH SAND, some silt, trace clay, damp.													8 A-1-b (Vis.)
992.8	5	2/3/3	9	53	Loose gray and brown ORGANIC SILT, "and" fine sand, little clay, trace coarse sand, few seams of fine sand, damp.					43	35	20						22 A-1-b (Vis.) A-8a (Vis.)
989.3	10	SH-1/1	3	67	Very-loose gray and dark-gray FINE SAND, trace coarse sand, trace clay, few seams of organic clayey silt, moist.													26 A-3 (Vis.)
986.8	10	SH-12/1		67	Very-loose gray and dark-gray ORGANIC SILT, "and" fine sand, trace coarse sand, trace fine gravel, contains decayed wood, wet.													40 A-8a (Vis.)
984.3	15	SH-12/1		47	Very-loose gray COARSE AND FINE SAND, little silt, trace fine gravel, trace clay, slightly organic, wet.													20 A-3a (0)
982.8	15	1/1/2	4	47	Very-soft gray mottled with black ORGANIC SILT, little clay; some fine sand, trace coarse sand, trace fine gravel, contains decayed wood, wet.													36 A-8a (Vis.)
981.3	15	1/1/2	4	40	Very-loose gray GRAVEL WITH SAND AND SILT, trace clay, contains decayed wood, wet.													32 A-2-1 (Vis.)
979.8	20	2/3/2	7	33	Loose brown and gray COARSE AND FINE SAND, some silt, trace fine gravel, damp.													23 A-4a (1)
977.3	20	3/2/2	6	33	Loose gray and brown SANDY SILT, little fine gravel, trace clay, slightly organic, contains decayed roots, wet.													16 A-4b (Vis.)
974.3	25	2/3/2	7	47	Very-loose to loose gray SILT, little clay, trace fine to coarse sand, trace fine gravel, damp.													17 A-3a (Vis.)
971.8	25	3/3/2	7	33	Stiff to very-stiff gray SILT AND CLAY, trace to little fine to coarse sand, trace fine gravel, few medium-stiff pockets, interbedded with silt below 28', damp.													17 A-6a (8)
968.3	30	3/3/3	9	33	Dense brownish-gray SANDY SILT, little clay, damp.													19 A-6a (Vis.)

WATER LEVEL:  2.8' Prior to sealing  
 Begin day: 7/9/09  
 DATE: 7/9/09  
 Drill Rod Energy Ratio: 0.85  
 Last Calibration Date: 02/17/09  
 Drill Rig Number: ATY 550X

-CONTINUED-



**LOG OF BORING NO. B-002-0-09**  
**REPLACEMENT BRIDGE NO. ASD-250-0377**  
**ASHLAND COUNTY, OHIO**

C-R-S : ASD-250-3.77  
 PID No. : 80058  
 Bridge No. : ASD-250-0377

LOCATION: STA 199+20.77 Rt. of Centerline  
 COORDINATES: N 486399; E 1996710  
 COMPLETION DEPTH: 100.0'  
 ELEVATION: ± 999.8  
 DATE: 7/8/09 - 7/9/09

Elev. (feet)	Depth (feet)	Std. Pen. / RQP-%	No. / Hand Pen (tsf)	Sample Rec-%	Description	Physical Characteristics						ODOT Class							
						Agg. %	CS	FS	Silt:Clay	LL	PL		PI	WC					
957.8	35	7/13/13	37	47	Dense brownish-gray SANDY SILT, little clay, damp.														10 A-4a (Vis.)
937.8	40	15/16/14	43	53	Medium-dense gray COARSE AND FINE SAND, some silt, trace to little fine gravel, trace clay, few seams of silt and silty clay below 52', damp to wet.														10 A-4a (5)
933.3	45	5/8/8	23	40	Medium-dense gray COARSE AND FINE SAND, some silt, trace to little fine gravel, trace clay, many seams of silt and silty clay below 52', damp to wet.														19 A-3a (Vis.)
933.3	50	6/8/9	24	53	Medium-dense to dense gray GRAVEL WITH SAND AND SILT, trace clay, damp.														20 A-3a (Vis.)
933.3	55	5/5/11	23	47	Medium-dense to dense gray GRAVEL WITH SAND AND SILT, trace clay, damp.														15 A-3a (0)
933.8	60	8/11/13	34	53	Medium-dense to dense gray SANDY SILT, little to some clay, trace to little fine gravel, many seams of silt and silty clay, few seams of fine to coarse sand, damp to moist.														11 A-2-1 (Vis.)
933.8	65	8/7/10	24	40	Medium-dense to dense gray SANDY SILT, little to some clay, trace to little fine gravel, many seams of silt and silty clay, few seams of fine to coarse sand, damp to moist.														13 A-4a (Vis.)

WATER LEVEL:  2.8' Prior to sealing  
 Begin day: 7/9/09  
 DATE: 7/9/09  
 Drill Rod Energy Ratio: 0.85  
 Last Calibration Date: 02/17/09  
 Drill Rig Number: ATY 550X

-CONTINUED-





TYPE: 3-1/4" I.D. Hollow-stem Auger (0'-17"); 3-7/8" Tricone Bit  
 2" O.D. Split-barrel Sampler  
 4" Casing with Advancer  
 LOCATION: STA 199+20.7, Rt. of Centerline  
 COORDINATES: N 486390; E 1996710  
 COMPLETION DEPTH: 100.0'  
 ELEVATION: 4,999.8  
 DATE: 7/8/09 - 7/9/09

Elev. (feet)	Depth (feet)	Std. Pen. / ROD-%	No.	Hand Pen (ft)	Sample Rec-%	Description	Physical Characteristics						ODOT Class					
							CS	FS	Silt	Clay	LL	PL		FI	WC			
928.3	-70	9/11/12	33	3.2-3.3	47	Medium-dense to dense gray SANDY SILT, little to some clay, trace to little fine gravel, many seams of silt and silty clay, few seams of fine to coarse sand, damp to moist.												
922.8	-75	4/7/9	23	3.2-3.3	67	Very-stiff gray SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.										16	A-6a (Vis.)	
913.8	-80	12/14/16	43		47	Medium-dense to dense gray GRAVEL WITH SAND, little silt, trace clay, few pockets of silty clay, wet.										12	A-1-b (0)	
	-85	5/10/11	30		27	Very-stiff to hard gray SANDY SILT, some to "and" clay, trace fine gravel, damp.										17	A-1-b (Vis.)	
	-90	9/10/10	28	3.3-4.5+	33											10	13	A-4a (8)
	-95	7/14/13	38	3.7-4.5+	40											11	A-4a (Vis.)	

WATER LEVEL:  6.9  
 WATER NOTE:  Begin day 7/9/09  
 DATE:  2.8  
 Prior to sealing 7/9/09  
 Drill Rod Energy Ratio: 0.85  
 Last Calibration Date: 02/17/09  
 Drill Rig Number: AIV 550X

-CONTINUED-

TYPE: 3-1/4" I.D. Hollow-stem Auger (0'-17"); 3-7/8" Tricone Bit  
 2" O.D. Split-barrel Sampler  
 4" Casing with Advancer  
 LOCATION: STA 199+20.7, Rt. of Centerline  
 COORDINATES: N 486390; E 1996710  
 COMPLETION DEPTH: 100.0'  
 ELEVATION: 4,999.8  
 DATE: 7/8/09 - 7/9/09

Elev. (feet)	Depth (feet)	Std. Pen. / ROD-%	No.	Hand Pen (ft)	Sample Rec-%	Description	Physical Characteristics						ODOT Class				
							CS	FS	Silt	Clay	LL	PL		FI	WC		
899.8	-100	6/11/13	34	4.5+	47	Very-stiff to hard gray SANDY SILT, some to "and" clay, trace fine gravel, damp.											
	-105					- Encountered water at 11.0'. - At 17', switched to rotary drilling using bentonitic slurry and casing advanced. - Stopped drilling on 7/8/09 at 50'. Upon returning to site on 7/9/09, the water/slurry level in the borehole was 6.9' below the ground surface, and no artesian flow apparent. - Slight artesian groundwater flow noted between 68.5' and 83.5'. - No artesian flow noted below 85'. - Boring caved at 23.5 feet as casing was pulled. - Installed approximate 3-ft. long geosynthetic "tubes" filled with granulated bentonite at the depths of 23.5', 14.5', and 11' below the ground surface. Remainder of boring back-filled with bentonite Holeplug chips topped with cold-patch asphalt.											
	-110																
	-115																
	-120																
	-125																
	-130																

WATER LEVEL:  6.9  
 WATER NOTE:  Begin day 7/9/09  
 DATE:  2.8  
 Prior to sealing 7/9/09  
 Drill Rod Energy Ratio: 0.85  
 Last Calibration Date: 02/17/09  
 Drill Rig Number: AIV 550X