

**LOCATION MAP**

**OHIO DEPARTMENT OF TRANSPORTATION**

**Eri-2-16.13**  
**CITY OF HURON**  
**TOWNSHIP OF HURON**  
**ERIE COUNTY**

**PROJECT DESCRIPTION**  
 RESURFACING WITH MISCELLANEOUS DRAINAGE AND SAFETY UPGRADING INCLUDING STRUCTURE WORK.  
 PROJECT EARTH DISTURBED AREA - N/A  
 ESTIMATED CONTRACTOR EARTH DISTURBED AREA - N/A  
 NOTICE OF INTENT EARTH DISTURBED AREA - N/A

**LIMITED ACCESS**

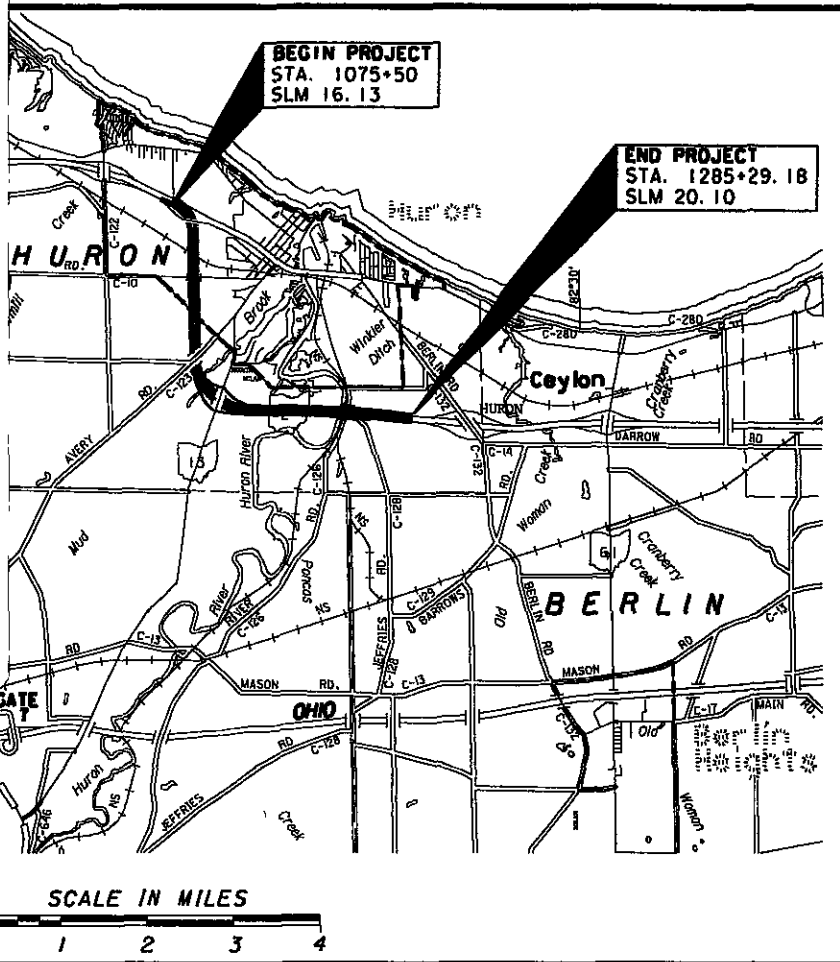
THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE REVISED CODE OF OHIO.

**2005 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.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (I) OF THE REVISED CODE OF OHIO, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.



**INDEX OF SHEETS:**

TITLE SHEET	1
SCHEMATIC PLAN	2-5
TYPICAL SECTIONS	6-8
MAINTENANCE OF TRAFFIC	9-13, 12A
GENERAL NOTES	14-17
GENERAL SUMMARY	18-19
PAVEMENT DATA SHEET	20-21
PAVEMENT REPAIR DETAILS	22-25
PROFILE DETAIL UNDER OVERHEAD BRIDGE	26, 26A
MEDIAN CROSSOVER DETAIL	27
GUARDRAIL DETAIL	28-29
DRAINAGE SUBSUMMARY	30
RAISED PAVEMENT MARKER QUANTITIES	31
PAVEMENT MARKING INFORMATION	32
STRUCTURES OVER 20 FEET	33-61

82° 33' 52" W. LONGITUDE 41° 22' 12" N. LATITUDE  
 PORTION TO BE IMPROVED \_\_\_\_\_  
 STATE & FEDERAL ROUTES \_\_\_\_\_  
 OTHER ROADS \_\_\_\_\_



**TWO WORKING DAYS BEFORE YOU DIG**  
 Call 800-362-2764  
 TOLL FREE  
 OHIO UTILITIES PROTECTION SERVICE  
 NON-MEMBERS MUST BE CALLED DIRECTLY

APPROVED DATE 4-27-06 *Thomas M. O'Leary*  
 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION  
 APPROVED DATE 5-25-06 *Jordan Prater*  
 DIRECTOR, DEPARTMENT OF TRANSPORTATION

**DESIGN DESIGNATION**

CURRENT ADT (2007)	27890
DESIGN YEAR ADT (2019)	38410
DESIGN HOURLY VOLUME (2007)	3840
DIRECTIONAL DISTRIBUTION	53%
TRUCKS (24 HOUR B&C)	25%
LEGAL SPEED	65 MPH
DESIGN SPEED	65 MPH

3R PROJECT  
 DESIGN FUNCTIONAL CLASSIFICATION - RURAL PRINCIPAL ARTERIAL  
 DESIGN EXCEPTIONS: NONE REQUIRED

STANDARD DRAWINGS		STANDARD DRAWINGS		STANDARD DRAWINGS		STANDARD DRAWINGS		STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
BP-2.1	07-16-04	DM-1.1	04-21-06	MT-35.10	04-20-04	TC-41.20	01-19-01			800	04-21-06
BP-2.2	07-16-04	DM-1.4	04-21-06							802	04-15-05
BP-2.5	07-28-00	DM-4.3	07-19-02	MT-95.30	07-16-04	TC-42.20	07-16-04			832	04-25-06
BP-2.6	07-15-05	DM-4.4	07-19-02								
BP-3.1	07-16-04			MT-97.10	01-19-04	TC-65.10	01-21-05				
BP-6.1	07-28-00	RM-4.4	04-18-03			TC-65.11	01-21-05				
BP-9.1	04-15-05	RM-4.5	04-18-03	MT-98.12	04-19-02						
GR-1.1	07-16-04			MT-98.13	04-19-02	TC-72.20	01-21-05				
GR-2.1	01-16-04			MT-98.14	04-19-02	TC-73.10	01-19-01				
GR-3.1	04-18-03			MT-98.15	07-16-04						
GR-3.2	04-18-03			MT-98.16	04-19-02	BR-1	07-19-02				
GR-4.2	04-15-05			MT-98.17	10-18-02	EXJ-4-87	07-19-02				
GR-5.1	04-18-03			MT-98.18	10-18-02						
GR-5.2	01-16-04			MT-99.20M	01-30-95						
GR-5.3	01-16-04										
GR-6.1	04-18-03			MT-105.10	10-18-02						
GR-6.2	04-18-03			MT-105.11	10-18-02						

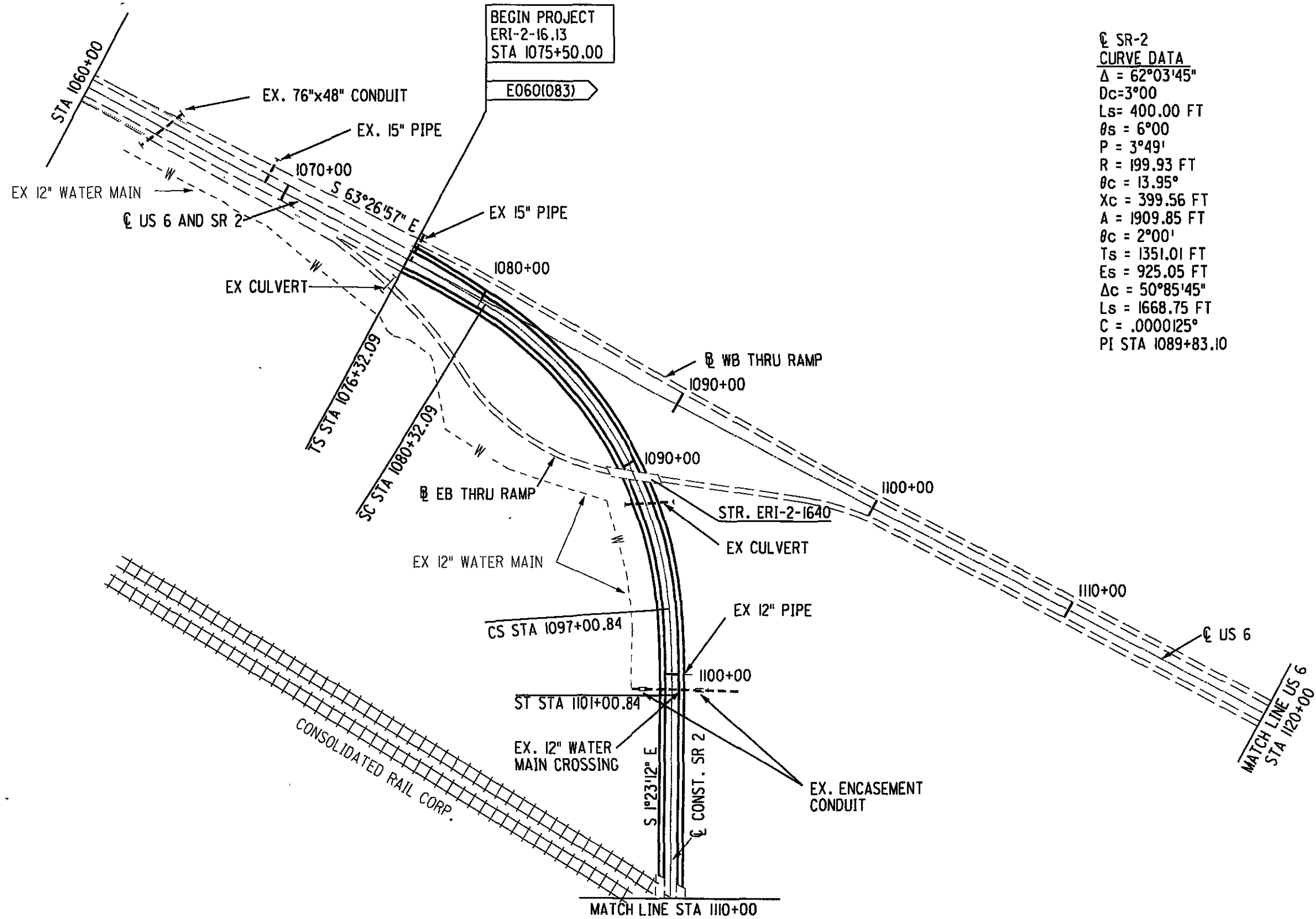
ENGINEER'S SEAL FOR STRUCTURES OVER 20 FT  
  
 David C. Mollenshott  
 DATE: 5/01/06

ENGINEER'S SEAL: FOR ENTIRE PLAN EXCEPT STRUCTURES OVER 20 FT  
  
 Michael J. Schaffrath  
 DATE: 4/27/06

FEDERAL PROJECT NO. E060(083)  
 PID NO. 18296  
 CONSTRUCTION PROJECT NO.  
 RAILROAD INVOLVEMENT NONE  
 ERI-2-16.13  
 1/61

Dist 3 7/26/2006  
 ERI - SR 2-16.13  
 060353 PID - 18296  
 DESIGN FILE: I:\projects\2006\Tt.dwg  
 WORKSTATION: mschaffrath

DESIGN FILE: i:\projects\18296\EO25ch.dgn  
 WORKSTATION: sjuzwik DATE: 4/6/2006



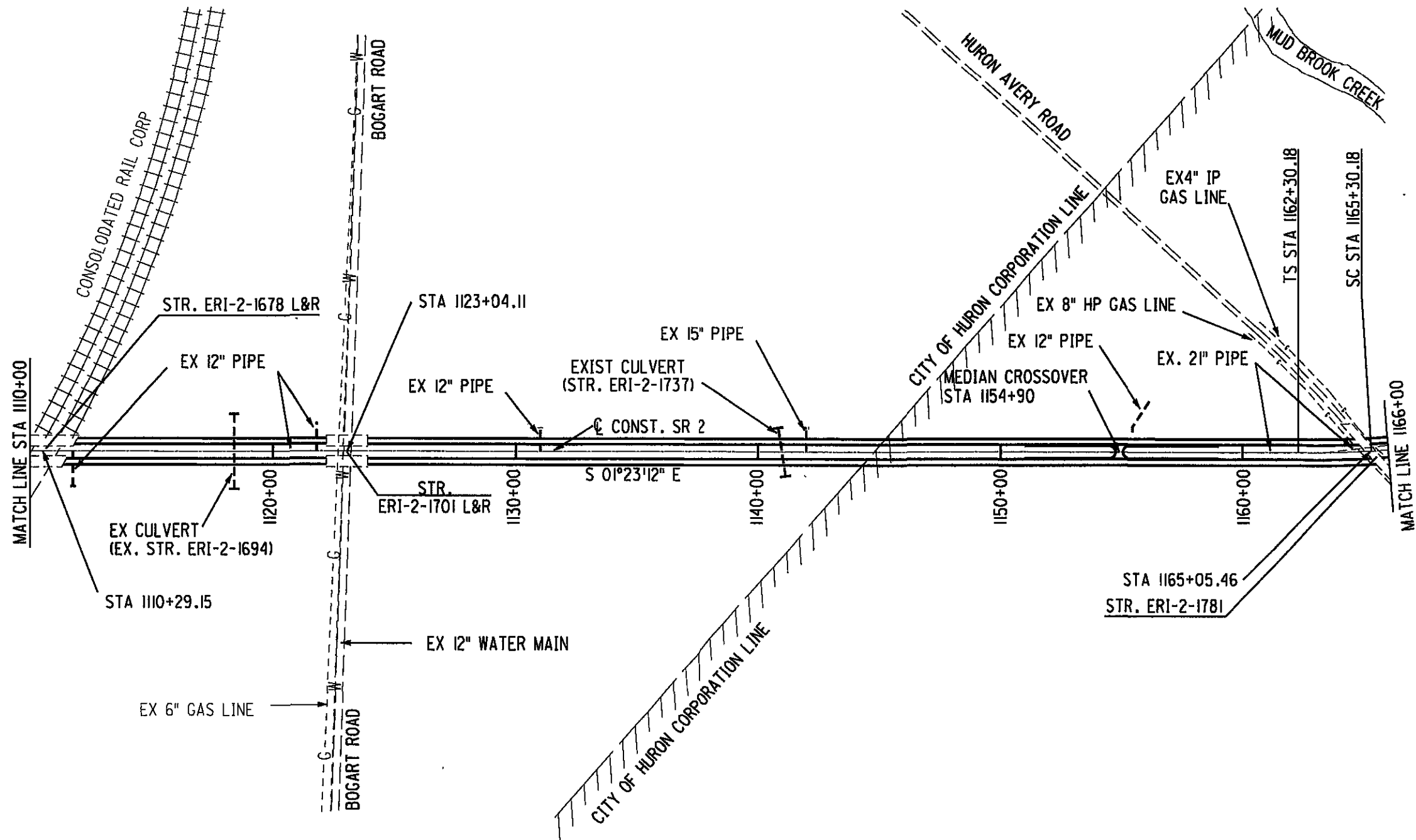
C SR-2  
 CURVE DATA  
 $\Delta = 62^{\circ}03'45''$   
 $Dc = 3^{\circ}00'$   
 $Ls = 400.00$  FT  
 $\theta_s = 6^{\circ}00'$   
 $P = 3^{\circ}49'$   
 $R = 199.93$  FT  
 $\theta_c = 13.95^{\circ}$   
 $Xc = 399.56$  FT  
 $A = 1909.85$  FT  
 $\theta_c = 2^{\circ}00'$   
 $Ts = 1351.01$  FT  
 $Es = 925.05$  FT  
 $\Delta c = 50^{\circ}85'45''$   
 $Ls = 1668.75$  FT  
 $C = .0000125^{\circ}$   
 $PI$  STA 1089+83.10



CALCULATED BY: SCJ  
 CHECKED BY: MS

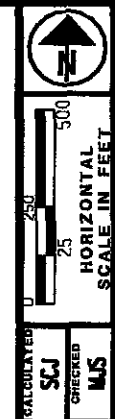
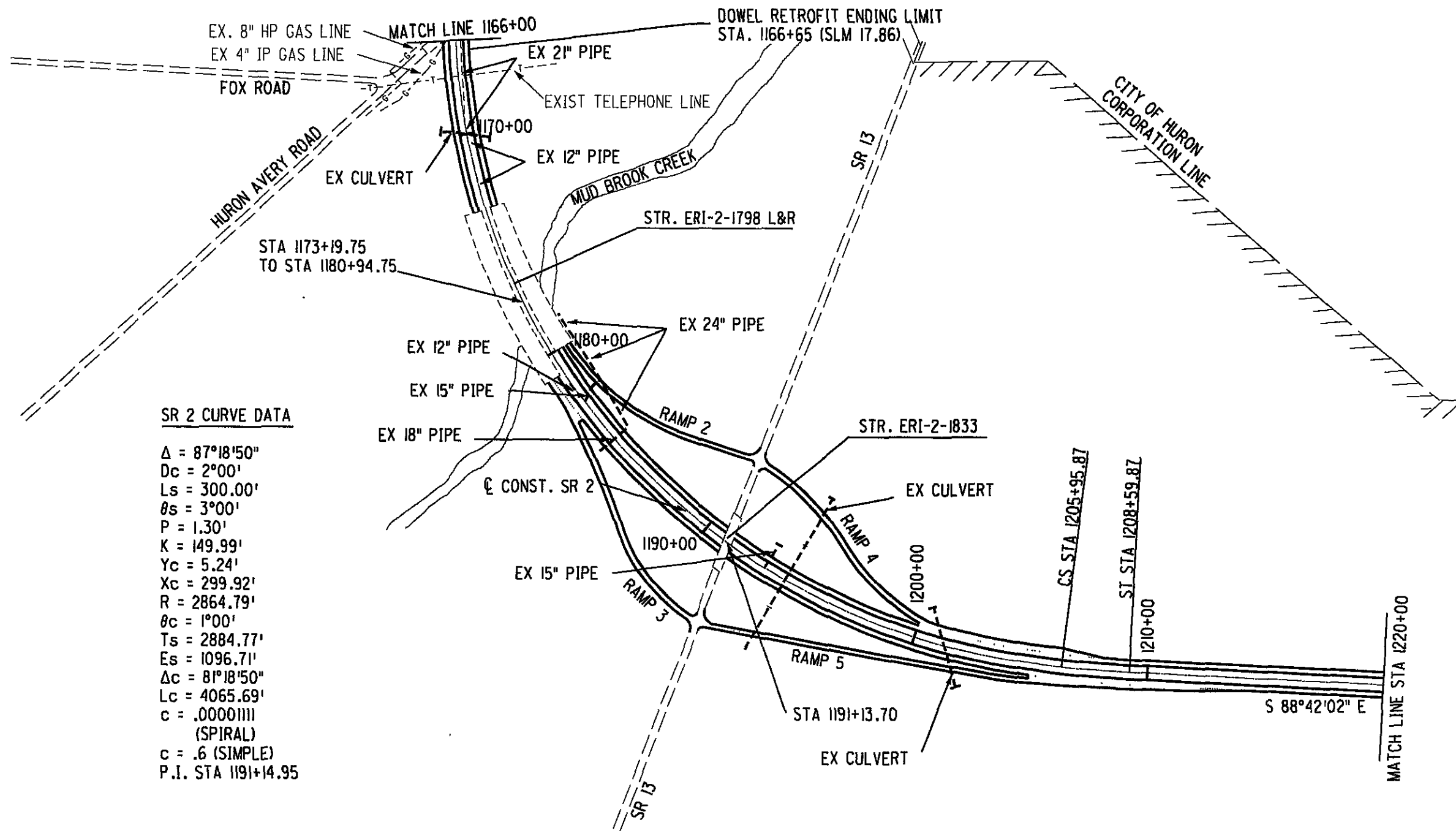
**SCHEMATIC PLAN**

**ERI-2-16.13**



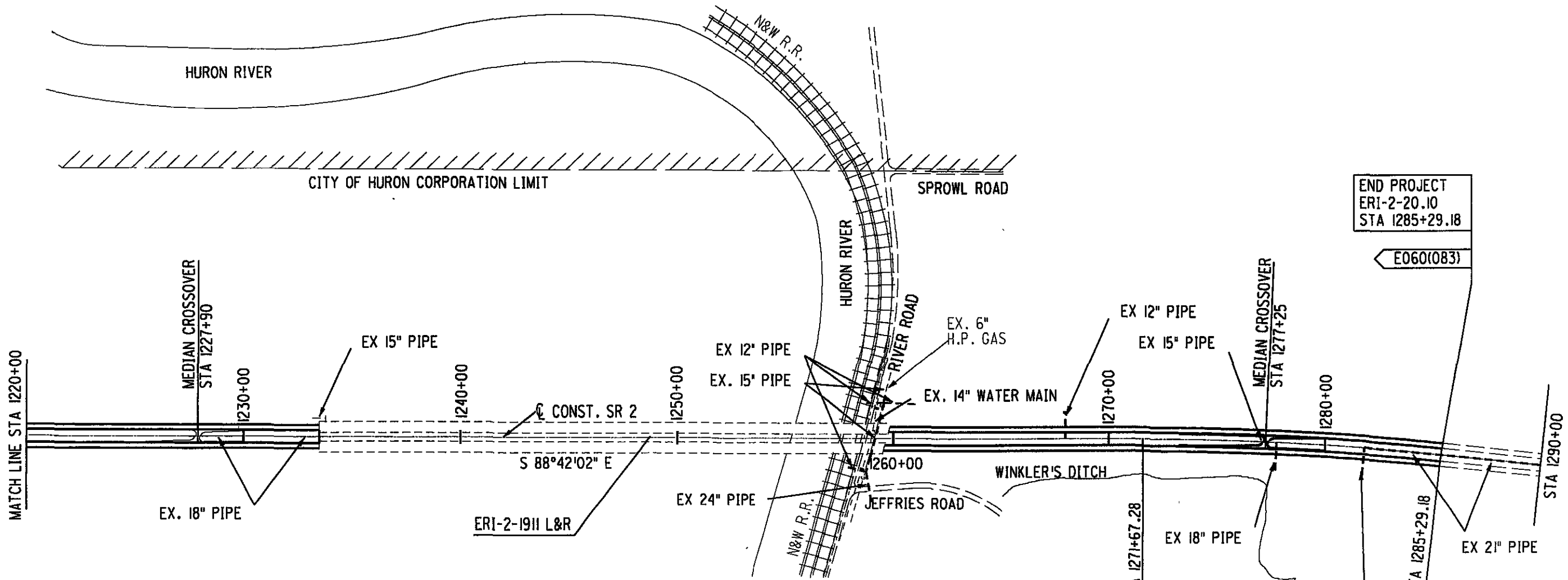
**SCHEMATIC PLAN**

DESIGN FILE: i:\projects\18296\E02sch.dgn  
 WORKSTATION: sjuzwik DATE: 4/6/2006



ERI-2-16.13

**SCHEMATIC PLAN**

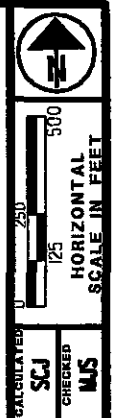


**CURVE DATA**

Δ	= 6°21'20"
D	= 0°28'00"
R	= 12,277.67'
T	= 681.65'
L	= 1361.90'
E	= 18.91'
PI STA	1278+48.93

END PROJECT  
 ERI-2-20.10  
 STA 1285+29.18

E060(083)

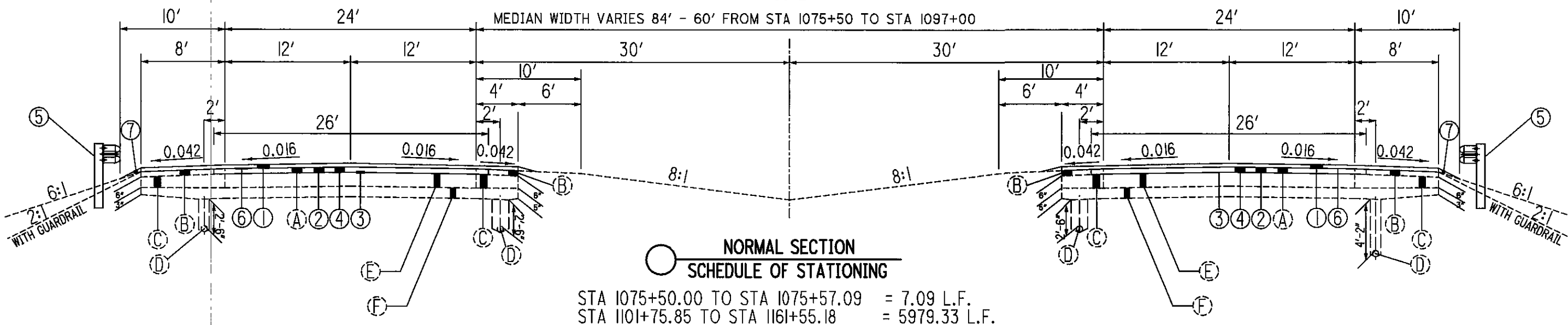


**SCHEMATIC PLAN**

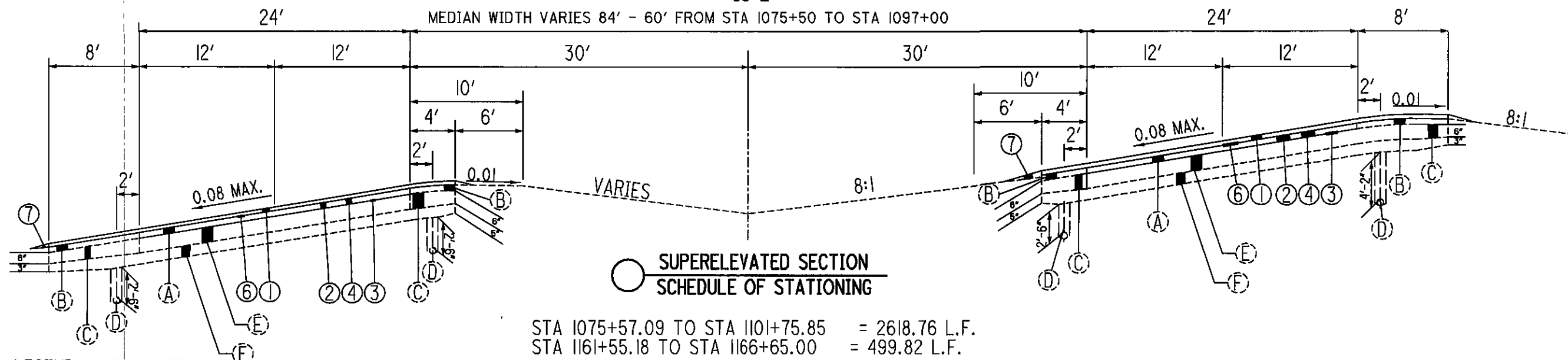
**ERI-2-16.13**

NOTE: MOT IS TO PLANE AND PAVE, 1.5", ON BOTH SHOULDERS

Q SURVEY,  
US-2



Q SURVEY,  
US-2



**LEGEND - PROPOSED**

- ① 1.5" ITEM 442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)
- ② 3.00" ITEM 442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448)
- ③ ITEM 407 TACK COAT
- ④ 3.0" ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE
- ⑤ ITEM 606 GUARDRAIL, TYPE 5
- ⑥ ITEM 407, TACK COAT FOR INTERMEDIATE COURSE
- ⑦ ITEM 617, COMPACTED AGGREGATE, AS PER PLAN (TYPICAL)

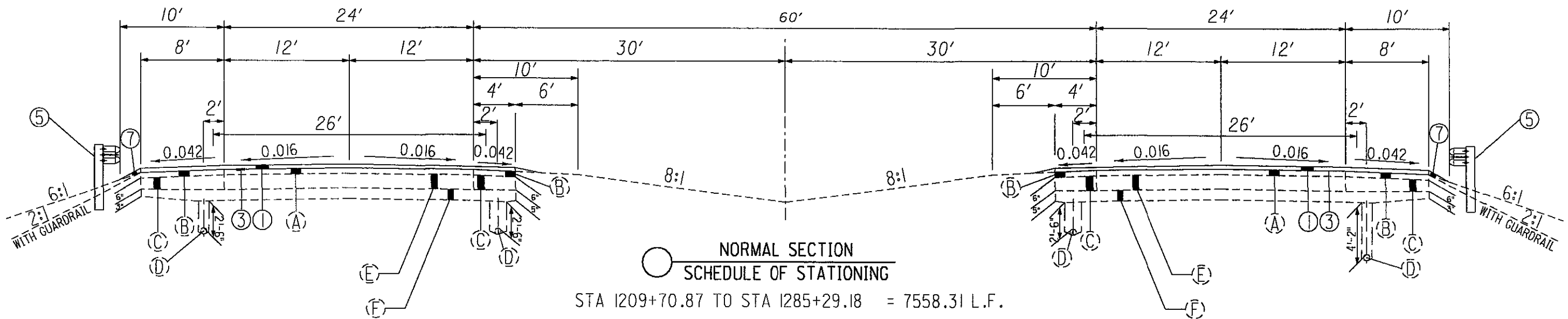
**LEGEND - EXISTING**

- (A) EXISTING 3" ASPHALT CONCRETE
- (B) EXISTING 3" BITUMINOUS AGGREGATE BASE
- (C) EXISTING 8" OR 6" CONCRETE BASE ON THE SHOULDERS
- (D) EXISTING 6" PIPE UNDERDRAIN
- (E) EXISTING 8" CONCRETE BASE
- (F) EXISTING 6" SUBBASE

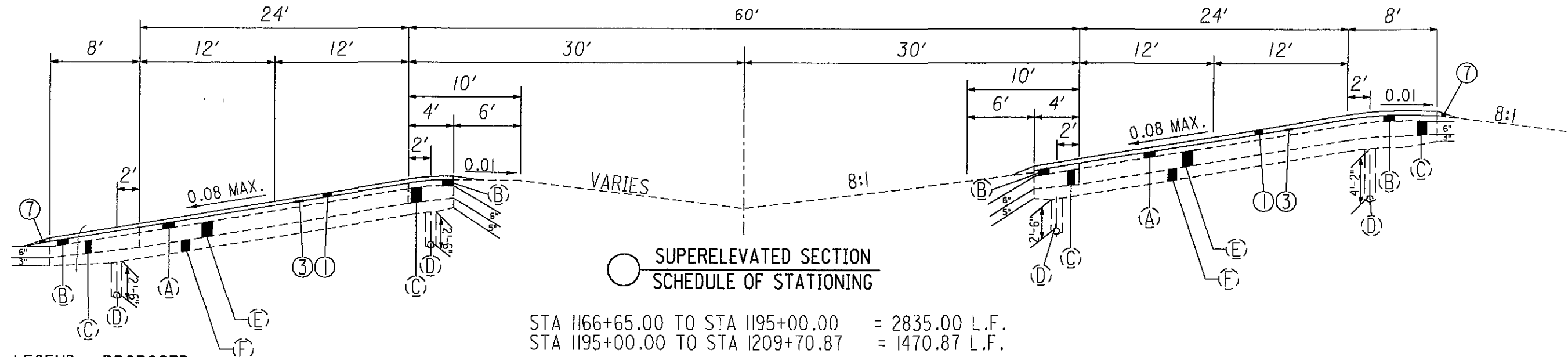
TYPICAL SECTION

ERI-2-16.13

☉ SURVEY,  
US-2



☉ SURVEY,  
US-2



**LEGEND - PROPOSED**

- ① 1.5" ITEM 442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)
- ② 3.00" ITEM 442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448)
- ③ ITEM 407 TACK COAT
- ④ 3.0" ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE
- ⑤ ITEM 606 GUARDRAIL, TYPE 5
- ⑥ ITEM 407, TACK COAT FOR INTERMEDIATE COURSE
- ⑦ ITEM 617, COMPACTED AGGREGATE, AS PER PLAN (TYPICAL)

**LEGEND - EXISTING**

- Ⓐ EXISTING 3" ASPHALT CONCRETE
- Ⓑ EXISTING 3" BITUMINOUS AGGREGATE BASE
- Ⓒ EXISTING 8" OR 6" CONCRETE BASE ON THE SHOULDERS
- Ⓓ EXISTING 6" PIPE UNDERDRAIN
- Ⓔ EXISTING 8" CONCRETE BASE
- Ⓕ EXISTING 6" SUBBASE

DESIGN FILE: ssssdgnfilespecifications\$\$\$\$  
WORKSTATION: s7terminals DATE: ssssdgdate\$\$\$\$

SCALE IN FEET  
SCJ  
MJS

**TYPICAL SECTION**

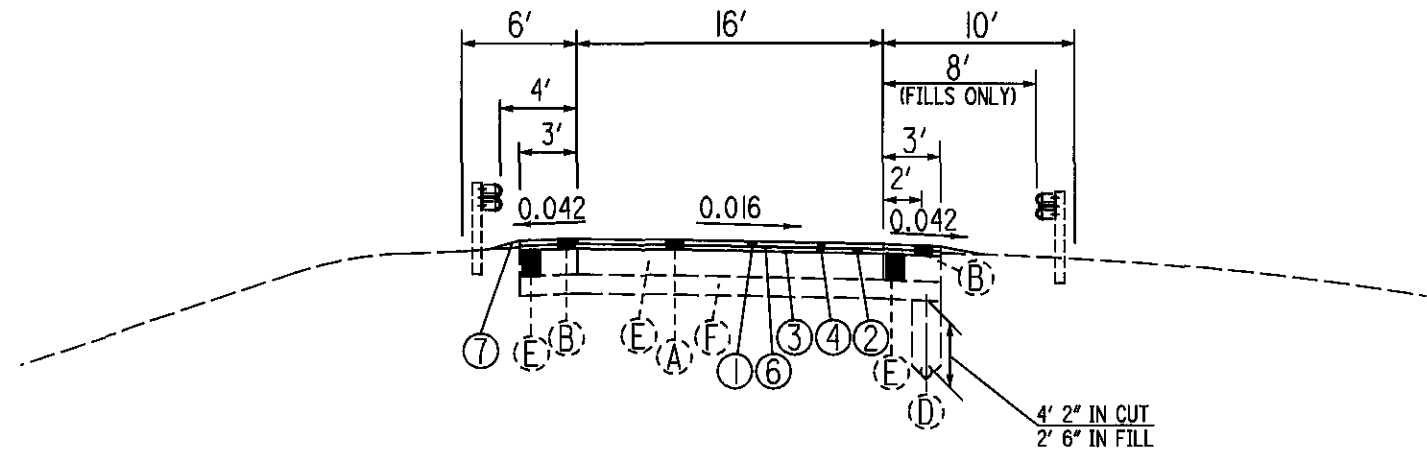
ERI-2-16.13

7  
61

**NORMAL RAMP SECTION**

**SCHEDULE OF STATIONING**

STA 1187+00.00 TO STA 1188+93.36 RAMP NO.2 = 193.36 L.F.  
 STA 1191+97.78 TO STA 1198+00.00 RAMP NO.5 = 608.22 L.F.

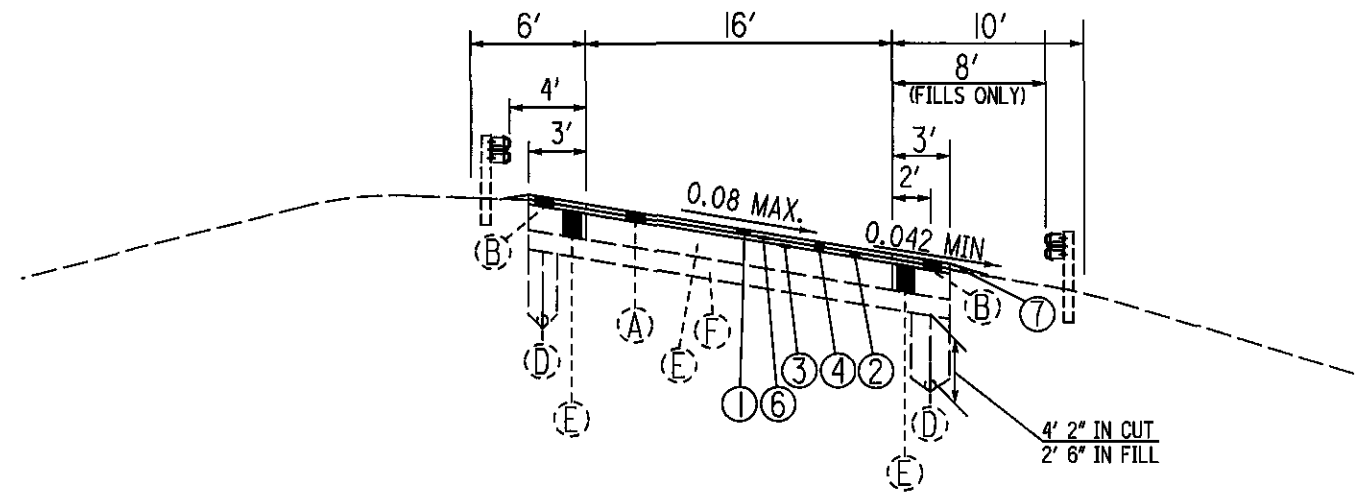


**NORMAL RAMP SECTION**  
**SCHEDULE OF STATIONING**

**SUPERELEVATED RAMP SECTION**

**SCHEDULE OF STATIONING**

STA 1183+85.00 TO STA 1187+00.00 RAMP NO.2 = 315.00 L.F.  
 STA 1184+04.11 TO STA 1186+92.25 RAMP NO.3 = 288.14 L.F.  
 STA 1194+57.70 TO STA 1199+39.44 RAMP NO.4 = 481.74 L.F.  
 STA 1198+00.00 TO STA 1199+06.00 RAMP NO.5 = 106.00 L.F.

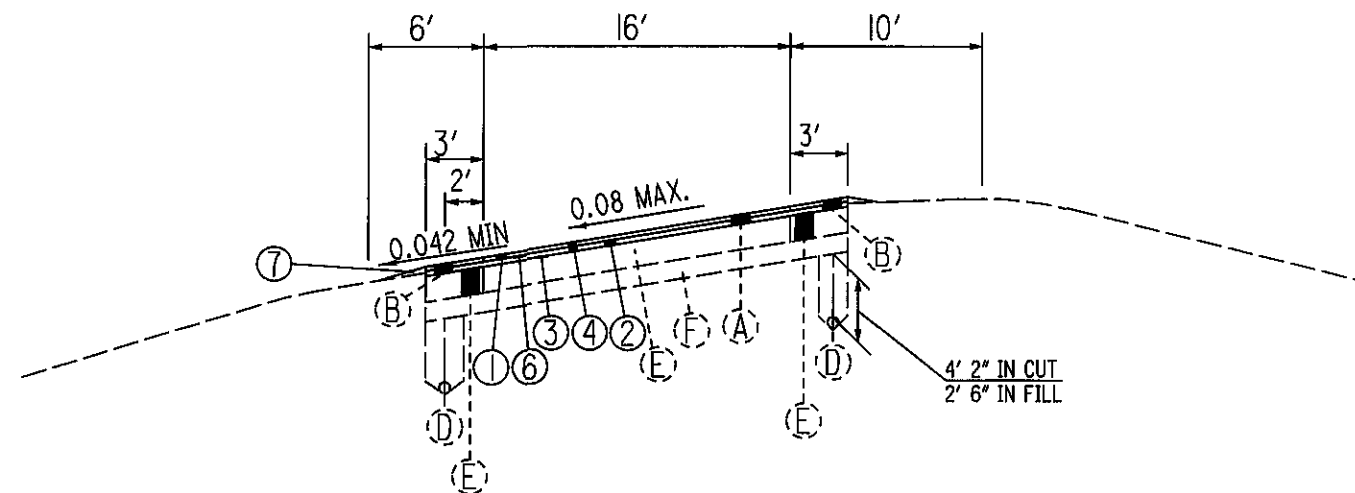


**SUPERELEVATED RAMP SECTION**  
**SCHEDULE OF STATIONING**

**REVERSE SUPERELEVATED RAMP SECTION**

**SCHEDULE OF STATIONING**

STA 1186+92.25 TO STA 1192+55.04 RAMP NO.3 = 562.79 L.F.  
 STA 1191+28.48 TO STA 1194+57.70 RAMP NO.4 = 329.22 L.F.



**REVERSE SUPERELEVATED RAMP SECTION**  
**SCHEDULE OF STATIONING**

DESIGN FILE: I:\projects\18296\ERI-2-16-13.dgn  
 WORKSTATION: fjaakson DATE: 3/1/2006



**TYPICAL SECTION**

ERI-2-16.13



ITEM 614--MAINTAINING TRAFFIC: GENERAL

TRAFFIC SHALL BE MAINTAINED AND ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, PLAN DETAILS, STANDARD DRAWINGS, AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION WITH THE LATEST REVISIONS. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED ON THIS PLAN.

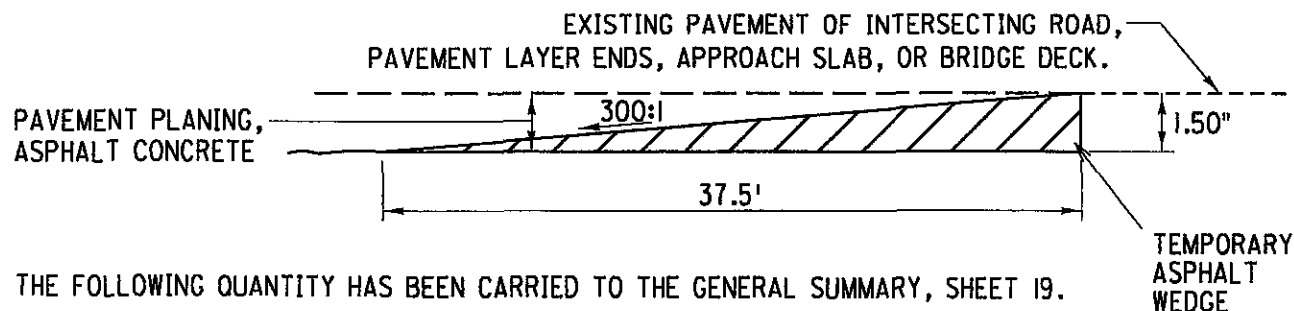
THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY: THE CONTRACTOR SHALL SUBMIT, IN WRITING, A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL COORDINATE THE MAINTENANCE OF TRAFFIC OPERATIONS WITH THE LOCAL STATE HIGHWAY PATROL, AS LISTED ON SHEET II.

A MINIMUM OF ONE 11' LANE OF THROUGH TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION ON SR 2.

THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PAVEMENT THROUGHOUT THE PROJECT UNDER ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC DURING THE PERIOD FROM THE START OF WORK TO THE COMPLETION OF ALL WORK.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

TEMPORARY WEDGES AT INTERSECTION BUTT JOINTS, PAVEMENT LAYER ENDS, APPROACH SLABS, OR BRIDGE DECKS ARE TO BE CONSTRUCTED AS PER THE DETAIL BELOW.



THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY, SHEET 19.

ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 50 CU YD

ESTIMATED QUANTITIES--MAINTENANCE OF TRAFFIC

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

ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 70 CU YD

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, THE CONTRACTOR MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PUT INTO EFFECT UNTIL THE APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE ENGINEER.

ITEM 614--MAINTAINING TRAFFIC

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHEN THEY ARE NOT APPLICABLE, WITH THE APPROVAL OF THE ENGINEER.

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE ODOTCD, AND SUCH FAILURE RESULTS IN A CONDITION AT THE WORK SITE WHICH IS UNSAFE FOR TRAFFIC, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

ALL MAINTENANCE OF TRAFFIC SIGNS ARE PAID UNDER ITEM 614 MAINTAINING TRAFFIC.

HOLIDAY WORK RESTRICTIONS

THERE WILL BE HOLIDAY RESTRICTIONS FOR ALL WORK. ALL WORK ON SR-2, RAMPS, AND STATE ROUTE STRUCTURE WORK SHALL NOT BE UNDER CONSTRUCTION DURING THE FOLLOWING HOLIDAYS OR SPECIAL EVENTS (LANE CLOSURES MAY NOT BE MAINTAINED; NO WORK IS PERMITTED ON THESE DAYS):

MOTHERS DAY FOURTH OF JULY
MEMORIAL DAY EASTER
LABOR DAY

THE PERIOD OF TIME THAT THE "NO WORK" APPLIES DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THE PERIOD OF TIME THAT "NO WORK" SHALL APPLY: (LANE CLOSURE CANNOT BE MAINTAINED; NO WORK IS PERMITTED ON THESE DAYS)

DAY OF THE WEEK

WEEKENDS 12:00N FRIDAY THRU 6:00AM MONDAY
MONDAY 12:00N FRIDAY THRU 6:00AM TUESDAY
TUESDAY 12:00N MONDAY THRU 6:00AM WEDNESDAY
WEDNESDAY 12:00N TUESDAY THRU 6:00AM THURSDAY
THURSDAY 12:00N WEDNESDAY THRU 6:00AM MONDAY
FRIDAY 12:00N THURSDAY THRU 6:00AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

MAINTENANCE OF TRAFFIC SCHEME

THE CONTRACTOR SHALL SCHEDULE THEIR WORK AND METHODS IN ORDER TO MEET THE INTENT OF THE PLANS. THE PAVEMENT SURFACES TO BE USED BY THE TRAVELING PUBLIC SHALL BE ABLE TO DRAIN FREELY. ALL COSTS TO MAINTAIN THE ROADWAY AS PER THE CONSTRUCTION AND MATERIALS SPECIFICATIONS AND THE PLANS SHALL BE INCLUDED IN ITEM 614 LUMP SUM, MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

GENERAL LANE CLOSURE LIMITATIONS

CEDAR POINT AND OTHER LOCAL TOURIST TRAFFIC GREATLY IMPACTS THIS PROJECT. THE INTENT OF THE LANE CLOSURE LIMITATIONS IN THIS PLAN NOTE IS TO SUPPLEMENT OTHER TIME LIMITATIONS WHICH APPEAR IN THIS CONTRACT. THE FOLLOWING LANE CLOSURE RESTRICTIONS APPLY TO SR 2, AND ALL US ROUTE AND STATE ROUTE STRUCTURES IN THIS PROJECT:

- 1. BETWEEN AUGUST, 2006 AND NOVEMBER, 2006, ONE LANE MAY BE CLOSED IN EACH DIRECTION, EXCEPT BETWEEN SEPTEMBER 5, 2006 THROUGH NOVEMBER, 2006, NO LANE CLOSURES ARE PERMITTED ON FRIDAYS, SATURDAYS, AND SUNDAYS FROM 2:00 PM TO 6:00 PM.
2. BETWEEN DECEMBER, 2006 THROUGH MARCH, 2007 NO LANES MAY BE CLOSED WITHOUT WRITTEN PERMISSION BY THE ENGINEER.
3. BETWEEN APRIL, 2007 AND MAY 24, 2007 ONE LANE MAY BE CLOSED IN EACH DIRECTION.
4. BETWEEN MAY 29, 2007 AND AUGUST 30, 2007
a. FROM 8:00 AM TO 12:00 NOON NO LANE CLOSURES PERMITTED IN THE WESTBOUND LANES.
b. FROM 2:00 PM TO 6:00 PM NO LANE CLOSURES PERMITTED.
c. FROM 9:00 PM TO 1:00 AM NO LANE CLOSURES PERMITTED IN THE EASTBOUND LANES.
5. BETWEEN SEPTEMBER 4, 2007 THROUGH NOVEMBER, 2007:
a. FRIDAYS, SATURDAYS AND SUNDAYS FROM 2:00 PM TO 6:00 PM NO LANE CLOSURES PERMITTED.

FAILURE OF THE CONTRACTOR TO MEET ANY OF THE ABOVE REQUIREMENTS ARE SUBJECT TO LIQUIDATED DAMAGES AS PER CMS 108.07.

DESIGN FILE: \*\*\*\*\*DONFILESPECIFICATIONS\*\*\*\*\*
WORKSTATION: #TERMINALS DATE: #DATE#

SCJ
LAS

MAINTENANCE OF TRAFFIC NOTES

ERI-2-16.13

9
61

**SEQUENCE OF CONSTRUCTION (SR 2 MAINLINE)**

THE INTENT IS TO MINIMIZE TRAFFIC BACKUPS AND PERFORM THE WORK AS QUICKLY AS POSSIBLE. THE SEQUENCE OF CONSTRUCTION SHALL BE AS FOLLOWS:

**PHASE 1 (SLM 16.13 TO SLM 17.86)**

- 1 MILL AND FILL, 1.50" DEEP, THE 4 FOOT WIDE MEDIAN SIDE SHOULDER.
- 2 APPLY A WORK ZONE EDGE LINE 2.5 FEET OUTSIDE THE NORMAL LOCATION OF THE EDGE LINE ON THE MEDIAN SIDE SHOULDER.
- 3 CLOSE THE RIGHT LANE AND DIVERT TRAFFIC INTO THE PASSING LANE AND MEDIAN SIDE SHOULDER AND BEGIN WORK IN THE DRIVING LANE AND RIGHT SHOULDER.

**PHASE 2 (SLM 16.13 TO SLM 17.86):**

- 1 MILL AND FILL, 1.5" DEEP, THE OUTSIDE 7' OF THE 8' PAVED SHOULDER.
- 2 MILL 3 INCHES OF ASPHALT CONCRETE IN THE DRIVING LANE AND 1' WIDE IN THE PAVED SHOULDER (TO EXPOSE THE CONCRETE IN THE DRIVING LANE).
- 3 PERFORM THE DOWEL RETROFIT AND FULL DEPTH REPAIRS.
- 4 TACK AND PLACE THE INTERMEDIATE COURSE.
- 5 PLACE APPROPRIATE WORK ZONE MARKINGS. WORK ZONE EDGE LINE SHALL BE PLACED APPROXIMATELY 2.5 FT ONTO OUTSIDE PAVED SHOULDER.

**PHASE 3 (SLM 16.13 TO 17.86)**

- 1 SHIFT TRAFFIC ONTO THE DRIVING LANE.
- 2 MILL 3 INCHES OF ASPHALT CONCRETE IN THE PASSING LANE AND 1' WIDE IN THE PAVED SHOULDER (TO EXPOSE THE CONCRETE IN THE PASSING LANE).
- 3 PERFORM THE DOWEL RETROFIT AND FULL DEPTH REPAIRS.
- 4 TACK AND PLACE THE INTERMEDIATE COURSE.
- 5 REMOVE WORK ZONE EDGE LINE ON 4 FT MEDIAN SHOULDER.
- 6 PLACE APPROPRIATE WORK ZONE MARKINGS.
- 7 REMOVE WORK ZONE EDGE LINE ON 8 FT OUTSIDE SHOULDER AND PLACE APPROPRIATE WORK ZONE MARKINGS.

INTERIM COMPLETION DATE: PHASES 1, 2 AND 3 SHALL BE COMPLETED ON OR BEFORE OCTOBER 31, 2006. OCTOBER 31, 2006 IS CONSIDERED TO BE AN INTERIM COMPLETION DATE AND IS SUBJECT TO LIQUIDATED DAMAGES PER CMS 108.07 IF NOT MET. MOST OF THE STRUCTURE WORK ITEMS ARE TEMPERATURE SENSITIVE AND THAT WORK IS EXEMPT FROM HAVING BEEN COMPLETED BY THIS INTERIM COMPLETION DATE.

**PHASE 4 (SLM 17.86 TO 20.10)**

- 1 PERFORM THE PARTIAL AND FULL DEPTH PAVEMENT REPAIRS IN THE DRIVING LANE.

**PHASE 5 (SLM 17.86 TO 20.10)**

- 1 PERFORM THE PARTIAL AND FULL DEPTH PAVEMENT REPAIRS IN THE PASSING LANE.

**PHASE 6 (SLM 16.13 TO SLM 20.10)**

- 1 WITH TRAFFIC IN THE DRIVING LANE SIDE, TACK AND PLACE THE SURFACE COURSE IN THE MEDIAN SHOULDER AND PASSING LANE SIDE.
- 2 PLACE APPROPRIATE WORK ZONE MARKINGS.
- 3 SHIFT TRAFFIC ONTO THE PASSING LANE SIDE.
- 4 TACK AND PLACE THE SURFACE COURSE IN THE DRIVING LANE AND RIGHT SHOULDER SIDE.
- 5 PLACE APPROPRIATE PAVEMENT MARKINGS, RPM'S, AND RUMBLE STRIPS.

INTERIM COMPLETION DATE: PHASE 6 SHALL BE COMPLETED ON OR BEFORE MAY 24, 2007. MAY 24, 2007 IS CONSIDERED TO BE AN INTERIM COMPLETION DATE AND IS SUBJECT TO LIQUIDATED DAMAGES PER CMS 108.07.

**PHASE 7 (SLM 16.13 TO SLM 20.10)**

- 1 PERFORM THE GUARDRAIL WORK AFTER THE SURFACE COURSE HAS BEEN PLACED.
- 2 COMPLETE THE REMAINING WORK.

**QUANTITIES FOR 4' WIDE MEDIAN SIDE SHOULDER AND 7' WIDE OUTSIDE SHOULDER (EB & WB - 1.50" DEEP, SLM 16.13 TO SLM 17.86)**

ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE	84,718 SY
ITEM 254 PATCHING PLANED SURFACE	8,472 SY
ITEM 407 TACK COAT	8,472 GAL
ITEM 442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448)	1,765 CY

**RAMP WORK**

ALL WORK ON THE RAMPS SHALL BE PERFORMED WHILE MAINTAINING TRAFFIC. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON THE RAMPS. THE PAVEMENT REPAIR AND INTERMEDIATE COURSE ON THE RAMPS SHALL BE COMPLETED ON OR BEFORE OCTOBER 31, 2006, WHICH SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE.

FAILURE OF THE CONTRACTOR TO MEET ANY OF THE ABOVE REQUIREMENTS ARE SUBJECT TO LIQUIDATED DAMAGES AS PER CMS 108.07.

**SEQUENCE OF CONSTRUCTION (SR 13 RAMPS)**

THE DEFINITION OF THE RAMP LIMITS ARE FROM THE INTERSECTION WITH THE SIDE ROAD AT THE SIDE ROAD'S EDGE LINE AND DOWN THE RAMP TO THE GORE AREA WHERE THE COMMON PAVEMENT BETWEEN THE RAMP AND THE MAINLINE ENDS IN THE GRASSY AREA. THE SEQUENCE OF CONSTRUCTION FOLLOWS:

**PHASE 1**

- 1 SHIFT TRAFFIC AND MILL THE ASPHALT FOR HALF THE RAMP.
- 2 PERFORM THE PARTIAL AND FULL DEPTH PAVEMENT REPAIRS IF APPLICABLE.
- 3 TACK, PLACE THE INTERMEDIATE COURSE, AND PLACE APPROPRIATE PAVEMENT MARKINGS.

**PHASE 2**

- 1 SHIFT TRAFFIC ONTO THE INTERMEDIATE COURSE AND MILL THE ASPHALT FOR THE REMAINING RAMP.
- 2 PERFORM PARTIAL AND FULL DEPTH PAVEMENT REPAIRS IF APPLICABLE.
- 3 TACK, PLACE THE INTERMEDIATE COURSE, AND PLACE APPROPRIATE PAVEMENT MARKINGS.

INTERIM COMPLETION DATE: PHASE 1 AND 2 SHALL BE COMPLETED ON OR BEFORE OCTOBER 31, 2006. OCTOBER 31, 2006 IS CONSIDERED TO BE AN INTERIM COMPLETION DATE AND IS SUBJECT TO LIQUIDATED DAMAGES PER CMS 108.07.

**PHASE 3**

- 1 SHIFT TRAFFIC, TACK AND PLACE THE SURFACE COURSE.
- 2 SHIFT TRAFFIC AND COMPLETE THE TACK AND SURFACE COURSE.
- 3 PLACE APPROPRIATE PAVEMENT MARKINGS, RPM'S, ETC.

INTERIM COMPLETION DATE: PHASE 3 SHALL BE COMPLETED ON OR BEFORE MAY 24, 2007. MAY 24, 2007 IS CONSIDERED TO BE AN INTERIM COMPLETION DATE AND IS SUBJECT TO LIQUIDATED DAMAGES PER CMS 108.07.

**MAINLINE SR 2 STRUCTURE WORK**

THE LANE CLOSURE LIMITATIONS IN THE VARIOUS PLAN NOTES APPLY.

**OVERHEAD STRUCTURE WORK**

THE STRUCTURE INFORMATION PLAN SHEET OUTLINES THE PROPOSED WORK ON ALL OF THE STRUCTURES ON THIS PROJECT. WORK AFFECTING SR 2 TRAFFIC, SUCH AS SEALING THE PARAPETS, IS GOVERNED BY THE SR 2 TIME LIMITATIONS. SEALING THE WINGWALLS, ABUTMENTS AND PIERS ON THE OVERHEAD STRUCTURES SHOULD NOT AFFECT SR 2 TRAFFIC EXCEPT DURING HOLIDAYS. THE HOLIDAY AND SPECIAL EVENT TIME LIMITATIONS APPLIES TO ALL WORK ON THE PROJECT DUE TO THE RUBBERNECKING PROBLEMS. THIS NOTE IS NOT INTENDED TO CONFLICT WITH LIMITATIONS OF OTHER PLAN NOTES. IF SUCH CONFLICT IN NOTES IS DISCOVERED, THE MORE RESTRICTIVE PLAN NOTE APPLIES.

THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC AT ALL TIMES, USING FLAGGERS AS NECESSARY FOR WORK AFFECTING THE TRAFFIC ON STRUCTURES ON COUNTY AND TOWNSHIP ROADS. THE CONTRACTOR IS NOT ALLOWED TO DETOUR TRAFFIC.

THE CONTRACTOR MAY SUBMIT TO THE ENGINEER IN WRITING AT LEAST 14 CALENDAR DAYS IN ADVANCE OF AN ALTERNATIVE PLAN ADDRESSING MAINTAINING TRAFFIC FOR THE WORK ON THE OVERHEAD STRUCTURES. WORK IS NOT TO COMMENCE WITHOUT WRITTEN PERMISSION BY THE ENGINEER.

**CONCRETE PARAPET END SECTION CONSTRUCTION**

AT SPECIFIED LOCATIONS THE PROJECT REQUIRES THE REMOVAL OF A SPECIFIED LENGTH OF THE END OF THE EXISTING CONCRETE PARAPET AND CONSTRUCTING A FOURTEEN (14) FOOT END SECTION, THEN ATTACHING A BRIDGE TERMINAL ASSEMBLY AND OTHER GUARDRAIL WORK. FOR CONSTRUCTION OF THIS CONCRETE PARAPET END SECTION THE ADVANCE SIGNING SHALL MEET THE REQUIREMENTS OF "FIGURE 6H-5 SHOULDER CLOSURE ON FREEWAY (TA-5)" OF THE OMTCD. DRUMS ARE REQUIRED AND SHALL BE OFFSET A MINIMUM OF ONE (1) FOOT ONTO THE SHOULDER FROM THE TRAFFIC EDGE LINE. THE DRUMS ARE TO EXTEND A MINIMUM OF 100 FEET DOWNSTREAM OF THE WORK AREA. HOWEVER, IF THIS WORK IS PERFORMED WHEN THE ADJACENT LANE IS CLOSED, THEN THE DRUMS AND SIGNING FOR THE SHOULDER ARE NOT REQUIRED. NO MATTER WHEN THE WORK IS PERFORMED, AT LEAST TWO (2) DRUMS ARE REQUIRED TO DELINEATE THE HAZARD WHEN THE CONTRACTOR IS NOT WORKING AT THAT LOCATION. IT IS NOT INTENDED TO WAIVE OTHER LIMITATIONS SUCH AS TIME OR LANE CLOSURE LIMITATIONS AS SPECIFIED IN THE CONTRACT.

THE CONTRACTOR IS LIMITED TO A MAXIMUM OF FIVE (5) CALENDAR DAYS FROM THE TIME THE CONCRETE PARAPET IS REMOVED TO THE TIME THE GUARDRAIL IS REATTACHED TO THE PARAPET. THE FIVE (5) DAY LIMIT IS NOT WAIVED WHEN WORKING DURING THE ADJACENT LANE CLOSURE. THE FIVE (5) CALENDAR DAYS IS CONSIDERED TO BE AN INTERIM COMPLETION DATE AND FAILURE TO MEET THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

DESIGN FILE: I:\projects\18296\ER2Mot.dgn  
WORKSTATION: mschofra DATE: 4/28/2006

MAINTENANCE OF TRAFFIC NOTES

ERI-2-16.13

WORK OPERATIONS

IN ADDITION TO THE REQUIREMENTS OF SECTION 614 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS THE FOLLOWING SHALL APPLY:

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAVEL WHERE PRACTICAL. A FLAGGER SHALL BE USED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S VEHICLES AND EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. AMBER LIGHT SHALL BE VISIBLE TO ALL DIRECTIONS OF TRAFFIC A MINIMUM OF 0.25 MILE.

THE CONTRACTOR SHALL ARRANGE CONSTRUCTION OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO THE CLOSED LANES UNLESS OTHERWISE APPROVED BY THE ENGINEER.

THE CONTRACTOR IS ALLOWED TO WORK AT NIGHT, BASED ON GENERAL LANE CLOSURE LIMITATIONS. FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE HIGHWAY. TO INSURE THE ADEQUACY OF THE FLOODLIGHTING PLACEMENT PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY A MIN. OF 6 FT BEHIND GUARDRAIL OR 30 FT FROM THE NEAREST EDGE OF PAVEMENT WHEN VARIOUS OPERATIONS ARE SCHEDULED TO CONTINUE THE NEXT WORKDAY. ON WEEKENDS OR AT OTHER TIMES OF SUSPENSION OF WORK, THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE OF THE ROADWAY RIGHT-OF-WAY. THE LOCATION SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA.

WHEN WORKING IN THE VICINITY OF THE SR 13 INTERCHANGE RAMPS, THE CONTRACTOR SHALL EXERCISE CARE TO MAKE SURE PLACEMENT OF EQUIPMENT, WORKERS, AND MATERIALS MINIMIZES INTERSECTION SIGHT DISTANCE RESTRICTIONS. EQUIPMENT NOT BEING USED ACTIVELY SHALL BE REMOVED FROM THE INTERSECTION.

ALL CONES/DRUMS USED IN CLOSING ONE LANE OF TRAFFIC SHALL BE PLACED WITHIN THE WORK ZONE EXCEPT WHEN ACTUAL WORK IS BEING DONE AND THE CONES/DRUMS ARE PLACED AT THE EDGE OF THE THRU LANE (THE INTENT IS TO KEEP TRUCK TRAFFIC OFF THE INSIDE AND OUTSIDE SHOULDERS)

ITEM 614. WORK ZONE MARKING SIGN:

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE MARKING SIGNS PER THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, 614.04.

WORK ZONE MARKING SIGN: (OW-167-36) NO EDGE LINE = 12 each

ITEM 614-LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS) SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS AS DIRECTED BY THE ENGINEER:

>> FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES AND PROVIDE 72 HOURS ADVANCE NOTICE AS REQUIRED BY THE HIGHWAY PATROL LISTED BELOW:

ERIE COUNTY HIGHWAY PATROL  
511 FREEMONT AVE.  
SANDUSKY, OHIO 44870  
419 625-6565

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 80 HOURS

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE.

DESIGN FILE: I:\projects\18296\18296\18296\18296.dgn  
WORKSTATION: sjuzwik DATE: 4/6/2006

CALCULATED  
SCJ  
CHECKED  
LAS

MAINTENANCE OF TRAFFIC NOTES

ERI-2-16.13

11  
61

WORKSITE TRAFFIC SUPERVISOR

THE CONTRACTOR SHALL EMPLOY (OTHER THAN THE SUPERINTENDENT) AND SUBJECT TO THE APPROVAL OF THE ENGINEER, A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS). THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

- 1). AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION  
A.T.S.S.A. , PHONE NUMBER 1-800-272-8772, CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS)
- 2). THE NATIONAL SAFETY COUNCIL, TRAFFIC CONTROL ZONES SUPERVISORS COURSE, PHONE NUMBER 1-800-441-5103
- 3). NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0528

A CERTIFIED WTS SHALL BE PRESENT WHEN THE CONTRACTOR OR SUBCONTRACTOR INSTALLS A TRAFFIC RESTRICTION, LANE CLOSURE, ETC. THE CONTRACTOR OR SUBCONTRACTOR MUST PRESENT A COPY OF CERTIFICATES FOR ALL WTS TO THE ENGINEER. A WTS MUST BE PRESENT WHEN THE WORK ZONE IS BEING SET UP OR REMOVED.

THE WTS POSITION IS ESTABLISHED FOR THE PURPOSE OF MONITORING THE TRAFFIC CONTROL PLAN (TCP) AND CORRECTING ANY TRAFFIC CONTROL DEFICIENCIES IN THE WORK ZONE. THE WTS MUST ALSO COORDINATE WITH ALL LAW ENFORCING AGENCIES RESPONSIBLE FOR THE ROADWAY UNDER CONSTRUCTION AND RETRIEVE ALL CRASH REPORTS (OH-1) THAT OCCUR WHEN TEMPORARY TRAFFIC CONTROL DEVICES ARE IN PLACE. THE WTS SHALL OVERSEE ALL OPERATIONS THAT AFFECT THE MOVEMENT OF VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH THE WORK ZONE. TRAFFIC CONTROL AND CRASH DATA EVALUATION WILL BE THE WTS MAIN RESPONSIBILITY WHEN A WORK ZONE IS IN PLACE.

DAILY, INCLUDING WEEKENDS AND HOLIDAYS, THE WTS SHALL SPEND A MINIMUM OF ONE HOUR REVIEWING THE WORK ZONE AND/OR CRASH DATA FOR DEFICIENCIES AND MAINTAINING THE WORK ZONE.

WEEKLY, THE WTS MUST RETRIEVE/COLLECT ALL CRASH REPORTS (OH-1) FROM ALL LAW ENFORCING AGENCIES, EVALUATE THE CRASHES, AND RECOMMEND SOLUTIONS TO ADDRESS ANY ISSUES WITH THE TCP THAT ARE POTENTIALLY CREATING CRASHES WITHIN THE WORK ZONE. THE WTS MUST PRESENT THESE SOLUTIONS TO THE ENGINEER FOR APPROVAL WEEKLY. UPON APPROVAL BY THE ENGINEER AND THE DISTRICT WORK ZONE TRAFFIC MANAGER (DWZTM), THE CONTRACTOR MUST IMPLEMENT THE RECOMMENDED SOLUTIONS TO THE WORK ZONE WITHIN ONE WEEK - ADDITIONAL COST TO BE PAID UNDER CONSTRUCTION AND MATERIALS

SPECIFICATIONS - 109. THE WTS MUST INSPECT THE WORK ZONE AT THE BEGINNING AND THE END OF EACH WORK DAY AND ONE TIME PER WEEK DURING THE HOURS OF DARKNESS. THE FOLLOWING ITEMS SHALL BE INCLUDED, BUT NOT RESTRICTED TO, IN EACH REVIEW: TRAFFIC CONTROL DEVICE CONDITION; PLACEMENT; VISIBILITY; TRAFFIC FLOW CONDITIONS; INCIDENTS; CONGESTION POINTS; DELAYS; ADEQUACY OF ADVANCED INFORMATIONAL SIGNS BEYOND PROJECT LIMITS; INTERACTION OF WORK VEHICLES AND TRAFFIC; ACCIDENTS; PROPER STORAGE OF MATERIALS AND EQUIPMENT; CONFORMANCE WITH TCP; ADEQUACY OF TCP; CONFLICTING OR NON-CONFORMING PAVEMENT MARKINGS. THE WTS SHALL HAVE THE NECESSARY AUTHORITY TO IMMEDIATELY PERFORM ANY CORRECTIVE WORK. A RECORD OF EACH DAYS REVIEW SHALL BE GIVEN TO THE ENGINEER THE FOLLOWING WORKDAY IN WRITING AND SHALL INCLUDE ALL DEFICIENCIES AND RESOLUTIONS TO THE DEFICIENCIES. THE INSPECTION WILL BE DOCUMENTED ON THE LONG/SHORT TERM WORK ZONE REVIEW FORM PROVIDED BY ODOT. WEEKLY, THE INSPECTION FORM MUST BE ACCOMPANIED BY ALL OF THE OH-1 CRASH REPORTS AND THE PROPOSED SOLUTIONS TO ANY IDENTIFIED CRASH PROBLEMS.

IF THE RESTRICTIONS ARE SHORT TERM, THE WTS SHALL MONITOR THE ZONE FOR COMPLIANCE, DURING LANE CLOSURES; HE SHALL MAKE SURE ALL TRAFFIC CONTROL ITEMS ARE FUNCTIONING PROPERLY. TRAFFIC CONTROL AND CRASH DATA EVALUATION WILL BE THE WTS MAIN RESPONSIBILITY DURING IMPLEMENTATION OF ZONES OR SHORT TERM ZONES. THE WTS SHALL PROVIDE THE DWZTM A SKETCH OF THE TRAFFIC CONTROL PLAN (TCP) EVERYDAY THERE IS TO BE A SHORT TERM TRAFFIC RESTRICTION, LANE CLOSURE, ETC. THIS TCP SHALL SHOW HOW THE WORK ZONES ARE TO BE IMPLEMENTED.

THE WTS SHALL BE ON STANDBY 24-HOUR BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. A 24-HOUR CONTACT NUMBER(S) SHALL BE MADE AVAILABLE TO THE ENGINEER TO CONTACT THE WTS.

FAILURE OF THE CONTRACTOR TO COMPLY WITH ANY OF THE ABOVE, SHALL CONSTITUTE CAUSE FOR THE PROJECT ENGINEER TO DEDUCT \$500.00 PER DAY FROM MONEY DUE TO THE CONTRACTOR NOT AS A PENALTY, BUT AS A LIQUIDATION DAMAGE.

PAYMENT FOR THE WTS SHALL BE INCLUDED UNDER THE ITEM "614 - WORKSITE TRAFFIC SUPERVISOR" BY MONTH. 7 MONTHS HAS BEEN PROVIDED FOR THIS USE.

DESIGN FILE. \$\$\$\$.DGNFILESPECIFICATIONS\$\$\$  
WORKSTATION: \$TERMINAL\$ DATE. \$\$\$DATE\$\$\$

CONTRACTOR  
SCJ  
DIRECTOR  
LAS

MAINTENANCE OF TRAFFIC NOTES

ERI - 2 - 16.13

12  
61

ITEM 614 WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT (R2-1-48) (55 SPEED LIMIT) SIGNS AND SUPPORTS WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT SIGNS WITHIN THE REDUCED SPEED ZONE. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED LIMIT SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS, ITEM 614, PARAGRAPH 614.02(B) INDICATES THAT THE TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, SPEED REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE SPEED REDUCTION IN THE OPPOSITE DIRECTION. SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION, IN SUCH CASE, IS APPROPRIATE ONLY IF CONDITIONS ARE EXPECTED TO HAVE AN IMPACT ON THE DIRECTIONAL TRAFFIC FLOW, AS DIRECTED BY THE ENGINEER.

(THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 CONSECUTIVE CALENDAR DAYS, OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF A DIRECTIONAL ROADWAY OF DIVIDED HIGHWAYS. THE FIRST WORK ZONE SPEED LIMIT SIGN SHALL BE PLACED 500 FEET IN ADVANCE OF THE LANE REDUCTION OR SHIFT TAPER OR AT A POINT WHEREVER CONSTRUCTION BEGINS, WHICHEVER COMES FIRST. ON UNDIVIDED HIGHWAYS THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 250 FEET IN ADVANCE OF THE TAPER. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY 1 MILE FOR 55 MPH ZONES AND EVERY ONE-HALF MILE FOR 50 MPH AND 45 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH OPEN ENTRANCE RAMP WITHIN THE ZONE.)

REDUCED SPEED AHEAD SIGNS SHALL BE ERECTED IN ADVANCE OF THE SPEED REDUCTION, APPROXIMATELY 1300 FEET ON MULTI-LANE HIGHWAYS AND 500 FEET ON 2-LANE HIGHWAYS.

A SIGN(S) TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. R2-1 (SPEED LIMIT) SIGNS SHALL BE USED ON UNDIVIDED ROADWAYS. R2-1 (SPEED LIMIT) AND R2-H2A SIGNS SHALL BE USED ON DIVIDED ROADWAYS. WHEN USED THE R2-1 AND R2-H2A SIGNS SHALL BE MOUNTED SIDE-BY-SIDE ON SEPARATE SUPPORTS. THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO ITEM 630, GROUND MOUNTED SUPPORTS, NO. 3 POSTS.

WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

ITEM 614 WORK ZONE SPEED LIMIT SIGN (CONTINUED)

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVING THE SIGNS AND SUPPORTS. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, WORK ZONE SPEED LIMIT SIGN 48 EACH

WORK ZONE INCREASED PENALTIES SIGN (R11-H5a-48)

R11-H5a-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

(THE SIGNS SHALL BE DUAL MOUNTED. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1-48) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS.)

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 64 EACH

DESIGN FILE I:\projects\18296\E2Mot.dgn  
WORKSTATION: mschafra DATE: 4/27/2006

SCJ  
L.A.S.

MAINTENANCE OF TRAFFIC NOTES

ERI-2-16.13

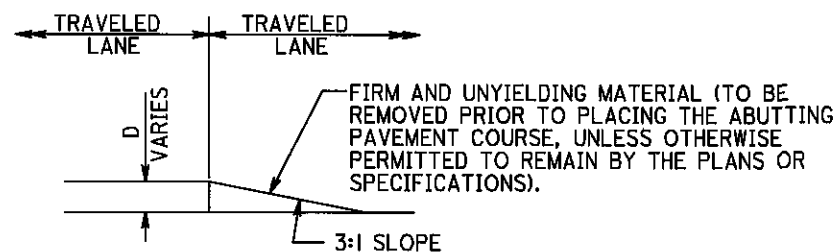
12A  
61

**GENERAL NOTES**

- IT IS INTENDED THAT THIS DRAWING BE USED FOR TREATMENT OF DROP-OFFS THAT DEVELOP DURING CONSTRUCTION OPERATIONS, AND THAT ARE NOT OTHERWISE PROVIDED FOR IN THE CONSTRUCTION PLANS. THE SUGGESTED TREATMENTS ARE INTENDED FOR HIGH VOLUME PROJECTS THAT WILL LAST AT LEAST SEVEN DAYS AND HAVE AN ACTIVE WORK ZONE 1 MILE (1.6 KM) OR LESS IN LENGTH. FOR GUIDANCE ON THE USE OF THIS SHEET, SEE THE TRAFFIC ENGINEERING MANUAL. WHERE THE PLANS DO NOT PROVIDE SPECIFIC ITEMS FOR LABOR, EQUIPMENT, OR MATERIALS TO IMPLEMENT THE DROP-OFF TREATMENTS SPECIFIED HEREON, THEY SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM BID FOR ITEM 614-MAINTAINING TRAFFIC.
- WHILE THE NEED FOR CERTAIN ADVISORY SIGNING IS NOTED HEREON, IT IS NOT INTENDED THAT THIS BE INDICATIVE OF ALL SIGNING THAT MAY BE REQUIRED TO ADVISE OR WARN MOTORISTS. ALL REQUIREMENTS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) MUST BE FULFILLED.
- IN URBAN OR OTHERWISE HEAVILY DEVELOPED AREAS WHERE PEDESTRIANS AND/OR BICYCLISTS MAY BE PRESENT IN SIGNIFICANT NUMBERS, ADDITIONAL SIGNING AND PROTECTIVE MEASURES OTHER THAN THOSE SHOWN HEREON MAY BE REQUIRED.
- THE DROP-OFF TREATMENT SELECTED FOR USE AT ANY GIVEN LOCATION SHALL BE AS APPROPRIATE FOR THE PREVAILING CONDITIONS AT THE SITE.
- WHERE CONCRETE BARRIER IS SPECIFIED, IT SHALL BE IN ACCORDANCE WITH SCD RM-4.2 AND ITEM 622.
- WHEN DRUMS ARE SPECIFIED FOR A DROP-OFF CONDITION, A MINIMUM NUMBER OF FOUR DRUMS SHALL BE USED. SPACING SHALL BE AS INDICATED IN THE PLANS OR AS SPECIFIED IN THE OMUTCD.
- WHEN W8-9 (LOW SHOULDER) SIGNS OR W8-9A (SHOULDER DROP-OFF) SIGNS OR W8-1871 (UNEVEN LANES) SIGNS ARE REQUIRED, THEY SHALL BE PLACED 750' (250 M) IN ADVANCE OF THE CONDITION, ON ALL INTERSECTING ENTRANCE RAMPS WITHIN THE LIMITS OF THE CONDITION AND IMMEDIATELY BEYOND ALL INTERSECTING ROADWAYS WITHIN THE LIMITS OF THE CONDITION. WHEN THE DROP-OFF CONDITION EXTENDS MORE THAN 0.5 MILE (800M), ADDITIONAL SIGNS SHOULD BE ERRECTED AT INTERVALS OF 1.0 MILE (1600 M) OR LESS.
- FOR LOCATIONS, SUCH AS AT RAMPS, LANE SHIFTS, LANE CLOSURES, ETC., WHERE TRAFFIC IS REQUIRED TO NEGOTIATE A DIFFERENCE IN ELEVATION BETWEEN PAVEMENTS, A 3:1 SLOPE TREATMENT SIMILAR TO THE OPTIONAL WEDGE TREATMENT SHALL BE PROVIDED.
- PORTABLE CONCRETE BARRIER SHALL BE PLACED ON THE SAME LEVEL AS THE TRAFFIC SURFACE AND SHALL NOT ENCR OACH ON LANE WIDTH(S) DESIGNATED AS THE MINIMUM REQUIRED FOR TRAFFIC USE. WHERE DRUMS ARE USED, AND THEIR PRESENCE WOULD REDUCE TRAVELED LANE WIDTHS TO LESS THAN 10' (3.0M), DRUMS MAY BE PLACED ON THE OPPOSITE LEVEL FROM THAT OF TRAFFIC PROVIDED THE DROP-OFF DEPTH DOES NOT EXCEED 5" (125) AND APPROVAL IS GRANTED BY THE PROJECT ENGINEER.
- PAVEMENT REPAIRS (OR SIMILAR WORK):
  - LENGTHS GREATER THAN 60' (18 M) - UTILIZE APPROPRIATE TREATMENT FROM CONDITION I.
  - LENGTHS OF 60' (18 M) OR LESS - REPAIRS SHALL BE EFFECTED IN ACCORDANCE WITH CMS 255.08. DRUMS MAY BE USED AS A SEPARATOR ADJACENT TO THE TRAVELED LANE.

**OPTIONAL WEDGE TREATMENT (MILLING OR RESURFACING)**

- THIS TREATMENT MAY BE USED WHEN PERMITTED FOR CONDITION I ONLY.
- W8-9A SIGN REQUIRED

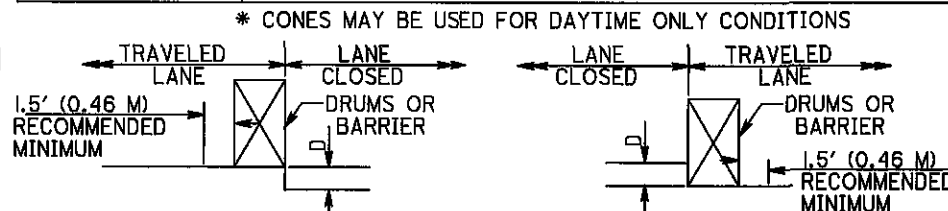


**CONDITION I**

**DROP-OFFS BETWEEN TRAVELED LANES**

1. THESE TREATMENTS ARE TO BE USED FOR RESURFACING, PAVEMENT PLANING, EXCAVATION, ETC. BETWEEN OR WITHIN TRAVELED LANES.

D	TREATMENT
≤ 1/2" (<40)	ERECT W8-11 SIGN
> 1/2" - 3" (40-75)	1. LANE CLOSURE UTILIZING DRUMS* AS SHOWN BELOW OR 2. OPTIONAL WEDGE TREATMENT
> 3" - 5" (>75-125)	LANE CLOSURE UTILIZING DRUMS AS SHOWN BELOW
> 5" (>125)	LANE CLOSURE UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW



**CONDITION II**

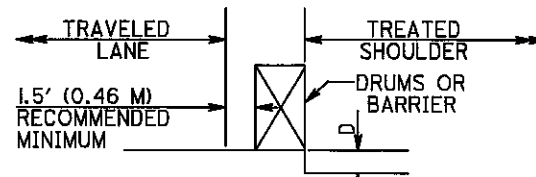
**DROP-OFFS WITHIN GRADED SHOULDER AREA**

THE TREATMENTS INDICATED BELOW ARE FOR USE IN CONJUNCTION WITH RESURFACING, PLANING, OR EXCAVATIONS WITHIN THE GRADED SHOULDER AREA.

THE GRADED SHOULDER AREA IS THAT FLAT OR GRADUALLY SLOPING AREA BETWEEN THE EDGE OF A NORMALLY TRAVELED LANE AND THE MORE STEEPLY SLOPING DITCH FORESLOPE OR EMBANKMENT SLOPE. ITS SURFACE MAY BE SOIL OR TURF, AND/OR IT MAY BE INCLUSIVE OF A "TREATED" AREA (IMPROVED WITH MAXIMUM WIDTH SHALL BE CONSIDERED TO BE 12' (3.6 M)).

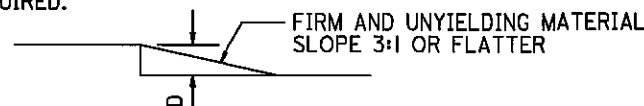
D	TREATMENT
≤ 1/2" (<40)	ERECT W8-9A SIGNS
> 1/2" - 5" (>40-125)	1. IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING DRUMS AS SHOWN BELOW OR 2. IF MINIMUM LANE WIDTH* REQUIREMENTS CANNOT BE MET, CLOSE ADJACENT LANE UTILIZING DRUMS OR 3. OPTIONAL SHOULDER TREATMENT
> 5" - 12" (>125-305) DAYLIGHT ONLY	IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING DRUMS AS SHOWN BELOW.
> 5" - 24" (>125-610)	1. IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW. OR 2. IF MINIMUM LANE WIDTH* REQUIREMENTS CANNOT BE MET, CLOSE ADJACENT LANE UTILIZING DRUMS.
> 5" - 24" (>125-610)	LANE CLOSURE UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW

\*MINIMUM LANE WIDTHS SHALL BE 10' (3.0 M) UNLESS OTHERWISE SPECIFIED IN THE PLANS.



**OPTIONAL SHOULDER TREATMENT**

- THIS TREATMENT MAY NOT BE USED WITHIN A BITUMINOUS SHOULDER WHERE A HOT LONGITUDINAL JOINT PER CMS 401.15 IS REQUIRED.
- W8-9 SIGNS REQUIRED.



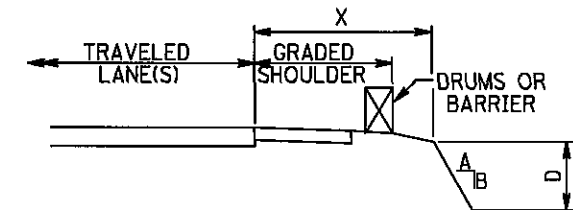
**CONDITION III**

**DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB**

- SEE NOTE 2 UNDER CONDITION II.
- USE CHART A OR B BELOW, AS APPLICABLE.

**CHART A**

- USE FOR:
- UNCURBED FACILITIES.
  - CURBED FACILITIES, WHERE:
    - CURBS ARE LESS THAN 6" (150) IN HEIGHT.
    - CURBS ARE 6" (150) OR GREATER IN HEIGHT AND THE LEGAL SPEED IS GREATER THAN 40 MPH (70 KM/H)

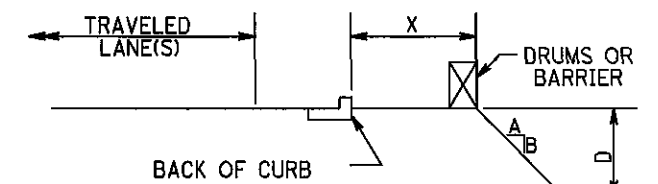


X	D	A/B	Treatment Required	
			Day	Night
0-4' (0-1.2 M)	ANY	ANY	(A)	(A)
4'-30' (1.2 M-9.1 M)	ANY	3:1 OR FLATTER	NONE	NONE
4'-12' (1.2 M-3.6 M)	≤ 3" (<75)	STEEPER THAN 3:1	NONE	NONE
4'-12' (1.2 M-3.6 M)	> 3" - < 12" (>75 - <305)	STEEPER THAN 3:1	DRUMS	DRUMS
4'-12' (1.2 M-3.6 M)	> 12" (>305)	STEEPER THAN 3:1	DRUMS	BARRIER
> 12' - 20' (>3.6 M-6.1 M)	> 12" (>305)	STEEPER THAN 3:1	NONE	NONE
> 12' - 20' (>3.6 M-6.1 M)	> 12" - < 24" (>305 - <610)	STEEPER THAN 3:1	DRUMS	DRUMS
> 12' - 20' (>3.6 M-6.1 M)	> 24" (>610)	STEEPER THAN 3:1	DRUMS	BARRIER
> 20' - 30' (>6.1 M-9.1 M)	< 24" (<610)	STEEPER THAN 3:1	NONE	NONE
> 20' - 30' (>6.1 M-9.1 M)	> 24" (>610)	STEEPER THAN 3:1	DRUMS	BARRIER
> 30' (>9.1 M)	ANY	ANY	NONE	NONE

(A) USE TREATMENT SPECIFIED UNDER CONDITION II

**CHART B**

- USE FOR: CURBED FACILITIES, WHERE THE CURB IS 6" (150) OR GREATER IN HEIGHT AND THE LEGAL SPEED IS 40 MPH (70 KM/H) OR LESS.



X	D	A/B	TREATMENT REQUIRED	
			DAY	NIGHT
0-10' (0-3.0 M)	< 12" (<305)	ANY	NONE	DRUMS
0-10' (0-3.0 M)	> 12" (>305)	ANY	DRUMS	DRUMS
> 10' (>3.0 M)	ANY	ANY	NONE	NONE

NOTE: ALL METRIC DIMENSIONS (IN BRACKETS ( )) ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

**CONVERSION OF STANDARD CONSTRUCTION DRAWINGS**

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE 2005 CONSTRUCTION AND MATERIAL SPECIFICATIONS. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

**CONSTRUCTION EQUIPMENT MEDIAN CROSSINGS**

CONSTRUCTION EQUIPMENT SHALL CROSS THE MEDIAN ONLY AT U-TURN CROSSOVERS AND AT OTHER ADDITIONAL LOCATIONS APPROVED BY THE ENGINEER. A MAXIMUM OF TWO (2) ADDITIONAL EQUIPMENT CROSSINGS MAY BE ALLOWED.

THE CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR EXPENSE, FOR THE RESTORATION OF THE ADDITIONAL EQUIPMENT CROSSINGS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING PRIOR TO THEIR WORK OPERATIONS.

WHEN THE MEDIAN CROSSINGS ARE BEING USED IN THE AREA OF ONE-LANE TRAFFIC OPERATION, THE CONTRACTOR SHALL PROVIDE AT THEIR EXPENSE THE SERVICES OF A LAW ENFORCEMENT OFFICER WITH PATROL CAR TO CONTROL TRAFFIC FLOW.

**ITEM 659 SEEDING AND MULCHING**

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

- 659, COMMERCIAL FERTILIZER 0.70 TON
- 659, LIME 1.08 ACRE
- 659, WATER 28 M GAL.
- 659, SOIL ANALYSIS TEST 2 EACH
- 659, REPAIR SEEDING AND MULCHING 260 SQ YDS
- 659, INTER SEEDING 260 SQ YDS

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. SEEDING AND MULCHING NOT CALCULATED FOR R/W FENCE REPLACEMENT. QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY.

**RWIS STATION--NOTIFICATION**

THERE IS AN RWIS STATION LOCATED AT THE WEST END OF THE BRIDGE OVER THE HURON RIVER (SLM 19.6). THERE ARE SENSORS EMBEDDED IN THE PAVEMENT IN THE WESTBOUND LANES AND EMBEDDED IN THE BRIDGE DECK IN THE EASTBOUND LANES.

THE CONTRACTOR IS REQUIRED TO NOTIFY THE DISTRICT ROADWAY SERVICES MANAGER A MINIMUM OF 14 CALENDAR DAYS PRIOR TO PERFORMING ANY WORK IN THE PAVEMENT IN THIS AREA. THE SENSORS WILL BE REMOVED, RECONDITIONED AND RE-INSTALLED BY OTHERS.

**ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE (BUTT JOINTS)**

THIS ITEM SHALL INCLUDE MILLING AS NEEDED PER STD. DWG. BP-3.1 AT THE BEGINNING AND END OF THE PROJECT, AND AT RAMPS, APPROACH SLABS, BRIDGE DECKS, AND END OF PAVEMENT LAYERS. THIS WORK WILL BE INCLUDED IN PAYMENT UNDER ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE.

**ITEM 254 PATCHING PLANED SURFACE**

AN ESTIMATED QUANTITY OF ITEM 254, PATCHING PLANED SURFACE HAS BEEN SET UP TO BE USED AS DIRECTED BY THE ENGINEER AS DESCRIBED IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS MANUAL 254.04. PATCHING DEPTH IS 0 TO 2 IN.

**ITEM 253. PAVEMENT REPAIR**

THIS ITEM OF WORK SHALL FIX AREAS THAT WERE REPAIRED WITH FULL DEPTH ASPHALT CONCRETE AND ARE NOW DETERIORATING. CORING HAS BEEN PERFORMED TO HELP DETERMINE THE COMPONENTS THAT MAY BE ENCOUNTERED DURING THIS ITEM OF WORK.

THE ENGINEER SHALL DESIGNATE THE LOCATIONS AND LIMITS OF THE AREAS TO BE REPAIRED. PAVEMENT REPAIR SHALL BE PERFORMED BEFORE PAVEMENT PLANING. THE REPAIR AREAS SHALL BE SAW CUT AND EXCAVATED TO PROVIDE STRAIGHT AND VERTICAL SURFACES AROUND THE PERIMETER OF THE REPAIR AREA. PAVEMENT PLANING MAY BE USED AS AN ALTERNATIVE TO SAW CUTTING AND EXCAVATING. THE PAVEMENT SHALL BE REMOVED WITHIN THE DESIGNATED AREAS BY METHODS WHICH WILL NOT DAMAGE ADJACENT PAVEMENT. THE DEPTH OF REMOVAL SHALL BE SUFFICIENT TO REMOVE ALL DETERIORATED PAVEMENT, WITH AN AVERAGE DEPTH OF 11". THE MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 105.16 AND 105.17.

THE CONTRACTOR SHALL BE CAPABLE OF PERFORMING PAVEMENT REPAIRS 2 FEET WIDE.

AFTER REMOVAL OF THE PAVEMENT, IF THE ENGINEER DETERMINES THE SUBBASE OR SUBGRADE HAS FAILED OR IS "PUMPING", THE ENGINEER SHALL DIRECT THE CONTRACTOR TO EXCAVATE THE UNSTABLE MATERIAL AND REPLACE IT WITH ITEM 304 AGGREGATE BASE. THE MAXIMUM DEPTH OF THE EXISTING SUBBASE OR SUBGRADE REMOVED SHALL BE DETERMINED BY THE ENGINEER. ITEM 304 AGGREGATE BASE SHALL HAVE A MAXIMUM 4" LIFT. THE GRADE SHALL BE SLOPED SUCH THAT ANY WATER WILL DRAIN TO THE EXISTING UNDERDRAIN OR DITCH. ALL COMPACTION SHALL BE ACHIEVED BY MECHANICAL METHODS TO THE SATISFACTION OF THE ENGINEER. THE MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 105.16 AND 105.17.

AGGREGATE DRAINS OR UNDERDRAINS MAY BE NEEDED AS DIRECTED BY THE ENGINEER.

REPLACEMENT MATERIAL SHALL BE ITEM 301 OR ITEM 448, TYPE 2 MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. ITEM 301 CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 3" AND 12" WITH A MAXIMUM PAVEMENT LIFT OF 6". ITEM 448 TYPE 2 CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 0" AND 5" WITH A MAXIMUM PAVEMENT LIFT OF 3". ALL EXISTING PAVEMENT AREAS WHICH WILL BE IN CONTACT WITH THE PAVEMENT REPAIR SHALL BE COATED WITH PG GRADE LIQUID ASPHALT (SIDES AND BOTTOM) AT AN APPLICATION RATE OF 0.25 GAL. PER SQ. YD. ALL COMPACTION SHALL BE ACHIEVED BY MECHANICAL METHODS TO THE SATISFACTION OF THE ENGINEER.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD, (BY TICKET WEIGHT CONVERSION), OF ITEM 253, PAVEMENT REPAIR.

ITEM 253 PAVEMENT REPAIR 250 CU. YD.

THE FOLLOWING ITEMS LISTED BELOW ARE ADDITIONAL ITEMS NOT INCLUDED IN ITEM 253. THESE ITEMS SHALL BE USED FOR THE REPAIR AND/OR REPLACEMENT OF DAMAGED SUBBASE/SUBGRADE EXPOSED DURING THE PROCESS OF ITEM 253 PAVEMENT REPAIR WORK INCLUDED IN THIS PLAN.

- ITEM 203 EXCAVATION
- ITEM 204 SUBGRADE COMPACTION
- ITEM 304 AGGREGATE BASE
- ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAINS
- ITEM 605 AGGREGATE DRAINS

**ITEM 254. PAVEMENT PLANING, ASPHALT CONCRETE**

THE INTENT OF THE MAINLINE PLANING IS TO MILL 3.00" DOWN TO THE CONCRETE BASE FROM SLM 16.13 TO SLM 17.86

THE PROGRESSION OF THE PLANING SHALL PROCEED IN SUCH A MANNER THAT NORMAL TRAFFIC WILL NOT BE REQUIRED TO RUN OVER THE PLANED ROADWAY SURFACE MORE THAN ONE (1) CALENDAR DAY. THE 1 CALENDAR DAY SHALL BE CONSIDERED AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 1 DAY THAT NORMAL TRAFFIC IS RUNNING OVER THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES AS PER 108.07. IF A LONGITUDINAL JOINT IS EXPOSED TO TRAFFIC FOR THE 1 DAY MAXIMUM PERIOD, THE CONTRACTOR SHALL ERECT W8-9A SIGNS (UNEVEN LANES). THESE SIGNS SHALL REMAIN ONLY WHEN THE CONDITION EXISTS.

DRAINAGE SLOTS SHALL BE CUT INTO THE SHOULDER(S) AT THE LOW POINT OF EACH PLANED SECTION TO PREVENT TRAPPED WATER PUDDLES, AND REFILLED DURING RESURFACING. CUTTING AND FILLING DRAINAGE SLOTS SHALL BE INCLUDED IN PAYMENT WITH ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE.

**ITEM 251. PARTIAL DEPTH PAVEMENT REPAIR**

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING 3" ASPHALT CONCRETE ON TOP OF THE 8" CONCRETE BASE, IN AREAS OF EXISTING PAVEMENT FAILURE. THIS PAY ITEM IS NOT TO BE USED WHERE ITEM 255 CONCRETE REPAIRS WILL BE DONE.

THE ENGINEER SHALL DESIGNATE THE LOCATIONS AND LIMITS OF THE AREAS TO BE REPAIRED. PARTIAL DEPTH PAVEMENT REPAIR SHALL BE PERFORMED BEFORE PAVEMENT PLANING. THE REPAIR AREAS SHALL BE SAW CUT AND EXCAVATED TO PROVIDE STRAIGHT AND VERTICAL SURFACES AROUND THE PERIMETER OF THE REPAIR AREA. PAVEMENT PLANING MAY BE USED AS AN ALTERNATIVE TO SAW CUTTING AND EXCAVATING. THE PAVEMENT SHALL BE REMOVED WITHIN THE DESIGNATED AREAS BY METHODS WHICH WILL NOT DAMAGE ADJACENT PAVEMENT. THE MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 105.16 AND 105.17.

THE CONTRACTOR SHALL BE CAPABLE OF PERFORMING PARTIAL DEPTH PAVEMENT REPAIRS 2 FEET WIDE.

REPLACEMENT MATERIAL SHALL BE ITEM 301 OR ITEM 448, TYPE 2 MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. ALL EXISTING PAVEMENT AREAS WHICH WILL BE IN CONTACT WITH THE PARTIAL DEPTH PAVEMENT REPAIR SHALL BE COATED WITH PG GRADE LIQUID ASPHALT (SIDES AND BOTTOM) AT AN APPLICATION RATE OF 0.25 GAL. PER SQ. YD. ALL COMPACTION SHALL BE ACHIEVED BY MECHANICAL METHODS TO THE SATISFACTION OF THE ENGINEER.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PARTIAL DEPTH PAVEMENT REPAIR. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR.

QUANTITIES ARE SHOWN ON THE PAVEMENT REPAIR QUANTITY SHEETS.

**ITEM 305 8" CONCRETE BASE, AS PER PLAN**

THIS ITEM SHALL USE CLASS MS CONCRETE.

\\projects\18296\EGNot.dgn  
tjackson 3/1/2006

**ITEM 255. FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS**

ITEM 301 ASPHALT CONCRETE BASE SHALL BE USED FOR ASPHALT CONCRETE REPLACEMENT ABOVE RIGID REPAIR FROM SLM 17.86 TO SLM 20.10.

**ITEM 442. ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448)**

IF THE LONGITUDINAL JOINT IS EXPOSED TO TRAFFIC, THE CONTRACTOR SHALL ERECT W8-II-36 (UNEVEN LANES) SIGNS. THESE SIGNS SHALL ONLY REMAIN WHILE THE CONDITION EXISTS. PLACEMENT OF THESE SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-I-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN, AS DIRECTED BY THE ENGINEER. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

**ROUTINE MAINTENANCE**

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN

**ITEM 442. ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)**

ALL LONGITUDINAL PAVEMENT JOINTS SHALL BE CLOSED BEFORE THE END OF EACH WORK DAY. BEFORE THE JOINT IS EXPOSED TO TRAFFIC, THE CONTRACTOR SHALL ERECT W8-II-36 (UNEVEN LANES) SIGNS. THESE SIGNS SHALL ONLY REMAIN WHILE THE CONDITION EXISTS. PLACEMENT OF THESE SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

IN ADDITION TO SECTION 401.14 AND STANDARD DRAWING BP-3.1, TRANSVERSE, FEATHERED OR BUTT JOINTS SHALL BE SEALED WITH A 6 INCH WIDE BAND OF ASPHALT CEMENT ACROSS THE TOP SURFACE. THE LONGITUDINAL BUTT JOINT SHALL BE SEALED WITH ASPHALT CEMENT ON THE VERTICAL FACE AND 6 INCHES WIDE FROM THE VERTICAL FACE ALONG THE PLANED SURFACE BEFORE PAVING. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W-8-I-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN, AS DIRECTED BY THE ENGINEER. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

**ITEM 407 - TACK COAT  
ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE**

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.10 GAL PER SQ YD FOR ITEM 407 TACK COAT PRIOR TO PLACING THE INTERMEDIATE COURSE ASPHALT CONCRETE. THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.05 GAL PER SY FOR ITEM 407 TACK COAT FOR INTERMEDIATE COURSE PRIOR TO PLACING THE SURFACE COURSE.

**PAVEMENT CONTROL:**

AN AUTOMATIC SCREED CONTROL, HAVING A 20 FT. MINIMUM SKI-ARM, SHALL BE USED FOR PLACING THE SURFACE COURSE ON EXISTING PAVEMENT WIDTHS OF 20 FT. AND OVER.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPER-ELEVATED CURVES. THE SUPER-ELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE INTO ALL CATCH BASINS AND INLETS.

**ITEM 617. COMPACTED AGGREGATE, AS PER PLAN**

THIS ITEM OF WORK SHALL CONFORM TO ITEM 617 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS BOOK WITH EXCEPTION OF 617.02 (MATERIALS).

THE MATERIAL ON THIS PROJECT SHALL BE THE ASPHALT CONCRETE GRINDINGS RESULTING FROM ITEM 254. THE GRINDINGS USED FOR THIS WORK ARE TO BE PLACED AND COMPACTED AS DESCRIBED IN 617.05 WITH SPECIAL CARE TO CREATE PROPER COMPACTION. 100% OF THIS MATERIAL SHALL PASS A 1.5 INCH SIEVE AS JUDGED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO MEET THE TYPICAL SECTIONS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER CU. YD. OF ITEM 617 COMPACTED AGGREGATE, AS PER PLAN.

**UTILITY OWNERSHIP**

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

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

OHIO EDISON COMPANY  
2508 WEST PERKINS AVE.  
SANDUSKY, OHIO 44870  
419-627-6889

ODOT DISTRICT 3  
906 NORTH CLARK ST.  
ASHLAND, OH 44805  
419 281-0513

NORTHERN OHIO RURAL WATER  
P.O. BOX 96  
COLLINS, OHIO 44826  
419-668-7213

VERIZON  
83 TOWNSEND AVENUE  
NORWALK, OHIO 44857  
419-744-3617

ERIE COUNTY SANITARY ENGINEER  
WATER DIVISION  
2614 COLUMBUS AVE.  
SANDUSKY, OHIO 44870  
419-627-7666

BUCKEYE CABLESYSTEM  
ERIE COUNTY CABLEVISION  
409 E. MARKET STREET  
SANDUSKY, OHIO 44870  
419-627-0800

ERIE COUNTY SANITARY ENGINEER  
WASTEWATER DIVISION  
554 RIVER ROAD, BOX 469  
HURON, OH 44839  
419-433-7303

COLUMBIA GAS OF OHIO  
7080 FRY ROAD  
MIDDLEBURG HTS, OHIO 44130  
440-891-2428

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN PROXIMITY TO THE EXISTING UTILITY FACILITIES.

SECTIONS 105.06 AND 107.17 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS REQUIRE, AMONG OTHER THINGS, THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

**REVIEW OF DRAINAGE FACILITIES**

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

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



**ITEM 621 RPM. AS PER PLAN**

**MATERIALS SUPPLIED BY THE DEPARTMENT**  
 ALL MATERIALS ARE TO BE CONTRACTOR FURNISHED, EXCEPT THAT THE DEPARTMENT SHALL SUPPLY RPM MATERIALS (CASTINGS AND REFLECTORS) IN THE QUANTITIES SHOWN HEREIN TO THE CONTRACTOR. THE ABOVE WORK INCLUDING ALL LABOR, MATERIALS, AND EQUIPMENT TO INSTALL THE DEPARTMENT SUPPLIED RPM MATERIALS SHALL BE PAID FOR UNDER ITEM 621 RPM, AS PER PLAN.

AT THE PRE-CONSTRUCTION CONFERENCE AN AUTHORIZATION FOR PICK UP FORM WILL BE FURNISHED BY THE DISTRICT CONSTRUCTION ADMINISTRATOR. THE CONTRACTOR SHALL PICK UP DEPARTMENT SUPPLIED RPM MATERIALS AT THE DISTRICT THREE HEADQUARTERS IN ASHLAND, OHIO FOR TRANSPORT TO THE WORK SITE OR TO THE CONTRACTOR'S STORAGE FACILITY. THE RECYCLED RAISED PAVEMENT MARKER (RPM) AUTHORIZATION FORM IS TO BE SIGNED BY THE DISTRICT CONSTRUCTION ENGINEER PRIOR TO PICK UP OF THE RPMS. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND / OR THE PARTIES LISTED ON THE AUTHORIZATION FORM IN WRITING AT LEAST FIVE (5) CALENDAR DAYS PRIOR TO PICK UP OF THE DEPARTMENT SUPPLIED MATERIALS. THE CONTRACTOR SHALL STORE THE RPMS WITHOUT DAMAGE OR CONTAMINATION WITH FOREIGN MATTER. A DEDUCTION IN THE AMOUNT OF THE ACTUAL COST TO THE DEPARTMENT SHALL BE MADE FOR MATERIALS DAMAGED BY THE CONTRACTOR OR FOR CASTINGS RECEIVED BY THE CONTRACTOR WHICH WERE NOT INSTALLED AND WERE NOT RETURNED TO THE DEPARTMENT.

**RETURN OF NON-PERFORMED RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT.**  
 RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT, THAT ARE NON-PERFORMED SHALL BE CAREFULLY REPACKED OR PACKED IN THE BOXES IN THE SAME STYLE AND QUANTITY AS ORIGINALLY RECEIVED FROM THE DEPARTMENT. CASTING STYLES SHALL NOT BE MIXED WITHIN ANY ONE CONTAINER. THE CONTRACTOR SHALL CLEARLY MARK ON THE OUTSIDE OF EACH CONTAINER, THE COLOR OF THE PRISMATIC RETRO-REFLECTOR, AND THE STYLE OF CASTING. BOXES SHALL BE PLACED ON SKIDS OR PALLETS IN THE SAME STYLE (LOW PROFILE OR CONVENTIONAL, REFLECTORISED OR NON REFLECTORISED) AND NO MORE THAN 420 RPMS (OR 21 BOXES) ON ONE SKID.

ONLY USE THE BOXES SUPPLIED BY THE RAISED PAVEMENT MARKER RECYCLER. BOXES MUST BE MARKED WITH THE RECYCLER'S PART OR CATALOG NUMBER AND THE PROJECT NUMBER. BOXES NOT MARKED WITH THE PROPER RECYCLER'S CATALOG OR PART NUMBERS, AND THE DEPARTMENT'S PROJECT NUMBER WILL NOT BE ACCEPTED.

NON PERFORMED MATERIALS WILL BE RETURNED TO THE LOCATION AS SPECIFIED BY THE DISTRICT CONSTRUCTION ENGINEER WITHIN 30 DAYS OF THE COMPLETION OF THE PROJECT.

THE ABOVE WORK INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL NEEDED TO PERFORM THE WORK, SHALL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE PAY ITEM.

IF THE DEPARTMENT HAS TO REPACKAGE THE RPMS CORRECTLY, THE CONTRACTOR WILL BE ASSESSED THE ACTUAL COST FOR REPACKAGING THE MATERIALS BY THE DEPARTMENT'S FORCES.

**LOADING OF MATERIALS SUPPLIED BY THE DEPARTMENT**  
 TRUCKS SHALL NOT HAVE ANY OBSTRUCTIONS OR PROTRUSIONS THAT PREVENT THE LOADING BY A STANDARD FORKLIFT OR LIFT TRUCK. SEMI TRUCKS OR 20 FOOT COMMERCIAL TRUCKS ARE THE MOST APPROPRIATE TRUCKS FOR LOADS IN EXCESS OF 4 PALLETS (ONE PALLET - 21 BOXES - 2100 LBS).

STAKE BODY TRUCKS ARE APPROPRIATE TO LOAD LESS LOAD AND THE LOAD CAN BE SAFELY SECURED FOR TRANSPORT BY CHAINING OR STRAPPING DOWN AS NEEDED.

PICKUP TRUCKS ARE APPROPRIATE FOR LOADS OF APPROXIMATELY ONE PALLET, PROVIDED THE PICKUP TRUCK IS RATED FOR THE LOAD AND THE LOAD CAN BE SAFELY SECURED FOR TRANSPORT.

DUMP TRUCKS, TILT BED TRUCKS, AND NON COMMERCIAL MOVING VANS WILL NOT BE LOADED.

THE WAREHOUSE SUPERVISOR WILL REFUSE TO LOAD ANY TRUCK THAT IS UNSAFE TO LOAD OR UNSUITABLE FOR THE LOAD BEING PLACED ON THE TRUCK.

**CONNECTION OF REPLACEMENT CONDUIT INTO CATCH BASINS**

THE CONNECTION OF REPLACEMENT CONDUIT SECTIONS INTO CATCH BASINS SHALL BE DONE AS FOLLOWS: CREATE HOLE FOR CONDUIT IN CATCH BASIN WALL BY METHOD APPROPRIATE. SUBSEQUENTLY, CONCRETE MASONRY SHALL BE USED TO GROUT AROUND THE PIPE WHERE IT INSERTS THROUGH THE HOLE IN THE CATCH BASIN WALL.

**ELEVATION DATUM**

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM (NGVD 1927).

**ITEM 832 EROSION CONTROL**

THE CONTRACTOR WILL BE PAID UNDER ITEM 832 EROSION CONTROL TO SUPPLY EROSION CONTROL ITEMS FOR THE MINOR GRADING NEEDED AT THE GUARDRAIL LOCATIONS IN THE MEDIAN AND REPAIR WORK AT THE CATCH BASIN LOCATIONS.

THE CONTRACTOR IS NOT REQUIRED TO SUPPLY A STORM WATER POLLUTION PREVENTION PLAN SINCE LESS THAN AN ACRE OF EARTH WILL BE DISTURBED.

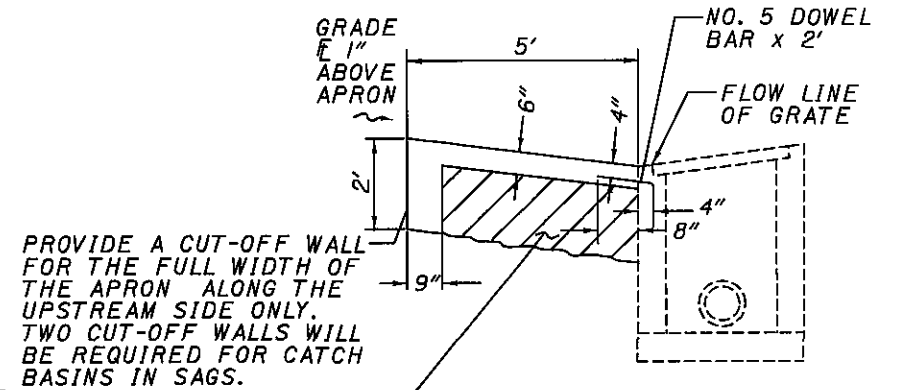
ITEM 832 EROSION CONTROL 1000 EACH  
 CARRIED TO THE GENERAL SUMMARY.

**ITEM 601 RIPRAP USING 6" REINFORCED CONCRETE SLAB**

THE CONCRETE APRON SHALL BE REPLACED AND BACKFILLED AS SHOWN HERE AND IN THE STANDARD DRAWING FOR THE PERTINENT CATCH BASIN.

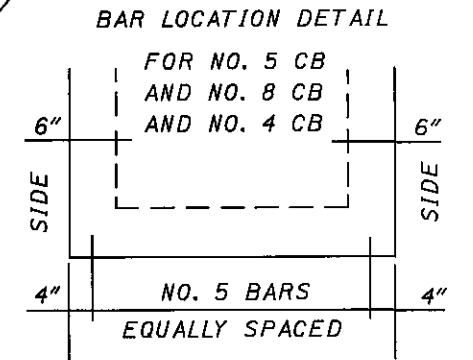
PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 601 RIPRAP USING 6" REINFORCED CONCRETE SLAB AND SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, TOOLS, AND EQUIPMENT INCIDENTAL TO COMPLETE THIS ITEM OF WORK.

FOR DETAILS NOT SHOWN, SEE STD. DWG. CB-3.1, CB-3.2, CB-3.3.



PROVIDE A CUT-OFF WALL FOR THE FULL WIDTH OF THE APRON ALONG THE UPSTREAM SIDE ONLY. TWO CUT-OFF WALLS WILL BE REQUIRED FOR CATCH BASINS IN SAGS.

AREA DISTURBED TO BE BACKFILLED WITH GRANULAR MATERIAL AS PER ITEM 603.



THE NUMBER OF BARS NEEDED ALONG EACH SIDE OF A NO. 5 OR 8 OR 4 CATCH BASIN WITH A CONCRETE APRON IS 4.

FOR DETAILS NOT SHOWN FOR CONCRETE APRON, SEE STD. DWG. FOR APPROPRIATE CATCH BASIN.

CATCH BASIN NO.	TOTAL # OF BARS FOR	
	STD. APRON	SAG. APRON
5	7	14
8	4	8
4	10	20

THE FURNISHING AND PLACING OF STEEL FOR THE 5/8" x 2 FT. DOWEL BARS SHALL BE PER 509 REINFORCING STEEL. THE DOWEL BARS SHALL BE EPOXY COATED PER 509.09. THE DOWEL BARS SHALL BE INSTALLED PER 510 OR CAST INTO THE BASIN. BOLT IN INSERTS MAY BE USED. THE 6 INCH CONCRETE APRON SHALL BE REINFORCED PER 601.04D.

**ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

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 FEET (15.24 m), INCLUSIVE OF TWO 25 FOOT (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
SS265M	ET-2000 (1997) PLAN, ELEVATION AND SECTIONS	6/20/97	3/6/98
SSI42	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SSI41	ET-2000 PLUS PLAN, ELEVATION & SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SSI58	ET-2000 PLUS 50'-0" WITH 12'-6" PANELS & HBA POSTS 1-4 PLAN, ELEVATION & SECTION	5/22/00	7/31/00

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" (3.81m) 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

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" x 18" (450mm X 450mm).

THE CONTRACTOR MAY USE A SALVAGED EXTRUDER WHEN ASSEMBLING THE ITEM 606 ANCHOR ASSEMBLY, TYPE E-98. ALL WELDS ON THE EXTERIOR OF THE SALVAGED EXTRUDER SHALL NOT BE DAMAGED AND THE FEEDER SHUTE SHALL NOT BE BENT.

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 (100mm) 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 1/4 INCHES (706mm) 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 NOT PROJECT MORE THAN 4 INCHES (100mm) ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**ITEM 606 - ANCHOR ASSEMBLY, TYPE B-98**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE SRT-350, GUARDRAIL END TERMINAL AS MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330.545.4373).

THE LENGTH OF THE SRT-350 SYSTEM IS CONSIDERED TO BE 37'-6" (11.43 m), INCLUSIVE OF THREE 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
SS444 SS444M	SRT-350 (12.5, 8 Post) Slotted Rail Terminal Post Layout and Erection Details	7/12/99 Rev. 1 7/12/99	08/27/99
SS425M	Slotted Rail Terminal SRT-350 Post Layout and Erection Details (12.5, 9 Post)	6/21/97 Rev. 1	03/6/98

2) THE FLEAT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224 (TELEPHONE: 330.346.0721).

THE LENGTH OF THE FLEAT-350 IS CONSIDERED TO BE 37'-6" (11.43 m), INCLUSIVE OF THREE 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
FLT-M	Flared Energy Absorbing Terminal (FLEAT-350) Assembly	04/16/98	07/31/98

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 (100mm) 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 1/4 INCHES (706mm) 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 NOT PROJECT MORE THAN 4 INCHES (100mm) ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B-98 IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 36 IN. WIDE x 12 IN. HIGH (915 mm W x 305 mm H) FOR THE SRT-350 AND 14 IN. WIDE x 20 IN. HIGH (350 mm W x 500 mm H) FOR THE FLEAT-350.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE B-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**GUARDRAIL REPAIR AND/OR REPLACEMENT**

THE FOLLOWING ITEMS LISTED BELOW SHALL BE USED FOR THE REPAIR AND/OR REPLACEMENT OF DAMAGED GUARDRAIL NOTICED DURING THE COMPLETION OF OTHER WORK INCLUDED IN THIS PLAN. THE ABOVE WORK SHALL BE COMPLETED AS DIRECTED BY THE ENGINEER.

- ITEM 202, GUARDRAIL REMOVED
- ITEM 202, ANCHOR ASSEMBLY REMOVED, TYPE A
- ITEM 606, GUARDRAIL, TYPE 5
- ITEM 606, ANCHOR ASSEMBLY, TYPE A
- ITEM 209 RESHAPING UNDER GUARDRAIL

**ITEM 202 - ANCHOR ASSEMBLY REMOVED, TYPE A AND BARRIER DESIGN, TYPE A**

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING ANCHOR ASSEMBLY INCLUDING ALL POSTS, HARDWARE, RAIL ELEMENTS, AND CONCRETE ANCHORS. ALL ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF.

THE EXISTING CONCRETE ANCHOR AND CONCRETE AT POSTS SHALL BE REMOVED ENTIRELY. ALL HOLES REMAINING AFTER REMOVAL SHALL BE FILLED WITH GRANULAR MATERIAL OR EXCESS MATERIAL RESULTING FROM GUARDRAIL CONSTRUCTION. ALL FILL MATERIAL SHALL BE THOROUGHLY COMPACTED AND LEVELED, AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202, ANCHOR ASSEMBLY REMOVED, BARRIER DESIGN AND ITEM 202, ANCHOR ASSEMBLY REMOVED, TYPE A.

**ITEM 209 - RESHAPING UNDER GUARDRAIL:**

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLANS.

THIS WORK SHALL BE COMPLETED AS PER CMS 209.05 AND AS DESCRIBED HEREIN, AND SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER.

THE AREA IN FRONT OF THE GUARDRAIL SHALL BE GRADED AND RESHAPED TO PROVIDE AN AREA THAT HAS A SLOPE OF 10:1 MAX.

EXCESS MATERIAL RESULTING SHALL BE USED ELSEWHERE FOR THIS ITEM IF SO DIRECTED OR DISPOSED OF PROPERLY. IF EXTRA MATERIAL IS REQUIRED IT SHALL BE PAID FOR WITH ITEM 203 - EMBANKMENT.

THE ABOVE WORK SHALL BE PAID FOR PER STATION WITH ITEM 209, RESHAPING UNDER GUARDRAIL, WITH THE EXCEPTION OF ANY EXTRA MATERIAL REQUIRED TO MEET THE SLOPE REQUIREMENTS WHICH SHALL BE PAID BY ITEM 203 - EMBANKMENT.

**CONNECTING GUARDRAIL TO EXISTING RAIL**

IN LOCATIONS WHERE TYPE 5 GUARDRAIL, TERMINAL ASSEMBLIES, ETC. ARE TO BE CONNECTED TO EXISTING RAIL SOME MODIFICATIONS MAY BE REQUIRED, INCLUDING EXTRA POSTS, DRILLING HOLES AND POSSIBLY PARTIAL SECTIONS OF ADDITIONAL RAIL ELEMENTS. THE COST OF THIS ADDITIONAL WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR TYPE 5 GUARDRAIL. IF ADDITIONAL PORTIONS OF RAIL ELEMENT ARE USED THE LINEAL MEASUREMENT OF THIS ADDITIONAL PORTION SHALL BE ADDED FOR PAYMENT.

**CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL**

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-I.I. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

**GUARDRAIL REPLACEMENT**

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

**LOCATIONS OF GUARDRAIL**

THE GUARDRAIL PROTECTION PROVIDED IN THIS PLAN SHALL BE LOCATED IN THE FIELD TO ASSURE THAT THE INSTALLATION WILL AFFORD THE MAXIMUM PROTECTION FOR TRAFFIC. THIS LOCATION SHALL BE POSITIONED AS FAR AS POSSIBLE FROM THE EDGE OF PAVEMENT WHILE MAINTAINING PROPER GRADE IN FRONT OF GUARDRAIL AS PER STANDARD DRAWINGS AND PLAN DETAILS.

# GENERAL SUMMARY

Calc'd By  
 S/CJ  
 Chkd By  
 M/S

I:/PROJECTS/18296/18296g001.XLS  
 5/1/06 4:22 B

14	16	--	20	21	22	23	24	25	27	28	29	30	32	Item	Ext	Grand Total	Unit	Description	Ref	
																			<b>ROADWAY</b>	
					1,335	40								201	21800	5	EACH	TREE REMOVED, 18" SIZE		
														202	23000	1,375	SQ YD	PAVEMENT REMOVED		
										1,775.00	1562.5			202	38000	3,337.50	FT	GUARDRAIL REMOVED		
										375.00	275			202	38300	650.00	FT	GUARDRAIL REMOVED, BARRIER DESIGN		
										3	3			202	42000	6	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A		
										5	3			202	42210	8	EACH	ANCHOR ASSEMBLY REMOVED, BARRIER DESIGN		
													460	202	54000	460	EACH	RAISED PAVEMENT MARKER REMOVED		
										130	80			203	10000	210	CU YD	EXCAVATION		
										130	80			203	20000	210	CU YD	EMBANKMENT		
										2,225.00	2143.8			209	15000	4,368.80	STATION	RESHAPING UNDER GUARDRAIL		
										1,325.00	1,218.75			606	13000	2,543.75	FT	GUARDRAIL, TYPE 5		
										212.50	175			606	13050	387.50	FT	GUARDRAIL, TYPE 5A		
										3	4			606	22000	7	EACH	ANCHOR ASSEMBLY, TYPE B-98		
										7	6			606	22010	13	EACH	ANCHOR ASSEMBLY, TYPE E-98		
										5	5			606	26500	10	EACH	ANCHOR ASSEMBLY, TYPE T		
										10	9			606	35000	19	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1		
										3	2			606	35100	5	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2		
										76	114			622	10160	190	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D		
										2	3			622	25000	5	EACH	CONCRETE BARRIER END SECTION, TYPE D		
																		<b>EROSION CONTROL</b>		
														601	11000	4	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB		
2														659	00100	2	EACH	SOIL ANALYSIS TEST		
														659	00300	6	CU YD	TOPSOIL		
										3,575	2,600			659	00510	6,187	SQ YD	SEEDING AND MULCHING, CLASS 2		
260														659	14000	260	SQ YD	REPAIR SEEDING AND MULCHING		
260														659	15000	260	SQ YD	INTER-SEEDING		
0.7														659	20000	0.7	TON	COMMERCIAL FERTILIZER		
1.08														659	31000	1.08	ACRE	LIME		
28														659	35000	28	M GAL	WATER		
	1,000													832	30000	1,000	EACH	EROSION CONTROL		
																		<b>DRAINAGE</b>		
														603	08900	12	FT	21" CONDUIT, TYPE B, 706.02		
														604	09000	1	EACH	CATCH BASIN ADJUSTED TO GRADE		
																		<b>PAVEMENT ITEMS</b>		
							1,127	192						251	01000	1,319	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR		
250														253	02000	250	CU YD	PAVEMENT REPAIR		
			3,734											254	01000	3,734	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (1.5")		
			54,804		5,957									254	01000	60,761	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (3")		
					1,571	88								255	10150	1,659	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS		
						6,326	480							255	20000	6,806	FT	FULL DEPTH PAVEMENT SAWING		
			16,224											258	10000	16,224	EACH	RETROFIT DOWEL BARS		
						28	56							301	46000	84	CU YD	ASPHALT CONCRETE BASE, PG64-22		
					1,335	40								305	12001	1,375	SQ YD	8" CONCRETE BASE, AS PER PLAN	14	
			12,513		833						66			407	10000	13,412	GALLON	TACK COAT		
			3,717		298									407	14000	4,049	GALLON	TACK COAT FOR INTERMEDIATE COURSE		
			6,678		774									408	10000	7,452	GALLON	PRIME COAT		
			6,027		347						28			442	10000	6,402	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)		
			4,331		290						32			442	10100	4,653	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)		
			696		81						30			617	10101	807	CU YD	COMPACTED AGGREGATE, AS PER PLAN	15	
			69,384											618	40100	69,384	FT	RUMBLE STRIPS, (ASPHALT CONCRETE)		

**GENERAL SUMMARY**

**ERI-2-16.13**



NOTE: EXPOSED CONCRETE BRIDGE DECKS AND EXPOSED CONCRETE APPROACH SLABS SHALL NOT BE PAVED.  
 BUTT JOINTS REQUIRED AT BEGINNING AND END OF THE PROJECT AND AT CONCRETE APPROACH SLABS.

Calcd By  
SCJ  
Chkd By  
MJS

D03-CADD-SCJ

3/1/06 8:02 AM

I:/PROJECTS/18296/18296gg001.XLS

PART	ROUTE	BEGIN LOGPOINT / SLM	END LOGPOINT / (SLM)	LENGTH	PROP WP INTERMEDIATE / PROP SURFACE WP	TYPICAL *	EXISTING PAVEMENT TYPE	INTERMEDIATE COURSE PAVEMENT AREA AT 26' WIDE	SURFACE COURSE PAVEMENT AREA AT 36' WIDE	407	407	442	442	254	254	258	COMPACTED AGGREGATE, AS PER PLAN	617	408	618				
										TACK COAT, AT 0.10 GAL / SQ YD	TACK COAT FOR INTERMEDIATE COURSE, AT 0.05 GAL/SQYD	AVG THICKNESS	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A, (446)	AVG THICKNESS	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)	PAVEMENT PLANING, ASPHALT CONCRETE (1.5 INCH DEEP)		PAVEMENT PLANING, ASPHALT CONCRETE (3 INCH DEEP)	RETORFIT DOWEL BARS	CU YD	GAL	FT		
		MILE		FEET				SQ YD	SQ YD	GAL	GAL	INCH	CU YD	INCH	CU YD		SQ YD	SQ YD		EACH		CU YD	GAL	FT
EB	SR-2	1075+50.00 (16.13)	1166+65.00 (17.86)	9,115	26/36	2	448	26,332	36,460	2,633	1,823	1.50	1,519	3.00	2,194		26,332		8,412			169	1,620	18,230
WB	SR-2	1075+50.00 (16.13)	1166+65.00 (17.86)	9,115	26/36	2	448	26,332	36,460	2,633	1,823	1.50	1,519	3.00	2,194		26,332		8,412			169	1,620	18,230
EB	SR-2	1166+65.00 (17.86)	1285+29.00 (20.10)	11,864	00/36	1	448	0	47,456	4,746	0	1.50	1,977		0		0		0			220	2,109	23,728
WB	SR-2	1166+65.00 (17.86)	1285+29.00 (20.10)	11,864	00/36	1	448	0	47,456	4,746	0	1.50	1,977		0		0		0			220	2,109	23,728
WB	RAMP 2	1166+65.00 (17.86)	1172+90.00 (17.97)	625	08/08		448	556	556	56	0	1.50	23		0		0		0			12	111	0
	TAPER																							
	RAMP 2	1180+33.45 (18.11)	1181+65.00 (18.14)	132	16/16		448	234	234	23	0	1.50	10		0		0		0			2	23	0
	ACCEL																							
	RAMP 2	R1181+65.00 (18.14)	R1183+15.00 (18.16)	150	24/24		448	400	400	40	0	1.50	17		0		0		0			3	27	0
*	TRANS																							
	RAMP 2	R1183+15.00 (18.16)	R1189+37.00 (18.28)	622	22/22		448	1,520	1,520	152	76	1.50	63	1.75	74		1,520		0			12	111	0
	RAMP																							
	RAMP 2	R1189+37.00 (18.28)	R1189+85.00 (18.29)	48	32/32		448	171	171	17	9	1.50	7	1.75	8		171		0			1	9	0
	RADIUS																							
EB	RAMP 3	1171+97.26 (17.95)	1172+97.26 (17.97)	100	08/08		448	89	89	9	0	1.50	4		0		0		0			2	18	0
	TAPER																							
	RAMP 3	1181+19.97 (18.13)	1183+04.62 (18.16)	185	16/16		448	328	328	33	0	1.50	14		0		0		0			3	33	0
	DECEL																							
	RAMP 3	R1183+04.62 (18.16)	R1184+04.11 (18.18)	99	24/24		448	265	265	27	0	1.50	11		0		0		0			2	18	0
*	TRANS																							
	RAMP 3	R1184+04.11 (18.18)	R1192+32.77 (18.34)	829	22/22		448	2,026	2,026	203	101	1.50	84	1.75	98		2,026		0			15	147	0
	RAMP																							
	RAMP 3	R1192+32.77 (18.34)	R1193+17.77 (18.35)	85	32/32		448	302	302	30	15	1.50	13	1.75	15		302		0			2	15	0
	RADIUS																							
DEDUCTIONS FOR CONCRETE BRIDGE DECKS																								
		16.13	17.86					-1,879	-2,602	-188	-130	1.50	-108	3.00	-157		-1,879		-600			-12	-116	-1300
		17.86	20.10						-26,464	-2,646		1.50	-1,103									-122	-1,176	-13,232
QUANTITIES TO MAINTAIN VERTICAL CLEARANCE UNDER BRIDGES																								
		ERI-2-1640 WB, ERI-2-1781 EB																						
		ERI-2-1833 EB																						
TOTAL CARRIED TO GENERAL SUMMARY								56,676	144,657	12,513	3,717		6,027		4,331		3,734	54,804		16,224		696	6,678	69,384

PAVEMENT DATA SHEET

ERI-2-16.13

PART	SR-13 RAMPS	BEGIN LOGPOINT / SLM	END LOGPOINT / (SLM)	LENGTH	PROP WP INTERMEDIATE / PROP SURFACE WP	TYPICAL *	EXISTING PAVEMENT TYPE	INTERMEDIATE COURSE PAVEMENT AREA, RAMP AT EXISTING WIDTH	SURFACE COURSE PAVEMENT AREA, RAMP AT EXISTING WIDTH	TACK COAT, AT 0.10 GAL / SQ YD	TACK COAT FOR INTERMEDIATE COURSE, AT 0.05 GAL/SQYD	AVG THICKNESS	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A, (446)	AVG THICKNESS	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448)	PAVEMENT PLANING ASPHALT CONCRETE, (3 INCH DEEP)	COMPACTED AGGREGATE, AS PER PLAN	PRIME COAT, 0.4 GAL/SY		
		MILE		FEET				SQ YD	SQ YD	GAL	GAL	INCH	CU YD	INCH	CU YD	SQ YD	CU YD	GAL		
EB	RAMP 5	1205+00.00	1217+00.00	1,200	08/08		448	1,067	1,067	107		1.50	44		0					
	ACCEL	(18.58)	(18.81)															22	213	
	RAMP 5	R1191+95.00	R1205+00.00	1,305	22/22		448	3,190	3,190	319	160	1.50	133	1.75	155	3,190			24	232
	RAMP	(18.33)	(18.55)																	
*	RAMP 5	R1191+05.54	R1191+95.00	89	32/32		448	318	318	32	16	1.50	13	1.75	15	318			2	16
	RADIUS	(18.31)	(18.33)																	
WB	RAMP 4	R1207+25.81	R1208+25.81	100	08/08		448	89	89	9		1.50	4		0				2	18
	TAPER	(18.62)	(18.64)																	
	RAMP 4	R1200+39.04	R1207+25.81	687	16/16		448	1,221	1,221	122		1.50	51		0				13	122
	DECEL	(18.49)	(18.62)																	
	RAMP 4	R1191+28.48	R1200+39.04	911	22/22		448	2,226	2,226	223	111	1.50	93	1.75	108	2,226			17	162
	RAMP	(18.32)	(18.49)																	
*	RAMP 4	R1190+65.75	R1191+28.48	63	32/32		448	223	223	22	11	1.50	9	1.75	11	223			1	11
	RADIUS	(18.31)	(18.32)																	
TOTAL CARRIED TO GENERAL SUMMARY								8,333	8,333	833	298		347		290		5,957		81	774

PAVEMENT DATA SHEET

ERI-2-16.13

Note: No Retrofit Dowels are to be installed in any joints that occur where Pavement Repairs are being made  
 Note: Asphalt Concrete Base Course to be installed above Full Depth Repairs from slm 17.86 to 20.10 EB  
 Note: Any Pavement Repair Area more than 20 Sq Yd shall be paid for under Item 305 Concrete Base and Item 202 Pavement Removed

202 305 255 255 301

CALC BY: SCJ  
 CHKD BY:

Note: Joints shall be skewed right edge forward at the rate of 1 ft in 6 ft, except for the first 25 joints away from the pressure relief joint, which shall not be skewed

Repair Area		Sawing Length		Repair Area		Sawing Length		Repair Area		Sawing Length		Pavement Removed (Pavement Sawing Payed Separately)	8" Concrete Base, As Per Plan	Full Depth Pavement Removal and Rigid Replacement, Class MS	Full Depth Pavement Sawing	Asphalt Concrete Base (3" Thick)	
SQ YD	FT	SQ YD	FT	SQ YD	FT	SQ YD	FT	SQ YD	FT	SQ YD	FT	SQ YD	FT	SQ YD	FT	CU YD	
<b>EB Full Depth Pavement Repair Locations</b>						<b>EB Full Depth Pavement Repair Locations</b>						<b>EB Full Depth Pavement Repair Locations</b>					
SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane	SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane	SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane
16.13	12	12	16.0	48	D	17.04	6	12	8.0	36	D	17.81	40	12	53.3	104	D
16.13	6	12	8.0	36	D	17.04	6	12	8.0	36	P	17.86	10	12	13.3	44	P
16.14	6	12	8.0	36	D	17.05	8	12	10.7	40	P	17.96	6	12	8.0	36	P
16.15	6	12	8.0	36	D	17.05	8	12	10.7	40	D	17.96	6	12	8.0	36	D
16.16	6	12	8.0	36	D							18.14	10	12	13.3	44	P
16.16	6	12	8.0	36	P							18.22	12	12	16.0	48	P
16.16	6	12	8.0	36	P							Subtotal			112	312	
16.16	6	12	8.0	36	D	17.05	71	12	94.7	166	D						
						17.17	100	12	133.3	224	D	18.26	12	12	16.0	48	P
16.29	375	12	500.0	774	D	17.22	40	12	53.3	104	D	18.44	12	12	16.0	48	P
16.39	42	12	56.0	108	D							19.02	6	12	8.0	36	P
16.43	60	12	80.0	144	D							19.05	20	12	26.7	64	P
16.44	18	12	24.0	60	D							19.06	6	12	8.0	36	D
16.44	6	12	8.0	36	D	17.53	6	12	8.0	36	D	19.07	6	12	8.0	36	D
16.46	15	12	20.0	54	D	17.54	6	12	8.0	36	D	19.07	6	12	8.0	36	D
16.48	6	12	8.0	36	D	17.55	6	12	8.0	36	D	19.07	6	12	8.0	36	P
16.50	244	12	325.3	512	D	17.56	6	12	8.0	36	D	19.08	25	12	33.3	74	D
16.56	471	12	628.0	966	D	17.57	6	12	8.0	36	D	19.08	6	12	8.0	36	P
						17.58	6	12	8.0	36	D	19.09	6	12	8.0	36	P
						17.59	6	12	8.0	36	D	19.09	6	12	8.0	36	D
						17.59	6	12	8.0	36	D	19.09	6	12	8.0	36	D
						17.60	6	12	8.0	36	D	19.10	6	12	8.0	36	D
						17.60	6	12	8.0	36	D	19.10	6	12	8.0	36	P
						17.61	6	12	8.0	36	D	19.10	6	12	8.0	36	D
						17.62	6	12	8.0	36	D	19.11	20	12	26.7	64	D
16.68	6	12	8.0	36	D	17.69	6	12	8.0	36	D	19.11	20	12	26.7	64	P
16.71	6	12	8.0	36	D	17.70	6	12	8.0	36	D	19.12	6	12	8.0	36	D
16.77	14	12	18.7	52	D	17.70	6	12	8.0	36	D	19.12	6	12	8.0	36	P
16.77	6	12	8.0	36	P	17.71	6	12	8.0	36	D	19.12	8	12	10.7	40	P
16.83	6	12	8.0	36	P	17.71	6	12	8.0	36	D	19.12	8	12	10.7	40	D
16.83	6	12	8.0	36	D	17.72	6	12	8.0	36	D						
16.97	170	12	226.7	364	D	17.72	6	12	8.0	36	D						
17.00	10	12	13.3	44	D	17.73	6	12	8.0	36	D						
						17.75	6	12	8.0	36	D						
						17.81	6	12	8.0	36	D						
<b>Total</b>			<b>2,020</b>			<b>Total</b>			<b>495</b>			<b>Total</b>			<b>391</b>		
<b>Total</b>				<b>3,630</b>		<b>Total</b>				<b>1,438</b>		<b>Total</b>			<b>1,258</b>		
												<b>Page Total (minus Item 305 qty) =</b>		<b>1,571</b>		<b>28.1</b>	
												<b>Page Total =</b>			<b>6,326</b>		

PAVEMENT REPAIR QUANTITIES

ERI - 2 - 16.13

Note: No Retrofit Dowels are to be installed in any joints that occur where Pavement Repairs are being made  
 Note: Asphalt Concrete Base Course to be installed above Full Depth Repairs from slm 17.86 to 20.10 WB  
 Note: Any Pavement Repair Area more than 20 Sq Yd shall be paid for under Item 305 Concrete Base and Item 202 Pavement Removed

202 305 255 255 301

CALC BY: SCJ  
CHKD BY:

Note: Joints shall be skewed right edge forward at the rate of 1 ft in 6 ft, except for the first 25 joints away from the pressure relief joint, which shall not be skewed

Repair Area	Sawing Length	Repair Area	Sawing Length	Repair Area	Sawing Length	Pavement Removed (Pavement Sawing Paid Separately)	8" Concrete Base, As Per Plan	Full Depth Pavement Removal and Rigid Replacement, Class MS	Full Depth Pavement Sawing	Asphalt Concrete Base (3" Thick)
						SQ YD	SQ YD	SQ YD	FT	CU YD

WB Full Depth Pavement Repair Locations						WB Full Depth Pavement Repair Locations						WB Full Depth Pavement Repair Locations										
SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane	SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane	SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane					
						19.05	6	12	8.0	36	P											
						19.05	6	12	8.0	36	D											
16.47	30	12	40.0	84	D																	
16.73	6	12	8.0	36	D																	
16.82	6	12	8.0	36	D																	
16.83	6	12	8.0	36	D																	
						19.08	6	12	8.0	36	D											
Subtotal			64.0	192																		
						19.09	6	12	8.0	36	D											
						19.09	6	12	8.0	36	P											
17.29	6	12	8.0	36	D																	
17.96	6	12	8.0	36	P																	
17.96	6	12	8.0	36	D																	
Subtotal			24	108																		
Total			88			Total			40			Total			0				Page Total		88	56
Total				300		Total				180		Total				0			Page Total		480	

PAVEMENT REPAIR QUANTITIES

ERI - 2 - 16.13

23  
61



251

EB Partial Depth Pavement Repair Locations						EB Partial Depth Pavement Repair Locations						EB Partial Depth Pavement Repair Locations						Partial Depth Pavement Repair	Sawing (For Information Only)
SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane	SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane	SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane	SQ YD	FT
16.14	4	12	5.3	32	P	16.64	80	12	106.7	184	D	19.04	4	12	5.3	32	P		
16.15	4	12	5.3	32	D	16.68	4	12	5.3	32	D	19.07	4	12	5.3	32	P		
16.17	4	12	5.3	32	D	16.71	4	12	5.3	32	D	19.08	4	12	5.3	32	P		
16.17	4	12	5.3	32	D	16.71	4	12	5.3	32	P	19.08	4	12	5.3	32	P		
16.17	4	12	5.3	32	P	16.74	4	12	5.3	32	P	19.08	4	12	5.3	32	D		
16.19	4	12	5.3	32	D	16.74	4	12	5.3	32	D	19.09	4	12	5.3	32	D		
16.21	4	12	5.3	32	D	16.75	4	12	5.3	32	P	19.09	4	12	5.3	32	P		
16.23	4	12	5.3	32	D	16.76	4	12	5.3	32	P	19.09	4	12	5.3	32	P		
16.26	4	12	5.3	32	D	16.76	4	12	5.3	32	D	19.10	4	12	5.3	32	P		
16.26	4	12	5.3	32	P	16.84	4	12	5.3	32	D	19.11	4	12	5.3	32	P		
16.27	4	12	5.3	32	D	16.84	4	12	5.3	32	D	19.11	4	12	5.3	32	D		
16.28	4	12	5.3	32	D	16.84	4	12	5.3	32	P								
16.29	4	12	5.3	32	P	16.84	4	12	5.3	32	P								
16.39	4	12	5.3	32	D	16.85	4	12	5.3	32	D								
16.39	4	12	5.3	32	D	16.86	4	12	5.3	32	D								
16.40	4	12	5.3	32	D	16.86	4	12	5.3	32	P								
16.41	4	12	5.3	32	D	16.87	4	12	5.3	32	D								
16.41	30	12	40.0	84	D	16.88	4	12	5.3	32	D								
16.45	4	12	5.3	32	D	16.88	4	12	5.3	32	P								
16.45	4	12	5.3	32	D	16.89	4	12	5.3	32	P								
16.46	4	12	5.3	32	D	16.89	4	12	5.3	32	D								
16.46	4	12	5.3	32	D	16.91	4	12	5.3	32	D								
16.46	4	12	5.3	32	D	16.91	4	12	5.3	32	P								
16.46	4	12	5.3	32	D	16.95	4	12	5.3	32	P								
16.47	4	12	5.3	32	D	16.95	4	12	5.3	32	D								
16.48	4	12	5.3	32	D	16.97	4	12	5.3	32	D								
16.50	200	12	266.7	424	D	16.97	4	12	5.3	32	P								
16.56	4	12	5.3	32	D	16.99	50	12	66.7	124	D								
16.57	4	12	5.3	32	D	16.99	100	12	133.3	224	D								
16.58	105	12	140.0	234	D	17.00	4	12	5.3	32	P								
16.61	4	12	5.3	32	D														
16.62	4	12	5.3	32	D														
16.62	4	12	5.3	32	D														
16.62	4	12	5.3	32	D														
16.64	4	12	5.3	32	P														
<b>Total</b>			617			<b>Total</b>			451			<b>Total</b>			59			<b>Page Total</b>	1,127
<b>Total</b>				1,766		<b>Total</b>				1,396		<b>Total</b>				352		<b>Page Total</b>	3,514

PAVEMENT REPAIR QUANTITIES

ERI - 2 - 16.13

WB Partial Depth Pavement Repair Locations						WB Partial Depth Pavement Repair Locations						WB Partial Depth Pavement Repair Locations						251	
SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane	SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane	SLM	WIDTH-FT	LEN-FT	SQ YD	FT	Lane	Partial Depth Pavement Repair	Sawing (For Information Only)
16.15	4	12	5.3	32	D	19.02	4	12	5.3	32	P								
16.16	4	12	5.3	32	D	19.02	4	12	5.3	32	P								
16.24	4	12	5.3	32	D	19.02	4	12	5.3	32	P								
16.27	4	12	5.3	32	D	19.02	4	12	5.3	32	D								
16.29	4	12	5.3	32	D	19.03	4	12	5.3	32	P								
16.30	4	12	5.3	32	D	19.03	4	12	5.3	32	D								
16.33	4	12	5.3	32	P	19.03	4	12	5.3	32	P								
16.33	4	12	5.3	32	D	19.03	4	12	5.3	32	P								
16.75	4	12	5.3	32	D	19.03	4	12	5.3	32	D								
16.80	4	12	5.3	32	P	19.04	4	12	5.3	32	D								
16.81	4	12	5.3	32	D	19.04	4	12	5.3	32	P								
16.81	4	12	5.3	32	D	19.05	4	12	5.3	32	D								
16.82	4	12	5.3	32	D	19.09	4	12	5.3	32	P								
16.82	4	12	5.3	32	D														
16.82	4	12	5.3	32	P														
16.83	4	12	5.3	32	D														
16.84	4	12	5.3	32	P														
16.87	4	12	5.3	32	D														
16.87	4	12	5.3	32	P														
16.94	4	12	5.3	32	P														
16.94	4	12	5.3	32	D														
16.96	4	12	5.3	32	D														
16.97	4	12	5.3	32	P														
Total			123			Total			69									Page Total	192
Total				736		Total				416								Page Total	1,152

CALC BY: SCJ  
CHK'D BY

PAVEMENT REPAIR QUANTITIES

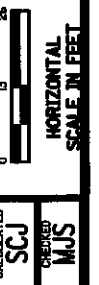
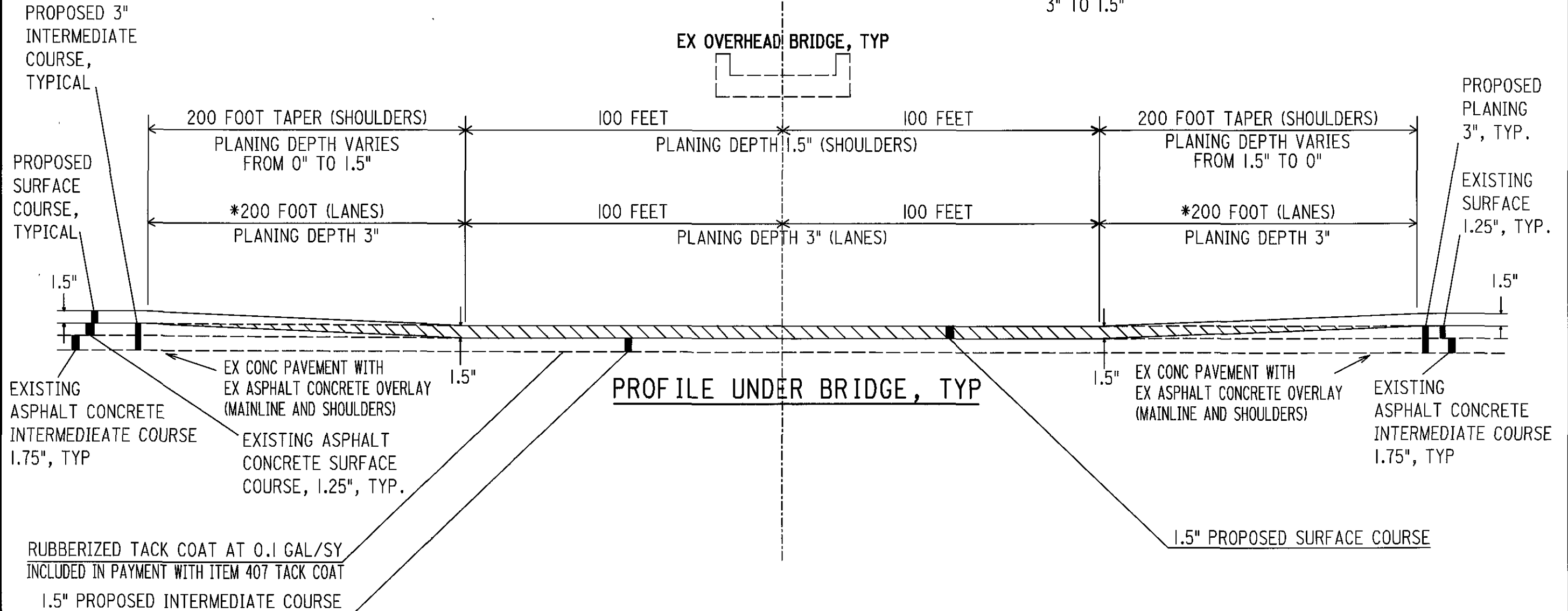
ERI - 2 - 16.13

NOTE: TRANSITION PAVEMENT DEPTH UNDER OVERHEAD BRIDGES TO PRESERVE MAXIMAL EXISTING VERTICAL CLEARANCE AT:

ERI-2-1640 WB  
ERI-2-1781 EB

ALL PAVEMENT PLANING SHOWN ON THIS SHEET SHALL BE INCLUDED FOR PAYMENT IN ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE (1.5" OR 3") AS SHOWN ON THE PAVEMENT DATA SHEETS.

\*THE PROPOSED INTERMEDIATE COURSE TAPERS FROM 3" TO 1.5"



PROFILE DETAIL UNDER OVERHEAD BRIDGE

ERI-2-16.13

I:\projects\18296\18296\18296.dgn  
3/1/2006

NOTE: TRANSITION PAVEMENT DEPTH UNDER OVERHEAD BRIDGES TO PRESERVE MAXIMAL EXISTING VERTICAL CLEARANCE AT:

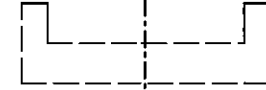
**ERI-2-1833 EB**

ALL PAVEMENT PLANING SHOWN ON THIS SHEET SHALL BE INCLUDED FOR PAYMENT IN ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE (1.5") AS SHOWN ON THE PAVEMENT DATA SHEETS.

THIS DETAIL APPLIES TO BOTH THE LANES AND SHOULDERS



EX OVERHEAD BRIDGE, TYP



PROPOSED SURFACE COURSE, TYPICAL

200 FOOT TAPER  
PLANING DEPTH VARIES FROM 0" TO 1.5"

100 FEET

PLANING DEPTH 1.5"

100 FEET

200 FOOT TAPER  
PLANING DEPTH VARIES FROM 1.5" TO 0"

EXISTING SURFACE 1.25", TYP.

1.5"

1.75"

1.5"

EXISTING ASPHALT CONCRETE INTERMEDIATE COURSE 1.75", TYP

EX CONC PAVEMENT WITH EX ASPHALT CONCRETE OVERLAY (MAINLINE AND SHOULDERS)

EXISTING ASPHALT CONCRETE SURFACE COURSE, 1.25", TYP.

PROFILE UNDER BRIDGE, TYP

EX CONC PAVEMENT WITH EX ASPHALT CONCRETE OVERLAY (MAINLINE AND SHOULDERS)

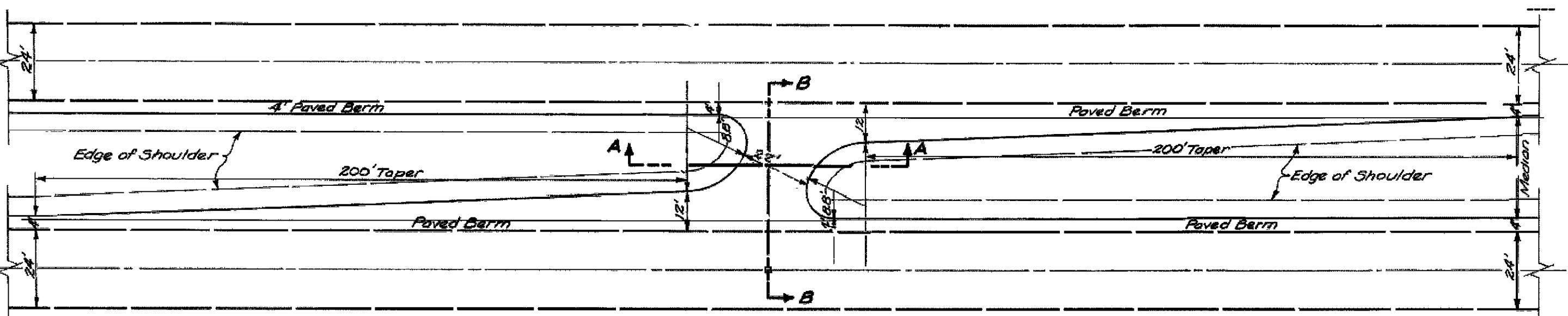
EXISTING ASPHALT CONCRETE INTERMEDIATE COURSE 1.75", TYP

1.5" PROPOSED SURFACE COURSE

1.75" EXISTING INTERMEDIATE COURSE

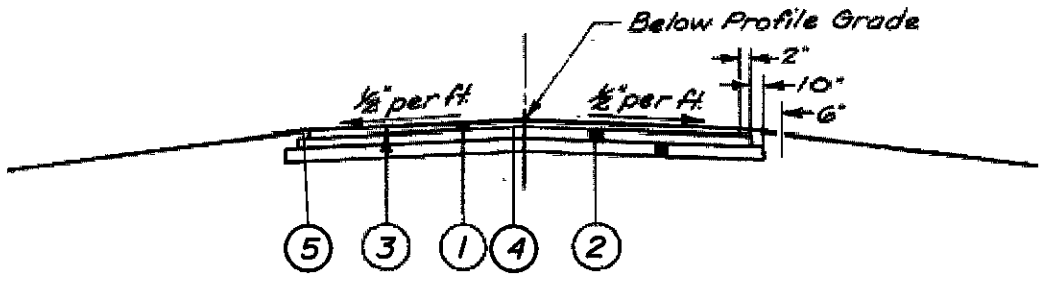
I:\projects\18296\18296\ERI-2-16.13.dgn  
tjackson 3/1/2006

PROJECTS\18296\E2Xover.dgn  
 3/1/2006  
 JACKSON

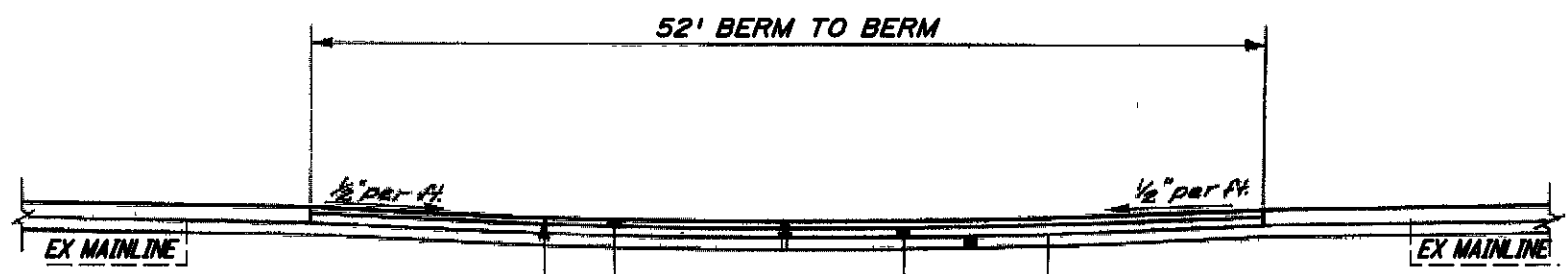


**CROSSOVER**

LOCATIONS  
 STA 1157+56 ERI-2 SLM 17.61  
 STA 1230+43 ERI-2 SLM 18.99



**SECTION A-A**



**SECTION B-B**

**PROPOSED LEGEND**

- ① ITEM 442, ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, (446) 1.5"
- ② ITEM 442, ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A, (448) 1.75"
- ③ ITEM 407, TACK COAT
- ④ ITEM 407, TACK COAT FOR INTERMEDIATE COURSE
- ⑤ ITEM 617, COMPACTED AGGREGATE, AS PER PLAN

ITEM	DESCRIPTION	INCHES	SY	CY	QTY	TOTAL
	ENTIRE X-OVER MINUS BERM		327			
442	ASPHALT CONCRETE SURFACE COURSE, 12.5MM	1.5	327	14	2	28 CY
442	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM	1.75	327	16	2	32 CY
407	TACK COAT 0.1 GAL/SY =33 GAL				2	66 GAL
407	TACK COAT 0.05 GAL/SY =17 GAL				2	34 GAL
617	COMPACTED AGGREGATE, AS PER PLAN	3.5	154	15	2	30 CY
PERIMETER = 904 FT			TOTALS CARRIED TO GEN. SUM.			

EASTBOUND GUARDRAIL QUANTITIES				202	202	202	202	203	203	209	606	606	606	606	606	606	606	622	622	626	626	626	626	659	CALC BY SCJ CHKD BY MJS	
BEGIN STATION	END STATION	LOCATION	SIDE	GUARDRAIL REMOVED FT	GUARDRAIL REMOVED, BARRIER DESIGN FT	ANCHOR ASSEMBLY REMOVED, TYPE A EACH	ANCHOR ASSEMBLY REMOVED, BARRIER DESIGN EACH	EXCAVATION CU YD	EMBANKMENT CU YD	RESHAPING UNDER GUARDRAIL STA	GUARDRAIL, TYPE 5 FT	GUARDRAIL, TYPE 5A FT	ANCHOR ASSEMBLY, TYPE B-98 EACH	ANCHOR ASSEMBLY, TYPE E-98 EACH	ANCHOR ASSEMBLY, TYPE T EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH	CONCRETE BARRIER, SINGLE SLOPE, TYPE D FT	CONCRETE BARRIER END SECTION, TYPE D EACH	BARRIER REFLECTOR, TYPE A (WHITE) EACH	BARRIER REFLECTOR, TYPE A (YELLOW) EACH	BARRIER REFLECTOR, TYPE B (WHITE) EACH	BARRIER REFLECTOR, TYPE B (YELLOW) EACH	SEEDING AND MULCHING, CLASS 2 SQ YD		
1088+27.5 (16.35)	1090+27.5 (16.39)	BRG OH (US-6)	RT	175		1				200	100	37.5		1	1					5						
1089+37. (16.37)	1091+37 (16.41)	BRG OH (US-6)	MED	200				10	10	150	50	37.5		1	1						4				325	
1108+85.5 (16.74)	1109+10.5 (16.74)	ML BRG (RR)	RT	31.25						31.25	31.25					1				8		2				
1107+10.5 (16.70)	1109+10.5 (16.74)	ML BRG (RR)	MED	75	100		1	20	20	187.5	150		1			1					3		2		650	
1111+62.4 (16.79)	1111+87.4 (00.05)	ML BRG (RR)	RT	25						25	25						1				13					
1122+05.5 (16.99)	1122+30.5 (16.99)	ML BRG (BOGART)	RT	31.25						31.25	31.25					1							2			
1120+32. (16.95)	1122+32. (16.99)	ML BRG (BOGART)	MED	75	100		1	20	20	187.5	150		1			1					3		2		650	
1123+72. (17.02)	1123+97. (17.02)	ML BRG (BOGART)	RT	25						25	25						1				5					
1163+72.5 (17.79)	1165+85. (17.83)	BRG OH (AVERY)	RT	225		1				212.5	100			1		1		38	1	4		2				
1163+97.5 (17.79)	1166+22.5 (17.83)	BRG OH (AVERY)	MED	200				10	10	212.5	100	50		1	1						4				325	
1172+87. (17.94)	1173+12. (17.94)	ML BRG MUD BROOK	RT	31.25						31.25	31.25					1					2		8			
1171+06. (17.91)	1173+06. (17.94)	ML BRG MUD BROOK	MED	75	100		1	20	20	187.5	150		1			1					4		8		650	
1181+04. (18.09)	1181+41.5 (18.10)	ML BRG MUD BROOK	RT	25						75	25	37.5			1		1				2					
1189+75. (18.28)	1192+75. (18.29)	BRG OH SR 13	RT	275		1				300	150			1		1		38	1		2		2			
1190+36. (18.28)	1191+12. (18.32)	BRG OH SR 13	MED	175				10	10	137.5	25	50		1	1						3				325	
1231+29. (19.05)	1233+29. (19.08)	ML BRG HURON RIVER	MED	100	75		1	20	20	200	150			1		1					4				650	
1232+92. (19.08)	1233+29. (19.08)	ML BRG HURON RIVER	MED	31.25			1	20	20	31.25	31.25					1					2					
TOTALS CARRIED TO GENERAL SUMMARY				1775.00	375.00	3	5	130	130	2225	1325	212.50	3	7	5	10	3	76	2	41	27	14	14	3575		

GUARDRAIL SUB-SUMMARY (EASTBOUND)

ERI-2-16.13

5/1/06 12:00 AM I:\projects\18296\GrQuan01.xls CAD-SCJ

5/1/06 12:00 AM I:\projects\18296\GrQuan01.xls CAD-scj

WESTBOUND GUARDRAIL QUANTITIES				202	202	202	202		203	203	622	209	622	606	606	606	606	606	606		626	626	626	626		659	
BEGIN STATION / SLM	END STATION / SLM	LOCATION	SIDE	GUARDRAIL REMOVED	GUARDRAIL REMOVED, BARRIER DESIGN	ANCHOR ASSEMBLY REMOVED, TYPE A	ANCHOR ASSEMBLY REMOVED, BARRIER DESIGN		EMBANKMENT	EXCAVATION	CONCRETE BARRIER END SECTION, TYPE D	RESHAPING UNDER GUARDRAIL	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 5A	ANCHOR ASSEMBLY, TYPE B-98	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2		BARRIER REFLECTOR, TYPE A (WHITE)	BARRIER REFLECTOR, TYPE A (YELLOW)	BARRIER REFLECTOR, TYPE B (WHITE)	BARRIER REFLECTOR, TYPE B (YELLOW)		SEEDING AND MULCHING, CLASS 2
				FT	FT	EACH	EACH		CU YD	CU YD	EACH	STA	FT	FT	FT	EACH	EACH	EACH	EACH	EACH		EACH	EACH	EACH	EACH		SQ YD
1090+37.5 (16.40)	1092+37.5 (16.44)	BRG OH (US-6)	LT	175		1					1	200	38	50	37.5		1	1				5					
1089+37. (16.38)	1091+37. (16.42)	BRG OH (US-6)	MED	200					10	10		150		50	37.5		1	1						4			325
1109+23.5 (16.78)	1109+48.5 (16.78)	ML BRG (RR)	LT	25								25		25					1			10		2			
1111+62.4 (16.83)	1113+62.4 (16.87)	ML BRG (RR)	MED	75	100		1		20	20		187.5		150		1			1				4		2		650
1111+62.4 (16.82)	1111+87.4 (16.83)	ML BRG (RR)	LT	31.25								31.25		31.25					1			12					
1122+05.5 (17.04)	1122+30.5 (17.04)	ML BRG (BOGART)	LT	25								25		25					1					2			
1123+76. (17.07)	1125+76. (17.11)	ML BRG (BOGART)	MED	75	100		1		20	20		200		150		1			1				3		2		650
1123+78. (17.06)	1124+03. (17.07)	ML BRG (BOGART)	LT	25								25		25					1			5					
1166+07.5 (17.77)	1168+82.5 (17.82)	BRG OH (AVERY)	LT	225		1					1	275	38	150			1		1			4			3		
1164+28. (17.74)	1165+90. (17.77)	BRG OH (AVERY)	MED	100					10	10		212.5		50	50		1	1					4				325
1180+20. (17.91)	1181+70. (17.94)	ML BRG MUD BROOK	LT	25								31.25		31.25					1			1		8			
1180+11. (17.91)	1182+11. (17.94)	ML BRG MUD BROOK	MED	75					20	20		187.5		150		1			1				3		8		650
1190+50 (18.30)	1192+75. (18.35)	BRG OH SR 13	LT	200		1					1	225	38	125		1		1				2					
1190+84. (18.31)	1192+84. (18.35)	BRG OH SR 13	MED	175								137.5		25	50		1	1				3					
1259+62 (19.61)	1261+62 (19.65)	ML BRG HURON RIVER	MED	100	75		1					200		150			1		1			5					
1254+74. (19.52)	1255+12. (19.53)	ML BRG HURON RIVER	RT	31.25								31.25		31.25					1			2					
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				1562.50	275.00	3	3		80	80	3	2143.8	114	1218.75	175.00		4	6	5	9	2		49	18	12	15	2600

CALC BY: SCJ  
CHK'D BY: MJS

**GUARDRAIL SUB-SUMMARY (WESTBOUND)**

**ERI-2-16.13**

29  
61

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63

DESIGN FILE: h:\projects\18260\ER16.dgn  
WORKSTATION: t\jackson DATE: 3/1/2006

APPROX. SLM		604	603	659	659	201	601																			
		CATCH BASIN ADJUSTED TO GRADE	21" CONDUIT, TYPE B 706.02	SEEDING AND MULCHING, CLASS 2	TOPSOIL	TREE REMOVED, 18" SIZE	RIPRAP USING 6" REINFORCED CONCRETE SLAB																			
		each	ft	sq yd	cu yd	each	sq yd																			
17.37 (CONDUIT, RT)						5																				
17.69 MEDIAN CB APRON				4	2																					
17.97 MEDIAN AND CB			12	4	2																					
19.1 MEDIAN CB				4	2		4																			
19.01 MEDIAN CB		1																								
TOTALS TO GENERAL SUMMARY		1	12	12	6	5	4																			

CHECKED  
MJS

DRAINAGE SUB-SUMMARY

ERI-2-16.13



\* GORE WITH TRANSVERSE LINES

# RAISED PAVEMENT MARKERS

LOCATION				D E T A I L	621		PRISMATIC RETRO-REFLECTOR TYPES					REMARKS	
DIR.	LANE	STA. SECTION			RPM, AS PER PLAN (EACH)			ONE - WAY		TWO - WAY			
		FROM	TO			WHITE	YELLOW	YELLOW/ YELLOW	WHITE/ RED	YELLOW/ RED			
EB	ML	1075+50	1285+29	5	175		175					4-LANE DIVIDED	
WB	ML	1075+50	1285+29	5	175		175					4-LANE DIVIDED	
SR-13 INTERCHANGE													
EXIT													
EB	RAMP 2	R-1186+07	R-1189+37	2	13					13		INTERCHANGE AT SR-13	
EB	GORE	R-1183+96	R-1186+07	2	20					20		INTERCHANGE AT SR-13	
ENTRY													
WB	RAMP 3	R-1176+82	R-1192+70	3	21					21		INTERCHANGE AT SR-13	
WB	GORE	R-1166+11	R-1176+82	3	6					6		INTERCHANGE AT SR-13	
ENTRY													
EB	RAMP 4	R-1189+35	R-1203+50	2	22					22		INTERCHANGE AT SR-13	
EB	GORE	R-1203+50	R-1207+88	2	6					6		INTERCHANGE AT SR-13	
EXIT													
WB	RAMP 5	R-1191+75	R-1203+71	3	17					17		INTERCHANGE AT SR-13	
WB	GORE	R-1203+71	R-1206+45	3	17					17		INTERCHANGE AT SR-13	
TOTAL CARRIED TO GENERAL SUMMARY					472		350		49	73			

DETAIL	
1	MULTILANE UNDIVIDED
1	TYPICAL SPACING
2	TAPERED ACCEL LANE
3	DECELERATION LANE
4	PARALLEL ACEL LANE
5	MULTILANE DIVIDED/ EXPRESSWAY
6	STOP APPROACH
7	1 LANE APPR. W/LT. TURN LANE
8	THRU APPROACH
9	2 LANE APPR. W/LT TURN LANE
10	4 LANE DIVIDED TO 2 LANE TRANSITION
11	4 LANE UNDIVIDED TO 2 LANE TRANSITION
12	TWO LANE NARROW BRIDGE
13	TWO WAY LEFT TURN LANE
14	ONE LANE BRIDGE
15	HORIZONTAL CURVE
16	HORIZONTAL CURVE ALT.
17	STOP APPROACH ALT.
GAP	CENTERLINE AT 24.4m TYP.

RAISED PAVEMENT MARKER QUANTITIES

ERI-2-16.13



STRUCTURE ERI-2-1640

(SFN 2201860)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
512	10100	1034	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	10400	1015	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	

STRUCTURE ERI-2-1678L

(SFN 2201186)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	3.5	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
509	10000	1056	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	78	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34401	7	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)	38
512	10100	300	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	10400	802	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
516	13600	20	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	

STRUCTURE ERI-2-1678R

(SFN 2201194)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	3.5	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
202	98200	96	FT	REMOVAL MISC.: ELASTOMERIC STRIP SEAL	37
509	10000	1056	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	78	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34401	7	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)	38
512	10100	300	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	10400	802	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
516	01301	96	FT	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN	38
516	13600	20	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	

I:\projects\18296\structure\strquant.dgn  
 fackson 3/1/2006

DWG NO. 33  
 61

STRUCTURE SUMMARY

ERI-2-16.13

DISTRICT AGENCY 0007  
 DISTRICT THREE

DATE 2/06  
 REVIEWED DCN  
 STRUCTURE FILE NUMBER  
 DRAWN BTR  
 CHECKED DIV

33/61

**STRUCTURE ERI-2-1701L (SFN 2201208)**

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	4.5	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
509	10000	822	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	90	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34401	5	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)	38
512	10100	518	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	10400	611	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
516	13600	1	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	
601	28000	18	CU YD	DUMPED ROCK FILL, TYPE D	

**STRUCTURE ERI-2-1701R (SFN 2201216)**

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	4.5	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
509	10000	822	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	90	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34401	5	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)	38
512	10100	518	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	10400	611	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
516	13600	1	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	
601	28000	4	CU YD	DUMPED ROCK FILL, TYPE D	

**STRUCTURE ERI-2-1781 (SFN 2201224)**

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	.6	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
202	98200	114	FT	REMOVAL MISC.: ELASTOMERIC STRIP SEAL	37
511	71100	.6	CU YD	CONCRETE MISC.: ABUTMENT REPAIR	38
512	10100	1176	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	10400	1456	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
512	73500	1	SQ YD	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
516	01301	114	FT	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN	38
526	98100	2	SQ YD	APPROACH SLABS, MISC.: PATCHING	38-39

I:\projects\18296\structure\strquant.dgn  
 t/jackson 3/1/2006

DISTRICT AGENCY  
 ODOT  
 DISTRICT THREE  
 DATE 2/06  
 DCW  
 STRUCTURE FILE NUMBER  
 DRAWN BTR  
 REVISED  
 POSTED BTR  
 CHECKED DJV  
**STRUCTURE SUMMARY**  
 ERI-2-16.13  
 34  
 61

STRUCTURE ERI-2-1798L

(SFN 2201003)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	3	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
509	10000	704	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	52	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34401	5	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)	38
512	10100	23	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
516	13600	14	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	

STRUCTURE ERI-2-1798R

(SFN 2201011)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	4	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
509	10000	1056	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	78	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34401	7	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)	38
512	10100	35	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
516	13600	20	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	

STRUCTURE ERI-2-1833

(SFN 2202425)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
512	10100	928	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	10400	1145	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	

I:\projects\18296\struct\strquant.dgn  
tjackson 3/1/2006

ODOT  
DISTRICT THREE

DATE 2/06  
DCM  
STRUCTURE FILE NUMBER

DESIGNED BY BTR  
CHECKED BY DJV

STRUCTURE SUMMARY

ERI-2-16.13

STRUCTURE ERI-2-1911L (SFN 2201038)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	4.2	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
509	10000	822	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	90	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34401	5.1	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)	38
512	10100	54	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	

STRUCTURE ERI-2-1911R (SFN 2201046)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	4.2	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	37
509	10000	822	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	90	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34401	5.1	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)	38
512	10100	51	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	

I:\projects\18296\struct\strquant.dgn  
tjackson 3/1/2006

DESIGN AGENCY  
ODOT  
DISTRICT THREE

DATE  
2/06  
DCW  
STRUCTURE FILE NUMBER

DRAWN  
BTR  
CHECKED  
DJV

STRUCTURE SUMMARY

ERI-2-16.13

36  
61

**REFERENCES SHALL BE MADE TO STANDARD DRAWINGS:**

BR-1	DATED	7/19/02	MT-98.15	DATED	7/16/04
EXJ-4-87	DATED	7/19/02	MT-98.16	DATED	4/19/02
MT-35.10	DATED	4/20/01	MT-105.10	DATED	10/18/02
MT-95.30	DATED	7/16/04	MT-105.11	DATED	10/18/02
MT-97.10	DATED	4/19/02			

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING THE 2003 AND 2004 SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

**EXISTING STRUCTURE VERIFICATION:**

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

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

**EXISTING PLANS:**

THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGES ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OH.

**DESIGN DATA:**

CONCRETE CLASS FS - COMPRESSIVE STRENGTH 4,500 PSI  
CONCRETE CLASS S - COMPRESSIVE STRENGTH 4,500 PSI

**PLACING ASPHALT CONCRETE FEATHERING ON APPROACHES TO BRIDGES:**

SPECIAL CARE SHALL BE TAKEN, WHEN PLACING THE ASPHALT CONCRETE FEATHERING TO EFFECT A SMOOTH TRANSITION FROM THE EXISTING APPROACH PAVEMENT TO THE BRIDGE DECK OR APPROACH SLAB. THE CONTRACTOR'S ATTENTION IS CALLED TO STANDARD DRAWING BP-3.1 FOR REQUIRED TOLERANCES; SPECIFICALLY, THE CONTRACTOR SHALL PROVIDE A 600:1 TAPER RATE FOR PLANING OPERATIONS.

**CUT LINE CONSTRUCTION JOINT PREPARATION:**

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL IN PLACE. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

**ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:**

THIS ITEM SHALL BE USED AT LOCATIONS IN THE PLAN.

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE CURB, APPROACH SLAB, AND PARAPET AS INDICATED IN THE PLANS.

THE USE OF HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF THE HAMMER SHALL BE APPROVED BY THE ENGINEER.

THE EXISTING REINFORCING STEEL SHALL BE PRESERVED AS INDICATED IN THE PLANS. EXISTING CURB, APPROACH SLAB, AND PARAPET CONCRETE SHALL BE REMOVED IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 202- PORTIONS OF STRUCTURE REMOVED, AS PER PLAN WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 202- REMOVAL MISC.: ELASTOMERIC STRIP SEAL:**

THIS ITEM SHALL BE USED TO REMOVE THE EXISTING SEAL IN THE EXPANSION JOINT RETAINERS.

ANY DAMAGED DONE TO THE JOINT OR STEEL RETAINERS SHALL BE REPAIRED BY THE CONTRACTOR, AFTER APPROVAL BY THE ENGINEER, WITH NO ADDITIONAL COST TO THE STATE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR ITEM 202- REMOVAL MISC.: ELASTOMERIC STRIP SEAL, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

I:\projects\18296\struct\strnotes.dgn  
tjackson 3/1/2006

DISTRICT 3  
OFFICE OF PRODUCTION

DATE 2/06  
DCM

BTR  
D/JV

STRUCTURE GENERAL NOTES

ERI-2-16.13

**ITEM 511 - CONCRETE, MISC.: ABUTMENT REPAIR:**

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN.

THE CONCRETE SHALL BE CLASS FS AND MEET THE REQUIREMENTS OF CMS EXCEPT THAT LIMESTONE FOR THE COARSE AGGREGATE SHALL BE USED.

ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND AND ALL PRESERVED REINFORCING STEEL SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND OTHER CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 511- CONCRETE, MISC.: ABUTMENT REPAIR WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 511 - CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION):**

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN.

THE COARSE AGGREGATE SHALL BE LIMESTONE.

ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND OTHER CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 511- CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 512 - TREATING CONCRETE BRIDGE DECK WITH GRAVITY-FED RESIN:**

THIS WORK SHALL CONSIST OF PREPARING AND TREATING THE CONCRETE BRIDGE DECK AND APPROACH SLAB PATCH JOINTS WITH A GRAVITY-FED CRACK WELDING SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURES RECOMMENDATIONS AND AS DIRECTED BY THE ENGINEER.

SEAL THE CONSTRUCTION JOINTS AROUND THE PATCHES ON THE APPROACH SLABS ON ERI-2-1781 4" WIDE, 2" ON EACH SIDE OF CRACK. THE QUANTITY SHALL BE THE AREA IN SQUARE YARDS OF THE EXPOSED SURFACE, IRRESPECTIVE OF THE DEPTH OF THE JOINT, COMPLETE, IN PLACE AND ACCEPTED.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 512- TREATING CONCRETE BRIDGE DECK WITH GRAVITY-FED RESIN, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN:**

THE ELASTOMERIC STRIP SEAL REPLACEMENT SHALL MATCH THE EXISTING TYPE. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE TYPE AND MANUFACTURER OF THE EXISTING STRIP SEAL. THE EXISTING PLANS CALLED FOR THE S400E NEOPRENE EXTRUSION AS MANUFACTURED BY WATSON BOWMAN ACME, 95 PINEVIEW DRIVE, AMHERST, NEW YORK 14228, PHONE\* 800-677-4922 EXT. 253; OR APPROVED EQUAL AS NOTED. THE EXISTING PLANS CALLED FOR THE NO. 500 SEAL MANUFACTURED BY THE D.S. BROWN COMPANY, 300 EAST CHERRY ST, NORTH BALTIMORE, OHIO, 45872, PHONE \* 419-257-3561.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR ITEM 516- ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.  
A. DESCRIPTION

**ITEM 526 - APPROACH SLABS, MISC.: PATCHING:**

THIS ITEM SHALL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO REPAIR THE EXISTING CONCRETE APPROACH SLABS INCLUDING THE REMOVAL OF LOOSE AND UNSOUND CONCRETE, BITUMINOUS PATCHES, SURFACE PREPARATION, SAW CUTTING, AND THE STRENGTH TESTING OF ALL THE PATCHES AS DIRECTED BY THE ENGINEER.

B. REMOVAL OF UNSOUND CONCRETE

THE ENGINEER SHALL VISUALLY INSPECT THE EXISTING CONCRETE APPROACH SLABS AND OUTLINE THE AREAS TO BE REMOVED.

THE PERIMETER OF THE REMOVAL AREAS SHALL BE SAWED TO A DEPTH OF 3/4 INCH TO PRODUCE A VERTICAL OR SLIGHTLY UNDERCUT FACE. AT EACH CORNER OF THE PATCH THE SAW CUTS SHALL COME TOGETHER WITHOUT ANY OVERCUTTING WITH THE SAW. THE CORNERS SHALL BE CHIPPED DOWN TO THE SAW MARKS. ADDITIONAL SAW CUTS MAY BE REQUIRED TO FACILITATE REMOVAL WITHOUT ANY OVERCUTTING. COOLING WATER FROM WET SAWING AND DUST FROM SAWING SHALL BE IMMEDIATELY REMOVED FROM THE EXPOSED PATCH HOLES BEFORE ANY DRYING CAN OCCUR.

UN SOUND CONCRETE INCLUDING ALL PATCHES OTHER THAN SOUND PORTLAND CEMENT CONCRETE, AND ALL OBVIOUSLY LOOSE AND DISINTEGRATED CONCRETE SHALL BE REMOVED. THE UNSOUND CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NORMAL 15 POUND CLASS AND SHALL BE OPERATED AT AN ANGLE LESS THAN 45 DEGREES MEASURED FROM THE SURFACE OF THE DECK. CONCRETE SHALL BE REMOVED IN A MANNER THAT PREVENTS CUTTING, ELONGATING OR DAMAGING REINFORCING STEEL. WHERE THE BOND BETWEEN THE CONCRETE AND A REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM 3/4 INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICABLE. REINFORCEMENT WHICH HAS BECOME LOOSE SHALL BE ADEQUATELY SUPPORTED AND TIED BACK INTO PLACE. ALL REMOVED ASPHALT AND CONCRETE SHALL BE DISPOSED OF PROPERLY OUTSIDE THE RIGHT OF WAY.

it:\projects\18296\struct\strnotes.dgn  
tjackson 3/1/2006

DISTRICT 3  
OFFICE OF PRODUCTION

DATE  
2/06

DCM

BTR

BTR  
DJV

STRUCTURE GENERAL NOTES

ERI-2-16.13



**ITEM 526 - APPROACH SLABS, MISC.: PATCHING  
(CONTINUED):**

**C. SURFACE PREPARATION**

CLEANING SHALL CLOSELY PRECEDE APPLICATION OF THE PATCHING MATERIAL. THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING (SILICA SAND SHALL NOT BE USED) FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL.

CONTAMINATION OF THE AREA TO BE PATCHED BY CONSTRUCTION EQUIPMENT OR FROM ANY OTHER SOURCE SHALL BE PREVENTED BY PLACEMENT OF A CLEAN 4 MIL POLYETHYLENE SHEET (OR ANY OTHER COVERING AS APPROVED BY THE ENGINEER) ON THE SURFACE OF THE DECK FOLLOWING THE AIR BLAST CLEANING.

WHERE REINFORCING STEEL IS EXPOSED, THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORTS FOR THE CONCRETE MIXER SO THAT REINFORCING STEEL AND ITS BOND WITH THE CONCRETE WILL NOT BE DAMAGED BY THE WEIGHT AND MOVEMENT OF THE MIXER, OR SHALL PROVIDE MEANS TO CONVEY CONCRETE FROM THE MIXER TO THE PATCH LOCATIONS.

**D. MATERIALS, PLACING, AND CURING**

THE APPROACH SLABS SHALL BE PATCHED WITH CLASS FS CONCRETE WHICH SHALL MEET THE REQUIREMENTS OF CMS EXCEPT THAT LIMESTONE FOR COARSE AGGREGATE SHALL BE USED.

**E. PLACING**

WHEN NIGHT WORK IS USED THE CONTRACTOR SHALL SUBMIT A PLAN WHICH PROVIDES ADEQUATE LIGHTING FOR THE WORK AREA. THE PLAN SHALL BE SUBMITTED AT LEAST 15 CALENDAR DAYS IN ADVANCE AND BE APPROVED BY THE ENGINEER BEFORE CONCRETE IS PLACED. THE LIGHTS SHALL BE SO DIRECTED THAT THEY DO NOT AFFECT OR DISTRACT APPROACHING TRAFFIC.

THE PATCHING MATERIAL SHALL BE PLACED, CONSOLIDATED AND FINISHED TO THE EXISTING GRADE AND ELEVATION. PATCHES GREATER THAN 50 SQUARE FEET IN AREA SHALL HAVE TEMPORARY BULKHEADS INSTALLED TO FACILITATE PLACEMENT AND FINISHING. THE TEMPORARY BULKHEADS SHALL GO AS DEEP AS THE PATCH AND BE PULLED PRIOR TO THE CONCRETE SETTING. PATCHES EXCEEDING 50 SQUARE FEET SHALL BE STRUCK OFF WITH A SCREED. SMALLER PATCHES THAT ARE UNDER 10 FEET IN LENGTH SHALL BE SCREED LONGITUDINALLY. FOR PATCHES OVER 10 FEET IN LENGTH, THE SCREED SHALL BE PLACED PERPENDICULAR TO THE ROADWAY CENTERLINE.

THE CONTRACTOR SHALL TEST THE SURFACE OF THE PLASTIC CONCRETE FOR TRUENESS AND FOR BEING FLUSH WITH THE EDGES OF THE ADJACENT SURFACES BY USE OF A 10 FOOT STRAIGHTEDGE. FOR PATCHES 10 FEET OR LESS IN LENGTH, THE STRAIGHTEDGE SHALL BE DONE BY PLACING THE STRAIGHTEDGE PARALLEL TO THE BRIDGE CENTERLINE WITH ENDS RESTING ON THE EXISTING WEARING SURFACE AND DRAWING THE STRAIGHTEDGE ACROSS THE PATCH. ANY HIGH OR LOW AREAS EXCEEDING 1/8 INCH IN 10 FEET SHALL BE CORRECTED. IF ANY CORRECTIONS ARE MADE, THE SURFACE SHALL BE RECHECKED.

**F. FINISHING**

AFTER THE PATCHES HAVE BEEN CONSOLIDATED AND FINISHED, THEY SHALL BE TEXTURED IN ACCORDANCE TO SECTION 451.09 OF THE CMS.

**G. INSPECTION, SOUNDING, AND REPAIR OF CONCRETE PATCHES**

AFTER CURING AND BEFORE FINAL ACCEPTANCE, ALL PATCHED AREAS SHALL BE INSPECTED AND SOUNDED. ALL DELAMINATED AREAS SHALL BE REMOVED AND REPATCHED ACCORDING TO THIS NOTE.

ALL CRACKS IN BONDED PATCHES SHALL BE SEALED WITH AN APPROVED HIGH MOLECULAR WEIGHT METHACRYLATE SEALER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SECTION 512.04 OF CMS.

ALL REPLACEMENT OF REJECTED AREAS AND SEALING OF CRACKS IN NEW BONDED PATCHES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM.

**H. METHOD OF MEASUREMENT**

THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE YARDS OF THE EXPOSED SURFACE OF ALL PATCHES, IRRESPECTIVE OF THE DEPTH OF THE PATCH, COMPLETE, IN PLACE AND ACCEPTED.

**I. BASIS OF PAYMENT**

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
526	SQUARE YARD	APPROACH SLABS, MISC.: PATCHING

I:\projects\18296\struct\strnotes.dgn  
tjackson 3/1/2006

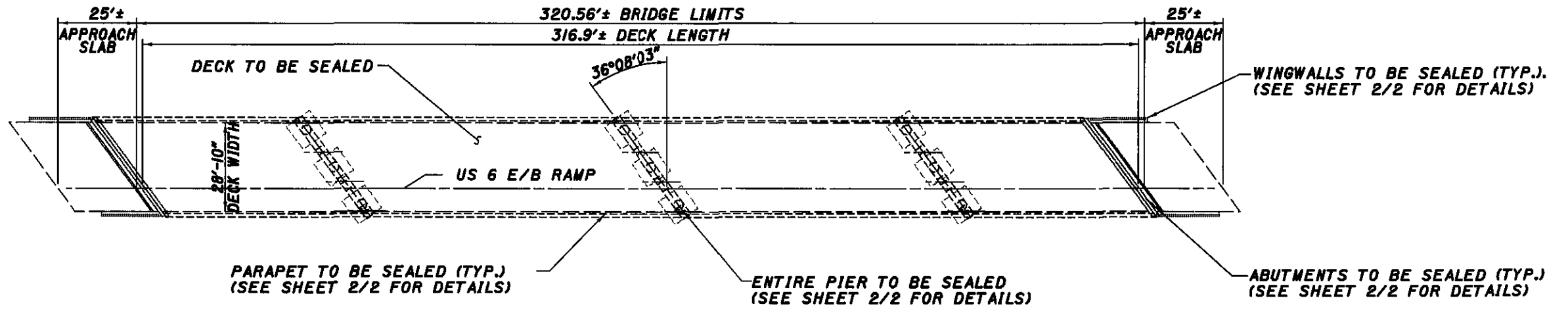
DISTRICT 3  
 OFFICE OF PRODUCTION  
 DATE 2/06  
 DCM  
 BTR  
 BTR  
 DJV  
 STRUCTURE GENERAL NOTES  
 ERI-2-16.13  
 39  
 61

I:\projects\18296\struct\strInform.dgn  
 tjackson DATE 3/1/2006

STRUCTURE FILE NO.	BRIDGE NO.	STRUCTURE TYPE	LOCATION	SKEW	DECK LENGTH	DECK WIDTH	PROPOSED WORK
2201860	ERI-2-1640	4-SPAN STEEL BEAM	UNDER EB RAMP U.S. 6	36°2'3" L.F.	316'-10"±	28'-10"±	SEAL DECK/DECK EDGE, PIER CAP/COLUMNS, BACKWALL, ABUTMENT, AND WINGWALL
2201186	ERI-2-1678L	3-SPAN STEEL BEAM	OVER NORFOLK SOUTHERN R.R.	36°16'40" L.F.	185'-9"±	38'-10"±	SEAL DECK, FACE/TOP PARAPET, WINGWALL AND ABUTMENT. PARAPET TRANSITION UPGRADE
2201194	ERI-2-1678R	3-SPAN STEEL BEAM	OVER NORFOLK SOUTHERN R.R.	36°16'40" L.F.	185'-9"±	38'-10"±	SEAL DECK, FACE/TOP PARAPET, WINGWALL, AND ABUTMENT. PARAPET TRANSITION UPGRADE, AND REPLACE STRIP SEAL AT BOTH ABUTMENTS
2200953	ERI-2-1694	PIPE	STARR HEIMBERGER DITCH	90°			NO WORK
2201208	ERI-2-1701L	3-SPAN STEEL BEAM	OVER BOGART RD.	2°34'37" L.F.	141'-6"±	38'-10"±	SEAL DECK/DECK EDGE, PARAPET, PIER CAP/COLUMNS, BACKWALL, ABUTMENT, AND WINGWALL, PARAPET TRANSITION UPGRADE, DUMP ROCK UNDER FORWARD ABUTMENT SCUPPERS
2201216	ERI-2-1701R	3-SPAN STEEL BEAM	OVER BOGART RD.	2°34'37" L.F.	141'-6"±	38'-10"±	SEAL DECK/DECK EDGE, PARAPET, PIER CAP/COLUMNS, BACKWALL, ABUTMENT, AND WINGWALL, PARAPET TRANSITION UPGRADE, DUMP ROCK UNDER FORWARD ABUTMENT SCUPPERS
2000988	ERI-2-1737	PIPE	WASHBURN DITCH	10°			NO WORK
2201224	ERI-2-1781	4-SPAN STEEL BEAM	UNDER HURON AVERY RD.	39°32'10" L.F.	306'-0"±	42'-10"±	SEAL DECK/DECK EDGE, PARAPET, PIER CAP/COLUMNS, BACKWALL, ABUTMENT, AND WINGWALL, PATCH TOP OF BACKWALLS, SEAL PATCH JOINTS WITH GRAVITY FED RESIN
2201003	ERI-2-1798L	8-SPAN PRESTRESSED I-BEAM	OVER MUD BROOK	0°	660'-0"±	VARIES 51'-11" TO 65'-10"±	PARAPET TRANSITION UPGRADE, SEAL NEW PARAPET
2201011	ERI-2-1798R	10-SPAN PRESTRESSED I-BEAM	OVER MUD BROOK	0°	780'-0"±	50'±	PARAPET TRANSITION UPGRADE, SEAL NEW PARAPET
2202425	ERI-2-1833	4-SPAN STEEL BEAM	UNDER S.R. 13	14°45'39" L.F.	240'-7"±	42'-10"±	SEAL DECK/DECK EDGE, PIER CAP/COLUMNS, BACKWALL, ABUTMENT, AND WINGWALL
2201038	ERI-2-1911L	27-SPAN STEEL & CONCRETE BEAM	OVER HURON RIVER, NORFOLK SOUTHERN RAILROAD & C.R. 126	VARIES 0° TO 16°29'53" L.F.	2588'-0"±	40'±	PARAPET TRANSITION UPGRADE, SEAL NEW PARAPET
2201046	ERI-2-1911R	27-SPAN STEEL & CONCRETE BEAM	OVER HURON RIVER, NORFOLK SOUTHERN RAILROAD & C.R. 126	VARIES 0° TO 16°29'53" L.F.	2588'-0"	40'±	PARAPET TRANSITION UPGRADE, SEAL NEW PARAPET

STRUCTURE INFORMATION

ERI-2-16.13



**PLAN VIEW**

I:\projects\18296\struct\ERI21640\ERI021640SD.DGN  
tjackson 3/1/2006

ITEM	QUANTITY	UNIT	DESCRIPTION
512	1015	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS

NOTES:  
1) THE EXISTING GUARDRAIL IS NOT SHOWN.

QUANTITY CARRIED TO STRUCTURE SUMMARY SHEET

DESIGN AGENCY  
DISTRICT THREE  
OFFICE OF PRODUCTION

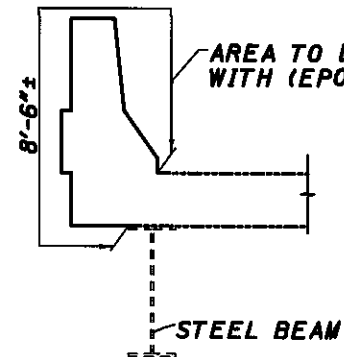
DATE  
2/06  
REVISED  
DCM  
STRUCTURE FILE NUMBER  
2201860

DRAWN  
GTS  
DESIGNED  
GTS  
CHECKED  
DJV

PLAN VIEW  
ERI-2-16-40  
UNDER EASTBOUND RAMP US 6

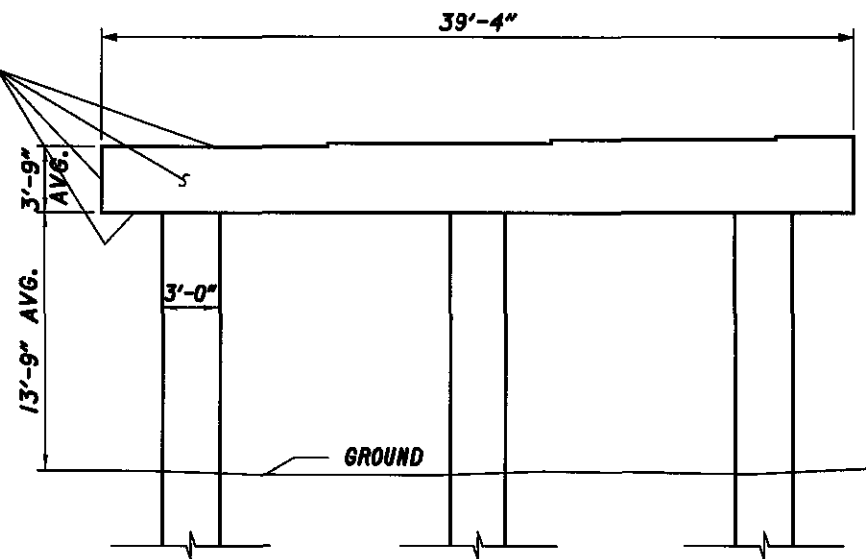
ERI-2-16.13

1/2  
41/61

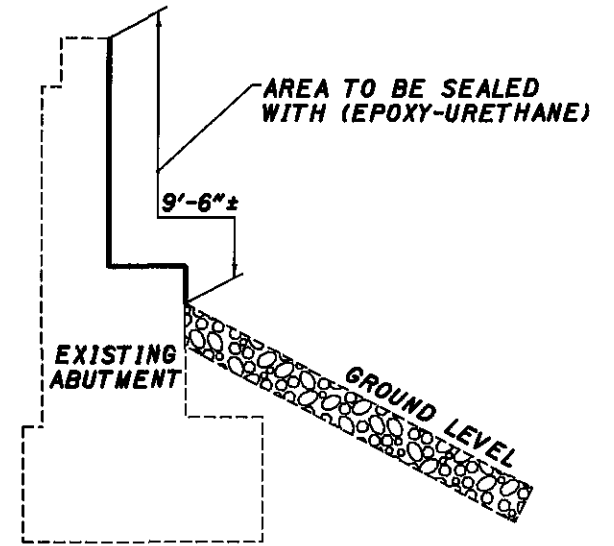


**TYPICAL SECTION AT PARAPET**  
LENGTH = 316.85'±

AREA TO BE SEALED WITH (EPOXY-URETHANE)

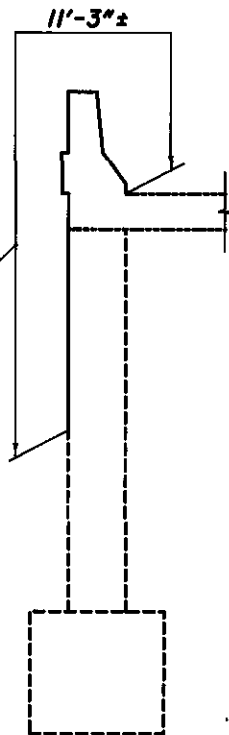


**PIER CAP ELEVATION VIEW**  
PIER WIDTH = 3'-0"



**TYPICAL SECTION AT ABUTMENT**  
(ABUTMENTS ARE 39'-4" LONG)

AREA TO BE SEALED WITH (EPOXY-URETHANE)



**TYPICAL SECTION AT WINGWALL**  
LENGTH = 9'-0"± AVG.

ITEM	QUANTITY	UNIT	DESCRIPTION
512	1034	SQ YD	SEALING OF CONCRETE STRUCTURES (EPOXY-URETHANE)

**NOTES:**

1) THE PARAPETS, ABUTMENTS AND ALL EXPOSED AREAS OF THE WINGWALLS AND ENTIRE PIER CAP SHALL BE SEALED WITH ITEM 512.

QUANTITY CARRIED TO STRUCTURE SUMMARY SHEET

H:\projects\18296\structure\ERI21640\ERI021640SD.DGN  
tjackson 3/1/2006

DESIGN AGENCY  
DISTRICT THREE  
OFFICE OF PRODUCTION

DATE  
2/06  
REVISED  
DCH  
STRUCTURE FILE NUMBER  
2501860

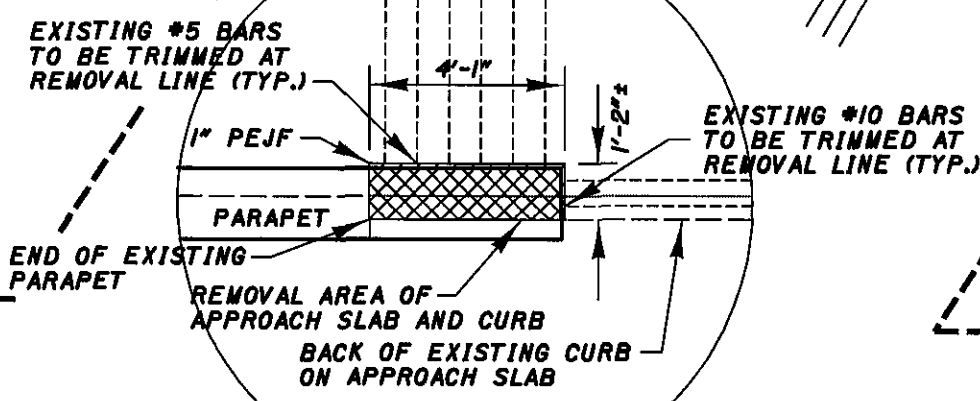
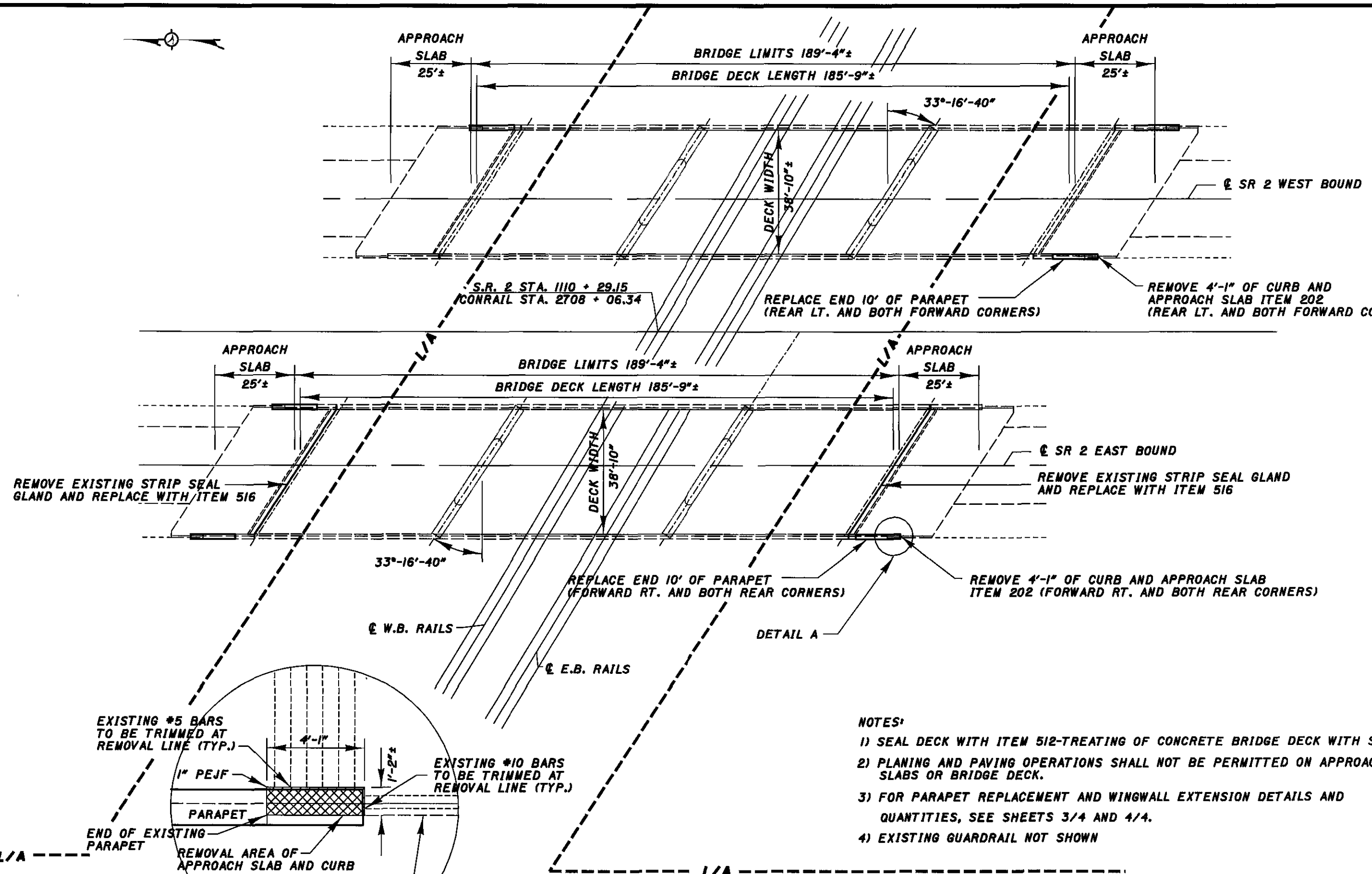
DRAWN  
GTS  
CHECKED  
GTS  
REVISED  
DJV

SEALING DETAILS  
ERI-2-16-13  
UNDER EASTBOUND RAMP US 6

ERI-2-16.13

2/2

42/51



**DETAIL A**

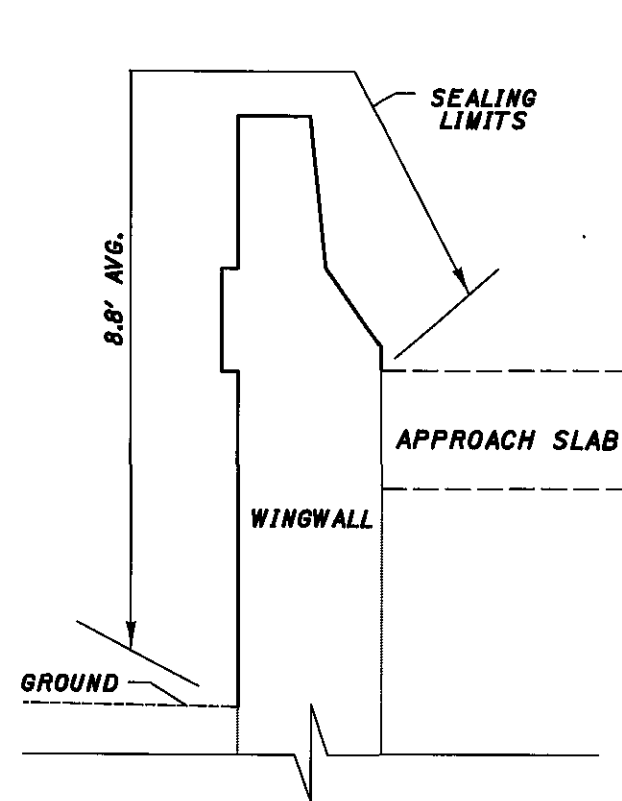
- NOTES:**
- 1) SEAL DECK WITH ITEM 512-TREATING OF CONCRETE BRIDGE DECK WITH SRS.
  - 2) PLANING AND PAVING OPERATIONS SHALL NOT BE PERMITTED ON APPROACH SLABS OR BRIDGE DECK.
  - 3) FOR PARAPET REPLACEMENT AND WINGWALL EXTENSION DETAILS AND QUANTITIES, SEE SHEETS 3/4 AND 4/4.
  - 4) EXISTING GUARDRAIL NOT SHOWN

ITEM	QUANTITY		UNIT	DESCRIPTION
	LEFT	RIGHT		
202	0	96	FT	REMOVAL MISC. ELASTOMERIC STRIP SEAL
512	802	802	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS
516	0	96	FT	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN

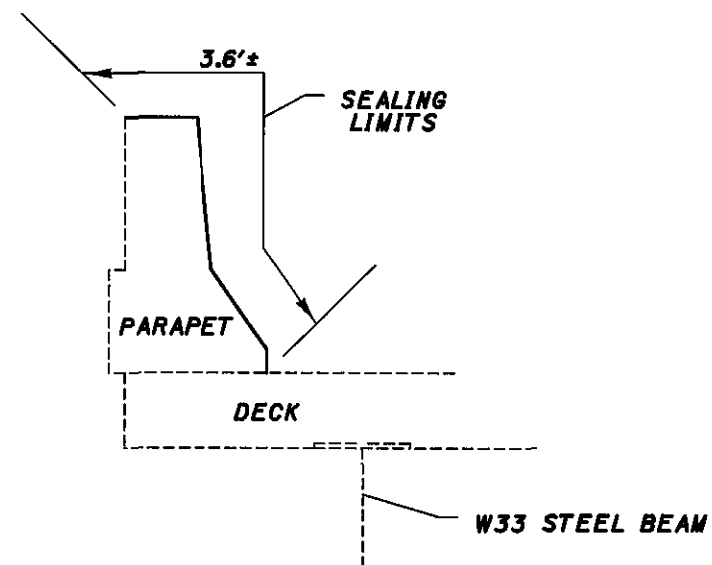
QUANTITIES CARRIED TO STRUCTURE SUMMARY

DESIGN FILE: I:\projects\18296\struct\ERI21678\details.dgn  
 WORKSTATION: tjaakson DATE: 3/1/2006

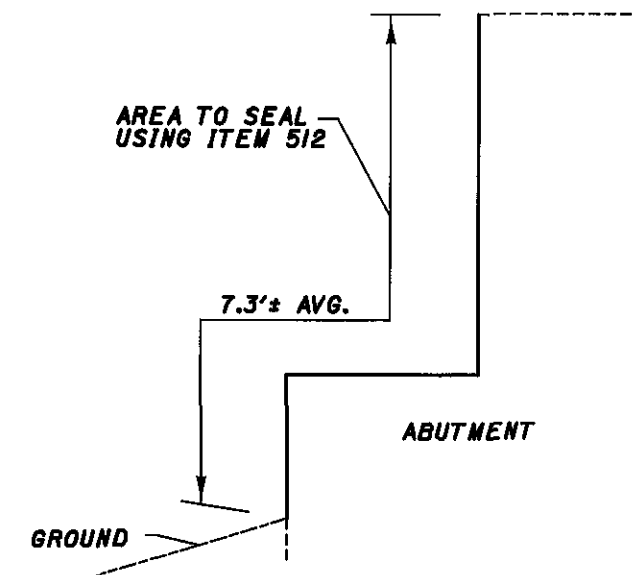
DESIGN AGENCY: DISTRICT THREE OFFICE OF PRODUCTION  
 DATE: 02/06  
 DCN: 220186/220194  
 STRUCTURE FILE NUMBER: 220186/220194  
 DRAWN BY: HYH  
 CHECKED BY: DJV  
 DESIGNED BY: HYH  
 PLAN VIEW  
 ERI-2-1678 L&R  
 OVER NORFOLK SOUTHERN RAILROAD  
 ERI-2-16.13  
 1 / 4  
 43  
 61



(LENGTH OF WINGWALL - 18'-0" AVG.)  
TYPICAL WINGWALL SEALING



(LENGTH OF PARAPET ON DECK - 185'-9"±)  
TYPICAL PARAPET SEALING  
ON BRIDGE DECK



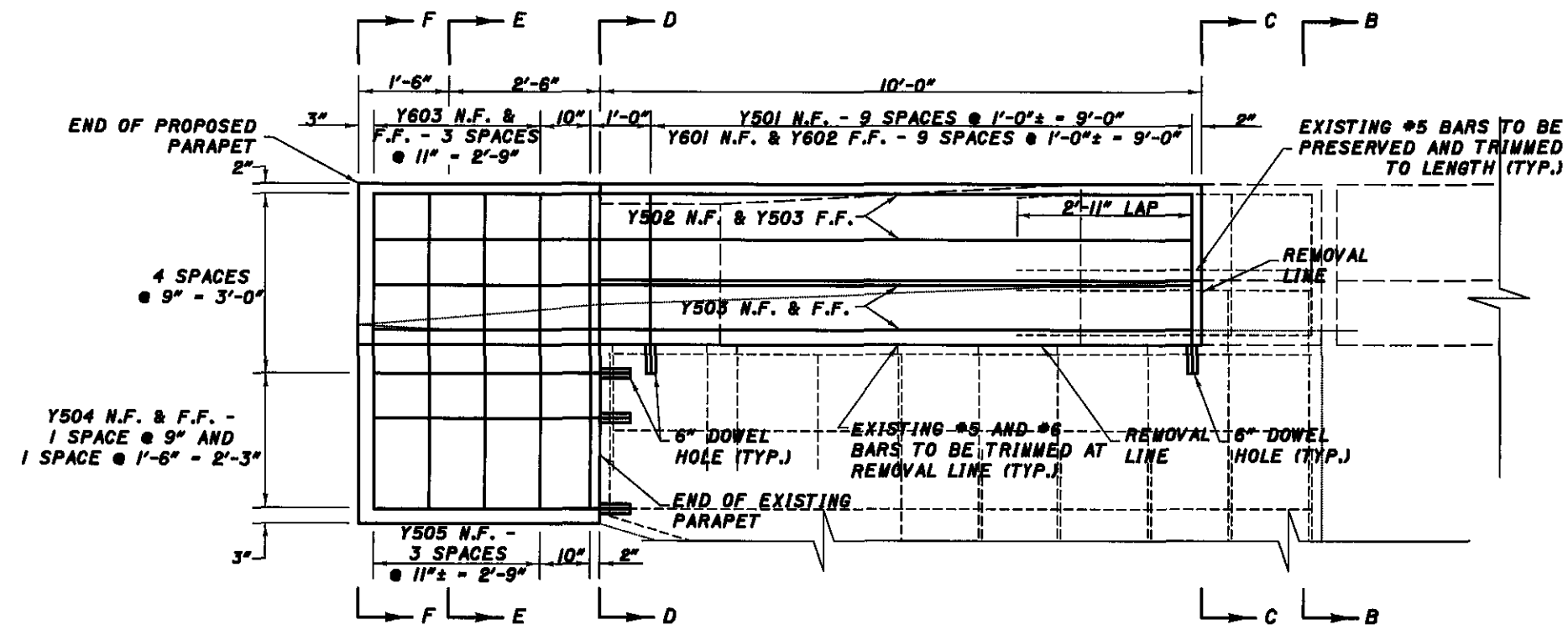
(LENGTH OF ABUTMENT - 50'-0"±)  
TYPICAL ABUTMENT SEALING

NOTES:

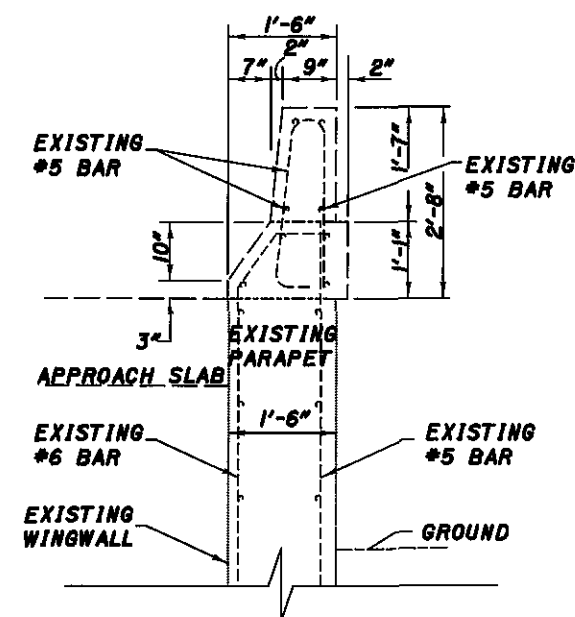
- 1) SEAL ABUTMENTS, PARAPETS, AND ALL EXPOSED AREAS OF THE WINGWALLS AS DETAILED WITH ITEM 512-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ITEM	QUANTITY		UNIT	DESCRIPTION
	LEFT	RIGHT		
512	300	300	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

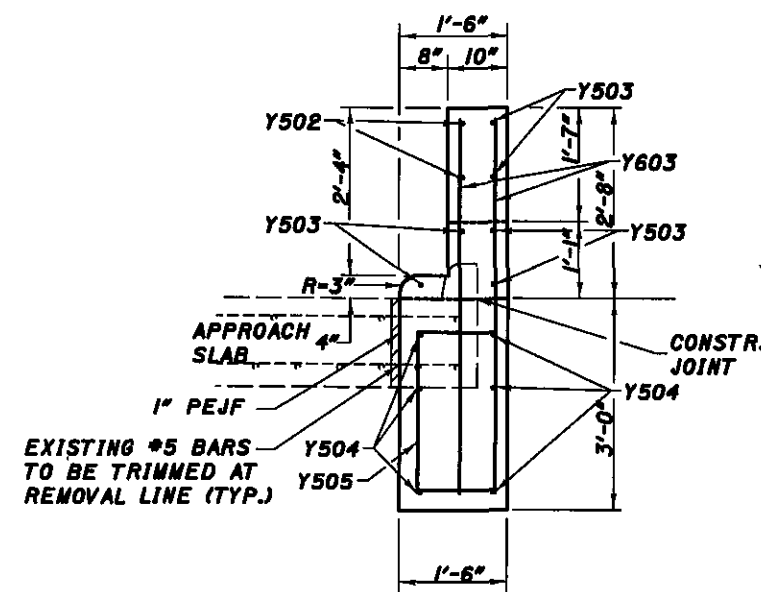
QUANTITY CARRIED TO STRUCTURE SUMMARY



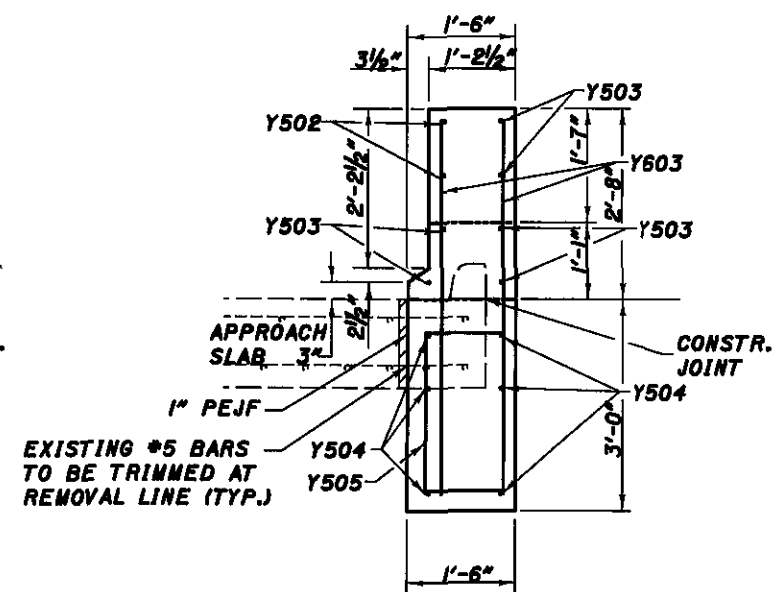
TYPICAL ELEVATION VIEW OF PARAPET



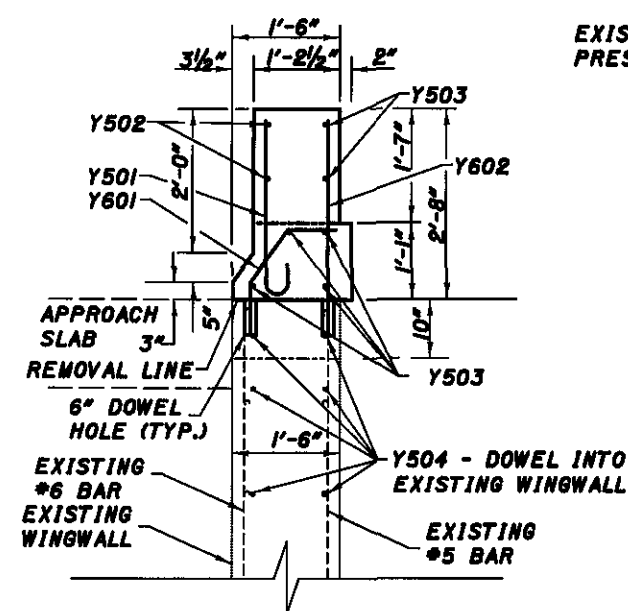
SECTION B-B



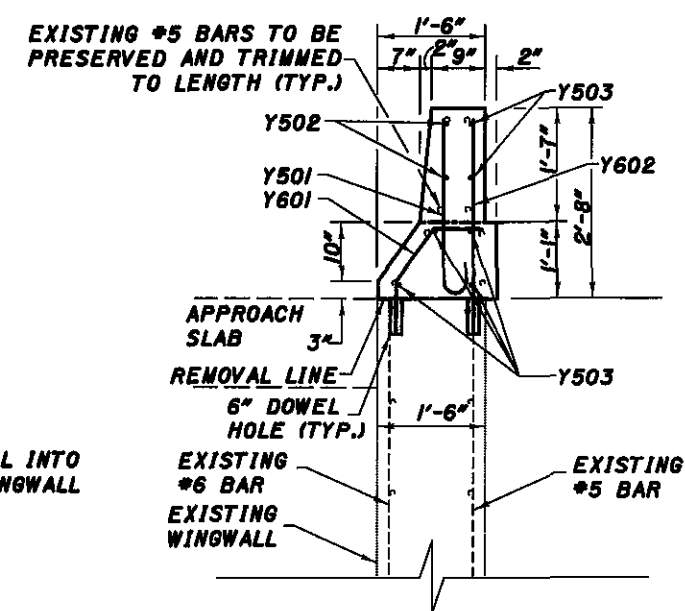
SECTION F-F



SECTION E-E



SECTION D-D



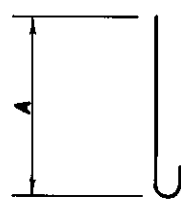
SECTION C-C

**NOTES:**

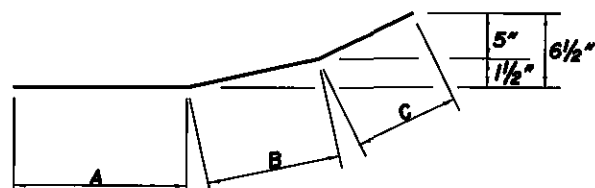
- 1) THE EXISTING REINFORCING STEEL AS INDICATED SHALL BE PRESERVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- 2) THE PARAPET REPLACEMENT DETAILS ARE NOT TO SCALE.
- 3) FOR SEALING DETAILS, SEE SHEET 2/4.

- 5) FOR ADDITIONAL DETAILS AND NOTES, REFER TO THE STANDARD BRIDGE DRAWING BR-1.
- 6) FOR QUANTITIES, BENDING DIAGRAMS AND REINFORCING STEEL TABLE, SEE SHEET 4/4.

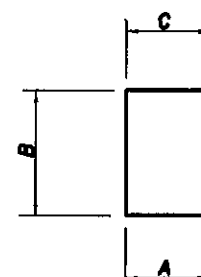
**BENDING DIAGRAMS**



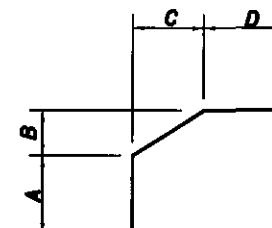
TYPE 1



TYPE 2



TYPE 3



TYPE 4

**EPOXY COATED REINFORCING STEEL LIST**

MARK	NUMBER		LENGTH	SHAPE	TYPE	A	B	C	D	WEIGHT		
	LEFT	RIGHT								LEFT	RIGHT	
Y501	30	30	3'-0"	BENT	1	2'-5"				94	94	
Y502	6	6	13'-10"	BENT	2	10'-0"	2'-5"	1'-5"		86	86	
Y503	18	18	13'-8"	STR						257	257	
Y504	18	18	4'-3"	STR						80	80	
Y505	15	15	4'-2"	BENT	3	1'-1"	2'-3"	1'-1"		65	65	
Y601	30	30	2'-3"	BENT	4	9"	8 1/2"	6"	8"	102	102	
Y602	30	30	3'-0"	STR						135	135	
Y603	30	30	5'-3"	STR						237	237	
										<b>TOTAL</b>	<b>1,056</b>	<b>1,056</b>

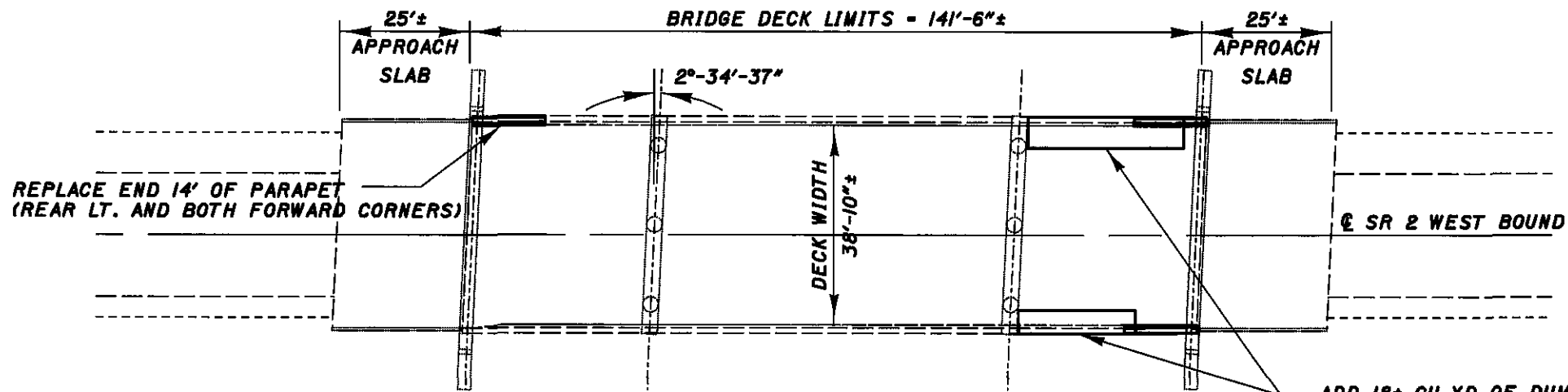
ITEM	QUANTITY		UNIT	DESCRIPTION
	LEFT	RIGHT		
202	3.5	3.5	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
509	1,056	1,056	POUND	EPOXY COATED REINFORCING STEEL
510	78	78	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT
511	7	7	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)
516	20	20	SQ FT	1" PREFORMED EXPANSION JOINT FILLER

QUANTITIES CARRIED TO STRUCTURE SUMMARY

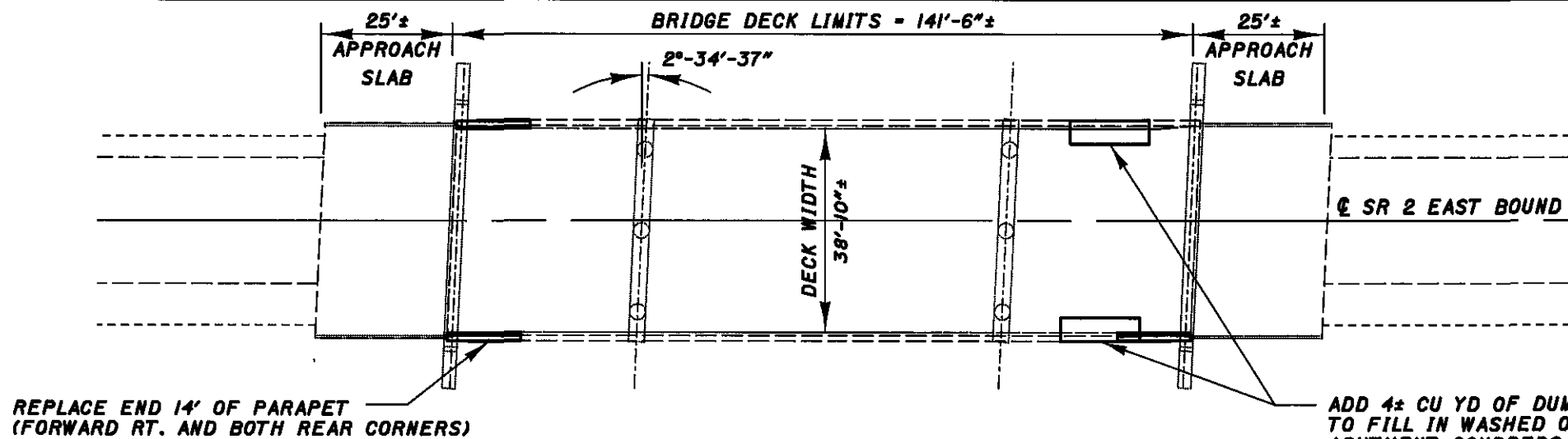
DESIGN FILE: I:\projects\B296\struct\ERI21678\details.dgn  
 WORKSTATION: f.jackson DATE: 3/1/2006

DESIGN AGENCY	DISTRICT THREE
DATE	02/06
REVIEWED	DCM
STRUCTURE FILE NUMBER	2201196/2201194
OFFICE OF PRODUCTION	
DESIGNED	HYH
CHECKED	DJV
PARAPET DETAILS	
ERI-2-1678 L&R	
OVER NORFOLK SOUTHERN RAILROAD	
ERI-2-16.13	
4 / 4	
46	
61	





ADD 18± CU YD OF DUMPED ROCK FILL, TYPE D TO FILL IN WASHED OUT AREAS UNDER FORWARD ABUTMENT SCUPPERS. USE ITEM 60I.



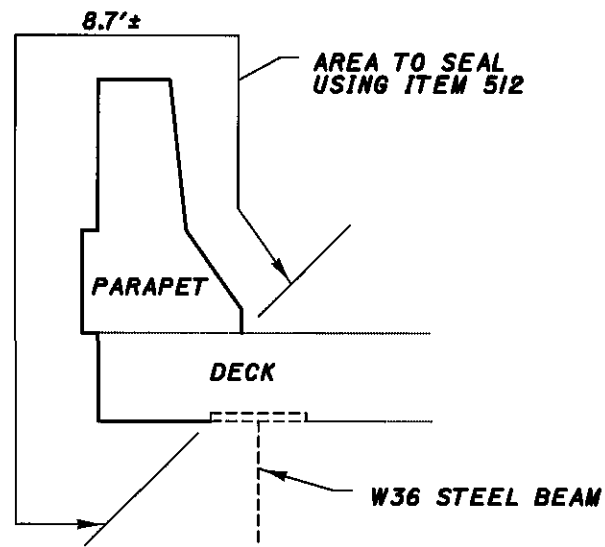
ADD 4± CU YD OF DUMPED ROCK FILL, TYPE D TO FILL IN WASHED OUT AREAS UNDER FORWARD ABUTMENT SCUPPERS. USE ITEM 60I.

ITEM	QUANTITY		UNIT	DESCRIPTION
	LEFT	RIGHT		
512	611	611	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS
60I	18	4	CU YD	DUMPED ROCK FILL, TYPE D

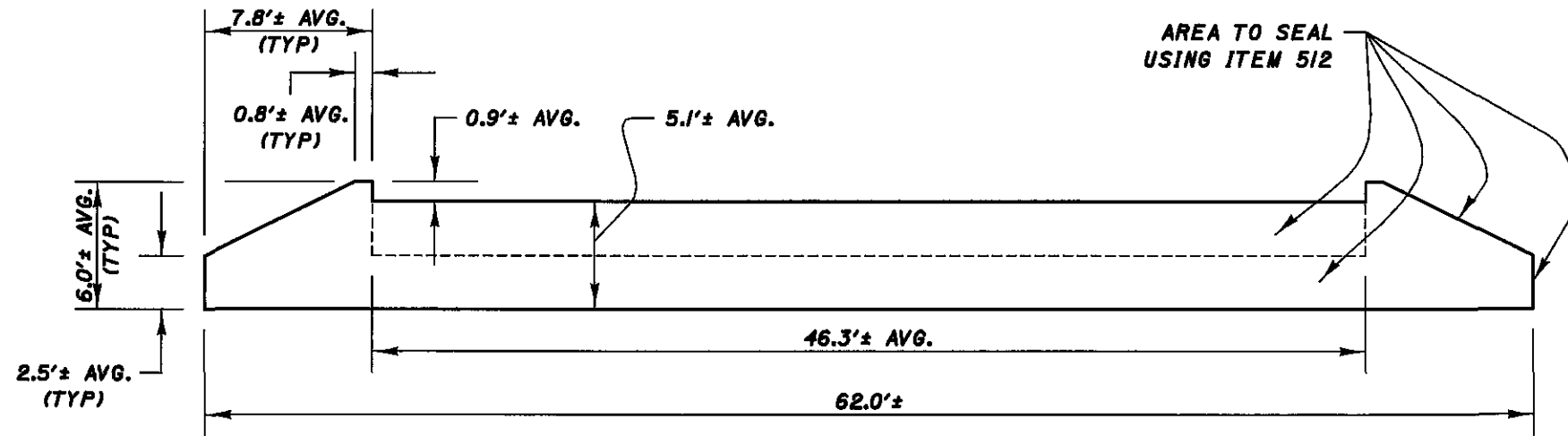
QUANTITIES CARRIED TO STRUCTURE SUMMARY

**NOTES:**

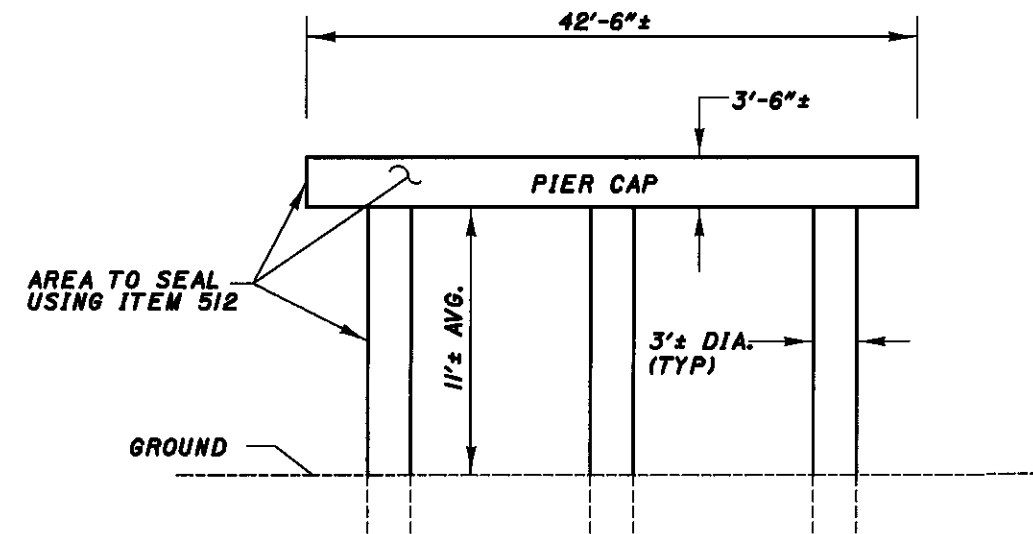
- 1) SEAL DECK WITH ITEM 512-TREATING OF CONCRETE BRIDGE DECK WITH SRS.
- 2) PLANING AND PAVING OPERATIONS SHALL NOT BE PERMITTED ON APPROACH SLABS OR BRIDGE DECK.
- 3) FOR PARAPET REPLACEMENT AND WINGWALL EXTENSION DETAILS AND QUANTITIES, SEE SHEETS 3/4 AND 4/4.
- 4) EXISTING GUARDRAIL NOT SHOWN



(LENGTH OF PARAPET ON DECK = 141'-6"±)  
TYPICAL PARAPET SEALING



(2'-6"± THICK)  
TYPICAL ABUTMENT SEALING



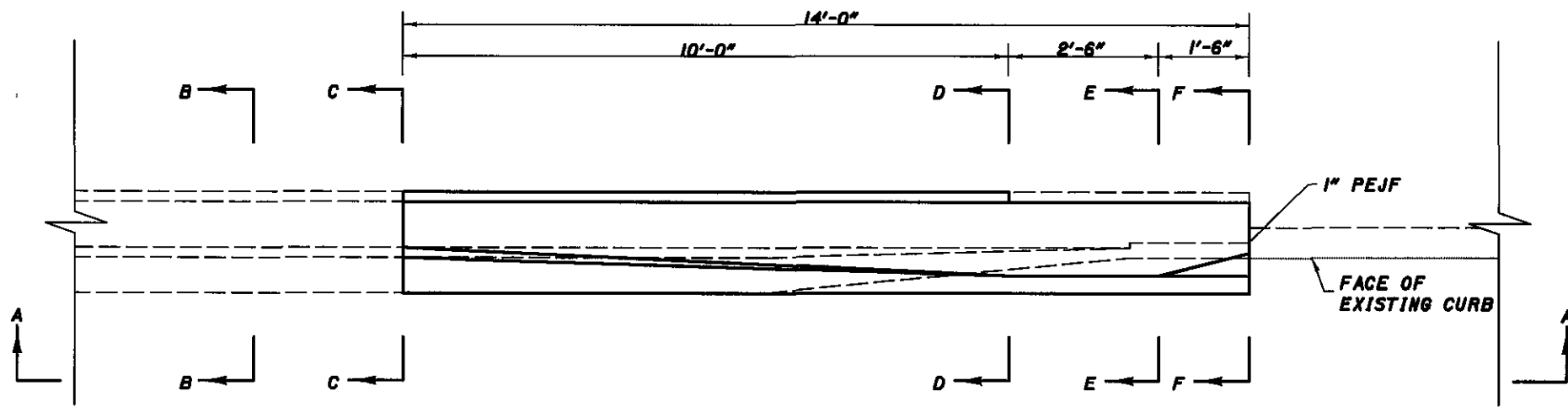
(3'-0"± THICK)  
TYPICAL PIER SEALING

**NOTES:**

- 1) SEAL PARAPETS, ABUTMENTS AND ALL EXPOSED AREAS OF THE WINGWALLS, PIER COLUMNS AND PIER CAPS WITH ITEM 512-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

ITEM	QUANTITY		UNIT	DESCRIPTION
	LEFT	RIGHT		
512	518	518	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

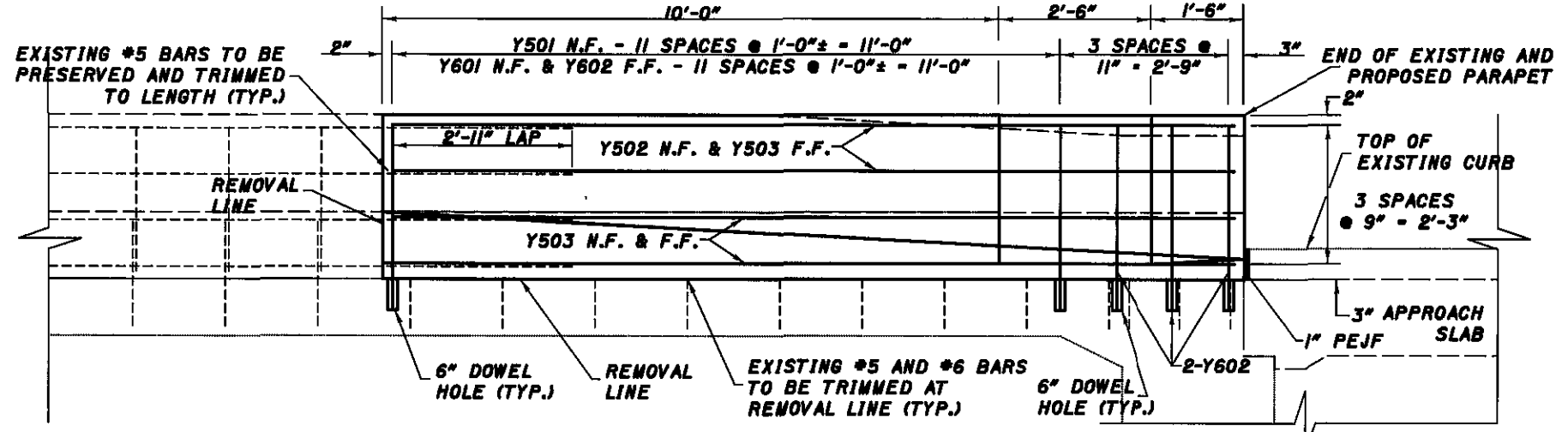
QUANTITY CARRIED TO STRUCTURE SUMMARY



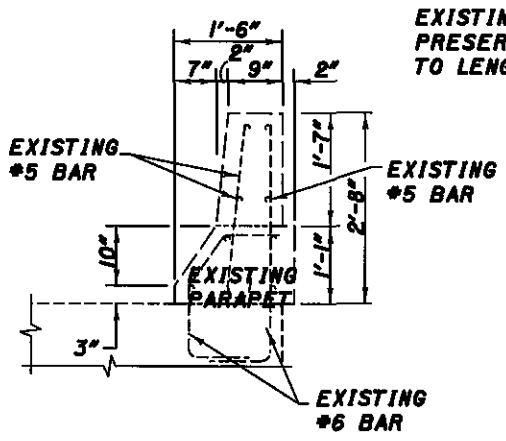
TYPICAL PARAPET REPLACEMENT PLAN VIEW

NOTES:

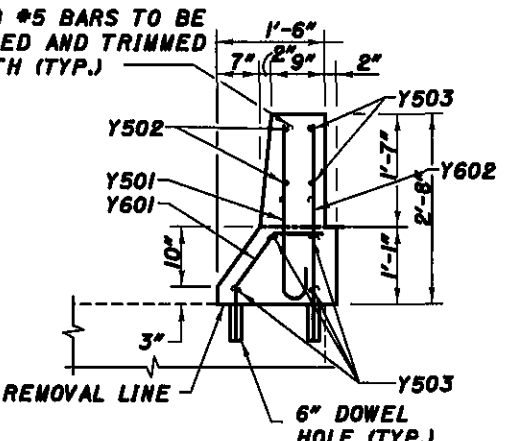
- 1) THE EXISTING REINFORCING STEEL AS INDICATED SHALL BE PRESERVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- 2) THE PARAPET REPLACEMENT DETAILS ARE NOT TO SCALE.
- 3) FOR SEALING DETAILS, SEE SHEET 2/4.
- 5) FOR ADDITIONAL DETAILS AND NOTES, REFER TO THE STANDARD BRIDGE DRAWING BR-1.
- 6) FOR QUANTITIES, BENDING DIAGRAMS AND REINFORCING STEEL TABLE, SEE SHEET 4/4.



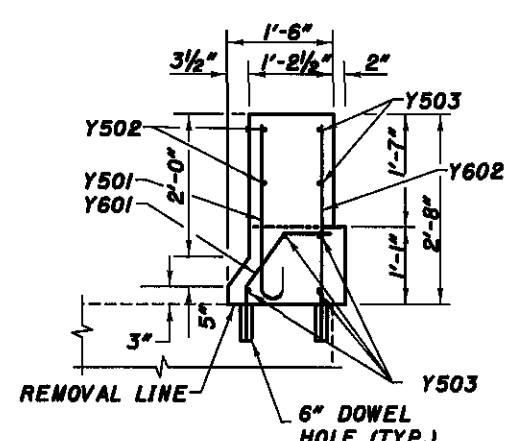
SECTION A-A (ELEVATION VIEW)



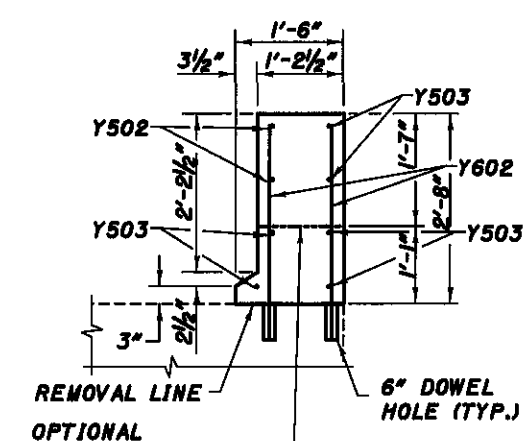
SECTION B-B



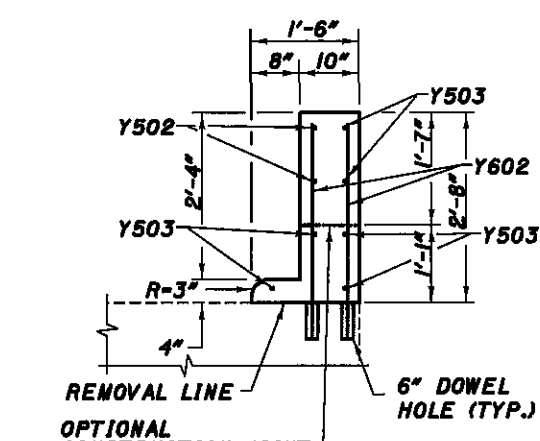
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

DESIGN FILE: I:\projects\18296\struct\ER1210N\details.dgn  
WORKSTATION: tjaackson DATE: 3/1/2006

DESIGN AGENCY  
DISTRICT THREE  
OFFICE OF PRODUCTION

DATE  
02/06  
DCM  
STRUCTURE FILE NUMBER  
2201208/2201216

DRAWN  
HYH  
HYH  
CHECKED  
DJV

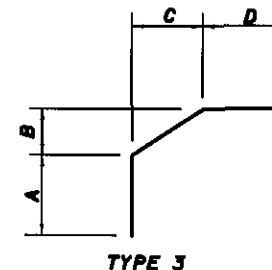
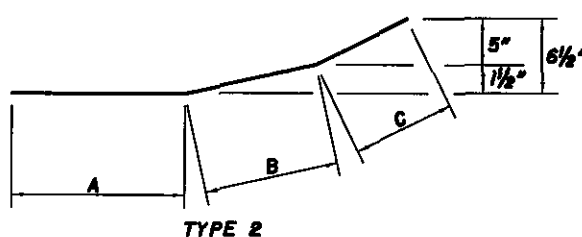
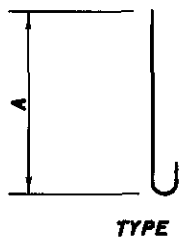
PARAPET DETAILS  
ERI-2-1701 L&R  
OVER BOGART RD.

ERI-2-16.13

3/4

49  
61

**BENDING DIAGRAMS**



**EPOXY COATED REINFORCING STEEL LIST**

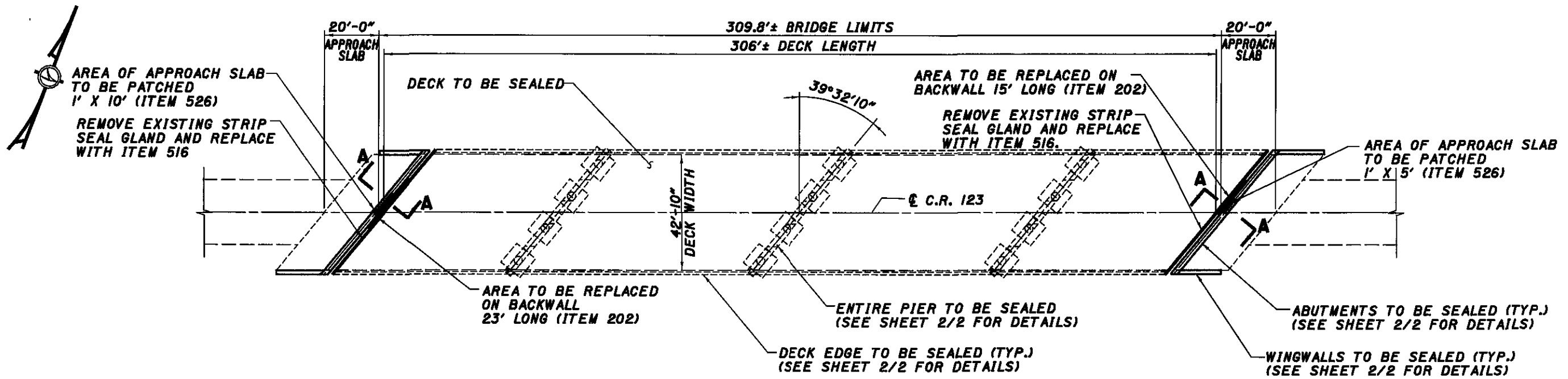
MARK	NUMBER		LENGTH	SHAPE	TYPE	A	B	C	D	WEIGHT	
	LEFT	RIGHT								LEFT	RIGHT
Y501	36	36	3'-0"	BENT	1	2'-5"				113	113
Y502	6	6	13'-10"	BENT	2	10'-0"	2'-5"	1'-5"		87	87
Y503	18	18	13'-8"	STR						257	257
Y601	36	36	2'-3"	BENT	3	9"	8 1/2"	6"	8"	122	122
Y602	54	54	3'-0"	STR						243	243
<b>TOTAL</b>										<b>822</b>	<b>822</b>

ITEM	QUANTITY		UNIT	DESCRIPTION
	LEFT	RIGHT		
202	4.5	4.5	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
509	822	822	POUND	EPOXY COATED REINFORCING STEEL
510	90	90	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT
511	5	5	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)
516	1	1	SQ FT	1" PREFORMED EXPANSION JOINT FILLER

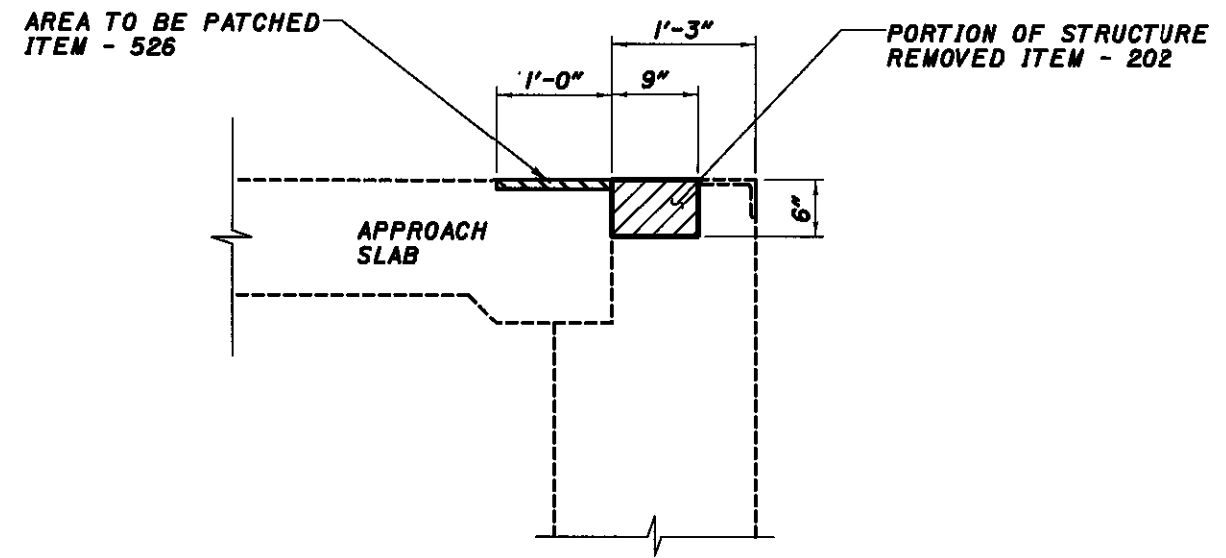
QUANTITIES CARRIED TO STRUCTURE SUMMARY

DESIGN FILE: I:\projects\18296\struc\ERI21701\details.dgn  
 WORKSTATION: tjackson DATE: 3/1/2006

DESIGN AGENCY: DISTRICT THREE  
 OFFICE OF PRODUCTION  
 DATE: 02/06  
 STRUCTURE FILE NUMBER: 2501208/2201216  
 DRAWN: HYH  
 CHECKED: DNV  
 DESIGNED: HYH  
 REVISIONS: DNV  
 PARAPET DETAILS  
 ERI-2-1701 L&R  
 OVER BOGART RD.  
 ERI-2-16.13  
 4 / 4  
 50 / 61



**PLAN VIEW**



**BACKWALL DETAIL**

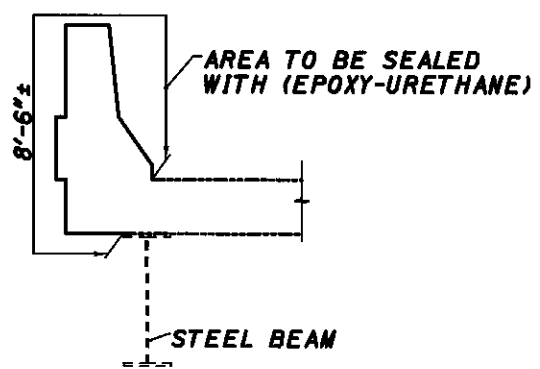
ITEM	QUANTITY	UNIT	DESCRIPTION
202	.6	CU YD	PORTION OF STRUCTURE REMOVED, AS PER PLAN
202	114	FT.	REMOVAL MISC. ELASTOMERIC STRIP SEAL
511	.6	SQ YD	CONCRETE MISC., ABUTMENT REPAIR
512	1456	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS
512	1	SQ YD	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN
516	114	FT.	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN
526	2	SQ YD	APPROACH SLAB, MISC. PATCHING

NOTES:  
1) THE EXISTING GUARDRAIL IS NOT SHOWN.

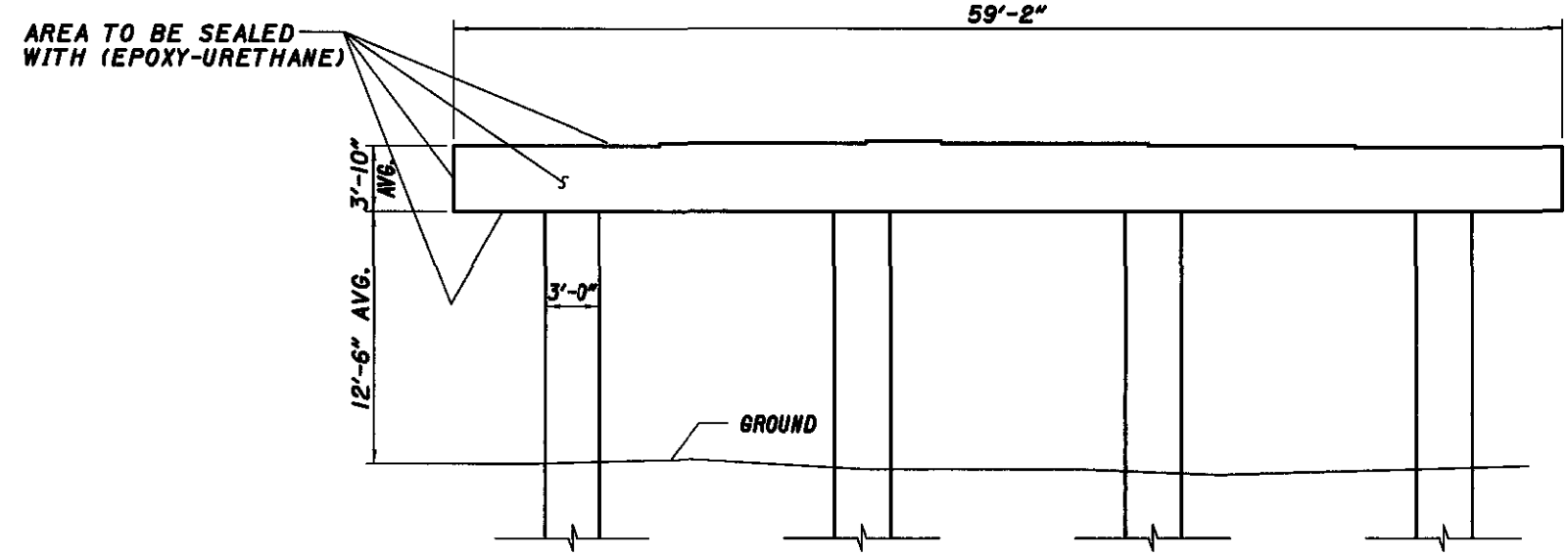
QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

I:\projects\18296\structure\ERI21781\ERI021781SD.dgn  
 t/jackson 3/1/2006

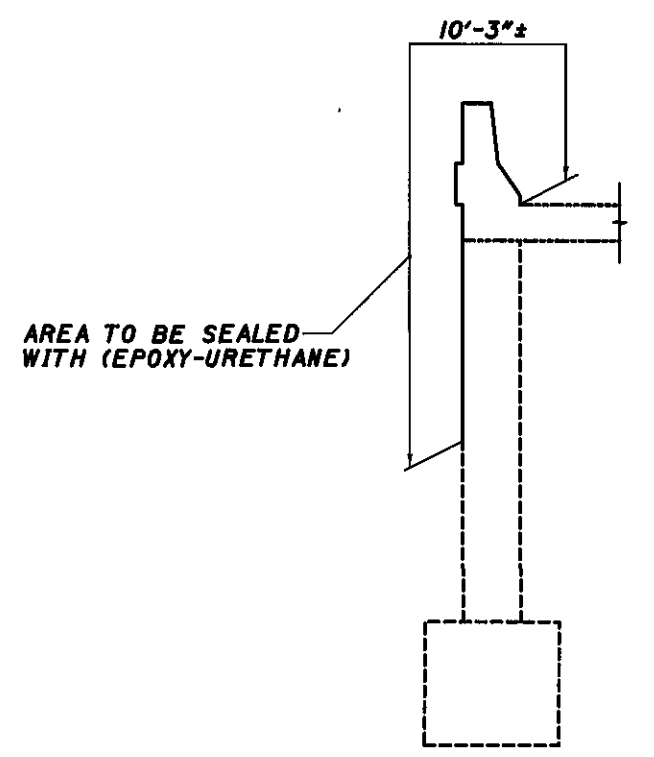
DISTRICT THREE  
 OFFICE OF PRODUCTION  
 DATE 2/06  
 REVIEWED DCN  
 STRUCTURE FILE NUMBER 2201224  
 DRAWN GTS  
 REVISIONS  
 DESIGNED GTS  
 CHECKED DJV  
 PLAN VIEW  
 ERI - 2 - 1781  
 UNDER COUNTY ROAD 123  
 ERI - 2 - 16.13  
 1 / 2  
 51  
 61



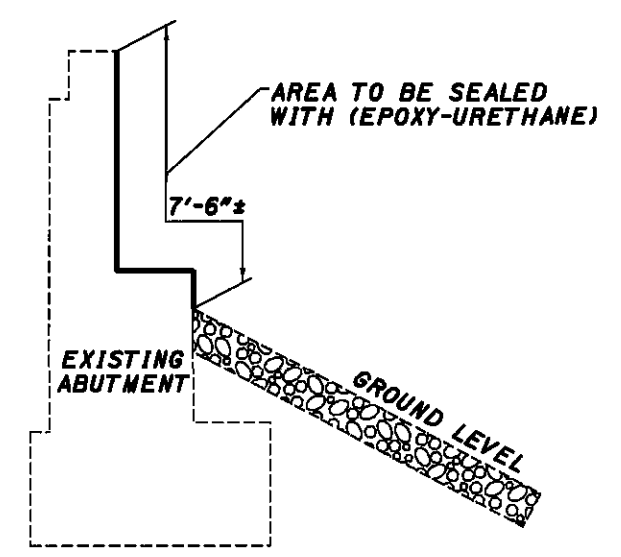
**TYPICAL SECTION AT PARAPET**  
LENGTH = 305'-9"±



**PIER CAP ELEVATION VIEW**  
WIDTH = 3'-0"±



**TYPICAL SECTION AT WINGWALL**  
LENGTH = 16'-3"± AVG.



**TYPICAL SECTION AT ABUTMENT**  
LENGTH = 59'-5"

ITEM	QUANTITY	UNIT	DESCRIPTION
512	1176	SQ YD	SEALING OF CONCRETE STRUCTURES (EPOXY-URETHANE)

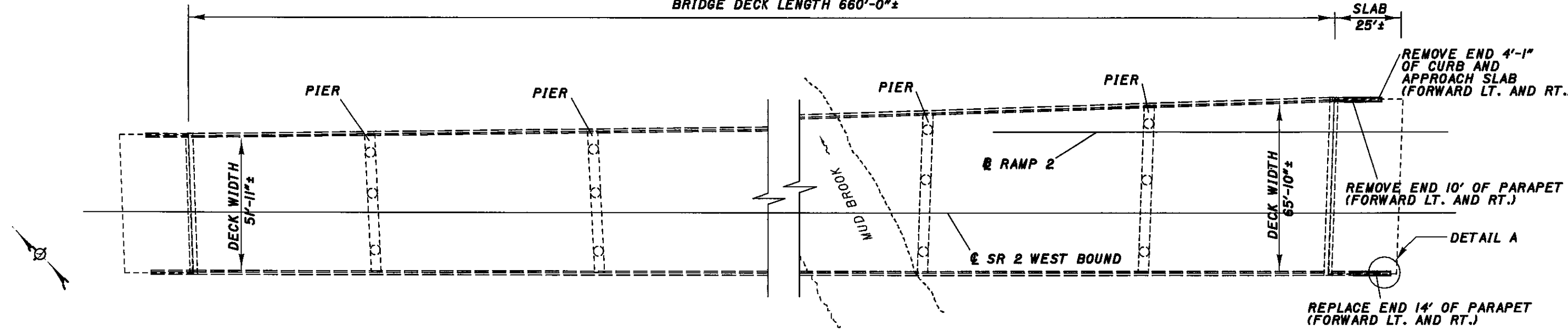
**NOTES:**  
 1) THE PARAPETS AND ALL EXPOSED AREAS OF THE WINGWALLS AND ENTIRE PIER CAP SHALL BE SEALED WITH ITEM 512.  
 2) THE SEALING AREA DETAILS ARE NOT TO SCALE.

QUANTITY CARRIED TO STRUCTURE SUMMARY SHEET

I:\projects\18296\struct\ERI21781\ERI021781SD.dgn  
 DATE: 3/1/2006  
 JACKSON

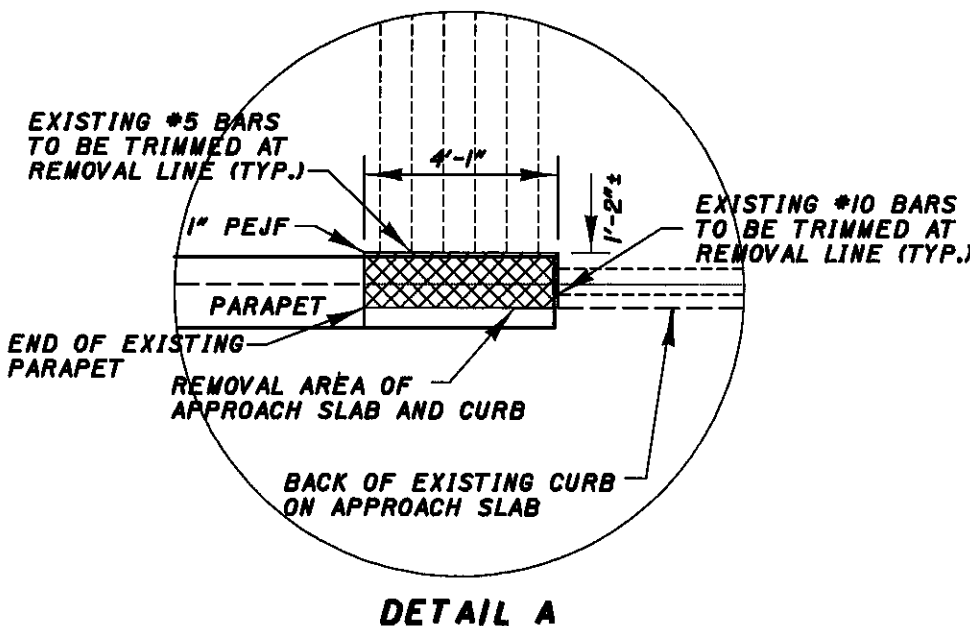
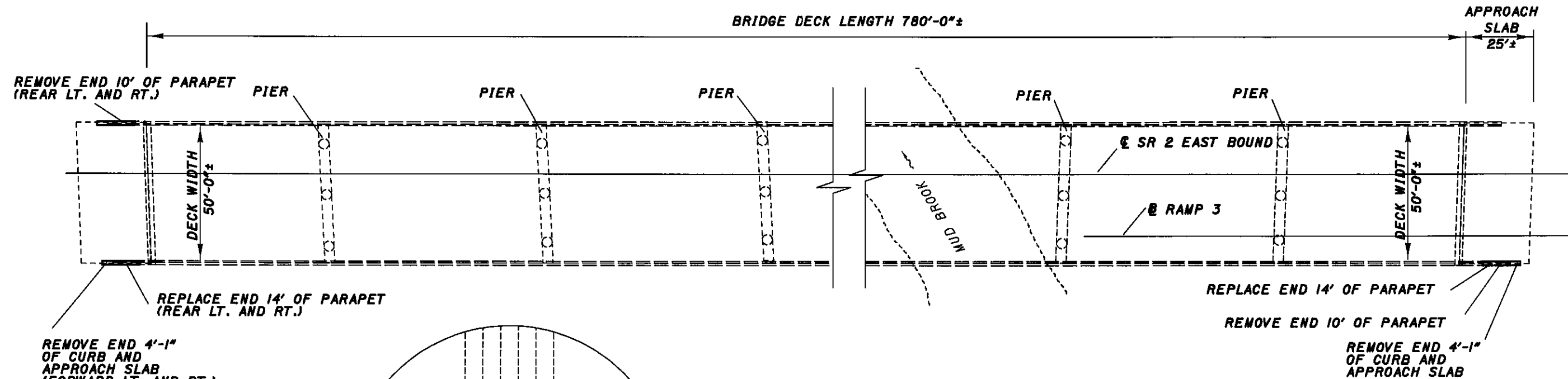
BRIDGE DECK LENGTH 660'-0"±

APPROACH  
SLAB  
25'±



BRIDGE DECK LENGTH 780'-0"±

APPROACH  
SLAB  
25'±



**NOTES:**

- 1) THE EXISTING REINFORCING STEEL AS INDICATED SHALL BE PRESERVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- 2) FOR ADDITIONAL DETAILS AND NOTES, REFER TO THE STANDARD BRIDGE DRAWING BR-1.
- 3) FOR PARAPET SECTION VIEWS B-B THRU F-F SEE SHEET 2/4.
- 4) FOR REINFORCING STEEL TABEL SEE SHEET 3/4.
- 5) EXISTING GUARDRAIL NOT SHOWN.
- 6) FOR PARAPET SEALING DETAILS REFER TO SHEET 4/4.

DESIGN FILE: I:\p\projects\2006\eri-2-1798\eri-2-1798\detaila.dgn  
DATE: 3/1/2006  
DRAWN BY: J. JACKSON

DESIGN AGENCY  
DISTRICT THREE  
OFFICE OF PRODUCTION

DATE  
2/06  
REVIEWED  
DCM  
STRUCTURE FILE NUMBER  
2201003/2201011

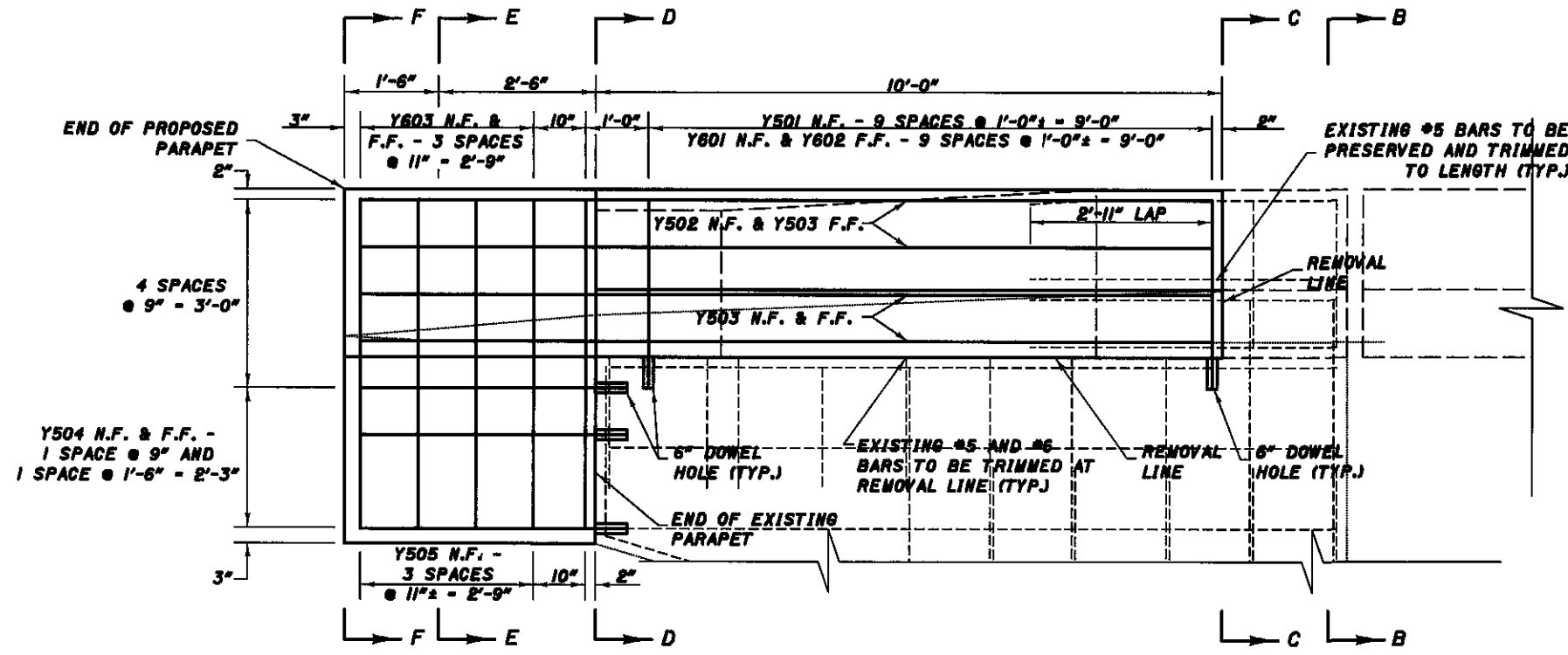
DRAWN  
BTR  
CHECKED  
D/W

PLAN VIEW  
ERI-2-1798 L&R  
OVER MUD BROOK

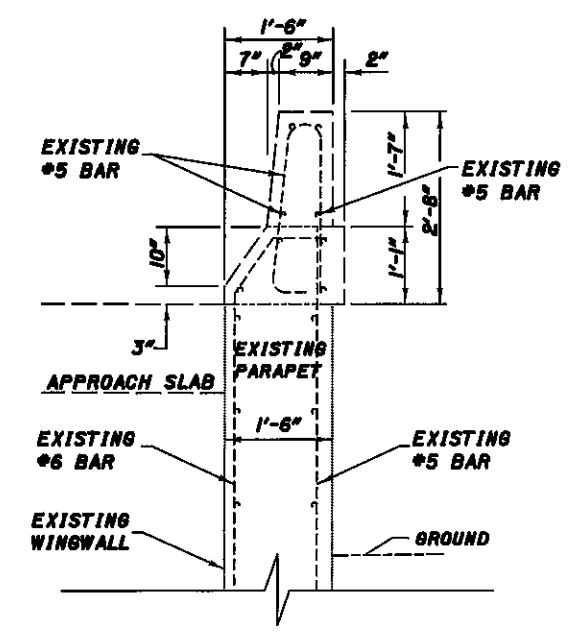
ERI-2-16.13

1/4

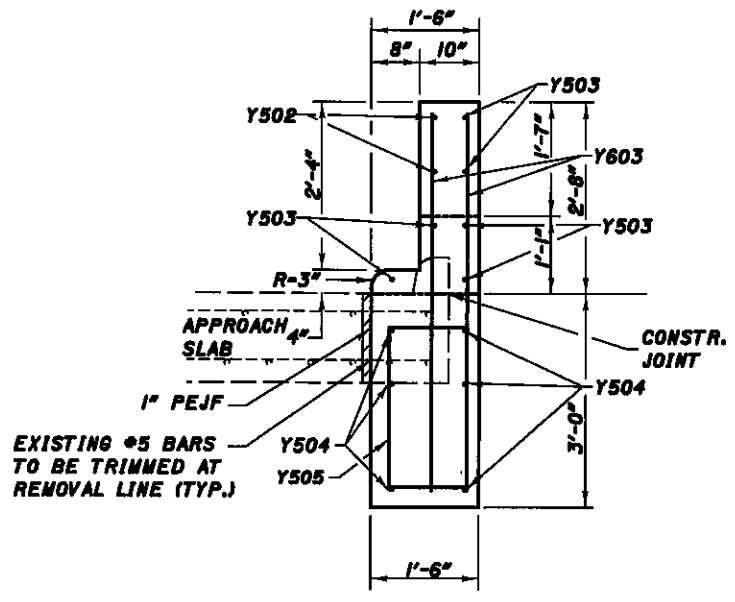
53  
61



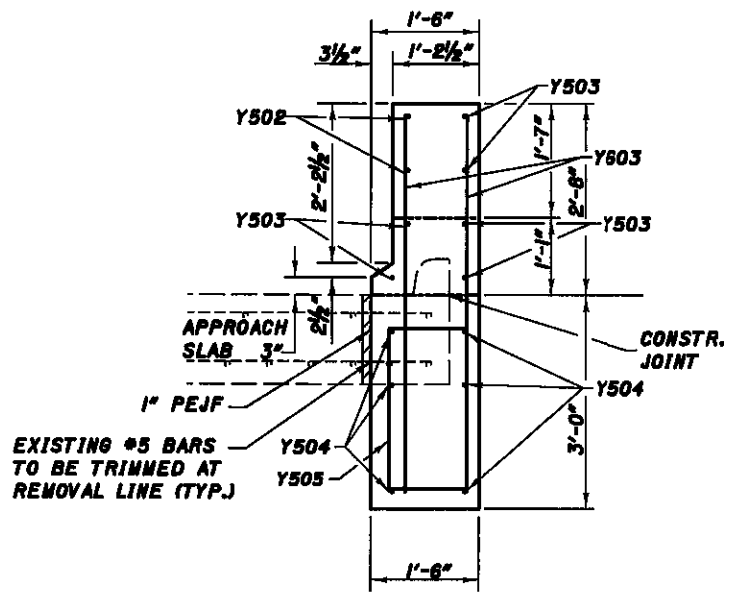
TYPICAL ELEVATION VIEW OF PARAPET



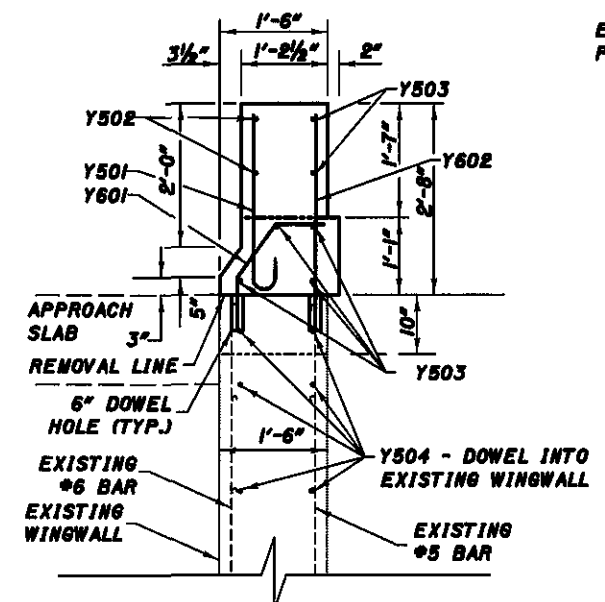
SECTION B-B



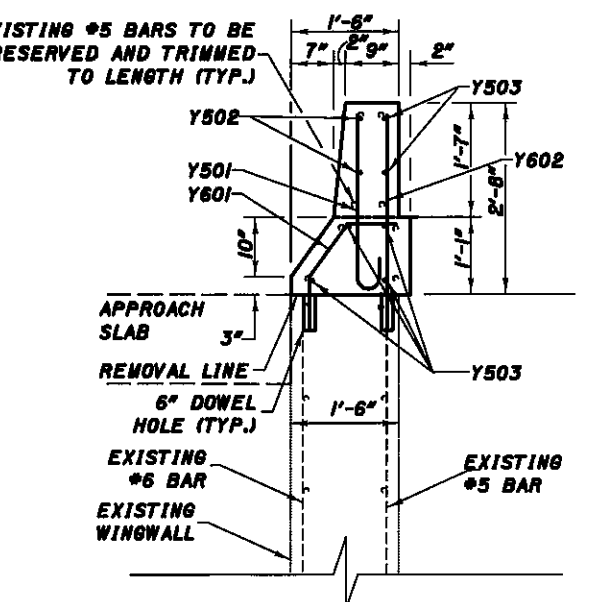
SECTION F-F



SECTION E-E



SECTION D-D



SECTION C-C

NOTES:

- 1) THE EXISTING REINFORCING STEEL AS INDICATED SHALL BE PRESERVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- 2) THE PARAPET REPLACEMENT DETAILS ARE NOT TO SCALE.

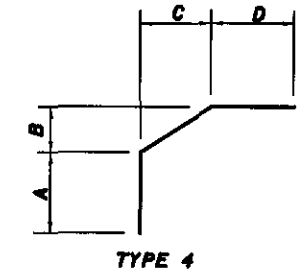
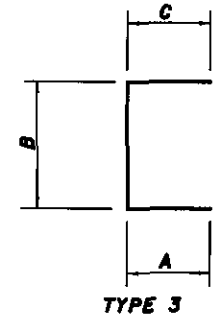
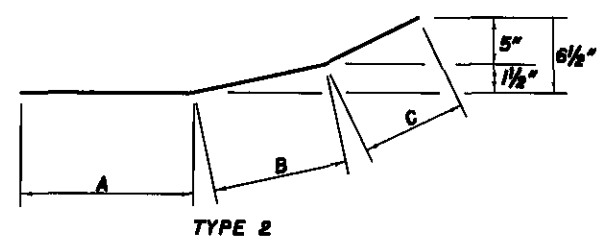
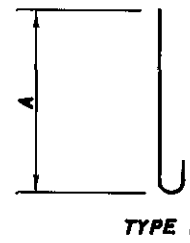
- 3) FOR ADDITIONAL DETAILS AND NOTES, REFER TO THE STANDARD BRIDGE DRAWING BR-1.
- 4) FOR QUANTITIES, BENDING DIAGRAMS AND REINFORCING STEEL TABLE, SEE SHEET 3/4.

DESIGN FILE: I:\projects\18296\struct\ERI21798\details.dgn  
 WORKSTATION: JACKSON DATE: 3/1/2006



DESIGN FILE: I:\projects\B296\structure\ERI21798\details.dgn  
 WORKSTATION: tjackson DATE: 3/1/2006

**BENDING DIAGRAMS**



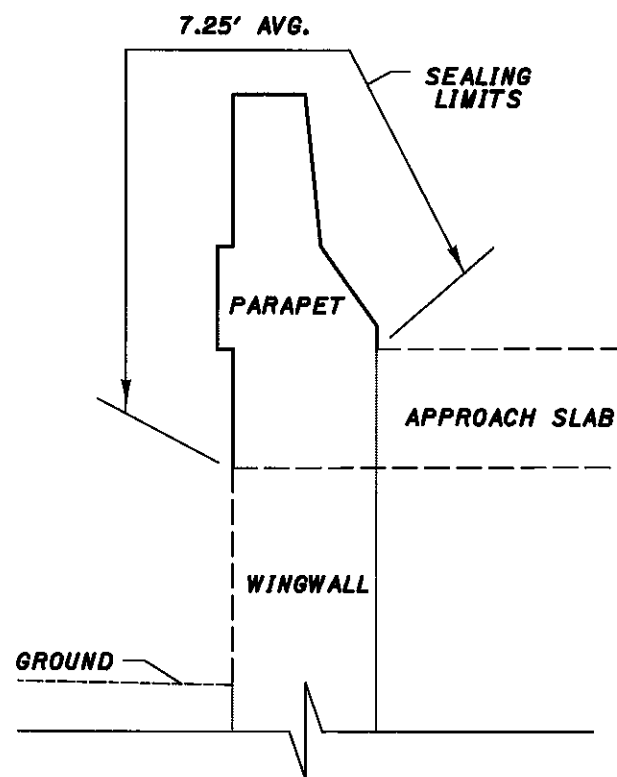
**EPOXY COATED REINFORCING STEEL LIST**

MARK	LEFT	RIGHT	LENGTH	SHAPE	TYPE	A	B	C	D	WEIGHT	
										LEFT	RIGHT
Y501	20	30	3'-0"	BENT	1	2'-5"				63	94
Y502	4	6	13'-10"	BENT	2	10'-0"	2'-5"	1'-5"		58	87
Y503	12	18	13'-8"	STR						171	257
Y504	12	18	4'-3"	STR						53	80
Y505	10	15	4'-2"	BENT	3	1'-1"	2'-3"	1'-1"		43	65
Y601	20	30	2'-3"	BENT	4	9"	8 1/2"	6"	8"	68	101
Y602	20	30	3'-0"	STR						90	135
Y603	20	30	5'-3"	STR						158	237
<b>TOTAL</b>										<b>704</b>	<b>1056</b>

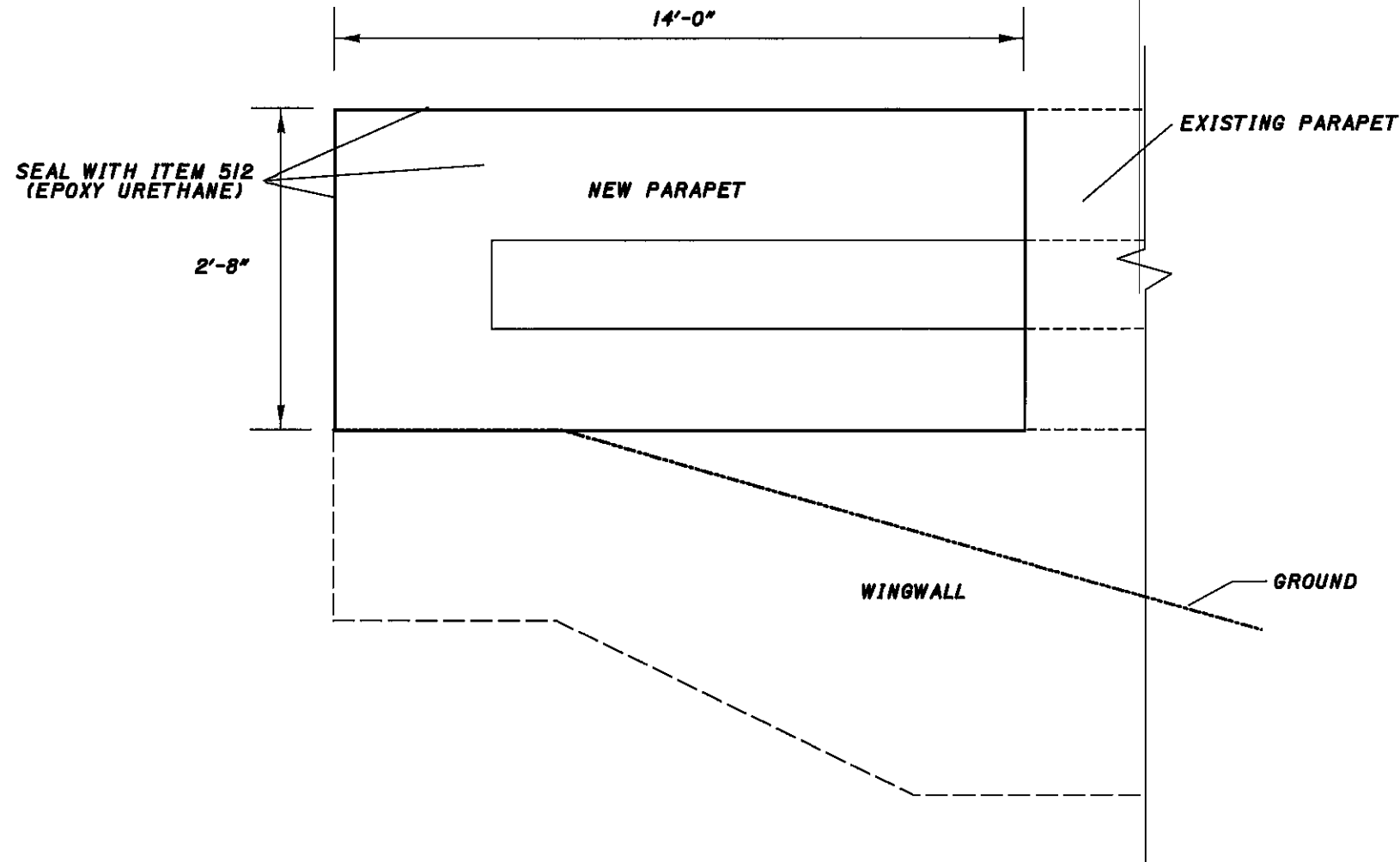
ITEM	QUANTITY		UNIT	DESCRIPTION
	LEFT	RIGHT		
202	3	4	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
509	704	1056	POUND	EPOXY COATED REINFORCING STEEL
510	52	78	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT
511	5	7	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)
516	14	20	SQ FT	1" PREFORMED EXPANSION JOINT FILLER

QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

DESIGN AGENCY: DISTRICT THREE OFFICE OF PRODUCTION  
 DATE: 2/06  
 REVISED: DCN 2201003/220101  
 DRAWN: BTR  
 CHECKED: DJV  
 PARAPET DETAILS  
 ERI-2-1798 L&R  
 OVER MUD BROOK  
 ERI-2-16.13  
 3/4  
 55  
 61



(LENGTH OF PARAPET = 14'-0")  
**TYPICAL PARAPET SEALING**



**TYPICAL PARAPET SEALING**

**NOTES:**

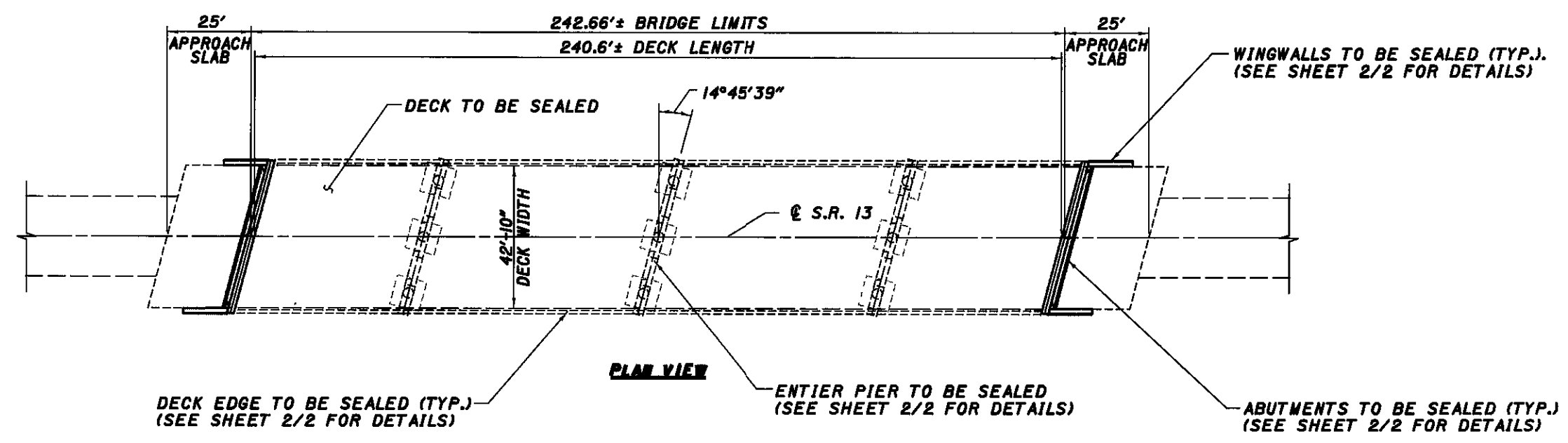
- 1) SEAL ONLY PARAPET THAT IS REPLACED WITH ITEM-512 SEALING CONCRETE SURFACES AS DETAILED ABOVE.
- 2) THE PARAPET SEALING DETAILS ARE NOT TO SCALE.
- 3) GUARDRAIL NOT SHOWN.

ITEM	QUANTITY		UNIT	DESCRIPTION
	LEFT	RIGHT		
512	23	35	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

QUANTITY CARRIED TO STRUCTURE SUMMARY SHEET

DESIGN FILE: i:\projects\18296\struct\ERI21798\details.dgn  
 WORKSTATION: t+jackson DATE: 3/1/2006

DESIGN AGENCY: DISTRICT THREE OFFICE OF PRODUCTION  
 DATE: 2/06  
 REVISED: DCW  
 DRAWN: BTR  
 CHECKED: DJV  
 STRUCTURE FILE NUMBER: 2501003/220101  
 PARAPET SEALING DETAILS  
 ERI-2-1798 L&R  
 OVER MUD BROOK  
 ERI-2-16.13  
 4/4  
 56/61



**PLAN VIEW**

ITEM	QUANTITY	UNIT	DESCRIPTION
512	1145	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS

NOTES:  
 1) THE EXISTING GUARDRAIL IS NOT SHOWN.

QUANTITY CARRIED TO STRUCTURE SUMMARY SHEET

I:\projects\18296\struct\ERI21833\ERI021833SD.dgn  
 t/jackson DATE 3/1/2006

DESIGN AGENCY  
 DISTRICT THREE  
 OFFICE OF PRODUCTION

DATE 2/06  
 REVISED DCW  
 STRUCTURE FILE NUMBER 2802495

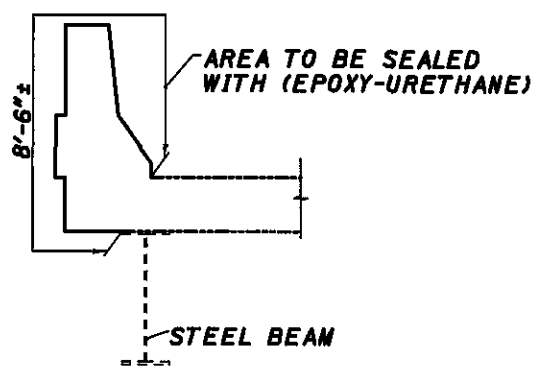
DRAWN GTS  
 REVISED  
 DESIGNED GTS  
 CHECKED DJV

**PLAN VIEW**  
 ERI - 2 - 1833  
 UNDER SR 13

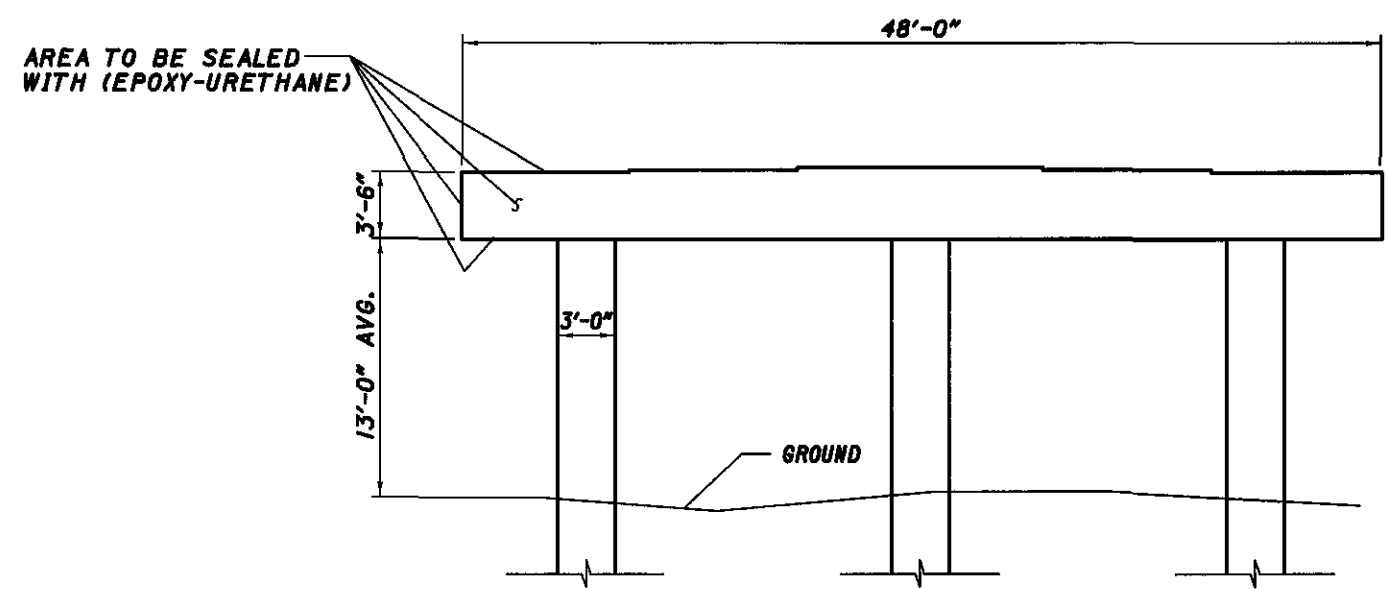
**ERI-2-16.13**

1 / 2  
 57  
 61

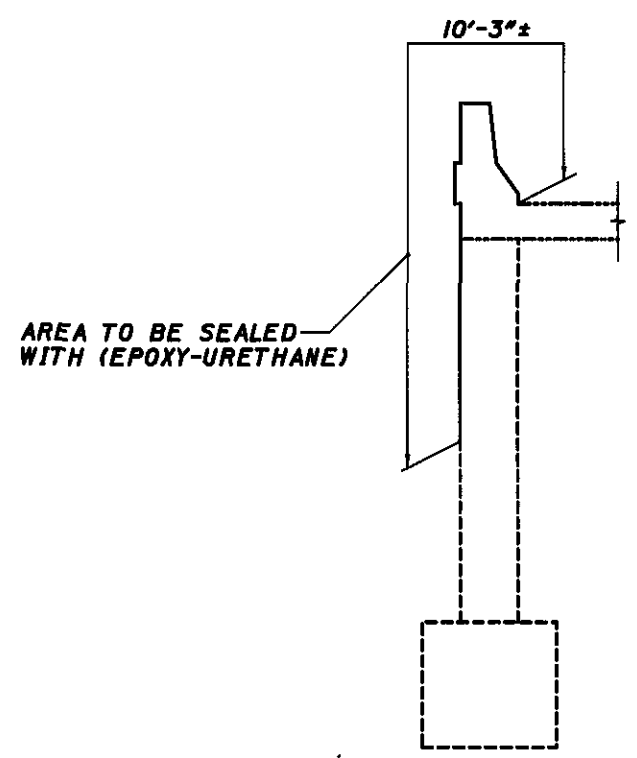
PROJECTS\18296\STRUCT\ERI21833\ERI021833SD.dgn  
 DATE 3/1/2006  
 JACKSON



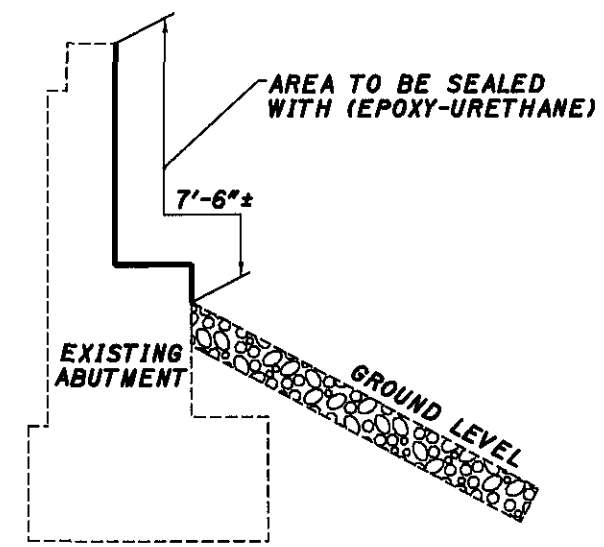
**TYPICAL SECTION AT PARAPET**  
 LENGTH = 240'-6"±



**PIER CAP ELEVATION VIEW**  
 WIDTH = 3'-0"±



**TYPICAL SECTION AT WINGWALL**  
 LENGTH = 14'-0"± AVG.

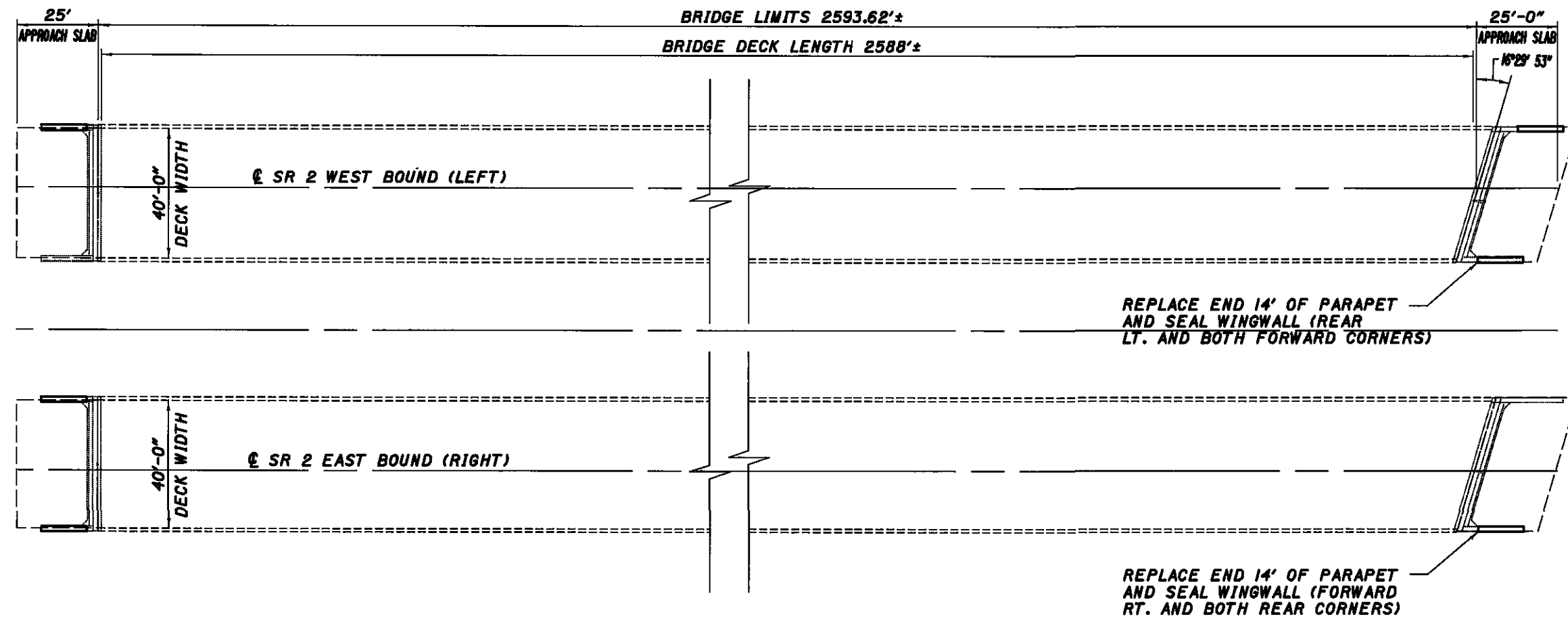


**TYPICAL SECTION AT ABUTMENT**  
 (ABUTMENTS ARE 47'-5" LONG)

ITEM	QUANTITY	UNIT	DESCRIPTION
512	928	SQ YD	SEALING OF CONCRETE STRUCTURES (EPOXY-URETHANE)

**NOTES:**  
 1) THE PARAPETS AND ALL EXPOSED AREAS OF THE ABUTMENTS, WINGWALLS AND ENTIRE PIER CAP AND COLUMNS SHALL BE SEALED WITH ITEM 512.  
 2) THE SEALING AREA DETAILS ARE NOT TO SCALE.

QUANTITY CARRIED TO STRUCTURE SUMMARY SHEET

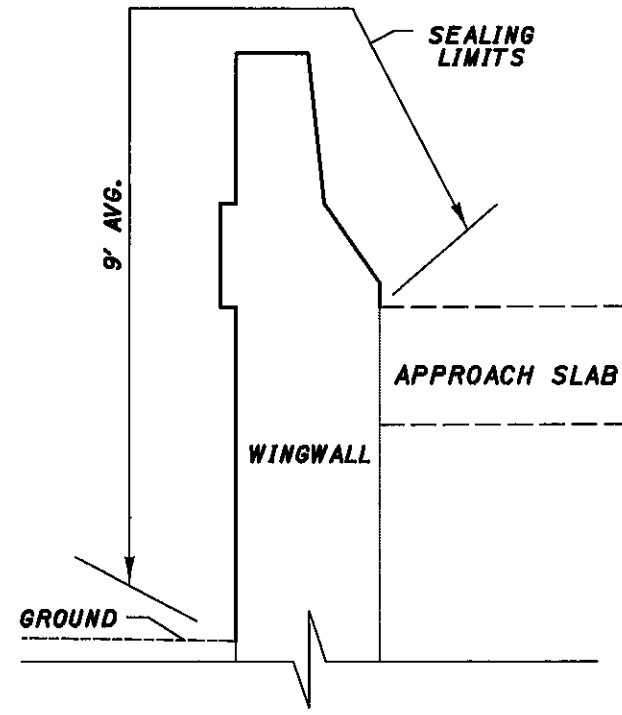


**NOTES:**

- 1) SEAL ALL EXPOSED AREAS OF THE PARAPET ON THE WINGWALL AND THE WINGWALL AT THE INDICATED LOCATIONS WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
- 2) FOR PARAPET REPLACEMENT DETAILS AND QUANTITIES, SEE SHEET 2/3 & 3/3.
- 3) EXISTING GUARDRAIL NOT SHOWN

ITEM	QUANTITY		UNIT	DESCRIPTION
	LEFT	RIGHT		
512	54	51	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

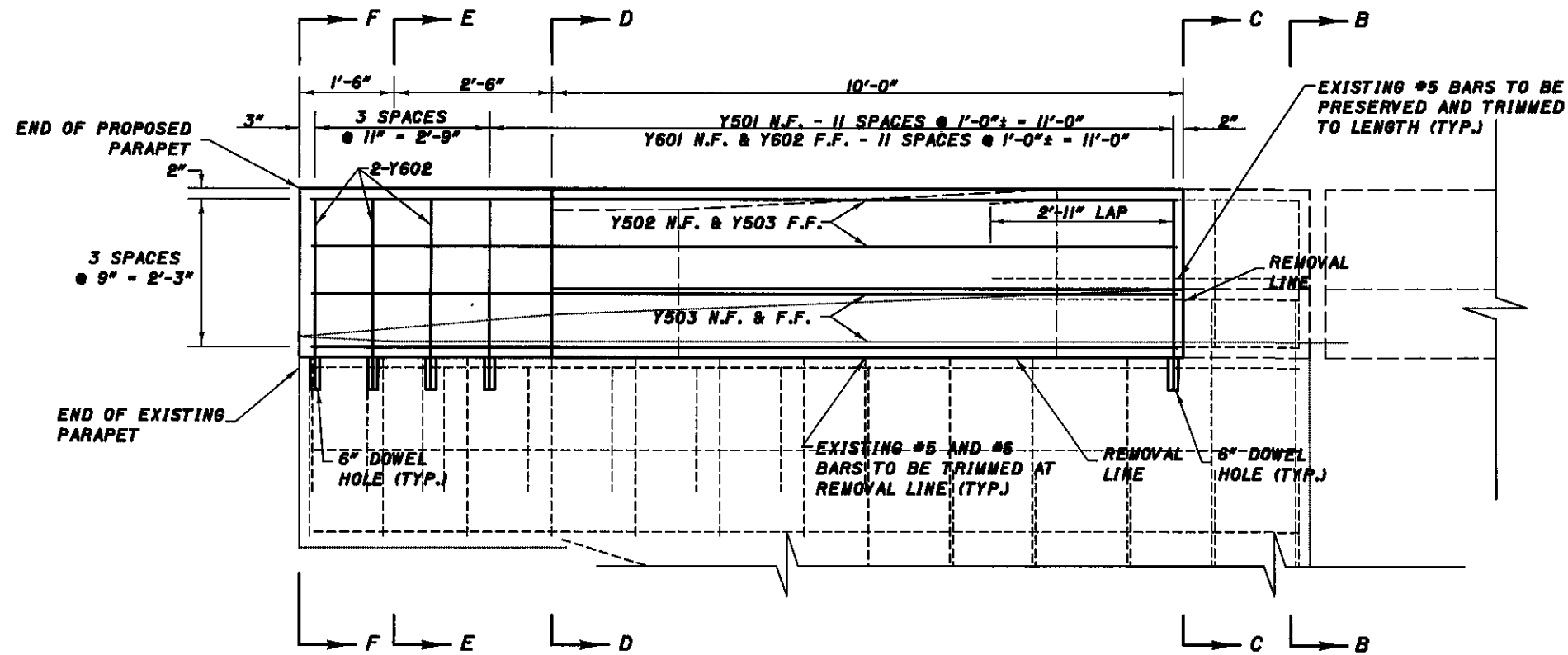
QUANTITY CARRIED TO STRUCTURE SUMMARY



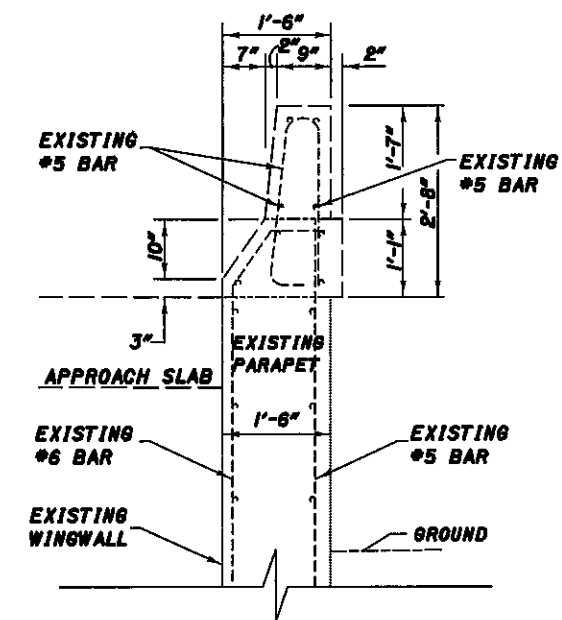
(LENGTH OF WINGWALL - 16'-0" AVG. REAR, 19'-0" AVG. FORWARD)  
**TYPICAL WINGWALL SEALING**

I:\projects\18296\structure\ERI21911\ERI021911SD.dgn  
 DATE: 3/1/2006  
 JACKSON

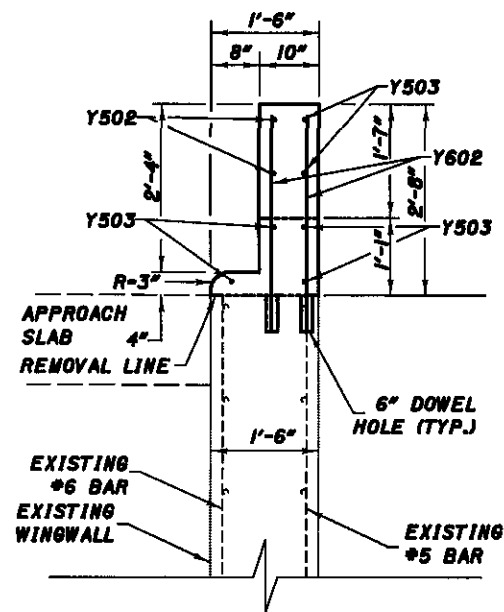
DISTRICT THREE  
 OFFICE OF PRODUCTION  
 DATE: 2/06  
 DCW  
 STRUCTURE FILE NUMBER: 2201038/2201046  
 DRAWN: GTS  
 CHECKED: DJV  
 DESIGNED: CAL  
 PLAN VIEW  
 ERI-2-1911 L&R  
 OVER HURON RIVER, NORFOLK SOUTHERN RAILROAD & C.R. 126  
 ERI-2-16.13  
 1/3  
 59  
 61



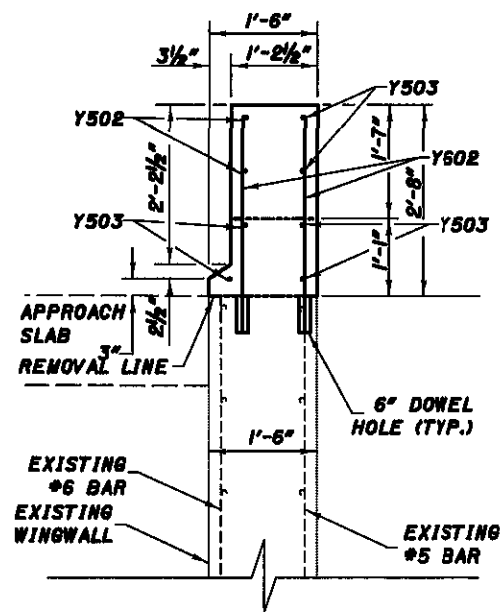
TYPICAL ELEVATION VIEW OF PARAPET



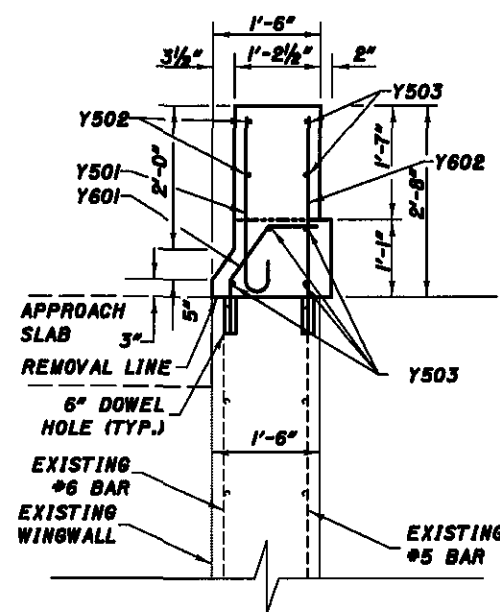
SECTION B-B



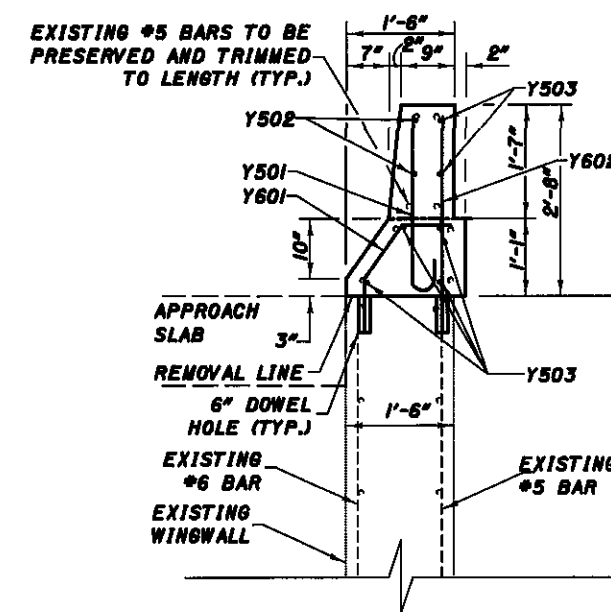
SECTION F-F



SECTION E-E



SECTION D-D



SECTION C-C

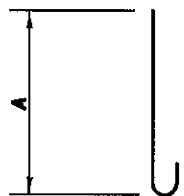
**NOTES:**

- 1) THE EXISTING REINFORCING STEEL AS INDICATED SHALL BE PRESERVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- 2) THE PARAPET REPLACEMENT DETAILS ARE NOT TO SCALE.

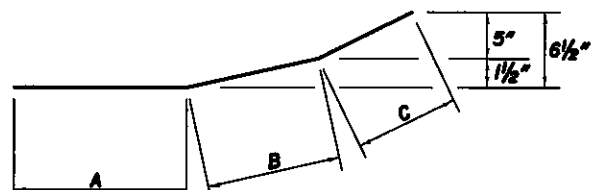
- 3) FOR ADDITIONAL DETAILS AND NOTES, REFER TO THE STANDARD BRIDGE DRAWING BR-1.
- 4) FOR QUANTITIES, BENDING DIAGRAMS AND REINFORCING STEEL TABLE, SEE SHEET 3/3.

DESIGN FILE: I:\projects\18296\struct\ERI21911\ERI021911SD.dgn  
 WORKSTATION: tjackson DATE: 3/1/2006

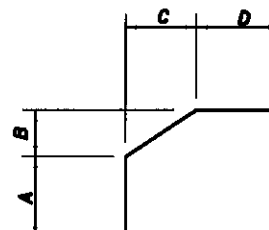
**BENDING DIAGRAMS**



TYPE 1



TYPE 2



TYPE 3

**EPOXY COATED REINFORCING STEEL LIST**

MARK	NUMBER		LENGTH	SHAPE	TYPE	A	B	C	D	WEIGHT	
	LEFT	RIGHT								LEFT	RIGHT
Y501	36	36	3'-0"	BENT	1	2'-5"				113	113
Y502	6	6	13'-10"	BENT	2	10'-0"	2'-5"	1'-5"		87	87
Y503	18	18	13'-8"	STR						257	257
Y601	36	36	2'-3"	BENT	3	9"	8 1/2"	6"	8"	122	122
Y602	54	54	3'-0"	STR						243	243
<b>TOTAL</b>										<b>822</b>	<b>822</b>

ITEM	QUANTITY		UNIT	DESCRIPTION
	LEFT	RIGHT		
202	4.2	4.2	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
509	822	822	POUND	EPOXY COATED REINFORCING STEEL
510	90	90	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT
511	5.1	5.1	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET RECONSTRUCTION)

QUANTITIES CARRIED TO STRUCTURE SUMMARY

DESIGN FILE: k:\projects\18256\stt\uct\ERI2191\ERI02191ISD.dgn  
 WORKSTATION: +Jackson DATE: 3/1/2006

DESIGN AGENCY: DISTRICT THREE OFFICE OF PRODUCTION  
 DATE: 2/06  
 DCW  
 STRUCTURE FILE NUMBER: 2201038/2201046  
 DRAWN: ØTS  
 CHECKED: DJV  
 PLAN VIEW  
 ERI-2-1911 L&R  
 OVER HURON RIVER, NORFOLK SOUTHERN RAILROAD & C.R. 126  
 ERI-2-16.13  
 3/3  
 61/61