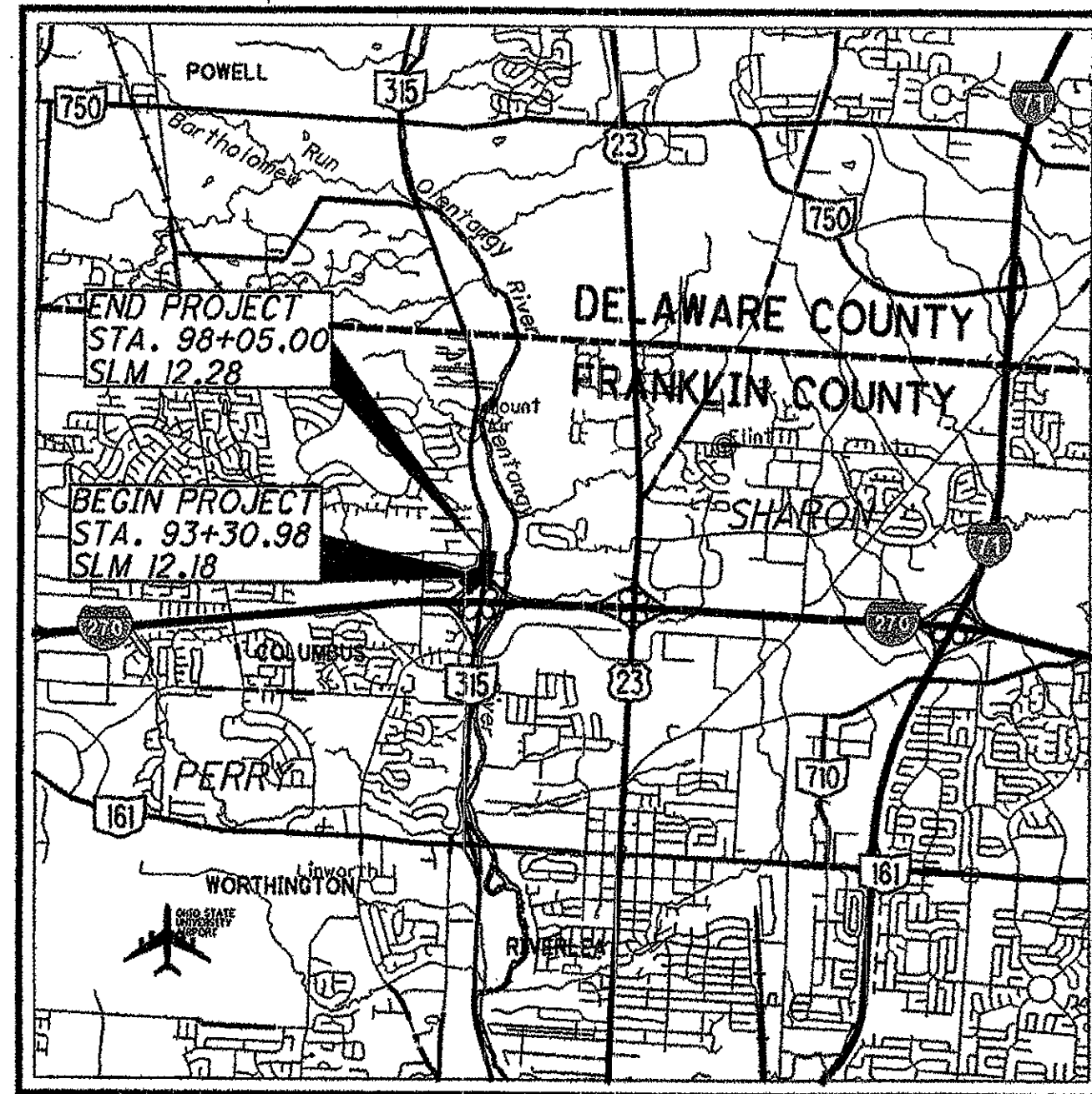


STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

FRA-315-12.18

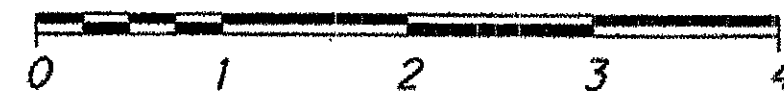
**SHARON TOWNSHIP
FRANKLIN COUNTY**



LOCATION MAP

LATITUDE: 40°06'53" LONGITUDE: 83°02'06"

SCALE IN MILES



PORTION TO BE IMPROVED	-----
INTERSTATE & DIVIDED HIGHWAY	=====
UNDIVIDED STATE & FEDERAL ROUTES	=====
OTHER ROADS	-----

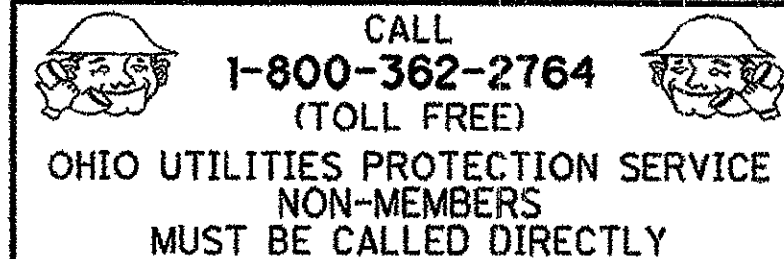
DESIGN DESIGNATION	S.R 315	RAMP H
CURRENT ADT (2008)	43058	2506
DESIGN YEAR ADT (2028)	69570	3970
DESIGN HOURLY VOLUME (2028)	6260	355
DIRECTIONAL DISTRIBUTION	50%	N/A
TRUCKS (24 HOUR B&C)	3%	1%
DESIGN SPEED	65 MPH	VARIES
LEGAL SPEED	65 MPH	N/A
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN PRINCIPAL ARTERIAL	URBAN RAMP

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG



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

PLAN PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF PRODUCTION
1980 WEST BROAD STREET
COLUMBUS, OHIO 43223

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STANDARD CONSTRUCTION DRAWINGS

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS			
BP-3.1	7/16/04	GR-3.2	1/19/07	TC-12.30	1/19/07	MT-35.10	4/20/01	800	10/19/07
BP-5.1	7/28/00	GR-4.2	1/19/07	TC-21.20	1/19/07	MT-95.30	9/05/06	802	4/15/05
		GR-5.3	1/16/04	TC-22.20	1/19/01	MT-95.31	9/05/06	832	4/25/06
CB-1.3	7/15/05			TC-41.10	1/19/01	MT-98.18	10/18/02		
CB-3.2	7/15/05	HW-2.2	4/21/06	TC-41.20	1/19/01	MT-101.60	9/20/06		
CB-3.4	7/15/05			TC-52.10	1/19/07	MT-102.10	10/20/06		
		RM-4.2	10/20/06	TC-52.20	1/19/07	MT-105.10	10/18/02		
DM-1.1	4/21/06			TC-61.10	1/19/01	MT-105.11	10/18/02		
DM-1.2	10/21/05	AS-1-81	7/19/02	TC-65.10	1/21/05				
DM-4.1	7/19/02	PCB-91	7/19/02	TC-65.11	1/21/05				
DM-4.3	7/19/02	SBR-1-99	7/19/02	TC-71.10	1/19/07				
DM-4.4	7/19/02			TC-72.20	1/21/05				
GR-1.1	7/16/04								
GR-2.1	1/16/04								
GR-3.1	1/19/07								

ENGINEERS SEAL: FOR ROADWAY WORK:	ENGINEERS SEAL: FOR STRUCTURES WORK:
SIGNED: <i>Thomas Karl Birnbruch</i> DATE: 10/12/2007	SIGNED: <i>Teddy Antonios</i> DATE: 10/12/2007

PROJECT DESCRIPTION

RELOCATE THE ENTRANCE TO S.R. 315 RAMP H 0.08 MILES SOUTH OF THE HARD ROAD / S.R. 315 INTERSECTION. ADD DECELERATION LANE ON S.R. 315 AND WIDEN STRUCTURE FRA-315-1220L.

PROJECT EARTH DISTURBED AREA: 2.50 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 1.50 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 4.90 ACRES

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 OHIO REVISED CODE.

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.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) OF THE OHIO REVISED CODE, 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.

PLAN CERTIFIED BY:
NAME *Larry L. Harvita* DATE 10.15.07
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6

APPROVED *Thomas A. Walker*
DATE 10-15-07 DISTRICT DEPUTY DIRECTOR

APPROVED *James A. Beatty III*
DATE 10-25-07 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.
E070(428)

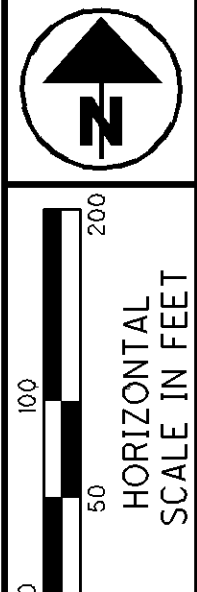
PID NO.
82324

CONSTRUCTION PROJECT NO.
NONE

RAILROAD INVOLVEMENT
NONE

FRA-315-12.18

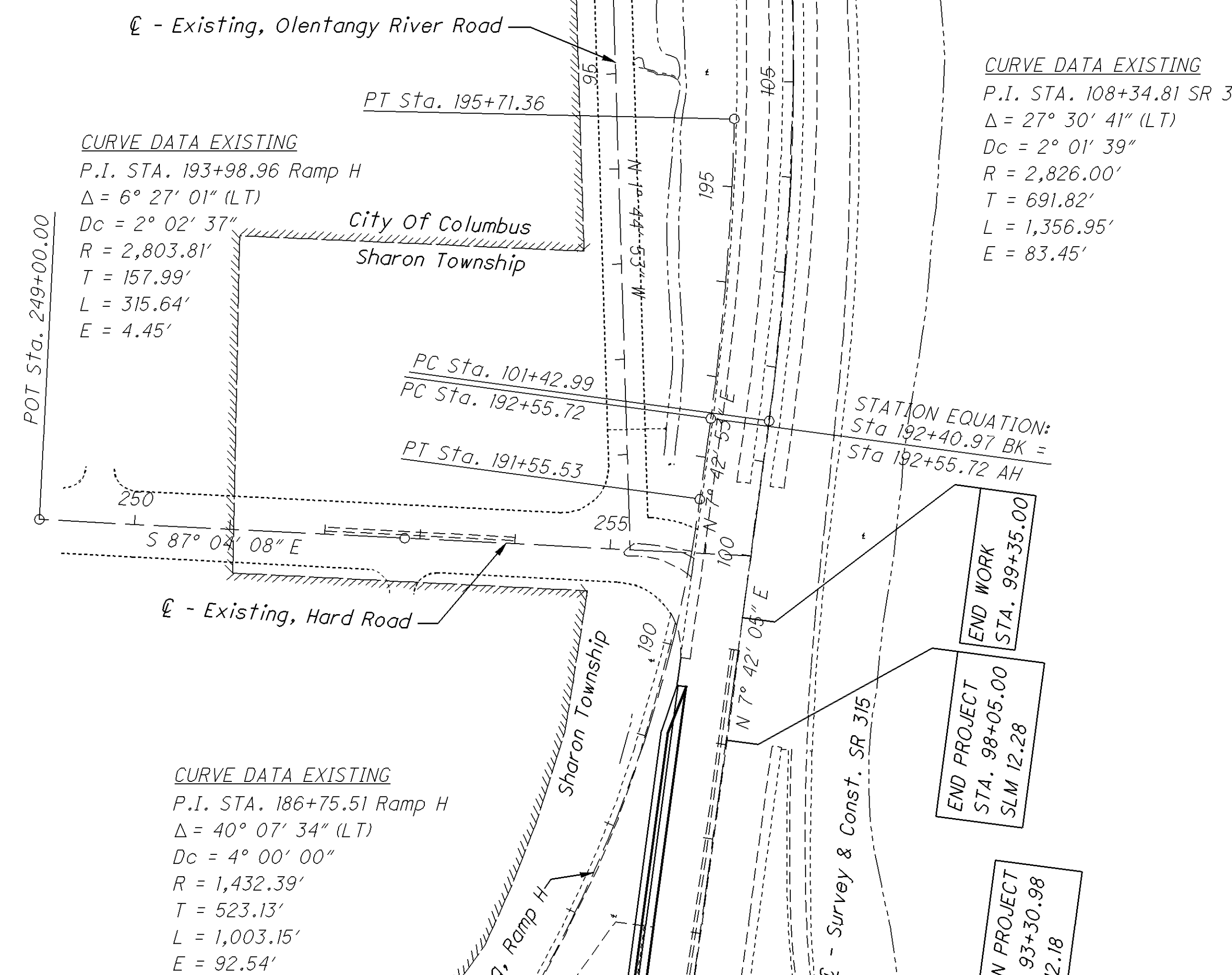
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SCHEMATIC PLAN

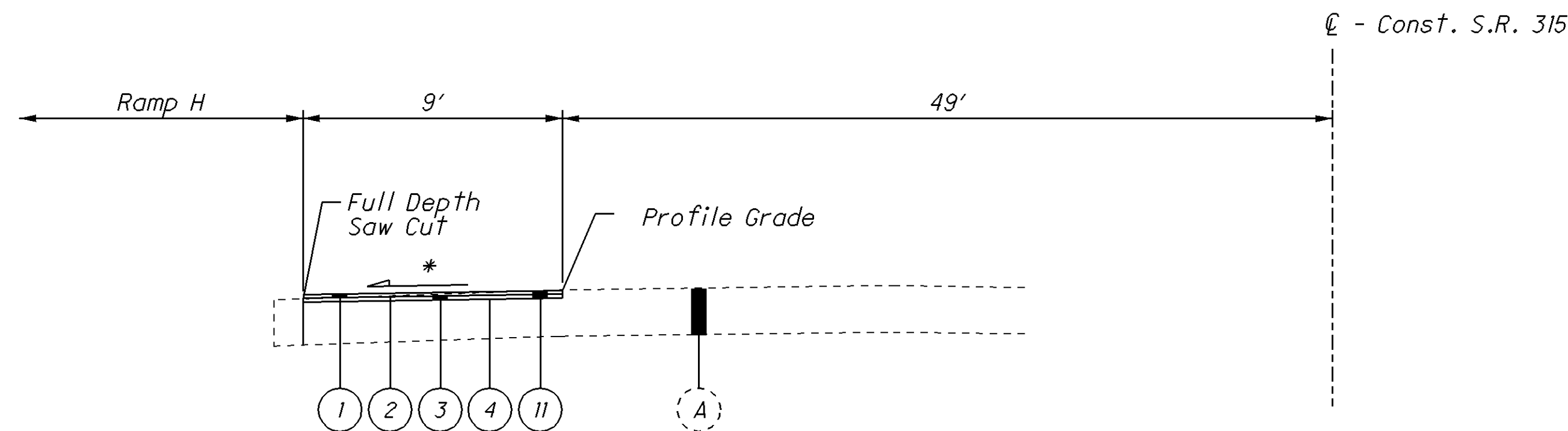
FRA - 315 - 12.18

BENCHMARK DESCRIPTIONS	
TBM-1	MAG NAIL S.R. 315 STA. 92+18.0, 13.6' RT ELEV. = 764.16
TBM-2	N.E. BOLT ON LIGHT TOWER S.R. 315 STA. 105+10.0, 90.0' LT ELEV. = 768.95
TBM-3	AERIAL TARGET S.R. 315 RAMP H STA. 179+35.6, 3.6' LT ELEV. = 779.61



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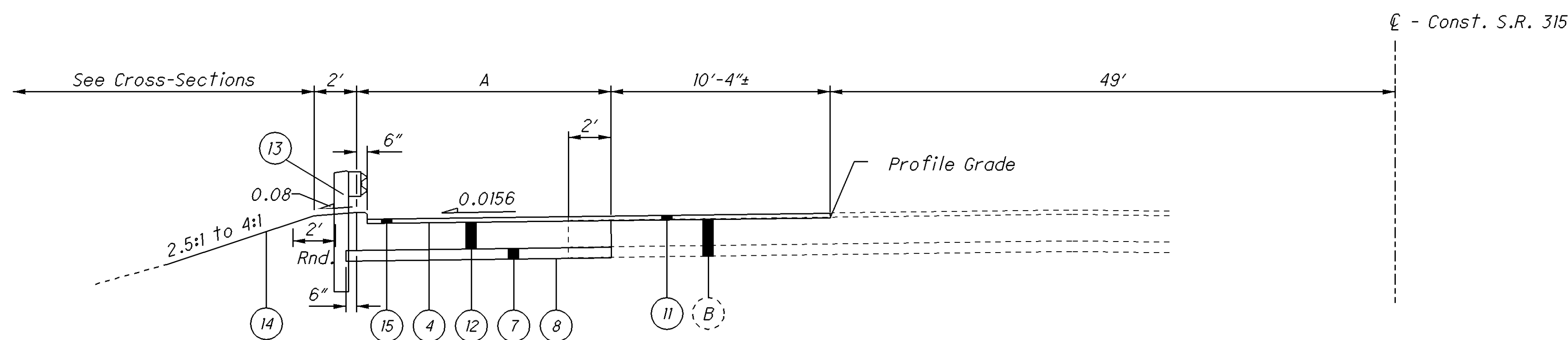
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NORMAL SECTION - S.R. 315

Note: Stations at Profile Grade Line

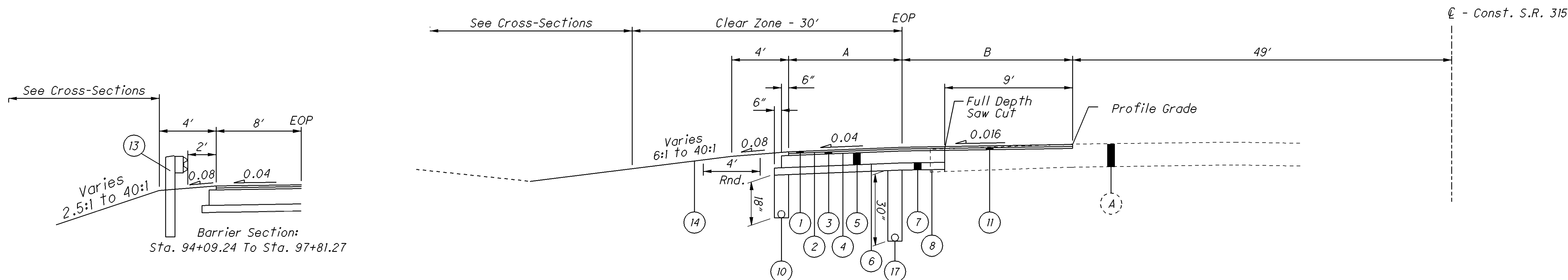
STA. TO STA.	*
92+65.00 To 92+75.11	Varies 0.04 to 0.016
92+75.11 To 93+30.98	0.016



APPROACH SLAB SECTION - S.R. 315

Note: Stations at Profile Grade Line

STA. TO STA.	A
93+30.98 To 93+55.98	See Approach Slab Details, Sht.
93+55.98 To 93+84.24	Bridge Deck
93+84.24 To 94+09.24	See Approach Slab Details, Sht.



NORMAL SECTION - S.R. 315

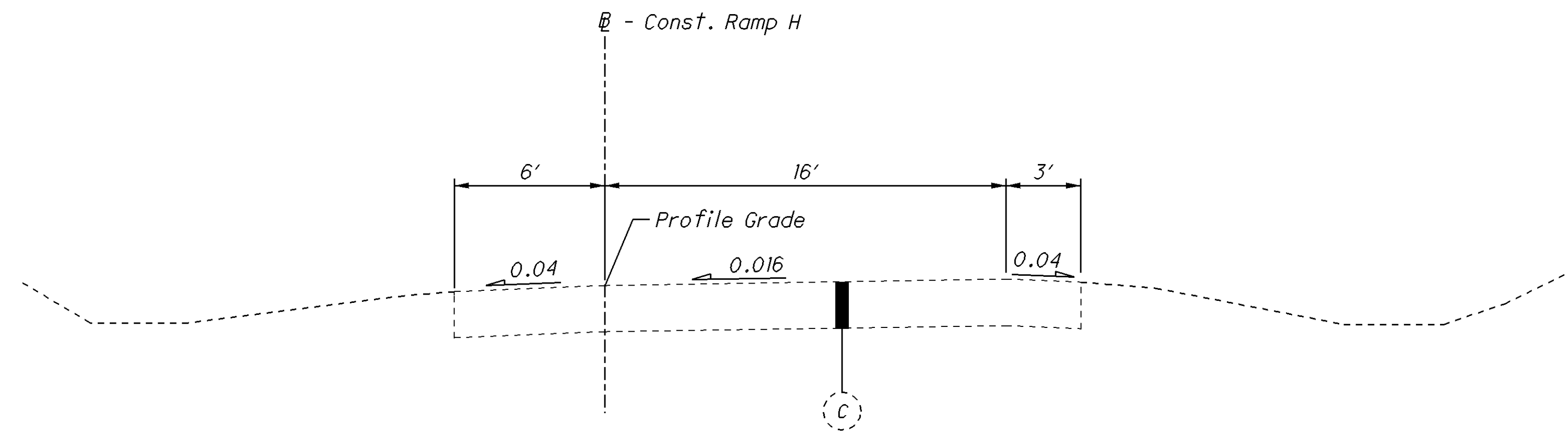
Note: Stations at Profile Grade Line

STA. TO STA.	A	B
94+09.24 To 98+05.00	8.0'	12.0'
98+05.00 To 98+55.00	Varies 8.0' To 10.0'	Varies 12.0' To 0.0'

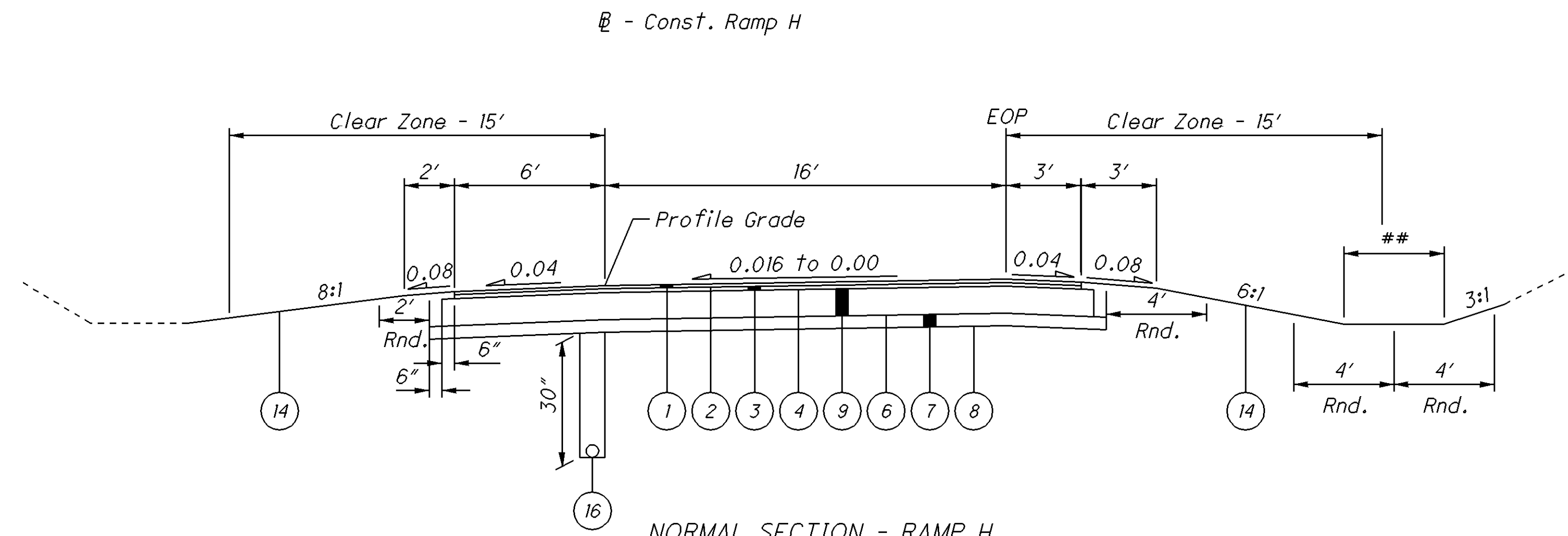
LEGEND

- ① ITEM 442 - 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A(446)
 - ② ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
 - ③ ITEM 442 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A(446)
 - ④ ITEM 407 - TACK COAT
 - ⑤ ITEM 302 - 10" ASPHALT CONCRETE BASE, PG64-22
 - ⑥ ITEM 408 - PRIME COAT
 - ⑦ ITEM 304 - 6" AGGREGATE BASE
 - ⑧ ITEM 204 - SUBGRADE COMPACTION
 - ⑨ ITEM 302 - 13" ASPHALT CONCRETE BASE, PG64-22
 - ⑩ ITEM 605 - 6" BASE PIPE UNDERDRAINS
 - ⑪ ITEM 254 - VARIABLE DEPTH (1 1/4" - 3 1/4") PAVEMENT PLANING, ASPHALT CONCRETE
 - ⑫ ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN
 - ⑬ ITEM 606 - GUARDRAIL, TYPE 5
 - ⑭ ITEM 659 - SEEDING AND MULCHING
 - ⑮ ITEM 442 - 2 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A(446)
 - ⑯ ITEM 605 - 6" ROCK CUT UNDERDRAINS
 - ⑰ ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS
- Ⓐ EXISTING ASPHALT PAVEMENT AND BASE = 19 1/4"
- Ⓑ EXISTING APPROACH SLAB AND BASE = 23 1/2"
- Ⓒ EXISTING ASPHALT PAVEMENT AND BASE = 22 1/4"

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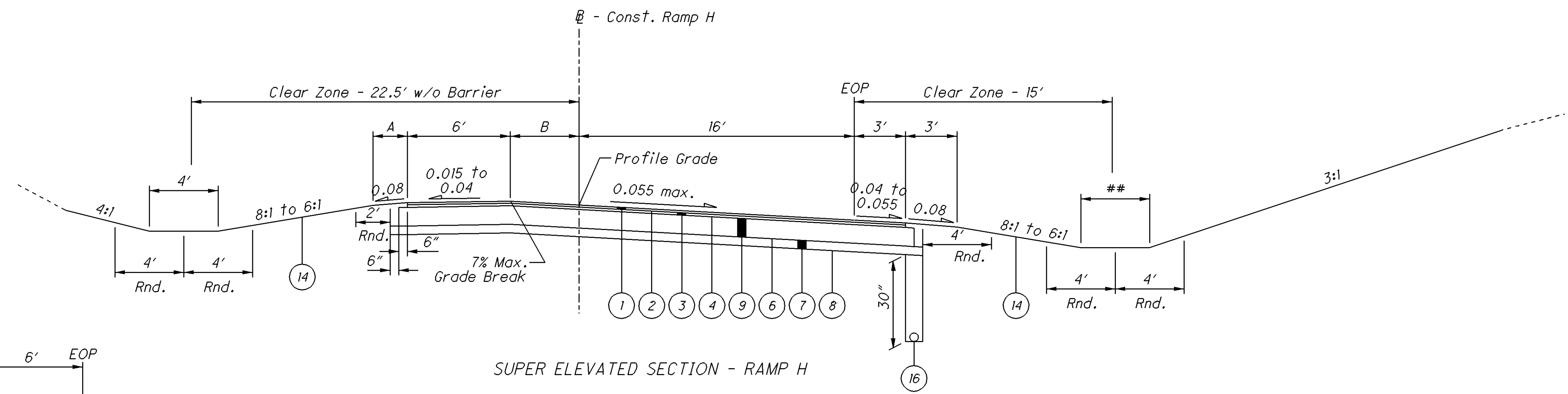
EXISTING SECTION - RAMP H
STA. 180+49.41 Back



NORMAL SECTION - RAMP H

STA. TO STA.
180+49.41 To 180+88.20

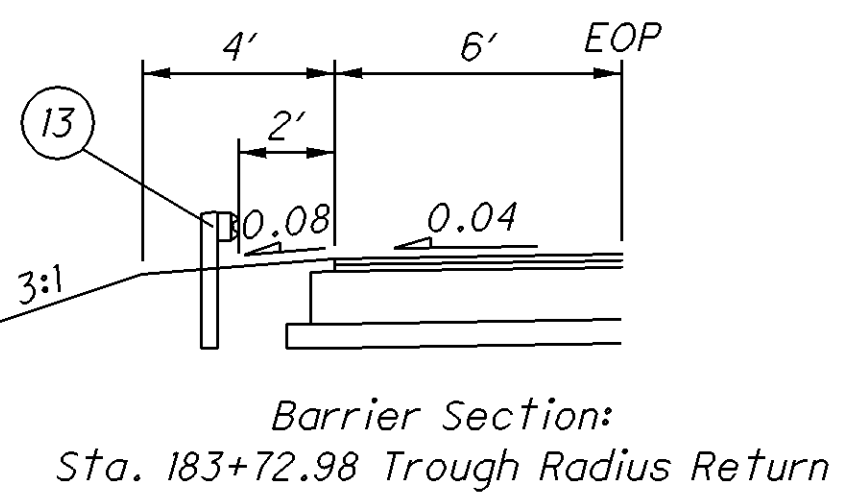
##:
Sta. 180+75 to Sta. 181+00 = 4'
Sta. 181+25 to Sta. 185+00 = 6'



SUPER ELEVATED SECTION - RAMP H

STA. TO STA.	A	B
180+88.20 TO 184+40.13	2.0'	0.0'
184+40.13 TO 184+90.13	4.0'	Varies 0.0' To 5.0'
184+90.13 TO 185+41.50	4.0'	Varies 5.0' To *

*: Follow Radius Return To Approach Slab
(See Intersection Detail Sheet)



For Balloon Legend See Sheet 3

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT

OWNERS:

MR. HERB JOHANSON, P. E.
CITY OF COLUMBUS
SEWER SYSTEMS ENGINEERING SECTION
1250 FAIRWOOD AVENUE
COLUMBUS, OH 43206

614.645.6290
614.645.0880 - FAX
HJOHANSON@COLUMBUS.GOV

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

ELEVATION DATUM

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

WORK LIMITS

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

CLEARING AND GRUBBING

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

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	1 EACH
659, TOPSOIL	950 CU.YD.
659, SEEDING AND MULCHING	8555 SQ.YD.
659, REPAIR SEEDING AND MULCHING	428 SQ.YD.
659, INTER-SEEDING	428 SQ.YD.
659, COMMERCIAL FERTILIZER	1.19 TON
659, LIME	1.77 ACRES
659, WATER	47 M.GAL.

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

ROUNDING

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

ITEM 202 - PAVEMENT REMOVED, ASPHALT

A QUANTITY OF ITEM 202 HAS BEEN ADDED TO THE PLANS FOR THE REMOVAL OF THE EXISTING RAMP H PAVEMENT. LIMITS OF REMOVAL ARE AS SHOWN IN THE PLAN AND PROFILE SHEETS AND INCLUDE BOTH PAVEMENT AND PAVED SHOULDERS. ASPHALT DEPTH IS ± 16 1/4 INCHES.

202, PAVEMENT REMOVED, ASPHALT 3517 SQ.YD.

EXISTING RAMP H STRUCTURE REMOVAL

ITEMS 202, STRUCTURE REMOVED, OVER 20' SPAN AND APPROACH SLAB REMOVED HAVE BEEN ADDED TO THE PLANS FOR THE REMOVAL OF THE EXISTING RAMP H STRUCTURE (FRA-315-1220H) SFN: 2515970. SEE RAMP H AND RAMP H REMOVAL CROSS SECTIONS FOR PROPOSED GRADING AT STRUCTURE LOCATION.

202, STRUCTURE REMOVED, OVER 20' SPAN LUMP SUM
202, APPROACH SLAB REMOVED 167 SQ. YD.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

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

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

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

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

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF TWO 25'-0" 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. NO.	DRAWING NAME	DATE	DATE
SS141	ET2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND SECTION	5/22/00	7/31/00
SS265M	ET-2000 (1997) PLAN, ELEVATION AND SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00

SS141 ET2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, HBA POSTS 1-4 2/29/00 7/31/00

SS158 ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND 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", INCLUSIVE OF FOUR 12'-6" 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. NO.	DRAWING NAME	DATE	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", OR 12" X 18" IF APPLIED TO A RECTANGULAR ET-2000 1/2 PLUS 3/2 EXTRUDER HEAD.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

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

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-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.

GRADING / EROSION CONTROL ALONG WILSON RUN

QUANTITIES HAVE BEEN ADDED TO THE PLAN FOR EROSION CONTROL ALONG WILSON RUN. COMPLETE THE GRADING AND PLACE EROSION CONTROL AS SHOWN ON THE GRADING PLAN, SHT. 49.

601, TIED CONCRETE BLOCK MAT, TYPE 2	92 SQ.YD.
601, ROCK CHANNEL PROTECTION, TYPE A, WITH FILTER	108 CU.YD.
601, ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER	71 CU.YD.
601, ROCK CHANNEL PROTECTION, MISC.: REMOVE AND RESET, TYPE A	220 CU.YD.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2' OF THE PLAN ELEVATION.

IF THERE IS UNSUITABLE MATERIAL IN A SHALLOW FILL LOCATION, THEN REMOVE AND REPLACE THE UNSUITABLE MATERIAL ACCORDING TO STEP 2 PRIOR TO CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.

2. REMOVE AND REPLACE THE UNSUITABLE MATERIALS (E.G., A-4B, A-2-5, A-5, A-7-5, COAL, SHALE, ROCK). THESE MATERIALS ARE TO BE REMOVED PRIOR TO PROOF ROLLING. THE LIMITS ARE SHOWN ON THE CROSS SECTIONS AS UNSUITABLE SOILS. THE QUANTITIES FOR THE UNSUITABLE SOILS ARE PAID FOR UNDER ITEM 204 EXCAVATION OF SUBGRADE.

3. CONSTRUCT AND COMPACT THE SUBGRADE ACCORDING TO CMS 204.03.

4. PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO CMS 204.06 TO DETERMINE THE ACTUAL LIMITS OF THE SOFT SOILS AND TO VERIFY THE UNIFORMITY OF THE SUBGRADE COMPACTION. THE APPROXIMATE LIMITS OF THE SOFT SOILS ARE SHOWN ON THE CROSS SECTIONS AS SOFT SOILS.

5. THE ENGINEER WILL IDENTIFY THE ACTUAL LOCATIONS OF THESE SOILS BASED ON THE PROOF ROLLING RESULTS. AFTER THE SOFT SOIL AREAS HAVE BEEN DETERMINED, THE ENGINEER WILL ADJUST THE PLAN WIDTH AND DEPTH BY UTILIZING TEST PITS ACCORDING TO THE CONSTRUCTION INSPECTION MANUAL. THE QUANTITIES FOR SOFT SOILS ARE PAID FOR UNDER ITEM 204 EXCAVATION OF SUBGRADE.

6. UNDERCUT AREAS DETERMINED BY THE ENGINEER AND REPLACE WITH THE SPECIFIED MATERIALS ACCORDING TO 204.07. THE UNDERCUTS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE PAVEMENT. PAVED SHOULDERS OR PAVED MEDIANS.

7. PROFF ROLL THE UNDERCUT AREAS ACCORDING TO 204.06 TO VERIFY THE UNDERCUT STABILITY.

8. FINE GRADE THE SUBGRADE TO SPECIFIED GRADE.

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

204, PROOF ROLLING	2 HOUR
204, EXCAVATION OF SUBGRADE	620 CU. YD.
204, EMBANKMENT	620 CU. YD.

INDIANA BAT HABITAT

CLEARING OF ANY TREES THAT HAVE SUITABLE SUMMER BROOD REARING OR ROOSTING HABITAT FOR THE FEDERALLY ENDANGERED INDIANA BAT (LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES, OR CAVITIES), SHALL OCCUR ONLY DURING THE PERIOD BEFORE APRIL 15 AND AFTER SEPTEMBER 15, WHEN THIS SPECIES WOULD NOT BE USING SUCH HABITAT.

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CALCULATED
TKB
CHECKED
MDC

GENERAL NOTES

FRA - 315 - 12.18

SCENIC RIVER NOTES

1. IF ANY EARTHWORK IS PERFORMED, A SEDIMENT AND EROSION CONTROL PLAN SHALL BE DEVELOPED AND IMPLEMENTED BEFORE EARTHWORK COMMENCES. ALL CONTROLS SHALL BE PROPERLY MAINTAINED UNTIL FINAL SITE STABILIZATION HAS BEEN ACHIEVED. ALL DENUDED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY UPON COMPLETION OF EARTHWORK OR WITHIN SEVEN DAYS IF THE AREA IS TO REMAIN IDLE FOR MORE THAN FORTY-FIVE DAYS. PROPERLY INSTALLED (FRAMED AND ENTRENCHED) SEDIMENT FENCE SHALL BE UTILIZED AROUND ANY STORM SEWER INLETS. APPROPRIATELY DESIGNED ROCK CHECK DAMS AND OTHER EROSION CONTROLS SHALL BE UTILIZED IN DITCHES AND CULVERTS. PARTICULAR ATTENTION SHALL BE GIVEN TO WATERCOURSES THAT COULD CONVEY SEDIMENT LADEN WATER DIRECTLY TO THE OLENTANGY RIVER. ANY DENUDED DITCHES SHALL BE SEEDED AND PROTECTED IMMEDIATELY WITH EROSION CONTROL MATTING OR SOD UPON COMPLETION OF EARTHWORK. STRAW BALES SHALL NOT BE UTILIZED AS A FORM OF SEDIMENT AND EROSION CONTROL. ALL SEDIMENT AND EROSION CONTROLS SHALL BE REMOVED UPON STABILIZATION OF THE PROJECT AREA.

2. NO TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, PAINT, SOLVENTS, CLEANING AGENTS, EARTHEN MATERIALS, WASTE-WATER, FUELS OR DEBRIS OF ANY KIND SHALL BE DISCHARGED TO WATERWAYS. ALL ASPHALT OR CONCRETE GRINDINGS, EXCESS ASPHALTIC OR CONCRETE MATERIALS OR ANY OTHER DEBRIS GENERATED DURING RESURFACING OR OTHER SIMILAR ACTIVITIES SHALL BE REMOVED IMMEDIATELY FROM WITHIN 1,000 FEET OF THE OLENTANGY RIVER AND DISPOSED OF AT AN APPROPRIATE FACILITY ABOVE THE FEMA 100-YEAR FLOOD ELEVATION AND NOT WITHIN 1,000 FEET OF THE OLENTANGY RIVER.

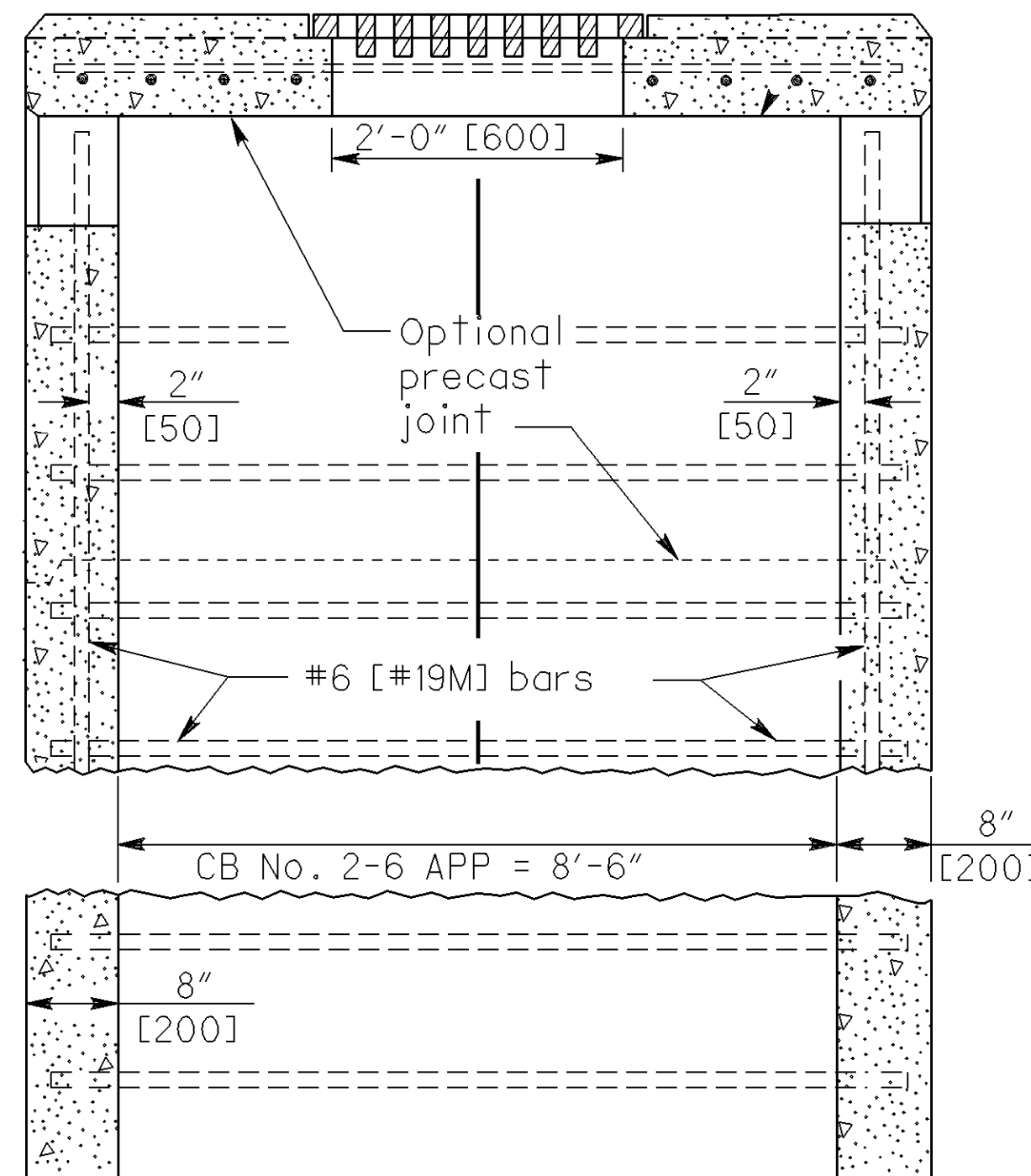
3. ROCK CHANNEL PROTECTION (RCP) USED AROUND PIERS AND ABUTMENTS SHALL BE KEPT TO THE MINIMUM AMOUNT NEEDED TO PREVENT SCOUR AND SHALL CONSIST OF CLEAN NON-ERODIBLE FILL ONLY (FREE OF ANY TOXIC OR FINE MATERIALS). RCP SHALL BE PLACED FROM BRIDGE DECKS WHENEVER POSSIBLE. IF IN-STREAM WORK IS NECESSARY, THEN ALL WORKPADS SHALL BE KEPT TO THE ABSOLUTE MINIMUM SIZE NEEDED TO FACILITATE IN-STREAM WORK. IN-STREAM WORK SHALL BE CONDUCTED THROUGH THE USE OF WATER DIVERSIONS SUCH AS SHEET PILING, MEMBRANE DAMS, ETC. THAT DO NOT REQUIRE THE PLACEMENT OF EARTHEN FILL WHENEVER POSSIBLE. IN-STREAM WORK SHALL BE PERFORMED BETWEEN JUNE 16 AND APRIL 14 DURING LOW FLOW CONDITIONS. ALL FILL USED AS RCP, OR USED IN THE CONSTRUCTION OF WORKPADS OR COFFERDAMS SHALL BE CLEAN, WASHED NON-ERODIBLE FILL (ABSOLUTELY NO NEW OR USED CONCRETE) OF THE MINIMUM SIZE NEEDED TO PREVENT MATERIALS FROM BEING WASHED OUT DURING EXPECTED HIGH FLOWS.

4. IF DEWATERING IS NECESSARY TO FACILITATE IN-STREAM WORK, THEN IT WILL BE ACCOMPLISHED IN ACCORDANCE WITH THE MOST CURRENT VERSION OF THE ODOT, CONSTRUCTION AND MATERIALS SPECIFICATIONS AND THE SEDIMENT AND EROSION CONTROL HANDBOOK. NO WASTEWATER OF ANY KIND SHALL BE DIRECTLY DISCHARGED TO THE OLENTANGY RIVER OR ANY WATERCOURSE DRAINING DIRECTLY INTO THE OLENTANGY RIVER. IDLE EQUIPMENT, FUELS, LUBRICANTS OR STORAGE FOR AND/OR STORAGE OF POTENTIALLY TOXIC OR HAZARDOUS MATERIALS SHALL BE KEPT ABOVE THE FEMA 100 YEAR FLOOD PLAIN AND NOT WITHIN 1,000 FEET OF THE OLENTANGY RIVER.

THE SCENIC RIVER COORDINATOR WILL BE NOTIFIED 15 CALENDAR DAYS PRIOR TO COMMENCEMENT OF WORK.

ITEM 604 - CATCH BASIN, NO. 2-6, AS PER PLAN

USE THE DIMENSIONS OF STANDARD DRAWING CB-3.4 EXCEPT AS DETAILED BELOW.



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GENERAL NOTES

FRA - 315 - 12.18

ITEM 614. MAINTAINING TRAFFIC

MAINTAIN A MINIMUM OF 2 LANES OF TRAFFIC ON SR 315 AT ALL TIMES.

MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC FROM SOUTHBOUND SR 315 TO WESTBOUND I-270 (RAMP H), EXCEPT FOR A PERIOD NOT TO EXCEED 30 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 12.

THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE AS DESIGNATED IN THE UNAUTHORIZED LANE USE TABLE LOCATED BELOW FOR EACH UNIT OF TIME A CRITICAL LANE IS CLOSED BY THE CONTRACTOR'S ACTION WHILE NOT OTHERWISE PERMITTED BY THE CONTRACT. THE DISINCENTIVE WILL BE FOR ANY LANE CLOSURES CAUSED BY THE CONTRACTOR DURING TIMES AND LOCATIONS NOT SPECIFICALLY PERMITTED BY THIS CONTRACT.

ALLOWABLE LANE / RAMP RESTRICTIONS TABLE

ROUTE DISCRPTION	CLOSURE	PERMITTED TIME
SR 315 SB	1 OF 2 LANES CLOSED	MON-FRI 12M-5AM, 9AM-3PM, 7PM-12M, SAT-SUN ANYTIME
SR 315 SB TO IR 270 WB	FULL CLOSURE	30 DAYS

UNAUTHORIZED LANE USE TABLE

CRITICAL LANE / RAMP TO BE MAINTAINED	TIME UNIT	DISINCENTIVE \$ PER TIME UNIT
2 LANES OF SR 315 FROM MM 12.0 TO MM 12.6	EACH MIN.	\$15.00
RAMP FROM SR 315 SB TO IR 270 WB	EACH DAY	\$760.00

BEFORE WORK BEGINS, SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THESE PERSONS ARE RESPONSIBLE FOR PLACING NECESSARY TRAFFIC CONTROL DEVICES TO MAINTAIN THE TRAVELED PAVEMENT SAFELY.

ALL WORK AND TRAFFIC CONTROL DEVICES WILL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF TRAFFIC CONTROL DEVICES. INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPERATELY ITEMIZED IN THE PLAN.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 30 M. GAL

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

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

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

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

DRAWING NUMBER: OSCZCVR-T4
 DRAWING NAME: QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES
 REVISION DATE: 5/13/99 REV. J
 ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-10
 DRAWING NAME: QUADGUARD SYSTEM CONCRETE PAD, CZ, OG
 REVISION DATE: 11/19/97 REV. D
 ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-16
 DRAWING NAME: QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, OG
 REVISION DATE: 7/30/99 REV. F
 ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 354051Z
 DRAWING NAME: QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, OG, 24, 30, 36
 REVISION DATE: 5/17/99
 ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-18
 DRAWING NAME: TRANSITION ASSEMBLY, 4 OFFSET, OG
 REVISION DATE: 6/25/99 REV. F
 ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35400260
 DRAWING NAME: QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY
 REVISION DATE: 11/19/97 REV. C
 ODOT APPROVAL DATE: 8/27/99

2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE TRACC IS 21'-0" LONG AND 2'-7" WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: SS450
 DRAWING NAME: CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS
 REVISION DATE: 3/12/99 REV. I
 ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS455
 DRAWING NAME: TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS
 REVISION DATE: 2/18/99
 ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS461
 DRAWING NAME: TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS
 REVISION DATE: 6/30/99 REV. I
 ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS462
 DRAWING NAME: TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS
 REVISION DATE: 6/30/99
 ODOT APPROVAL DATE: 8/27/99

3. THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR, DISTRIBUTED BY ROAD SYSTEMS INC., SALES SUPPORT, 2183 ELM TRACE, AUSTINTOWN, OH 44515, (TELEPHONE 330-799-9291)

THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT (24' LONG AND 35" WIDE). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: A040416
 DRAWING NAME: UNIVERSAL TAU-II PARTS LIST
 REVISION DATE: 4/22/04
 ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: A040420
 DRAWING NAME: UNIVERSAL TAU-II FOUNDATION, FLUSH MOUNT BACKSTOP
 REVISION DATE: 4/28/04
 ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: A040105
 DRAWING NAME: UNIVERSAL TAU-II FOUNDATION, PCB BACKSTOP (REFERENCED ON A04020)
 REVISION DATE: 1/07/04
 ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: B040239
 DRAWING NAME: APPLICATION, FLUSH MOUNT BACKSTOP (TYPICAL FOR PARALLEL 60 MPH UNIT)
 REVISION DATE: 4/21/04
 ODOT APPROVAL DATE: 10/16/04

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY ONE TO SIX UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, FIVE INSTALLED UNITS REQUIRE ONE SPARE PARTS PACKAGE AND SEVEN INSTALLED UNITS REQUIRE TWO SPARE PARTS PACKAGES.

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

ITEM 614. PORTABLE CHANGEABLE MESSAGE SIGN. AS PER PLAN

THE CONTRACTOR SHALL MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT.

NOTE: THIS SIGN WAS INSTALLED BY THE FRA-CR61-4.34 PROJECT AND MEETS THE SPECIFICATIONS ENTAILED BELOW. THE CONTRACTOR FOR THE FRA-315-12.18 PROJECT ASSUMES RESPONSIBILITY FOR THIS SIGN ONCE THE FRA-315-12.18 PROJECT BECOMES ACTIVE.

(THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THIS LIST IS AVAILABLE ON THE ODOT WEBSITE AT [HTTP://WWW.DOT.STATE.OH.US/TESTLAB/APPLISTS/MISC/PCMS.HTM](http://www.dot.state.oh.us/testlab/applists/misc/pcms.htm). THE LIST CURRENTLY CONTAINS CLASS I, II, AND III UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 1250 FT., 850 FT. AND 650 FT., RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET 11 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE HIGH-INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO TWO MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE AT THE POSTED SPEED LIMIT.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA-315-12.18

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.)

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN,
AS PER PLAN 6 SIGN-MONTH

ITEM 614. MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING
(OTHER HOLIDAY OR EVENT)	

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH (12:00N OR 6:00 AM) MONDAY
MONDAY	12:00N FRIDAY THROUGH (12:00N OR 6:00 AM) TUESDAY
TUESDAY	12:00N MONDAY THROUGH (12:00N OR 6:00 AM) WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH (12:00N OR 6:00 AM) THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH (12:00N OR 6:00 AM) MONDAY
FRIDAY	12:00N THURSDAY THROUGH (12:00N OR 6:00 AM) MONDAY
SATURDAY	12:00N FRIDAY THROUGH (12:00N OR 6:00 AM) MONDAY

NO LANE CLOSURES ARE PERMITTED ON SATURDAYS OF OSU FOOTBALL GAMES.

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

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

ITEM 614. MAINTAINING TRAFFIC (LANE CLOSURE/REDUCTION REQUIRED)

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

ITEM 614. BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF 27 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE A AND 27 EACH OF ITEM 614 OBJECT MARKER, 1-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

GUARDRAIL DELINEATION

OBJECT MARKERS SHALL BE INSTALLED ON ALL GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKER SPACING SHALL BE APPROXIMATELY 50 FEET. (SEE SHEET 14)

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING OBJECT MARKERS.

AN ESTIMATED QUANTITY OF 9 EACH OF ITEM 614 OBJECT MARKERS, 1-WAY HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. 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.

SEQUENCE OF OPERATIONS

PHASE 1

THE CONTRACTOR WILL MAINTAIN TWO LANES OF TRAFFIC ON SR 315 SB AND MAINTAIN ACCESS TO RAMP H. THE CONTRACTOR IS TO PERFORM THE WIDENING AND RELATED WORK ON SR 315 SB AND THE NEW CONSTRUCTION ON RAMP H BETWEEN THE FOLLOWING STATIONS:

- STA. 94+50 (SR 315) TO STA. 183+50 (RAMP H)

THIS WORK WILL CONSIST OF :

- CONSTRUCTION OF THE BRIDGE AND WIDENING UP TO AND INCLUDING THE INTERMEDIATE COURSE
- CONSTRUCTION OF RAMP H UP TO AND INCLUDING THE INTERMEDIATE COURSE
- TRAFFIC CONTROL ITEMS
- MISCELLANEOUS ITEMS

PHASE 2

SOUTHBOUND SR 315 TO WESTBOUND I 270 TRAFFIC WILL BE DETOURED. THE DETOUR WILL BE SB 315 TO EB 270 RAMP TO NB 315 RAMP TO WB 270 RAMP. TWO LANES ARE TO BE MAINTAINED ON SB SR 315. THE LENGTH OF CLOSURE IS TO BE A MAXIMUM OF 30 CONSECUTIVE CALENDAR DAYS.

THE CONTRACTOR SHALL PERFORM THE NEW CONSTRUCTION ON RAMP H BETWEEN THE FOLLOWING STATIONS:

- STA. 180+49.4 TO STA. 183+50

THIS WORK WILL CONSIST OF :

- CONSTRUCTION OF RAMP H UP TO AND INCLUDING THE INTERMEDIATE COURSE
- TRAFFIC CONTROL ITEMS
- MISCELLANEOUS ITEMS

PHASE 3

THE CONTRACTOR IS TO MAINTAIN TWO LANES OF TRAFFIC ON SR 315 SB AND MAINTAIN ACCESS TO RAMP H BY USING THE NEWLY CONSTRUCTED PORTION OF RAMP H. THE CONTRACTOR WILL PERFORM THE WIDENING AND RELATED WORK ON SR 315 SB BETWEEN THE FOLLOWING STATIONS:

- STA. 94+50 TO STA. 98+50

THIS WORK WILL CONSIST OF :

- CONSTRUCTION OF THE WIDENING UP TO AND INCLUDING THE INTERMEDIATE COURSE
- REMOVAL OF REMAINING PORTION OF EXISTING RAMP H AND BRIDGE OVER WILSON RUN
- TRAFFIC CONTROL ITEMS
- MISCELLANEOUS ITEMS

PHASE 4

PLACE ITEM 442 ASPHALT SURFACE COURSE BY USE OF MT-95.30.

PLACE PERMANENT PAVEMENT MARKINGS.

THE ALLOWABLE HOURS FOR CLOSING ONE OF TWO LANES OF SR 315 SB FOR SURFACE COURSE OPERATIONS :

- MON - FRI 12M - 5AM, 9AM - 3PM, 7PM - 12M
- SAT AND SUN ANYTIME

ALTERNATE METHODS

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

ITEM 614. MAINTAINING TRAFFIC

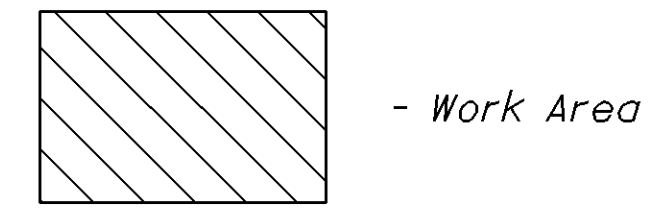
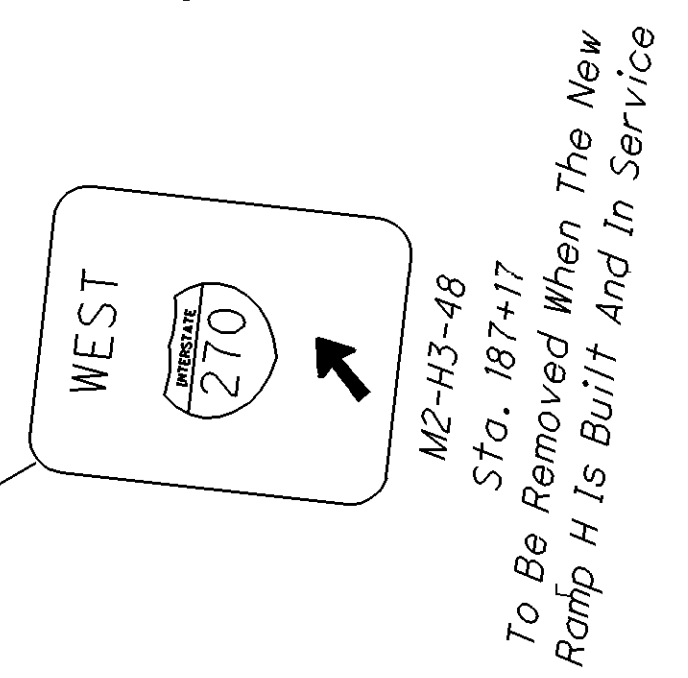
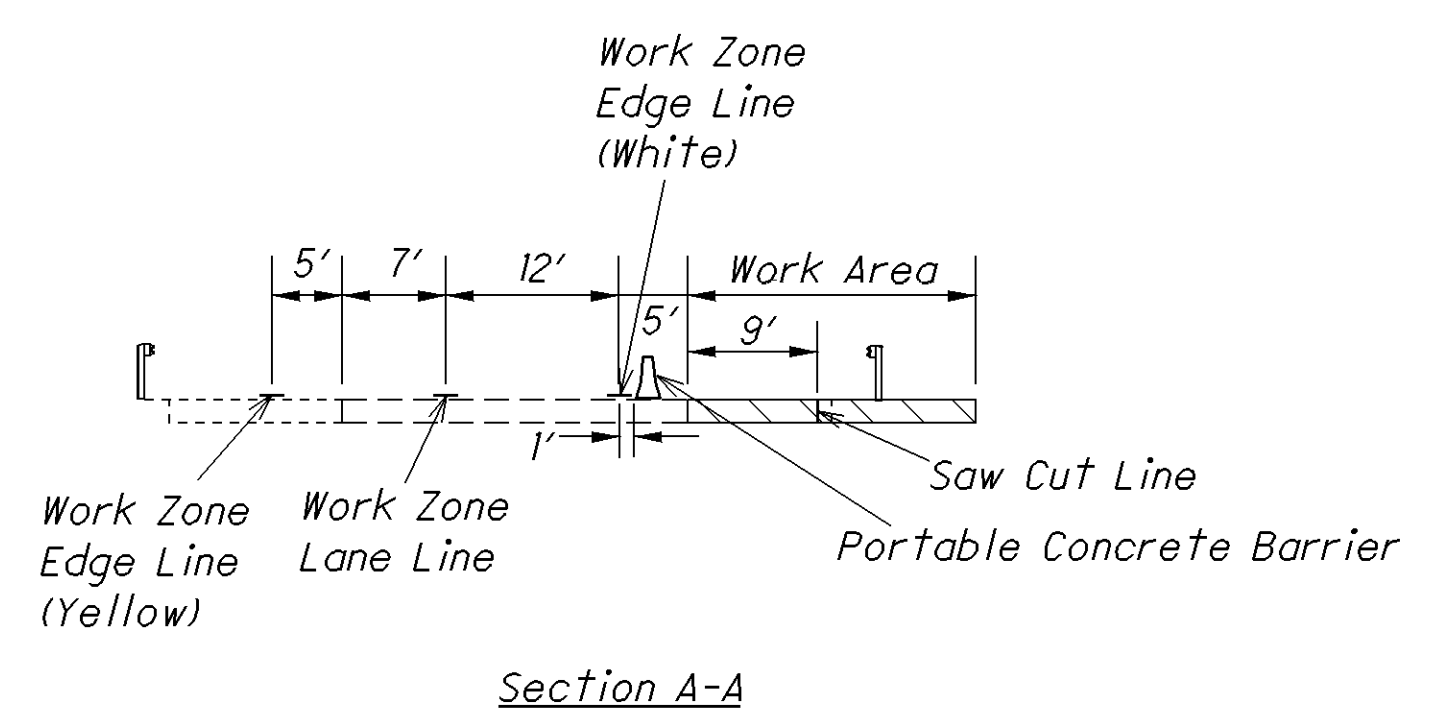
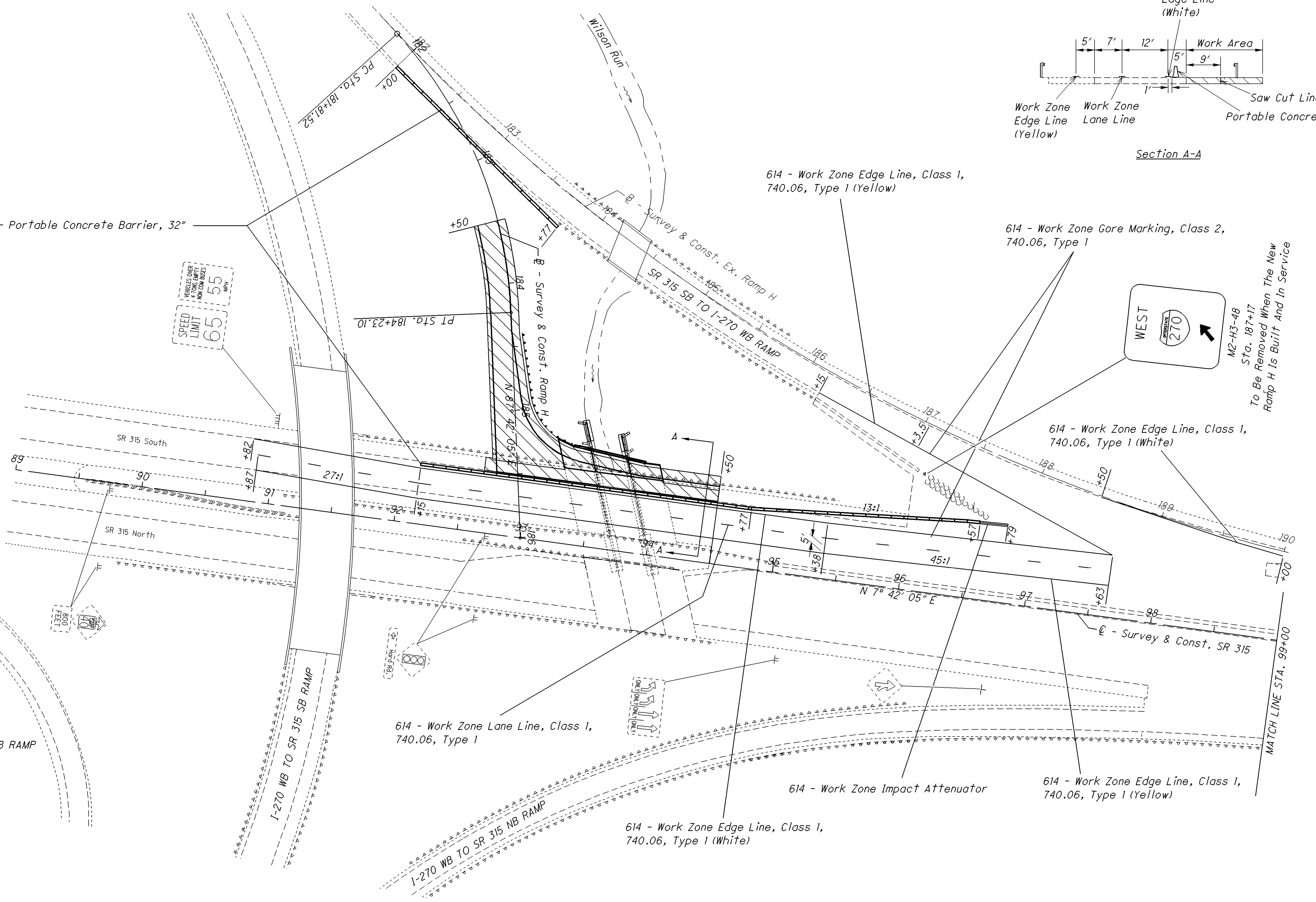
ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

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SR 315 NB TO I-270 EB RAMP

622 - Portable Concrete Barrier, 32"

SPEED LIMIT 65
TRUCKS OVER 40,000 LBS
55 MPH



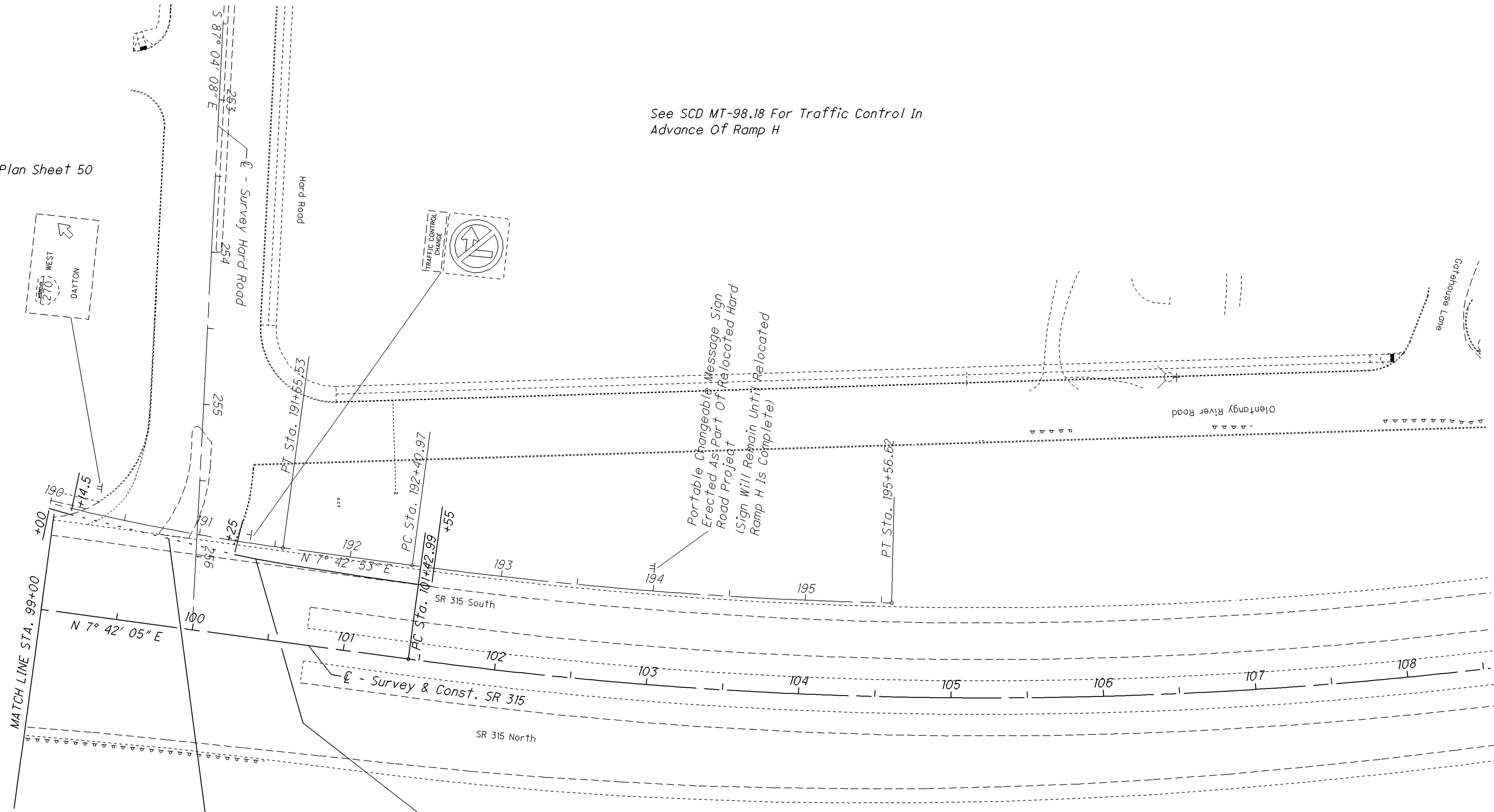
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0 20 40 80
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 1**

FRA - 315 - 12.18

To Be Removed
See Traffic Control Plan Sheet 50

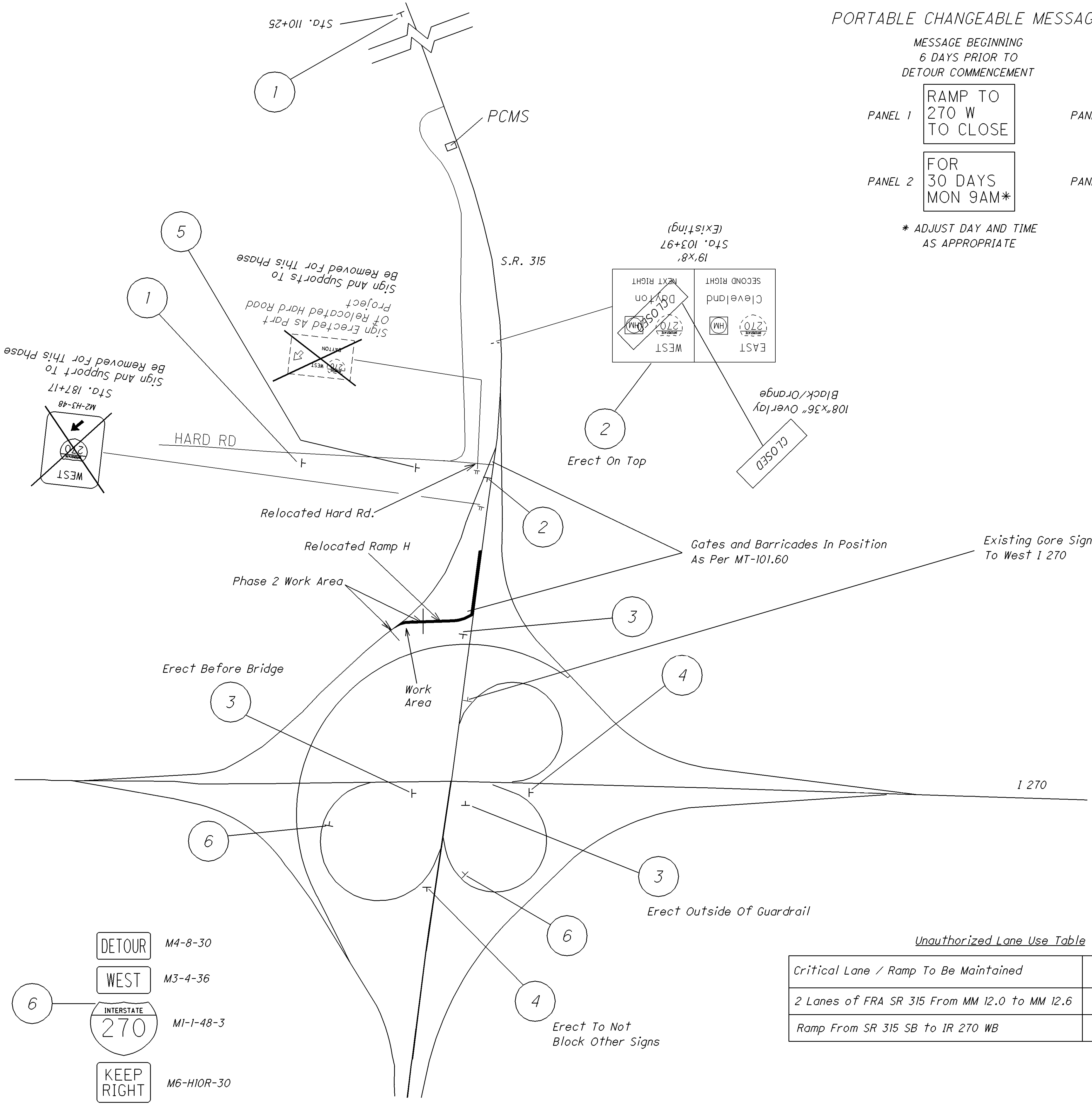


614 - Work Zone Dotted Line, Class 1,
740.06, Type 1 (White)

614 - Work Zone Edge Line, Class 1,
740.06, Type 1 (White)

See SCD MT-98.18 For Traffic Control In
Advance Of Ramp H

- 1 WEST M3-4-36
INTERSTATE 270 MI-1-48-3
DETOUR AHEAD W20-2-36
- 2 DETOUR M4-8-30
WEST M3-4-36
INTERSTATE 270 MI-1-48-3
↑ M6-3-30
- 3 DETOUR M4-8-30
WEST M3-4-36
INTERSTATE 270 MI-1-48-3
↗ M5-2R-30
- 4 DETOUR M4-8-30
WEST M3-4-36
INTERSTATE 270 MI-1-48-3
↘ M6-2R-30
- 5 DETOUR M4-8-30
WEST M3-4-36
INTERSTATE 270 MI-1-48-3
↘ M5-IR-30



PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) LEGEND

MESSAGE BEGINNING 6 DAYS PRIOR TO DETOUR COMMENCEMENT		MESSAGE DURING RAMP CLOSURE	
PANEL 1	RAMP TO 270 W TO CLOSE	PANEL 1	RAMP TO 270 W CLOSED
PANEL 2	FOR 30 DAYS MON 9AM*	PANEL 2	USE 270E TO 315N TO 270W

* ADJUST DAY AND TIME AS APPROPRIATE

CALCULATED	TJR	CHECKED	TKB
------------	-----	---------	-----

MAINTENANCE OF TRAFFIC PHASE 2 - DETOUR PLAN

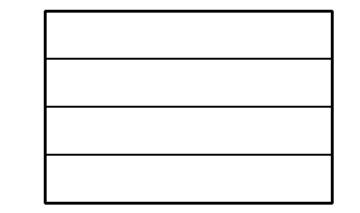
FRA - 315 - 12.18

Unauthorized Lane Use Table

Critical Lane / Ramp To Be Maintained	Time Unit	Disincentive \$ Per Time Unit
2 Lanes of FRA SR 315 From MM 12.0 to MM 12.6	Each Min.	\$15.00
Ramp From SR 315 SB to IR 270 WB	Each Day	\$760.00

Project Location

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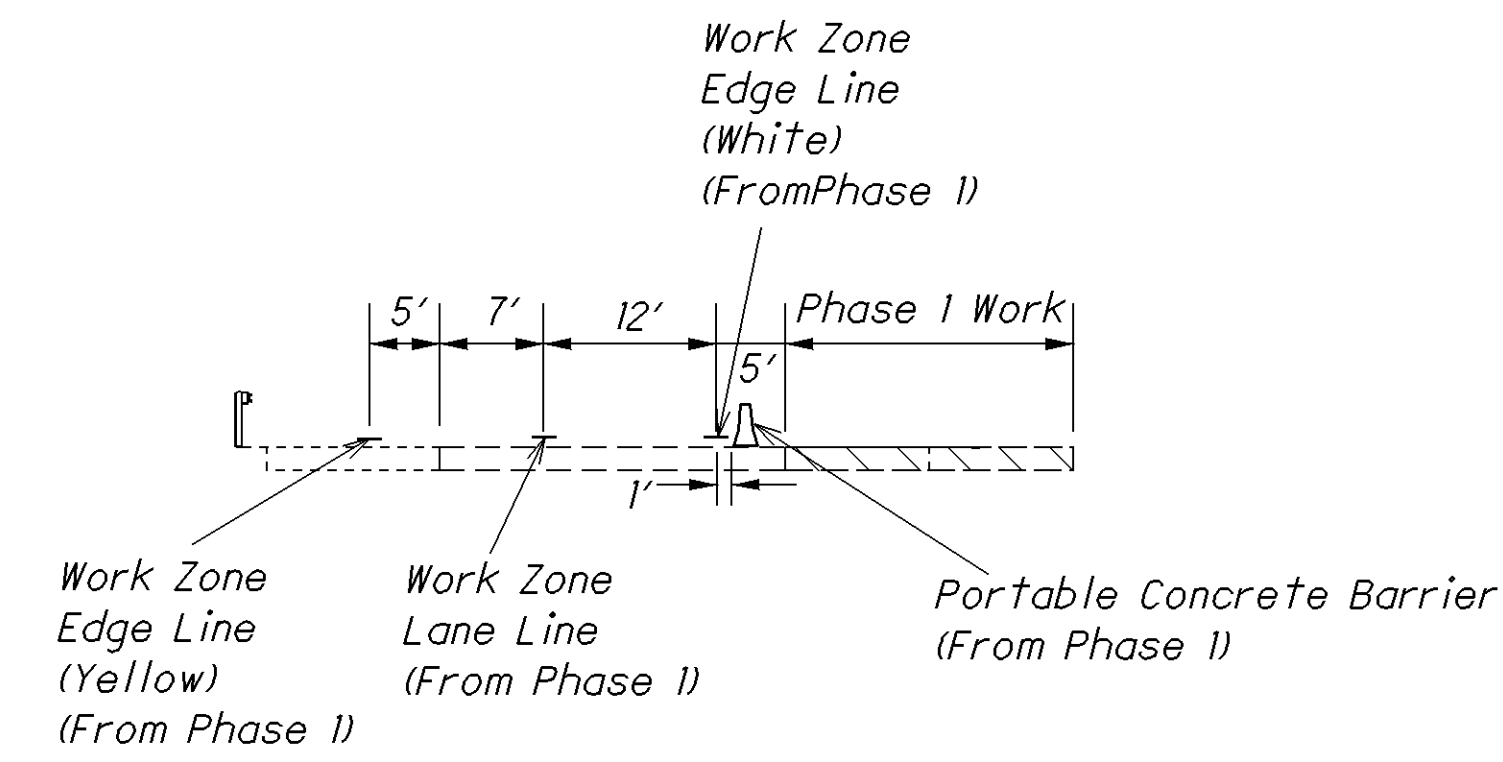


- Work Area

• - Drum

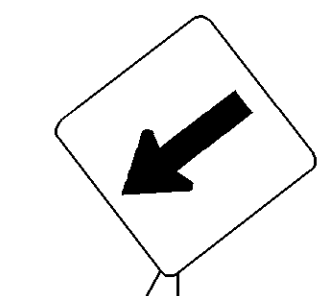
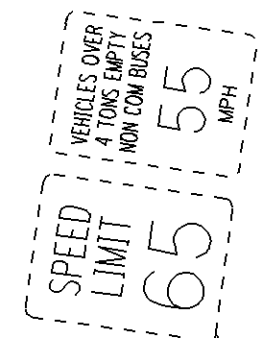
See Sheet 12 For Detour Signing

Drums Spaced @ 40' c-c Unless Otherwise Noted



Section A-A

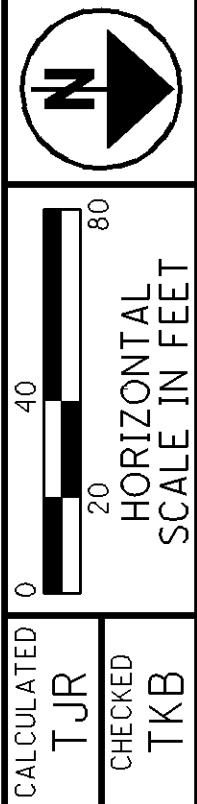
622 - Portable Concrete Barrier, 32" (From Phase I)



Black / Orange

Gates And Barricades As Per MT-101.60

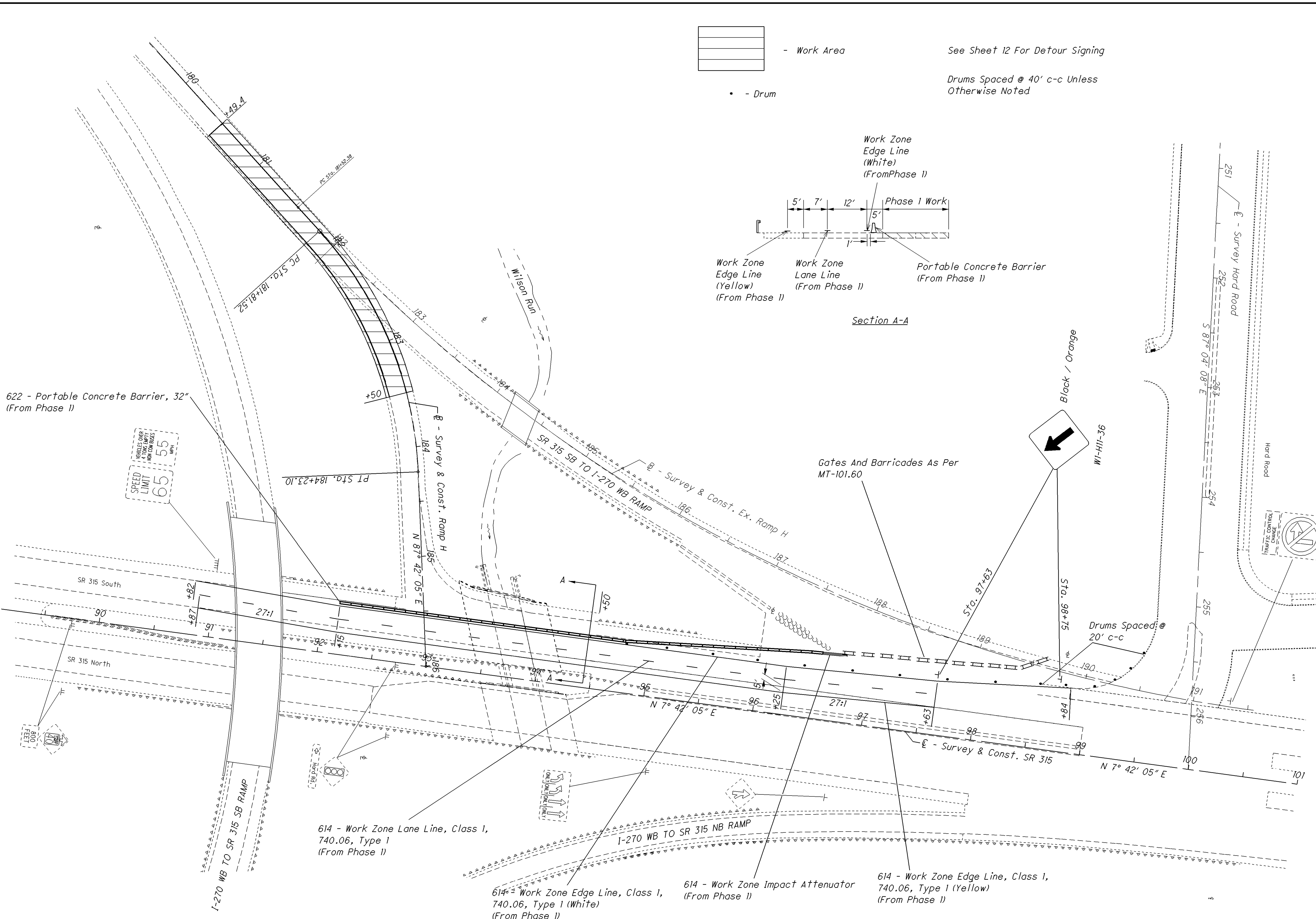
Drums Spaced @ 20' c-c



CALCULATED TJR CHECKED TKB

MAINTENANCE OF TRAFFIC PHASE 2

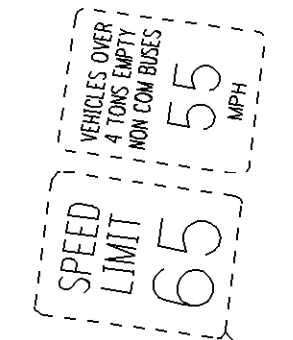
FRA - 315 - 12.18



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614 - Work Zone Edge Line, Class 1, 740.06, Type 1 (Yellow)

Since The Entrance To The Ramp Differs From Permanent Geometrics, Install Edge Line In This Area



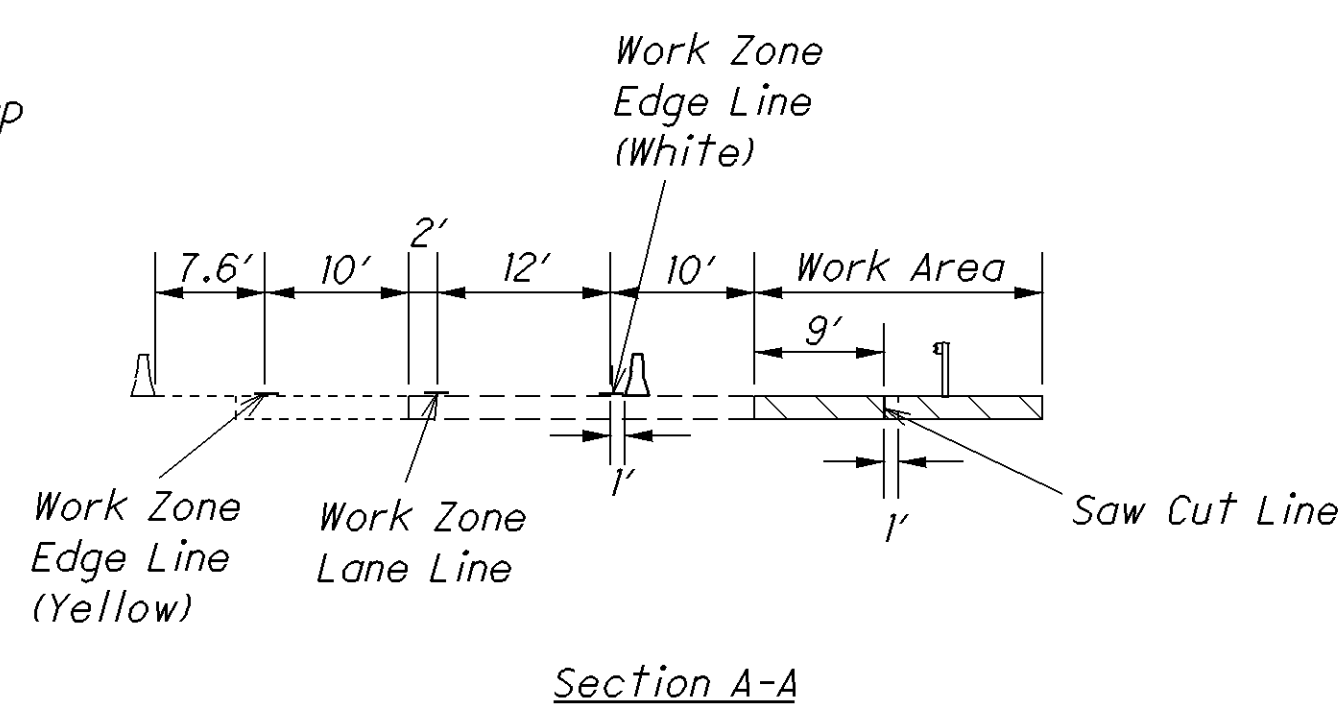
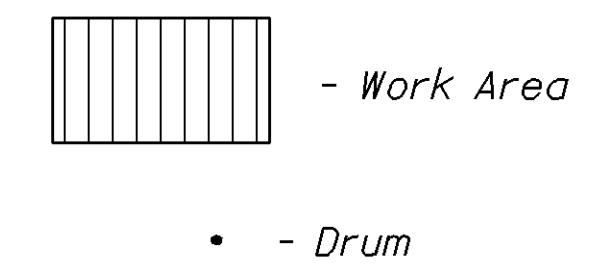
614 - Object Markers, 1 - Way 9 Each (Sta. 91+11 to Sta. 95+00)

614 - Work Zone Lane Line, Class 1, 740.06, Type 1

614 - Work Zone Dotted Line, Class 1, 740.06, Type 1 (Yellow)

614 - Work Zone Edge Line, Class 1, 740.06, Type 1 (White)

Drums Spaced @ 40' c-c Unless Otherwise Noted



614 - Work Zone Edge Line, Class 1, 740.06, Type 1 (White)

Close Right Lane As Per MT-95.31

Temporary Overlay

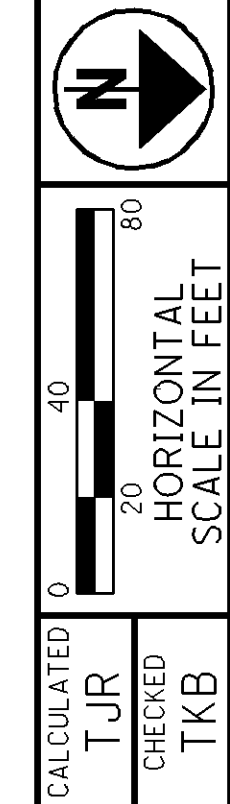
622 - Portable Concrete Barrier, 32"

Drums At 20' C-C

Drums At 20' C-C

614 - Work Zone Edge Line, Class 1, 740.06, Type 1 (Yellow)

614 - Work Zone Impact Attenuator



MAINTENANCE OF TRAFFIC PHASE 3

FRA - 315 - 12.18

SHEET NUMBER													OFFICE CALCS.	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.			
		5		7	8	9															STRUCTURES OVER 20' SPAN	
		LUMP													202	11000	LUMP				STRUCTURE REMOVED	
		167													202	22900	167	SQ YD			APPROACH SLAB REMOVED	
																					STRUCTURE FRA-315-1220L	56
																					MAINTENANCE OF TRAFFIC	
						2									614	12350	2	EACH			WORK ZONE IMPACT ATTENUATOR	
					LUMP										614	12420	LUMP				DETOUR SIGNING	
						27									614	13200	27	EACH			BARRIER REFLECTOR, TYPE A	
					9	27									614	13350	36	EACH			OBJECT MARKER, ONE WAY	
					6										614	18601	6	SIGN MONTH			PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	7,8
						0.31									614	20200	0.31	MILE			WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I	
						0.91									614	22200	0.91	MILE			WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
						239									614	24400	239	FT			WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I	
						338									614	28200	338	FT			WORK ZONE GORE MARKING, CLASS II, 642 PAINT	
				30											616	10000	30	M GAL			WATER	
						1151									622	40020	1151	FT			PORTABLE CONCRETE BARRIER, 32"	
															614	11000	LUMP				MAINTAINING TRAFFIC	
					LUMP										619	16010	6	MONTH			FIELD OFFICE, TYPE B	
															623	10000	LUMP				CONSTRUCTION LAYOUT STAKES	
															624	10000	LUMP				MOBILIZATION	

GENERAL SUMMARY

FRA - 315 - 12.18

16A
68

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REF NO.	SHEET NO.	STATION TO STATION	SIDE	202	202	202	202			606	606	606	606	606					
				PIPE REMOVED, OVER 24"	GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED, TYPE E	CATCH BASIN REMOVED			GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2					
				FT	FT	EACH	EACH			FT	EACH	EACH	EACH	EACH					
		S.R. 315																	
R1	22	92+37	93+50	LT															
R2	22	93+80	95+45	LT															
R3	23	96+05		LT															
GR1	22	92+37.28	185+10.66 RAMP H	LT						31.25		2							
GR2	22,23	93+87.52	97+81.27	LT						356.25	1		1						
		PROPOSED RAMP H																	
GR3	30	183+72.98	93+34.43 S.R. 315	LT						162.5		1		1					
		EXISTING RAMP H																	
R4	41	184+35	184+55	LT	20														
R5	41	183+64	184+12	LT															
R6	41	183+74	184+22	RT															
R7	41,42	184+41	185+73	LT															
R8	41,42	184+51	186+15	RT															
TOTALS CARRIED TO GENERAL SUMMARY					20	633	1	1		550.00	1	3	1	1					

ROADWAY SUBSUMMARY	CALCULATED
	TKB CHECKED MDC
FRA - 315 - 12.18	17 68

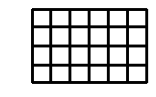


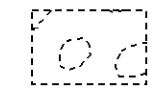
I:\pr\project\FRA\82324\roadway\sheets\82324DS001.dgn 19-DEC-2007 6:50AM tbrnbri

REF NO.	SHEET NO.	STATION TO STATION	SIDE	601	601	601	601	602	603	603	603	603	604	604	604	605	605	605	670	BENDS & BRANCHES			
				RIPPRAP USING 6" REINFORCED CONCRETE SLAB	TIED CONCRETE BLOCK MAT, TYPE I	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	ROCK CHANNEL PROTECTION, TYPE D WITH FILTER	CONCRETE MASONRY	6" CONDUIT, TYPE B	6" CONDUIT, TYPE F	15" CONDUIT, TYPE B	48" X 76" CONDUIT, TYPE C, 706.04 HE I	CATCH BASIN, NO. 5	CATCH BASIN, NO. 2-6, AS PER PLAN	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAINS	6" ROCK CUT UNDERDRAINS	6" BASE PIPE UNDERDRAINS	DITCH EROSION PROTECTION	INFORMATION ONLY			
				SQ YD	SQ YD	CU YD	CU YD	CU YD	FT	FT	FT	FT	EACH	EACH	EACH	FT	FT	FT	SQ YD	6" X 45°	6" X 45° WYE	6" X 90°	
S.R. 315																							
UD1	22,23	94+05.00	98+05.00	LT												400							
UD2	22,23	94+10.00	98+55.00	LT		2									1			445		2	1	1	
D1	22,23,49	95+67.00	96+06.00	LT	6			3.50						40	1								
RAMP H																							
UD3	29,30	180+49.41	185+00.00	LT,RT						17	33							432		1	2		
EC1	30	183+50.00	184+50.00	RT																			
EC2	30	184+50.00	185+00.00	RT																			
EC3	30	185+06.00	185+26.00	LT			5	11															
D2	30	185+00.00		LT,RT				0.27			86		1										
TOTALS CARRIED TO GENERAL SUMMARY					6	2	5	11	3.77	17	73	86	40	1	1	1	400	432	445	84	3	1	3

CALCULATED	TKB	MDC
DRAINAGE SUBSUMMARY		
FRA - 315 - 12.18		
18		
68		

PROJECT DESCRIPTION

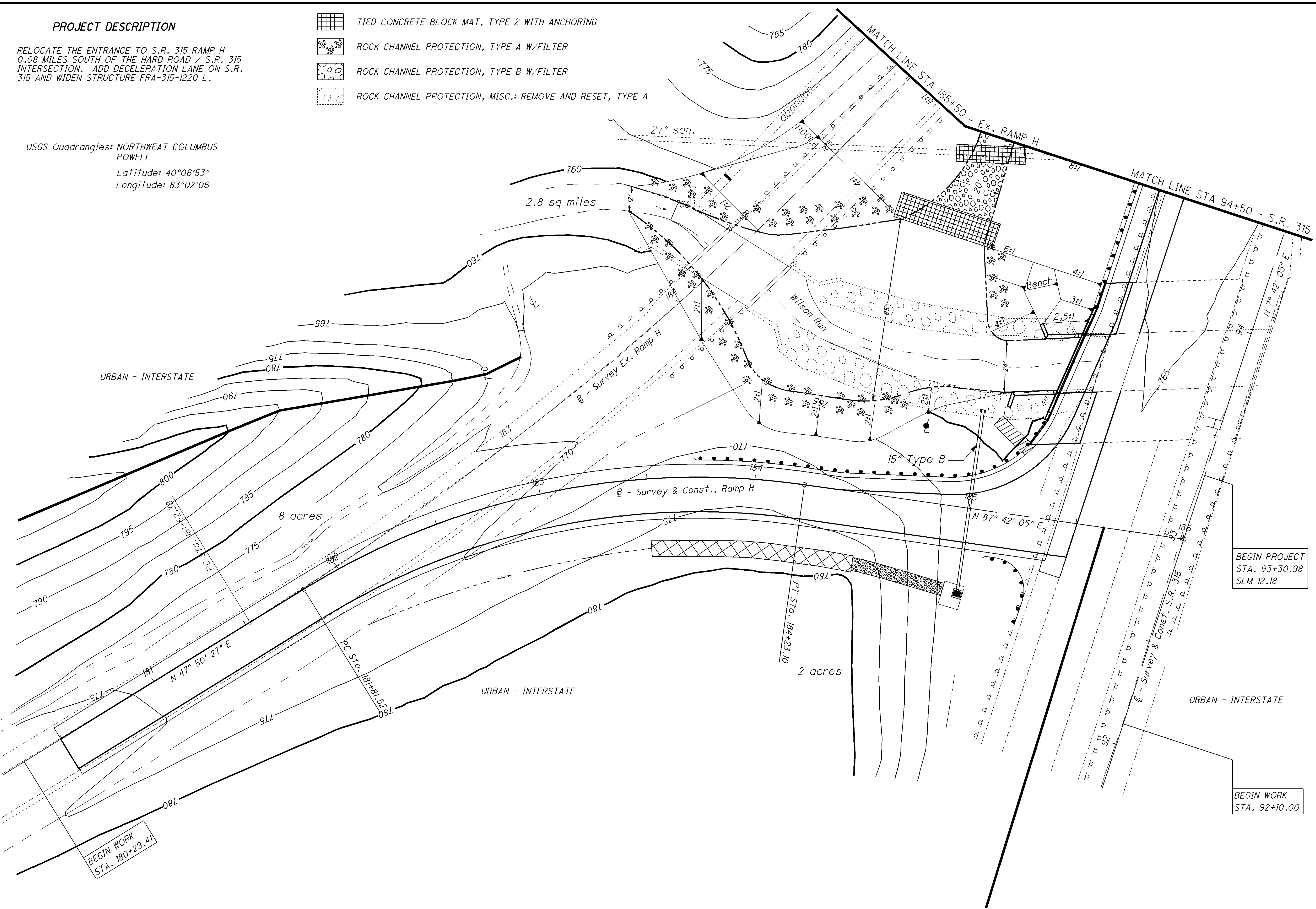
RELOCATE THE ENTRANCE TO S.R. 315 RAMP H
0.08 MILES SOUTH OF THE HARD ROAD / S.R. 315
INTERSECTION. ADD DECELERATION LANE ON S.R.
315 AND WIDEN STRUCTURE FRA-315-1220 L.

-  TIED CONCRETE BLOCK MAT, TYPE 2 WITH ANCHORING
-  ROCK CHANNEL PROTECTION, TYPE A W/FILTER
-  ROCK CHANNEL PROTECTION, TYPE B W/FILTER
-  ROCK CHANNEL PROTECTION, MISC.: REMOVE AND RESET, TYPE A

USGS Quadrangles: NORTHWEAT COLUMBUS
POWELL

Latitude: 40°06'53"
Longitude: 83°02'06"

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BEGIN PROJECT
STA. 93+30.98
SLM 12.18

BEGIN WORK
STA. 92+10.00

CALCULATED
M.L.C.
CHECKED
M.D.C.

0 10 20 40
HORIZONTAL
SCALE IN FEET

SITE PLAN
S.R. 315 - STA 92+00 TO 94+50



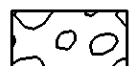
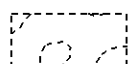
FRA - 315 - 12.18

20
68

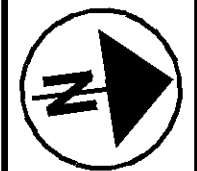
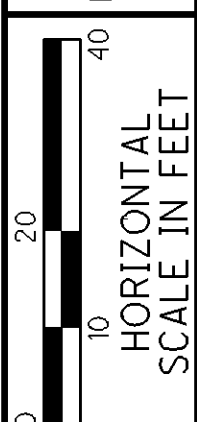
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PROJECT DATA

Total Area (Right-Of-Way)7.10 Acres	Runoff Coefficient for Pre-Construction Site.....0.68
Project Earth Disturbed Area.....2.50 Acres	Runoff Coefficient for Post Construction Site.....0.64
Contractor Earth Disturbed Area.....1.50 Acres	Soil and Water Conservation Map.....Soil Survey of Franklin County, Ohio Sheets 2/9/10
NOI Earth Disturbing Activities.....4.90 Acres	Immediate Receiving Waters....Wilson Run
Impervious (UnPaved) Area for Pre-Construction Site.....0.95 Acres	Subsequent Receiving Water....Olentangy River
Impervious (Paved) Area for Post Construction Site.....0.65 Acres	

-  TIED CONCRETE BLOCK MAT, TYPE 2 WITH ANCHORING
-  ROCK CHANNEL PROTECTION, TYPE A W/FILTER
-  ROCK CHANNEL PROTECTION, TYPE B W/FILTER
-  ROCK CHANNEL PROTECTION, MISC.: REMOVE AND RESET, TYPE A

CALCULATED
MLC
CHECKED
MDC

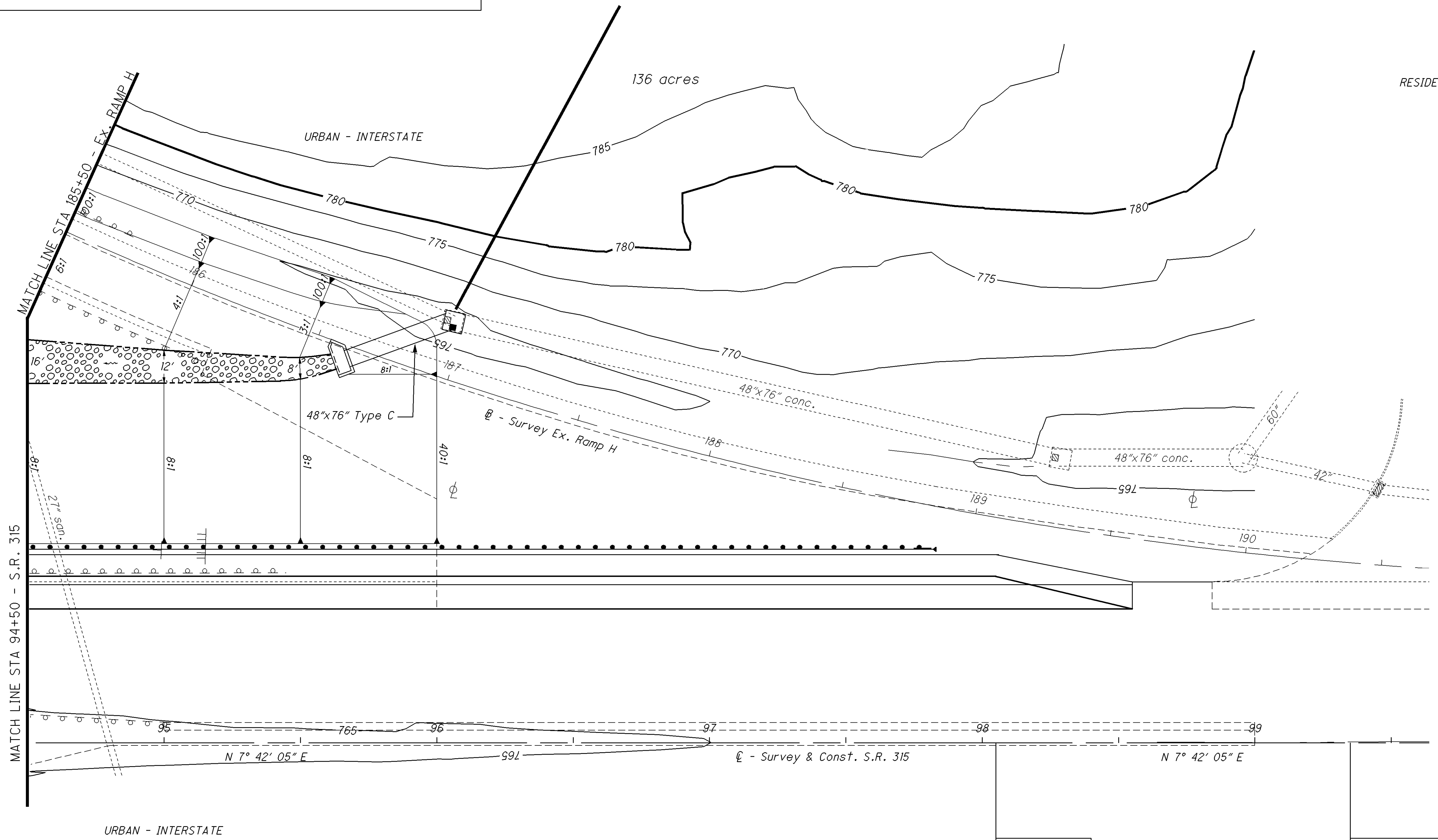



0 20 40
HORIZONTAL
SCALE IN FEET

SITE PLAN
S.R. 315 - STA 94+50 TO STA 99+50

FRA - 315 - 12.18

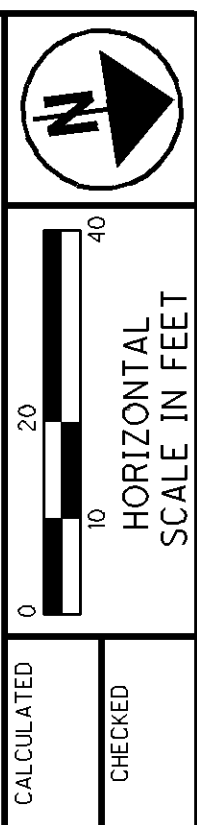
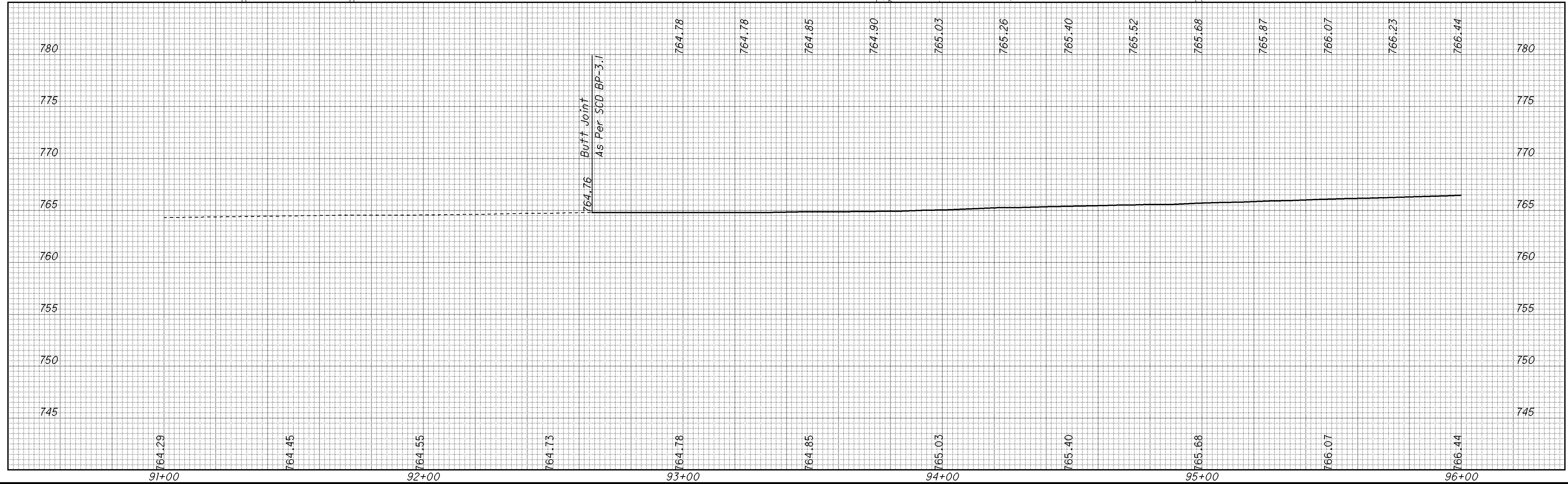
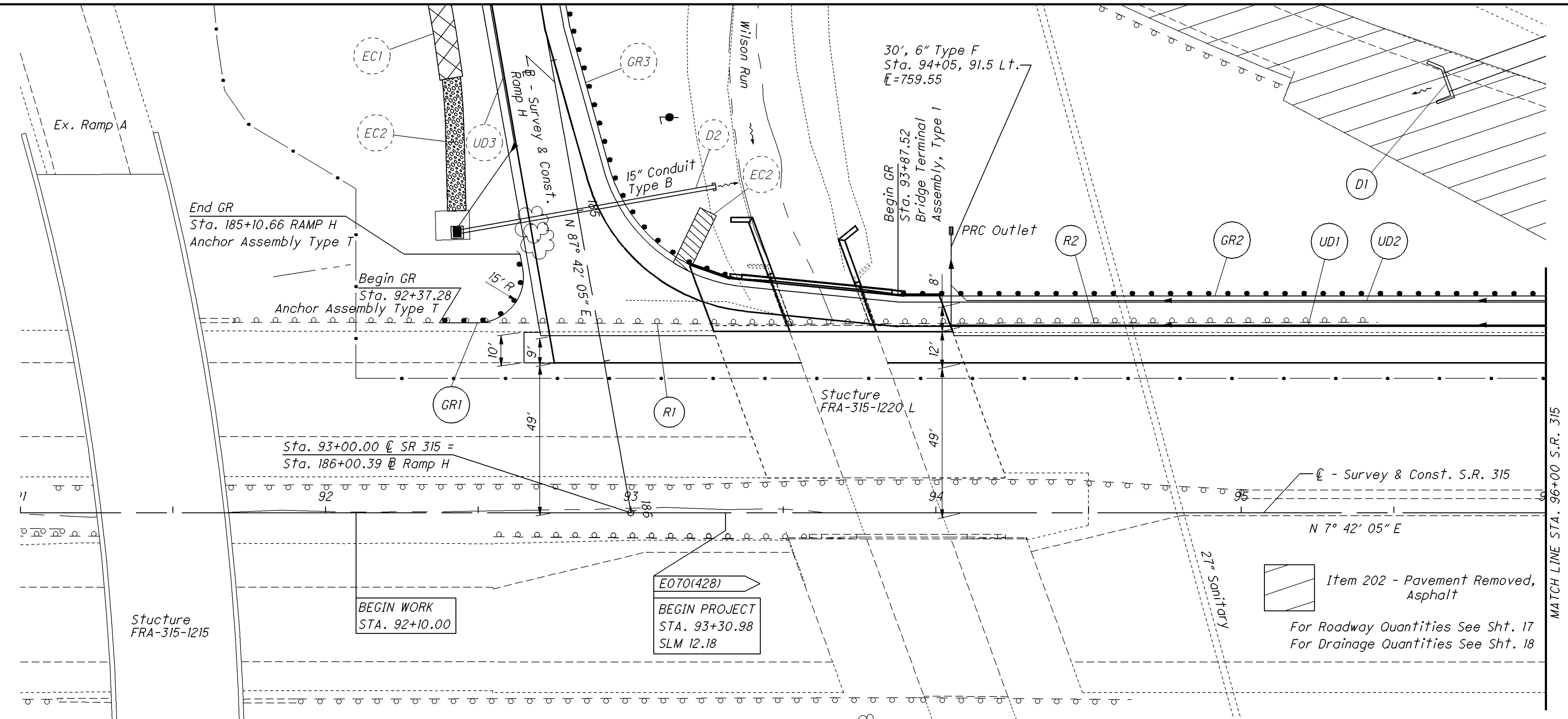
21
68



END PROJECT
STA. 98+05.00
SLM 12.28

END WORK
STA. 99+35.00

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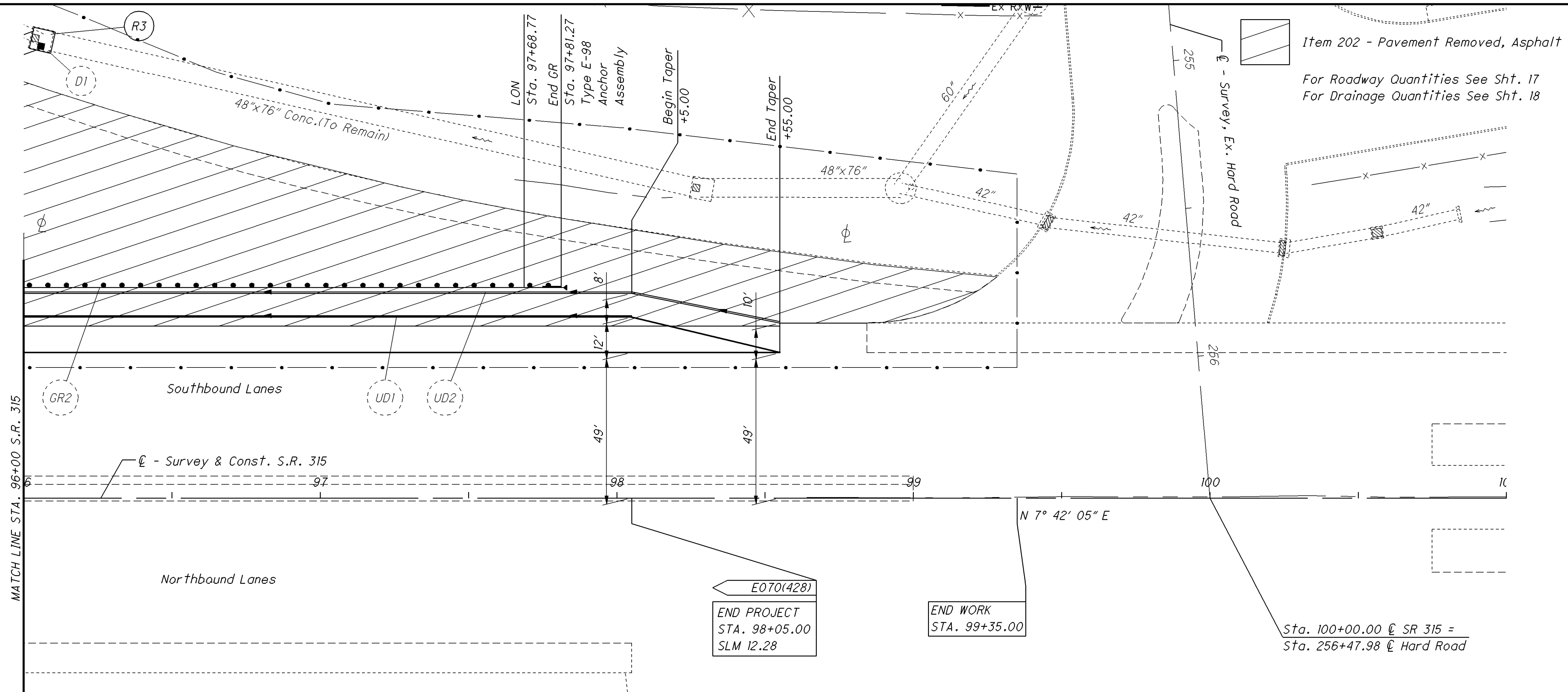


CALCULATED _____
CHECKED _____

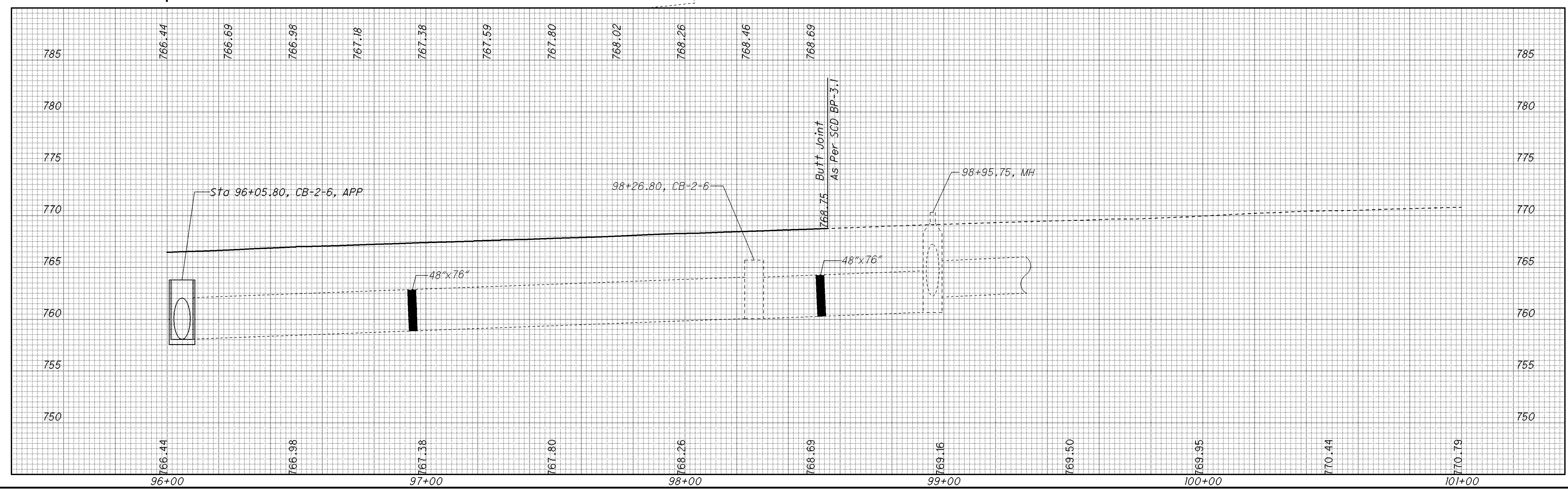
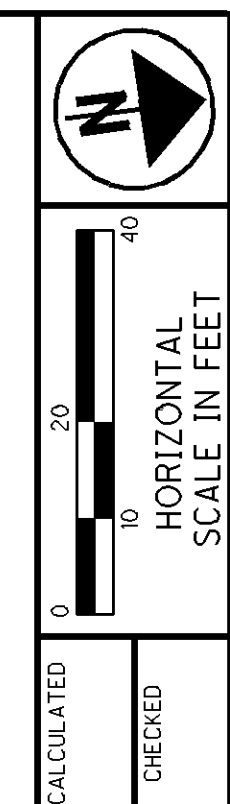
PLAN AND PROFILE - S.R. 315
STA. 91+00.00 TO STA. 96+00.00

FRA - 315 - 12.18

22
68



Item 202 - Pavement Removed, Asphalt
 For Roadway Quantities See Sht. 17
 For Drainage Quantities See Sht. 18

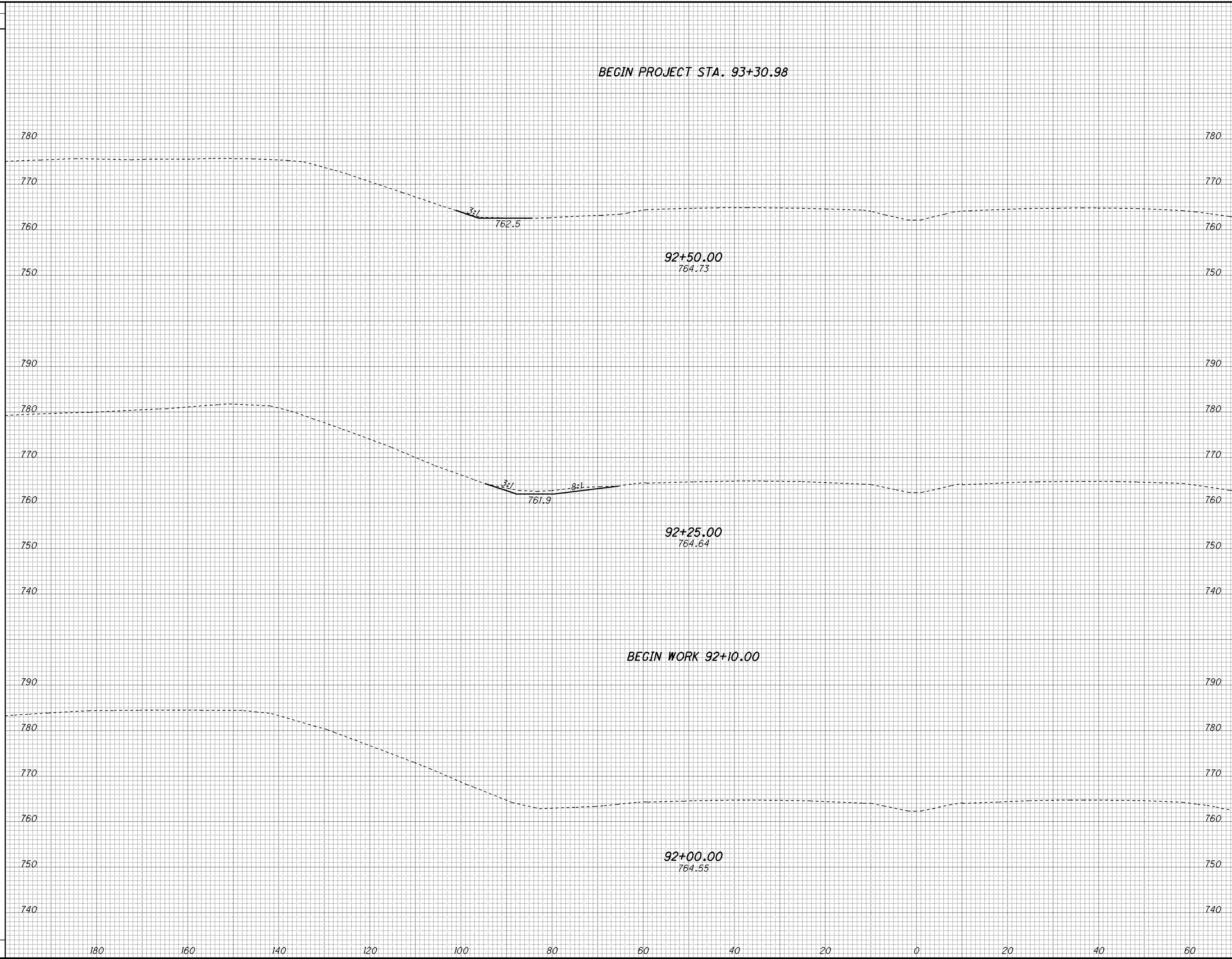


PLAN AND PROFILE - S.R. 315
STA. 96+00.00 TO STA. 101+00.00

FRA - 315 - 12.18

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SEEDING	
END WIDTH	SQ. YDS.
17	
65	
29	
65	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
2	0	9	0
17	0		
		9	0

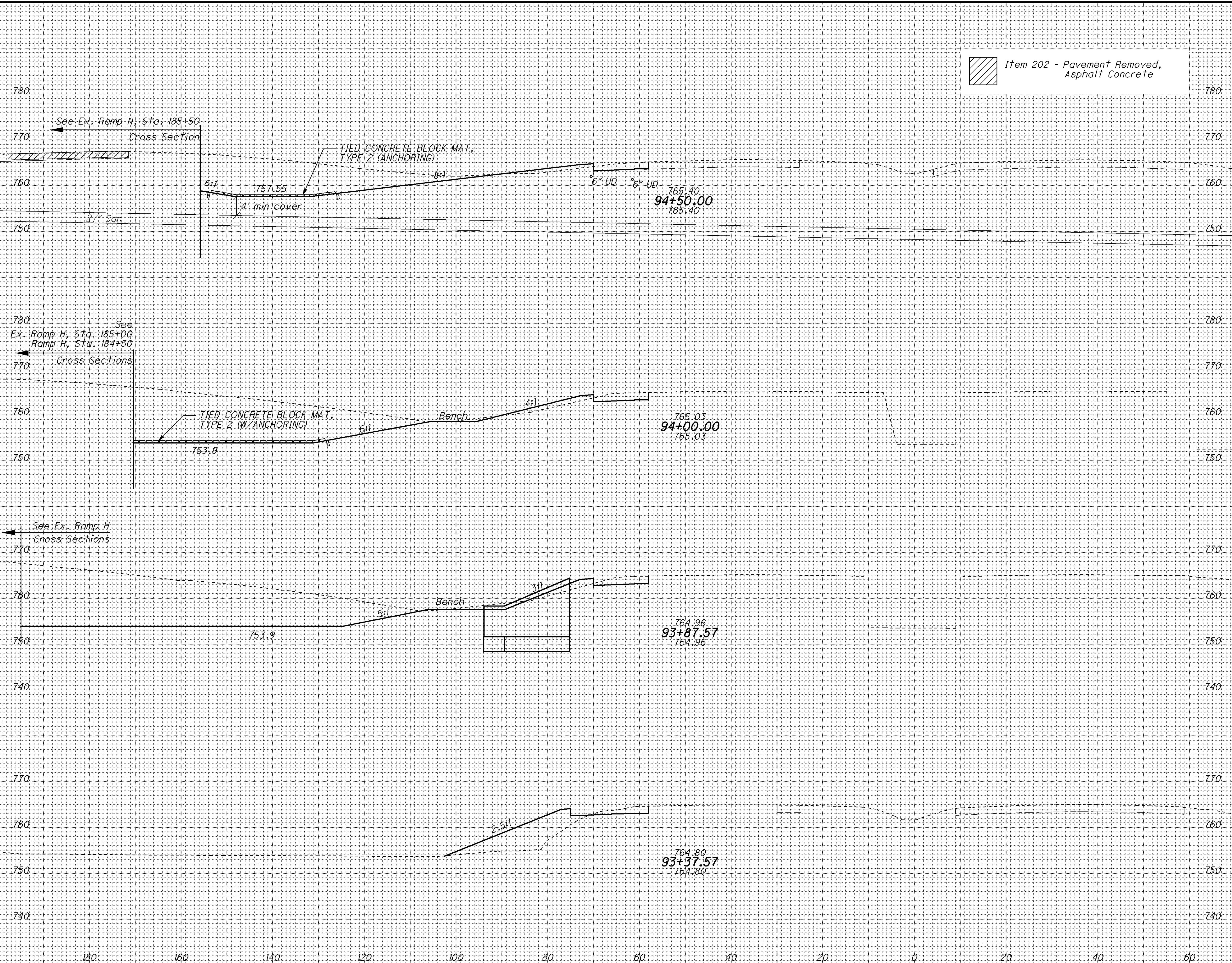
CALCULATED	TKB CHECKED	MDC

**CROSS SECTIONS - S.R. 315
STA. 92+00 TO STA. 92+50**

FRA - 315 - 12.18

24
68

SEEDING
 END WIDTH SQ. YDS.
 1076



END	AREA		VOLUME	
	CUT	FILL	CUT	FILL
375	339	13		
71			796	29
374	521	19		
63			300	8
83	785	18		
57			738	117
244	13	109		
30				
			1834	154

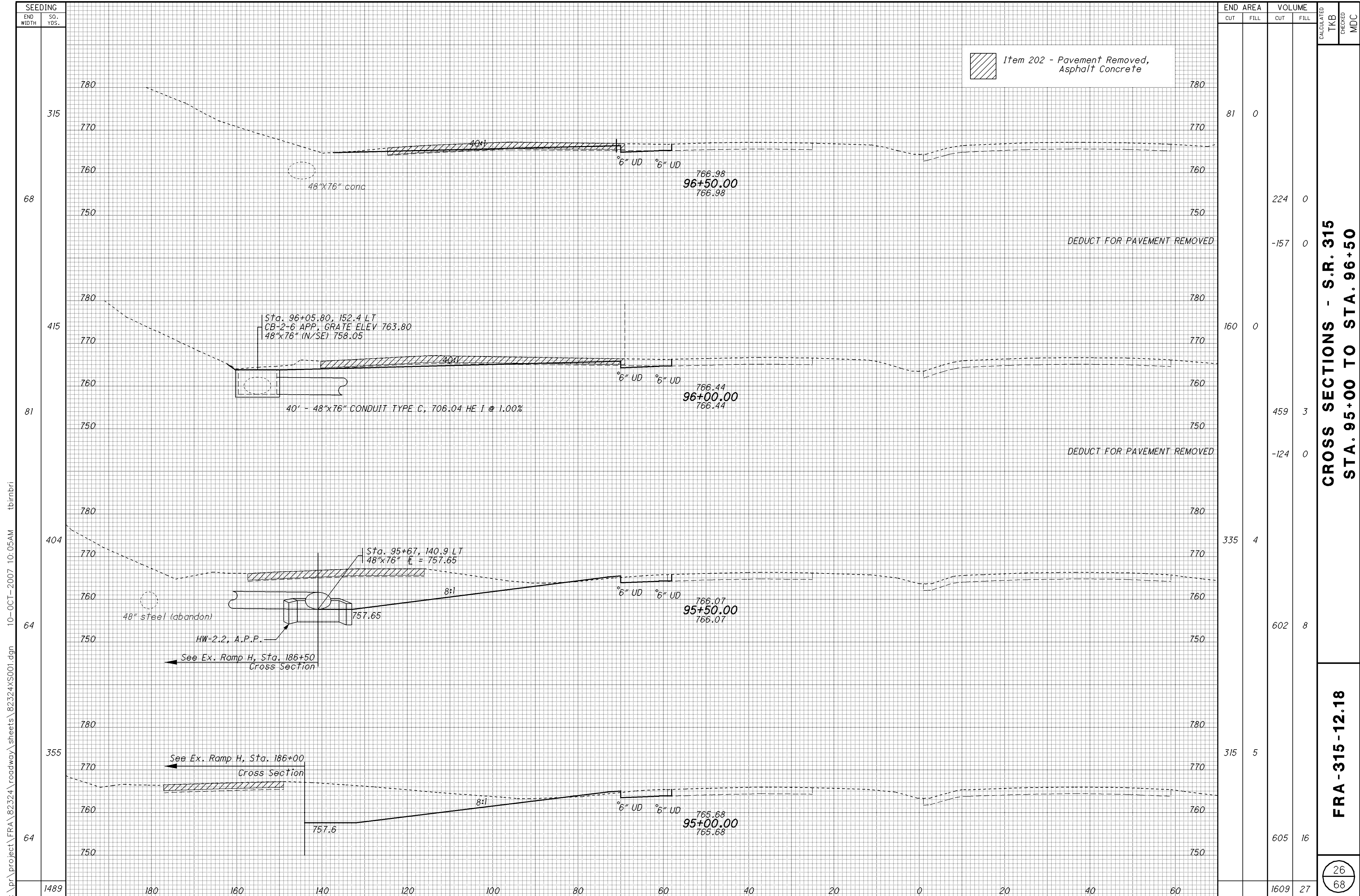
CALCULATED
 TKB
 CHECKED
 MDC

**CROSS SECTIONS - S.R. 315
 STA. 93+37.57 TO STA. 94+50**

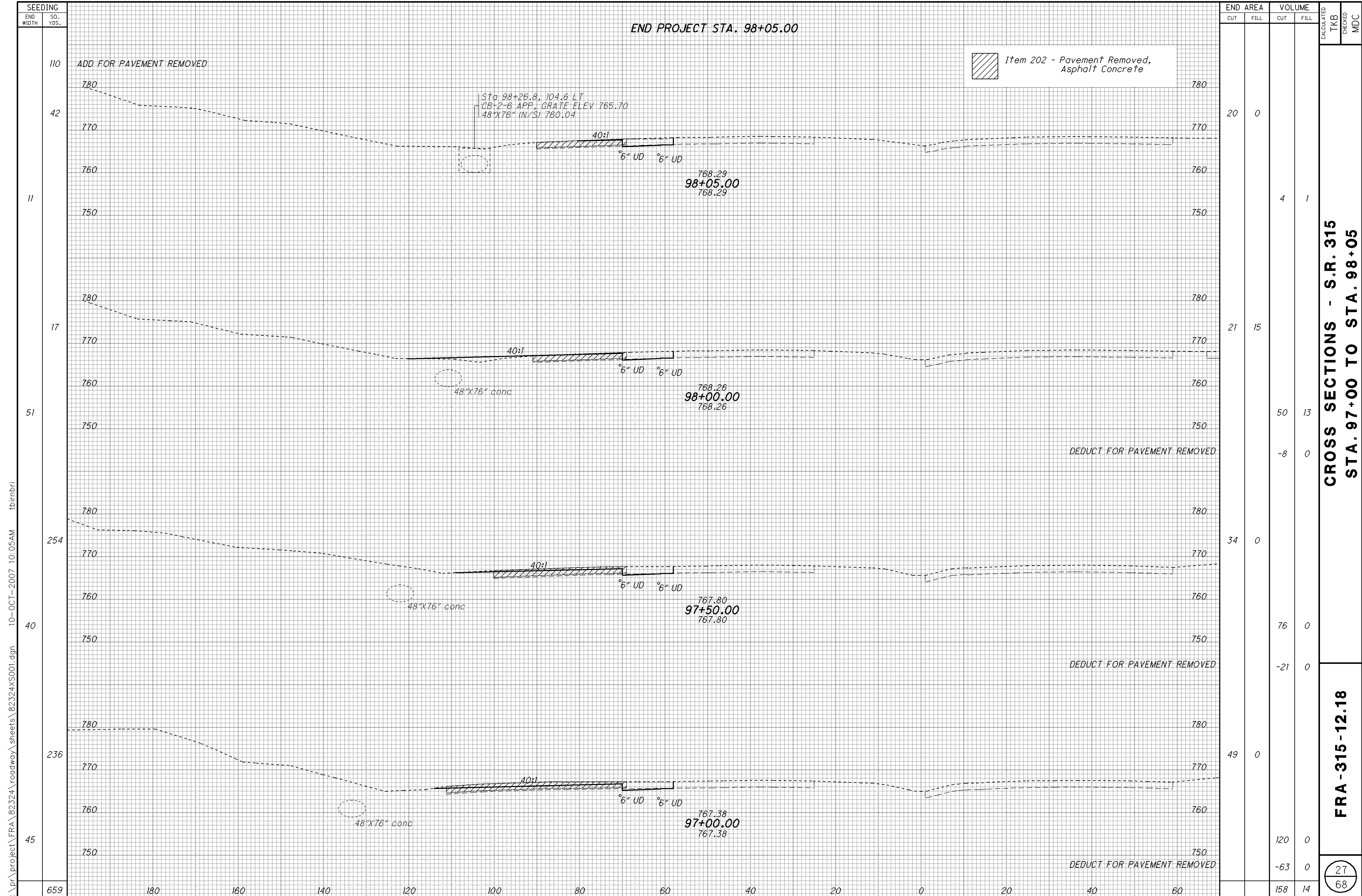
FRA - 315 - 12.18

25
 68

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**CROSS SECTIONS - S.R. 315
STA. 97+00 TO STA. 98+05**

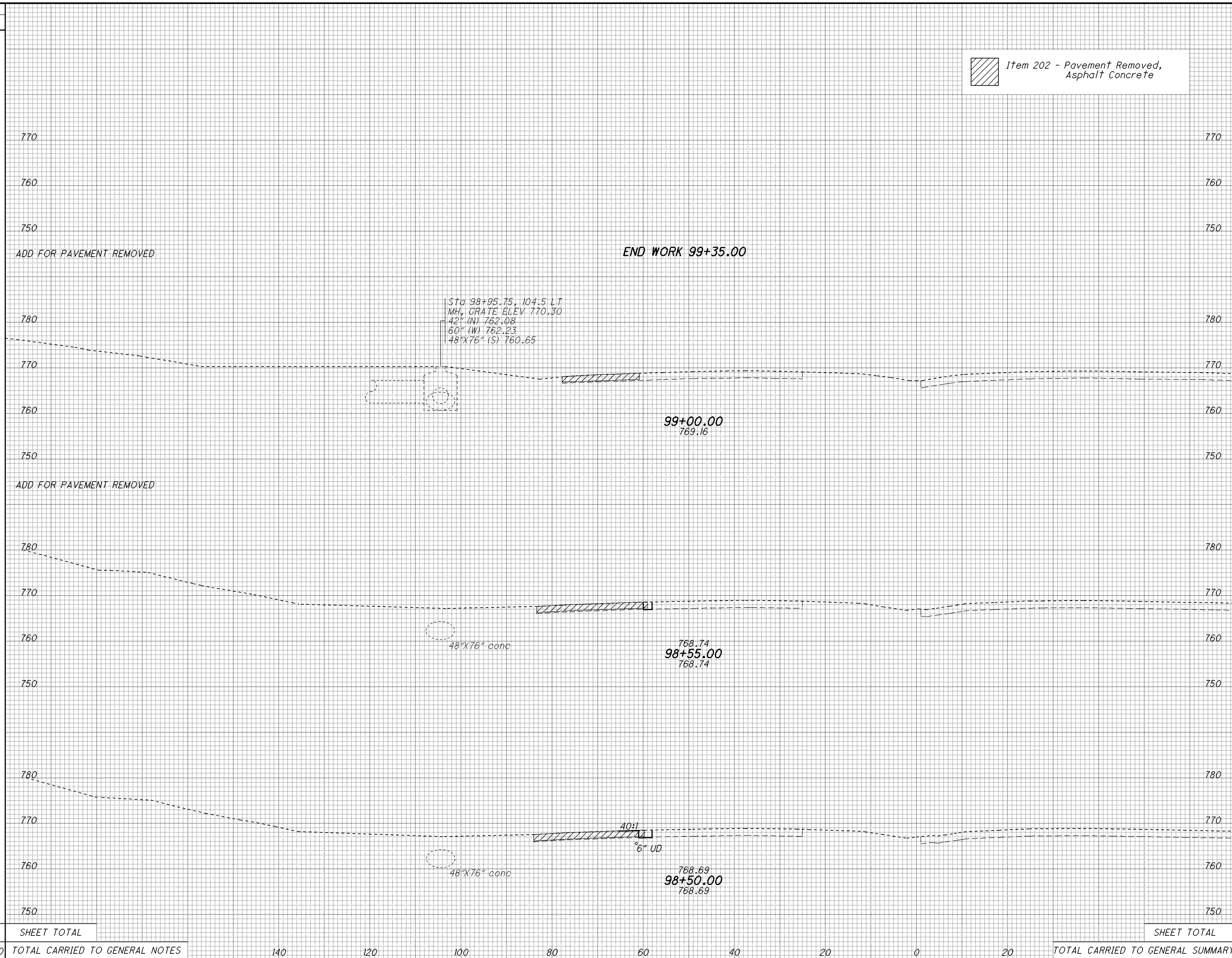
FRA - 315 - 12.18

(27 / 68)

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SEEDING	
END WIDTH	SQ. YDS.
68	
101	
1	
2	
5	
171	SHEET TOTAL
3460	TOTAL CARRIED TO GENERAL NOTES



Item 202 - Pavement Removed, Asphalt Concrete

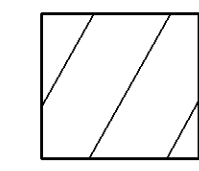
END AREA	VOLUME	CALCULATED		TKB CHECKED		MDC
		CUT	FILL	CUT	FILL	
		3	0			
		1	0			
		5	0			
		21	0			
		22	0			
		3632	195			

CROSS SECTIONS - S.R. 315
STA. 98+50 TO STA. 99+00

FRA - 315 - 12.18

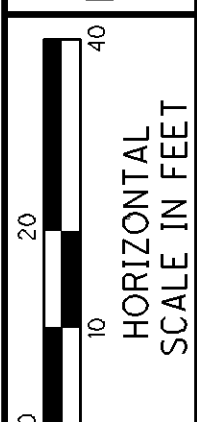
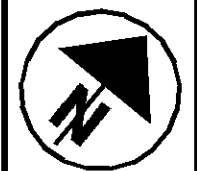
28
68

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Item 202 - Pavement Removed, Asphalt

For Drainage Quantities See Sht. 18

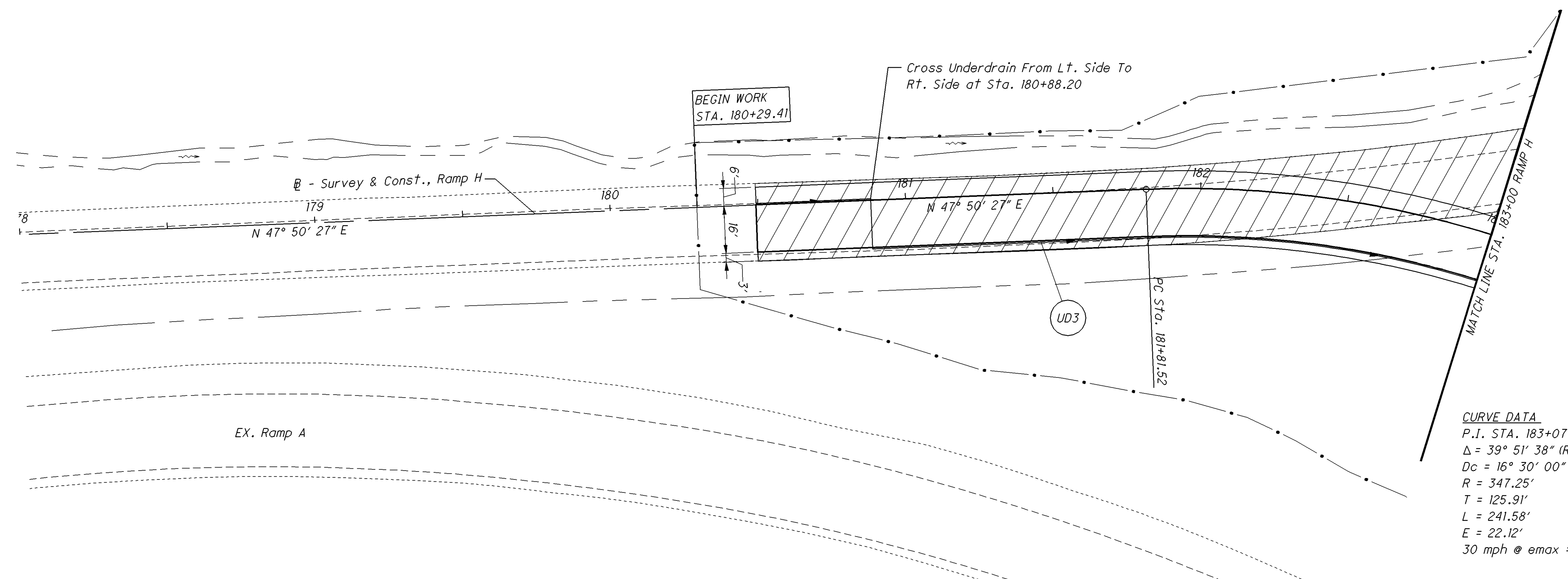


CALCULATED
CHECKED

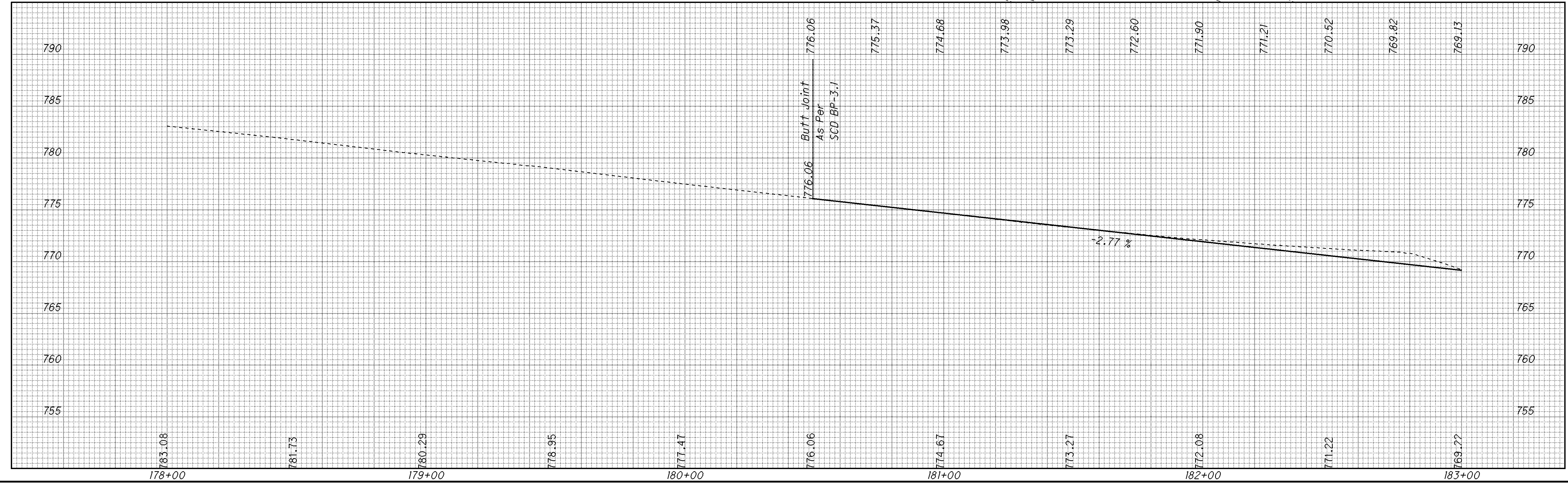
PLAN AND PROFILE - RAMP H
STA. 178+00.00 TO STA. 183+00.00

FRA -315 -12.18

29
68

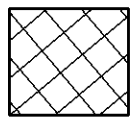


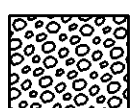
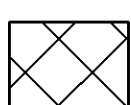


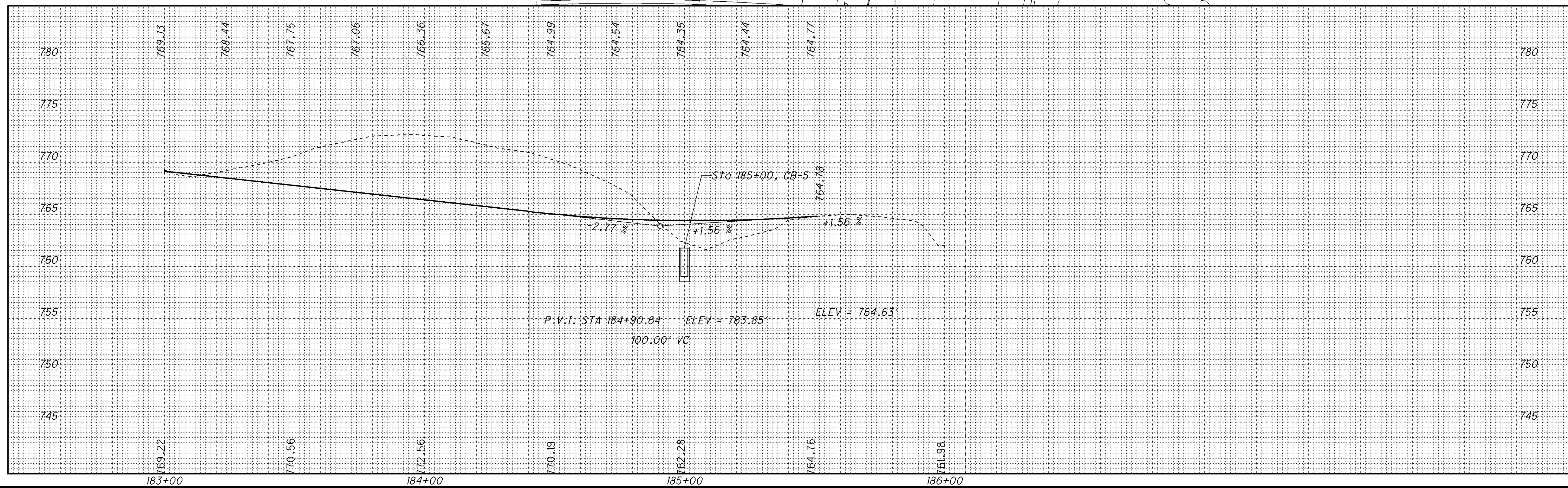
CURVE DATA
 P.I. STA. 183+07.43
 $\Delta = 39^\circ 51' 38''$ (RT)
 $D_c = 16^\circ 30' 00''$
 $R = 347.25'$
 $T = 125.91'$
 $L = 241.58'$
 $E = 22.12'$
 30 mph @ $e_{max} = 5.5\%$



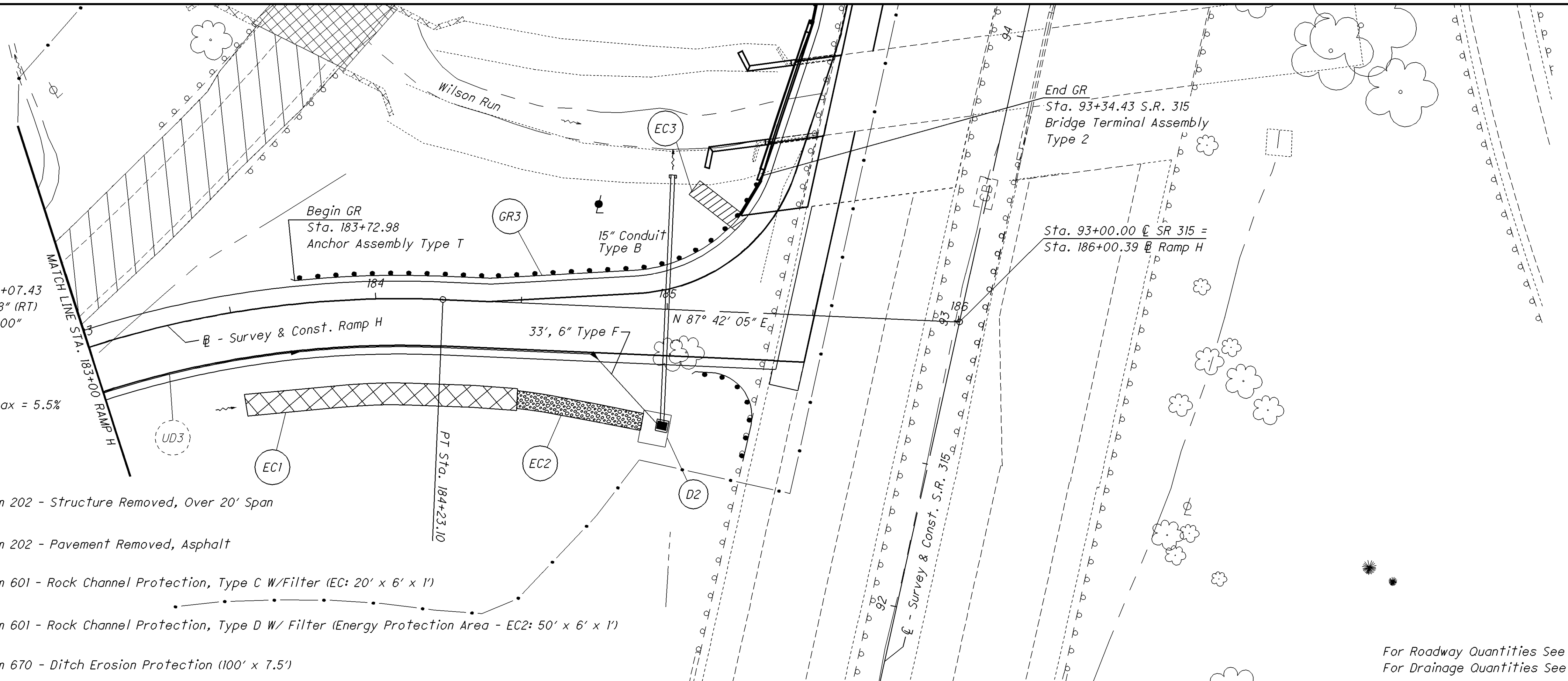
I:\pr\project\FRA\82324\roadway\sheets\82324GP004.dgn 10-OCT-2007 10:06AM tbinbri

CURVE DATA
 P.I. STA. 183+07.43
 $\Delta = 39^\circ 51' 38''$ (RT)
 $D_c = 16^\circ 30' 00''$
 $R = 347.25'$
 $T = 125.91'$
 $L = 241.58'$
 $E = 22.12'$
 30 mph @ $e_{max} = 5.5\%$

-  Item 202 - Structure Removed, Over 20' Span
-  Item 202 - Pavement Removed, Asphalt
-  Item 601 - Rock Channel Protection, Type C W/Filter (EC: 20' x 6' x 1')
-  Item 601 - Rock Channel Protection, Type D W/ Filter (Energy Protection Area - EC2: 50' x 6' x 1')
-  Item 670 - Ditch Erosion Protection (100' x 7.5')



For Roadway Quantities See Sht. 17
 For Drainage Quantities See Sht. 18

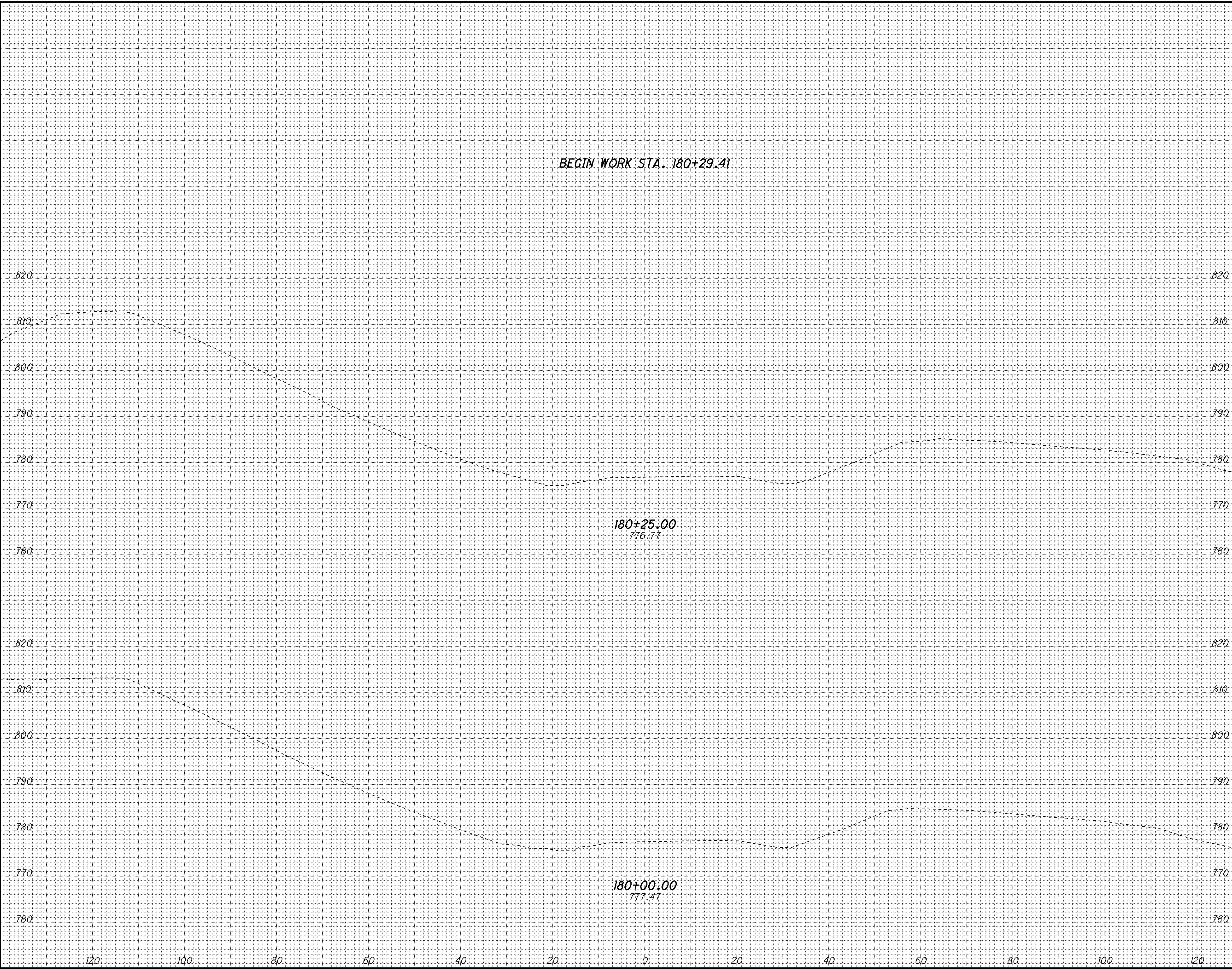


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SEEDING

END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

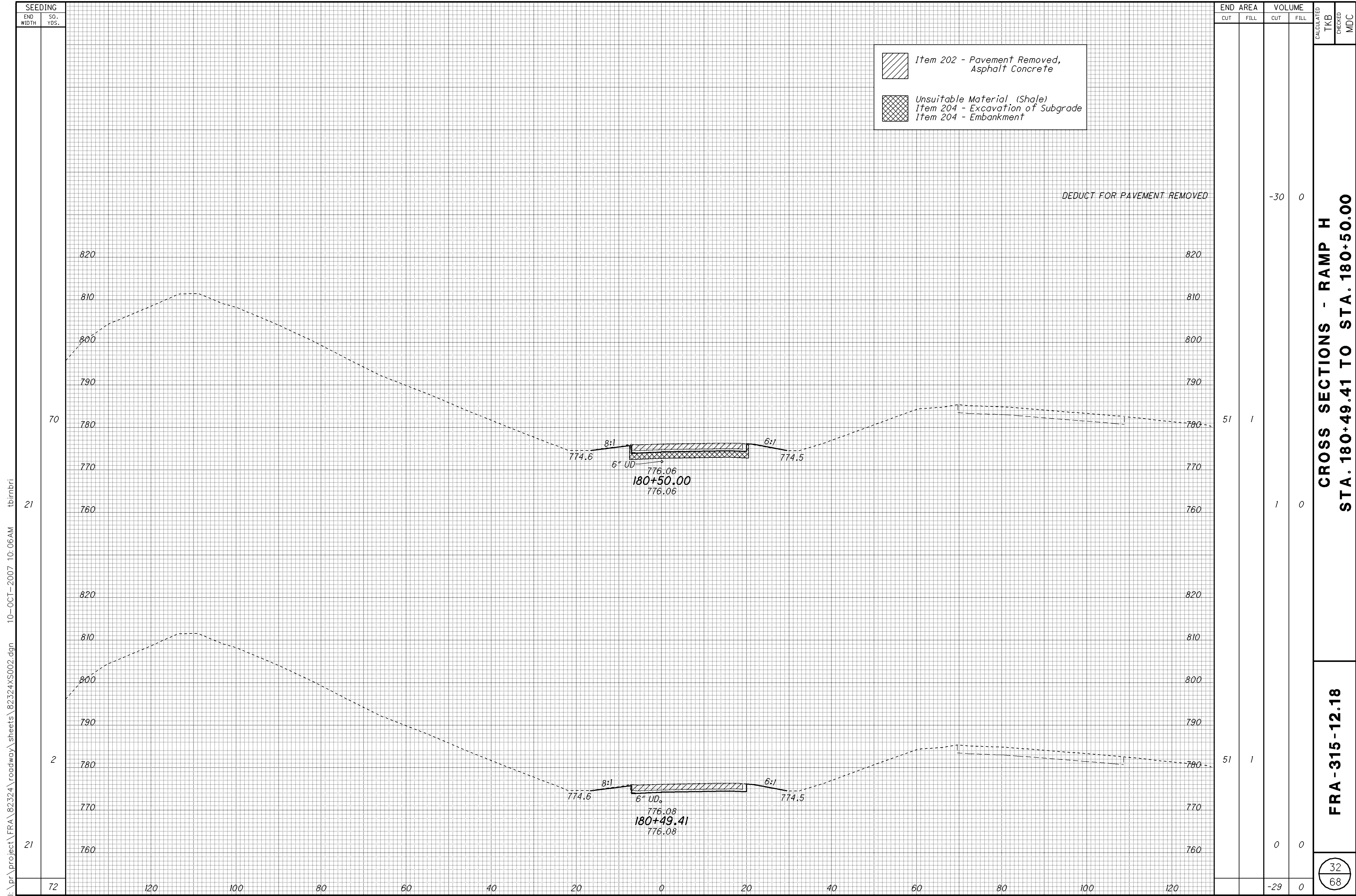


FRA - 315 - 12.18

CROSS SECTIONS - RAMP H

STA. 180+00.00 TO STA. 180+25.00

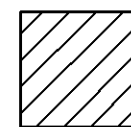
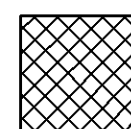
CALCULATED	TKB	MDC

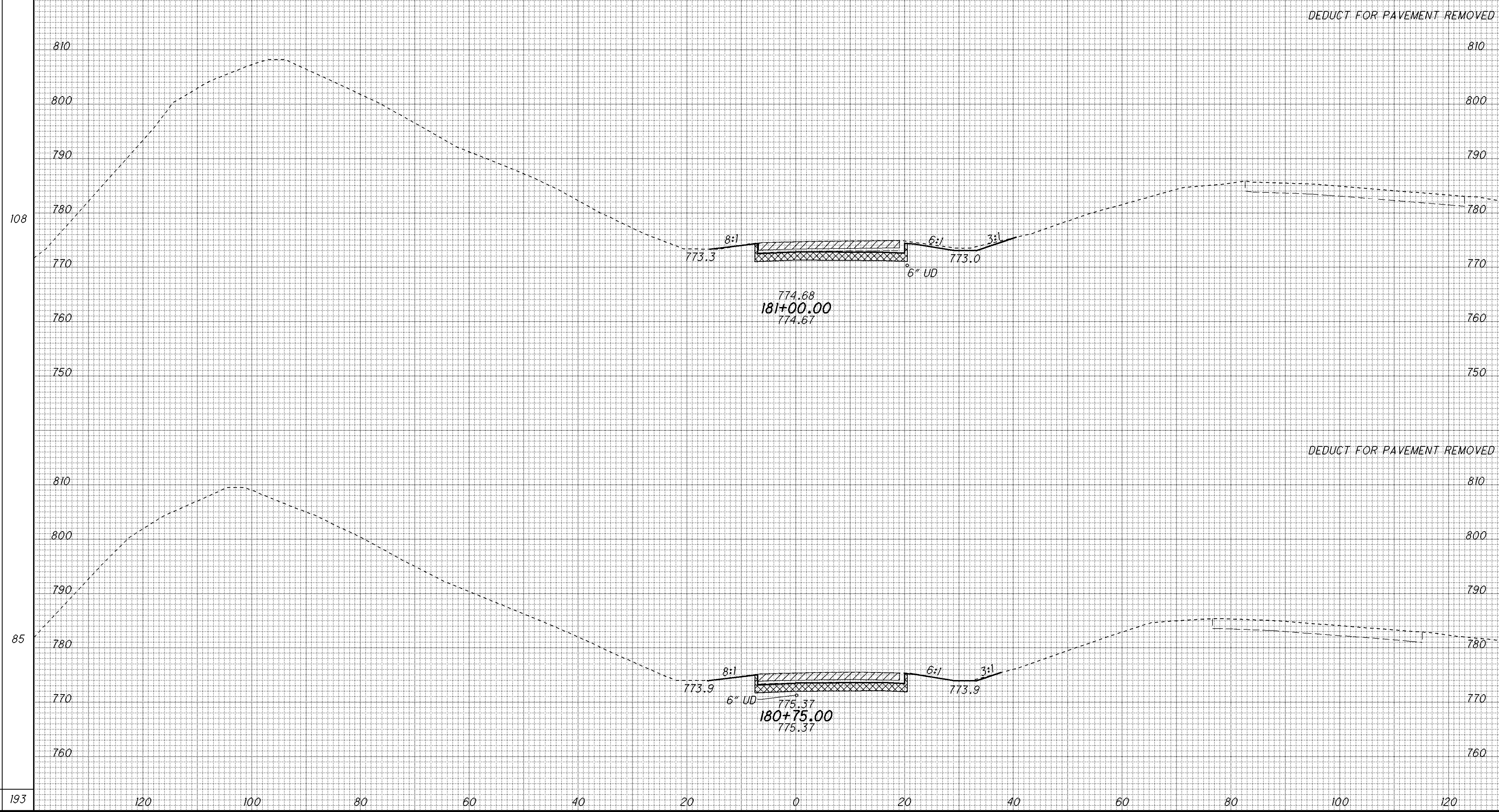


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SEEDING
 END WIDTH SQ. YDS.
 193
 29
 85
 32
 108

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 Item 202 - Pavement Removed, Asphalt Concrete
 Unsuitable Material (Shale)
 Item 204 - Excavation of Subgrade
 Item 204 - Embankment



DEDUCT FOR PAVEMENT REMOVED

DEDUCT FOR PAVEMENT REMOVED

END AREA	VOLUME		CALCULATED	TKB	CHECKED	MDC
	CUT	FILL				
62	1					
53	0					
53	0					
48	0					
41	0					

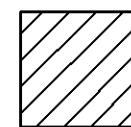
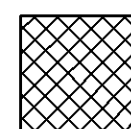
CROSS SECTIONS - RAMP H
STA. 180+75.00 TO STA. 181+00.00

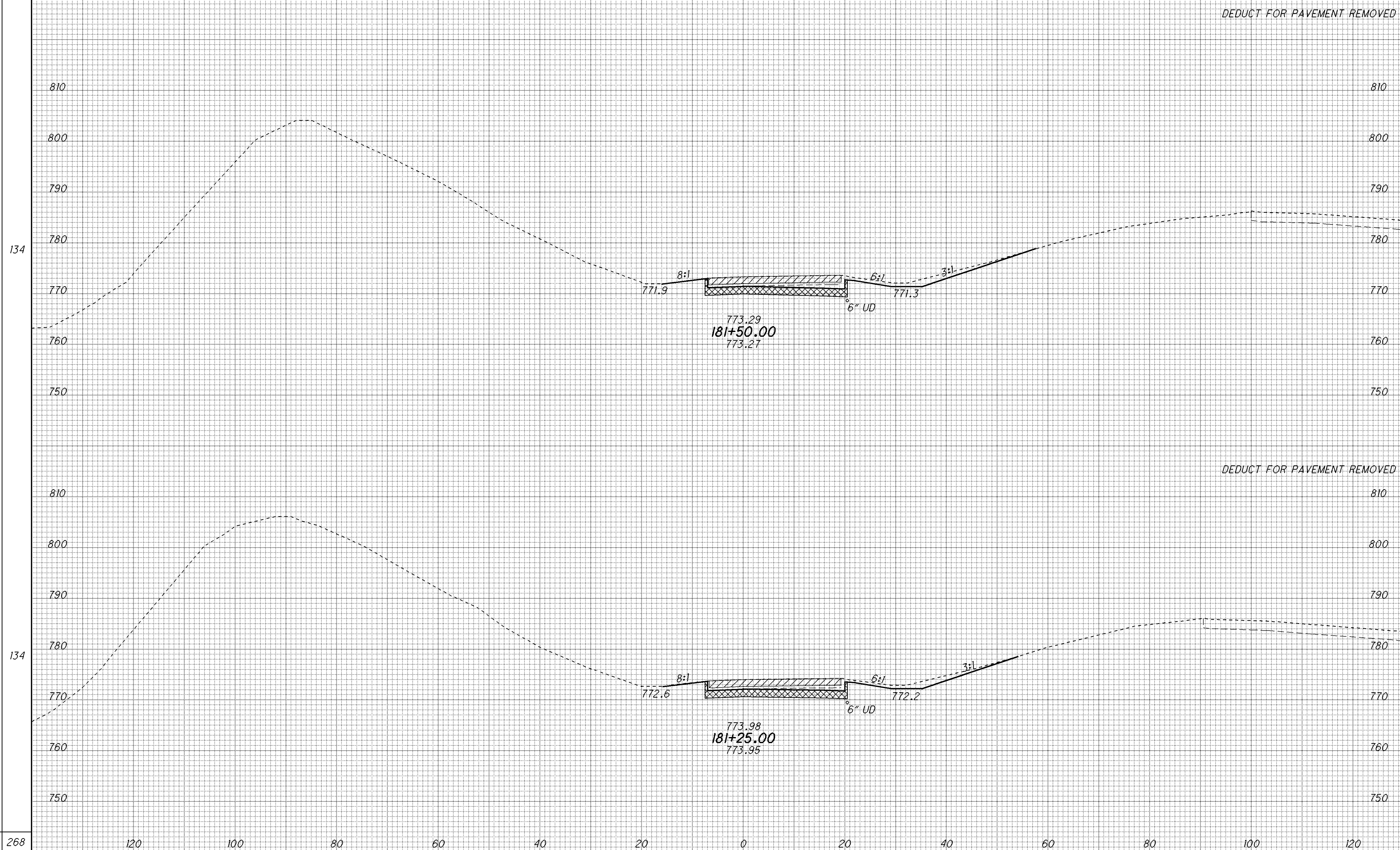
FRA - 315 - 12.18

33
68

SEEDING
 END WIDTH SQ. YDS.
 134 50
 134 46
 268

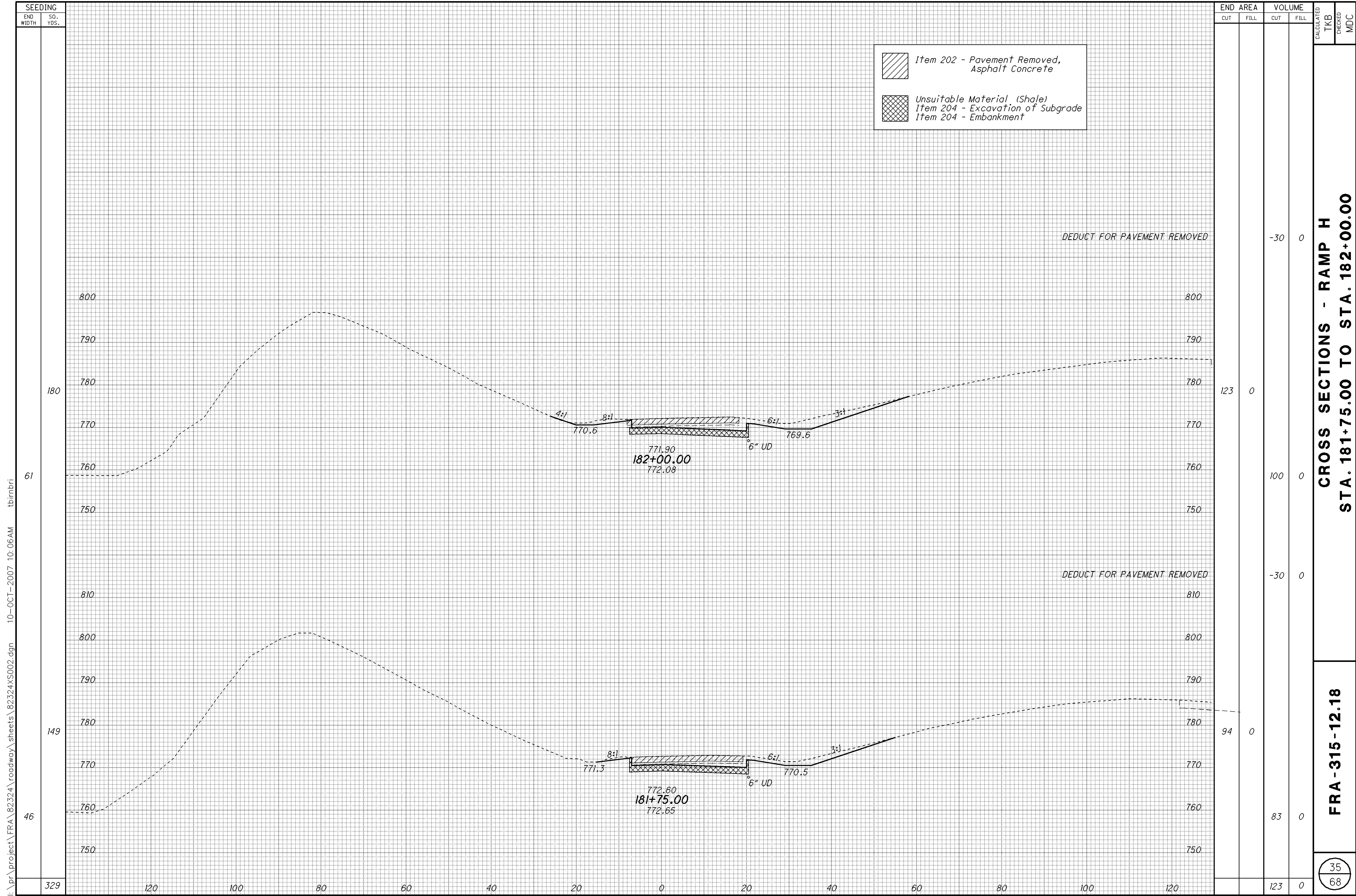
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 Item 202 - Pavement Removed, Asphalt Concrete
 Unsuitable Material (Shale)
 Item 204 - Excavation of Subgrade
 Item 204 - Embankment



END AREA		VOLUME	
CUT	FILL	CUT	FILL
85	0	-30	0
77	0	-30	0
80	0	80	0

CALCULATED
 TKB
 CHECKED
 MDC
CROSS SECTIONS - RAMP H
STA. 181+25.00 TO STA. 181+50.00
FRA - 315 - 12.18
 34
 68



SEEDING	
END WIDTH	SQ. YDS.
180	61
149	46
329	

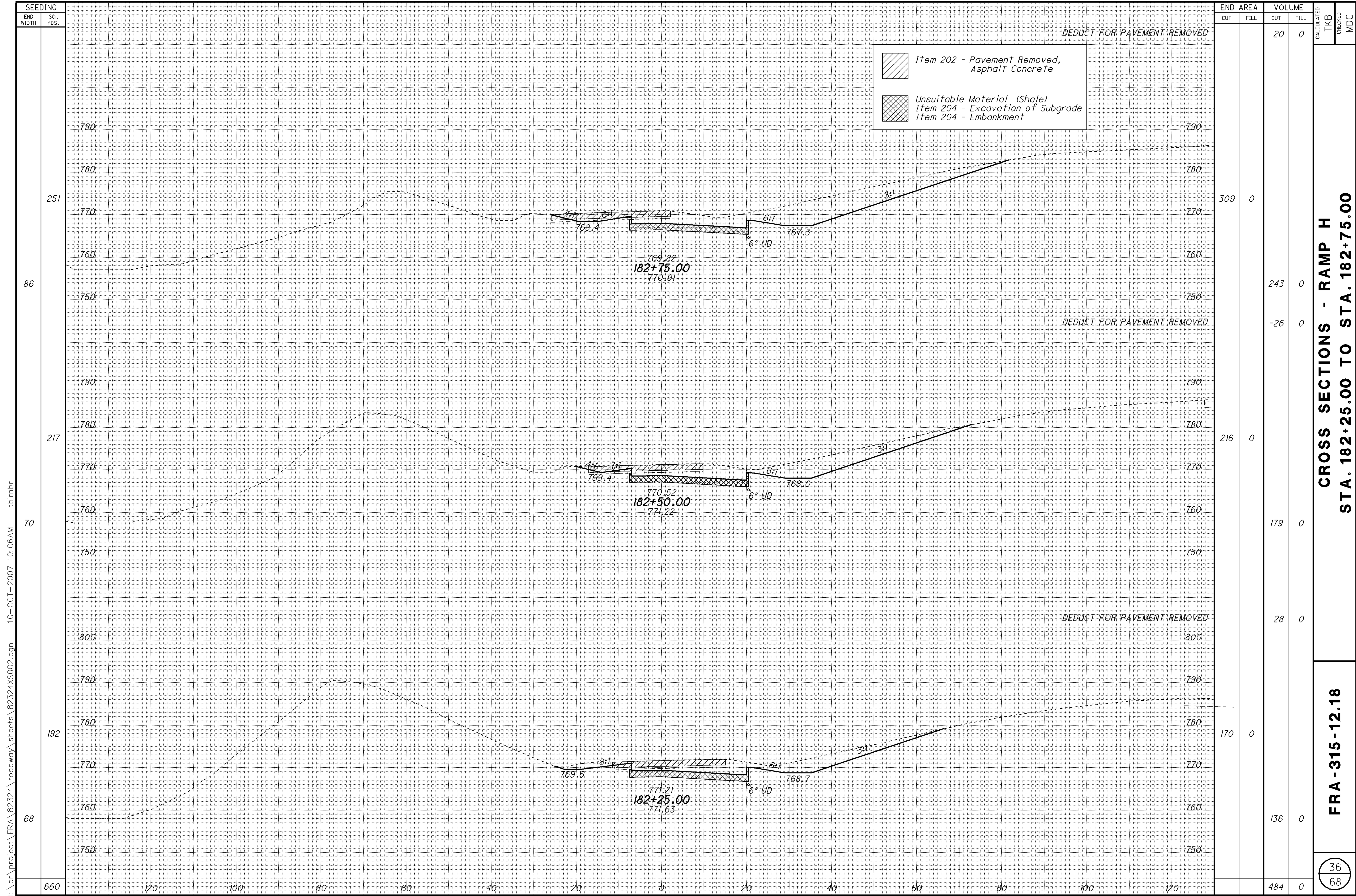
END AREA		VOLUME		CALCULATED	TKB CHECKED	MDC
CUT	FILL	CUT	FILL			
123	0	-30	0			
94	0	-30	0			
		123	0			

CROSS SECTIONS - RAMP H
STA. 181+75.00 TO STA. 182+00.00

FRA - 315 - 12.18

35
 68

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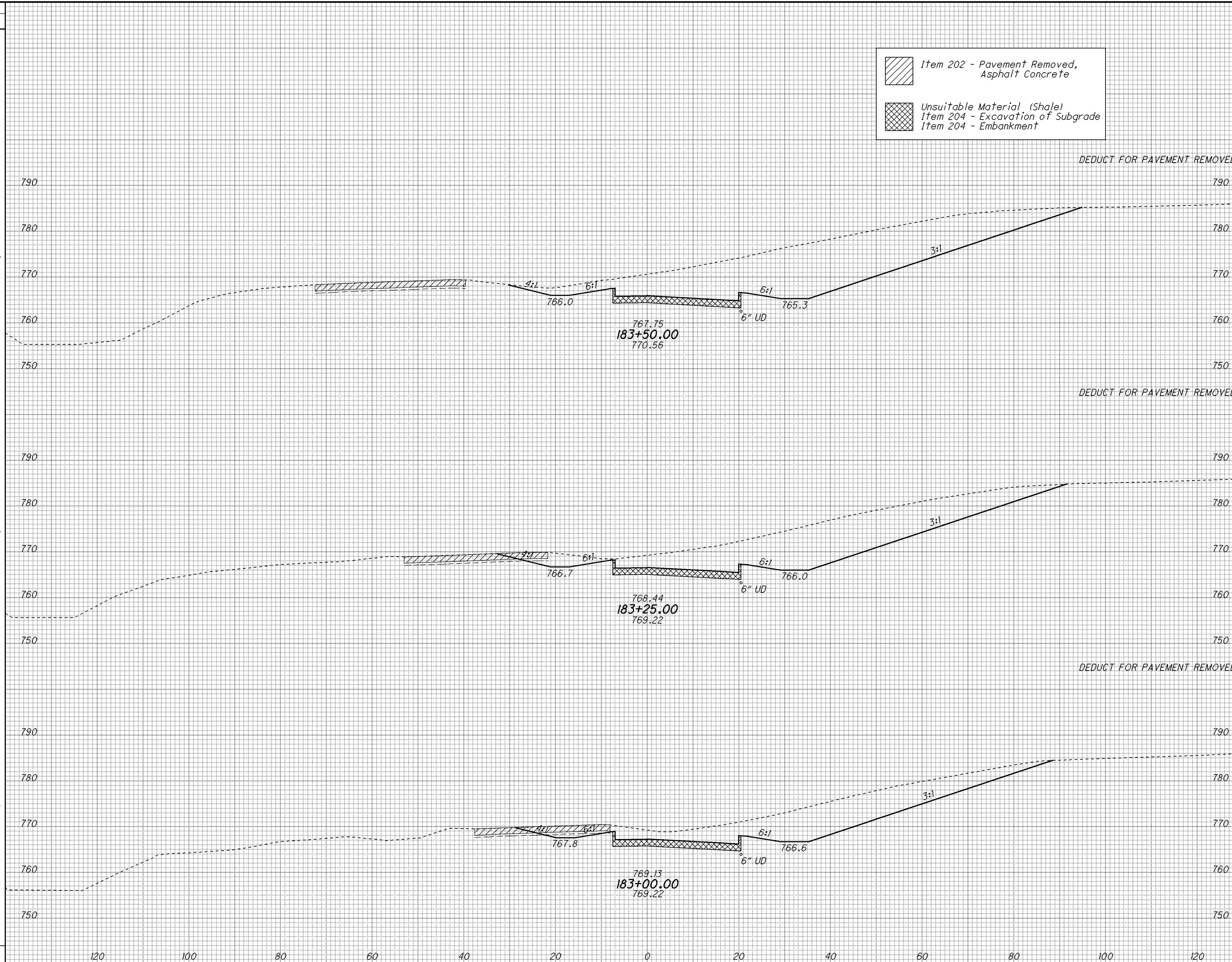


**CROSS SECTIONS - RAMP H
STA. 182+25.00 TO STA. 182+75.00**

FRA - 315 - 12.18

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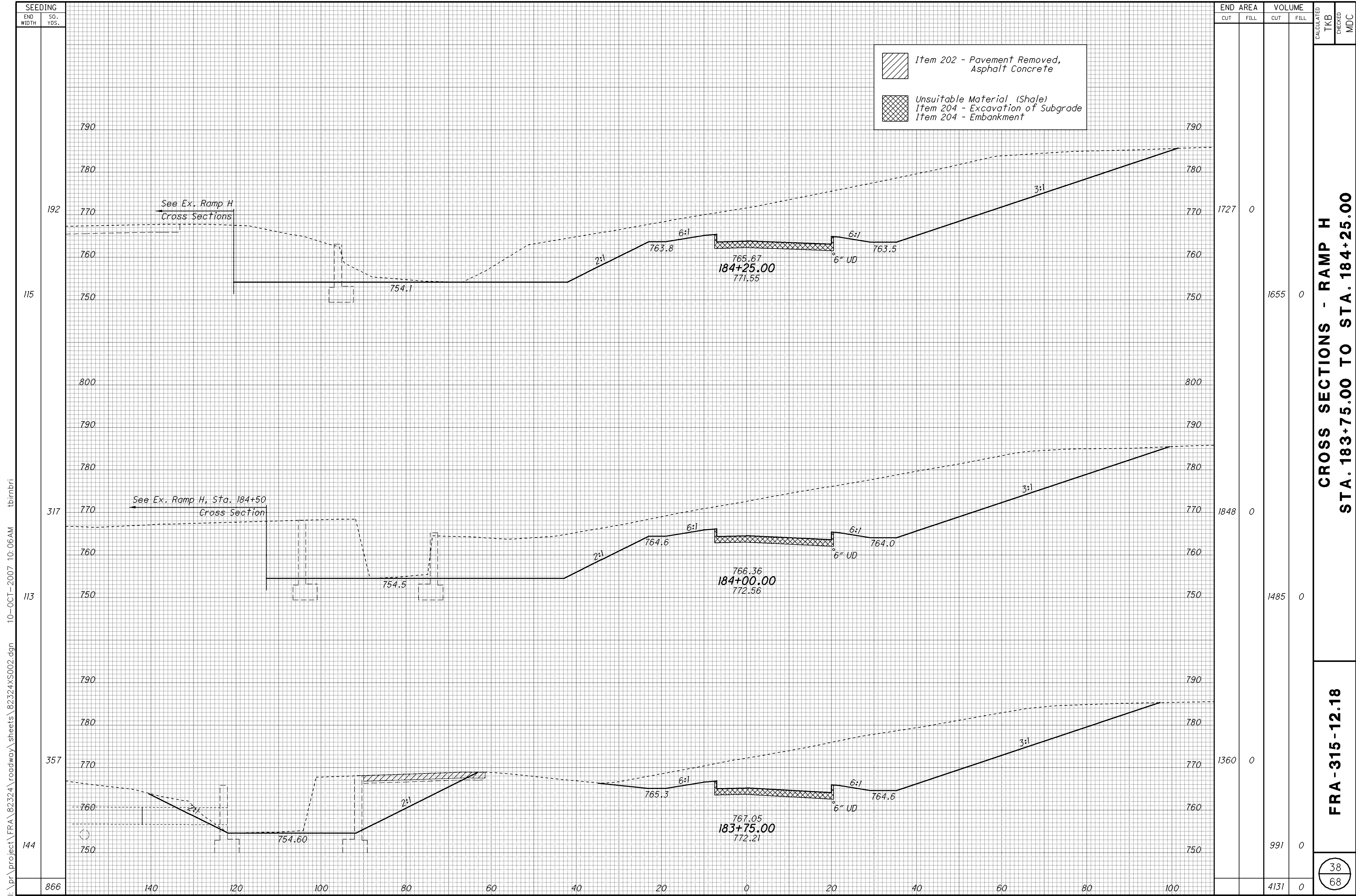
SEEDING
END WIDTH SQ. YDS.
344
104
287
103
276
95
907



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		-13	0
781	0	636	0
		-6	0
593	0	475	0
		-13	0
433	0	344	0
		1423	0

CROSS SECTIONS - RAMP H
 STA. 183+00.00 TO STA. 183+50.00
 37
 68

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SEEDING	
END WIDTH	SQ. YDS.
192	
115	
317	
113	
357	
144	
866	

END	AREA		VOLUME		CALCULATED	TKB	CHECKED	MDC
	CUT	FILL	CUT	FILL				
184+25.00	1727	0						
184+00.00			1655	0				
183+75.00	1848	0						
			1485	0				
					1360	0		
			991	0				
			4131	0				

CROSS SECTIONS - RAMP H
STA. 183+75.00 TO STA. 184+25.00

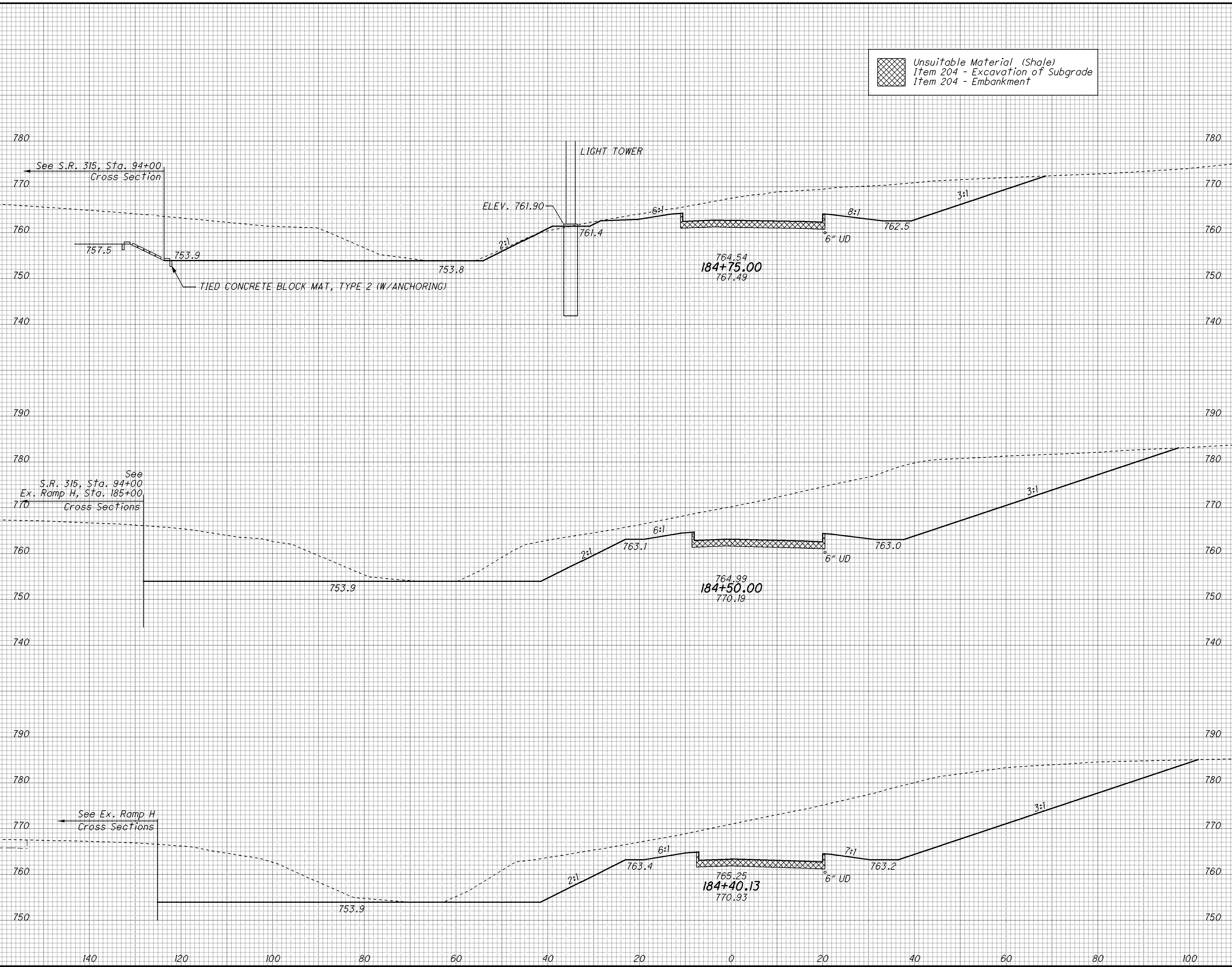
FRA - 315 - 12.18


38
 68

I:\pr\project\FRA\82324\roadway\sheets\82324XS002.dgn 10-OCT-2007 10:06AM tbirnbri

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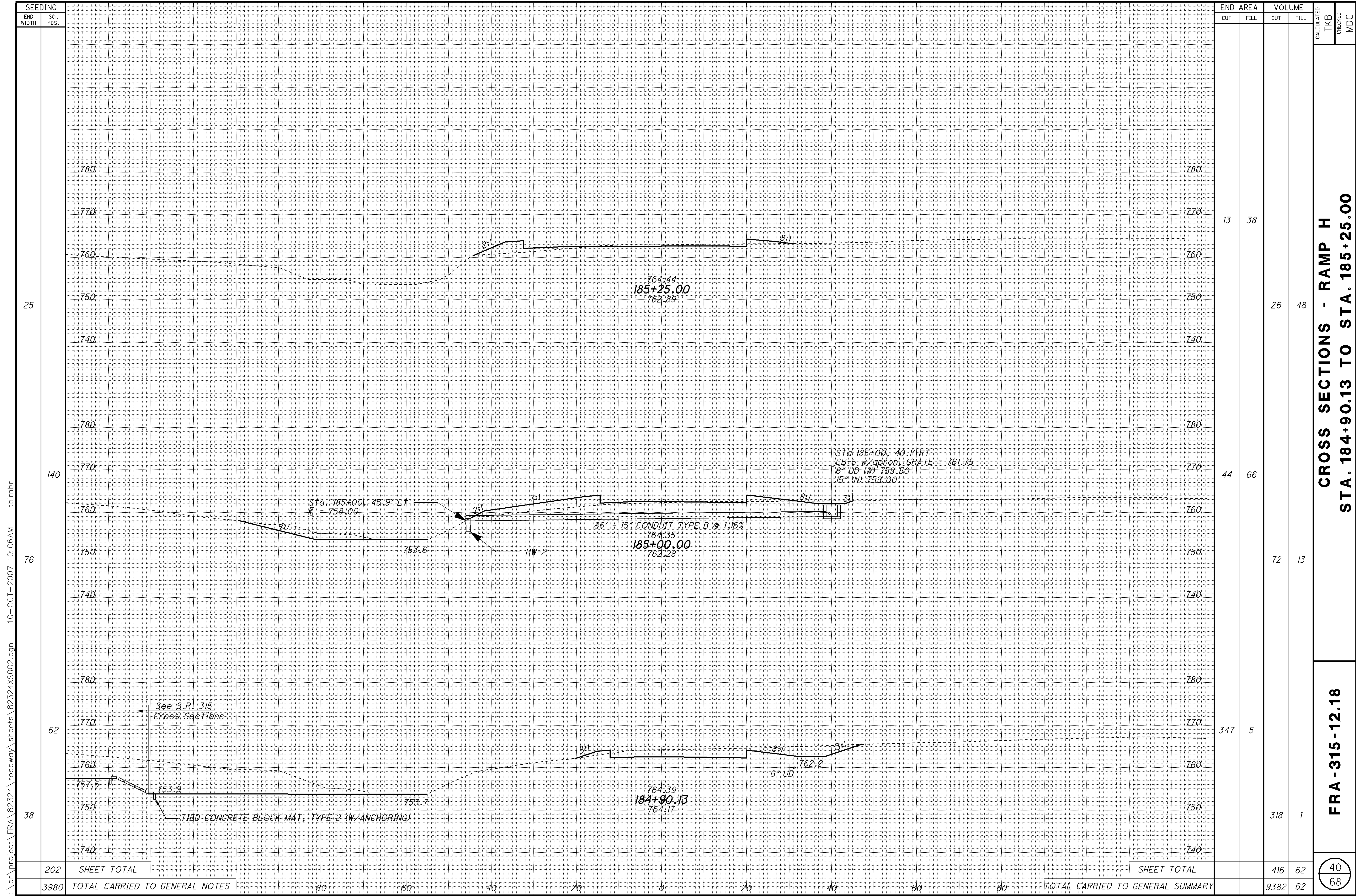
SEEDING	
END WIDTH	SO. YDS.
99	
80	
262	
109	
122	
115	
483	



 Unsuitable Material (Shale)
 Item 204 - Excavation of Subgrade
 Item 204 - Embankment

END AREA	VOLUME				
		CUT	FILL	CUT	FILL
786	0				
	1123	0			
1639	0				
	618	0			
1743	0				
	972	0			
	2713	0			

CALCULATED TKB CHECKED MDC
CROSS SECTIONS - RAMP H
STA. 184+40.13 TO STA. 184+75.00
FRA - 315 - 12.18
 39
 68



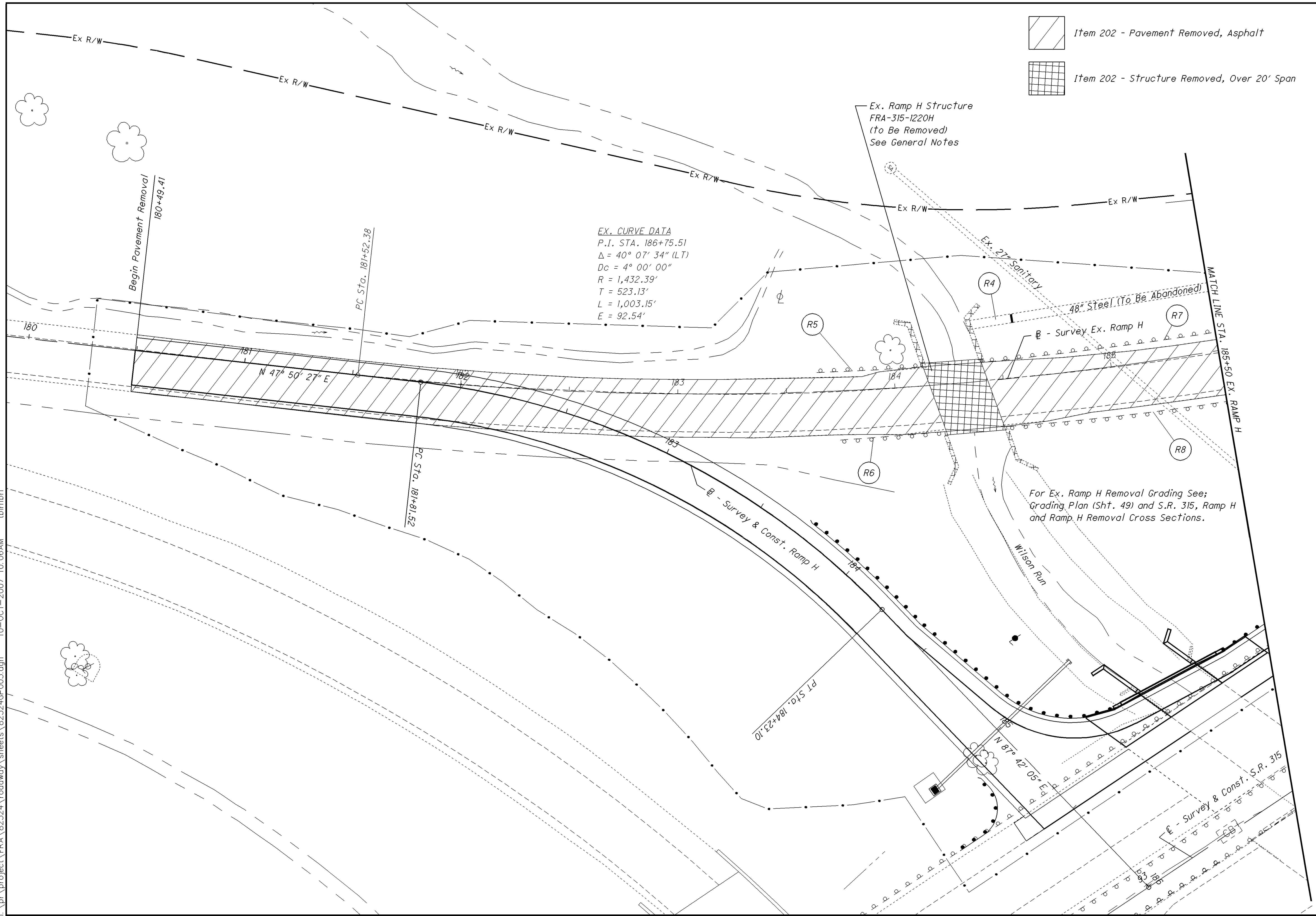
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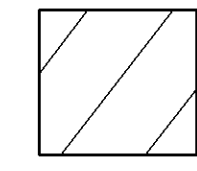
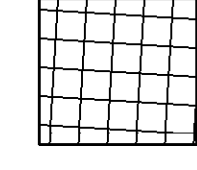
SEEDING	
END WIDTH	SQ. YDS.
25	
140	
76	
62	
38	
202	SHEET TOTAL
3980	TOTAL CARRIED TO GENERAL NOTES


END AREA		VOLUME	
CUT	FILL	CUT	FILL
13	38		
		26	48
44	66		
		72	13
347	5		
		318	1
		416	62
		9382	62

CROSS SECTIONS - RAMP H
 STA. 184+90.13 TO STA. 185+25.00
 FRA - 315 - 12.18
 40
 68

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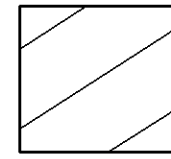


 Item 202 - Pavement Removed, Asphalt
 Item 202 - Structure Removed, Over 20' Span


 CALCULATED
 CHECKED
 0 20 40
 HORIZONTAL
 SCALE IN FEET

**PLAN VIEW - EXISTING RAMP H REMOVAL
STA. 180+49.41 TO STA. 185+50.00**

FRA - 315 - 12.18



Item 202 - Pavement Removed, Asphalt

EX. CURVE DATA
P.I. STA. 186+75.51
 $\Delta = 40^\circ 07' 34''$ (LT)
 $Dc = 4^\circ 00' 00''$
 $R = 1,432.39'$
 $T = 523.13'$
 $L = 1,003.15'$
 $E = 92.54'$



0 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED
CHECKED

PLAN VIEW - EXISTING RAMP H REMOVAL
STA. 185+50.00 TO STA. 190+03.37

FRA - 315 - 12.18

42
68

MATCH LINE STA. 185+50 EX. RAMP H

For Ex. Ramp H Removal Grading See;
Grading Plan (Sht. 49) and S.R. 315, Ramp H
and Ramp H Removal Cross Sections.

R7

R8

48" Steel (To Be Abandoned)

48"x76" Conc. (To Remain)

48"x76" Conc. (To Remain)

48x76" Conduit Type C

B - Survey Ex. Ramp H

Remove Pavement
to Hard Rd.
Radius Return

E - Survey & Const. S.R. 315

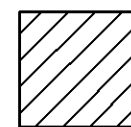
N 7° 42' 05" E

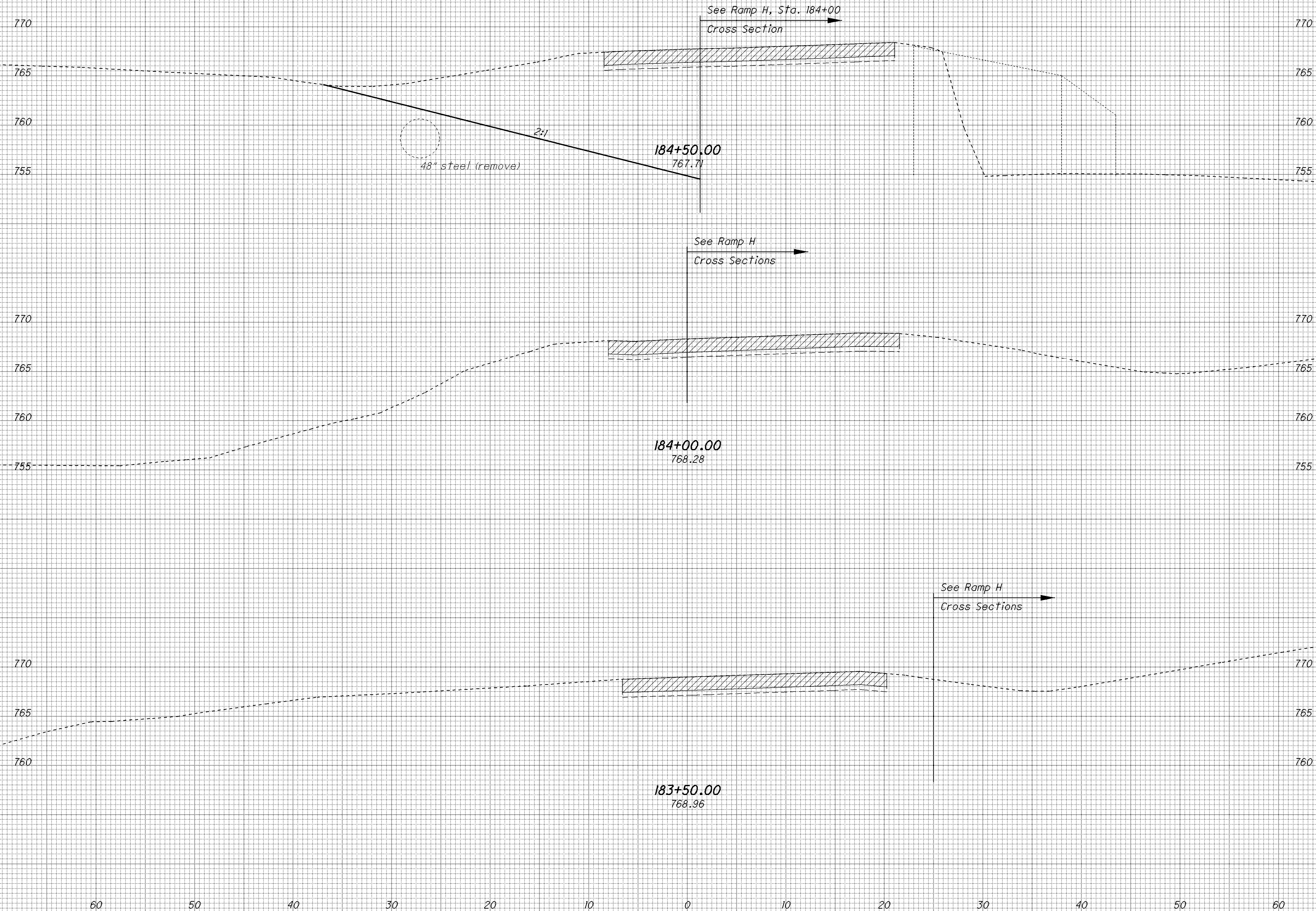
N 7° 42' 05" E

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SEEDING	
END WIDTH	SQ. YDS.
39	293
293	

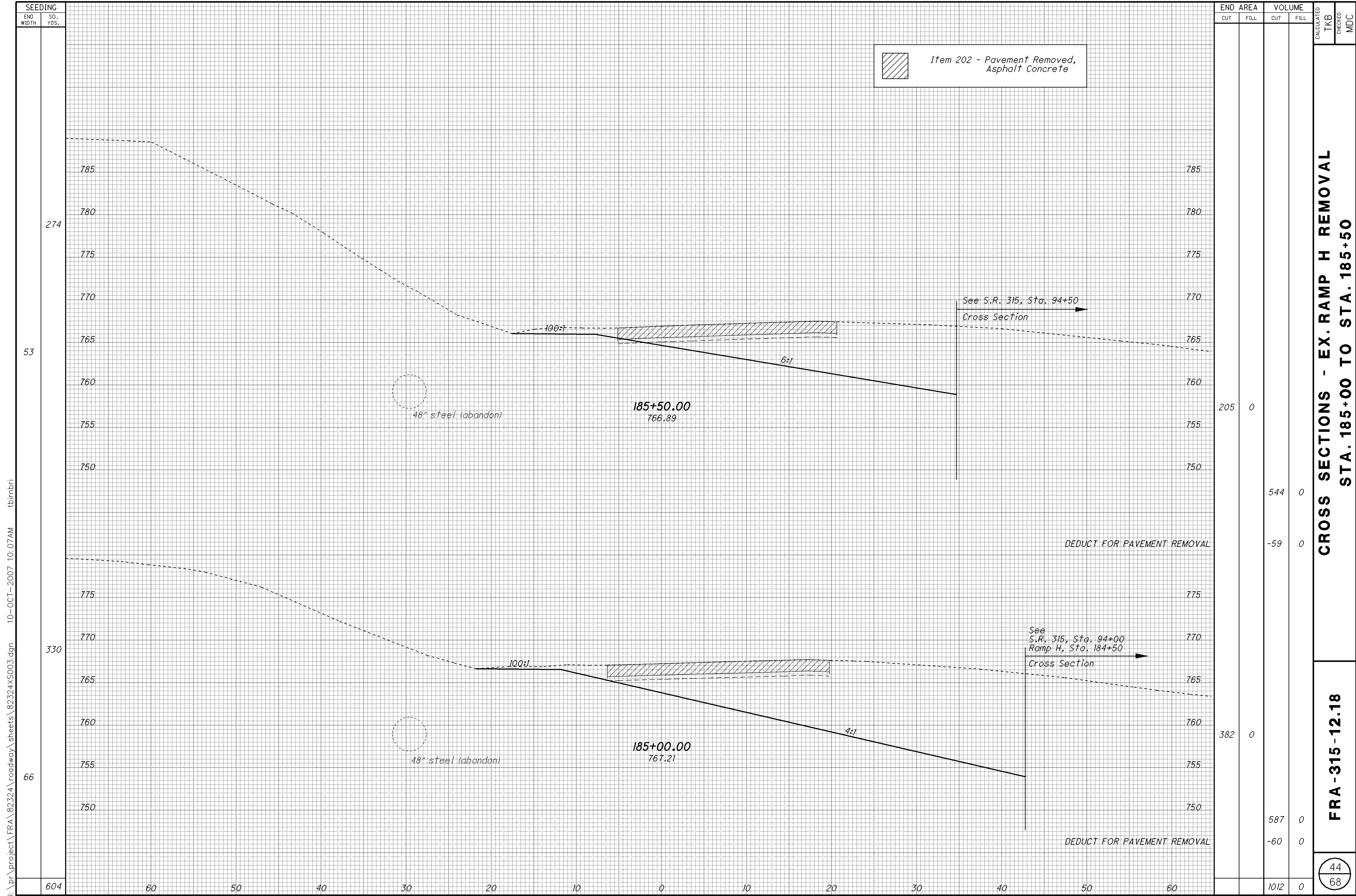
END AREA		VOLUME		CALCULATED	TKB	CHECKED	MDC
CUT	FILL	CUT	FILL				
	252		0				

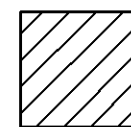
 Item 202 - Pavement Removed, Asphalt Concrete



**CROSS SECTIONS - EX. RAMP H REMOVAL
STA. 183+50 TO STA. 184+50**

FRA - 315 - 12.18




 Item 202 - Pavement Removed,
 Asphalt Concrete

See S.R. 315, Sta. 94+50
 Cross Section

See
 S.R. 315, Sta. 94+00
 Ramp H, Sta. 184+50
 Cross Section

DEDUCT FOR PAVEMENT REMOVAL

DEDUCT FOR PAVEMENT REMOVAL

SEEDING		END AREA		VOLUME		CALCULATED	TKB	CHECKED	MDC
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL				
274		205	0						
53				544	0				
				-59	0				
330		382	0						
66				587	0				
				-60	0				
604				1012	0				

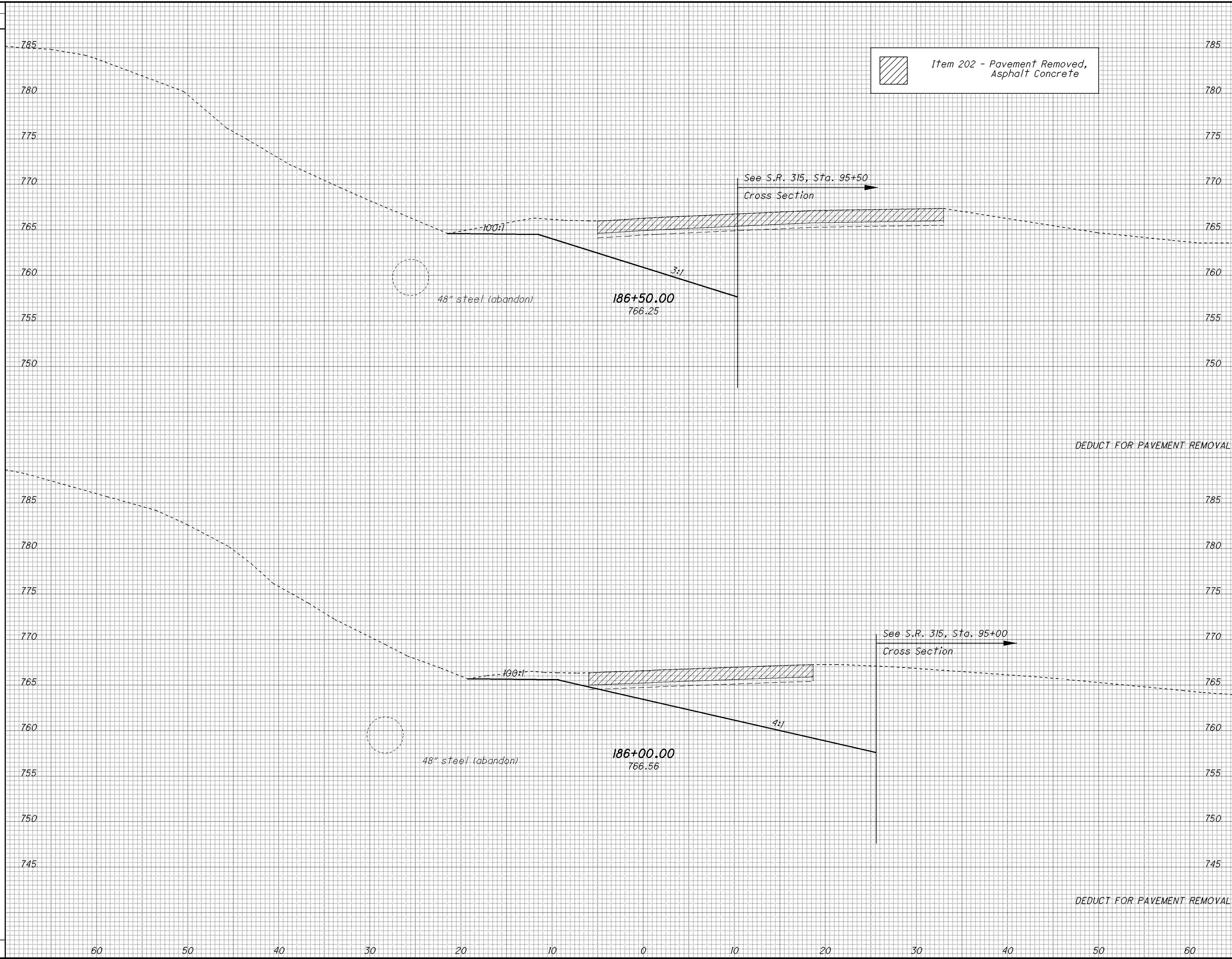
CROSS SECTIONS - EX. RAMP H REMOVAL
STA. 185+00 TO STA. 185+50

FRA - 315 - 12.18

44
 68

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SEEDING
 END WIDTH SQ. YDS.
 33
 218
 46
 218



END AREA	VOLUME	CUT		FILL	
		CUT	FILL	CUT	FILL
123	0				
	289				
	-40				
189	0				
	365				
	-59				
	555				

CROSS SECTIONS - EX. RAMP H REMOVAL
 STA. 186+00 TO STA. 186+50

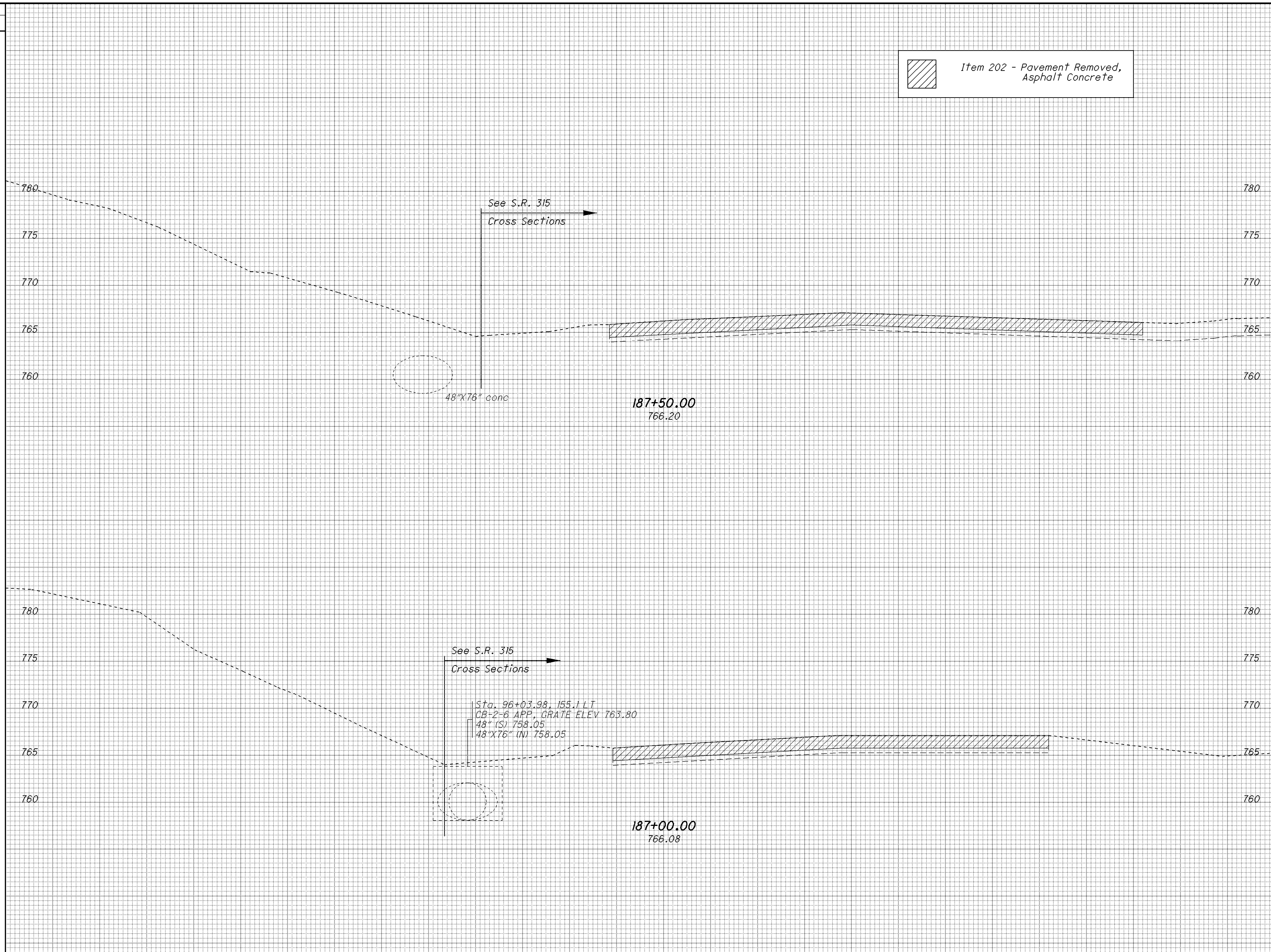
FRA - 315 - 12.18

45
68

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SEEDING	
END WIDTH	SQ. YDS.
0	
1115	



Item 202 - Pavement Removed, Asphalt Concrete

END CUT	AREA FILL	VOLUME		CALCULATED	TKB CHECKED	MDC
		CUT	FILL			
		0	0			
		1567	0			

CROSS SECTIONS - EX. RAMP H REMOVAL
STA. 187+00 TO STA. 187+50

FRA - 315 - 12.18

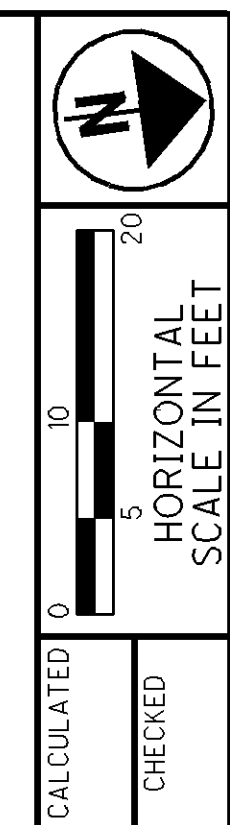
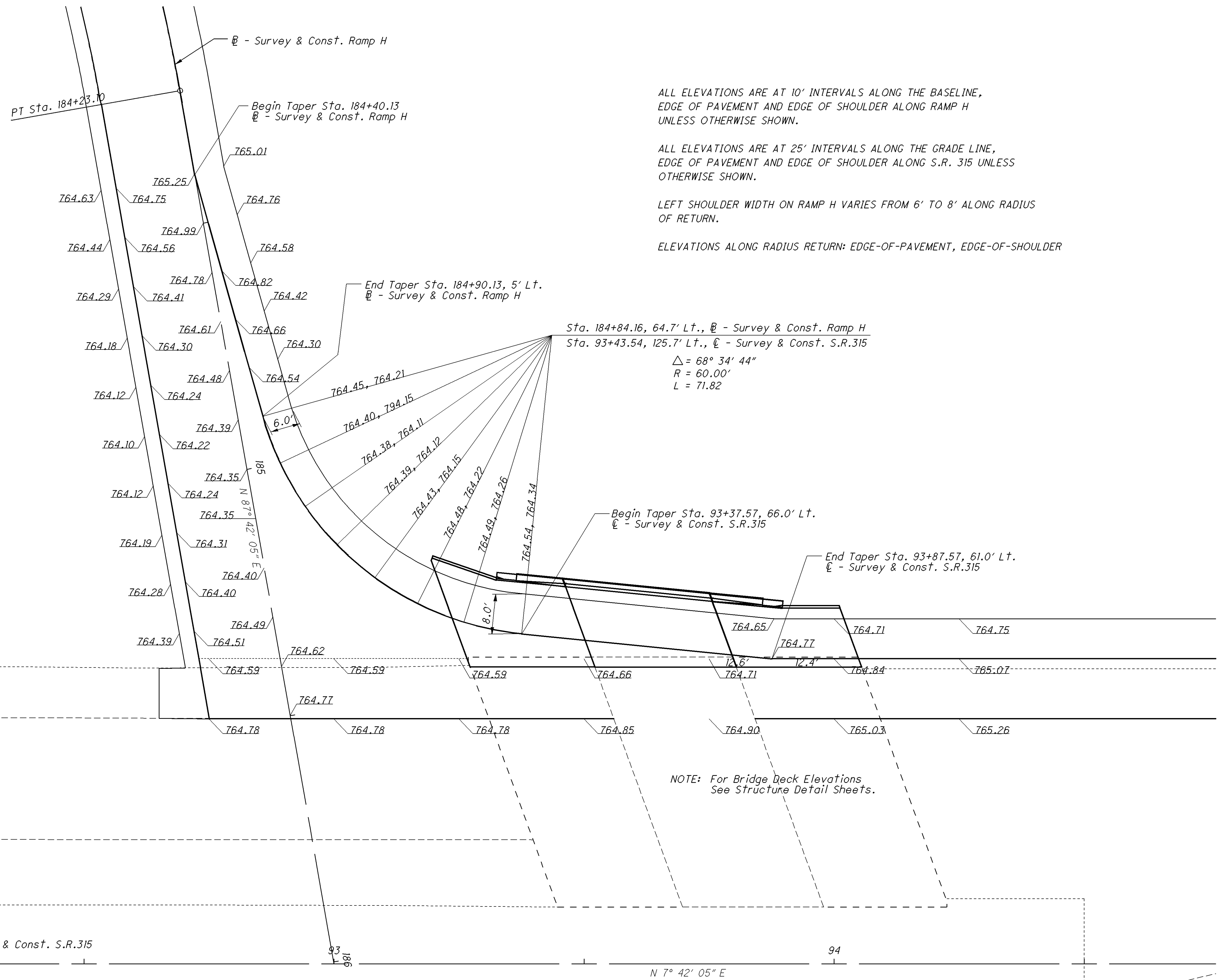
46
68

0	SHEET TOTAL
1115	TOTAL CARRIED TO GENERAL NOTES

	SHEET TOTAL
	TOTAL CARRIED TO GENERAL SUMMARY

40 30 20 10 0 10 20 30 40

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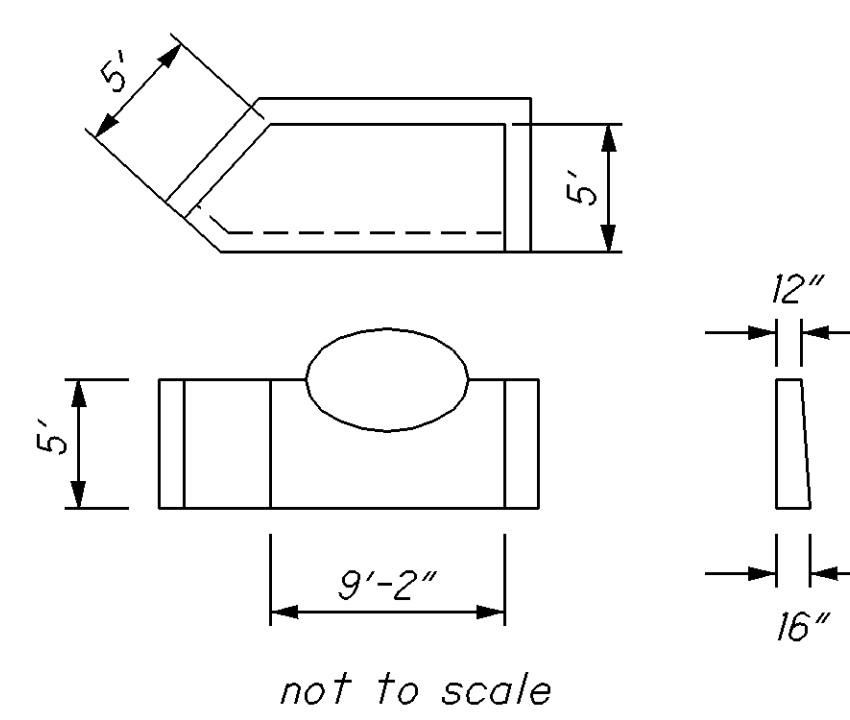
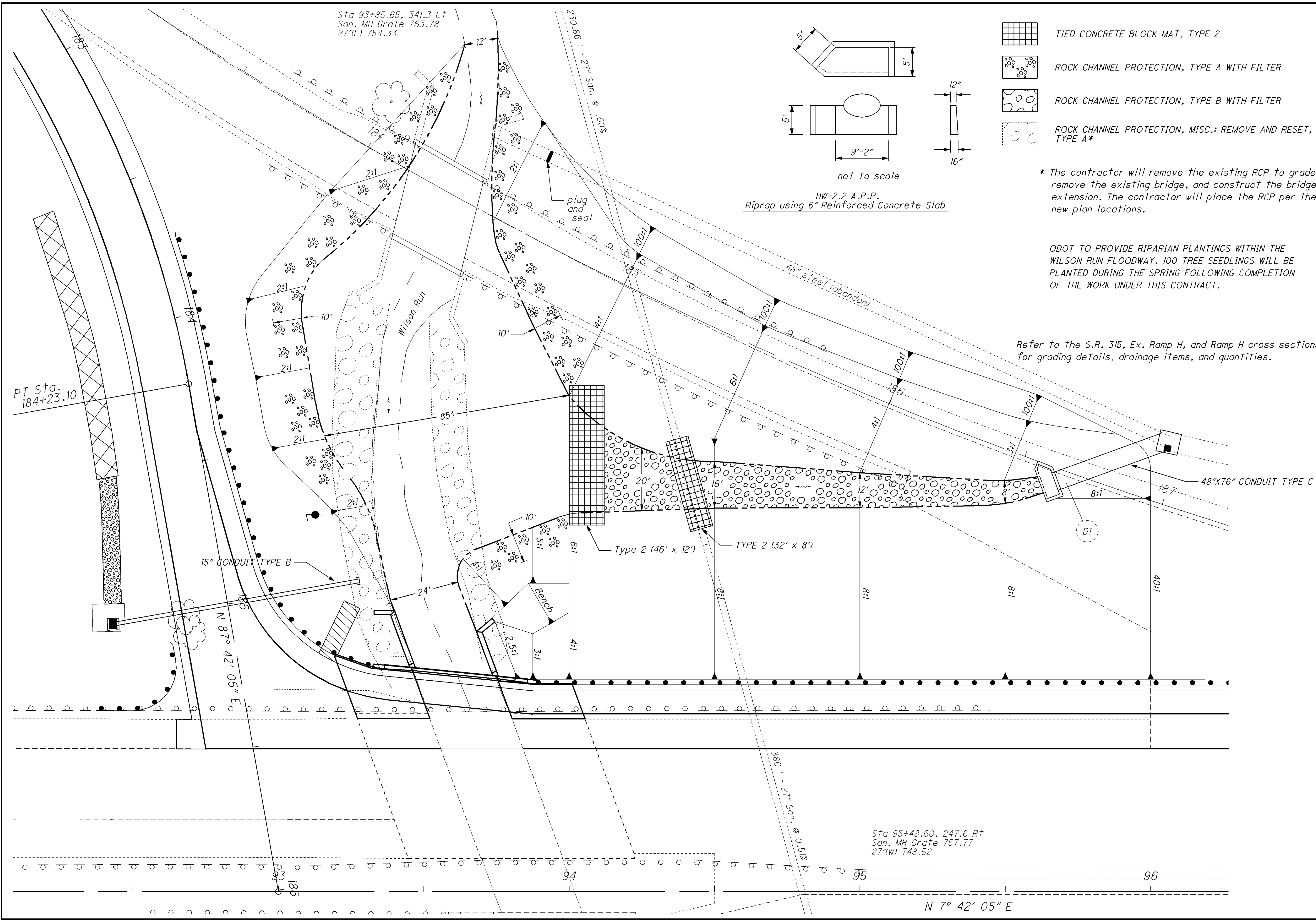
CALCULATED

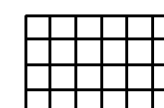
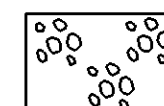
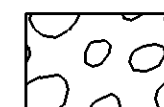
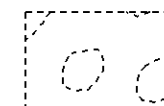
CHECKED

INTERSECTION DETAILS
RAMP H * S.R. 315

FRA - 315 - 12.18

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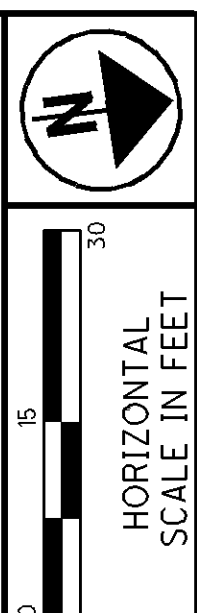


-  TIED CONCRETE BLOCK MAT, TYPE 2
-  ROCK CHANNEL PROTECTION, TYPE A WITH FILTER
-  ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
-  ROCK CHANNEL PROTECTION, MISC.: REMOVE AND RESET, TYPE A*

* The contractor will remove the existing RCP to grade, remove the existing bridge, and construct the bridge extension. The contractor will place the RCP per the new plan locations.

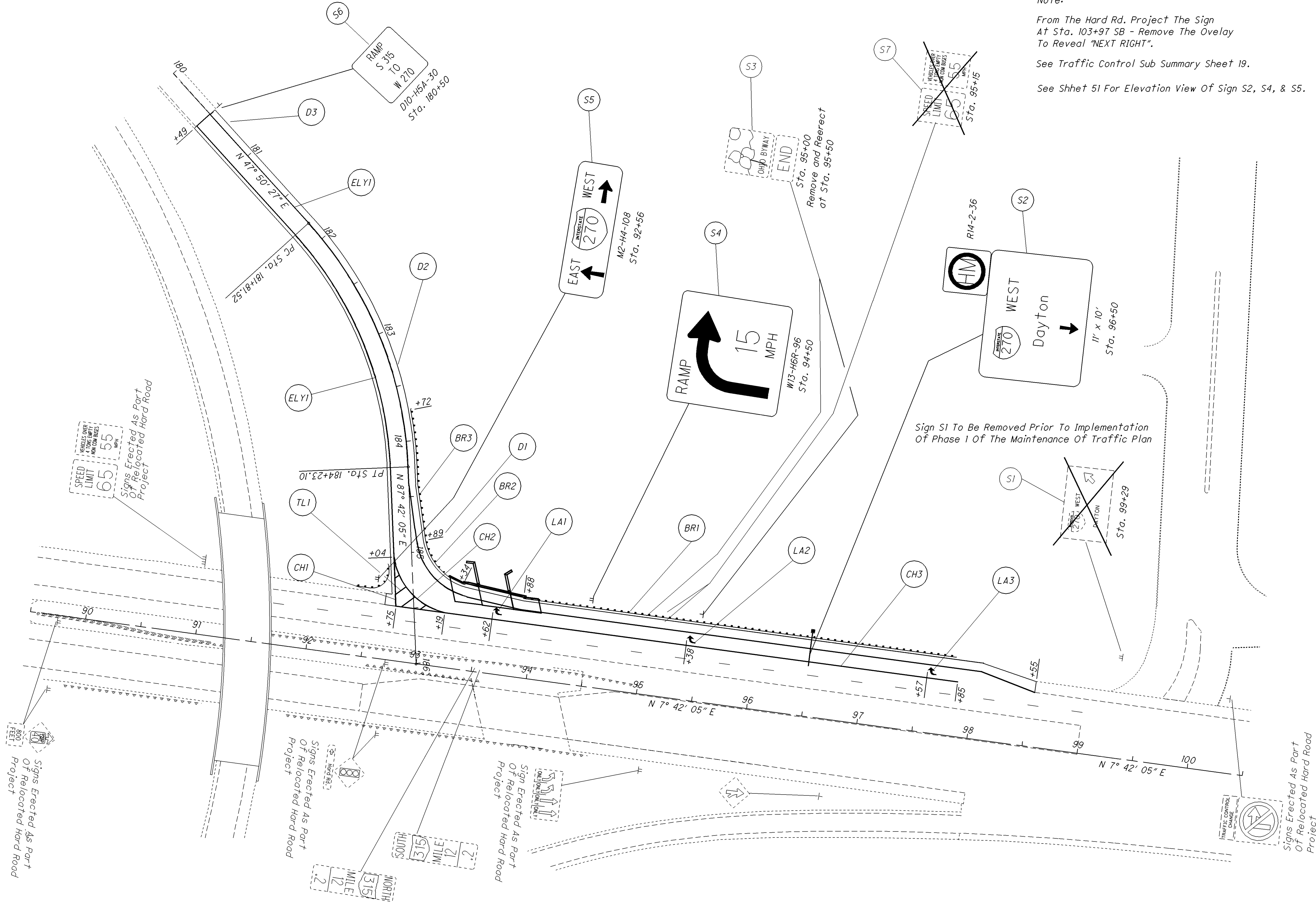
ODOT TO PROVIDE RIPARIAN PLANTINGS WITHIN THE WILSON RUN FLOODWAY. 100 TREE SEEDLINGS WILL BE PLANTED DURING THE SPRING FOLLOWING COMPLETION OF THE WORK UNDER THIS CONTRACT.

Refer to the S.R. 315, Ex. Ramp H, and Ramp H cross sections for grading details, drainage items, and quantities.



GRADING PLAN

FRA - 315 - 12.18



Note:
 From The Hard Rd. Project The Sign
 At Sta. 103+97 SB - Remove The Overlay
 To Reveal "NEXT RIGHT".
 See Traffic Control Sub Summary Sheet 19.
 See Shhet 51 For Elevation View Of Sign S2, S4, & S5.

CALCULATED
TJR
CHECKED
TKB

0 20 40 80
HORIZONTAL
SCALE IN FEET

**SIGNING AND PAVEMENT MARKING
 SB 315 AT RELOCATED RAMP H**

FRA - 315 - 12.18

50
68

Signs Erected As Part
Of Relocated Hard Road
Project

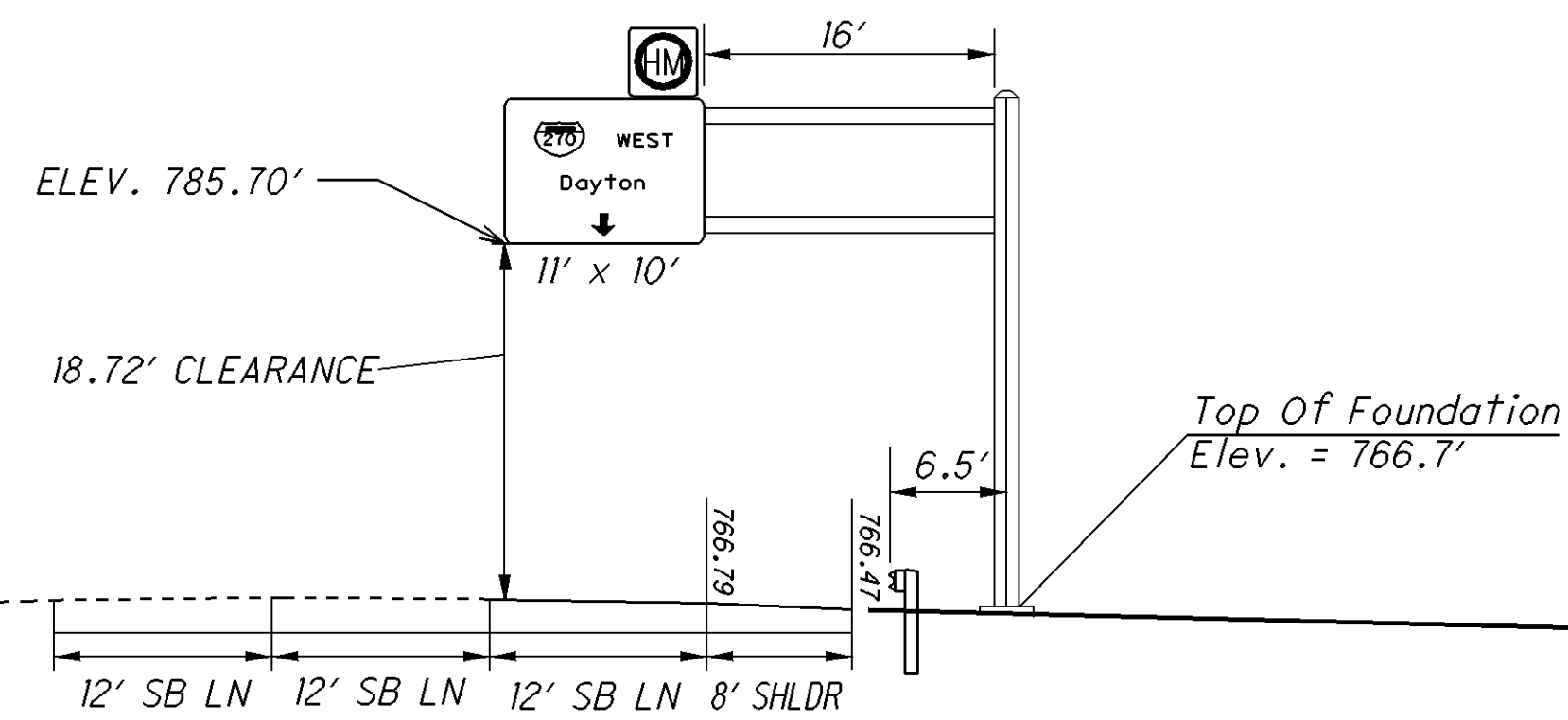
SPEED
LIMIT
65
VEHICLES OVER
4 TONS OR
LONG TRUCKS
55
MPH
Signs Erected As Part
Of Relocated Hard Road
Project

Signs Erected As Part
Of Relocated Hard Road
Project

Sign Erected As Part
Of Relocated Hard Road
Project

Sign S1 To Be Removed Prior To Implementation
Of Phase I Of The Maintenance Of Traffic Plan

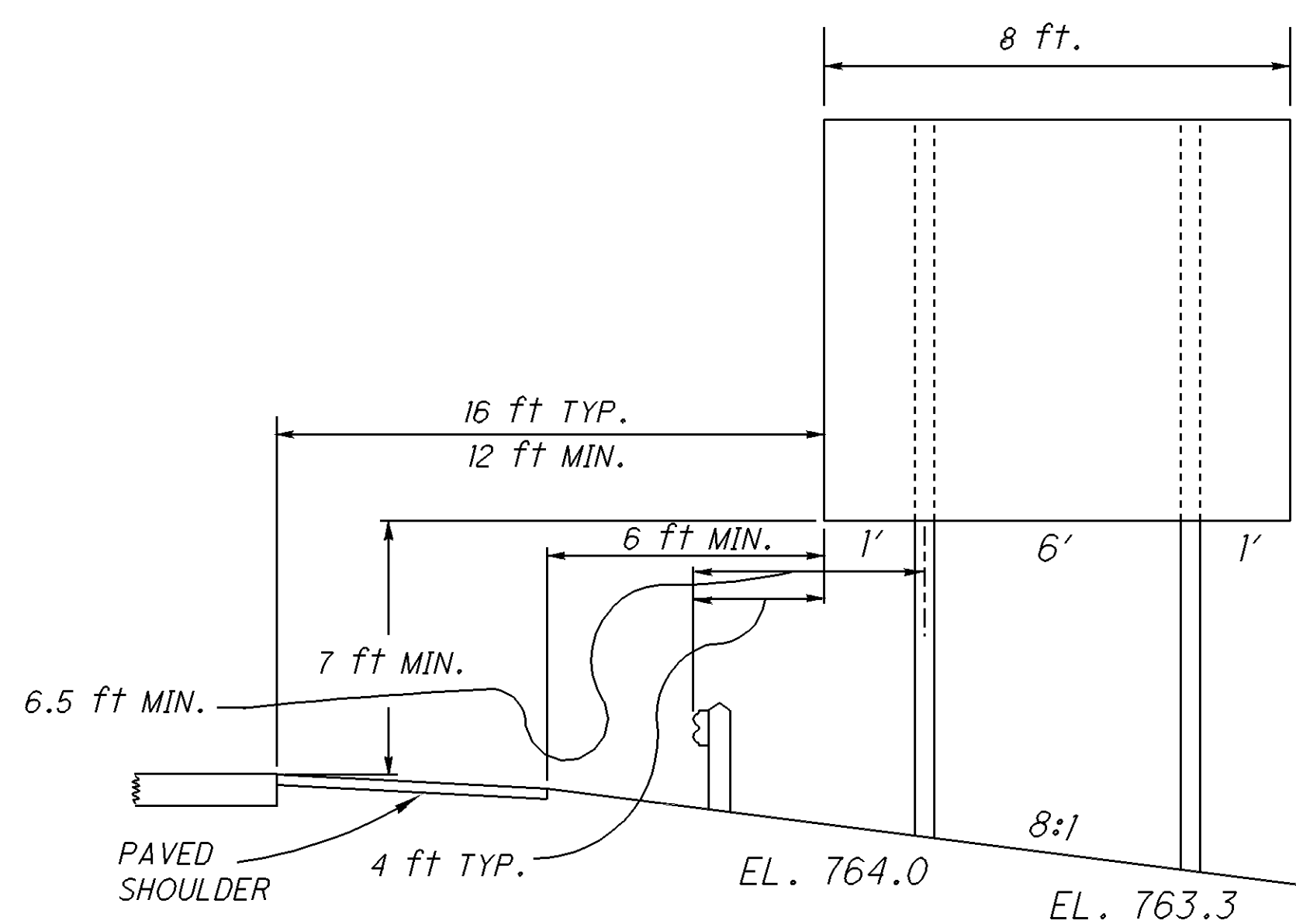
Signs Erected As Part
Of Relocated Hard Road
Project



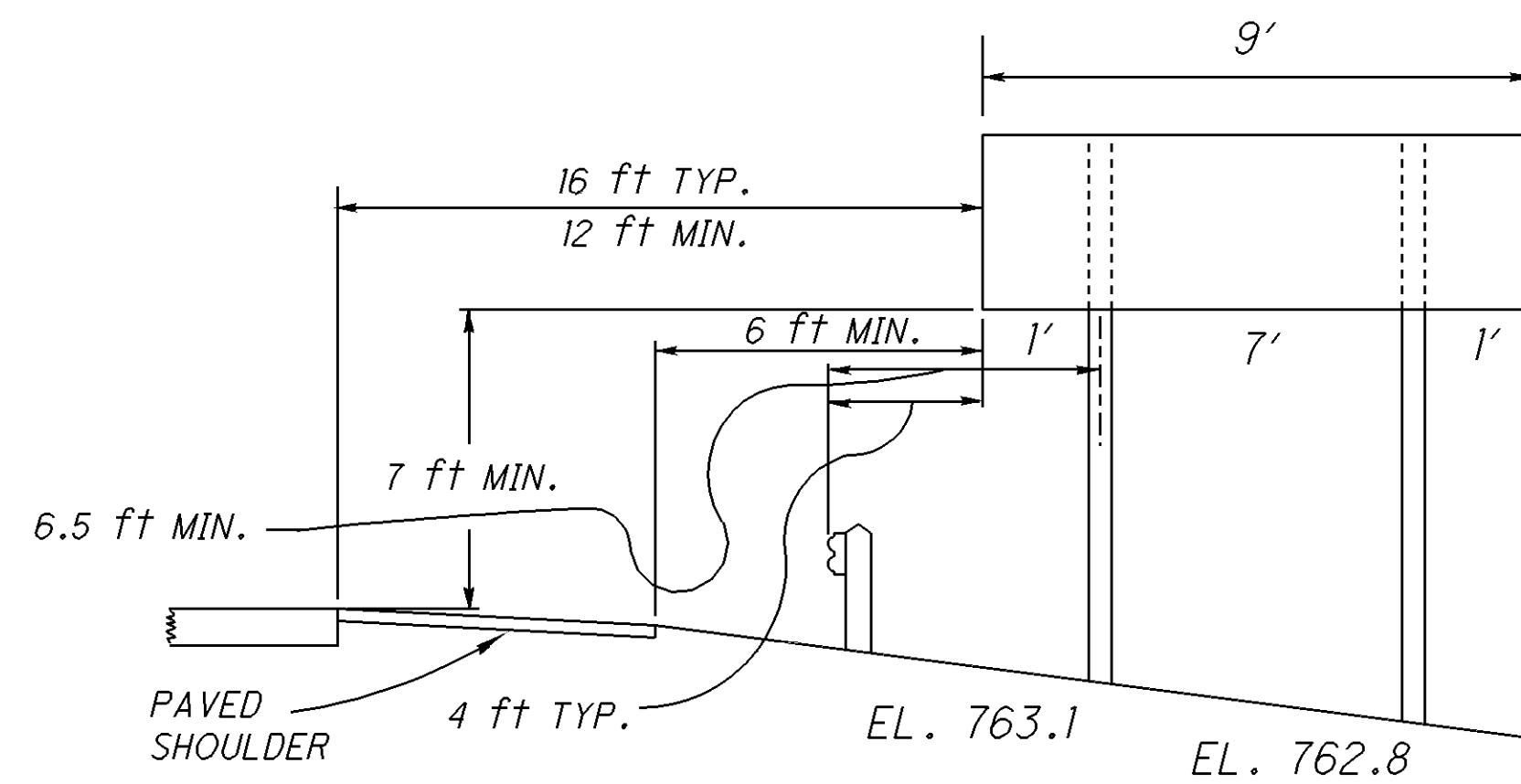
766.98
96+50.00
 766.98

ELEVATION VIEW
 STA. 96+50

TC 12.30, DESIGN 8, 28' POLE, 2 - 27' ARMS



W 6 x 9 BEAM
 ELEVATION VIEW
 STA. 94+50



S 4 x 7.7 BEAM
 ELEVATION VIEW
 STA. 92+56

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CALCULATED
 TJR
 CHECKED
 TKB

TRAFFIC CONTROL PLAN
 OVERHEAD SIGN ELEVATION

FRA - 315 - 12.18

C-10
Sta. 175+68, 48' Lt.
Ex. Ramp H

Existing
Circuit / Conduit
DO NOT DISTURB

Existing
Circuit / Conduit
To Be Abandoned

Proposed
1/2" Duct Cable
w/2 #4 AWG Cables

C-11 (Existing)
Sta. 183+84, 44' Lt.
Ex. Ramp H

C-11 (Relocation)
Sta. 184+75, 35' Lt.
Prop. Ramp H

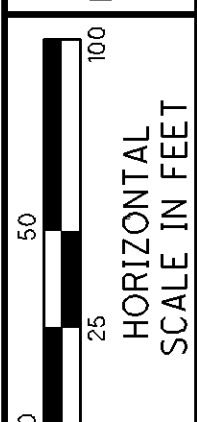
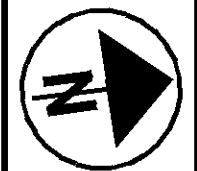
HA-1
Sta. 96+06, 93' Lt.
S.R. 315

Existing
Circuit / Conduit
To Be Abandoned

Proposed
1/2" Duct Cable
w/2 #4 AWG Cables

HA-2
Sta. 98+77, 89' Lt.
S.R. 315

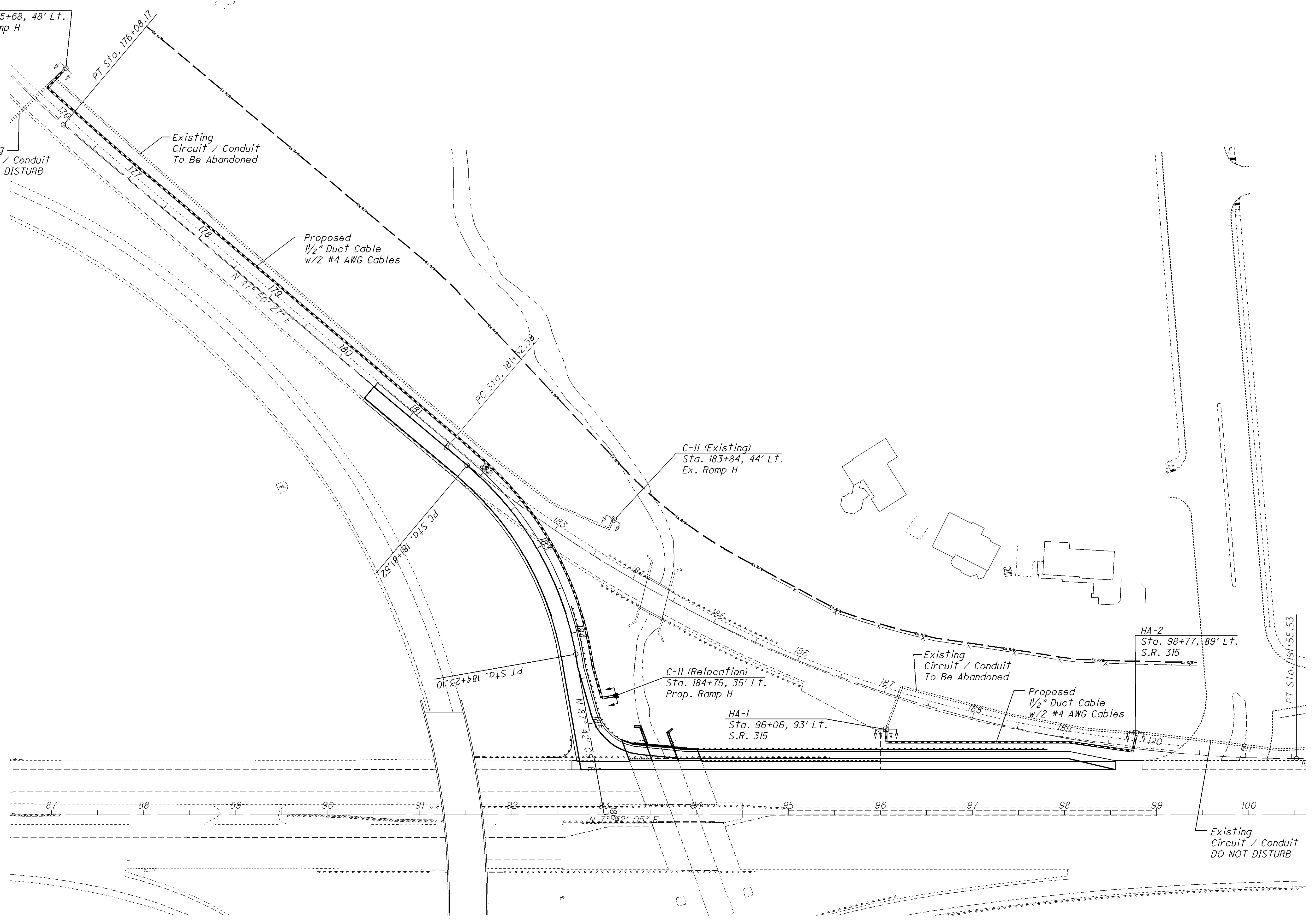
Existing
Circuit / Conduit
DO NOT DISTURB



LIGHTING PLAN

FRA - 315 - 12.18

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PROPOSED ITEMS OF WORK

LIGHT TOWER C-II RELOCATION

RELOCATE LIGHT TOWER C-II FROM STA. 183+84 @ EX. RAMP H TO STA. 184+75, 35' LT. @ RELOCATED RAMP H.

DISCONNECT THE EXISTING CIRCUIT FROM LIGHT TOWER C-10 TO LIGHT TOWER C-II AT C-10. REMOVE EXISTING LIGHT TOWER FOUNDATION AND CONSTRUCT NEW FOUNDATION AT STA. 184+75 35' LT @ RELOCATED RAMP H. INSTALL 2 NEW GROUND RODS. TRENCH, INSTALL AND CONNECT 1/2" DUCT CABLE W/ 2 #4 AWG CABLES BETWEEN LIGHT TOWERS C-10 AND C-II.

ORIENT THE LUMINARIRE REFRACTORS OF RELOCATED LIGHT TOWER C-II TO BE NORMAL TO THE @ OF RELOCATED RAMP H.

THE FOLLOWING QUANTITIES HAVE BEEN ADDED TO THE GENERAL SUMMARY FOR THE ABOVE WORK:

202, DISCONNECT EXISTING CIRCUIT	1 EACH
202, LIGHT TOWER FOUNDATION REMOVED	1 EACH
625, LIGHT TOWER FOUNDATION, 36" X 20" DEEP	1 EACH
625, TRENCH, 24" DEEP	960 FT
625, 1-1/2" DUCT CABLE WITH TWO NO. 4 AWG 5000 VOLT CABLES	960 FT
625, GROUND ROD	2 EACH
625, RE-ERECT EXISTING LIGHT TOWER	1 EACH

CIRCUIT REPLACEMENT LIGHT TOWER HA-1 & HA-2

AFTER RELOCATED RAMP H IS OPEN TO TRAFFIC AND EXISTING RAMP H HAS BEEN REMOVED. DISCONNECT THE EXISTING CIRCUIT FROM LIGHT TOWER HA-1 AND HA-2. TRENCH, INSTALL AND CONNECT 1/2" DUCT CABLE W/ 2 #4 AWG CABLES BETWEEN LIGHT TOWERS HA-1 AND HA-2.

THE FOLLOWING QUANTITIES HAVE BEEN ADDED TO THE GENERAL SUMMARY FOR THE ABOVE WORK:

202, DISCONNECT EXISTING CIRCUIT	2 EACH
625, TRENCH, 24" DEEP	300 FT
625, 1-1/2" DUCT CABLE WITH TWO NO. 4 AWG 5000 VOLT CABLES	300 FT

LUMINAIRE REORIENTATION LIGHT TOWER HA-1

ORIENT THE LUMINARIRE REFRACTORS OF LIGHT TOWER HA-1 TO BE NORMAL TO THE @ OF S.R. 315

THE FOLLOWING QUANTITIES HAVE BEEN ADDED TO THE GENERAL SUMMARY FOR THE ABOVE WORK:

625, LIGHTING MISC.: ALIGN LUMINARE OPTICS	4 EACH
--	--------

MAINTAINING EXISTING LIGHTING

MAINTAINING EXISTING LIGHTING IS INCIDENTAL TO THE ABOVE DESCRIBED WORK. TEMPORARY LIGHTING UNITS WILL NOT BE REQUIRED. DO NOT TAKE LIGHT TOWERS C-II AND HA-1 OUT OF SERVICE UNTIL RELOCATED RAMP H IS OPEN TO TRAFFIC. DO NOT TAKE LIGHT TOWERS C-II AND HA-1 OUT OF SERVICE AT THE SAME TIME.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE HL AND TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
 - A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
 - B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
 - C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
 - D. METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL AS PROVIDED ON HL-30.11.
 - E. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
 - F. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
 - G. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.
2. CONDUITS.
 - A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
 - B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
 - C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
 - D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
3. WIRE FOR GROUNDING AND BONDING.
 - A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
 - I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
 - II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
 - III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES

- IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/ LABELS INSTALLED AT ALL ACCESS POINTS.
- B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.
4. GROUND ROD.
 - A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
 - B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.
5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND. NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED
6. POWER SERVICE AND DISCONNECT SWITCH.
 - A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPICE.
 - B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
 - I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
 - II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.
7. STRUCTURE GROUNDING: HL-50.21 SHOWS A 1/0 AWG STRANDED COPPER CABLE USED FOR STRUCTURE GROUNDING. ADDITIONALLY, THIS SAME CABLE SHALL BE INSULATED AND ANY CONNECTIONS AND BARE COPPER STRANDS EXPOSED TO CONCRETE SHALL BE COVERED WITH MASTIC TO PREVENT CONTACT WITH THE CONCRETE.
8. PAYMENT.

- A. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.
- B. WORK ON BRIDGES MAY BE INCLUDED IN THE BID ITEM FOR "ITEM 625, STRUCTURE GROUNDING."
- C. IN A 3-WIRE HIGHWAY LIGHTING SYSTEM, THE THIRD CONDUCTOR OF THE DUCT CABLE OR DISTRIBUTION CABLE WILL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR AND MAY AS SUCH BE PART OF THE CABLE BID ITEM.

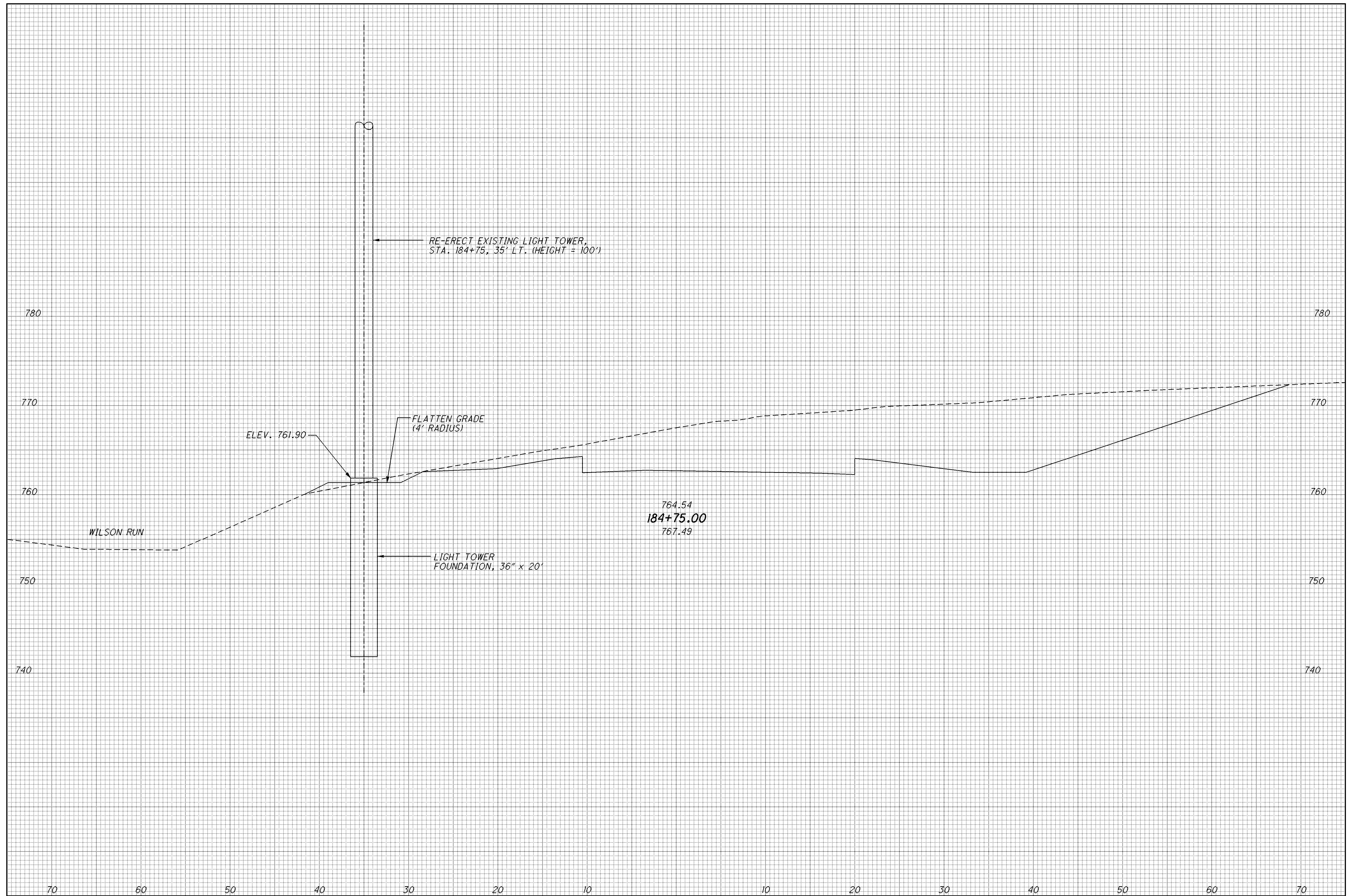
202, LIGHT TOWER FOUNDATION REMOVED

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT POLE FOUNDATION TO A MINIMUM OF 1 FOOT BELOW FINISHED GRADE, OR REMOVING THE FOUNDATION COMPLETELY, BACKFILLING THE RESULTANT DEPRESSION WITH COMPACTED SOIL AND RESTORING THE DISTURBED AREA.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 202, "LIGHT POLE FOUNDATION REMOVED" FOR EACH FOUNDATION REMOVED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

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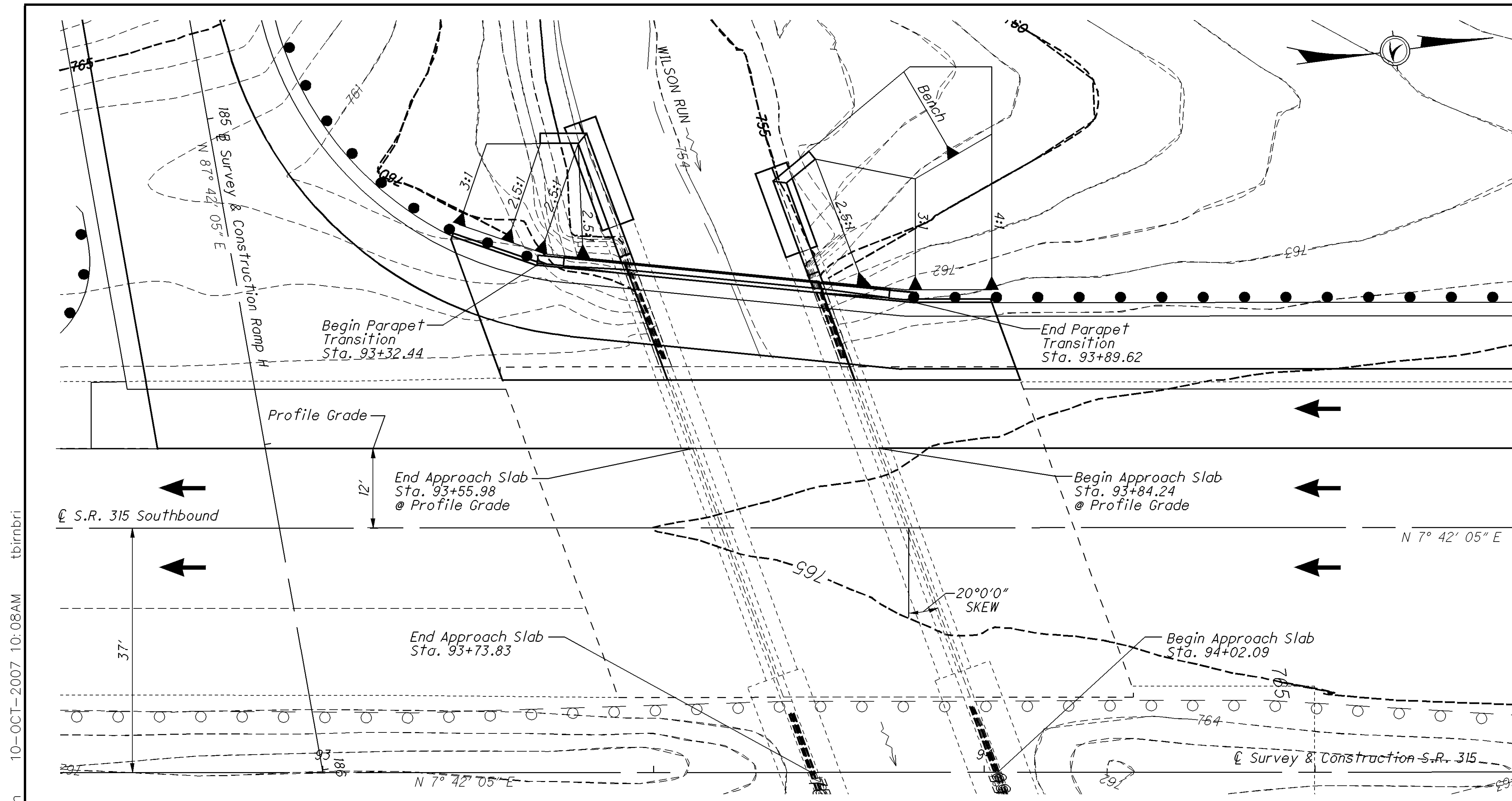
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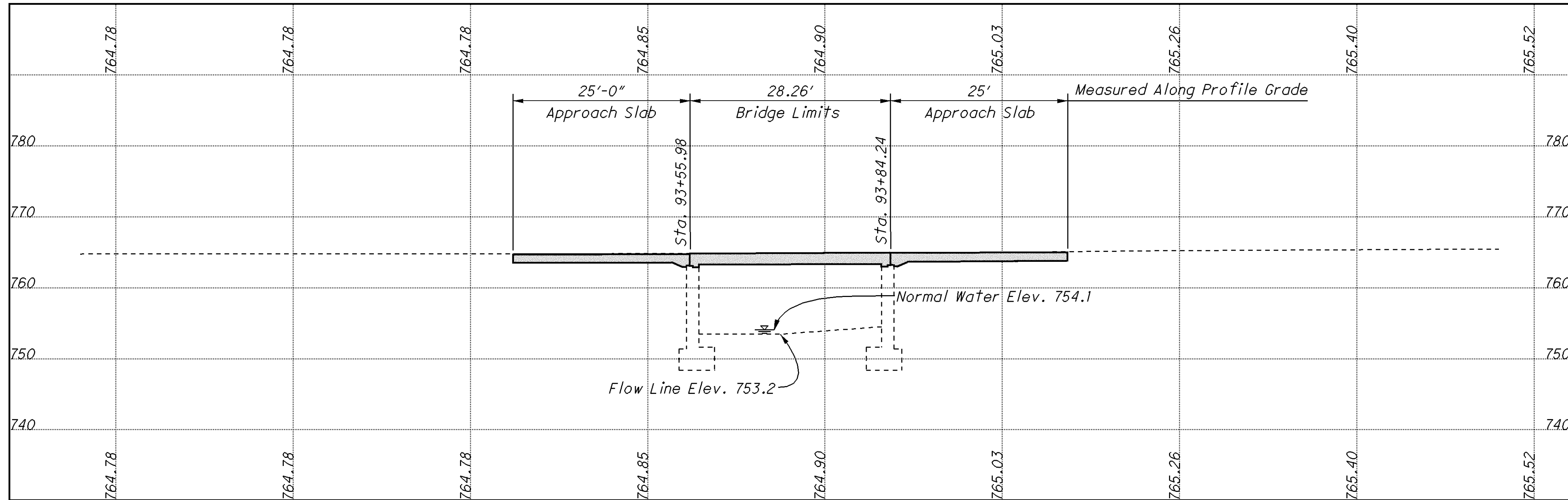
LIGHT TOWER GRADING DETAILS
STA. 184+75 RAMP H

FRA - 315 - 12.18

54
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PLAN



PROFILE

Along Southbound Existing Edge Of Pavement

BENCHMARK DATA

TBM ELEV. = 755.29
 TOP OF THE NE CORNER @ THE BOTTOM OF THE EASTERLY END
 OF CULVERT FOR WILSON RUN EAST OF RAMP FROM I-270 WB
 TO SR 315 NB STA. 94+78, 210' RT. NAVD 1988

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN SHEET 2/88

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
 BRIDGE TERMINAL ASSEMBLY: TYPE 1

DESIGN TRAFFIC:

2008 ADT = 43058 2008 ADTT = 1292
 2028 ADT = 69570 2028 ADTT = 2087
 DIRECTIONAL DISTRIBUTION = 50%

DRAINAGE-1967 DATA

AREA = 2.8 SQ.MI.
 Q50 = 1356 CFS
 Q10 = 900 CFS

EXISTING STRUCTURE

TYPE: REINFORCED CONCRETE SLAB AND SUBSTRUCTURE
 SPANS: 25.59± F/F ABUTMENTS
 ROADWAY: 50'-0" O/O DECK
 LOADING: CF400 (57)
 SKEW: 20° RF
 APPROACH SLABS: AS-1-54 (25' LONG)
 ALIGNMENT: TANGENT
 CROWN: 0.0156 FT/FT
 STRUCTURAL FILE NUMBER: 2515962
 DATE BUILT: 1967

PROPOSED STRUCTURE

PROPOSED WORK: WIDEN EXISTING CONCRETE SLAB AND APPROACH SLABS WITH NEW REINFORCED CONCRETE SLABS AND NEW CONCRETE PARAPET. EXTEND AND REHABILITATE WINGWALLS ON THE WEST SIDE OF THE BRIDGE.
 SPANS: 25.59' F/F ABUTMENT
 ROADWAY: VARIES 62'-7 1/8" TO 65'-7" O/O DECK
 SUPERSTRUCTURE LOADING: HS20 & ALTERNATE MILITARY LOADING
 FUTURE WEARING SURFACE: 60 LBS/FT²
 WEARING SURFACE: MONOLITHIC CONCRETE
 SKEW: 20° RF
 APPROACH SLABS: 25' LONG (AS-1-81)
 ALIGNMENT: TANGENT
 CROWN: 0.0156 FT/FT
 COORDINATES: LATITUDE 40°06'53"
 LONGITUDE 83°02'06"

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION

DATE: 07/11/2007

REVIEWED: TAA (2/88)

STRUCTURAL FILE NUMBER: 2515962

FRANKLIN COUNTY STA. 93+73.83 ± STA. 94+02.09 ±

SITE PLAN BRIDGE NO. FRA-315-1220 L OVER WILSON RUN

FRA-315-12.18 PID No. 82324

1/14

55/68

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GENERAL NOTES

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81 REVISED 7-19-02

PCB-91 REVISED 7-19-02
SBR-1-99 REVISED 7-19-02

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THE WIDENED PORTION OF THE SUPERSTRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

DESIGN LOADING, WIDENED PORTION OF SUPERSTRUCTURE: HS20 AND ALTERNATE MILITARY LOADING

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

DESIGN DATA

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2-1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE

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

CUT LINE CONSTRUCTION JOINT PREPARATION

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, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. 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.

EXISTING STRUCTURE VERIFICATION

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

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

SCOPE OF WORK

DEMOLITION: REMOVAL OF THE EXISTING GUARDRAIL AND 2 FEET OF THE OUTSIDE PORTION OF THE EXISTING DECK AT THE LEFT STRUCTURE AND TOPS OF EXISTING WING WALLS. CONSTRUCTION: WIDENING TO THE OUTSIDE OF EXISTING DECK AT THE LEFT STRUCTURE, SINGLE SLOPE DEFLECTOR PARAPET TYPE 42" AT THE LEFT STRUCTURE. TRAFFIC: TO BE MAINTAINED DURING CONSTRUCTION BY USE OF STAGED CONSTRUCTION.

ITEM 509- REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 202. PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN: THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN: IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO CMS 709.00.

SUBSTRUCTURE CONCRETE REMOVAL

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN

DRILL DOWEL HOLES WHERE SHOWN IN THE PLANS. INSTALL REINFORCING STEEL ACCORDING TO ITEM 510 USING EPOXY GROUT, 705.20. PRIOR TO DRILLING DOWEL HOLES, LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER). IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE THE EXISTING BAR. THE DEPARTMENT WILL PAY FOR ALL DOWEL HOLES AND GROUTING WITH ITEM 510, DOWEL HOLES WITH NONSHRINKING, NONMETALLIC GROUT, AS PER PLAN.

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	SUPER.	GENERAL	SEE SHEET
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LUMP	[2 / 14]
202	22901	12	SQ YD	APPROACH SLAB REMOVED, AS PER PLAN			12	[4 / 14]
503	21300	LUMP		UNCLASSIFIED EXCAVATION			LUMP	
509	10001	9757	POUND	EPOXY COATED REINFORCING STEEL, AS PER PLAN	2794	6963		[2 / 14]
509	20001	200	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN			200	[2 / 14]
510	10001	56	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	56			[2 / 14]
511	50000	28	CU YD	CLASS HP CONCRETE, BRIDGE DECK		28		
511	50100	5	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET)		5		
511	50200	45	CU YD	CLASS HP CONCRETE, SUBSTRUCTURE	45			
511	52000	LUMP		CLASS HP CONCRETE, TEST SLAB				
512	10100	60	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	25	35		
512	10300	18	SQ YD	SEALING OF CONCRETE BRIDGE DECKS WITH HMWV RESIN		7	11	
516	13200	7	SO FT	1/2" PREFORMED EXPANSION JOINT FILLER		7		
516	13600	9	SO FT	1" PREFORMED EXPANSION JOINT FILLER		9		
518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC			LUMP	
518	40000	30	FT	6" PERFORATED CORRUGATED PLASTIC PIPE			30	
526	25001	90	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN			90	[11 / 14]

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GENERAL NOTES & ESTIMATED QUANTITIES

BRIDGE NO FRA-315-1220 L
SR 315 OVER WILSON RUN

FRA -315-12.18
PID No. 82324

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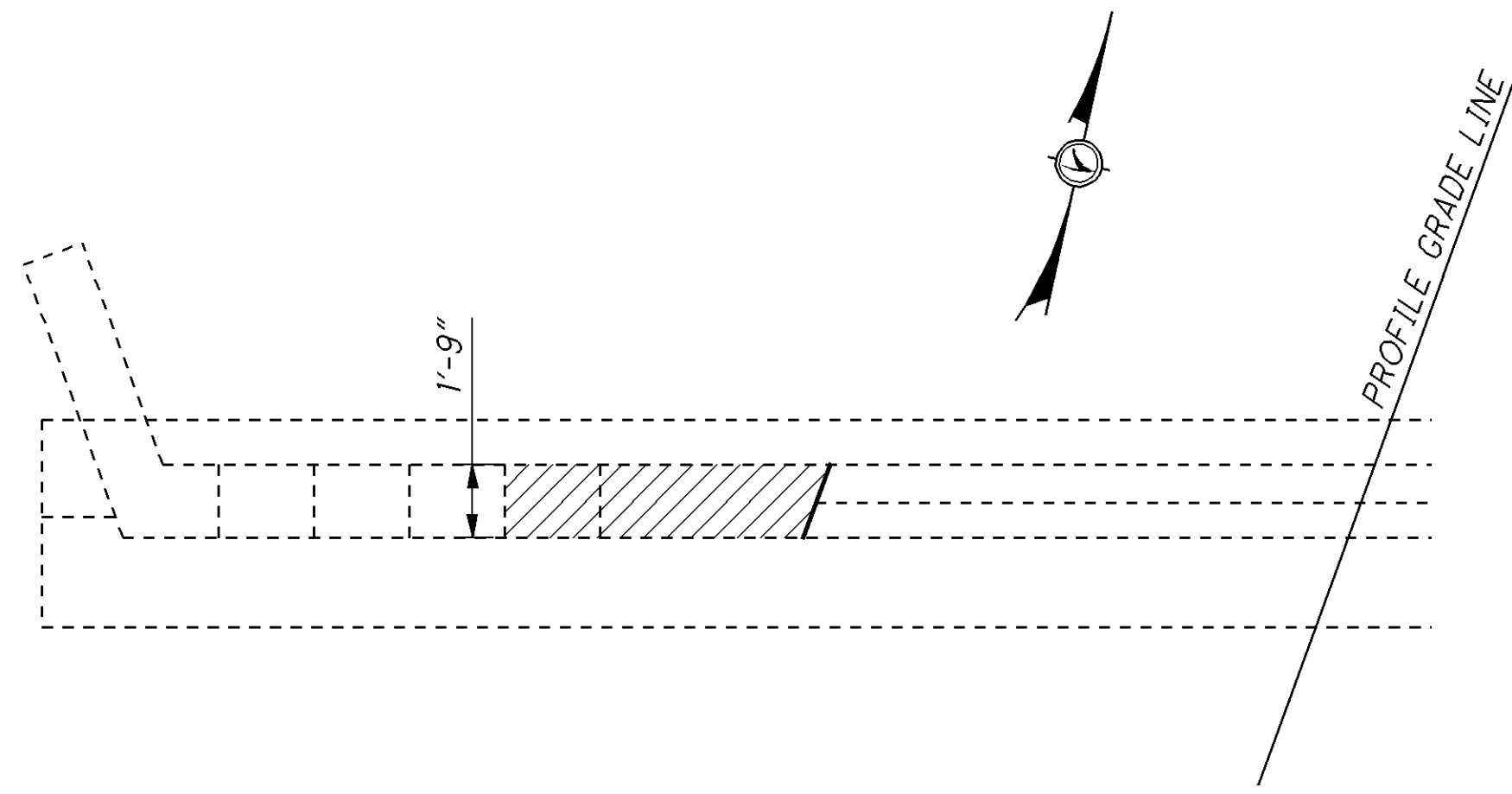
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DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

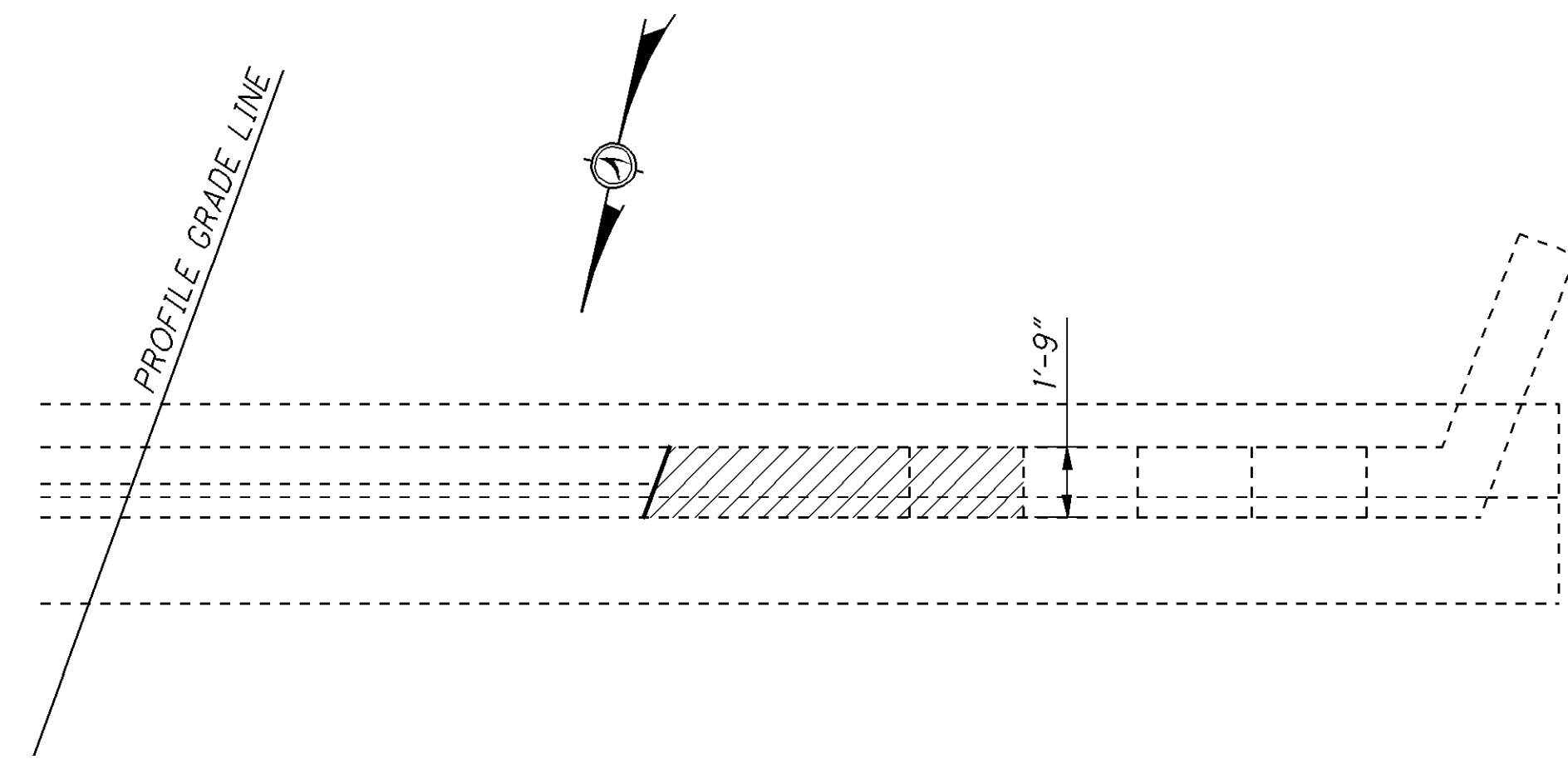
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07/11/2007
REVIEWED TAA
STRUCTURE FILE NUMBER
2515962

DRAWN TKB
REVISIONS
DESIGNED TKB
CHECKED CJW

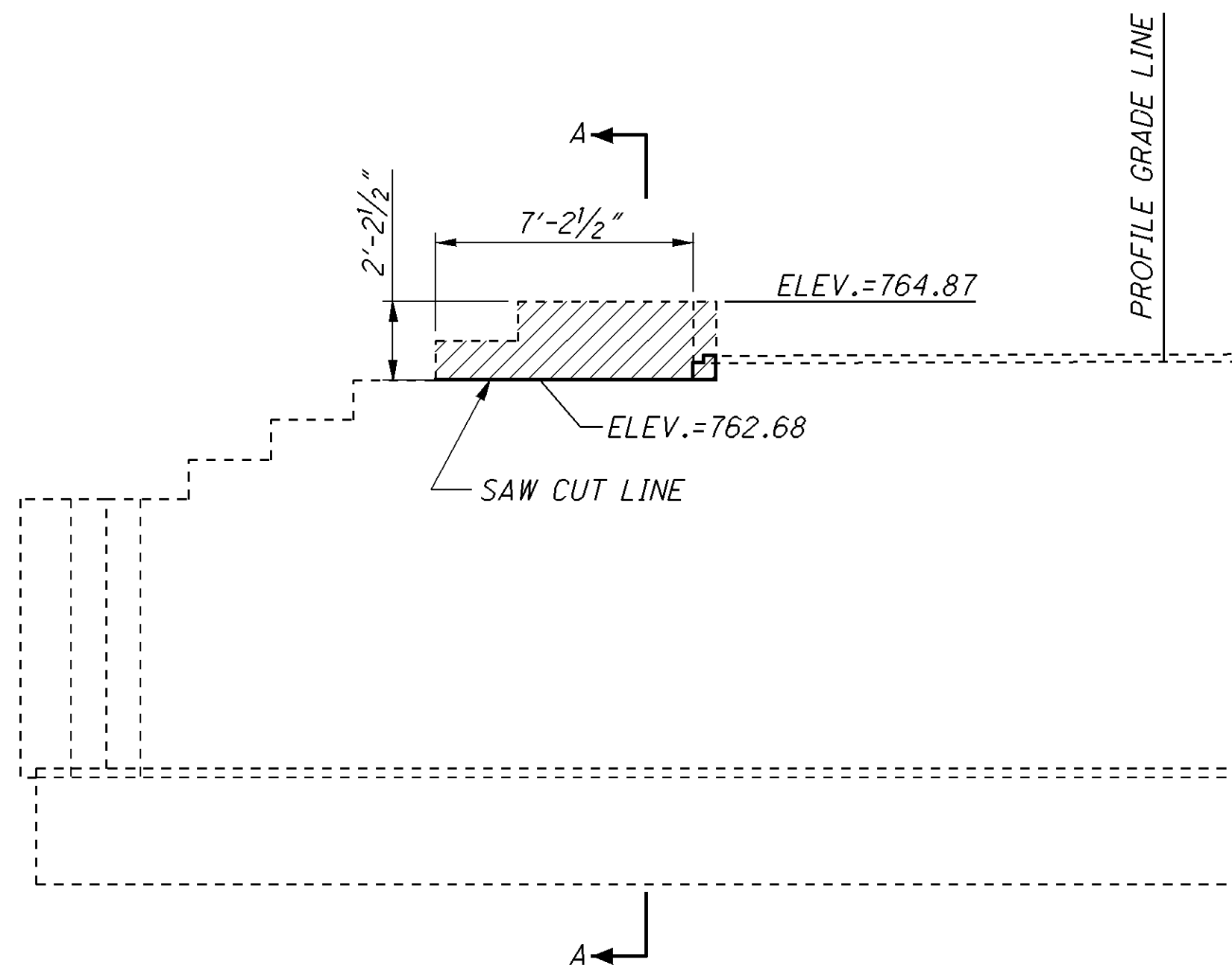
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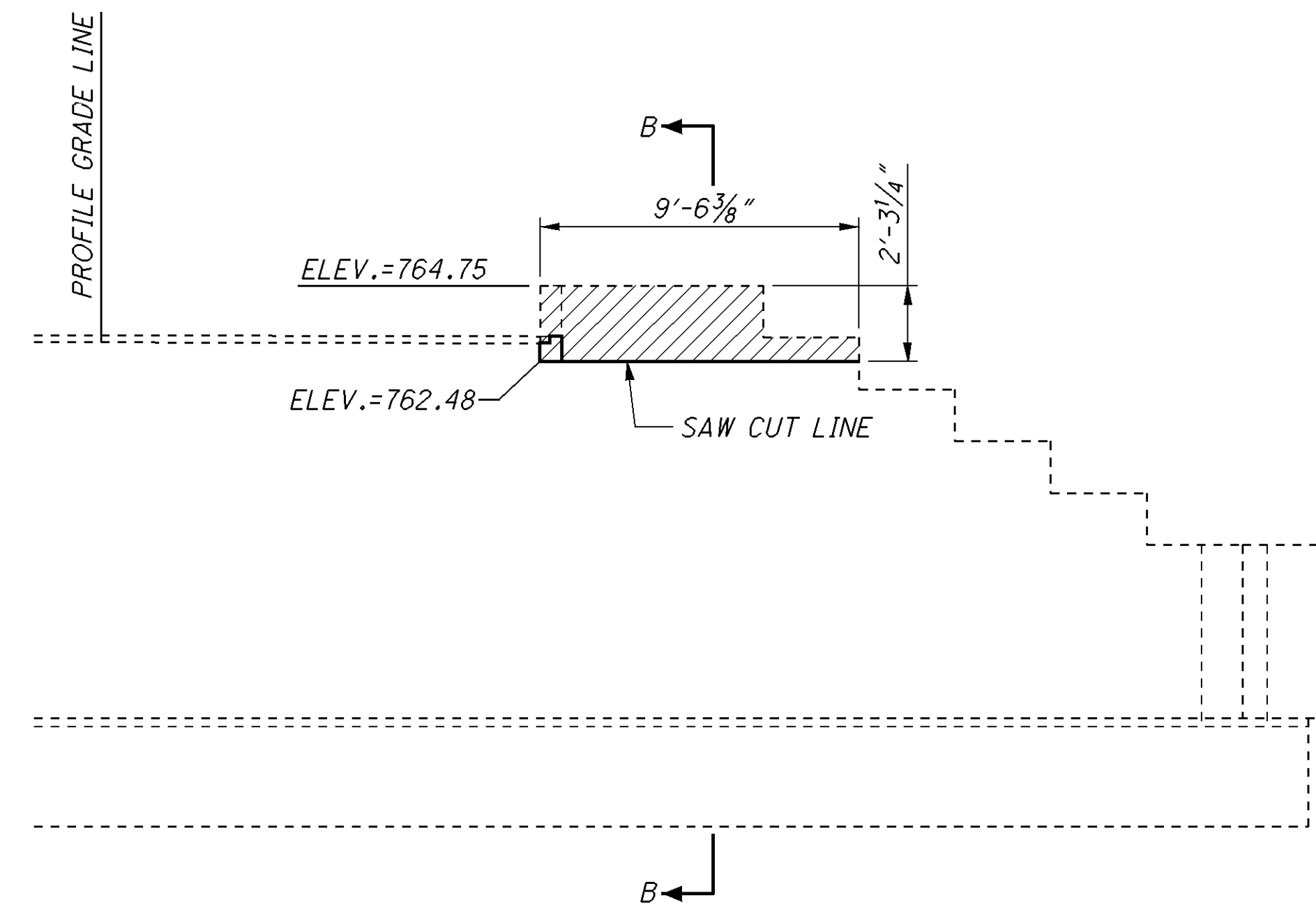
FORWARD ABUTMENT PLAN



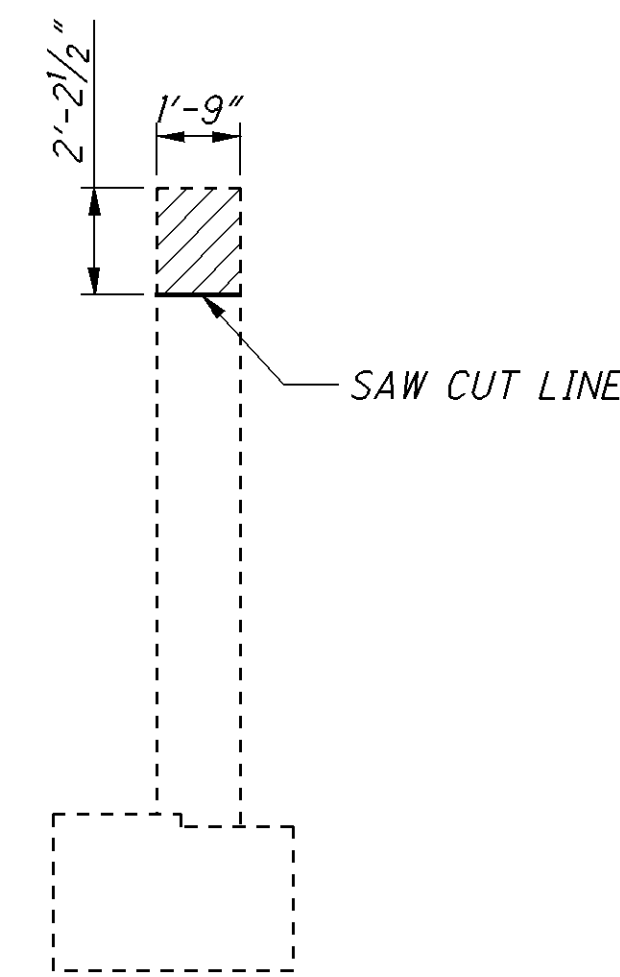
REAR ABUTMENT PLAN



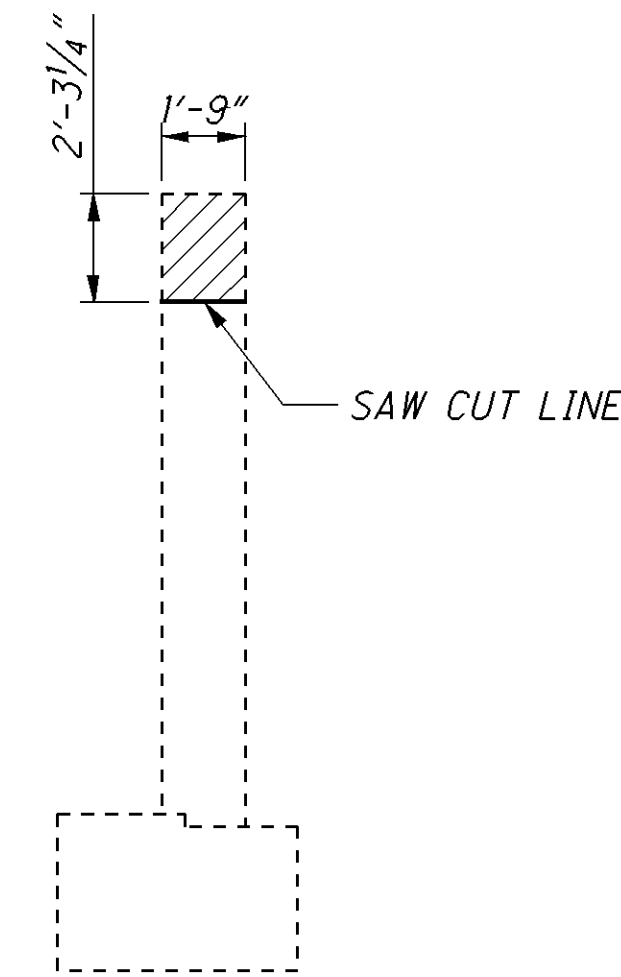
FORWARD ABUTMENT ELEVATION



REAR ABUTMENT ELEVATION



SECTION A-A



SECTION B-B

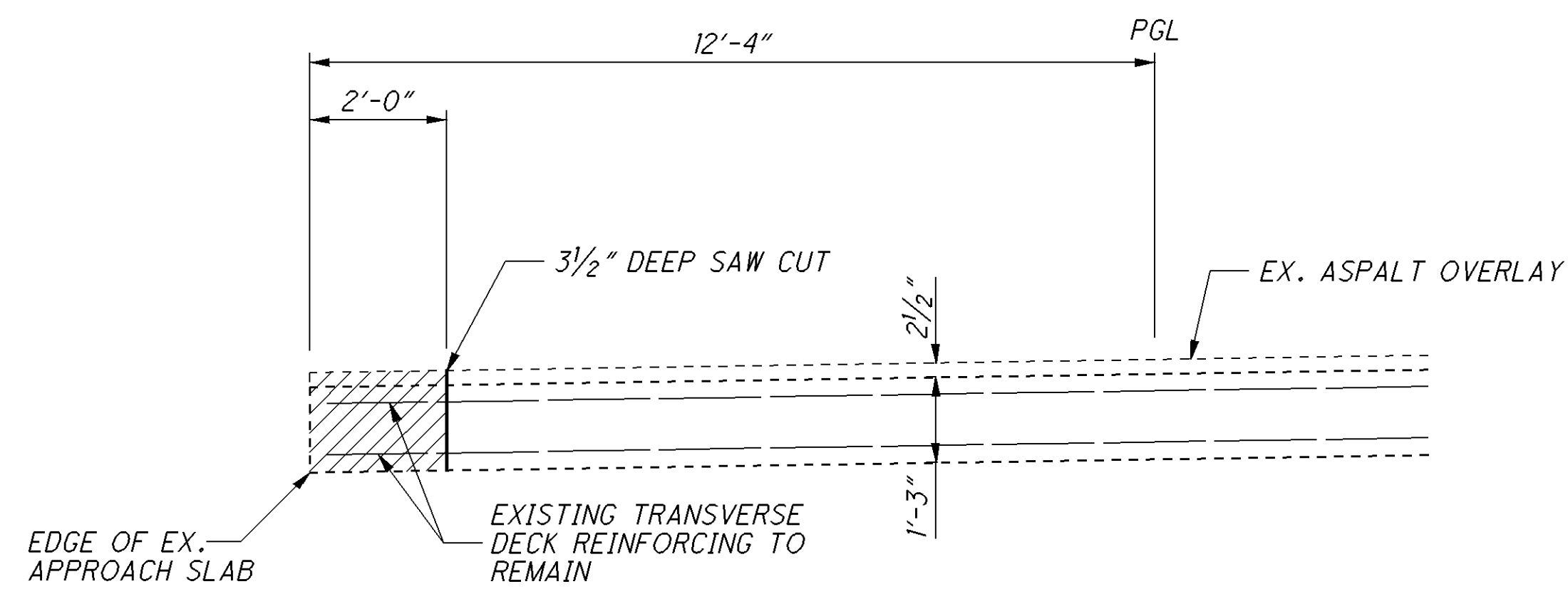
NOTES & LEGEND:

1. CUT EXISTING REINFORCING STEEL AT THE REMOVAL LINE.
2. ALL DIMENSIONS ARE ± ON THE EXISTING STRUCTURE.

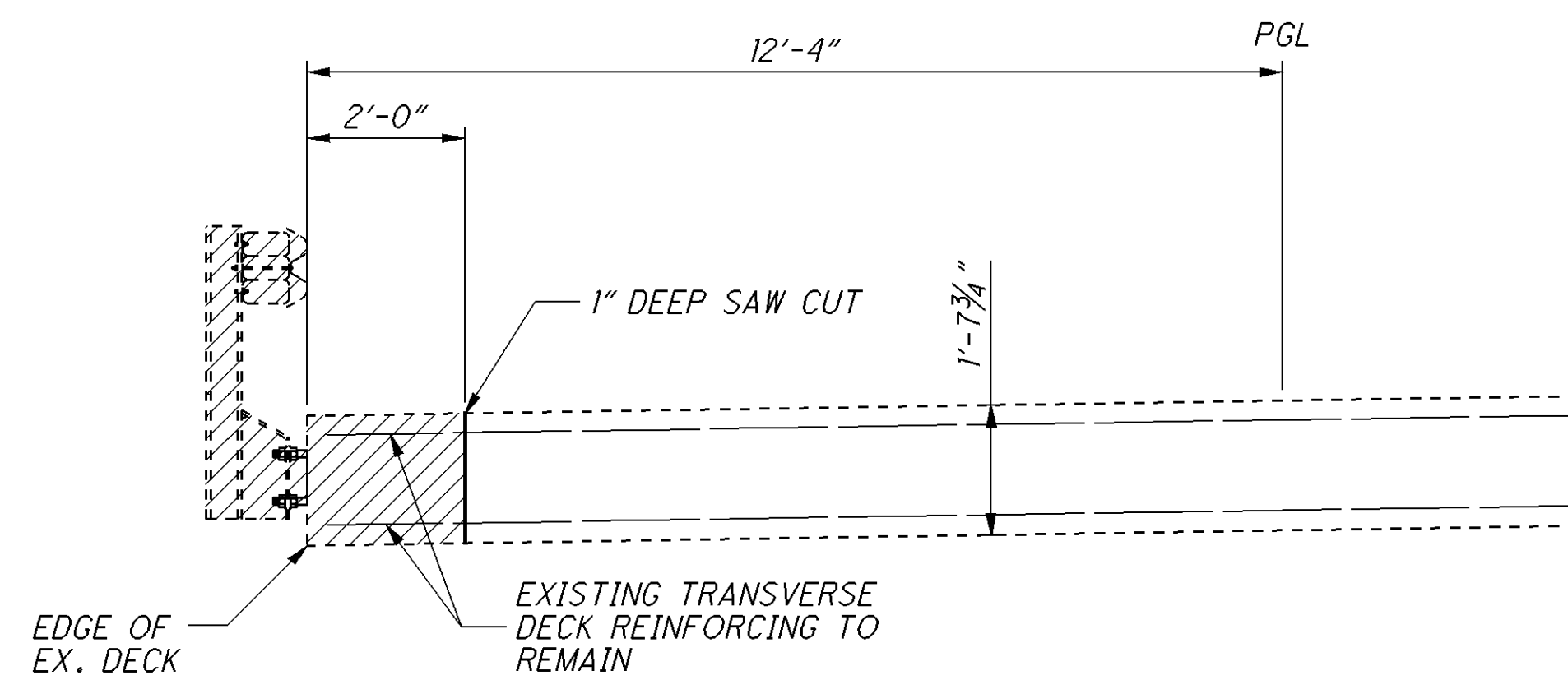
- INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

EXISTING FORWARD & REAR ABUTMENT & WINGWALL REMOVAL		DESIGN AGENCY ODOT CENTRAL OFFICE OFFICE OF PRODUCTION
BRIDGE NO. FRA-315-1220 L OVER WILSON RUN	DATE 07/11/2007	REVIEWED TAA
PID No. 82324	STRUCTURE FILE NUMBER 2516962	DRAWN TKB
FRA-315-12.18	CHECKED CJW	REVISED
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57 68		

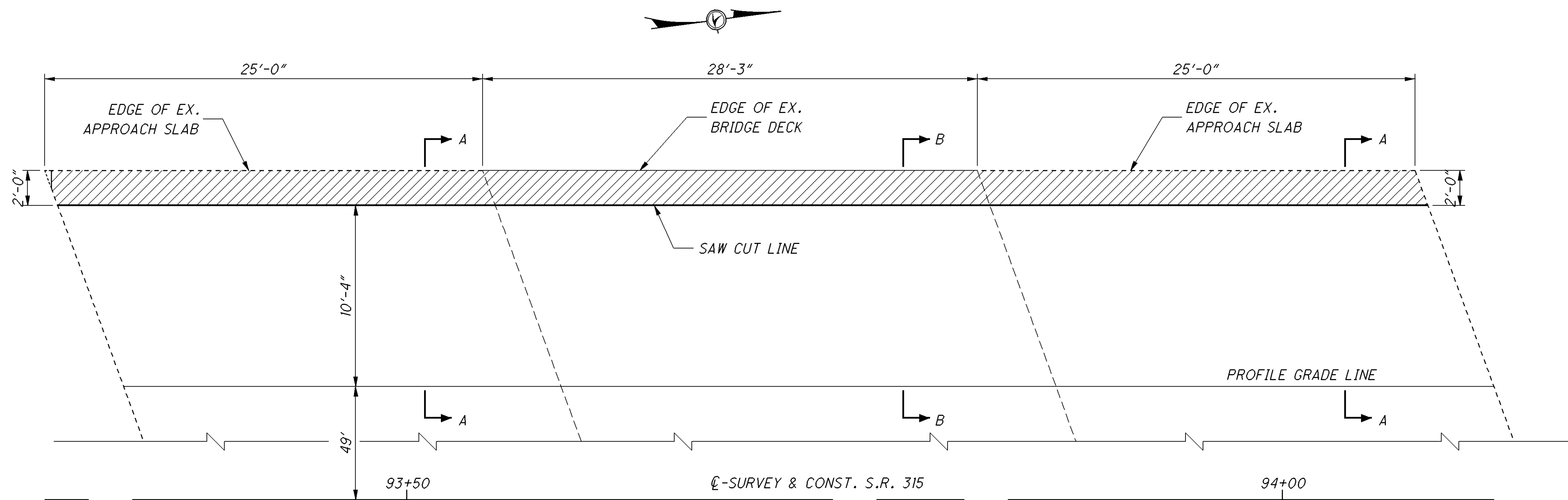
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EXISTING APPROACH SECTION A-A




EXISTING STRUCTURE SECTION B-B



PLAN

NOTES & LEGEND:

1. EXISTING TRANSVERSE DECK AND APPROACH SLAB REINFORCING STEEL TO REMAIN.
2. ALL DIMENSIONS ARE ± ON THE EXISTING STRUCTURE.

 - INDICATES AREAS TO BE REMOVED UNDER ITEMS 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN AND APPROACH SLAB REMOVED, AS PER PLAN.

EXISTING APPROACH SLAB & BRIDGE DECK REMOVAL

BRIDGE NO. FRA-315-1220 L
OVER WILSON RUN

FRA -315-12.18
PID No. 82324

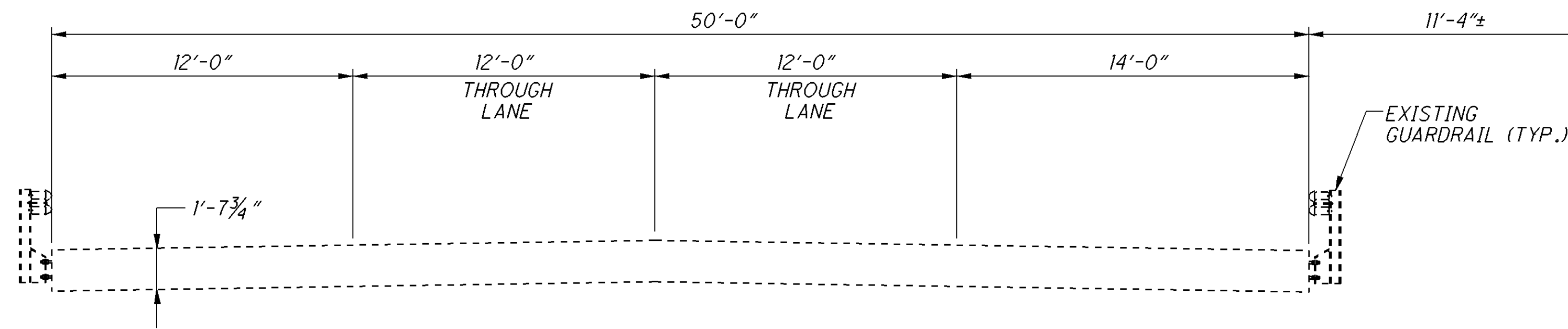
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ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED
TAA
DATE
07/11/2007
STRUCTURE FILE NUMBER
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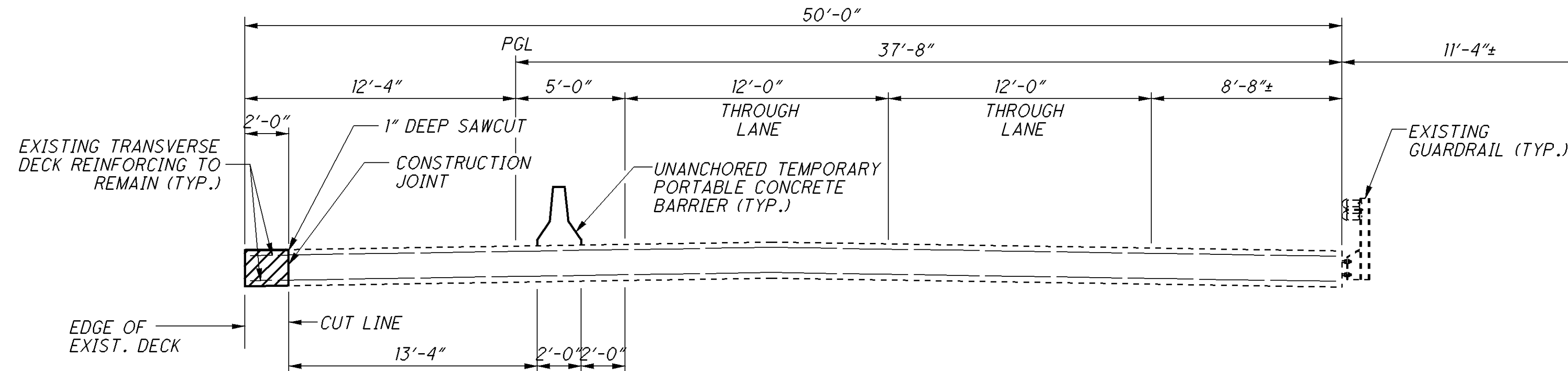
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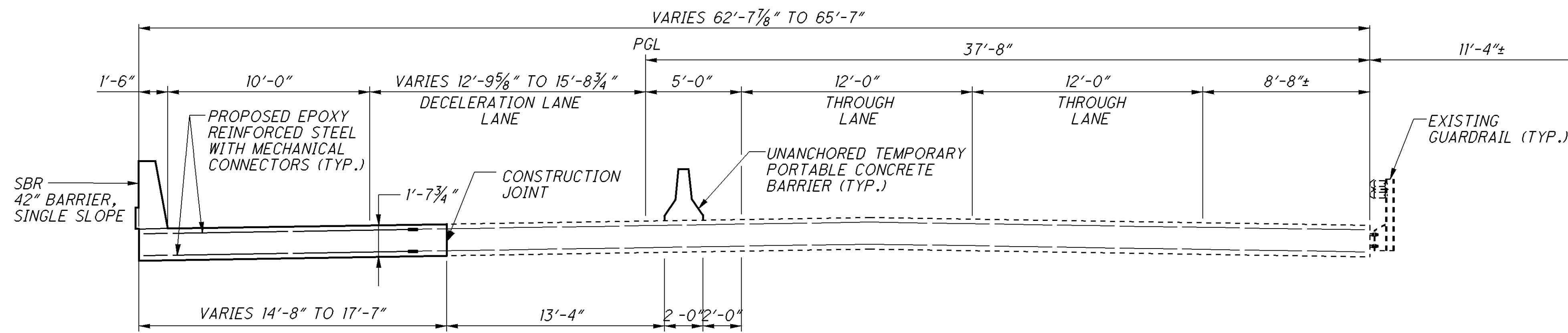
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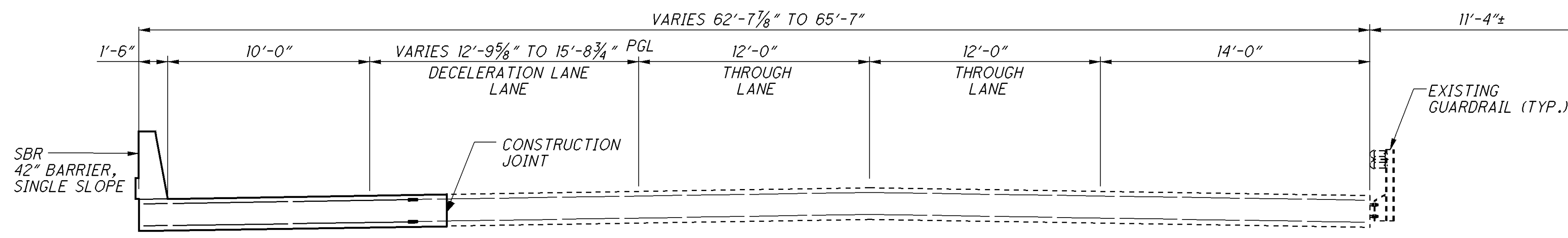
EXISTING LEFT STRUCTURE (SOUTH BOUND) SECTION



REMOVAL LIMITS SECTION-EXISTING LEFT STRUCTURE (SOUTH BOUND)



PROPOSED WIDENING LIMITS SECTION-EXISTING LEFT STRUCTURE (SOUTH BOUND)



PROPOSED WIDENING LEFT STRUCTURE (SOUTH BOUND) SECTION

LEGEND

 DENOTES LIMITS OF CONCRETE DECK REMOVAL PER ITEM 202-PORIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

SEQUENCE OF CONSTRUCTION NOTES:

- 1) INSTALL TEMPORARY PORTABLE CONCRETE BARRIER AND MAINTAIN TRAFFIC ON EXISTING BRIDGE AS SHOWN IN REMOVAL LIMITS SECTION.
- 2) SAWCUT THE 1" DEEP SAWCUT AT THE CUT LINE SHOWN IN THE REMOVAL LIMITS SECTION.
- 3) REMOVE THE EXISTING CONCRETE WITHIN THE LIMITS OF CONCRETE REMOVAL SHOWN IN THE REMOVAL LIMITS SECTION.
- 4) INSTALL PROPOSED REINFORCING STEEL AND CAST THE PROPOSED CONCRETE DECK, APPROACH SLABS AND SINGLE SLOPE BARRIERS SHOWN IN THE PROPOSED WIDENING LIMITS SECTION AND ADDITIONAL DETAILS SHOWN IN THE PLANS.
- 5) WHEN ALL ROADWAY AND BRIDGE WORK HAS BEEN COMPLETED REMOVE TEMPORARY PORTABLE CONCRETE BARRIER.

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STRUCTURE FILE NUMBER
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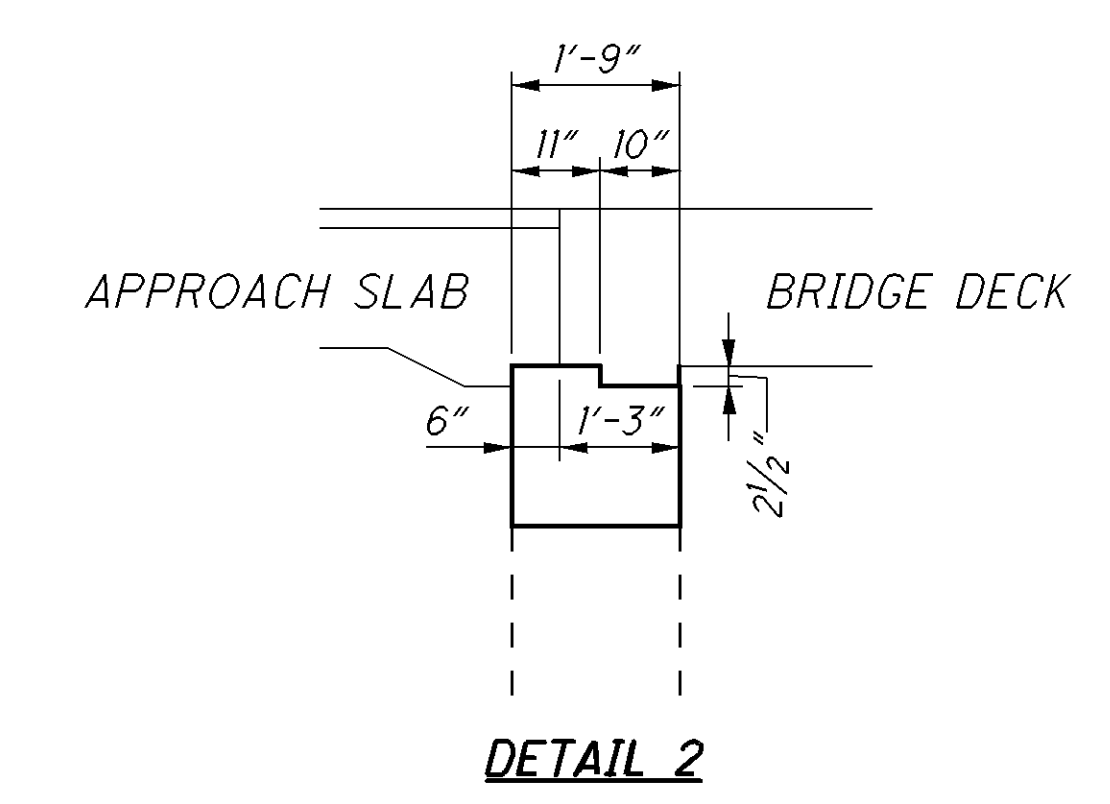
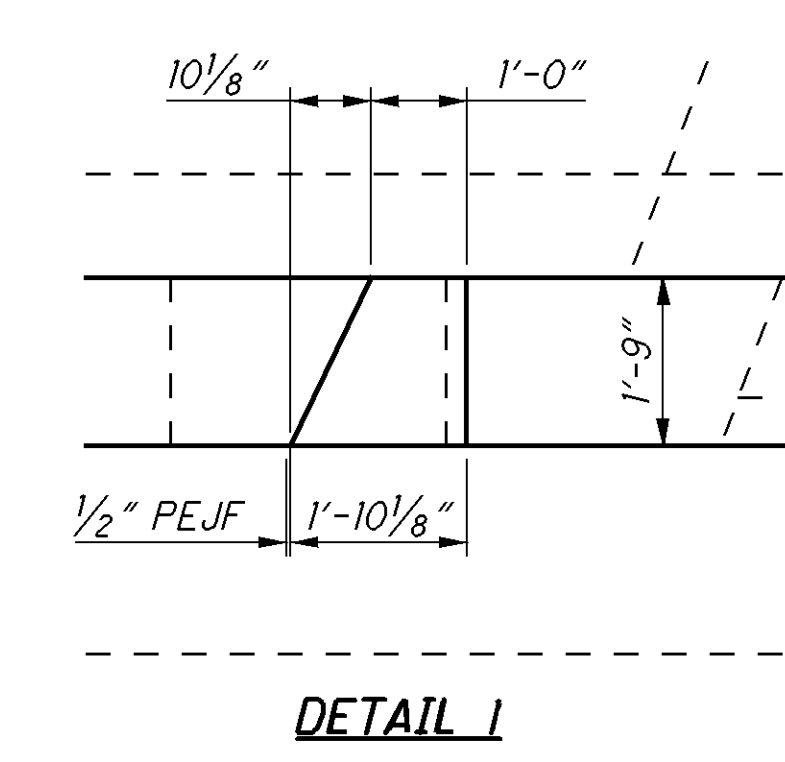
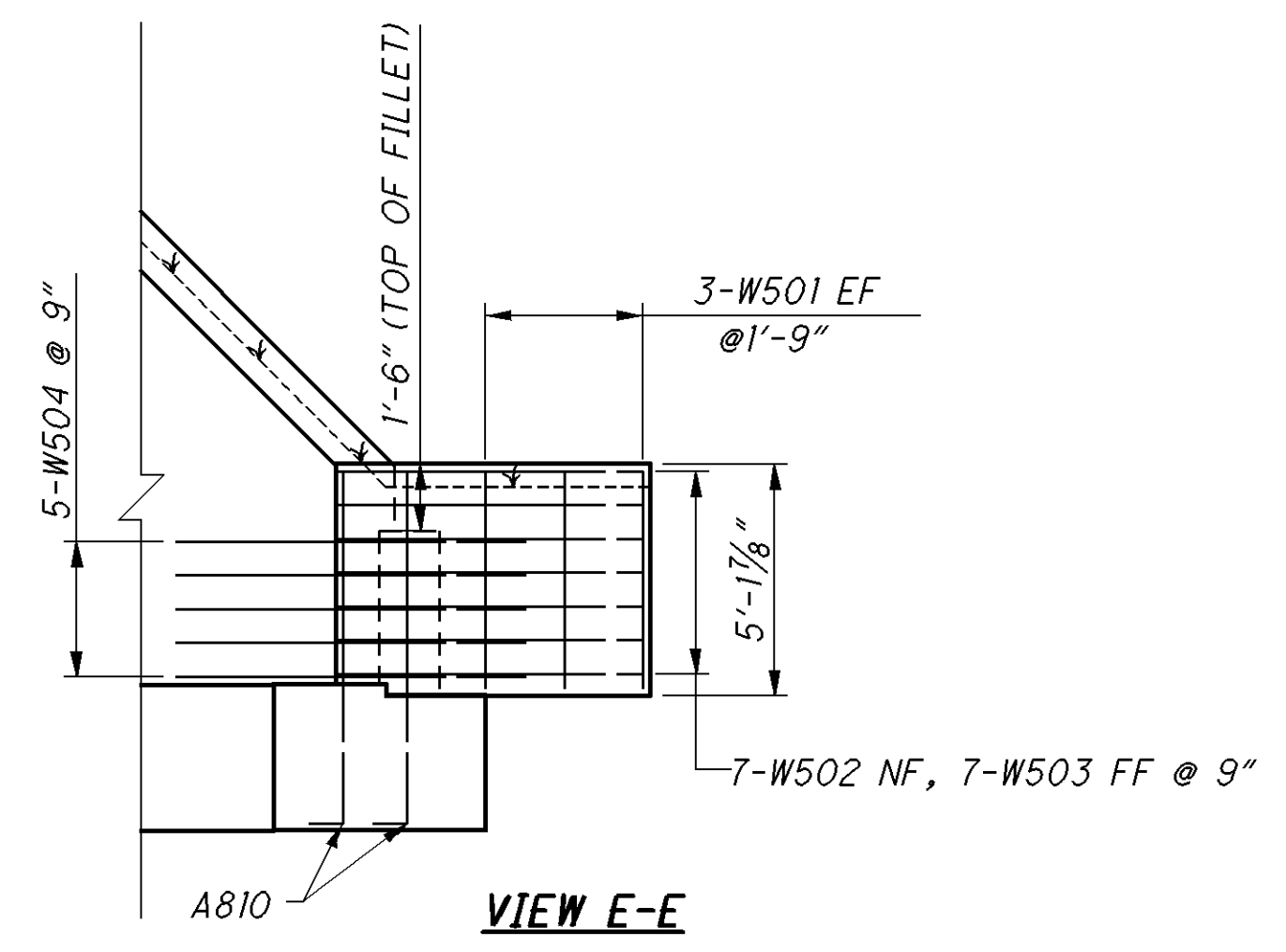
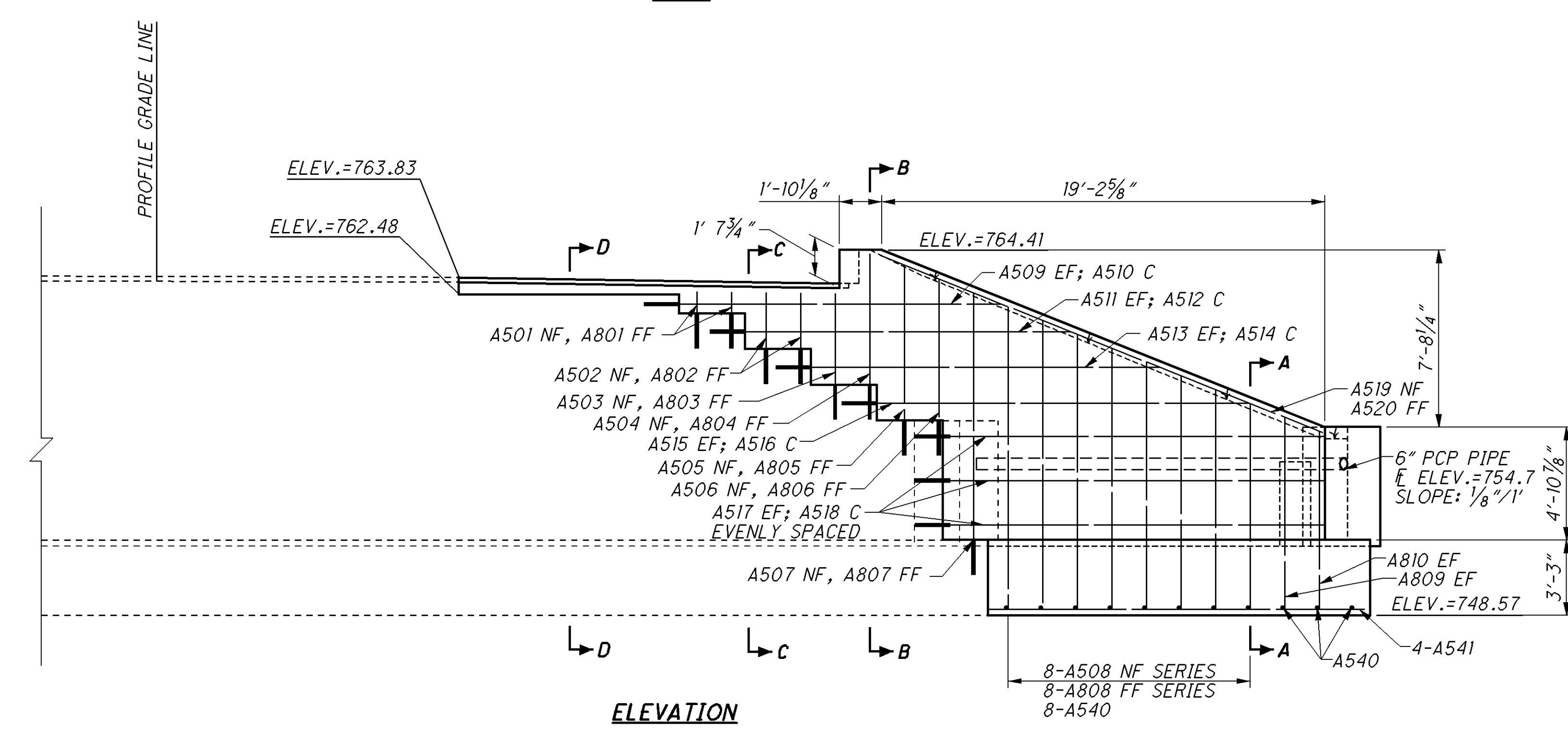
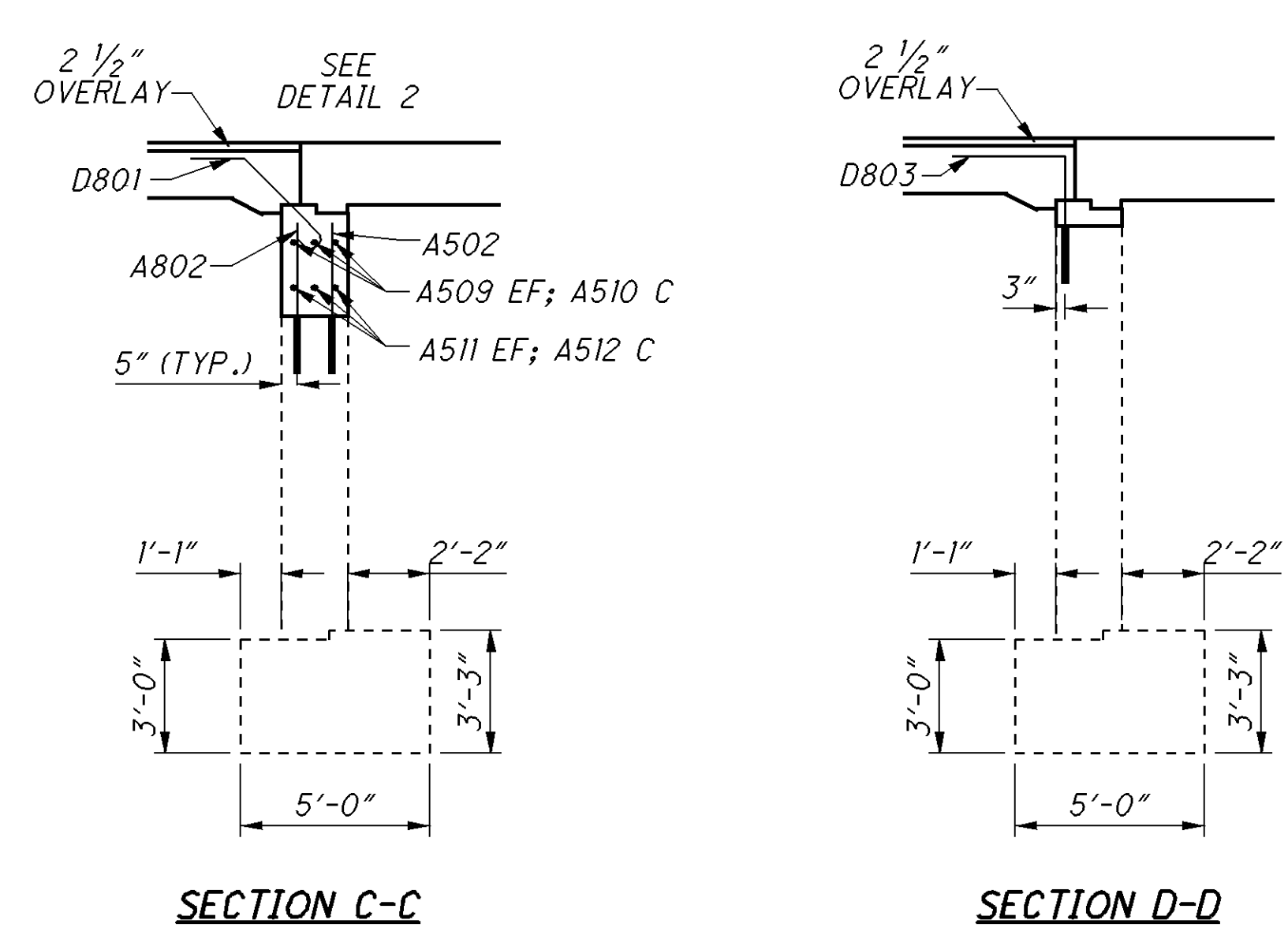
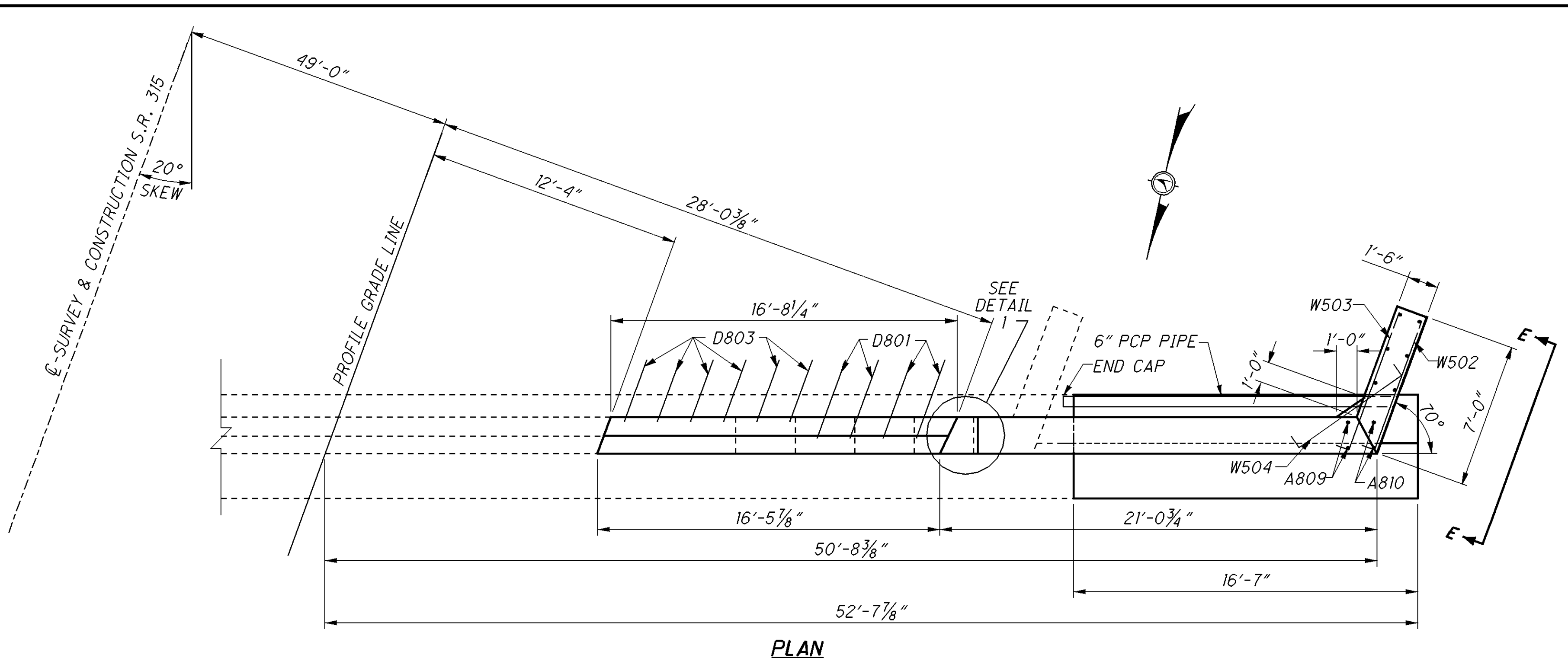
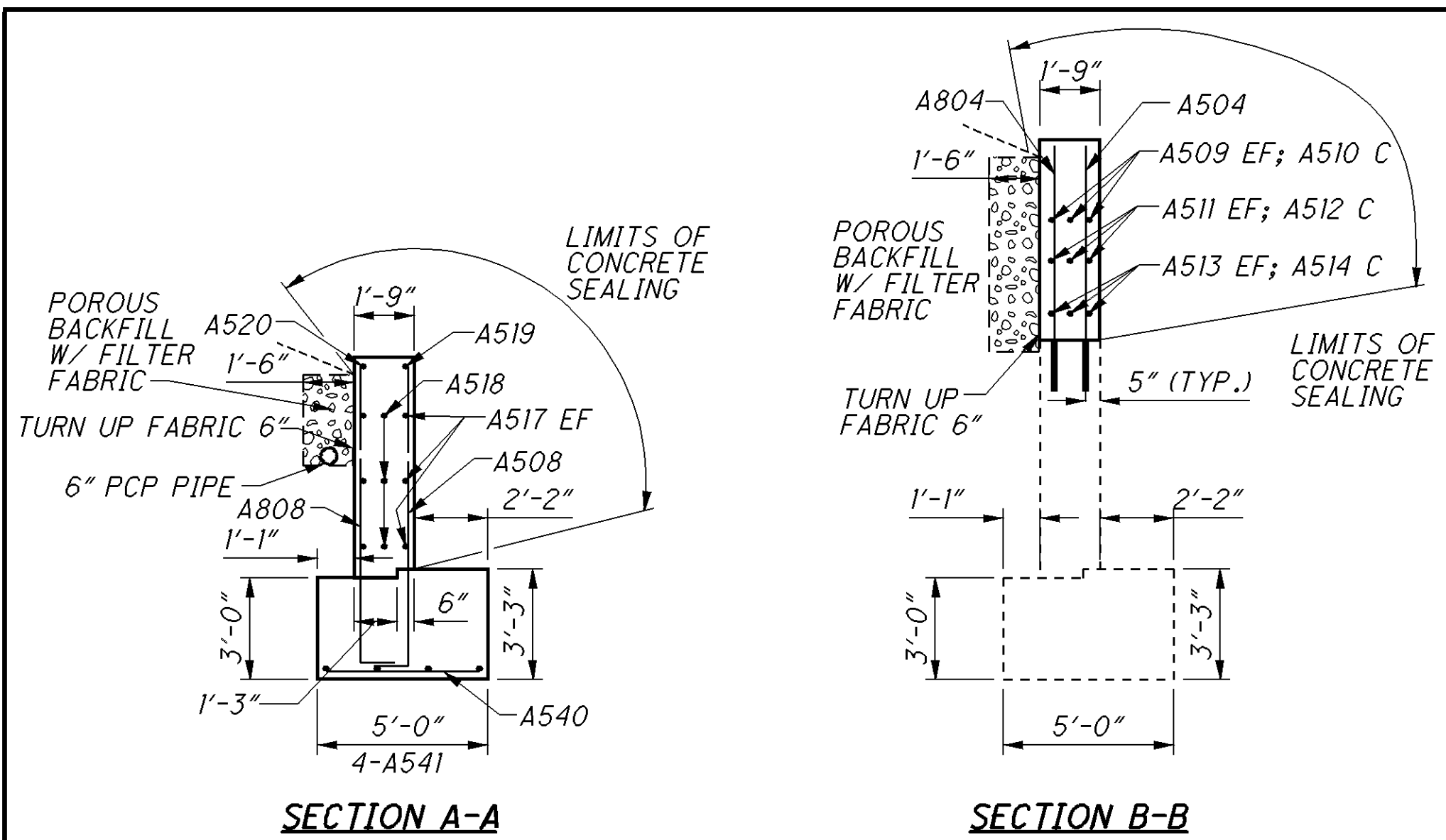
SEQUENCE OF CONSTRUCTION
BRIDGE NO FRA-315-1220 L
SR 315 OVER WILSON RUN

FRA-315-12.18
PID No. 82324

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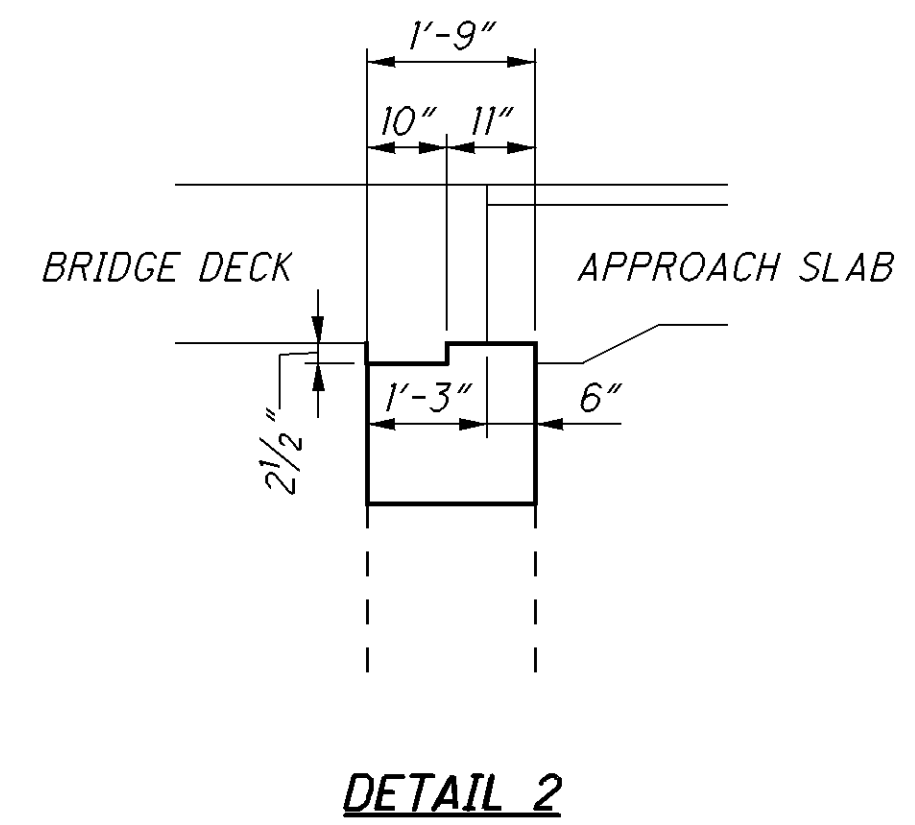
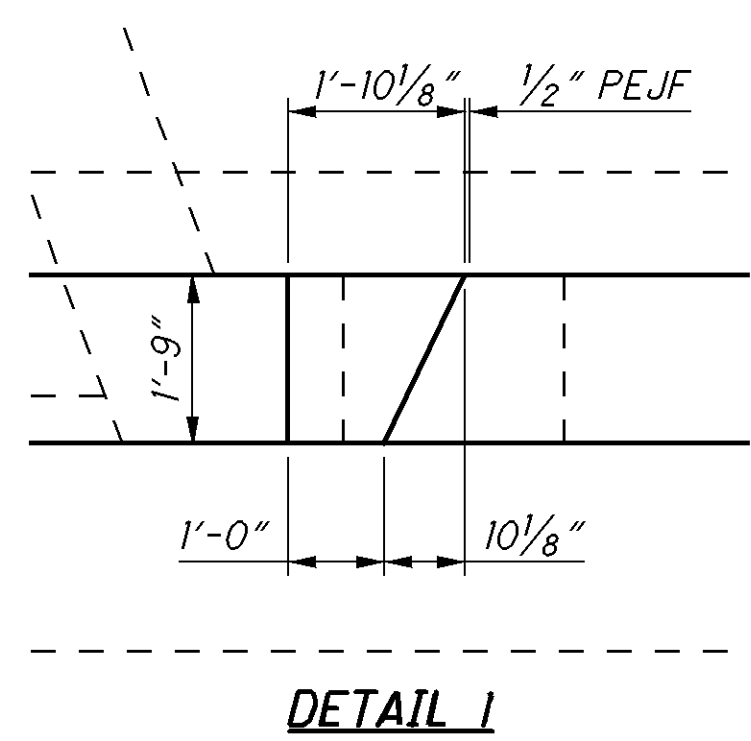
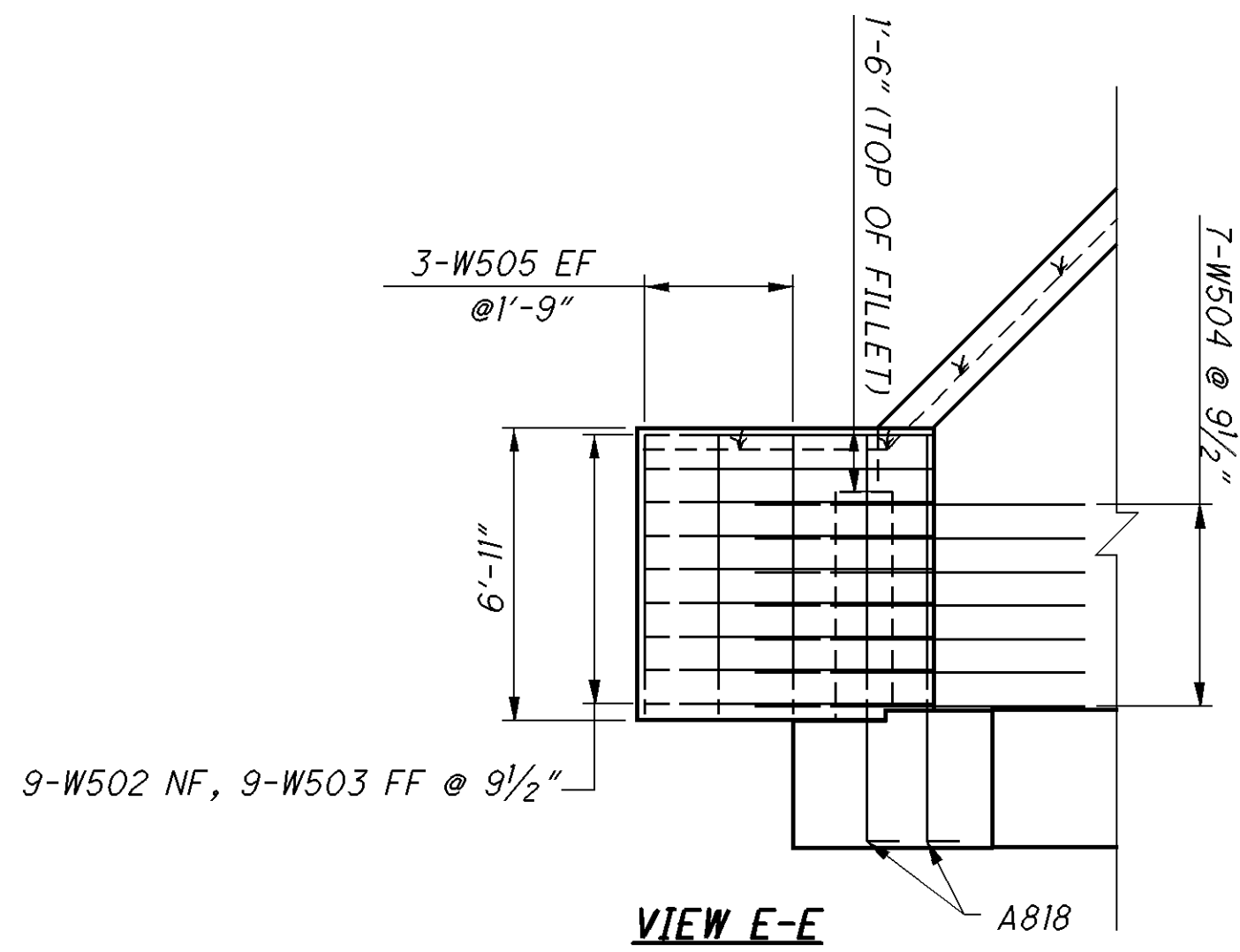
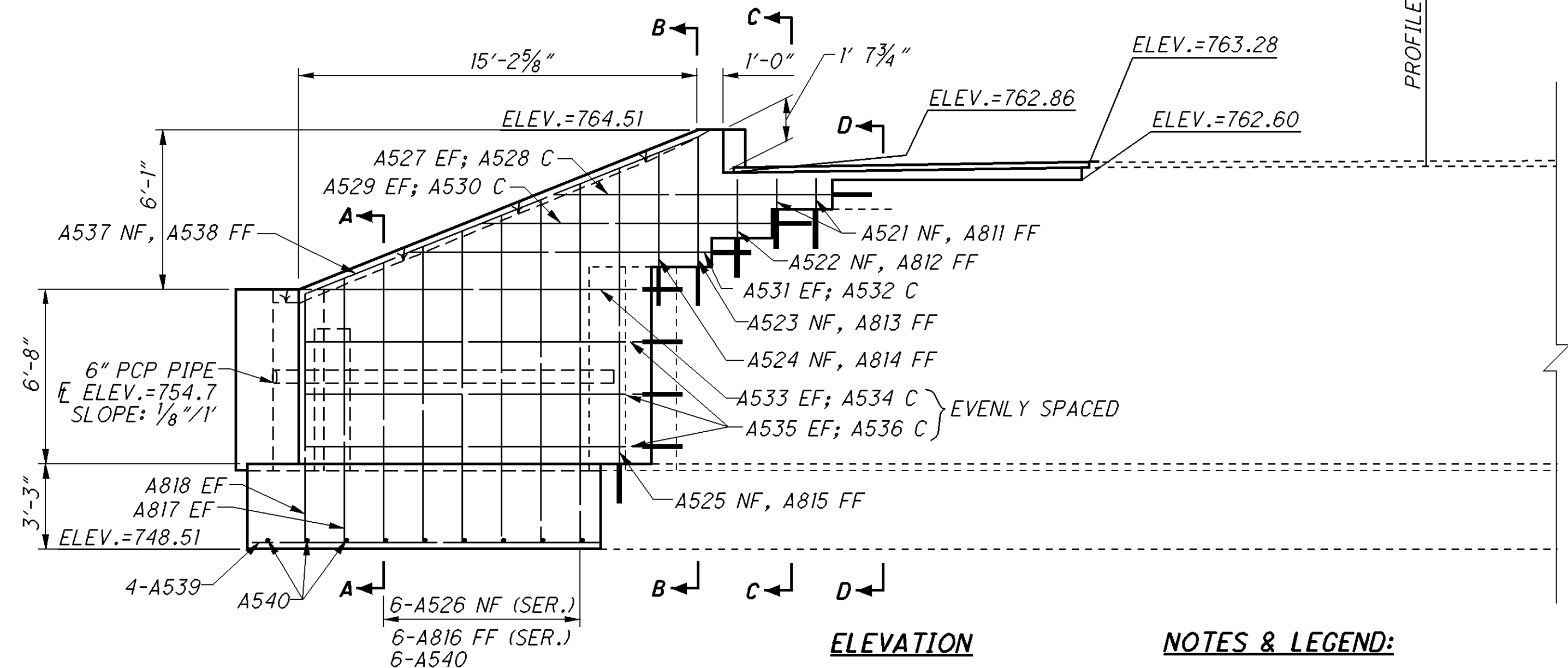
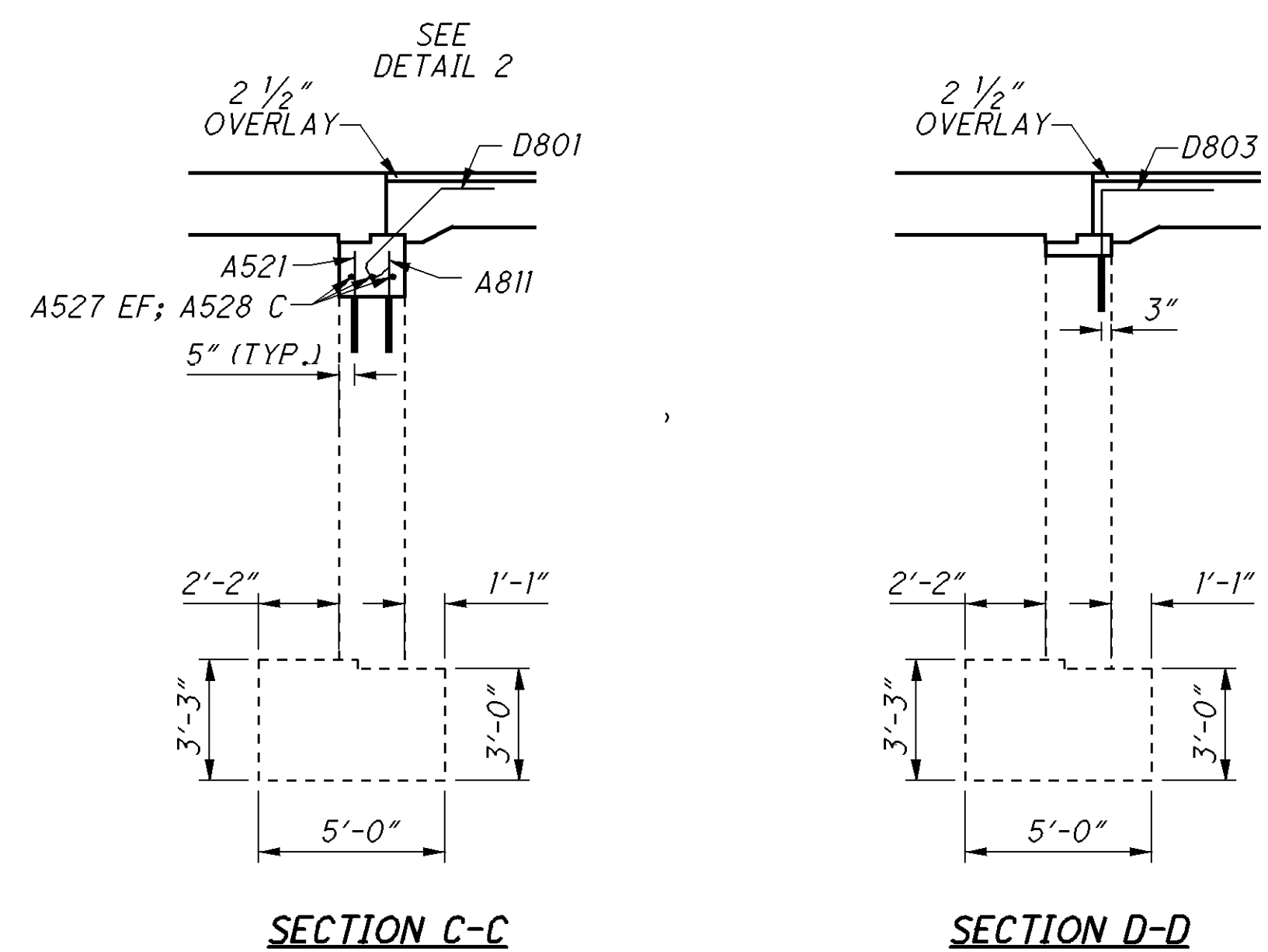
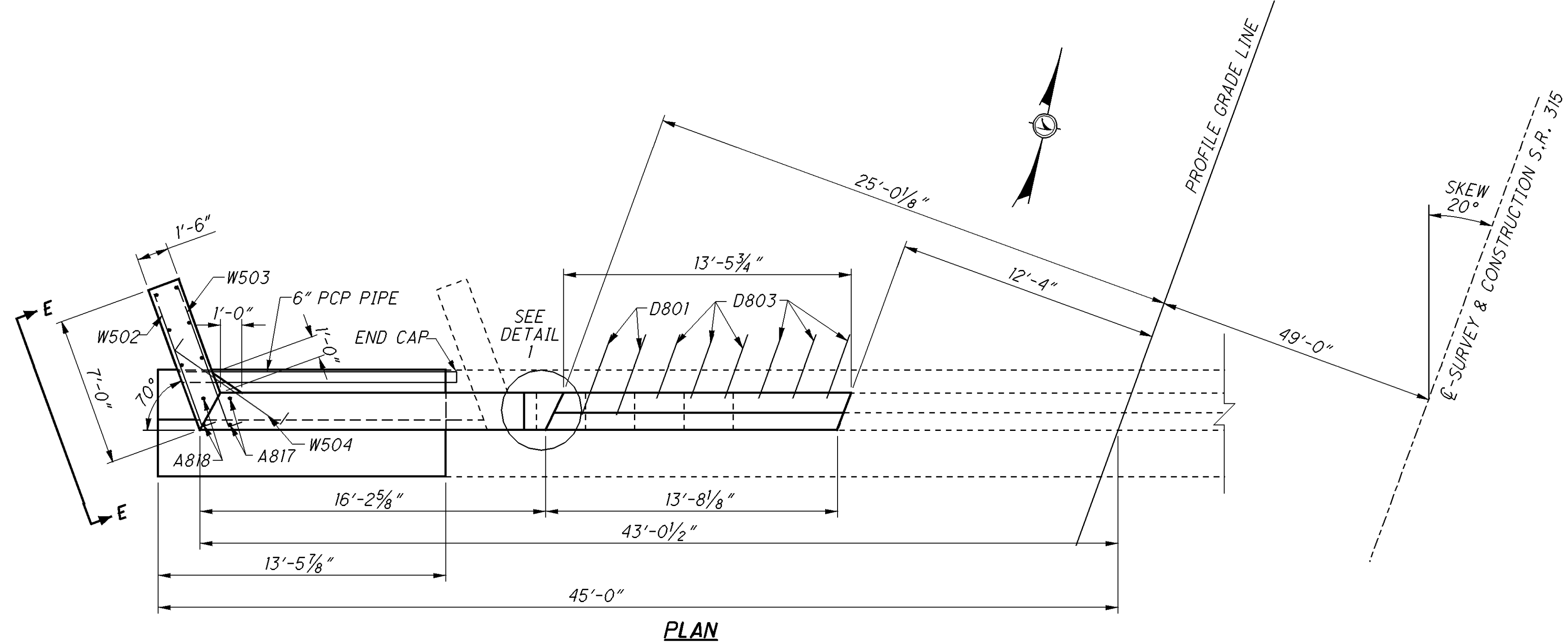
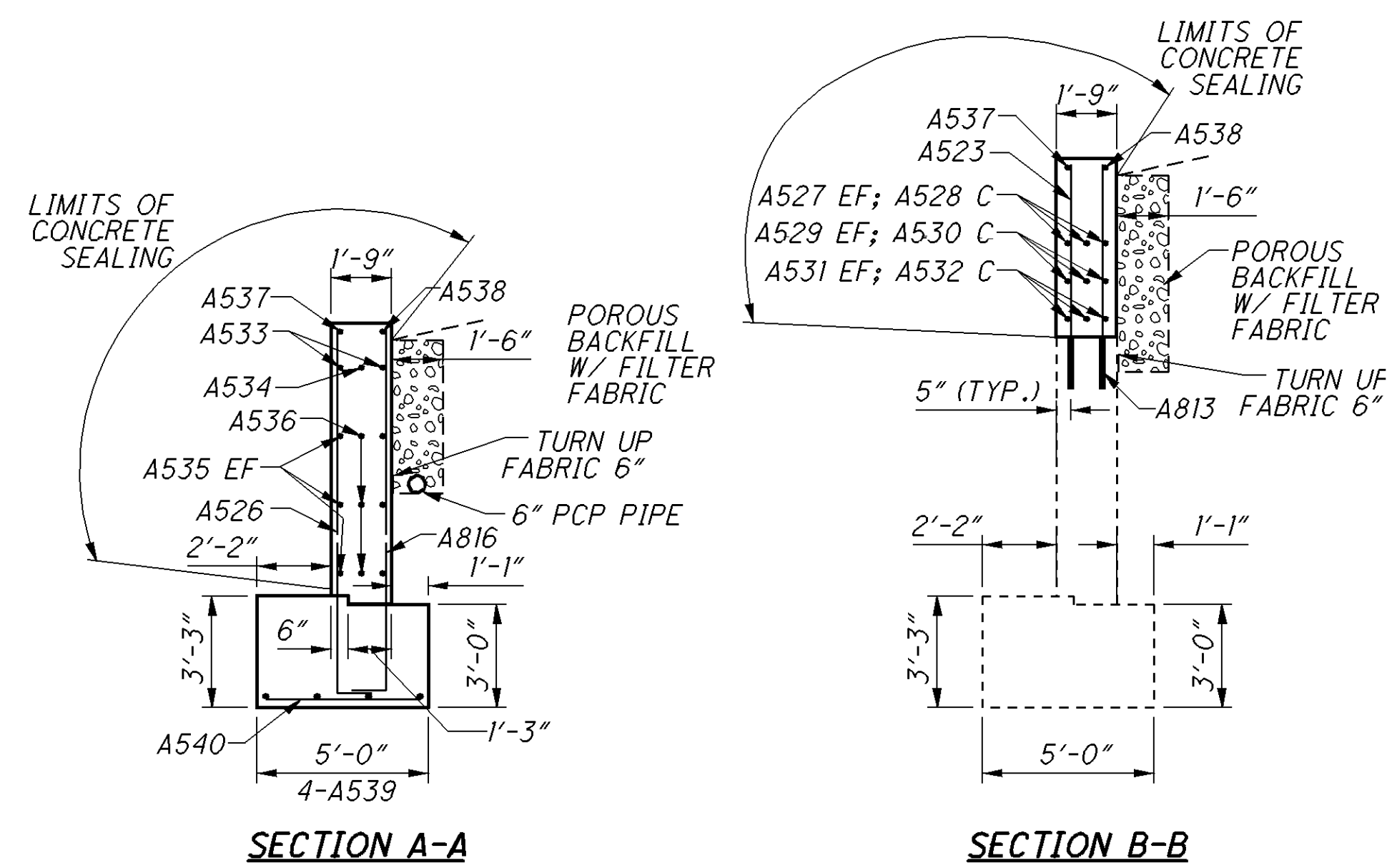
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- NOTES & LEGEND:**
1. PLACE HORIZONTAL BARS A509-A516 AT THE MIDPOINT OF THE VERTICAL FACE OF EXISTING WINGWALL STEPS.
 2. PLACE VERTICAL BARS A501-A508 AND A801-A810 @ 1'-6" SPACING.
 3. DOWEL HORIZONTAL BARS A510, A512, A514, A516 AND A518 INTO THE EXISTING CONCRETE 1'-6".
 4. DOWEL VERTICAL BARS A501-A507 AND A801-A807 INTO THE EXISTING CONCRETE 1'-6" (TYP.). OFFSET 5" FROM FACE OF EXISTING WINGWALL.
 5. DOWEL D803 BARS INTO THE EXISTING CONCRETE 1'-6" (TYP.). OFFSET 4" FROM BACK OF ABUTMENT.
 6. PCP = PERFORATED CORRUGATED PLASTIC, NF = NEAR FACE, FF = FAR FACE, EF = EACH FACE, C = CENTER
 7. 2" CLEAR COVER FOR ALL REINFORING STEEL EXCEPT 3" AT FOOTER BOTTOM AND BARS D801 AND D803.
 8. — 1'-6" DEEP DOWEL LOCATION

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	CHECKED CJW
REAR ABUTMENT PLAN & ELEVATION	
BRIDGE NO. FRA-315-12.20 L OVER WILSON RUN	
FRA-315-12.18	PID No. 82324
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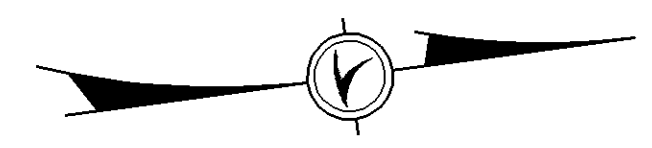
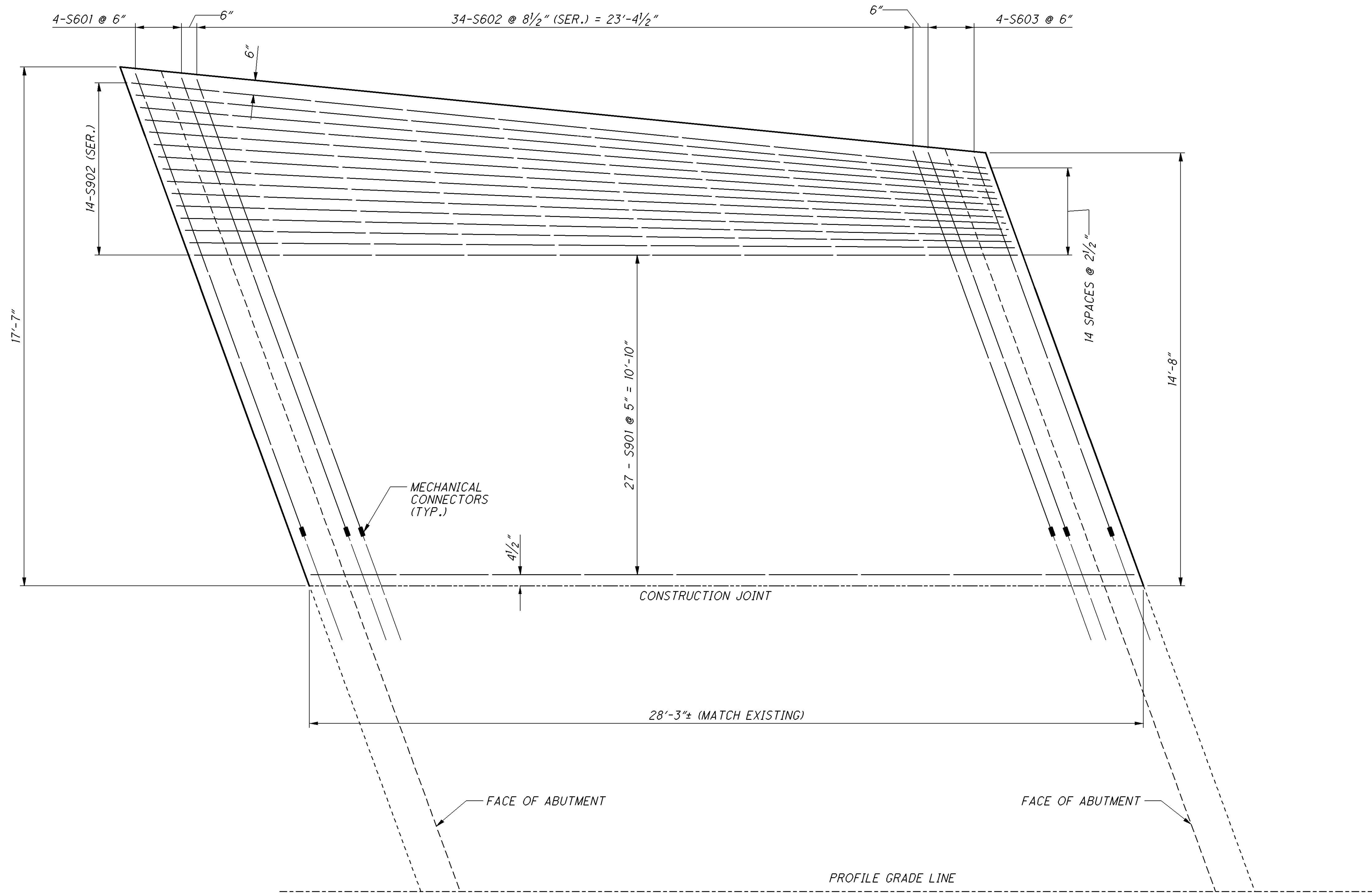
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NOTES & LEGEND:

1. PLACE HORIZONTAL BARS A527-A532 AT THE MIDPOINT OF THE VERTICAL FACE OF EXISTING WINGWALL STEPS.
2. PLACE VERTICAL BARS A521-A526 AND A811-A818 @ 1'-6" SPACING.
3. DOWEL HORIZONTAL BARS A528, A530, A532, A534 AND A536 INTO THE EXISTING CONCRETE 1'-6".
4. DOWEL VERTICAL BARS A521-A525 AND A811-A815 INTO THE EXISTING CONCRETE 1'-6" (TYP.). OFFSET 5" FROM FACE OF EXISTING WINGWALL.
5. DOWEL D803 BARS INTO THE EXISTING CONCRETE 1'-6" (TYP.). OFFSET 4" FROM BACK OF ABUTMENT.
6. PCP = PERFORATED CORRUGATED PLASTIC, NF = NEAR FACE, FF = FAR FACE, EF = EACH FACE, C = CENTER
7. 2" CLEAR COVER FOR ALL REINFORCING STEEL EXCEPT 3" AT FOOTER BOTTOM AND BARS D801 AND D803.
8. — 1'-6" DEEP DOWEL LOCATION

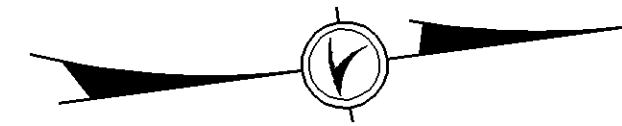
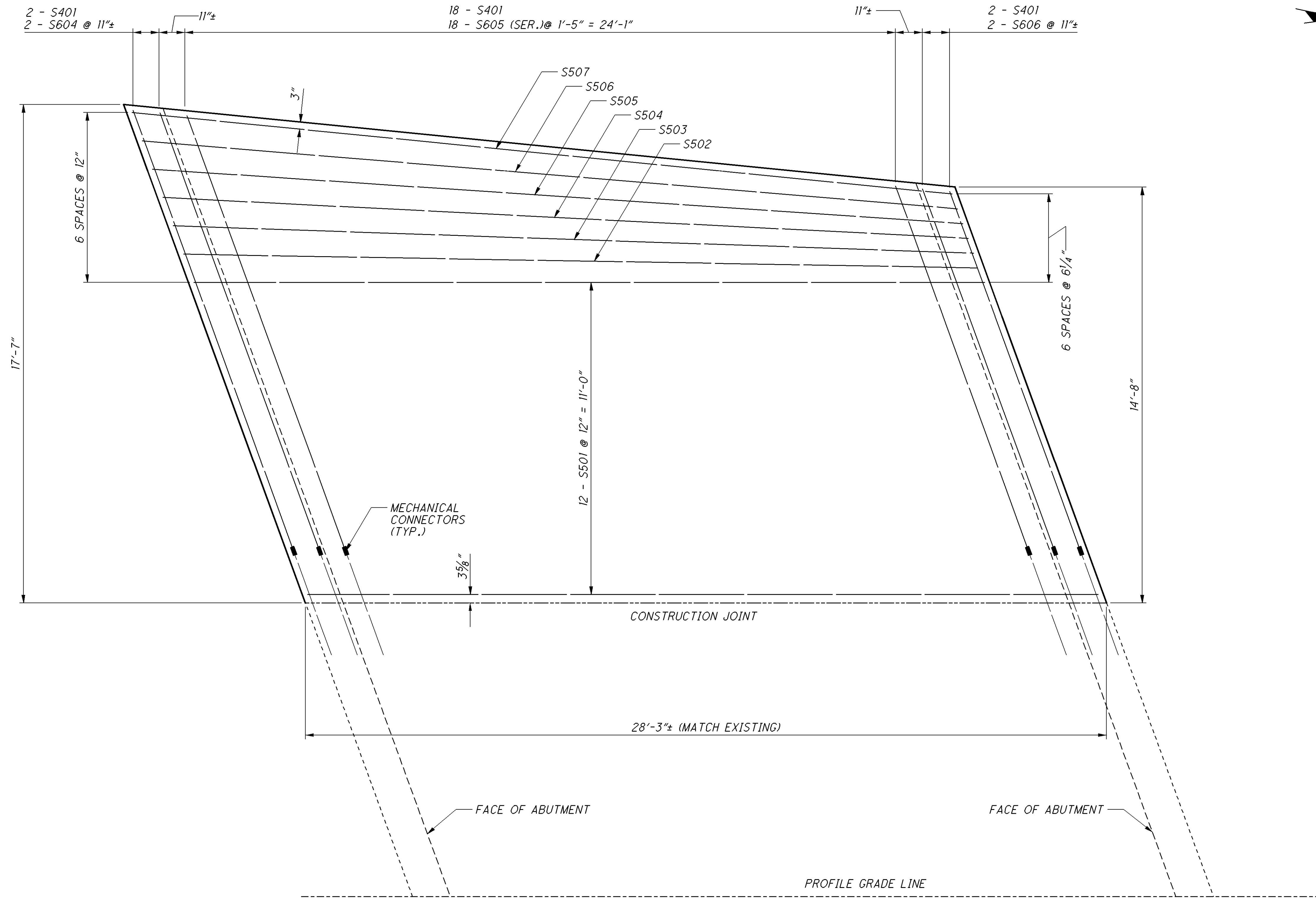
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DECK REINFORCING PLAN
BOTTOM STEEL

FRA - 315 - 12.18 PID No. 82324	SUPERSTRUCTURE BOTTOM REINFORCING DETAIL BRIDGE NO. FRA-315-1220 L OVER WILSON RUN		DESIGNED TKB	CHECKED CJW	DRAWN TKB	REVISED	REVIEWED TAA	DATE 07/11/2007	STRUCTURE FILE NUMBER 2515962	DESIGN AGENCY ODOT CENTRAL OFFICE OFFICE OF PRODUCTION
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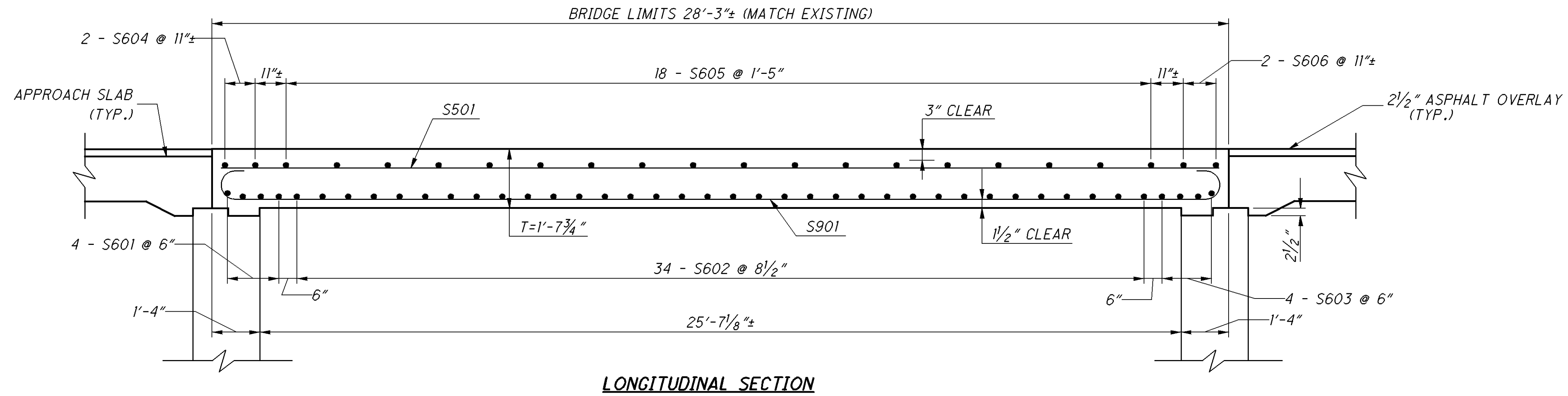


DECK REINFORCING PLAN
TOP STEEL

FRA - 315 - 12.18 PID No. 82324	SUPERSTRUCTURE TOP REINFORCING DETAIL BRIDGE NO. FRA-315-1220 L OVER WILSON RUN		DESIGNED TKB	DRAWN TKB	REVIEWED TAA	DATE 07/11/2007	DESIGN AGENCY ODOT CENTRAL OFFICE OFFICE OF PRODUCTION
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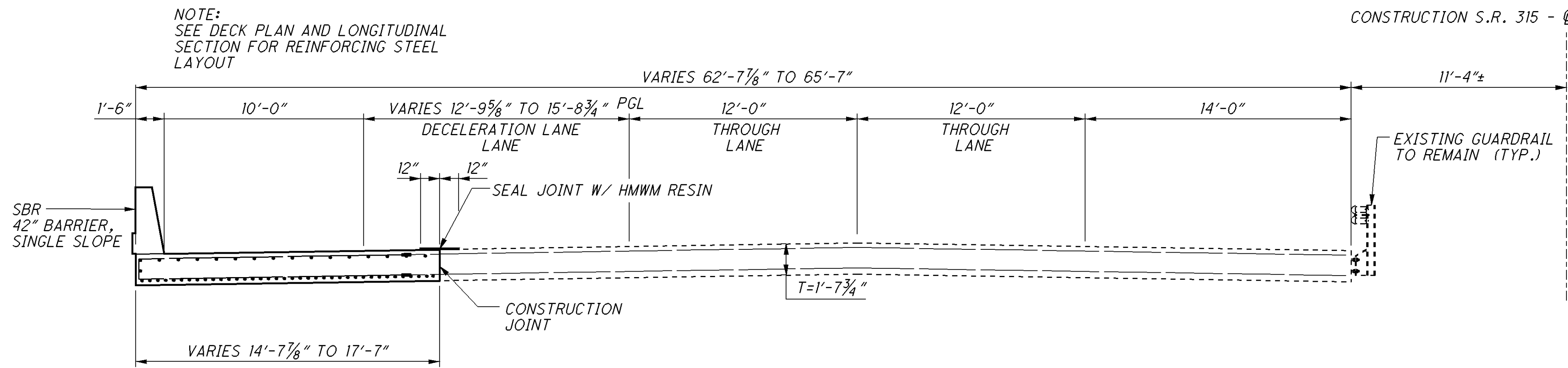
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NOTE:
MATCH EXISTING TOP AND BOTTOM
TRANSVERSE BAR SPACING

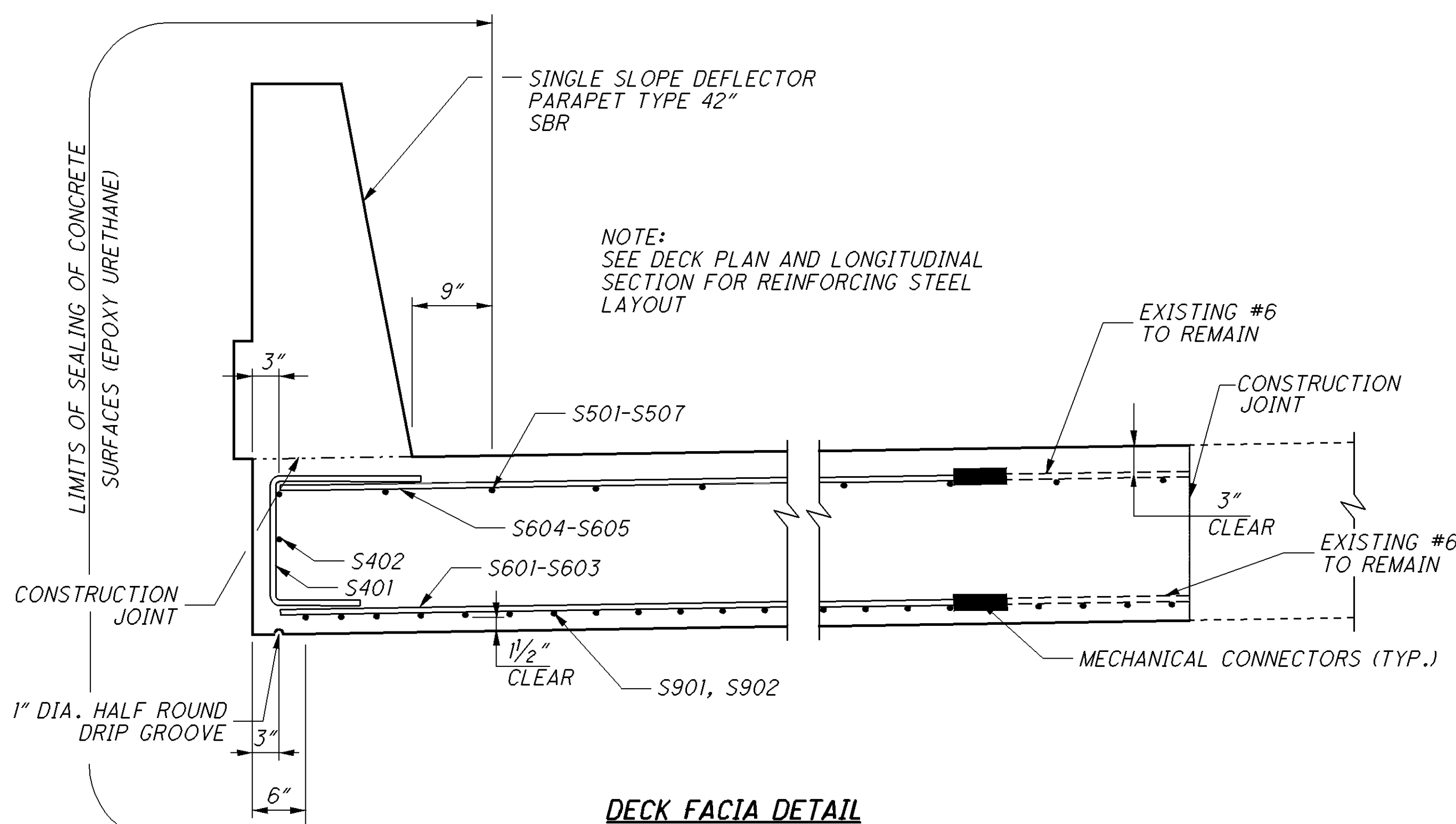


LONGITUDINAL SECTION

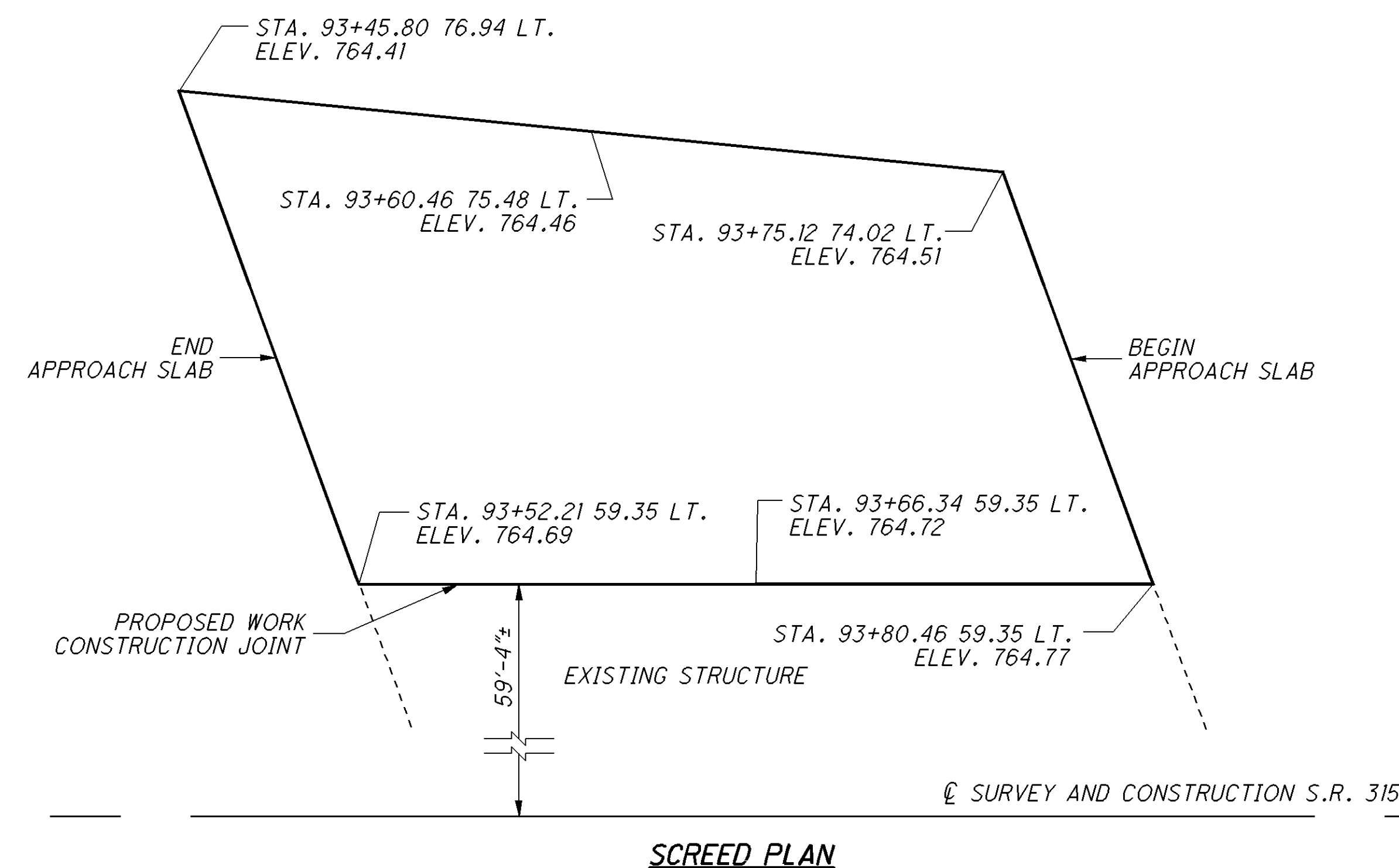
NOTE:
SEE DECK PLAN AND LONGITUDINAL
SECTION FOR REINFORCING STEEL
LAYOUT



TRANSVERSE SECTION



DECK FACIA DETAIL



SCREED PLAN

SUPERSTRUCTURE NOTES:

1. FOR BRIDGE RAILING SINGLE SLOPE DEFLECTOR PARAPET TYPE 42" DETAILS SEE STANDARD DRAWING SBR-1-99. FOR PARAPET REINFORCING STEEL, SEE PARAPET DETAILS, SHEET 12 OF 14.
2. FOR APPROACH SLAB AND PARAPET TRANSITION DETAILS AND REINFORCING STEEL, SEE SHEET 12 OF 14.
3. MECHANICAL CONNECTORS SHALL BE CAPABLE OF DEVELOPING 125% OF THE YIELD STRENGTH OF THE CONNECTED BARS.

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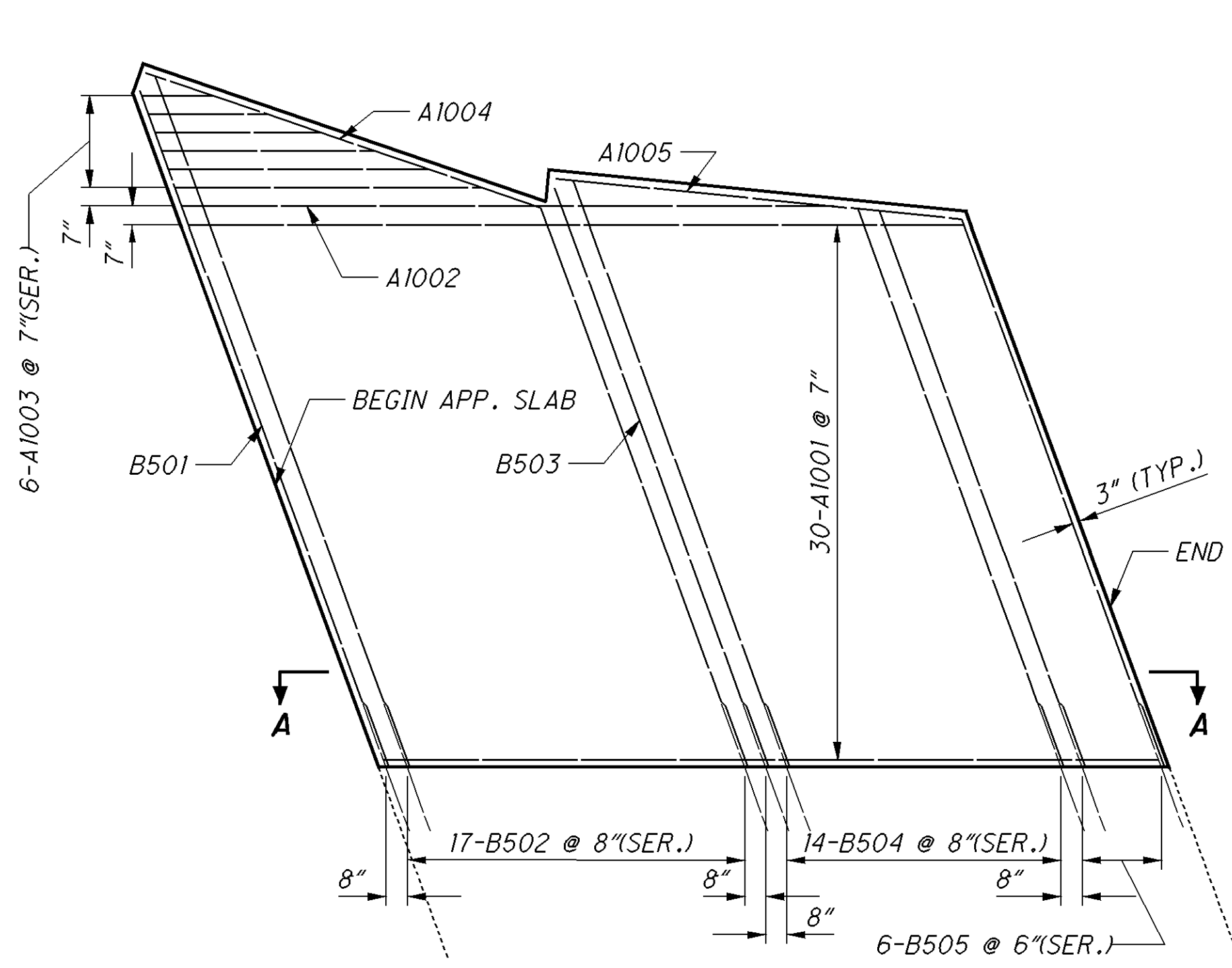
SUPERSTRUCTURE SECTION & SCREED PLAN
BRIDGE NO. FRA-315-1220 L
OVER WILSON RUN

FRA -315-12.18
PID No. 82324

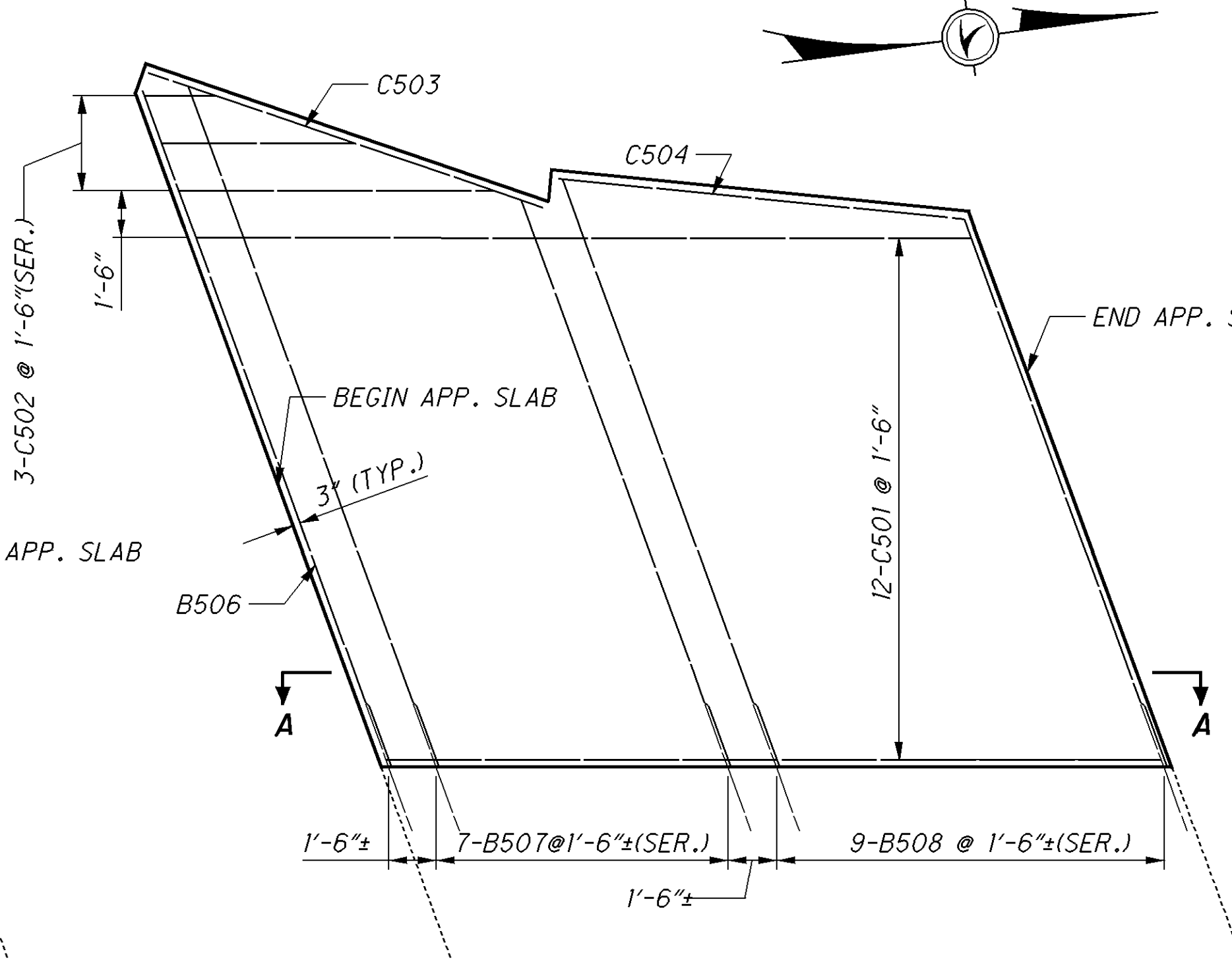
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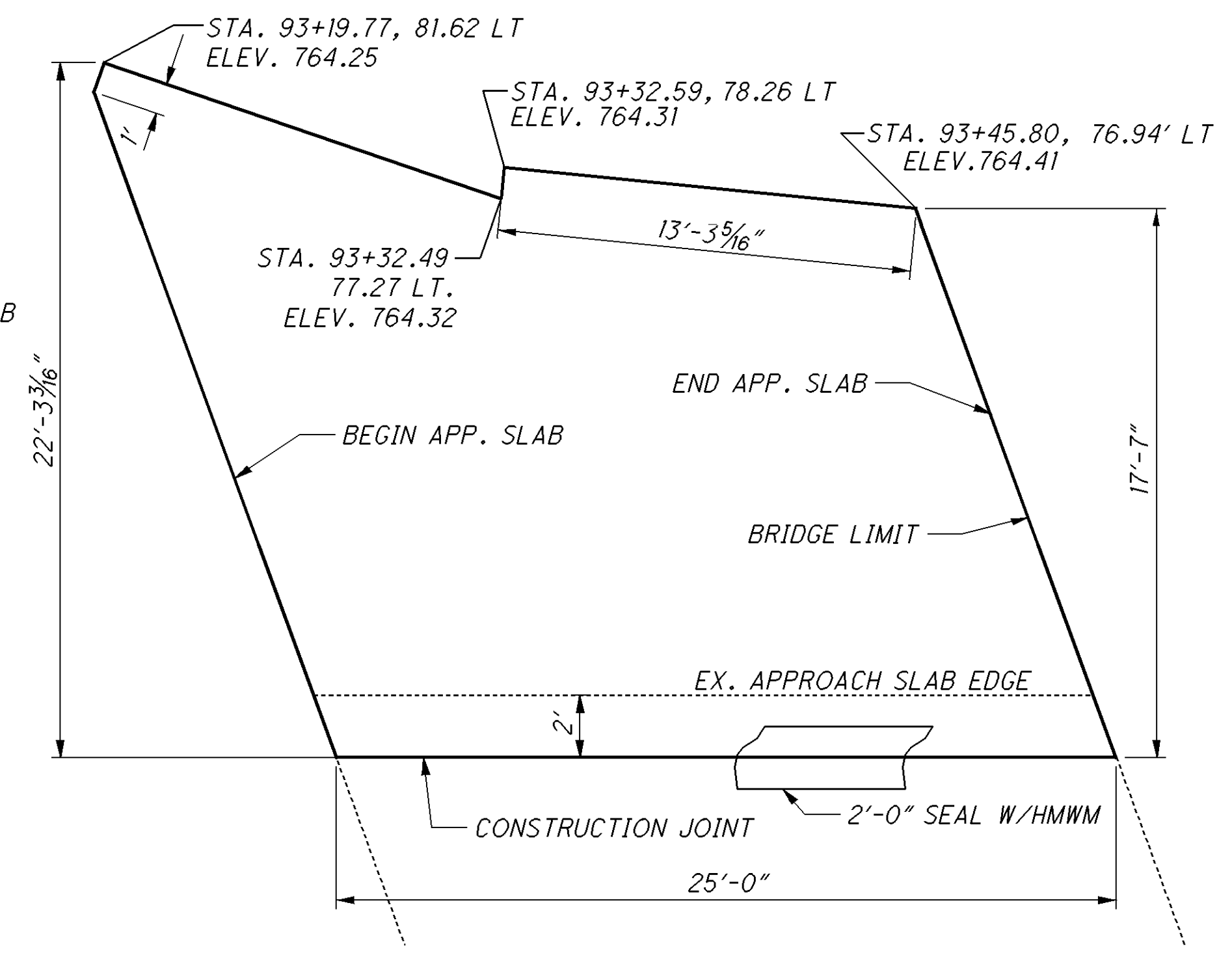
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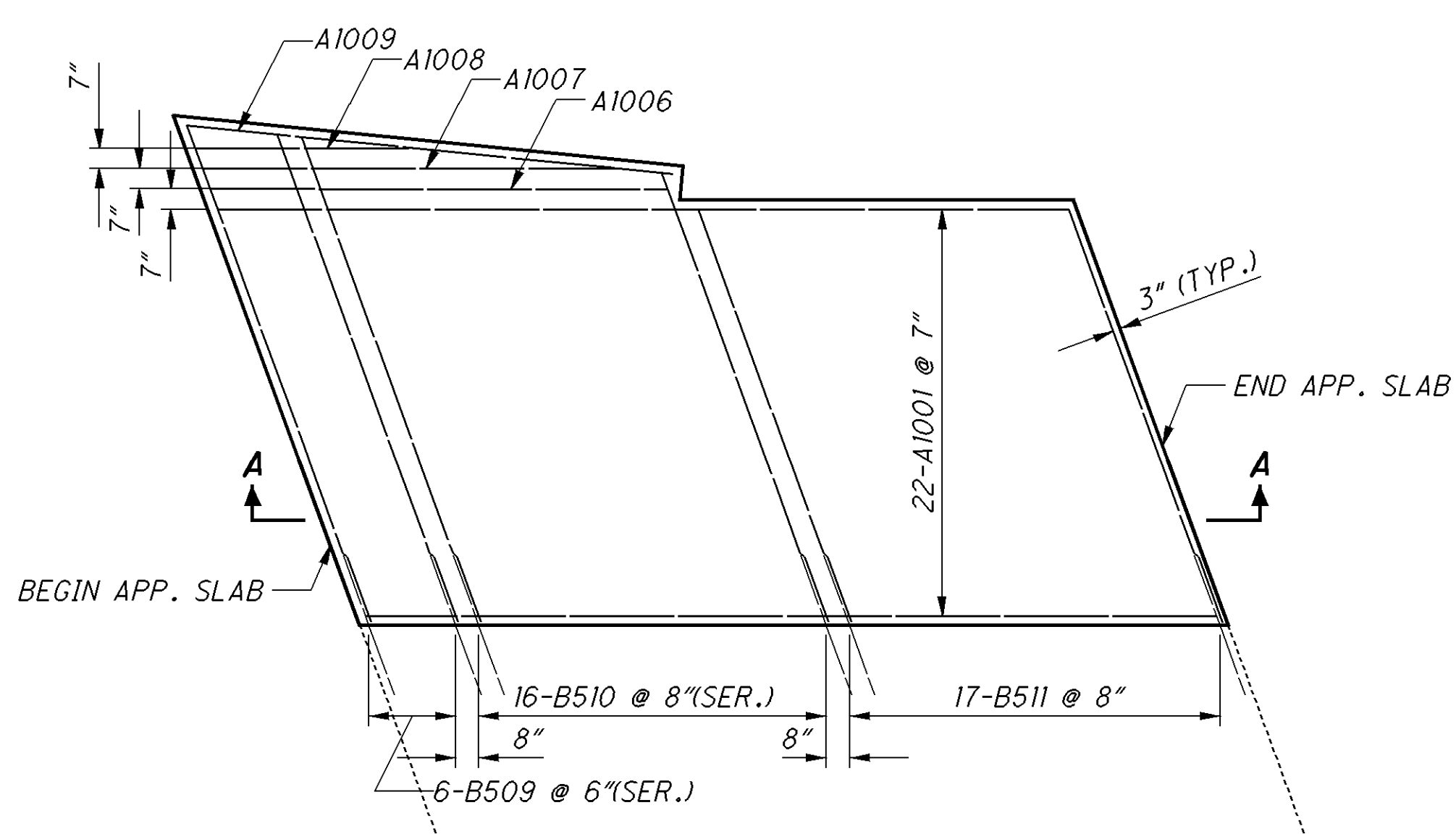
BOTTOM REINFORCING PLAN
(REAR APPROACH SLAB)



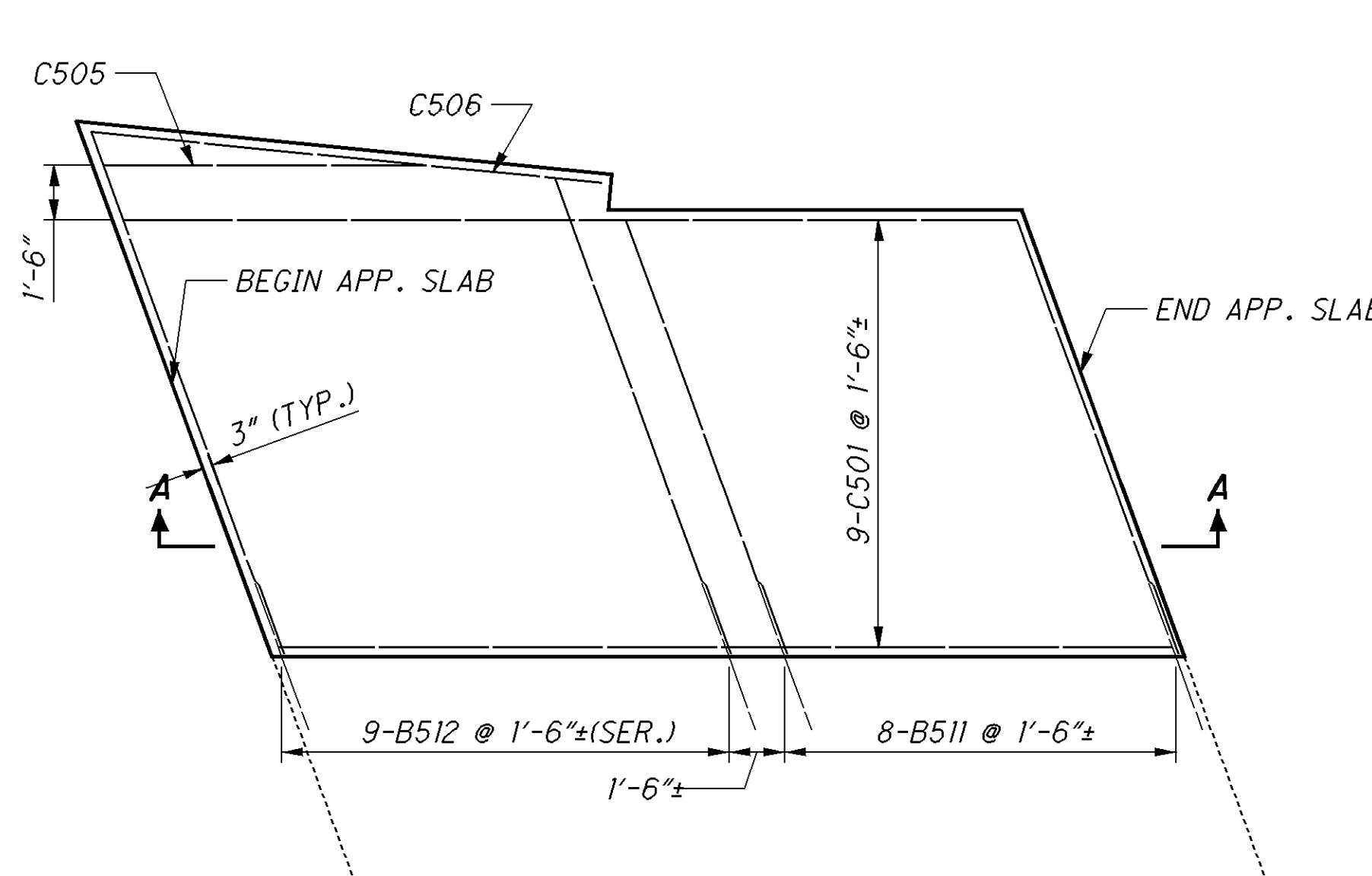
TOP REINFORCING PLAN
(REAR APPROACH SLAB)



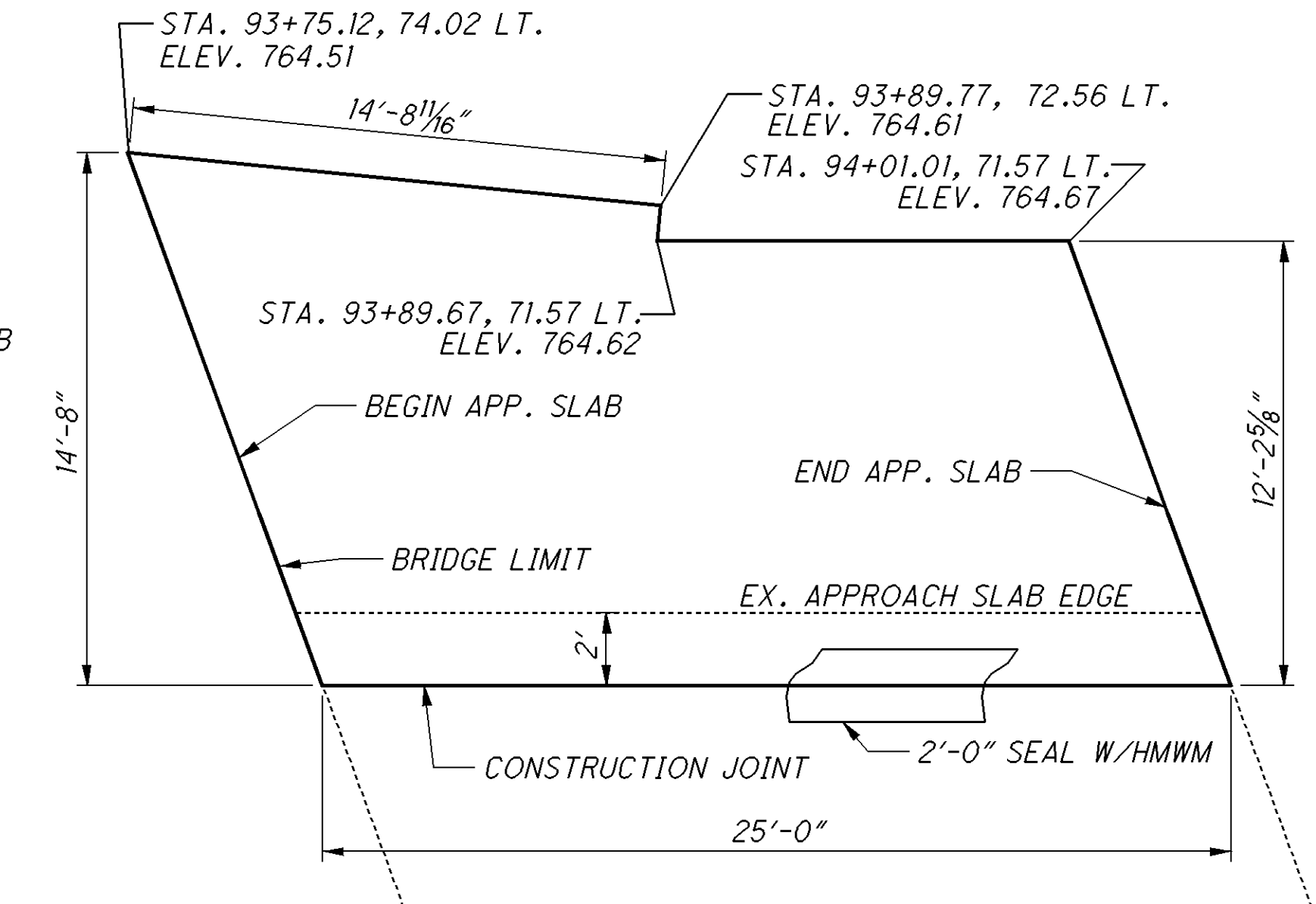
PLAN - REAR APPROACH SLAB



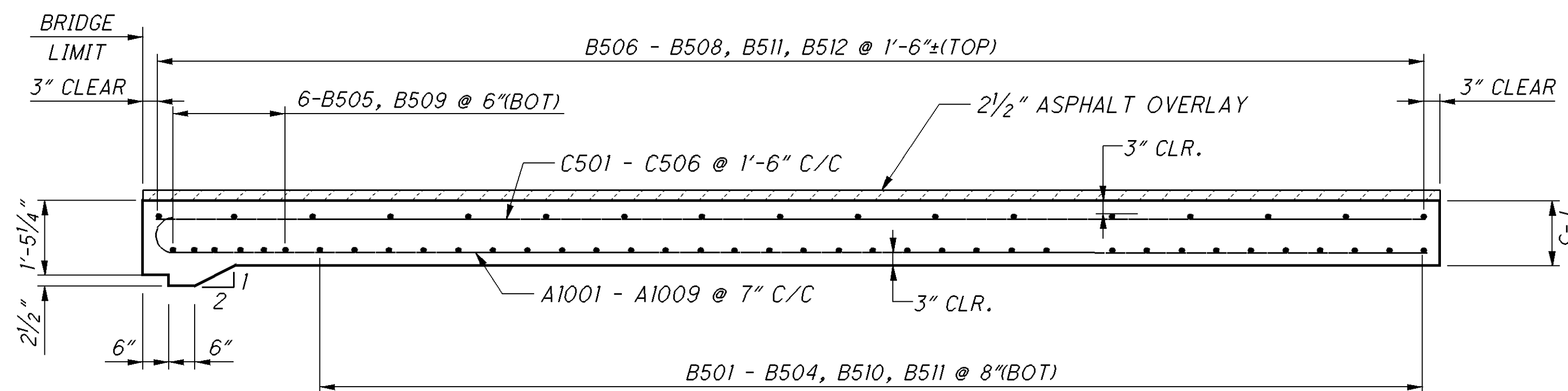
BOTTOM REINFORCING PLAN
(FORWARD APPROACH SLAB)



TOP REINFORCING PLAN
(FORWARD APPROACH SLAB)



PLAN - FORWARD APPROACH SLAB



SECTION A-A

NOTES & LEGEND:

1. FOR ADDITIONAL APPROACH SLAB DETAILS AND NOTES NOT SHOWN HERE, SEE BRIDGE STD. DWG. AS-1-81.
2. FOR APPROACH SLAB TO ABUTMENT DETAILS, REFER TO REAR & FORWARD ABUTMENT PLAN & ELEVATIONS.
3. FOR APPROACH SLAB PARAPET DETAILS, SEE SHEET 12 OF 14.
4. SEAL THE LONGITUDINAL JOINT BETWEEN THE EXISTING AND PROPOSED APPROACH SLAB USING HMWM SEALER.
5. LAP SPLICE PROPOSED REINFORCING STEEL (B501 - B512) TO THE EXISTING. MATCH EXISTING REINFORCING STEEL SPACING.
6. ELEVATIONS SHOWN ON THE APPROACH SLAB PLAN VIEWS ARE TO THE TOP OF THE APPROACH SLAB CONCRETE NOT INCLUDING THE 2 1/2" ASPHALT OVERLAY.
7. THE ASPHALT OVERLAY WILL BE PAID FOR UNDER THE ROADWAY PAVEMENT ITEMS.
8. SER. = SERIES

APPROACH SLAB DETAILS

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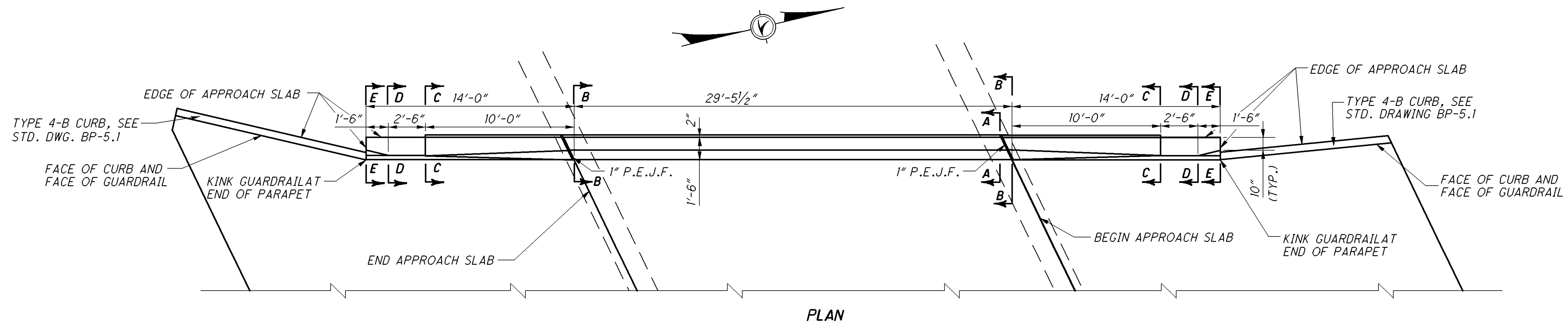
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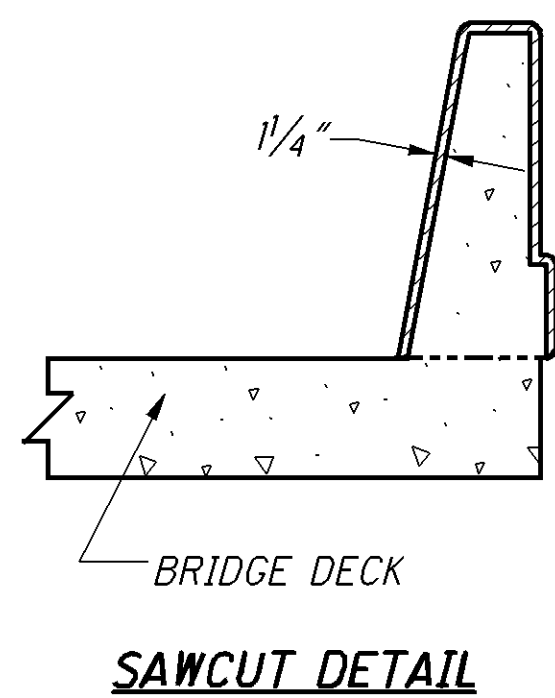
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FILE NUMBER
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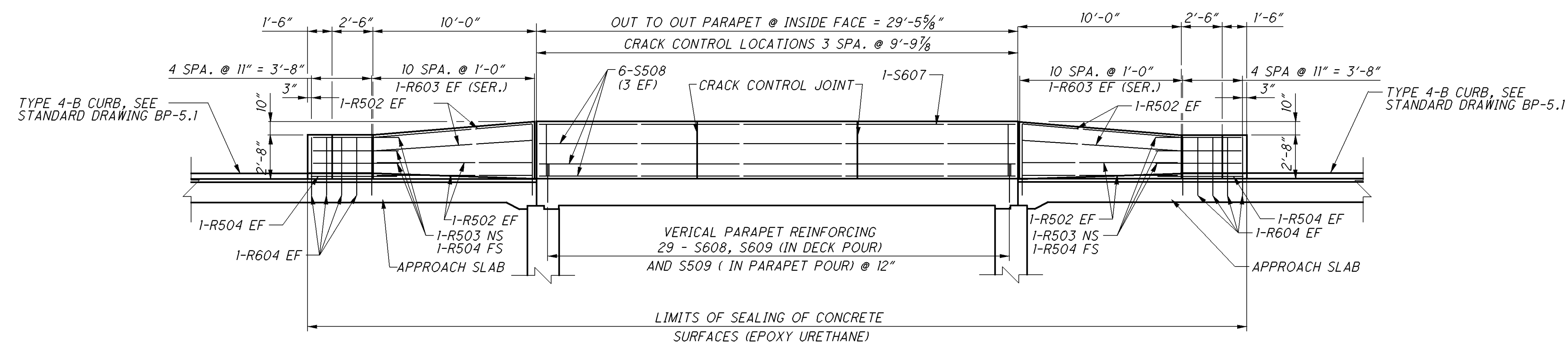
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PLAN



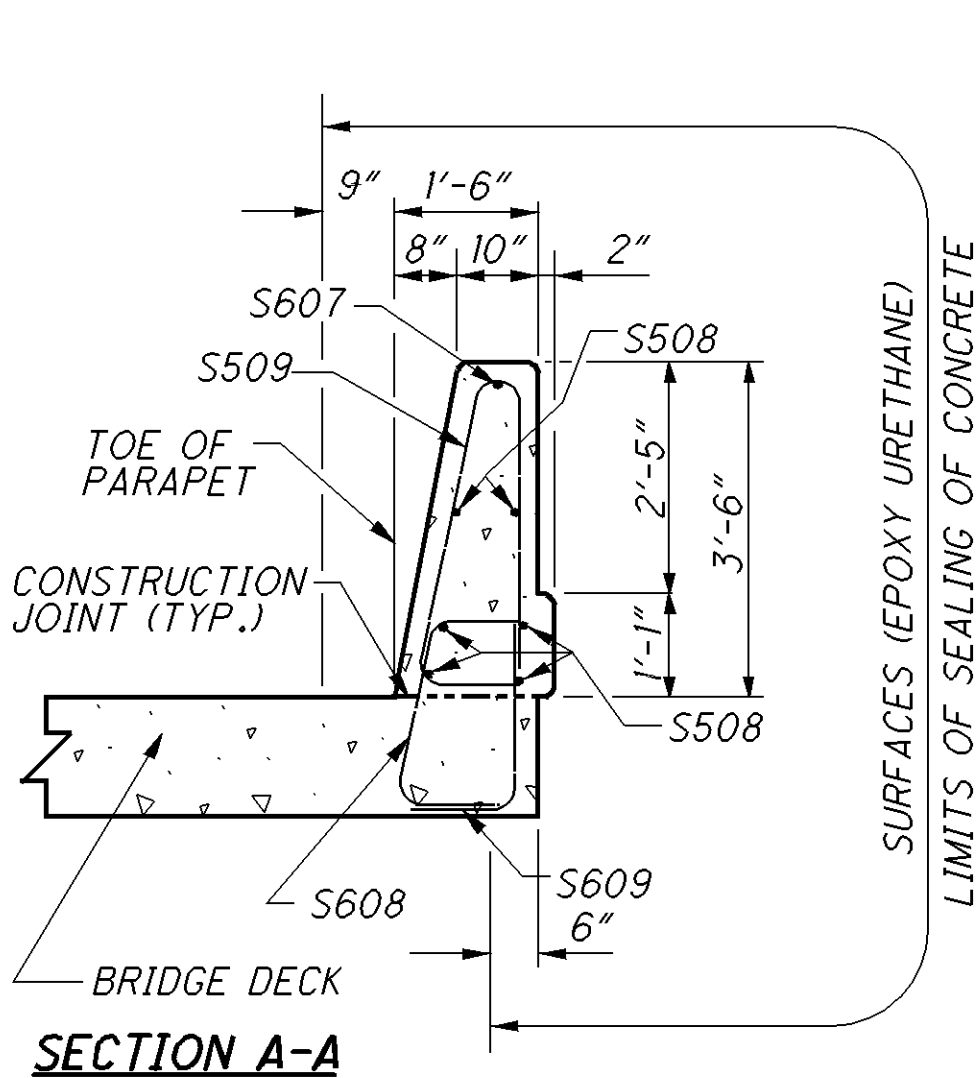
SAWCUT DETAIL



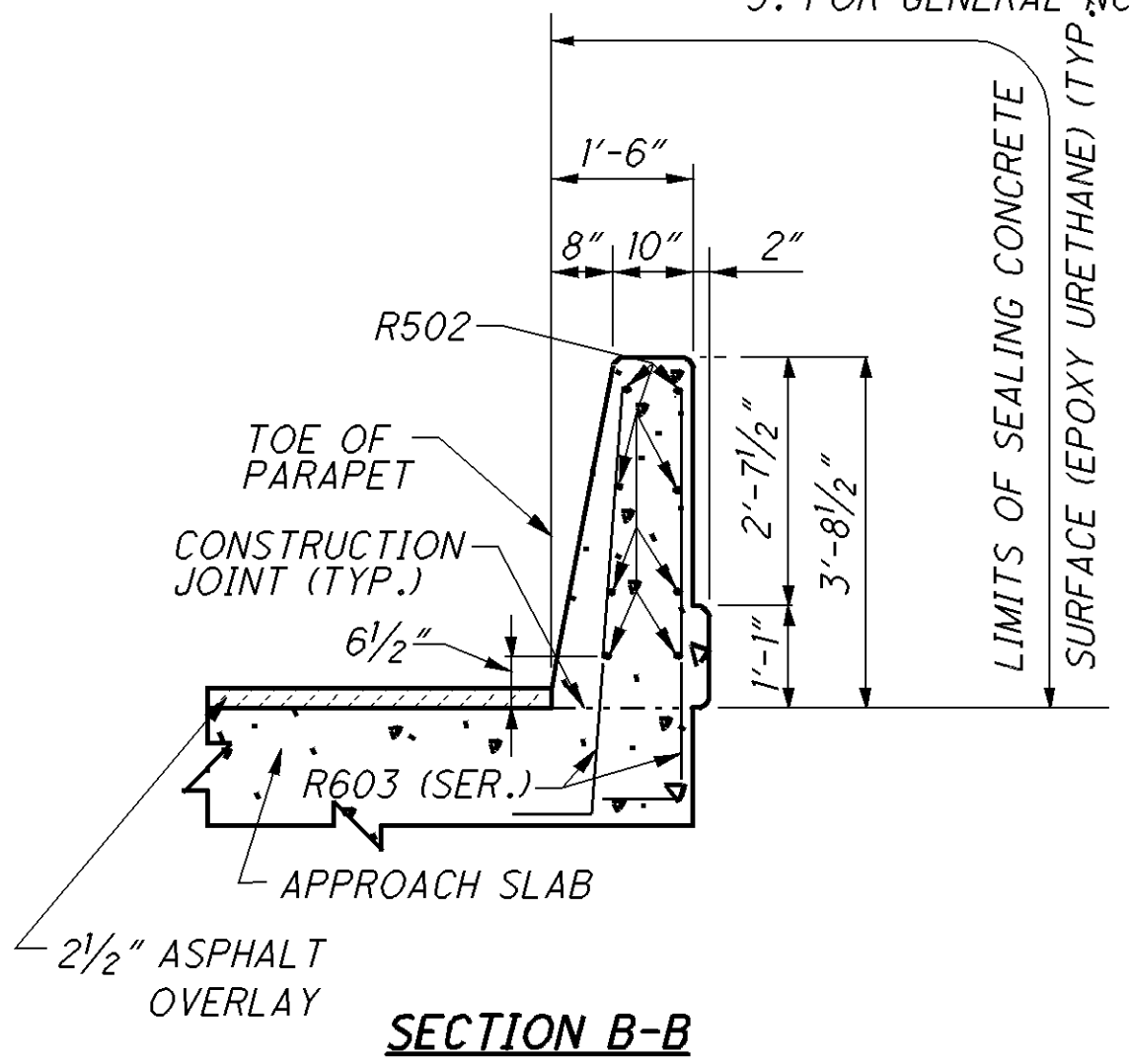
ELEVATION

NOTES:

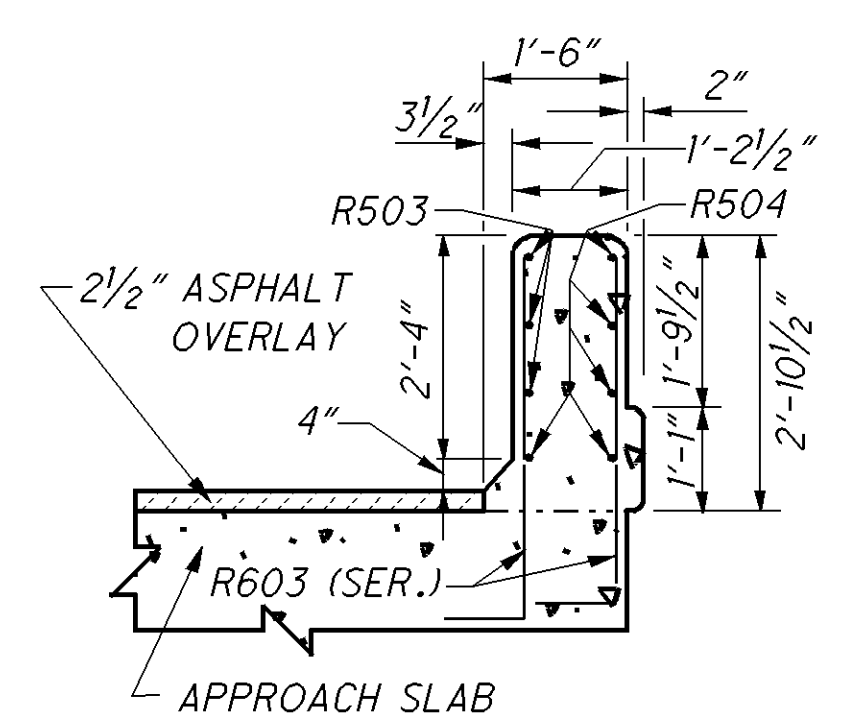
1. FOR REINFORCING STEEL LIST, SEE SHEET 14 OF 14
2. FOR ADDITIONAL REINFORCING STEEL IN APPROACH SLAB, SEE SHEET 14 OF 14.
3. FOR GENERAL NOTES, SEE SHEET 2 OF 14.
4. ALL MATERIALS AND LABOR NECESSARY TO CONSTRUCT THE PARAPET ON THE APPROACH SLABS SHALL BE INCLUDED IN ITEM 526, REINFORCED CONCRETE APPROACH SLAB (T=15 INCHES), AS PER PLAN.
5. SEALING OF CONCRETE SURFACES WITH EPOXY URETHANE SHALL BE INCLUDED IN ITEM 526, REINFORCED CONCRETE APPROACH SLAB (T=15 INCHES), AS PER PLAN.



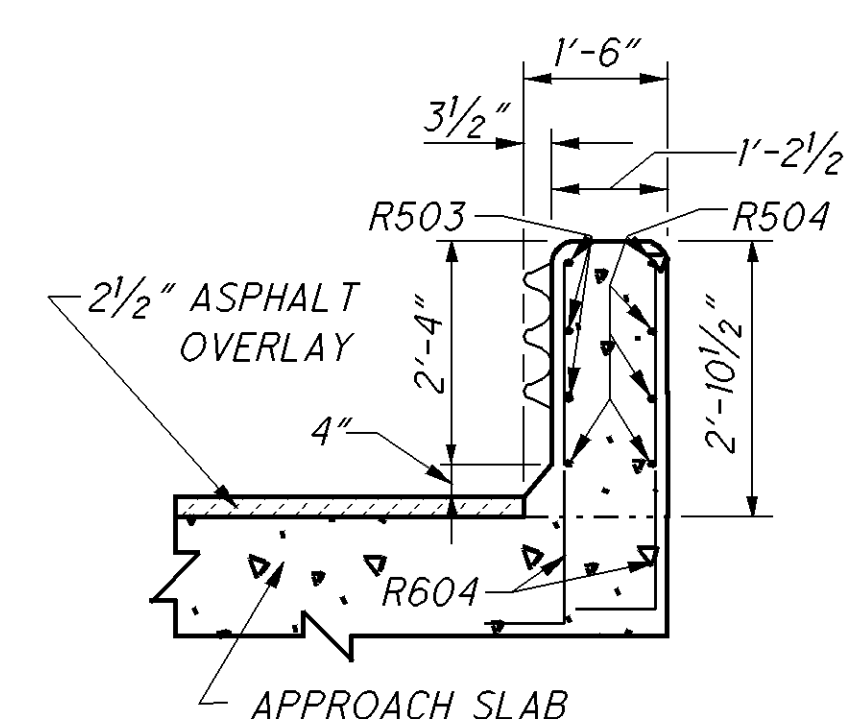
SECTION A-A



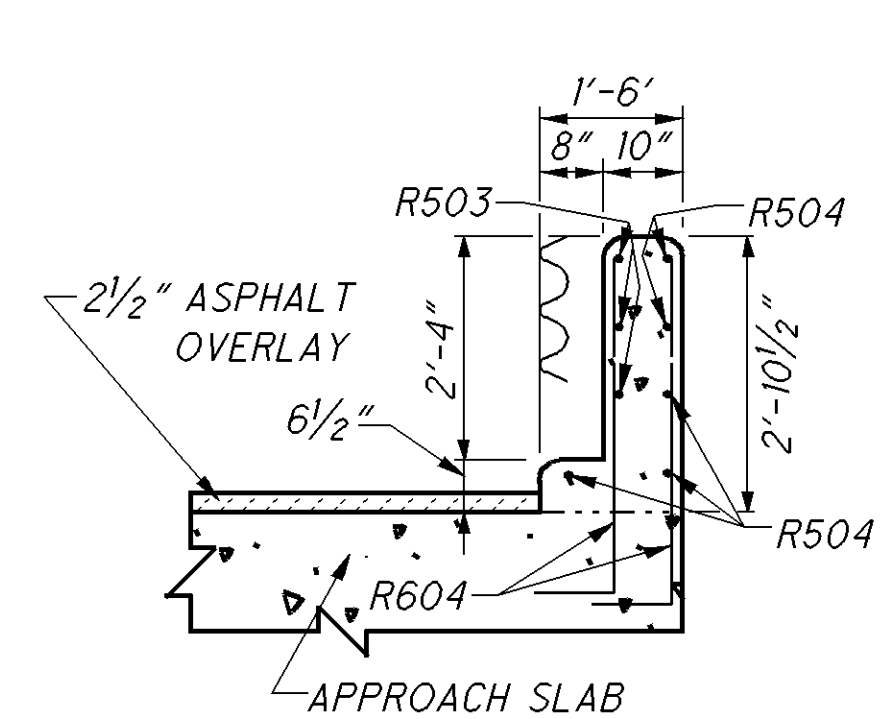
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

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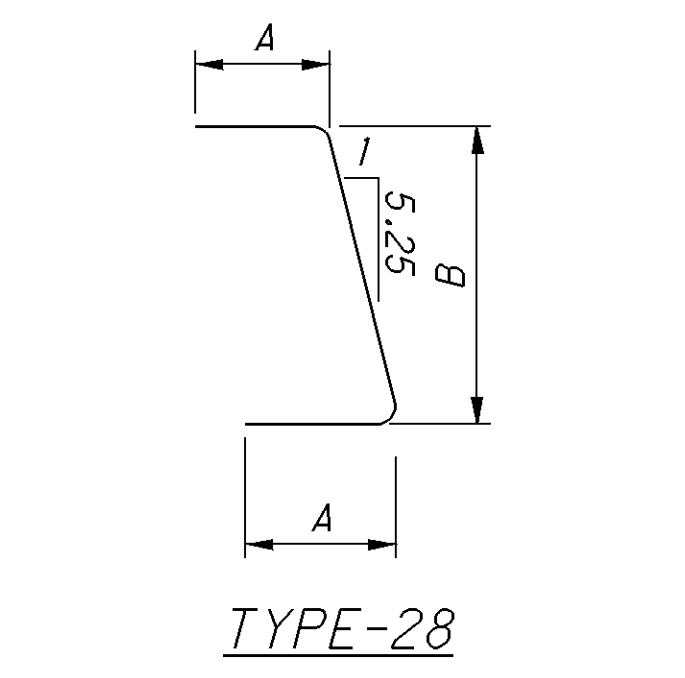
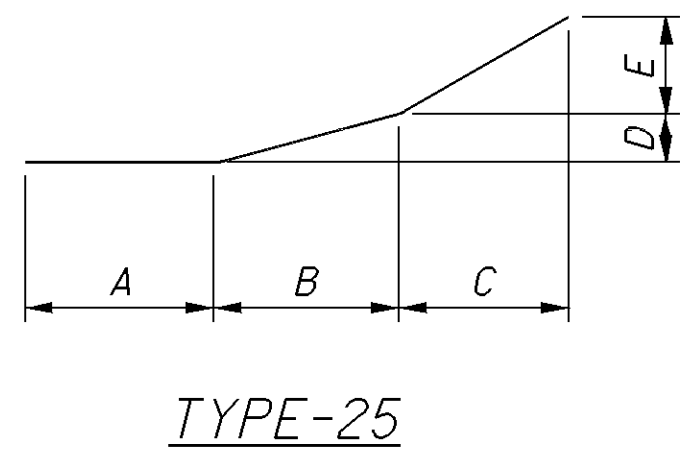
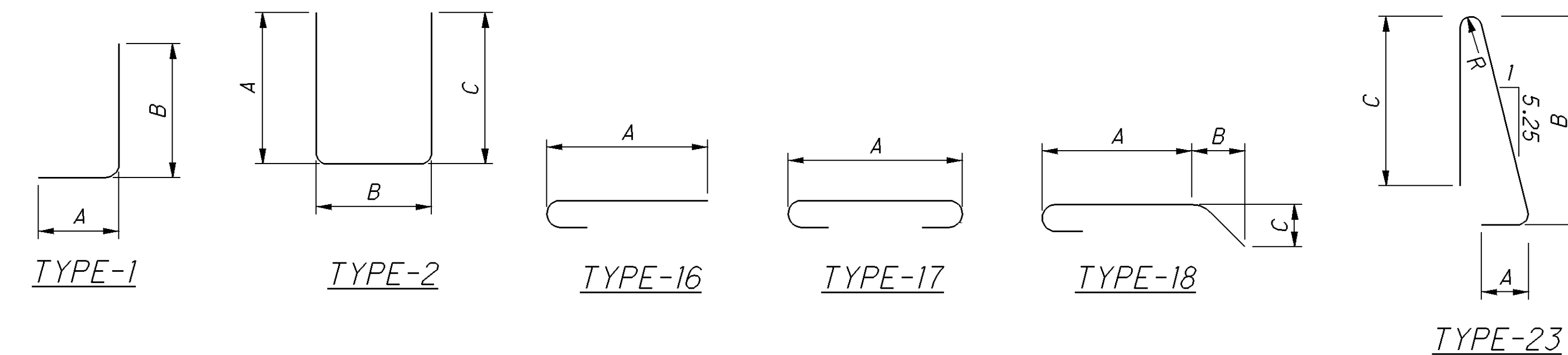
PARAPET DETAILS
BRIDGE NO. FRA-315-1220 L
OVER WILSON RUN

FRA-315-12.18
PID No. 82324

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
A501	2		2	2'-6"	5	STR							
A502	2		2	4'-0"	8	STR							
A503	1		1	5'-6"	6	STR							
A504	1		1	7'-2"	8	STR							
A505	1		1	8'-4"	9	STR							
A506	1		1	7'-9"	8	STR							
A507	1		1	12'-4"	13	STR							
A508	1 SR OF 8		1 SR OF 8	9'-9" TO 14'-0"	99	1	1'-0"	8'-11" TO 13'-2"				0'-7 1/4"	
A509	2		2	14'-3"	30	STR							
A510	1		1	15'-9"	16	STR							
A511	2		2	14'-4"	30	STR							
A512	1		1	15'-10"	16	STR							
A513	2		2	15'-4"	33	STR							
A514	1		1	16'-10"	17	STR							
A515	2		2	16'-4"	34	STR							
A516	1		1	17'-10"	18	STR							
A517	6		6	16'-1"	101	STR							
A518	3		3	17'-7"	55	STR							
A519	1		1	20'-7"	22	STR							
A520	1		1	20'-1"	21	STR							
A521		2	2	2'-9"	6	STR							
A522		1	1	3'-9"	4	STR							
A523		1	1	6'-6"	7	STR							
A524		1	1	5'-11"	6	STR							
A525		1	1	12'-11"	13	STR							
A526	1 SR OF 6		1 SR OF 6	13'-1" TO 16'-1"	91	1	1'-0"	12'-3" TO 15'-3"				0'-7 1/4"	
A527		2	2	10'-10"	22	STR							
A528		1	1	12'-3"	13	STR							
A529		2	2	11'-4"	24	STR							
A530		1	1	12'-9"	13	STR							
A531		2	2	11'-9"	24	STR							
A532		1	1	13'-3"	14	STR							
A533		2	2	12'-8"	26	STR							
A534		1	1	14'-2"	15	STR							
A535		6	6	12'-11"	81	STR							
A536		3	3	14'-5"	45	STR							
A537		1	1	16'-3"	17	STR							
A538		1	1	15'-5"	16	STR							
A539		4	4	13'-3"	55	STR							
A540	11	9	20	4'-6"	94	STR							
A541	4		4	16'-4"	68	STR							
W501	6		6	4'-10"	30	STR							
W502	7	9	16	7'-2"	120	1	0'-8"	6'-8"					
W503	7	9	16	7'-7"	127	1	0'-8"	7'-1"					
W504	5	7	12	7'-2"	90	2	0'-8"	6'-1"	0'-8"				
W505		6	6	6'-7"	41	STR							
A801	2		2	2'-6"	13	STR							
A802	2		2	4'-0"	21	STR							
				TOTAL	1645								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
A803	1		1	5'-6"	15	STR							
A804	1		1	7'-2"	19	STR							
A805	1		1	8'-4"	22	STR							
A806	1		1	7'-9"	20	STR							
A807	1		1	12'-4"	33	STR							
A808	1 SR OF 8		1 SR OF 8	9'-10" TO 14'-0"	255	1	1'-1"	8'-11 1/4" TO 13'-1 3/4"				0'-7 1/4"	
A809	2		2	9'-3"	49	1	1'-1"	8'-5"					
A810	2		2	8'-7"	46	1	1'-1"	7'-10"					
A811		2	2	2'-9"	14	STR							
A812		1	1	3'-9"	10	STR							
A813		1	1	6'-6"	17	STR							
A814		1	1	5'-11"	16	STR							
A815		1	1	12'-11"	34	STR							
A816		1 SR OF 6	1 SR OF 6	11'-7" TO 14'-7"	210	1	1'-1"	10'-9" TO 13'-9"				0'-7 1/4"	
A817		2	2	11'-0"	59	1	1'-1"	10'-2"					
A818		2	2	10'-4"	55	1	1'-1"	9'-7"					
D801	4	2	6	5'-2"	83	18	3'-0"	1'-0"	1'-0"				
D803	6	6	12	6'-1"	192	1	3'-3"	3'-0"					
				TOTAL	1149								



- NOTES:**
- ALL REINFORCING STEEL IS EPOXY COATED.
 - THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A S601 IS A NUMBER 6 BAR.
 - ALL DIMENSIONS ARE OUT TO OUT OF BAR UNLESS OTHERWISE NOTED.
 - RADIUS DIMENSIONS ARE SHOWN TO THE OUTSIDE OF THE BAR, EXCEPT AS SHOWN ON THE BENDING DIAGRAM.
 - HOOKS AND BENDS SHOWN ON THE BENDING DIAGRAMS THAT ARE NOT DIMENSIONED SHALL BE AS SPECIFIED IN THE CMS.
 - * : DENOTES BARS THAT REQUIRE MECHANICAL CONNECTORS. ADJUST LENGTH AS REQUIRED FOR THE TYPE OF MECHANICAL SPLICE USED.
 - INCLUDE PAYMENT FOR BARS THAT ARE DESIGNATED FOR USE IN THE APPROACH SLABS IN THE BID PRICE OF ITEM 526 - REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN.

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	DECK	PARAPET	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S401	22		22	3'- 6"	51	2	1'-6"	1'-3"	1'-0"				
S402	1		1	29'- 0"	20	STR							
S501	12		12	27'- 10"	349	STR							
S502	1		1	28'- 1"	29	STR							
S503	1		1	28'- 3"	29	STR							
S504	1		1	28'- 5"	30	STR							
S505	1		1	28'- 8"	30	STR							
S506	1		1	28'- 10"	30	STR							
S507	1		1	29'- 1"	30	STR							
S508		6	6	29'- 2"	182	STR							
S509		29	29	7'- 5"	224	23	1'-1"	3'-2"	3'-0"			0'-2 3/4"	
S601 *	4		4	16'- 5"	99	STR							
S602 *	1 SR OF 34		1 SR OF 34	13'- 9" TO 16'- 4"	767	STR						0'-1"	
S603 *	4		4	13'- 7"	82	STR							
S604 *	2		2	16'- 6"	50	STR							
S605 *	1 SR OF 18		1 SR OF 18	13'- 8" TO 16'- 4"	406	STR						0'-1 3/4"	
S606 *	2		2	13'- 6"	41	STR							
S607		1	1	29'- 2"	44	STR							
S608		29	29	4'- 2"	181	28	1'-1"	2'-4"					
S609		29	29	3'- 3"	142	1	1'-1"	2'-4"					
S901	27		27	30'- 5"	2792	17	27'-11"						
S902	1 SR OF 14		1 SR OF 14	27'- 11" TO 29'- 0"	1355	STR						0'-1"	
TOTAL					6963								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
APPROACH SLABS													
B501	1		1	22'- 9"	24	STR							
B502	1 SR OF 17		1 SR OF 17	18'- 10" TO 23'- 3"	373	STR						0'-3 1/4"	
B503	1		1	19'- 6"	20	STR							
B504	1 SR OF 14		1 SR OF 14	18'- 10" TO 19'- 9"	282	STR						0'-1"	
B505	1 SR OF 6		1 SR OF 6	18'- 6" TO 18'- 9"	116	STR						0'-0 3/4"	
B506	1		1	22'- 9"	24	STR							
B507	1 SR OF 7		1 SR OF 7	19'- 1" TO 22'- 11"	153	STR						0'-7 3/4"	
B508	1 SR OF 9		1 SR OF 9	18'- 6" TO 19'- 10"	180	STR						0'-2"	
B509		1 SR OF 6	1 SR OF 6	15'- 0" TO 15'- 4"	95	STR						0'-0 3/4"	
B510		1 SR OF 16	1 SR OF 16	13'- 10" TO 14'- 11"	240	STR						0'-1"	
B511	17	8	25	12'- 9"	332	STR							
B512		1 SR OF 9	1 SR OF 9	13'- 11" TO 15'- 4"	137	STR						0'-2"	
C501	12	9	21	24'- 6"	537	STR							
C502	1 SR OF 3		1 SR OF 3	2'- 3" TO 9'- 11"	19	STR						3'-10"	
C503	1		1	13'- 2"	14	STR							
C504	1		1	12'- 11"	13	STR							
C505		1	1	8'- 10"	9	STR							
C506		1	1	14'- 1"	15	STR							
R502	8	8	16	10'- 0"	167	STR							
R503	3	3	6	5'- 7"	35	25	1'-8"	2'-5"	1'-5"	0'-1 1/2"	0'-5"		
R504	5	5	10	5'- 4"	57	STR							
R603	2 SR OF 11	2 SR OF 11	4 SR OF 11	4'- 7" TO 5'- 5"	331	1	1'-1"	3'-8" TO 4'-6"				0'-1"	
R604	8	8	16	4'- 7"	110	1	1'-1"	3'-8"					
A1001	30	22	52	25'- 11"	5799	16	24'-6"						
A1002	1		1	20'- 7"	89	STR							
A1003	1 SR OF 6		1 SR OF 6	2'- 3" TO 9'- 8"	154	STR						1'-6"	
A1004	1		1	13'- 2"	57	STR							
A1005	1		1	12'- 11"	56	STR							
A1006		1	1	13'- 2"	57	STR							
A1007		1	1	12'- 1"	52	STR							
A1008		1	1	6'- 5"	28	STR							
A1009		1	1	14'- 1"	61	STR							
TOTAL					9636								

REINFORCING BAR SCHEDULE

BRIDGE NO. FRA-315-1220 L
OVER WILSON RUN

FRA - 315 - 12.18
PID No. 82324

SPECIAL PROVISIONS

WATERWAY PERMITS FOR

CRS: FRA-315-12.18 (PID: 82324)

U.S. ARMY CORPS OF ENGINEERS
PERMIT NUMBER: NWP #3

OHIO EPA
PERMIT NUMBER: N/A

EFFECTIVE DATE: 10-10-2007

NATIONWIDE PERMIT #3 – MAINTENANCE

(a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable, structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris in the vicinity of and within existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and the placement of new or additional riprap to protect the structure. The removal of sediment is limited to the minimum necessary to restore the waterway in the immediate vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend further than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an upland area unless otherwise specifically approved by the district engineer under separate authorization. The placement of riprap must be the minimum necessary to protect the structure or to ensure the safety of the structure. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the district engineer.

(c) This NWP also authorizes temporary structures, fills, and work necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation or beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 27). Where maintenance dredging is proposed, the pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Sections 10 and 404)

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act Section 404(f) exemption for maintenance

WATER QUALITY CERTIFICATION

Pursuant to Section 401 of the Federal Water Pollution Control Act, 33 U.S.C. Section 1341, Ohio Revised Code Chapters 119 and 6111; Ohio Administrative Code (QAG) Chapters 3745-1, 3745-32, and 3745-47; and, Corps regional conditions public noticed on October 20, 2006, the director of the Ohio Environmental Protection Agency hereby certifies that the above referenced replacement Nationwide Permits (NWPs) I - as proposed in the March 12, 2007, *Federal Register* will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act. These Certifications are specifically limited to 401 Certifications with respect to water pollution and do not relieve the applicant of further certifications or permits as may be necessary under applicable state and federal laws and/or local ordinances. Corps of Engineers Civil Works Projects in the State of Ohio are subject to the general and special limitations and conditions of this certification.

Water Quality Certification - Special Conditions:

The Ohio State Certification General Limitations and Conditions apply to this nationwide permit except as modified below:

Ohio State Certification Special Limitations and Conditions:

1. Bridge Replacement:
 - a. This Certification shall only authorize minor deviations from the existing structure's centerline, unless these deviations are necessary to follow current safety standards
 - b. Bridge replacements shall not result in additional lanes unless necessary to follow current safety standards
2. Maintenance or repair of existing fills (stabilization projects):
 - a. Minor Deviations from the original filled area are authorized provided these minor deviations are necessary to accommodate safety standards and/or new construction practices/methods/techniques and/or new materials available which are necessary for the rehabilitation/replacement/repair; and,

- b. This nationwide shall not authorize the replacement of existing structures that are open to the flow of water with structures that are not open to the flow of water.
3. Replacement vertical bulkheads:
 - a. For ship channels and harbors adjacent to federal navigation channels within the following harbors: Sandusky Harbor, Huron Harbor, Vermilion Harbor, Lorain Harbor, *Conneaut Harbor*, *Port Clinton Harbor*, *Rocky River Harbor*, Cleveland Harbor, Fairport Harbor, Ashtabula Harbor, and Toledo Harbor, 1,000 feet of existing vertical bulkheads may be replaced if recessed areas for aquatic habitat, or other aquatic habitat improvements, are incorporated within the design and construction of the replacement vertical bulkhead;
 - b. For all other areas, except Lake Erie, Lake Erie Islands, or Sandusky Bay, up to 1,000 feet of existing vertical bulkheads may be replaced. Toe stone shall be placed at the base of these replacement vertical bulkheads except in areas where the shoreline is composed of bedrock and slopes are predominately greater than 75 percent,
 - c. Replacement vertical bulkheads are not to be placed more than an average of one foot waterward of the intersection of the ordinary high water level of the waterbody and the existing shoreline;
 - d. Minor dredging necessary for the installation of the replacement vertical bulkhead is authorized;
 - e. Placement of fill between the replacement vertical bulkhead and existing shoreline is authorized; and
 - f. Toe stone shall be placed at the base of these replacement vertical bulkheads except in areas where the original shoreline is composed of bedrock and slopes are predominately greater than 75 percent or where the placement of toe stone would interfere with shipping activity. When required, *toe stone* shall be placed at an average rate of one-third the total height of the replacement vertical bulkhead at a 2:1 slope.
 4. Removal of accumulated sediment:
 - a. Removal of accumulated sediment shall occur only once per year, except in cases of emergency situations that threaten life or property.
 - b. Removal of accumulated sediments shall be limited to low-flow conditions whenever practicable, except in cases of emergency situations that threaten life or property.

NATIONWIDE PERMIT CONDITIONS

GENERAL CONDITIONS:

The following general conditions must be followed in order for any authorization by a NWP to be valid:

1. Navigation.

- (a) No activity may cause more than a minimal adverse effect on navigation.
- (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
- (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water,

adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species.

(a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at <http://www.fws.gov/> and <http://www.noaa.gov/fisheries.html> respectively.

18. Historic Properties.

(a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees

must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

22. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States

authorized by the NWP does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
- (b) A statement that any required mitigation was completed in accordance with the permit conditions; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
- (2) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from

the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information.

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed project;
- (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP (Sketches usually clarify the project and when provided result in a quicker decision);
- (4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;
- (5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.
- (6) If any listed species or designated critical habitat might be affected or is in the

vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at

33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP. If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either:

(1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit;

(2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or

(3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment,

the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

FURTHER INFORMATION

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project

DEFINITIONS

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall

is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an

ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete project: The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a "single and complete project" is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders.

Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWP's, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

OHIO STATE CERTIFICATION GENERAL LIMITATIONS AND CONDITIONS (WATER QUALITY CERTIFICATION)

A. STREAMS

1) Temporary or permanent impacts to streams are limited to 500 linear feet, of which no more than 200 linear feet can be impacts to intermittent or perennial streams [except for NWP's 3, 12, 13, 20, 21, 27, 32, 37, 38, 41, 45 and 47]. Impacts shall be measured linearly from upstream to downstream, including the length of permanent or temporary stream impoundments, when calculating the total length of stream impacts [except for NWP 12,

for which impacts shall be measured bank-to-bank];

2) Temporary or permanent impacts to water bodies meeting any of the criteria set forth in a through d below, are prohibited [except for NWP 3, 20, 27, 32, 37, 38, 45, and 47 or maintenance activities covered under NWP 7 and 12]:

- a. Exceptional Warmwater Habitat, Cold Water Habitat, Seasonal Salmonid, or any equivalent designation,
- b. Waters bodies with an antidegradation category of Superior High Quality Water, Outstanding National Resource Waters or Outstanding High Quality Waters; and,
- c. General high quality water bodies, such as Killbuck Creek in Coshocton County and Pymatung Creek in Ashtabula County, which harbor federally listed threatened and/or endangered species.

For an alphabetical listing of the Superior High Quality Waters, go to

<http://www.epa.state.oh.us/dsw/rules/antidegHQiistJuly03.pdf>

3) Stream reconstruction activities shall maintain or enhance the habitat values of the stream as determined by an appropriate habitat assessment method and adhere to "natural channel design" principles. Natural channel design means a technique that integrates knowledge of natural stream processes to create a stable stream that maintains its form and function over time and achieves a targeted habitat or biological endpoint.

4) Stream or buffer improvements and/or mitigative measures required by the Corps shall address the following:

- a. In order of priority, these measures shall focus on the following:
 - i. the stream segment being impacted;
 - ii. upstream segments and tributaries; the receiving stream

The measures should, to the extent practicable, consider the causes and sources of impairment of the stream where the measures would be undertaken if the stream is listed as impaired in the most recent final report submitted to the United States Environmental Protection Agency by the director of Ohio EPA to fulfill the requirements of Section 303(d) of the Clean Water Act. The current list of impaired streams, as of the date of this certification, can be found at on Ohio EPA's web site at:

http://www.epa.state.oh.us/dsw/tmdl/2004IntReport/final_20041R_appB_2.pdf

- b. If the applicant cannot find appropriate mitigation on streams listed in Section "a" above, mitigation shall be in the Ohio EPA 8-digit watershed.
- c. Vegetative buffers on both stream banks shall be of an appropriate length (at least the length of the impacted stream segment), and, if practicable;
 - i. Provide a minimum width of 25 feet for preservation of existing vegetative buffers; or,
 - ii. Provide a minimum width of 50 feet for re-vegetating buffers cleared during construction.
 - iii. Buffer width is measured from the top of bank or level of bankfull discharge.
- d. Vegetated buffers shall be planted, or restored, as soon as practicable after in-stream work is complete and shall extend to the top of both stream banks, or beyond as stipulated by the Corps or Ohio EPA, using native tree and shrub species with rapid growth characteristics,
- e. Impacts to existing vegetative buffers shall be minimized to the *maximum extent* practicable. *Entry to surface waters* shall be through a single point of access on each side of the stream whenever practicable to minimize disturbance to buffer vegetation;

5) In-stream activities shall not result in the permanent destabilization of the stream banks or stream bed. The stream bed and substrates shall be restored to conditions that existed prior to work.

6) In-stream work shall be conducted during low-flow conditions whenever practicable in order to minimize adverse impacts to water quality away from the project site, except in emergency situations that threaten human life or property.

7) Culverts

- a. For an individual stream, the combined length of an existing culvert and culvert extension shall not exceed 500 linear feet, and the individual culvert extension shall not exceed 200 linear feet if installed on an intermittent or perennial stream, or 500 linear feet if installed on an ephemeral stream
- b. For new road construction, flood plain culverts shall be installed where the flood prone area is greater than twice the width of the stream at Ordinary High Water Mark (OHWM).
- c. New Culverts on Low Gradient Streams (<3% slope)

- i. Culverts shall be installed at the existing streambed slope, not exceeding three percent, to allow for the natural movement of bedload and aquatic organisms.
- ii. The culvert base or invert for intermittent and perennial streams with bottom substrate shall be installed below the sediment to allow natural channel bottom to develop and to be retained. The channel bottom substrate shall be similar to and contiguous with the immediate upstream and downstream reaches of the stream. The culvert shall be designed and sized to accommodate bankfull discharge and match the existing depth of flow to facilitate the passage of aquatic organisms.
- iii. *For perennial and intermittent streams*, culverts with *less than* three percent grade or not installed on bedrock shall have the lower 10 percent of all culvert bottoms buried below the existing stream grade. Hydraulic design shall be based upon the remaining open portion of the culvert.

8) Compensatory mitigation for linear projects (e.g., highways) in streams may be mitigated for by the following, in descending order of practicability:

- a. Stream impacts associated with a linear project may be mitigated on-site, defined as within one mile of the linear project, and within the same 4-digit watershed as shown in OAC 3745-1-54(F)(2); or,
- b. Stream impacts associated with a linear project may be mitigated at a single stream mitigation location or stream mitigation bank acceptable to the director, within each Ohio EPA 8-digit watershed in which such impacts occur; or,
- c. If no stream mitigation bank, acceptable to the director, is located within one or more of the Ohio EPA 8-digit watersheds in which the impact occurs, then mitigation may occur in another Ohio EPA 8-digit watershed impacted by the linear project; at a single stream mitigation location, or a stream mitigation bank, acceptable to the director; or,
- d. If no stream mitigation bank exists within any of the watersheds connected with the linear project, then mitigation should occur within the watershed in which the largest impacts (in terms of area) occur.

B. WETLANDS

1) Temporary or permanent impacts to Category 3 wetlands are prohibited [except for NWP 27].

2) Temporary or permanent impacts to Category 1 and 2 wetlands are limited to a maximum total of one-half acre [except for NWP 20, 21, 27, 32, 37, 38, 45, and 47].

3) Wetland Mitigation

- a. Ohio state certification for the use of any NWP to authorize the activities associated with the construction and or development of new mitigation banks is denied. Banks that have been approved for operation by the director of Ohio EPA may utilize NWPs for approved activities.
- b. Wetland mitigation shall adhere to the requirements set forth in Ohio EPA's Wetland Water Quality Standards [OAC Chapter 3745-1].
- c. When it is determined that use of a mitigation bank is the best option, mitigation shall only be authorized at those mitigation banks having an active instrument signed by the director of Ohio EPA.

4) Discharges or diversions of storm water into wetlands shall not negatively alter the wetland's natural hydrologic regime as required by OAC Rule 3745-1-51 (Wetland Narrative Criteria) and shall meet warmwater habitat chemical criteria as required by OAC Rule 3745-1-52 (Numeric Chemical Criteria for Waste Water Discharges to Wetlands) unless the applicant has obtained alternate criteria from the director.

C. LAKE ERIE

1) No nationwide permit may be used to divert water from outside of the Lake Erie drainage basin.

2) Temporary or permanent impacts to Lake Erie coastal wetlands, including coastal wetlands located on Lake Erie Islands and Sandusky Bay are prohibited [except for NWP 3 and 27].

3) Disposal of Dredge Material from Lake Erie, Lake Erie Islands, and Sandusky Bay.

- a. Dredged material that is greater than 60 percent sand (0.063 mm grain size), as determined by grain size analysis, shall be disposed of in the littoral drift, downdrift of the project site.
- b. Dredged material that is less than 60 percent sand and is below the 75th percentile of the surficial background sediment contamination concentrations of the basin proposed for disposal (as identified in "Surficial Sediment Contamination in Lakes Erie and Ontario, (Table 1) 2002, Journal of Great Lakes Research Volume 28(3) pages 437-450 by Christopher H. Marvin et al) may be disposed of in the open lake.

- c. Sand and gravel suitable for nearshore disposal shall not be entombed by any structure, but should be removed prior to construction, and placed in the littoral system, downdrift of the project site.

D. GENERAL

1) NWPs cannot be combined to increase any of the aforementioned limitations.

2) Ohio state certification for the use of any NWP to authorize the activities associated with the construction and or development of new mitigation banks that do not possess a mitigation banking agreement signed by the director of Ohio EPA is denied. Banks that have been approved for operation by the director of Ohio EPA may utilize NWPs for approved activities.

3) Authorization under this Certification does not relieve the permittee from the responsibility of obtaining any other federal, state or local permits, approvals or authorizations required by law, including without limitation, National Pollutant Discharge Elimination System (NPDES) permits including general or individual stormwater permits, or Permits to Install (PTIs).

4) In nationwide permits where the district engineer has been granted authority to waive certain requirements, the corresponding limitations and conditions of this certification shall apply unless written authorization from the director of Ohio EPA is obtained to authorize additional impacts.

5) To the extent that this condition does not conflict with the Construction General Storm Water Permit in effect at the time of application, peak rates of runoff from an area after development may be no greater than the peak rates of runoff from the same area before development for all twenty-four-hour storms from one to one-hundred-year frequency.

6) To the extent that this condition does not conflict with the Construction General Storm Water Permit in effect at the time of application, locally required post development stormwater ponds shall incorporate specific design features for water quality such as those listed in Ohio's Rainwater and Land Development, Ohio's Standards for Storm Water Management, Land Development and Urban Stream Protection, 3rd Edition (2006), available at <http://www.dnr.state.oh.us/soilandwater/Rainwater.htm>, to the extent allowed by local stormwater requirements. These features include, but are not limited to, infiltration trenches, extended detention, wet pools, forebays, aquatic benches and vegetated shallows, optimum flow length, reverse flow pipe, optimum pool depth, shading and buffer plants, and runoff reuse.

7) To the extent that this condition does not conflict with the Construction General Storm Water Permit in effect at the time of application, the Best Management Practices (BMPs) listed below shall be utilized with all NWPs when applicable.

- a. Only suitable material, free of toxic contaminants in other than trace quantities, shall be used as fill material;
- b. The use of asphalt and rubber tires as fill is prohibited under this permit;
- c. Upon the cessation of temporary impacts authorized under a NWP, any hydric topsoil removed from a trench shall be separated and saved for later placement as the topmost back fill layer when the trench is refilled;
- d. The stockpiling of side-cast dredged material in wetlands in excess of three months is not authorized;
- e. The applicant shall comply with all final stabilization requirements contained in applicable NPDES construction stormwater permits for the site;
- f. Construction equipment shall not be placed below the Ordinary High Water Mark (OHWM) of any surface water, except when no other alternative is practicable,
- g. All dredged material placed at an upland site shall be controlled so *that sediment runoff to adjacent surface waters is minimized to the maximum extent practicable*; and,
- h. BMPs shall be installed and maintained to minimize sediment runoff to adjacent surface waters.

8) Representatives from Ohio EPA, Division of Surface Water will be allowed to inspect the authorized activity at any time deemed necessary to insure that it is being or has been accomplished in accordance with the terms and conditions of this water quality certification. This includes, but is not limited to, access to and copies of any records that must be kept under the conditions of this certification; and, authorization to sample and/or monitor any discharge activity or mitigation site. Ohio EPA will make a reasonable attempt to notify the applicant of its intention to inspect the site in advance of that inspection.

PROJECT DESCRIPTION

RELOCATE THE ENTRANCE TO S.R. 315 RAMP H 0.08 MILES SOUTH OF THE HARD ROAD / S.R. 315 INTERSECTION. ADD DECELERATION LANE ON S.R. 315 AND WIDEN STRUCTURE FRA-315-2020L.

GEOLOGY AND OBSERVATIONS

THE PROJECT IS LOCATED WITHIN THE COLUMBUS LOWLAND PORTION OF THE SOUTHERN OHIO LOAMY TILL PLAIN, ALONG THE WEST VALLEY WALL AND FLOOD PLAIN OF THE OLENTANGY RIVER. THE SOILS UNDERLYING THE PROJECT AREA ARE COMPOSED PRIMARILY OF RESIDUUM WITHIN THE LOWER VALLEY WALL, ALLUVIUM WITHIN THE OLENTANGY RIVER VALLEY, AND GLACIALLY DEPOSITED TILL MATERIALS OF THE WESTERN TILL PLAINS AT THE CREST OF THE VALLEY WALL.

A SITE RECONNAISSANCE WAS MADE ON FEBRUARY 12, 2007. THE LAND USAGE AROUND THE PROJECT IS GENERALLY RESIDENTIAL, WHILE PARKLAND AND THE OLENTANGY RIVER LIE TO THE EAST OF SR 315. NO EVIDENCE OF WET OR POOR SOILS WAS EVIDENT.

NO HISTORICAL BORING RECORDS WERE AVAILABLE FOR REVIEW WITHIN THE PROJECT LIMITS.

SUBSURFACE EXPLORATION

SEVEN (7) TEST BORINGS, B-001 THROUGH B-007, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION BETWEEN FEBRUARY 12 AND 27, 2007. THE BORINGS WERE DRILLED WITH A TRUCK MOUNTED ROTARY DRILL RIG, USING 3/4-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS THROUGH SOIL. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT CONTINUOUS OR 2.5 FOOT INTERVALS FOR THE FULL DEPTH OF THE BORINGS. THE ENERGY TRANSFER RATIO (ETR) FOR THE DRILL RIG IS 81.9. THE BORINGS WERE ADVANCED INTO THE ROCK AND SAMPLED USING AN N SERIES CORE BARREL, WATER METHOD.

EXPLORATION FINDINGS

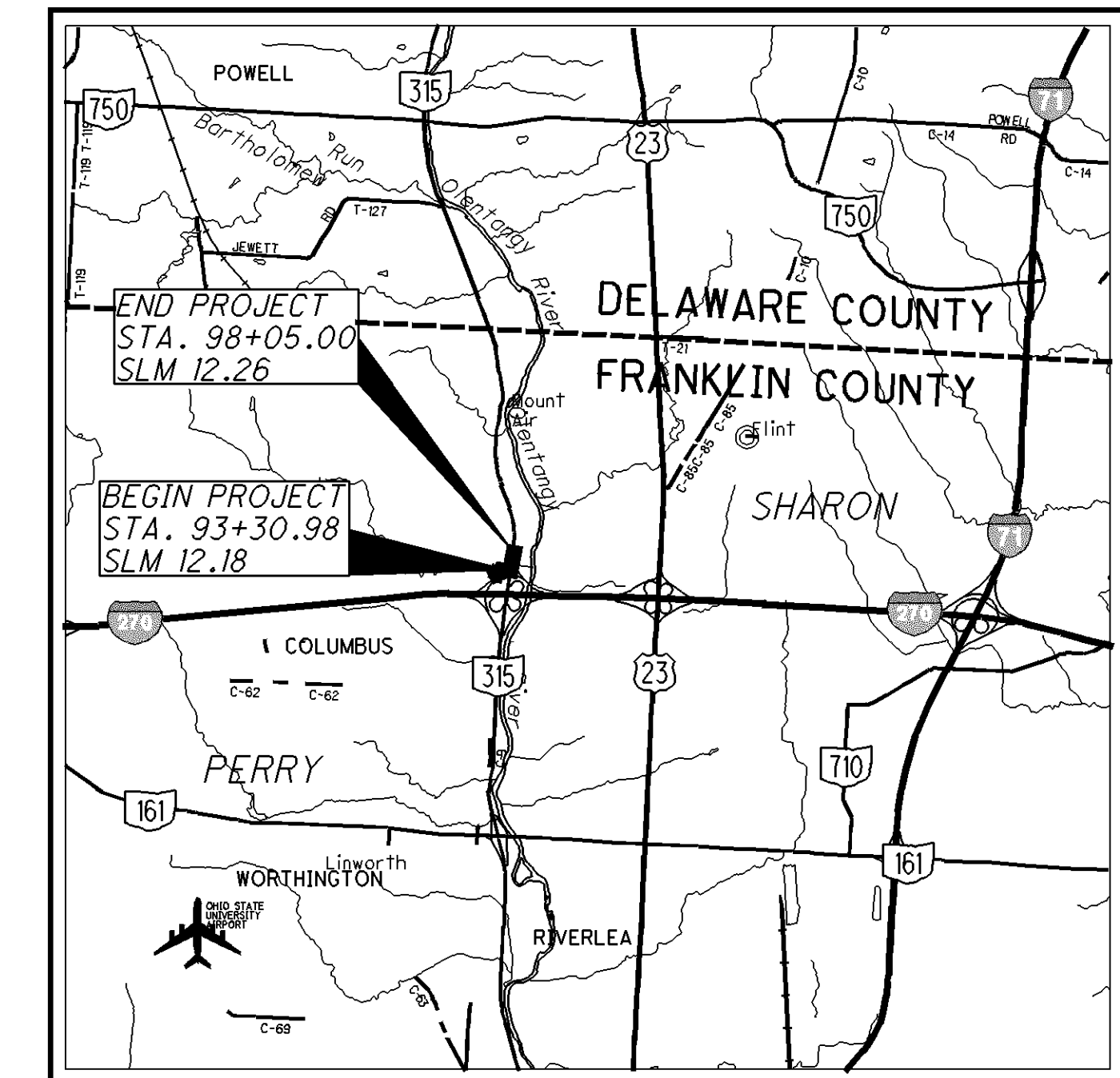
THE BORINGS GENERALLY ENCOUNTERED RESIDUUM, CONSISTING PRIMARILY OF STONE FRAGMENTS WITH SAND AND SILT (A-2-4), AND SANDY SILT (A-4a), ABOVE SHALE BEDROCK. THE RESIDUUM ENCOUNTERED RANGED IN CONSISTENCY FROM STIFF TO HARD. BEDROCK WAS ENCOUNTERED DIRECTLY BELOW THE PAVEMENT AND ROAD BASE IN BORINGS B-001 AND B-002, WHERE THE EXISTING RAMP WAS CUT INTO BEDROCK. BORINGS B-003, B-004, AND B-005 ENCOUNTERED BEDROCK BETWEEN 8 AND 9 FEET DEEP (BETWEEN ELEVATION 765.4 AND 773.0 FEET). AT BORINGS B-006 AND B-007, THE BEDROCK IS BEGINNING TO DIVE INTO THE RIVER VALLEY. BEDROCK WAS ENCOUNTERED IN BORING B-007 AT A DEPTH OF 9.5 FEET (AT ELEVATION 756.3 FEET), AND WAS NOT ENCOUNTERED IN BORING B-006 BEFORE THE COMPLETION DEPTH OF 10.0 FEET (ELEVATION 754.5 FEET).

FREE WATER WAS NOT ENCOUNTERED IN ANY OF THE PROJECT BORINGS. MOISTURE CONTENTS WERE BELOW THE PLASTIC LIMITS FOR ALL ENCOUNTERED NATURAL SOIL MATERIALS. DURING BEDROCK CORING, FROM 90% TO 100% LOSS OF DRILLING FLUID WAS REPORTED.

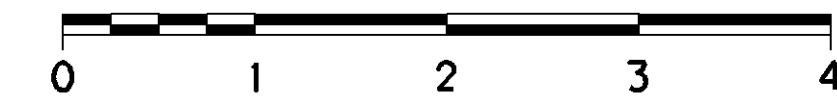
AVAILABLE INFORMATION

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

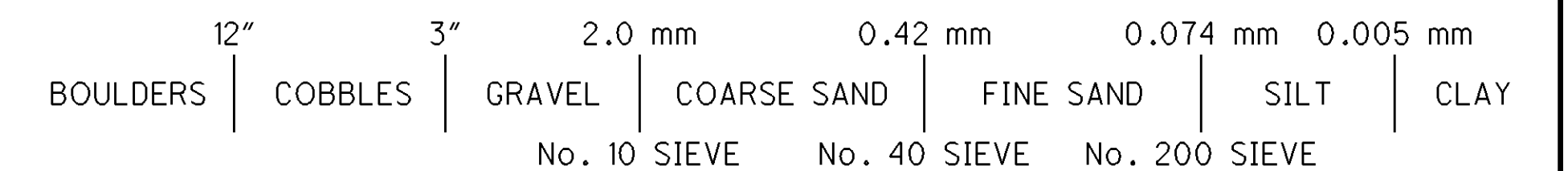
LEGEND		ODOT CLASS	CLASSIFIED MECH./VISUAL	
	GRAVEL AND/OR STONE FRAGMENTS	A-1-a (0)	2	-
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b (0)	2	2
	GR AND/OR ST FRAGS WITH SAND & SILT	A-2-4 (0)	10	1
	GR AND/OR ST FRAGS WITH SAND, SILT & CLAY	A-2-6 (0)	1	-
	SANDY SILT	A-4a (1)	4	-
	SILT AND CLAY	A-6a (3)	1	-
		TOTAL	20	3
	SHALE	VISUAL		
	SHALE, HIGHLY WEATHERED	VISUAL		
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
	BORING LOCATION - PLAN VIEW			
	DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
N_{60}	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.			
WC	INDICATES WATER CONTENT IN PERCENT.			
NP	INDICATES A NON-PLASTIC SAMPLE.			
ROD	INDICATES ROCK QUALITY DESIGNATION.			
TR	INDICATES TOP OF ROCK.			



LOCATION MAP
SCALE IN MILES

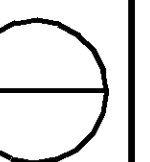


PARTICLE SIZE DEFINITIONS



RECON. - ABCD 02/12/07
 DRILLING - DML 02/12-27/07
 DRAWN - AP 08/07
 REVIEWED - ABCD 08/29/07

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SUMMARY OF SOIL TEST DATA

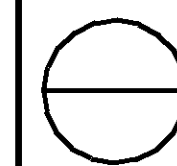
SR 315

STATION & OFFSET	FROM	TO	SAMPLE TYPE	% REC	% AGG	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS
B-006 93+00, 60.0 LT	01.0	02.0		100	53	22	9	13	3	NP	NP	NP	7	A-1-b(0)
	02.0	02.5		80	31	16	14	25	14	26	19	7	13	A-4a(1)
	02.5	04.0		100	38	15	9	24	14	26	18	8	13	A-4a(1)
	04.0	05.5	AUGER	-	56	9	8	17	10	28	18	10	8	A-2-4(0)
	06.0	07.5		100	39	21	15	19	6	27	18	9	15	A-2-4(0)
	08.5	10.0		47	27	18	17	29	9	27	19	8	16	A-4a(1)
B-007 95+50, 60.0 LT	01.0	02.0		100	55	19	9	14	3	NP	NP	NP	8	A-1-b(0)
	02.0	02.5		60	30	12	11	27	20	28	18	10	15	A-4a(2)
	02.5	04.0		100	52	16	9	14	9	28	19	9	13	A-2-4(0)
	04.0	05.5		100	44	15	9	19	13	32	21	11	16	A-2-6(0)
	06.0	07.5		53	58	12	8	15	7	27	18	9	15	A-2-4(0)
	08.5	09.5		100	45	18	11	19	7	32	23	9	17	A-2-4(0)
	09.5	10.0		100	SHALE, BROWN, HIGHLY WEATHERED								12	VISUAL

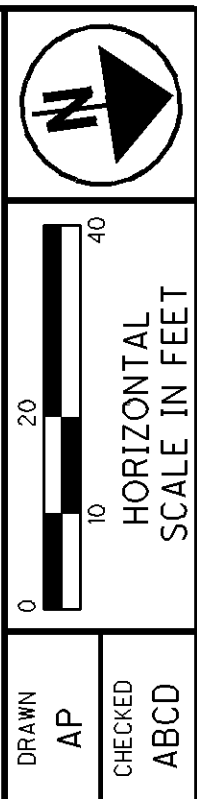
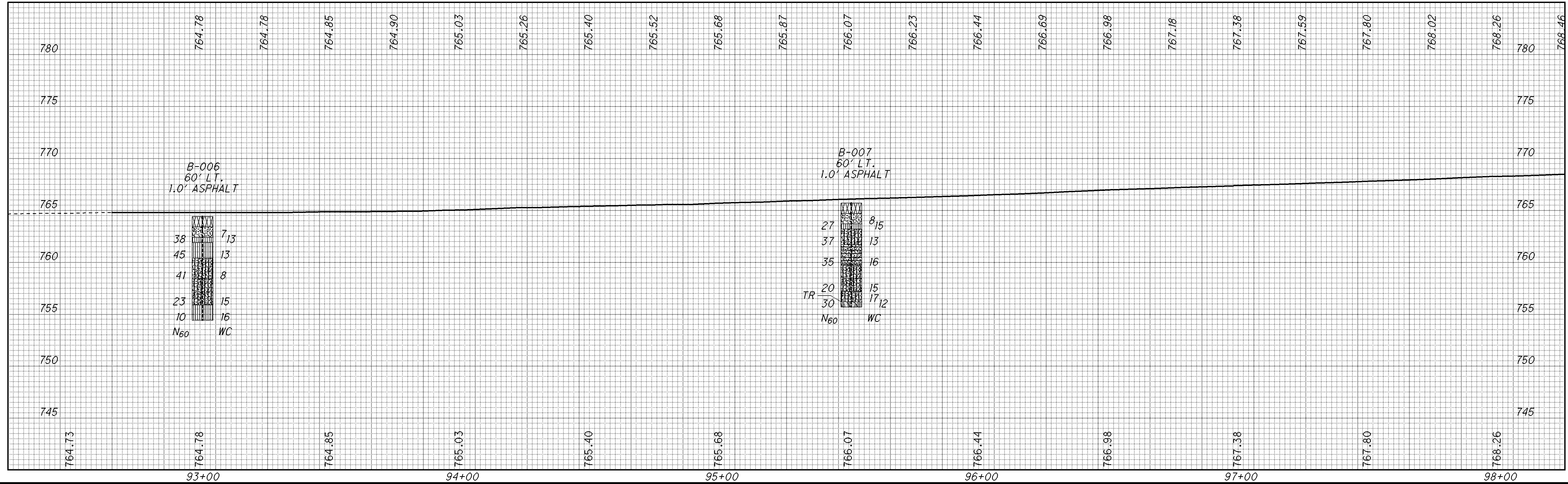
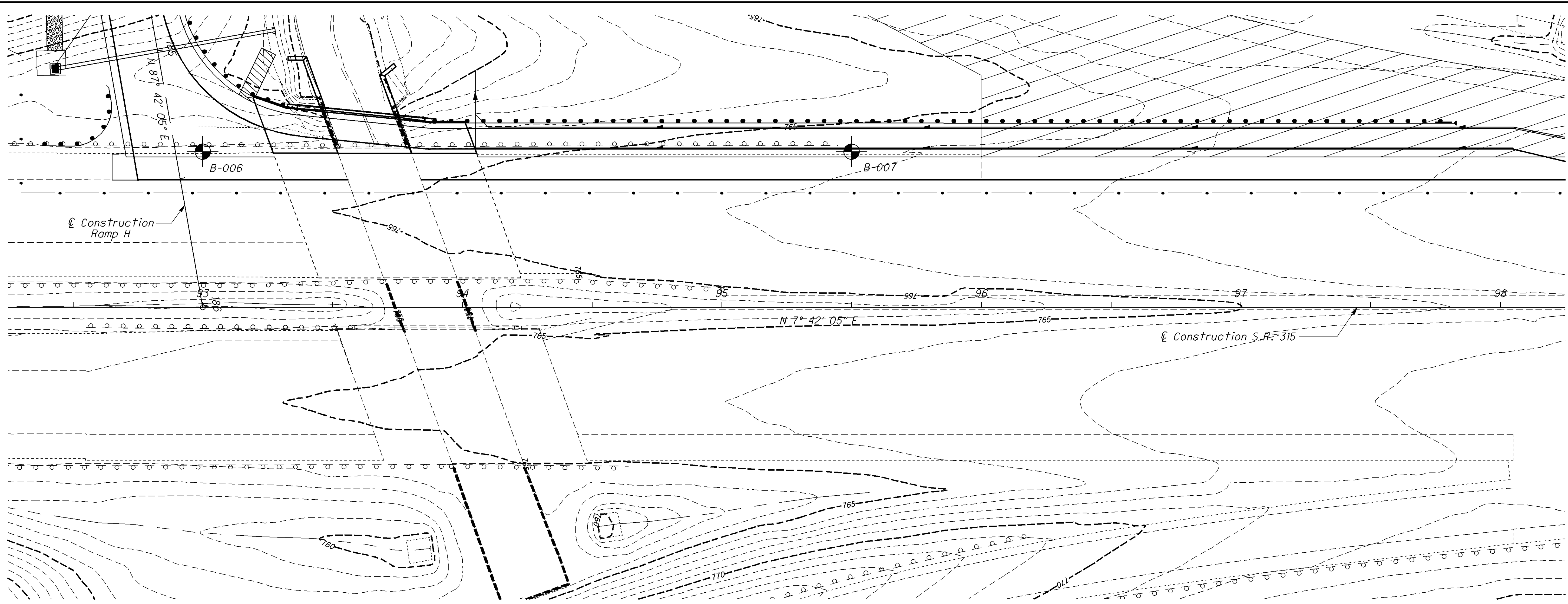
SUMMARY OF SOIL TEST DATA

RAMP H

STATION & OFFSET	FROM	TO	SAMPLE TYPE	% REC	% AGG	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS
B-001 180+00, 20.0 RT	01.0	01.3		100	VERY DENSE BROWN AND BLACK GRAVEL WITH SAND, SOME ASPHALT FRAGMENTS, TRACE SILT, DRY								2	VISUAL
	02.5	02.7		100	SHALE, GRAY W/ BROWN & BLACK, WEATHERED, WEAK, FRACTURED								7	VISUAL
B-002 182+00, 20.0 RT	01.0	01.3		100	VERY DENSE, GR & BK W/ BR, GRAVEL WITH SAND, SOME ASPHALT FRGS, TR SILT, DRY								2	VISUAL
	01.0	02.5		67	44	16	10	20	10	29	21	8	8	A-2-4(0)
B-003 183+25, 60.0 RT	03.5	05.0		60	66	10	6	13	5	31	22	9	19	A-2-4(0)
	06.0	07.5		53	49	17	9	16	9	NP	22	NP	16	A-2-4 (VISUAL)
	08.5	08.8		100	SHALE, GRAY, WEATHERED, WEAK, FRACTURED								4	VISUAL
	01.0	02.5		100	64	15	7	10	4	NP	NP	NP	16	A-1-a(0)
B-004 184+00, 10.0 RT	03.5	05.0		53	63	17	7	10	3	26	19	7	5	A-2-4(0)
	06.0	07.5		53	70	12	6	10	2	29	21	8	16	A-2-4(0)
	08.5	09.5		100	SHALE, GRAY AND BROWN, HIGHLY WEATHERED, WEAK, FRACTURED								6	VISUAL
	01.0	02.5		100	53	14	9	17	7	31	22	9	19	A-2-4(0)
B-005 184+50, 50.0 RT	03.5	05.0		80	62	16	7	13	2	26	21	5	14	A-1-a(0)
	06.0	07.5		67	26	14	11	31	18	34	22	12	21	A-6a(3)
	08.5	09.5		100	SHALE, DARK BROWN, HIGHLY WEATHERED, WEAK, FRACTURED								11	VISUAL



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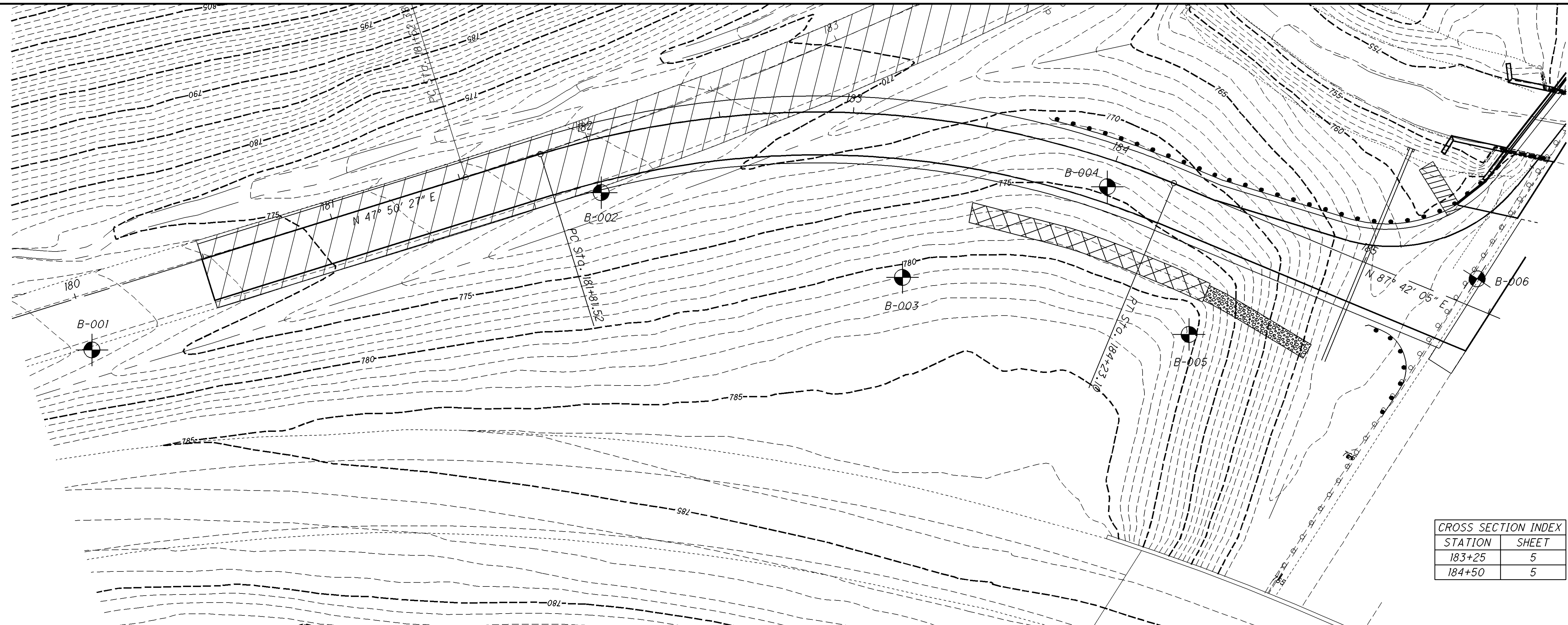


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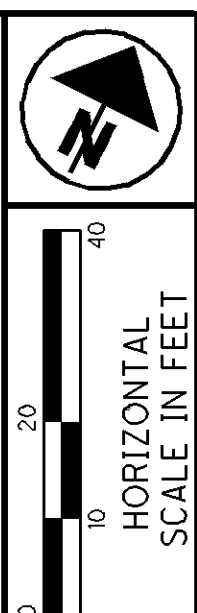
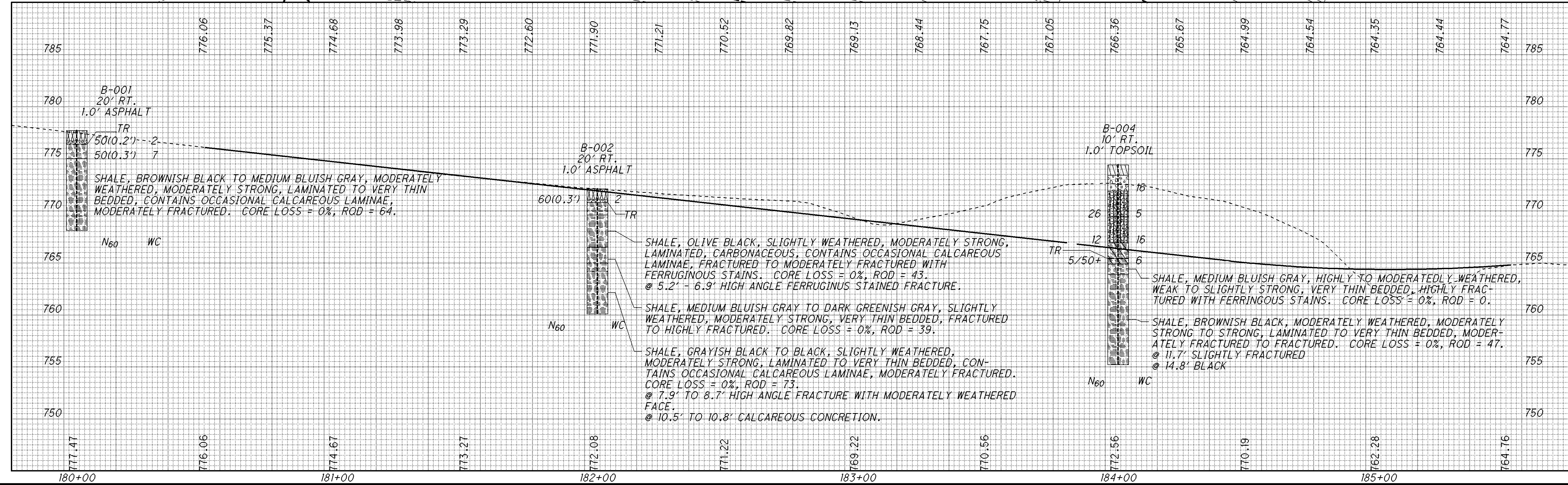
SOIL PROFILE S.R. 315
STA. 92+50 TO STA. 98+00

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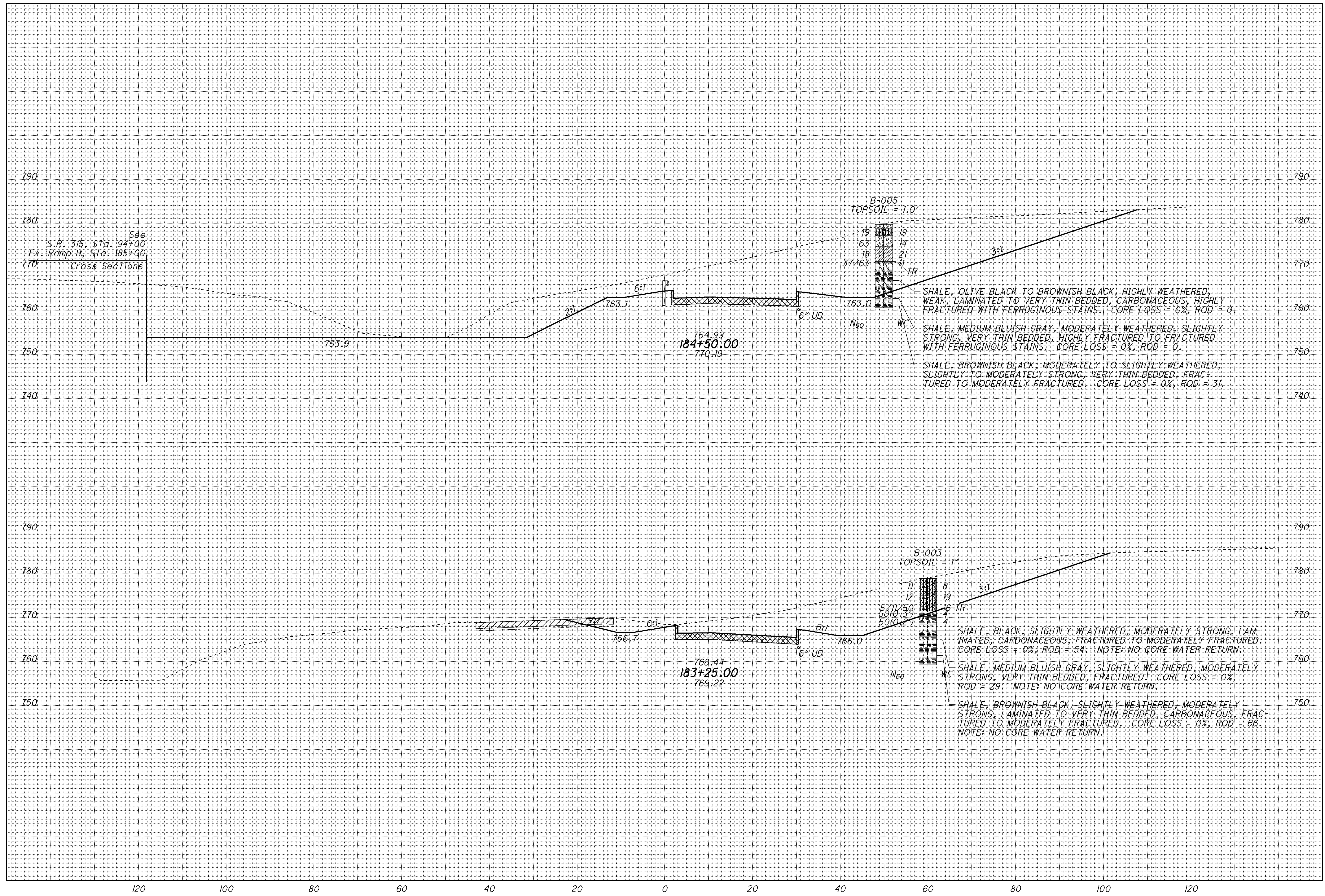
CROSS SECTION INDEX	
STATION	SHEET
183+25	5
184+50	5



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**SOIL PROFILE RAMP H
STA. 180+00 TO STA. 185+50**

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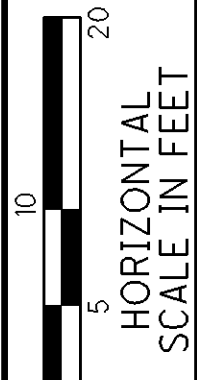
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SOIL PROFILE RAMP H
CROSS SECTIONS STA. 183+25 & STA. 184+50

FRA - 315 - 12.18