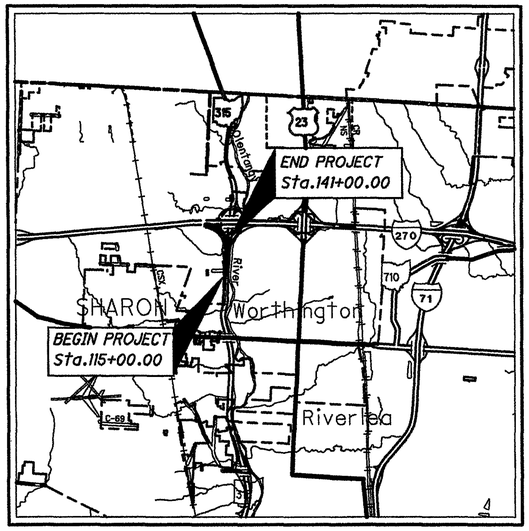

LOCATION MAP

LATITUDE: N40°06'44" LONGITUDE: W83°01'35"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE & DIVIDED HIGHWAY

UNDIVIDED STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2003)	92,150
DESIGN YEAR ADT (2028)	119,230
DESIGN HOURLY VOLUME (2028)	9,870
DIRECTIONAL DISTRIBUTION	50%
TRUCKS (24 HOUR B&C)	3.5%
T_D	5%
DESIGN SPEED	65 MPH
LEGAL SPEED	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN OTHER FREEWAY AND EXPRESSWAY
NHS PROJECT	YES

DESIGN EXCEPTIONS	APPROVAL DATE	SHT. NUMBERS
MEDIAN SHOULDER WIDTH	5/25/07	67,86,88,90,92,94,96

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

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

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

PLAN PREPARED BY:

HNTB OHIO, INC.
330 WEST SPRING STREET, SUITE 310
COLUMBUS, OHIO 43215

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

FRA-315-11.37

CITY OF COLUMBUS
CITY OF WORTHINGTON
SHARON TOWNSHIP
FRANKLIN COUNTY

INDEX OF SHEETS:

SHEETS 151, 153, 154 OMITTED FROM PLAN SET

PROJECT DESCRIPTION

RECONSTRUCTION OF SR 315 SOUTHBOUND, AND PORTIONS OF RAMPS 315A AND 315C. THE PROJECT INCLUDES NEW PAVEMENT FOR SOUTHBOUND S.R. 315, AND PORTIONS OF RAMPS 315A AND 315C.

PROJECT EARTH DISTURBED AREA:	10.29 ACRES
ESTIMATED CONTRACTOR EARTH DISTRUBED AREA:	0.47 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	10.76 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.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR RAMPS 315A AND 315C, AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEETS 25, 25A, 25B, 26 & 26A. PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (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.

ENGINEERS SEAL:

STATE OF OHIO
ZOLTAN S. SZABO
E - 65985
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Zoltan S. Szabo
DATE: 9/14/07

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	7/16/04	HW-2.1	4/21/06	MT-102.20	9/05/06	TC-82.10	4/19/02				
		HW-2.2	4/21/06	MT-102.30	9/05/06						
CB-3.2	7/15/05			MT-105.10	10/18/02						
		MH-1.2	1/20/06	MT-105.11	10/18/02						
DM-1.1	4/21/06										
DM-1.2	10/21/05	RM-4.2	10/20/06	TC-41.10	1/19/01						
DM-1.4	4/21/06	RM-4.5	1/19/07	TC-41.20	1/19/01						
DM-4.3	7/19/02	RM-4.6	1/16/04	TC-41.30	1/19/07						
DM-4.4	7/19/02			TC-42.10	1/19/07						
		MT-35.10	4/20/01	TC-42.20	7/16/04						
GR-1.1	7/16/04	MT-95.30	9/05/06	TC-52.10	1/19/07						
GR-2.1	1/16/04	MT-95.40	10/20/06	TC-52.20	1/19/07						
GR-3.1	1/19/07	MT-101.20	10/18/02	TC-65.10	1/21/05						
GR-4.2	1/19/07	MT-101.60	9/20/06	TC-65.11	1/21/05						
GR-5.3	1/16/04	MT-101.70	10/18/02	TC-72.20	1/21/05						
				TC-73.10	1/19/01						

SUPPLEMENTAL SPECIFICATIONS	
800	10/19/07
802	4/15/05
832	4/25/06

SPECIAL PROVISIONS

PLANS CERTIFIED BY:

NAME Gary L. Harrington DATE 09.14.07
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 6

APPROVED Thomas J. Wiatt
DATE 9-14-07 DISTRICT DEPUTY DIRECTOR

APPROVED James P. Bradley
DATE 9-25-07 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E060(881)

PID NO. 81738

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

FRA-315-11.37

1/163

FRA - SR-315-11.37
080063 PID - 81738
Dist 6 1/25/2008

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SCHEMATIC PLAN

FRA-315-11.37

HORIZONTAL SCALE IN FEET: 0, 100, 200, 400

CURVE 1
P.I. STA. 104+92.99
Δ = 2° 22' 08" (RT)
Dc = 0° 28' 00"
R = 12,280.02'
T = 253.91'
L = 507.74'
E = 2.62'
eMax = NC

CURVE 2
P.I. STA. 125+45.16
Δ = 4° 47' 54" (RT)
Dc = 0° 28' 00"
R = 12,274.67'
T = 514.30'
L = 1,027.99'
E = 10.77'
eMax = NC

CURVE 3
P.I. STA. 105+18.65
Δ = 41° 29' 29" (RT)
Dc = 5° 30' 00"
R = 1,041.74'
Ls1 = 420.00'
θ s1 = 11° 33' 00"
LT1 = 280.60'
ST1 = 140.54'
x1 = 418.30'
y1 = 28.14'
k1 = 209.72'
p1 = 7.05'
Ls2 = 310.00'
θ s2 = 8° 31' 30"
LT2 = 206.91'
ST2 = 103.55'
x2 = 309.31'
y2 = 15.35'
k2 = 154.89'
p2 = 3.84'
Δ c = 21° 24' 59" (RT)
Lc = 389.39'
T1 = 602.14'
T2 = 555.77'
Es = 78.06'
eMax = 0.058

CURVE 4
P.I. STA. 165+14.02
Δ = 169° 44' 43" (LT)
Dc = 7° 00' 00"
R = 818.51'
Δc = 153° 38' 43" (LT)
Lc = 2,194.93'
Es = 8,370.69'
eMax = 0.058

CURVE 5
P.I. STA. 845+75.90
Δ = 36° 33' 19" (RT)
Dc = 7° 00' 00"
R = 818.51'
T = 270.34'
L = 522.22'
E = 43.49'
eMax = 0.058

CURVE 6*
P.I. STA. 241+27.06
Δ = 77° 32' 25" (LT)
Dc = 8° 00' 00"
R = 716.20'
Ls = 150.00'
θs = 6° 00' 00"
LT = 100.06'
ST = 50.05'
x = 149.84'
y = 5.23'
k = 74.97'
p = 1.31'
Δc = 65° 32' 25" (LT)
Lc = 819.25'
Ts = 651.25'
Es = 204.08'

CURVE 7*
P.I. STA. 839+40.37
Δ = 9° 29' 24" (RT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 317.06'
L = 632.67'
E = 13.14'

CURVE 8*
P.I. STA. 844+93.96
Δ = 36° 45' 39" (RT)
Dc = 8° 00' 00"
R = 716.20'
T = 237.98'
L = 459.51'
E = 38.50'

CURVE 9*
P.I. STA. 851+02.31
Δ = 6° 00' 00" (RT)
Dc = 4° 00' 00"
R = 1,432.39'
T = 75.07'
L = 150.00'
E = 1.97'

MONUMENTS

REF.	STA.	OFFSET	NORTHING	EASTING	ELEVATION	REMARK
A	134+98.15	98.63' RT.	768299.51	1818780.68	760.62	BM
B	125+51.10	101.73' RT.	767363.53	1818667.53	757.14	BM
C	132+79.75	95.18' LT.	768109.11	1818559.31	758.58	CNPT
D	131+75.58	157.99' RT.	767971.90	1818796.21	754.12	CNPT
E	157+73.54	14.01' RT.	770565.67	1819002.29	764.14	MAGS
F	120+21.53	172.98' LT.	766853.65	1818355.53	761.03	CNPT
G	108+58.87	153.13' LT.	765691.48	1818316.20	758.78	CNPT SPIKE
H	155+69.44	55.85' LT.	770357.80	1819016.35	763.97	MAGS
I	126+52.88	74.33' LT.	767481.84	1818502.19	760.83	MAGS
J	120+97.83	178.35' LT.	766931.08	1818354.29	761.97	MAGS
K	117+71.59	102.82' LT.	766600.46	1818412.89	761.11	MAGS
L	110+86.87	112.44' LT.	765917.12	1818368.44	758.20	MAGS

* EXISTING CURVE GEOMETRY DETAIL PROVIDED FOR REFERENCE

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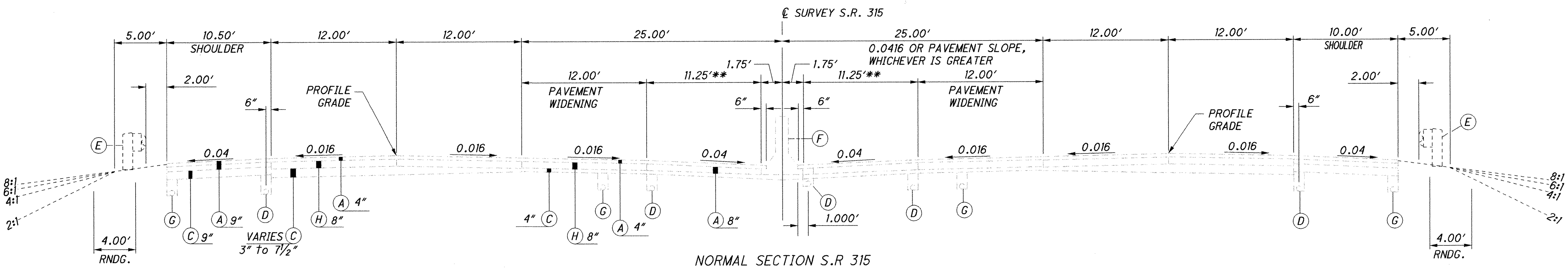
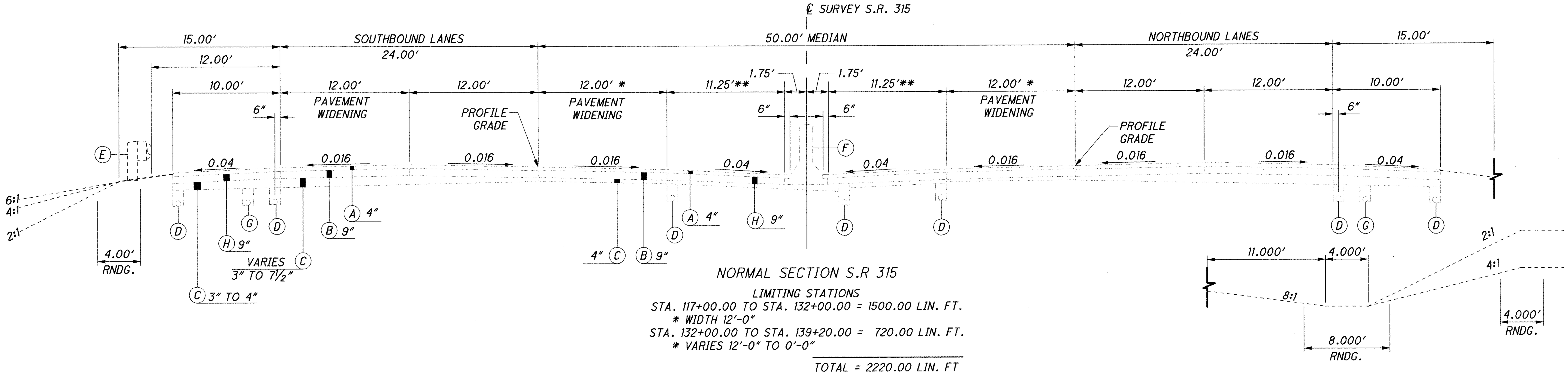
EXISTING TYPICAL SECTIONS - S.R. 315



NORMAL SECTION S.R 315

LIMITING STATIONS
STA. 96+00.00 TO STA. 117+00.00 = 2100.00 LIN. FT.
TOTAL = 2100.00 LIN. FT

** - VARIES, 23'-3" TO 11'-3" STA. 66+10 TO STA. 75+00



NORMAL SECTION S.R 315

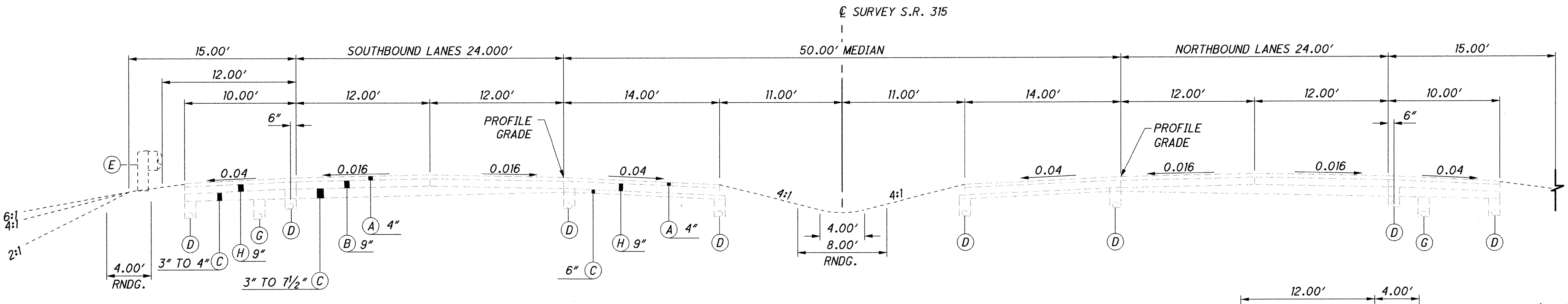
LIMITING STATIONS
STA. 117+00.00 TO STA. 132+00.00 = 1500.00 LIN. FT.
* WIDTH 12'-0"
STA. 132+00.00 TO STA. 139+20.00 = 720.00 LIN. FT.
* VARIES 12'-0" TO 0'-0"
TOTAL = 2220.00 LIN. FT

EXISTING LEGEND

- (A) ASPHALT CONCRETE
- (B) REINFORCED CONCRETE BASE
- (C) AGGREGATE BASE
- (D) 4" UNDERDRAIN
- (E) GUARDRAIL
- (F) CONCRETE BARRIER
- (G) 6" UNDERDRAIN
- (H) PLAIN CONCRETE BASE
- (I) PREFABRICATED EDGE UNDERDRAIN

CALCULATED BLM
CHECKED ZSS

FRA-315-11.37



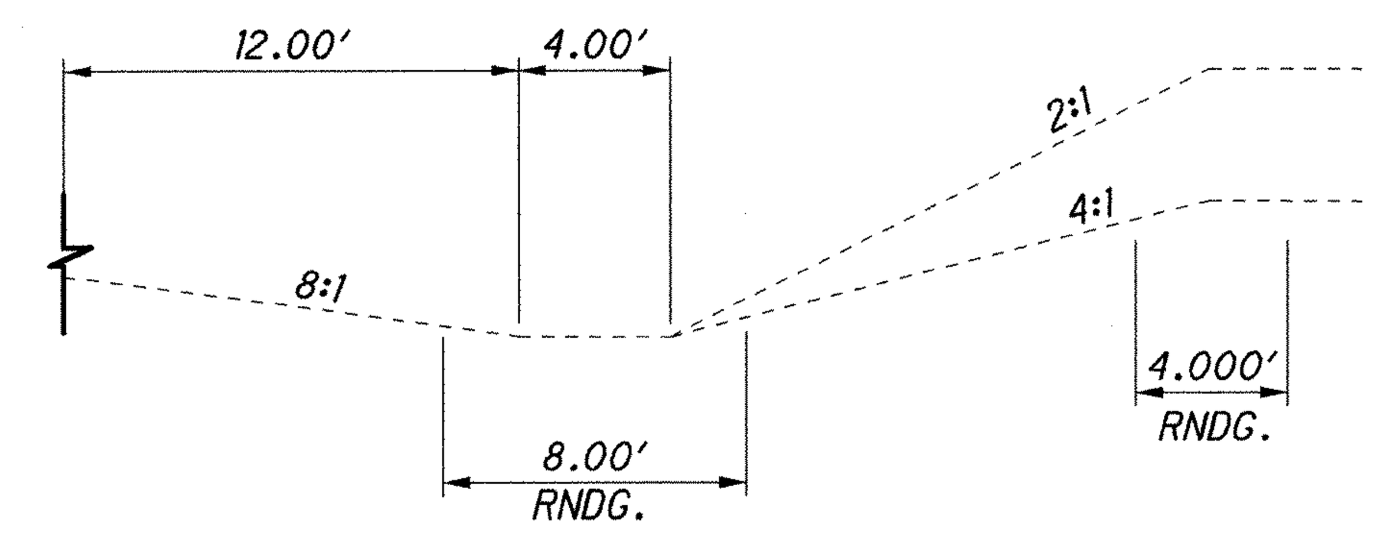
NORMAL SECTION S.R 315

LIMITING STATIONS

STA. 139+20.00 TO STA. 159+03.90 LT. = 1983.90 LIN. FT.

STR. NO. FRA-315-1220 WILSON RUN

TOTAL = 1983.90 LIN. FT

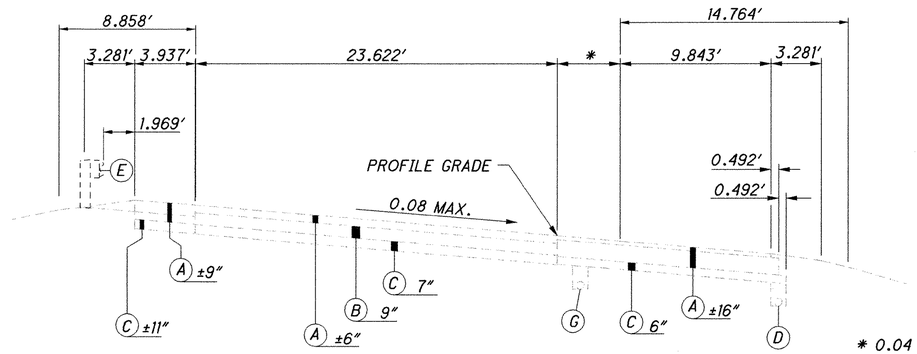


NOTE:
FOR LEGEND, SEE EXISTING TYPICALS SHEET NO. 3

CALCULATED BLM
CHECKED ZSS

EXISTING TYPICAL SECTIONS - S.R. 315

FRA-315-11.37

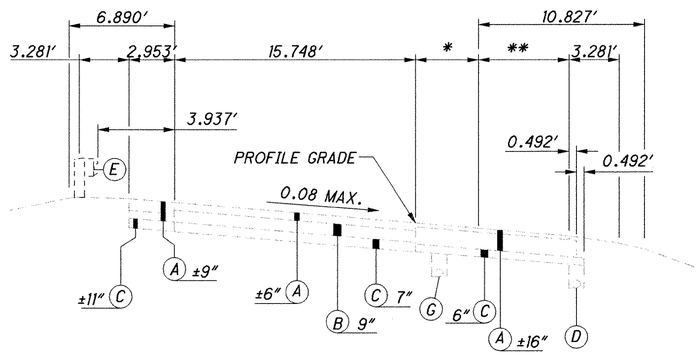


RAMP WIDENING AND RESURFACING

RAMP A, SR 315

* 0.04 OR RATE OF SUPER, IF GREATER.

* -VARIES 0′-0″ to 4.104′



RAMP WIDENING AND RESURFACING

RAMP C, - SR 315

* - VARIES 0′-0″ to 4.291′
** - VARIES 3.937′ to 7.874′

NOTE:
FOR LEGEND, SEE EXISTING TYPICALS SHEET NO. 3

CALCULATED BLM
CHECKED ZSS

EXISTING TYPICAL SECTIONS
RAMPS 315-A AND 315-C

FRA-315-11.37

5
163

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PROPOSED LEGEND

(1) ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)

(2) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

(3) ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)

(3A) ITEM 442 - 2½" 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

(7A) ITEM 304 - 9" AGGREGATE BASE

(8) ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN

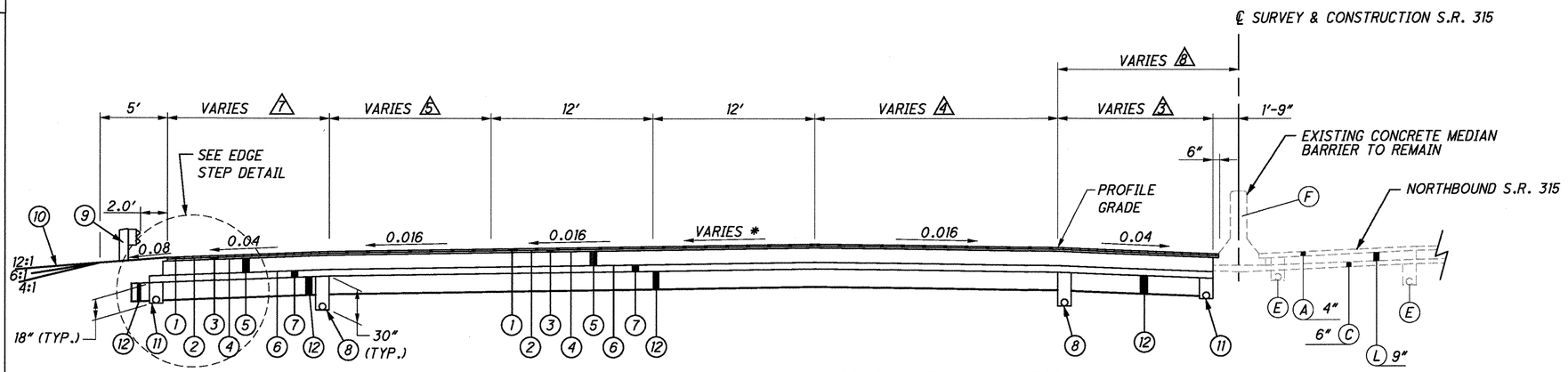
(9) ITEM 606 - GUARDRAIL, TYPE 5

(10) ITEM 659 - SEEDING AND MULCHING

(11) ITEM 605 - 6" BASE PIPE UNDERDRAIN

(12) ITEM 206 - 16" CEMENT STABILIZED SUBGRADE

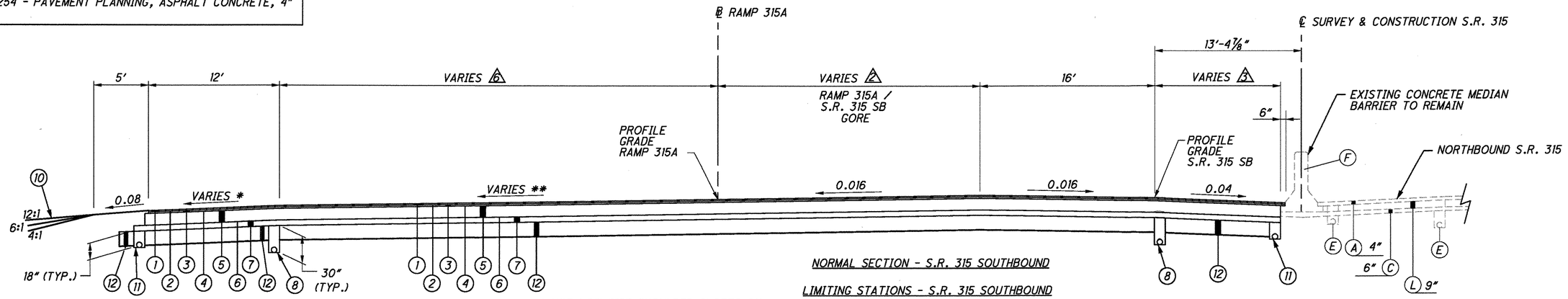
(13) ITEM 254 - PAVEMENT PLANNING, ASPHALT CONCRETE, 4"



* 0.016 TO THE INSIDE FROM STA. 117+20.00 TO STA. 126+86.20
TRANSITION SLOPE FROM 0.016 TO THE INSIDE AT STA. 126+86.20 TO 0.016 TO THE OUTSIDE AT STA. 127+75.67.
0.016 TO THE OUTSIDE FROM STA. 127+75.67 TO STA. 130+75.67.

NORMAL SECTION - S.R. 315 SOUTHBOUND

STA. 115+00.00 TO STA. 130+75.67 = 1575.67'



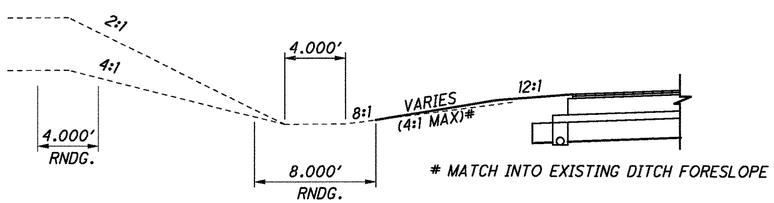
* FOR LOW SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS, SHEET 9

** FOR RAMP PVM'T SLOPES ON SUPERELEVATED SECTIONS SEE RAMP SUPERELEVATION TABLES, SHEETS 147-148

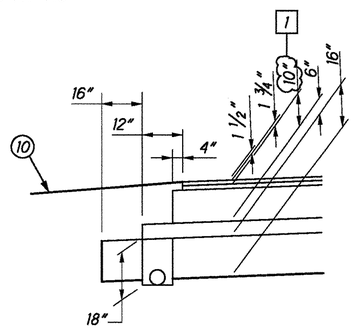
NORMAL SECTION - S.R. 315 SOUTHBOUND

LIMITING STATIONS - S.R. 315 SOUTHBOUND

STA. 130+75.67 TO STA. 135+57.63 = 481.96'



DETAIL - DITCH SECTION



EDGE STEP DETAIL

1 - REVISED 1-15-08 EJK

1. 4' FROM STA. 135+57.63 TO STA. 135+80.00
WIDTH VARIES FROM 4' AT STA. 135+80.00 TO 12' AT STA. 141+00.00

2. GORE WIDTH VARIES FROM 2' AT STA. 130+75.67 TO 24' AT STA. 135+57.63

3. SHOULDER WIDTH VARIES FROM 10'-9" AT STA. 115+00.00 TO 11'-8" AT STA. 116+00.00.
11'-8" FROM STA. 116+00.00 TO STA. 131+09.11
WIDTH VARIES FROM 11'-8" AT STA. 131+09.11 TO 9'-11" AT 131+47.07.
9'-11" FROM STA. 131+47.07 TO STA. 131+85.05.
WIDTH VARIES FROM 9'-11" AT 131+85.05 TO 11'-7" AT STA. 132+18.79.
WIDTH VARIES FROM 11'-7" AT STA. 132+18.79 TO 15'-1" AT STA. 134+46.00
WIDTH VARIES FROM 15'-1" AT STA. 134+46.00 TO 14'-9" AT STA. 134+68.52
WIDTH VARIES FROM 14'-9" AT STA. 134+68.52 TO 15'-4" AT STA. 135+13.55
WIDTH VARIES FROM 15'-4" AT STA. 135+13.55 TO 16'-8" AT STA. 135+43.50.

3. (CONTINUED)
WIDTH VARIES FROM 16'-8" AT STA. 135+43.50 TO 20'-4" AT STA. 137+99.52
WIDTH VARIES FROM 23'-4" AT STA. 137+99.52 TO 23'-9" AT STA. 138+29.66
12' FROM STA. 138+29.66 TO 141+00.00

4. 12' FROM STA. 115+00.00 TO STA. 127+75.67
WIDTH VARIES FROM 12' AT STA. 127+75.67 TO 18' AT STA. 130+75.67

5. WIDTH VARIES FROM 0' AT STA. 115+00.00 TO 12' AT STA. 123+45.00
12' FROM STA. 123+45.00 TO STA. 130+75.67

6. 36' FROM STA. 130+75.67 TO STA. 132+26.39
WIDTH VARIES FROM 36' AT STA. 132+26.39 TO 40.13' AT STA. 135+34.98
40.13' FROM STA. 135+34.98 TO STA. 135+87.63

7. WIDTH VARIES FROM 10' AT STA. 115+00.00 TO 12' AT STA. 116+10.00.
12' FROM STA. 116+10.00 TO STA. 130+75.67

8. WIDTH VARIES FROM 13'-0" AT STA. 115+00.00 TO 13'-4⅛" AT STA. 130+75.67

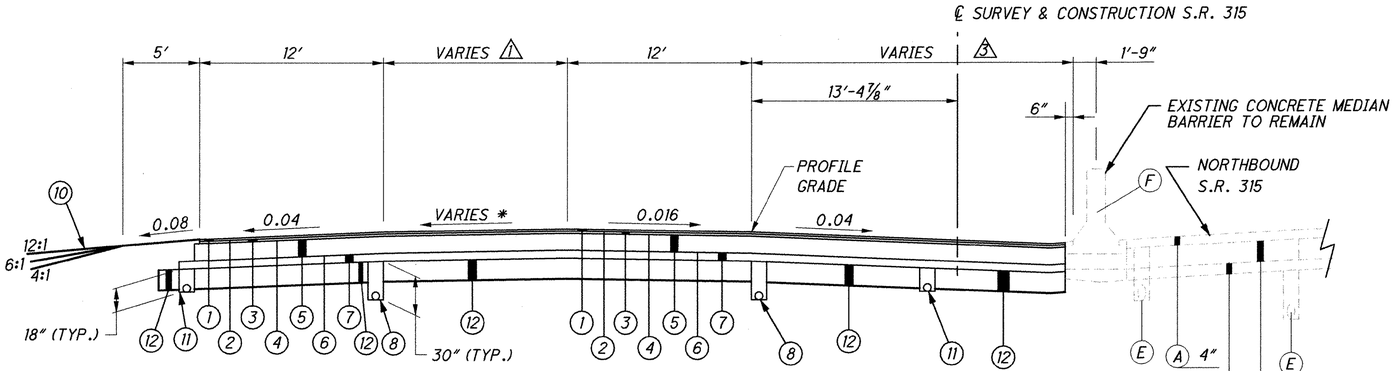
FOR EXISTING PAVEMENT LEGEND SEE SHEET 3.

CALCULATED BLM CHECKED ZSS

S.R. 315 SOUTHBOUND TYPICAL SECTIONS

FRA-315-11.37

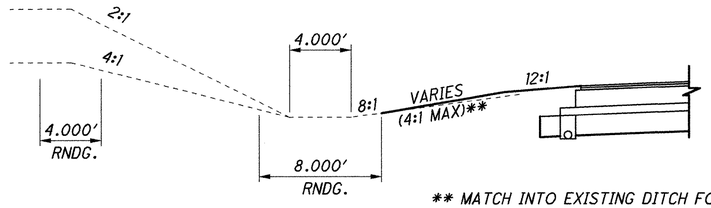
PROPOSED LEGEND	
(1)	ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
(2)	ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
(3)	ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
(3A)	ITEM 442 - 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
(4)	ITEM 407 - TACK COAT
(5)	ITEM 302 - 10" ASPHALT CONCRETE BASE, PG64-22
(6)	ITEM 408 - PRIME COAT
(7)	ITEM 304 - 6" AGGREGATE BASE
(7A)	ITEM 304 - 9" AGGREGATE BASE
(8)	ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
(9)	ITEM 606 - GUARDRAIL, TYPE 5
(10)	ITEM 659 - SEEDING AND MULCHING
(11)	ITEM 605 - 6" BASE PIPE UNDERDRAIN
(12)	ITEM 206 - 16" CEMENT STABILIZED SUBGRADE
(13)	ITEM 254 - PAVEMENT PLANNING, ASPHALT CONCRETE, 4"
(14)*	ITEM 606 - GUARDRAIL, MISC. : TENSIONED CABLE WITH CONCRETE FOUNDATION LINE POST (SOCKETED)



* 0.016 TO THE INSIDE FROM STA. 135+57.63 TO STA. 135+80.00.
TRANSITION SLOPE FROM 0.016 TO THE INSIDE AT STA. 135+80.00 TO 0.016 TO THE OUTSIDE AT STA. 136+80.00.
0.016 TO THE OUTSIDE FROM STA. 136+80.00 TO STA. 138+29.66.

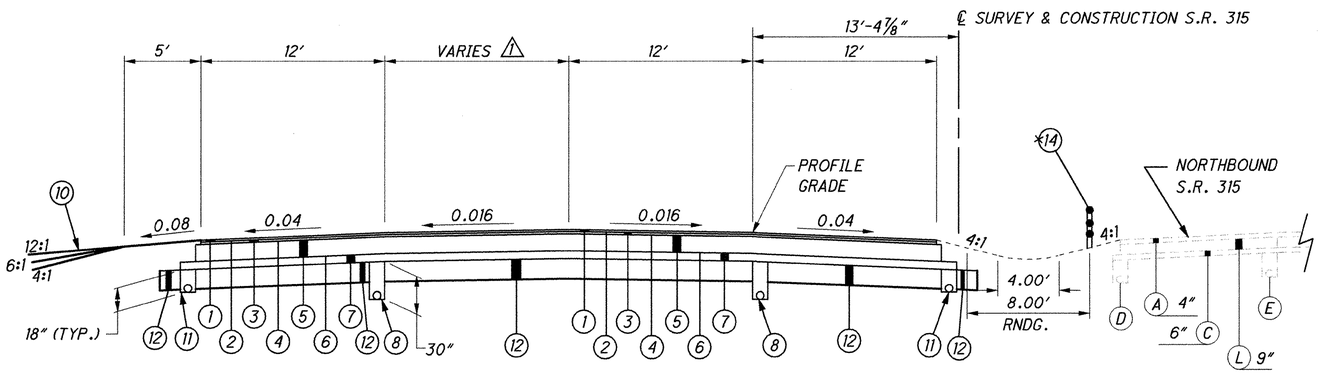
NORMAL SECTION - S.R. 315 SOUTHBOUND

STA. 135+57.63 TO STA. 138+29.66 = 272.03′



** MATCH INTO EXISTING DITCH FORESLOPE

DETAIL - DITCH SECTION



NORMAL SECTION - S.R. 315 SOUTHBOUND

STA. 138+29.66 TO STA. 141+00.00 = 270.34′

1 4′ FROM STA. 135+57.63 TO STA. 135+80.00
WIDTH VARIES FROM 4′ AT STA. 135+80.00 TO 20′ AT STA. 141+00.00

2 GORE WIDTH VARIES FROM 2′ AT STA. 130+75.67 TO 24′ AT STA. 135+57.63

3 SHOULDER WIDTH VARIES FROM 10′-10″ AT STA. 115+00.00 TO 11′-3″ AT STA. 116+00.00.
11′-3″ FROM STA. 116+00.00 TO STA. 131+09.11
WIDTH VARIES FROM 11′-3″ AT STA. 131+09.11 TO 9′-11″ AT 131+47.07.
9′-11″ FROM STA. 131+47.07 TO STA. 131+85.05.
WIDTH VARIES FROM 9′-11″ AT 131+85.05 TO 11′-7″ AT STA. 132+18.79.
WIDTH VARIES FROM 11′-7″ AT STA. 132+18.79 TO 15′-1″ AT STA. 134+46.00
WIDTH VARIES FROM 15′-1″ AT STA. 134+46.00 TO 14′-9″ AT STA. 134+68.52
WIDTH VARIES FROM 14′-9″ AT STA. 134+68.52 TO 15′-4″ AT STA. 135+13.55
WIDTH VARIES FROM 15′-4″ AT STA. 135+13.55 TO 16′-8″ AT STA. 135+43.50.
WIDTH VARIES FROM 16′-8″ AT STA. 135+43.50 TO 20′-4″ AT STA. 137+99.52
WIDTH VARIES FROM 23′-4″ AT STA. 137+99.52 TO 23′-9″ AT STA. 138+29.66
12′ FROM STA. 138+29.66 TO 141+00.00

4 12′ FROM STA. 115+00.00 TO STA. 127+75.67
WIDTH VARIES FROM 12′ AT STA. 127+75.67 TO 18′ AT STA. 130+75.67

5 WIDTH VARIES FROM 0′ AT STA. 115+00.00 TO 12′ AT STA. 123+45.00
12′ FROM STA. 123+45.00 TO STA. 130+75.67

6 36′ FROM STA. 130+75.67 TO STA. 132+26.39
WIDTH VARIES FROM 36′ AT STA. 132+26.39 TO 40.13′ AT STA. 135+34.98
40.13′ FROM STA. 135+34.98 TO STA. 135+87.63

7 WIDTH VARIES FROM 10′ AT STA. 115+00.00 TO 12′ AT STA. 116+10.00.
12′ FROM STA. 116+10.00 TO STA. 130+75.67

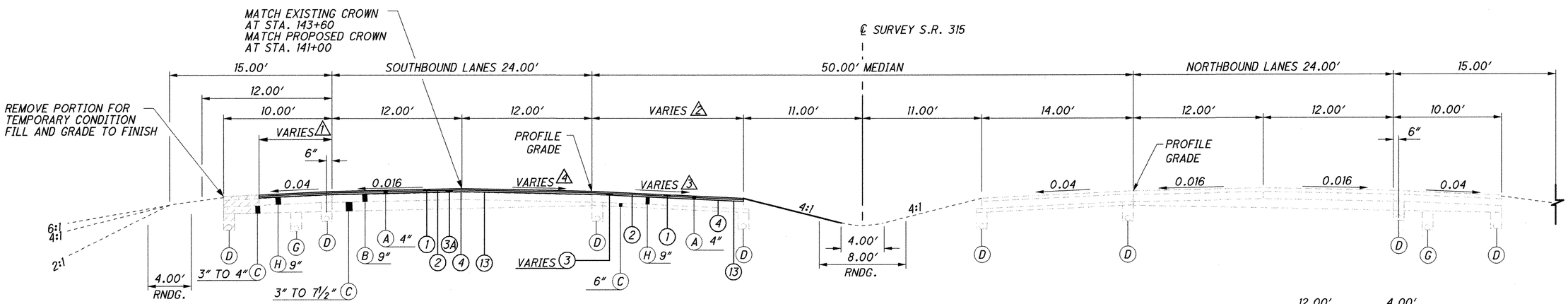
FOR EXISTING PAVEMENT LEGEND SEE SHEET 3.

CALCULATED BLM CHECKED ZSS

S.R. 315 SOUTHBOUND TYPICAL SECTIONS

FRA-315-11.37

PROPOSED LEGEND
(1) ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
(2) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
(3) ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
(3A) ITEM 442 - 2½" 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
(7A) ITEM 304 - 9" AGGREGATE BASE
(8) ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
(9) ITEM 606 - GUARDRAIL, TYPE 5
(10) ITEM 659 - SEEDING AND MULCHING
(11) ITEM 605 - 6" BASE PIPE UNDERDRAIN
(12) ITEM 206 - 16" CEMENT STABILIZED SUBGRADE
(13) ITEM 254 - PAVEMENT PLANNING, ASPHALT CONCRETE, 4"



1 WIDTH VARIES FROM 0.7' AT STA. 141+00.00 TO 10' AT STA. 143+60.00

2 WIDTH VARIES FROM 2' AT STA. 141+00.00 TO 14' AT STA. 143+60.00

3 CROSS SLOPE VARIES FROM 0.016 AT STA. 141+00.00 TO 0.04 AT STA. 143+60.00

4 WARP TO MATCH PROPOSED PAVEMENT AT STA. 141+00.00 AND TO MATCH EXISTING PAVEMENT AT STA. 143+60.00

WIDENING SECTION - S.R. 315

LIMITING STATIONS - S.R. 315

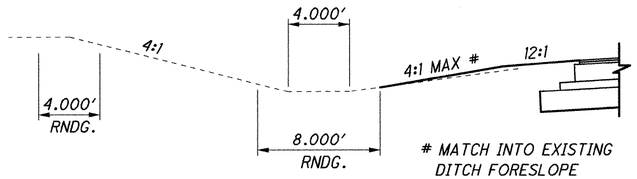
STA. 141+00.00 TO STA. 143+60.00 LT. = 260.00 LIN. FT.

FOR EXISTING PAVEMENT LEGEND SEE SHEET 3.

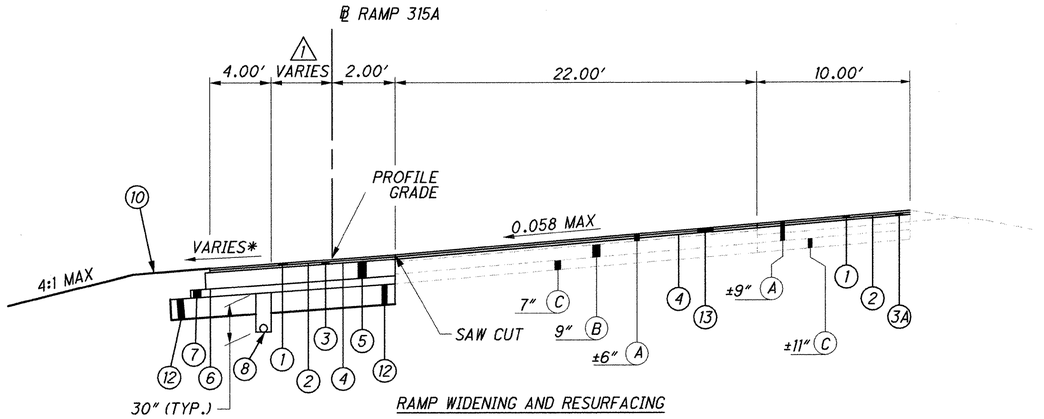
S.R. 315 SOUTHBOUND TYPICAL SECTIONS

CALCULATED BLM CHECKED ZSS

FRA-315-11.37

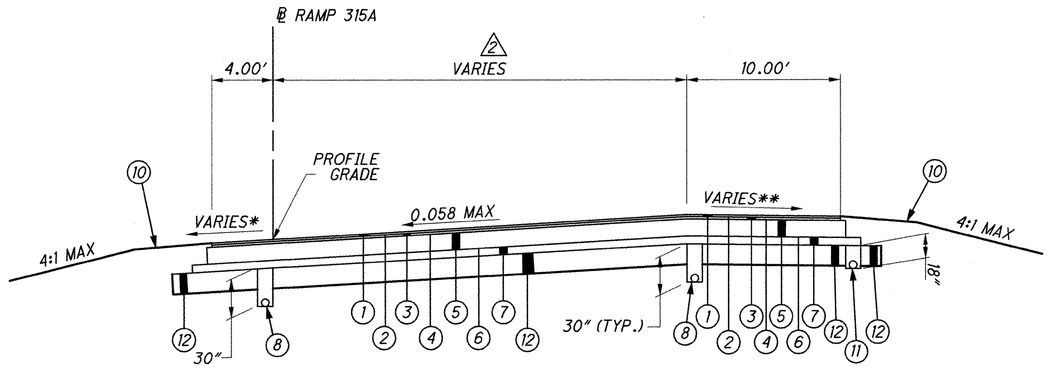


DETAIL - DITCH SECTION



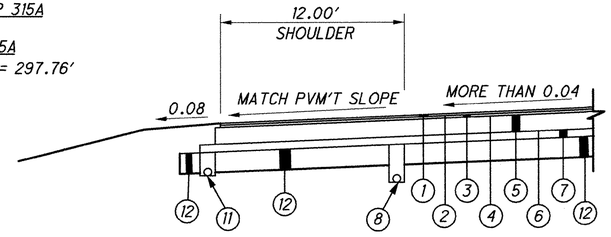
RAMP WIDENING AND RESURFACING

LIMITING STATIONS - RAMP 315A
STA. 92+50.00 TO STA. 93+75.00 = 125.00'



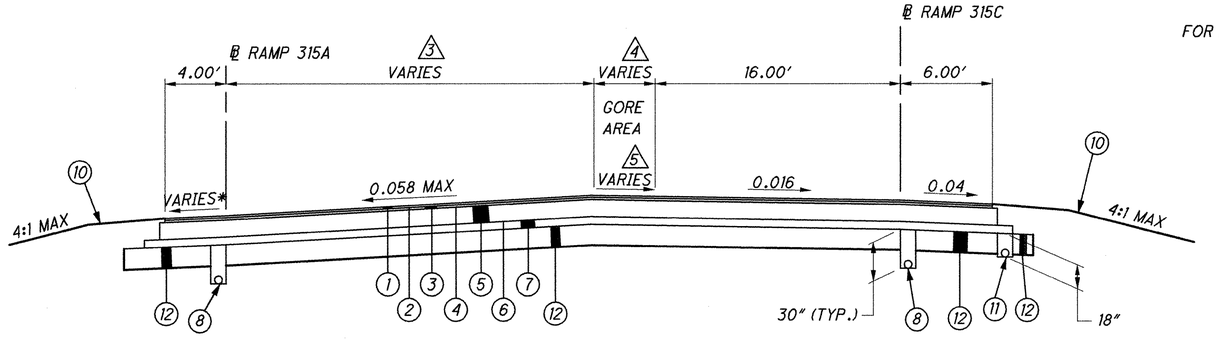
SUPERELEVATED SECTION - RAMP 315A

LIMITING STATIONS - RAMP 315A
STA. 93+75.00 TO STA. 96+72.76 = 297.76'



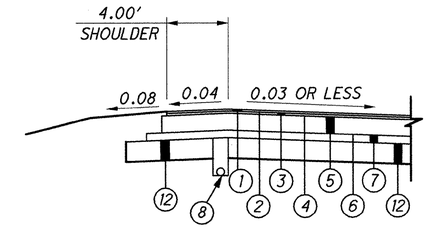
LOW SIDE SHOULDER DETAIL

FOR PVM'T SLOPES OF MORE THAN 0.04



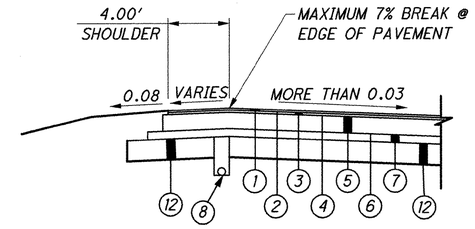
SUPERELEVATED SECTION - RAMP 315A

STA. 96+72.76 TO STA. 98+12.68 = 243.75'



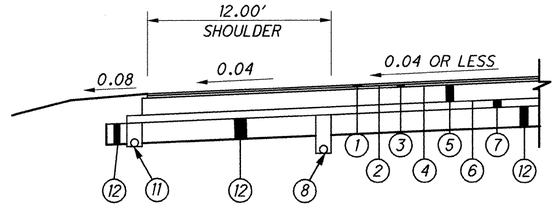
HIGH SIDE SHOULDER DETAIL

FOR PVM'T SLOPES OF 0.03 OR LESS



HIGH SIDE SHOULDER DETAIL

FOR PVM'T SLOPES OF MORE THAN 0.03



LOW SIDE SHOULDER DETAIL

FOR PVM'T SLOPES OF 0.04 OR LESS

1. WIDTH VARIES FROM 0.00' AT STA. 92+50.00 TO 2.78' AT STA. 93+75.00.
2. 27.00' FROM STA. 93+75.00 TO STA. 96+56.51.
   WIDTH VARIES FROM 27.00' AT STA. 96+56.51 TO 26.81' AT STA. 96+72.76.
3. WIDTH VARIES FROM 26.81' AT STA. 96+72.76 TO 25.20' AT STA. 98+12.68.
4. WIDTH VARIES FROM 19.19' AT STA. 96+72.76 TO 4' AT STA. 98+12.68.
5. WIDTH VARIES FROM 0.015 AT STA. 96+72.76 TO 0.016 AT STA. 96+96.40.
   0.016 FROM STA. 96+96.40 TO STA. 98+12.68.

PROPOSED LEGEND	
1	ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
2	ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
3	ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
3A	ITEM 442 - 2½" 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
7A	ITEM 304 - 9" AGGREGATE BASE
8	ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
9	ITEM 606 - GUARDRAIL, TYPE 5
10	ITEM 659 - SEEDING AND MULCHING
11	ITEM 605 - 6" BASE PIPE UNDERDRAIN
12	ITEM 206 - 16" CEMENT STABILIZED SUBGRADE
13	ITEM 254 - PAVEMENT PLANNING, ASPHALT CONCRETE, 4"

* FOR LOW SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS, THIS SHEET

** FOR HIGH SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS, THIS SHEET

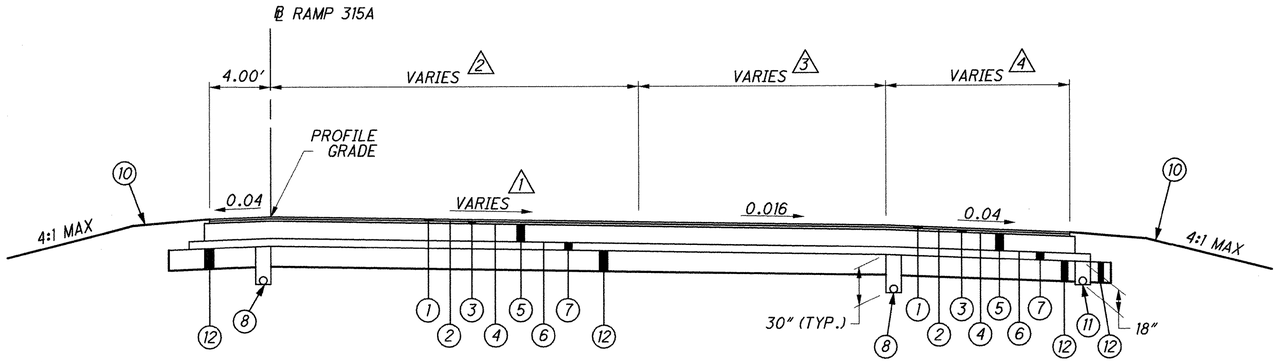
FOR EXISTING PAVEMENT LEGEND SEE SHEET 3.

CALCULATED BLM
CHECKED ZSS

S.R. 315 RAMP A TYPICAL SECTION

FRA-315-11.37

J:\JOBS\397761\Technical\FRA\77319\roadway\sheets\77319GY002_315SB.dgn 14-SEP-2007 5:27PM bmacmillan



SUPERELEVATED SECTION - RAMP 315A

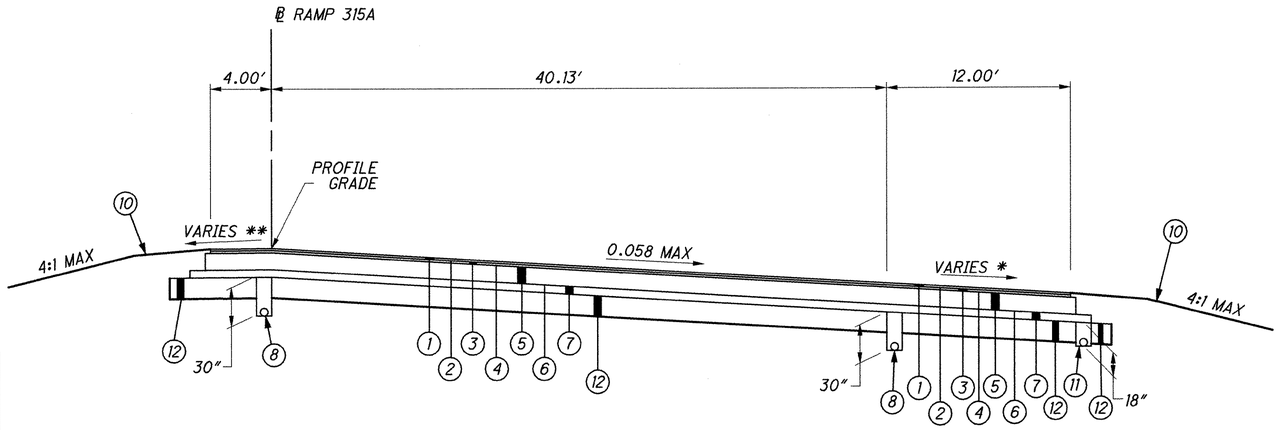
LIMITING STATIONS - RAMP 315A
STA. 98+12.68 TO STA. 100+32.37 = 219.69′

1 VARIES FROM 0.00 AT STA. 99+16.51 TO 0.016 AT STA. 100+32.37.

2 WIDTH VARIES FROM 25.20′ AT STA. 98+12.68 TO 24.13′ AT STA. 99+16.51

3 WIDTH VARIES FROM 20.00′ AT STA. 98+12.68 TO 16.00′ AT STA. 99+16.51

4 6′ FROM STA. 98+12.68 TO STA. 98+29.75.
WIDTH VARIES FROM 6′ AT STA. 98+29.75 TO 12′ AT STA. 99+16.51.
12′ FROM STA. 99+16.51 TO STA. 100+32.37



SUPERELEVATED SECTION - RAMP 315A

LIMITING STATIONS - RAMP 315A
STA. 100+32.37 TO STA. 107+02.96 = 670.59′

* FOR LOW SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS, SEE SHEET 9

** FOR HIGH SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS, SEE SHEET 9

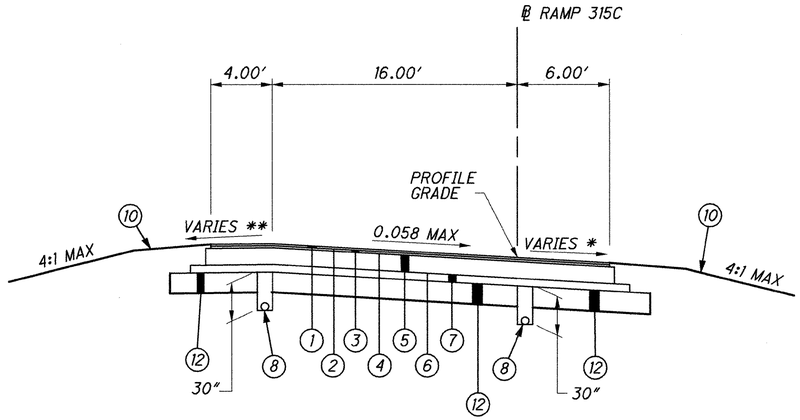
PROPOSED LEGEND
(1) ITEM 442 - 1½″ ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
(2) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
(3) ITEM 442 - 1¾″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
(3A) ITEM 442 - 2½″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
(4) ITEM 407 - TACK COAT
(5) ITEM 302 - 10″ ASPHALT CONCRETE BASE, PG64-22
(6) ITEM 408 - PRIME COAT
(7) ITEM 304 - 6″ AGGREGATE BASE
(7A) ITEM 304 - 9″ AGGREGATE BASE
(8) ITEM 605 - 6″ SHALLOW PIPE UNDERDRAIN
(9) ITEM 606 - GUARDRAIL, TYPE 5
(10) ITEM 659 - SEEDING AND MULCHING
(11) ITEM 605 - 6″ BASE PIPE UNDERDRAIN
(12) ITEM 206 - 16″ CEMENT STABILIZED SUBGRADE
(13) ITEM 254 - PAVEMENT PLANNING, ASPHALT CONCRETE, 4″

FOR EXISTING PAVEMENT LEGEND SEE SHEET 3.

CALCULATED BLM CHECKED ZSS

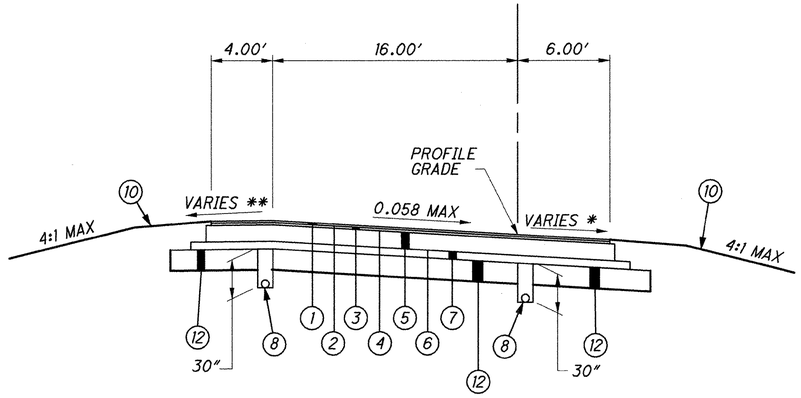
S.R. 315 RAMP A TYPICAL SECTION

FRA-315-11.37



SUPERELEVATED SECTION - RAMP 315C

LIMITING STATIONS - RAMP 315C
STA. 846+20.00 TO STA. 848+27.77 = 207.77'



SUPERELEVATED SECTION - RAMP 315C

LIMITING STATIONS - RAMP 315C
STA. 848+27.77 TO STA. 849+84.21 = 156.44'

* FOR LOW SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS, SEE SHEET 9

** FOR HIGH SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS, SEE SHEET 9

PROPOSED LEGEND	
(1)	ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
(2)	ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
(3)	ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
(3A)	ITEM 442 - 2½" 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
(7A)	ITEM 304 - 9" AGGREGATE BASE
(8)	ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
(9)	ITEM 606 - GUARDRAIL, TYPE 5
(10)	ITEM 659 - SEEDING AND MULCHING
(11)	ITEM 605 - 6" BASE PIPE UNDERDRAIN
(12)	ITEM 206 - 16" CEMENT STABILIZED SUBGRADE
(13)	ITEM 254 - PAVEMENT PLANNING, ASPHALT CONCRETE, 4"

CALCULATED BLM CHECKED ZSS

S.R. 315 RAMP C TYPICAL SECTION

FRA-315-11.37

GENERAL

ROUNDING

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

UTILITIES

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

A.E.P. DISTRIBUTION
ATTN: MR. RICH ECKLE
850 TECH CENTER DRIVE
GAHANNA, OH. 43230
(614) 883-6829
rweckle@aep.com

A.E.P. TRANSMISSION
ATTN: MS. TINA HAIRSTON
700 MORRISON ROAD
GAHANNA, OH. 43230
(614) 552-1801
tlhairston@aep.com

AT&T
ATTN: MR. TOM ZIOMEK
ENGINEERING & CONSTRUCTION
111 NORTH FOURTH STREET - 8TH FLOOR
COLUMBUS, OH. 43215
(614) 223-7162

CITY OF COLUMBUS
DIV. OF POWER & WATER (POWER)
ATTN: MR. ROBERT SCHNEIDER
3500 INDIANOLA AVE.
COLUMBUS, OH. 43214
(614) 645-7534
rschneider@columbus.gov

CITY OF COLUMBUS
DIVISION OF SEWERAGE & DRAINAGE
1250 FAIRWOOD AVE.
COLUMBUS, OH. 43215
(614) 645-7102
FAX: (614) 645-3242

CITY OF COLUMBUS
DIV. OF TELECOMMUNICATIONS
ATTN: MR. DAVE MCNALLY
90 WEST BROAD ST.-3RD FLOO
COLUMBUS, OH. 43215
(614) 645-1501
dwmcnally@columbus.gov

CITY OF COLUMBUS
DIVISION OF POWER & WATER (WATER)
910 DUBLIN ROAD
COLUMBUS, OH. 43215
(614) 645-7677

COLUMBIA GAS OF OHIO
ATTN: MR. ERIC HUNDLEY
920 WEST GOODALE BOULEVARI
COLUMBUS, OH. 43212
(614) 460-2172
ehundley@nisource.com

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.

UTILITY NOTIFICATION

THE CONTRACTOR SHALL GIVE A 48 HR. NOTICE TO OHIO UTILITIES PROTECTION SERVICES (OUPS) BY CALLING 1-800-362-2764 PRIOR TO CONSTRUCTION

UTILITY CLEARANCE

THE CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 3' HORIZONTAL AND 1' VERTICAL FROM THE OUTSIDE DIAMETER OF ALL SEWER LINES.

EXISTING PLANS

EXISTING PLANS ENTITLED FRA-315-5.18; FRA-270-13.86N AND FRA-270-27.400 MAY BE INSPECTED IN THE ODOT DISTRICT 6 OFFICE IN DELAWARE, OHIO.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL COOPERATE WITH CONTRACTORS FOR OTHER ONGOING PROJECTS IN THE AREA IN ACCORDANCE WITH 105.08. WHETHER PROJECTS FOR ODOT OR FOR OTHER ENTITIES.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON NAD83/NAVD88 STATE PLANE COORDINATE DATUM.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVISES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR 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.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN CMS 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF CMS 203.05.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING. SEE PLAN SHEETS 9-11 FOR ADDITIONAL INFORMATION.

ITEM 204 - PROOF ROLLING 18 HOUR.

ADDITIONAL SOIL INFORMATION

THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATIONS SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ADDITIONAL SUBSURFACE INVESTIGATION INFORMATION IS AVAILABLE FROM ODOT DISTRICT 6 OFFICE IN DELAWARE, OHIO.

ROADWAY

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	DWG./ REV. DATE	ODOT APPROVAL DATE
SSS265M	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	DWG./ REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18", OR 12" X 18" IF APPLIED TO A RECTANGULAR ET-2000 'PLUS' EXTRUDER HEAD.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES 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.

CALCULATED BLM
CHECKED ZSS

GENERAL NOTES

FRA-315-11.37

ITEM 606 - IMPACT ATTENUATOR, TYPE 2-98, 70 MPH, 30" WIDTH, (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE FOLLOWING IMPACT ATTENUATORS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED IMPACT ATTENUATORS:

1) A QUADGUARD IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS,INC., 35 EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750) AND DISTRIBUTED BY BALDWIN AND SOURS, INC. (614-851-8800). 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	DWG./ REV. DATE	ODOT APPROVAL DATE
QSTSCVR-U	QUADGUARD SYSTEM WITH TENSION STRUT BACKUP	7/10/96 Rev. A	3/6/98
QSCBCVR-U	QUADGUARD SYSTEM WITH CONCRETE BACKUP	4/28/97 Rev. E	3/6/98
QFTSCVR-U	QUADGUARD SYSTEM W/ 69" & 90" TENSION STRUT BACKUPS	9/5/97 Rev. C	3/6/98
QFCBCVR-U	QUADGUARD SYSTEM W/ 69" & 90" CONCRETE BACKUPS	9/4/97 Rev. D	3/6/98
35-40-20	DEFLECTOR ASSEMBLY, CONCRETE BACKUP RETROFIT, QG	11/14/97 Rev. B	7/31/98
35-40-03	QUADGUARD SYSTEM BACKUP ASSEMBLY, TS, QG	3/19/99 Rev. F	8/27/99
35-40-08 2 SHEETS	QUADGUARD SYSTEM CONCRETE BACKUP, QG ON GRADE & ON EXISTING CONCRETE STRUCTURE	10/14/97 Rev. F 10/14/97 Rev. F	8/27/99 8/27/99
35-40-21 2 SHEETS	TRANSITION ASSEMBLY QUAD-BEAM TO W-BEAM	11/6/97 Rev. B 7/14/97 Rev. A	8/27/99 8/27/99
35-40-22 2 SHEETS	TRANSITION ASSEMBLY QUAD-BEAM TO THRIE-BEAM	7/15/97 Rev. A 7/11/97 Rev. A	8/27/99 8/27/99
35-40-15	QUADGUARD SYSTEM END SHOE ASSSEMBLY, QG	9/11/98 Rev. F	8/27/99
3540211 2 SHEETS	QG TRANSITION ASSEMBLY QUAD-BEAM TO W-BEAM-WIDE	8/29/97 Rev. A 8/29/97 Rev. A	8/27/99 8/27/99
3540221 2 SHEETS	QG TRANSITION ASSEMBLY QUAD-BEAM TO THRIE-BEAM-WIDE Rev. A	8/29/97 Rev. A	8/27/99 8/27/99
3540498	QG SYSTEM NOSE ASSEMBLY, QG, 24, 30, 36, W/BELTING	12/30/98	8/27/99
3540150	QUADGUARD TRANSITION TO VERTICAL CONCRETE BARRIER	9/96	8/27/99

2) 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. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SYSTEM CAPACITY	UNIVERSAL TAU-II CRASH CUSHION SYSTEM CONFIGURATION CHART	10/6/04 V5	10/16/04
A040416	UNIVERSAL TAU-II PARTS LIST	4/22/04	10/16/04
A040420	UNIVERSAL TAU-II FOUNDATION, FLUSH MOUNT BACKSTOP - PCC PAD	4/28/04	10/16/04
A040105	UNIVERSAL TAU-II FOUNDATION, PCB BACKSTOP (Referenced on A040420)	1/07/04	10/16/04
A040108	UNIVERSAL TAU-II FOUNDATION, WIDE FLANGE BACKSTOP*	1/07/04	10/16/04
A040113	FOUNDATION SPECIFICATIONS (Referenced on A040420 and A040108)	1/09/04 Rev. A	10/16/04
B010537	COMPACT BACKSTOP, TAU-II	3/25/02	10/16/04
B040219	FLUSH MOUNT BACKSTOP ASSEMBLY	4/19/04	10/16/04
B040239	APPLICATION, FLUSH MOUNT BACKSTOP (Typical for parallel system, 60 & 70 mph, up to 36"hazard width, connected to SCD RM-4.6)	4/21/04	10/16/04
B033004	WIDE TAU-II 60 MPH, 60" BACKSTOP (Typical for 60 mph combination system)	12/21/03	10/16/04
B033101	WIDE TAU-II 70 MPH, 66" BACKSTOP (Typical for 70 mph combination system)	2/13/04	10/16/04
B033009	WIDE TAU-II 60 MPH, 90" BACKSTOP (Typical for 60 mph flared system)	11/26/03	10/16/04
B033105	WIDE TAU-II 70 MPH, 90" BACKSTOP (Typical for 70 mph flared system)	2/17/04	10/16/04

3) THE TRINITY INDUSTRIES, INC. TRINITY ATTENUATING CRASH CUSHION DISTRIBUTED BY TRINITY INDUSTRIES, INC 1170 N. STATE ST., GIRARD, OHIO 44420, TELEPHONE: (800) 8321-2755. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS455	TRACC Transition to W-beam Median Barrier Plan, Elevation, and Sections		11/02/99
SS456	TRACC Transition to Vertical Concrete Wall Plan, Elevation & Sections		9/07/00
SS497	WideTRACC - Double Flare Wing Extensions		11/22/02
SS699	WideTRACC & TRACC Assembled Modular Base Unit		4/02/03
SS1000	Crash Cushion Attenuating Terminal Plan, Elevation, and Section Assembled Unit, Base and Rip Plate Schematic		3/30/05
SS1001	Crash Cushion Attenuating Terminal Assembled Base Unit		4/22/05
SS1002	Crash Cushion Attenuating Terminal Plan, Elevations, & Sections Shop Assembly Details (2 sheets)		5/11/05
SS1003	Crash Cushion Attenuating Terminal Plan, Elevations and Sections Unidirectional, Direct Attachment (2 sheets)		4/25/05
SS1004	ShorTRACC Crash Cushion Attenuating Terminal Assembled Base Unit		5/16/05
SS1005	ShorTRACC Crash Cushion Attenuating Terminal Shop Assembly Details (2 sheets)		5/24/05
SS1006	ShorTRACC Crash Cushion Attenuating Terminal Unidirectional, Direct Attachment		5/24/05
SS1007	FasTRACC Crash Cushion Attenuating Terminal Assembled Base Unit		6/08/05
SS1008	FasTRACC Crash Cushion Attenuating Terminal Shop Assembly Details (2 sheets)		6/09/05
SS1009	FasTRACC Crash Cushion Attenuating Terminal Unidirectional, Direct Attachment		6/10/05
SS1010	TRACC Crash Cushion Attenuating Terminal 22' Concrete Foundation Plan		4/04/05
SS1013	ShorTRACC Crash Cushion Attenuating Terminal 15' Concrete Foundation Plan		4/04/05
SS1018	58" WideTRAC Double Flare Plan, Elevation, & Sections Shop Assembly Details (3 sheets)		8/08/05
SS1019	58" WideTRAC Double Flare Plan, Elevation, & Sections Unidirectional, Direct Attachment		8/12/05

WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2-98, 70 MPH, 30" WIDTH, (BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR.

DRAINAGE

ITEM 613 - LOW STRENGTH MORTAR BACKFILL

WHENEVER WATER LINES, STORM LINES, SANITARY LINES, CULVERT PIPES, BOX CULVERTS AND/OR BRIDGE REPLACEMENT OR REPAIRS (INCLUDING ABUTMENTS) CROSS PUBLIC ROADWAYS, THE BACKFILL REQUIRED WILL BE ITEM 613, LOW STRENGTH MORTAR, UNLESS OTHERWISE NOTED ON THE PLANS. THE LIMITS OF THE LOW STRENGTH MORTAR BACKFILL SHALL BE FROM BERM TO BERM AND FROM THE FLOW LINE TO THE SUBGRADE.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

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

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

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

CALCULATED BLM CHECKED ZSS

GENERAL NOTES

FRA-315-11.37

REVIEW OF DRAINAGE FACILITIES

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

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

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

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

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER CMS 105.16 AND CMS 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL, PIPE CLEANOUT 400 FT.

POST CONSTRUCTION STORM WATER TREATMENT

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

PRECAST WINGWALLS, HEADWALLS AND FOOTERS

AT THE OPTION OF THE CONTRACTOR, A PRECAST WINGWALL, HEADWALL, OR FOOTER MAY BE FURNISHED PER CMS 602.03, PRECAST STRUCTURES. THE PRECAST OPTION FURNISHED WILL MEET THE CAST-IN-PLACE STRUCTURAL DESIGN LOADINGS, DESIGN HEIGHT, AND DESIGN LENGTH DIMENSIONS.

FULL COMPENSATION FOR THE PRECAST WINGWALL, HEADWALL, OR FOOTER IS THE NUMBER OF CUBIC YARDS OF ITEM 511 OR ITEM 602 OR SUPPLEMENTAL SPECIFICATION 898, AND POUNDS OF ITEM 509 FOR THE CORRESPONDING CAST-IN-PLACE STRUCTURE.

EROSION CONTROL

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	1684 CU. YD.
659, REPAIR SEEDING AND MULCHING	759 SQ. YD.
659, INTER-SEEDING	759 SQ. YD.
659, COMMERCIAL FERTILIZER	2.12 TON
659, LIME	3.13 ACRES
659, WATER	43 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.

PAVEMENT

PART-WIDTH CONSTRUCTION

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

ENVIRONMENTAL

JURISDICTIONAL STREAM

A JURISDICTIONAL STREAM HAS BEEN IDENTIFIED TO THE LEFT OF STATION 108+00 THROUGH 110+00 AND 127+00 THROUGH 129+00 ON SR 315. FILTER FABRIC FENCE SHALL BE PLACED AT THE CONSTRUCTION LIMITS ALONG THE STREAM. UNDER NO CIRCUMSTANCES IS THE CONTRACTOR TO PERFORM ANY WORK OR HAVE ANY EQUIPMENT WITHIN THE LIMITS OF THIS STREAM.

WETLAND AVOIDANCE

A JURISDICTIONAL WETLAND HAS BEEN IDENTIFIED TO THE LEFT OF STATION 130+00, AS SHOWN ON THE SITE PLAN. EVERY EFFORT SHALL BE MADE BY THE ENGINEER AND THE CONTRACTOR TO PRESERVE AND PROTECT THIS WETLAND. AS DETAILED ELSEWHERE IN THE PLANS, FILTER FABRIC FENCE SHALL BE PLACED AT THE CONSTRUCTION LIMITS ALONG THE WETLAND. UNDER NO CIRCUMSTANCES IS THE CONTRACTOR TO PERFORM ANY WORK OR HAVE ANY EQUIPMENT WITHIN THE LIMITS OF THE EXISTING WETLAND.

SCENIC RIVER PLAN NOTES

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. ALL SEDIMENT AND EROSION CONTROLS SHALL HE REMOVED UPON STABILIZATION OF THE PROJECT AREA.

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 THE OLENTANGY RIVER. 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.

IF PAINTING, WELDING, SAND AND/OR WATER BLASTING (CLEANING) IS INCORPORATED AS PART OF THE PROJECT AT OR OVER THE OLENTANGY RIVER, THEN APPROPRIATE APRONS SHALL BE UTILIZED TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT, WELDING SLAG AND/OR SEALANT OVER SPRAY AND OTHER DEBRIS. APRONS SHALL BE UTILIZED ON ALL DECK REPLACEMENT PROJECTS WHEN USING HYDRO-DEMOLITION TECHNIQUES. ALL DEBRIS COLLECTED SHALL BE DISPOSED OF AT AN APPROPRIATE FACILITY ABOVE THE FEMA 100-YEAR FLOOD PLAIN AND NOT WITHIN 1,000 FEET OF THE OLENTANGY RIVER.

INDIANA BAT

ANY UNAVOIDABLE CUTTING OF TREES WITH SUITABLE ROOSTING AND BROOD-REARING HABITAT FOR THE INDIANA BAT (LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES, OR CAVITIES) WILL BE PERFORMED ONLY BEFORE APRIL 15 OR AFTER SEPTEMBER 15 WHEN THE SPECIES WOULD NOT BE USING SUCH HABITATS.

CONTRACTOR'S USE OF ODOT RIGHT-OF-WAY

HIRE AN ECOLOGICAL ENVIRONMENTAL CONSULTANT TO CERTIFY THAT THE PROPOSED BORROW AND WASTE OPERATIONS WILL NOT IMPACT "THE WATERS OF THE UNITED STATES" OR A ISOLATED WETLAND(S) OR TO OBTAIN AN U.S. ARMY CORPS OF ENGINEERS 404 PERMIT AND AN OHIO EPA 401 PERMIT, PER THE REQUIREMENTS OF CONSTRUCTION AND MATERIAL SPECIFICATIONS 105.16.

CALCULATED BLM CHECKED ZSS

GENERAL NOTES

FRA-315-11.37

ITEM 614, MAINTAINING TRAFFIC

TRAFFIC SHALL BE MAINTAINED AS PER THE DETAIL SHEETS AND SPECIFICATIONS AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE OPERATIONS SECTIONS OF THE OHIO MAUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS LATEST REVISION. IN ADDITION, THE FOLLOWING REQUIREMENTS SHALL APPLY:

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.

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.

NOTIFICATION

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT, IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED OF FUTURE LANE CLOSURES AND TRAFFIC CONSTRICTIONS. THEREFORE, THE CONTRACTOR SHALL SUBMIT A WRITTEN SCHEDULE TO THE ENGINEER, RESPONSIBLE SAFETY ENFORCEMENT AGENCIES, AND THE ODOT DISTRICT PUBLIC INFORMATION OFFICE (740-833-8260) INDICATING THE LOCATIONS AND DATES OF LANE CLOSURES AT LEAST THREE DAYS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES. ADDITIONALLY, PROVIDE NOTICE TO THE FOLLOWING INDIVIDUALS:

1. CITY OF WORTHINGTON POLICE DEPARTMENT (614) 885-4463
2. CITY OF WORTHINGTON FIRE DEPARTMENT (614) 885-7640
3. CITY OF WORTHINGTON SCHOOL DISTRICT (614) 883-3180
4. CENTRAL OHIO TRANSIT AUTHORITY (614) 275-5800
5. CITY OF COLUMBUS POLICE DEPARTMENT (614) 645-4795
6. CITY OF COLUMBUS FIRE DEPARTMENT (614) 645-8308
7. CITY OF COLUMBUS SCHOOL DISTRICT (614) 365-5074
8. CITY OF COLUMBUS PUBLIC SERVICE DEPARTMENT (614) 645-7263
9. CITY OF COLUMBUS TRANSPORTATION DIVISION TRAFFIC MANAGEMENT CENTER (614) 645-7249

COORDINATION WITH ODOT'S CENTRAL OHIO TRAFFIC MANAGEMENT PROGRAM (COTMP)

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES ON A WEEKLY BASIS. WHEN DETOURS ARE PLANNED, THIS NOTIFICATION SHALL BE AT THE PRE-CONSTRUCTION MEETING OR 30 DAYS IN ADVANCE ONCE CONSTRUCTION HAS BEGUN. LANE AND RAMP CLOSURES FOR 2 OR MORE WEEKS SHALL BE REPORTED 2 WEEKS IN ADVANCE OF CLOSURE. LANE AND RAMP CLOSURES OF LESS THAN 2 WEEKS DURATION AND MORE THAN 2 DAYS SHALL BE REPORTED AT LEAST 3 WORKING DAYS IN ADVANCE. FOR SHORT TERM LANE OR RAMP CLOSURES (2 DAYS OR LESS) NOTIFICATION SHALL BE MADE AT LEAST 1 WORKING DAY IN ADVANCE. INFORMATION SHALL INCLUDE BUT NOT BE LIMITED TO ALL CONSTRUCTION ACTIVITIES THAT IMPACT TRAFFIC AT PRESENT AND IN THE NEXT 30 DAYS. THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL WHO WILL BE RESPONSIBLE FOR PREPARING THIS REPORT AT THE PRE-CONSTRUCTION MEETING. ANY UNFORESEEN IMPACTS TO TRAFFIC SHALL BE REPORTED TO THE PROJECT ENGINEER AS SOON AS POSSIBLE. THE PROJECT ENGINEER SHALL PROVIDE THIS INFORMATION TO COTMP. ALL CONSTRUCTION ACTIVITIES THAT INTERFERE WITH TRAFFIC SHALL BE REPORTED TO COTMP. THIS INFORMATION SHALL BE PROVIDED TO COTMP AT (740) 833-8323, OR BY FAX AT (740) 833-8090.

CONSTRUCTION INITIATION

THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS AT (740) 833-8069 OR BY FAX AT (740) 833-8100 AND THE DISTRICT TRAFFIC MANAGEMENT ENGINEER AT (740) 833-8323, FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT TRAFFIC MANAGEMENT ENGINEER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION PROJECT. THE PROJECT ENGINEER WILL PROVIDE CLARIFICATION FOR ANY QUESTIONS ABOUT THIS NOTIFICATION REQUIREMENT.

COORDINATION WITH THE COLUMBUS PAVING THE WAY PROGRAM (PTWP)

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING DETOURS THAT ARE PLANNED, THE NOTIFICATION SHALL BE AT THE TIME CONSTRUCTION HAS BEGUN. LANE CLOSURES OF LESS THAN TWO WEEKS DURATION AND MORE THAN TWO DAYS SHALL BE REPORTED AT LEAST 3 WORKING DAYS IN ADVANCE. FOR SHORT TERM LANE CLOSURES (TWO DAYS OR LESS) NOTIFICATION SHALL BE MADE AT LEAST ONE DAY IN ADVANCE. WEEKEND CLOSURES SHALL BE REPORTED AT LEAST 3 WORKING DAYS IN ADVANCE.

INFORMATION SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT TRAFFIC AT THE PRESENT TIME AND IN THE NEXT 30 DAYS. THE REPORT SHALL BE OF A FORMAT APPROVED BY THE PROJECT ENGINEER OR ONE SUPPLIED BY PTWP. THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL WHO WILL BE RESPONSIBLE TO PREPARE THIS REPORT AT THE PRE-CONSTRUCTION MEETING.

ANY UNFORESEEN IMPACTS TO TRAFFIC SHALL BE REPORTED TO THE PROJECT ENGINEER AS SOON AS POSSIBLE. THE PROJECT ENGINEER SHALL PROVIDE THIS INFORMATION TO THE PTWP. THIS INFORMATION SHALL BE PROVIDED TO THE PROGRAM COORDINATOR AT (614) 645-3970, OR BY FAX AT (614) 645-5844.

THE CONTRACTOR MAY, IN LIEU OF THIS METHOD OF OPERATION, SUBMIT IN WRITING HIS OWN METHOD OF OPERATION TO THE ENGINEER FOR REVIEW AND APPROVAL. HOWEVER, THE CONTRACTOR SHALL PROVIDE AT THE PRE-CONSTRUCTION CONFERENCE A SET OF REPRODUCIBLE PRINTS (SCALE 1"= 40' OR 1"= 20') SHOWING HOW HE PLANS TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THE OMUTCD AND THESE TRAFFIC MAINTENANCE NOTES. THIS PLAN SHALL SHOW LEGEND AND LOCATION OF SIGNS, LOCATION OF DRUMS OR BARRICADES, SAFETY FLAGS, FLASHERS OR WHATEVER CONTROL DEVICES ARE REQUIRED. THESE PLANS MUST BE REVIEWED AND APPROVED BY THE DEPARTMENT, THE CITY OF COLUMBUS. AND THE CITY OF WORTHINGTON. THE CONTRACTOR WILL BE ADVISED BY THE DEPARTMENT AS TO THE REVIEW RESULTS IN WRITING WITHIN 30 DAYS.

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

NO WORK SHALL BE PERFORMED AND ALL LANES FOR THE CURRENT PHASE OF WORK SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING
OSU HOME FOOTBALL GAMES	

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 MONDAY
MONDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 12:00N MONDAY
FRIDAY	12:00N THURSDAY THROUGH 12:00N MONDAY
SATURDAY	12:00N FRIDAY THROUGH 12:00N MONDAY

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.

UNAUTHORIZED LANE USAGE

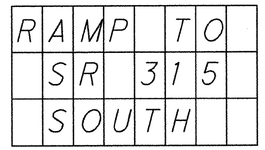
THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE AS DESIGNATED IN THE UNAUTHORIZED LANE USE TABLE LOCATED ON THIS PLAN PAGE FOR EACH UNIT OF TIME A CRITICAL LANE/ RAMP IS CLOSED BY THE CONTRACTOR'S ACTION WHILE NOT OTHERWISE PERMITTED BY THE CONTRACT. THE DISINCENTIVE WILL BE FOR ANY LANE CLOSURES CAUSED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

DESCRIPTION OR LOCATION OF CRITICAL WORK	COMPLETION TIME	TIME PERIOD	DISINCENTIVE $ PER TIME PERIOD FIRST HOUR	DISINCENTIVE $ PER TIME PERIOD AFTER FIRST HOUR
RAMP 315A	9:00 PM TO 5:00 AM SUN-THURS 9:00 PM TO 10:00 AM FRI-SAT	MINUTE	$10.00	$50.00
RAMP 315C	9:00 PM TO 5:00 AM SUN-THURS 9:00 PM TO 10:00 AM FRI-SAT	MINUTE	$10.00	$50.00

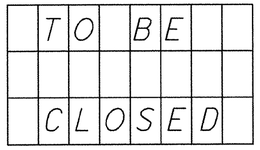
ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS, AS DETAILED ON THIS SHEET, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED I-270 WB TO SR 315 SB RAMP CLOSURE OR I-270 EB TO SR 315 SB RAMP CLOSURE. PORTABLE CHANGABLE MESSAGE SIGNS (PCMS) SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE RAMP FACING TRAFFIC, THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. THE SIGNS MAY BE ERECTED ANYWHERE ON THE RAMP AS LONG AS THEY ARE VISIBLE TO MOTORISTS USING THE RAMP. TWO PCMS SHALL BE PLACED, AT LEAST 500 FEET APART, DISPLAYING THE SAME SERIES OF MESSAGES.

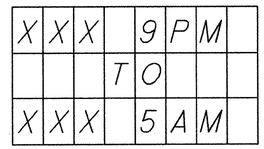
PCMS LEGEND:



MSG. PHASE 1



MSG. PHASE 2



MSG. PHASE 3

ITEM 614, MAINTAINING TRAFFIC (ESTIMATED QUANTITIES)

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

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	25 CU. YD.

CALCULATED BLM CHECKED ZSS

MAINTENANCE OF TRAFFIC NOTES

FRA-315-11.37

ITEM 614, MAINTAINING TRAFFIC (ROAD CLOSED SIGN)

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

RAMP 315A GORE WITH RAMP 315-B
RAMP 315C GORE WITH I-270

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUB-BASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 3 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

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

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

LAW ENFORCEMENT OFFICERS (LEOS) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEOS ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

CITY OF WORTHINGTON POLICE DEPT.	(614) 885-4463
THE OHIO HIGHWAY PATROL	(614) 466-2660
CITY OF COLUMBUS POLICE DIVISION	(614) 645-4795

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 160 HOURS

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

IF CONTRACTORS WISH TO UTILIZE LEOS FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614, MAINTAINING TRAFFIC.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A L.E.O. ARE TO BE INCLUDED IN THE UNIT BID PRICE ITEM 614-LAW ENFORCEMENT OFFICER WITH PATROL CAR. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614-MAINTAINING TRAFFIC.

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 40 M. GAL

ITEM 614, REPLACEMENT SIGN

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

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

AN ESTIMATED QUANTITY OF 10 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, REPLACEMENT DRUM

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

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

AN ESTIMATED QUANTITY OF 20 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, WORK ZONE SPEED LIMIT SIGN

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

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

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE DAYS, SUCH AS DURING WINTER SHUT-DOWNS. CLEANUP WORK AND OTHER WORK BEYOND THE SHOULDER SUCH AS SEEDING, TO BE PERFORMED AFTER RESTORATION OF ALL FULL-WIDTH LANES AND SHOULDERS TO TRAFFIC, DOES NOT CONSTITUTE A CONDITION WARRANTING A SPEED REDUCTION. THEREFORE, WHEN ACTIVITY IS LIMITED TO SUCH WORK, THE SPEED LIMIT IN EFFECT SHALL BE THE NORMAL SPEED LIMIT FOR THE SITE.

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

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

ON PROJECTS FOR WHICH THE ACTIVITY OR ROADWAY RESTRICTION IS LIMITED TO ONE SECTION OF THE PROJECT FOR AT LEAST THIRTY DAYS AND THEN IS MOVED TO ANOTHER SECTION OF THE PROJECT UPON COMPLETION OF WORK IN THE FIRST SECTION, THE SPEED LIMIT REDUCTION SHALL BE LIMITED TO ONLY THE ACTIVE PORTION OF THE PROJECT AT THE GIVEN TIME. SIGNING FOR A SPEED LIMIT REDUCTION, AS WELL AS ALL OTHER ADVANCE CONSTRUCTION SIGNING, SHALL BE RELOCATED WHEN THE CONCENTRATION OF ACTIVITY IS RELOCATED.

ON PROJECTS FOR WHICH SPEED REDUCTION IS CALLED FOR ON MORE THAN ONE ROADWAY, THE DISPLAY OF REDUCED SPEED LIMIT SIGNING ON A GIVEN ROADWAY SHALL BE DEPENDANT ON THE SCHEDULING OF WORK ACTIVITY ON THE GIVEN ROADWAY.

REDUCED SPEED AHEAD SIGNS SHALL BE ERECTED IN ADVANCE OF THE SPEED REDUCTION, APPROXIMATELY 1250 FEET ON MULTI-LANE HIGHWAYS AND 500 FEET ON 2-LANE HIGHWAYS.

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

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

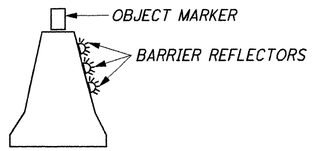
WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL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

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

ITEM 614, WORK ZONE SPEED LIMIT SIGN 11 EACH

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 4 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE A AND 1590 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND 530 EACH OF ITEM 614 OBJECT MARKER, 1-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.



PORTABLE CONCRETE BARRIER (PCB) DETAIL
(SEE STANDARD CONSTRUCTION DRAWING MT-101.70 FOR ADDITIONAL DETAILS)

BLM CHECKED ZSS

MAINTENANCE OF TRAFFIC NOTES

FRA-315-11.37

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163

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WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

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

THE SIGNS ON THE MAINLINE SHALL BE DUAL MOUNTED UNLESS NOT PHYSICALLY POSSIBLE. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1)SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. SIGNS USED ON THE RAMPS SHALL BE R11-H5A-24. R11-H5A-24 SIGNS MAY BE USED IN THE MEDIAN IN LIEU OF R11-H5A-48 SIGNS IF IT IS NOT PHYSICALLY POSSIBLE TO PROVIDE R11-H5A-48 SIGNS IN THE MEDIAN.

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

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

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

ITEM 614, WORK ZONE INCREASED PENALITIES SIGN 6 EACH

WORK ZONE INCREASED PENALTIES SIGNS WILL BE PLACED AT THE FOLLOWING LOCATIONS:

SR 315 SOUTHBOUND, STA. 183+00
I-270 EB, STA. 795+00
I-270 WB, STA. 894+50

EARTHWORK FOR MAINTAINING TRAFFIC

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

EXCAVATION FOR MAINTAINING TRAFFIC	17 CU. YD.
EMBANKMENT FOR MAINTAINING TRAFFIC	337 CU. YD.

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

EARTHWORK FOR MAINTAINING TRAFFIC WILL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 615 - ROADS FOR MAINTAINING TRAFFIC.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (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: QSCZCVR-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, QG
   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, QG
   REVISION DATE: 7/30/99 REV. F
   ODOT APPROVAL DATE: 8/27/99

   DRAWING NUMBER: 354051Z
   DRAWING NAME: QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 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, QG
   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. 1
   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. 1
   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 SPECIFIEDIN 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: BO40239
   DRAWING NAME: APPLICATION, FLUSH MOUNT BACKSTOP (TYPICAL FOR PARALLEL 60 MPH UNIT)
   REVISION DATE: 4/21/04
   ODOT APPROVAL DATE: 10/16/04

4. THE GREAT CZ IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC.

   THIS ATTENUATOR MAY BE USED UNTIL JANUARY 1, 2007 IF THE ITEM WAS PURCHASED BEFORE OCTOBER 1, 1998 AND IS IN THE CONTRACTOR'S INVENTORY.

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 SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. 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. 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(S) 31 & 41 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.

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC NOTES

FRA-315-11.37

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONT.)

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 SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

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 32 SIGN-MONTH

WORKSITE TRAFFIC SUPERVISOR

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

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS).

2. OHIO LABORER'S TRAINING CENTER, PHONE NUMBER 1-800-635-7570, TRAFFIC CONTROL SUPERVISORS CLASS.

3. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0528.

4. THE OCA/TCS WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004.

THE WTS POSITION IS ESTABLISHED FOR THE PURPOSE OF MONITORING AND CORRECTING ANY TRAFFIC CONTROL DEFICIENCIES IN THE WORK ZONE. THE WTS MUST ALSO COORDINATE WITH ALL LAW ENFORCING AGENCIES RESPONSIBLE FOR THE ROADWAY UNDER CONSTRUCTION AND RETRIEVE ALL CRASH REPORTS (OH-1) THAT OCCUR DURING THE CONSTRUCTION SEASON. THE WTS SHALL OVERSEE ALL OPERATIONS THAT AFFECT THE MOVEMENT OF VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH THE WORK ZONE. TRAFFIC CONTROL AND CRASH DATA EVALUATION WILL BE THE WTS'S MAIN DUTY WHILE THE WORK ZONE IS IN PLACE.

THE WTS SHALL BE PRESENT WHEN THE WORK ZONE IS BEING SET UP, AND SHALL ALSO BE PRESENT WHEN THE CONTRACTOR OR SUBCONTRACTOR INSTALLS A TRAFFIC RESTRICTION, LANE CLOSURE, ETC. IN LIEU OF THE WTS BEING PRESENT WHEN A SUBCONTRACTOR HAS A WORK ZONE IN PLACE, THE CONTRACTOR MAY USE HIS OWN PERSONNEL THAT IS A CERTIFIED WTS. THE CONTRACTOR OR SUBCONTRACTOR MUST PRESENT A COPY OF HIS WTS CERTIFICATION TO THE PROJECT ENGINEER.

DAILY, INCLUDING WEEKENDS AND HOLIDAYS, THE WTS SHALL SPEND A MINIMUM OF ONE HOUR REVIEWING THE WORK ZONE AND/OR CRASH DATA FOR DEFICIENCIES AND MAINTAINING THE WORK ZONE. THE WTS MUST RECOMMEND SOLUTIONS TO ADDRESS ANY ISSUES THAT ARE POTENTIALLY CREATING CRASHES WITHIN THE WORK ZONE. THE WTS MUST PRESENT THESE RECOMMENDATIONS TO THE ENGINEER AND THE DISTRICT WORK ZONE TRAFFIC MANAGER (DWZTM) FOR APPROVAL AT ALL PROJECT PROGRESS MEETINGS. UPON APPROVAL BY THE ENGINEER AND THE DWZTM, THE CONTRACTOR MUST IMPLEMENT THE RECOMMENDED SOLUTIONS TO THE WORK ZONES WITHIN ONE WEEK. THESE HOURS MAY BE ADJUSTED BY THE ENGINEER BUT MUST BE PERFORMED ONCE A DAY DURING THE CONSTRUCTION SEASONS. THE WTS MUST INSPECT THE WORK ZONE AT THE BEGINNING AND THE END OF EACH WORK DAY AND ONE TIME PER WEEK DURING THE HOURS OF DARKNESS.

A RECORD OF EACH DAILY REVIEW SHALL BE GIVEN TO THE PROJECT ENGINEER THE FOLLOWING WORK DAY. ALSO IN WRITING THE WTS'S REPORT SHALL INCLUDE: TRAFFIC CONTROL DEVICE CONDITION, PLACEMENT, VISIBILITY, TRAFFIC FLOW CONDITIONS, INCIDENTS, ACCIDENTS, CONGESTION POINTS, ADEQUACY OF ADVANCED WARNING SIGNS BEYOND PROJECT LIMITS, INTERACTION OF WORK VEHICLES AND TRAFFIC, PROPER STORAGE OF MATERIALS AND EQUIPMENT.

IF THE RESTRICTIONS ARE SHORT TERM, THE WTS SHALL MONITOR THE ZONE FOR COMPLIANCE. DURING LANE CLOSURES THE WTS SHALL MAKE SURE ALL TRAFFIC CONTROL ITEMS ARE FUNCTIONING PROPERLY. TRAFFIC CONTROL AND CRASH DATA EVALUATION WILL BE THE WTS'S MAIN DUTY DURING IMPLEMENTATION OF ZONES OR SHORT TERM ZONES. THE WTS SHALL HAVE THE AUTHORITY TO HAVE DEFICIENCIES CORRECTED AS SOON AS POSSIBLE. THE WTS SHALL PROVIDE THE DWZTM A SKETCH OF THE TRAFFIC CONTROL PLAN (TCP) EVERY DAY THERE IS TO BE A SHORT-TERM TRAFFIC RESTRICTION, LANE CLOSURE, ETC. THIS TCP SHALL SHOW HOW THE WORK ZONES ARE TO BE IMPLEMENTED.

THE WTS SHALL BE AVAILABLE ON A 24-HOUR BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. A 24-HOUR PHONE NUMBER SHALL BE MADE AVAILABLE TO THE PROJECT ENGINEER IN ORDER TO CONTACT THE WTS. THE WTS SHALL HAVE A PAGER AND THE PHONE NUMBER PROVIDED TO THE PROJECT ENGINEER.

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

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614 WORKSITE TRAFFIC SUPERVISOR 8 MONTHS

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO CMS 614 OR CMS 621 AS SPECIFIED HEREIN.

RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621.

RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 TO APRIL 1.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO CMS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER CMS 202.10.

RESURFACING OF THE TRANSITION AREAS SHALL BE PERFORMED AT THE TIME THAT THE SURFACE COURSE IS BEING APPLIED TO THE ENTIRE PROJECT. PRIOR TO APPLICATION OF THE SURFACE COURSE ON THE PROJECT, THE SURFACE COURSE OF THE EXISTING PAVEMENT WITHIN THE TRANSITION AREA SHALL BE REMOVED TO A DEPTH EQUIVALENT TO THE DEPTH OF THE PROPOSED SURFACE COURSE, AS DETERMINED BY THE ENGINEER.

THE FOLLOWING BID ITEMS SHOULD BE INCLUDED IN THE PLANS:

ITEM 254 PAVEMENT PLANNING, ASPHALT CONCRETE
23450 SQUARE YARDS
ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN
1100 EACH

PAYMENT FOR RESURFACING WITHIN THE TRANSITION AREA SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THE WORK REQUIRED, AS PROVIDED FOR IN THE PLANS.

ITEM SPECIAL - LINEAR DELINEATION

3MTM SCOTCHLITETM LINEAR DELINEATION SYSTEM (LDS) SHALL BE INSTALLED ON ALL CONCRETE BARRIER, PERMANENT OR TEMPORARY, LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVEL LANE UNDER EITHER OF THE FOLLOWING CONDITIONS:

ALONG TAPERS AND TRANSITION AREAS

ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES

THE LDS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE. PANELS SHALL BE PROVIDED AT THE RATE OF ONE PER SECTION OF PORTABLE CONCRETE BARRIER OR ONE PANEL EVERY 10 FEET, SPACED EVENLY ALONG THE LENGTH OF THE RUN. THE PANELS SHALL BE MOUNTED SUCH THAT THE TOPS OF THE PANELS ARE 26-INCHES FROM THE BASE OF THE CONCRETE BARRIER.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING 3MTM SCOTCHLITETM LINEAR DELINEATION SYSTEM (LDS).

AN ESTIMATED QUANTITY OF 11,773 LINEAR FEET OF ITEM SPECIAL LINEAR DELINEATION, HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY. ALONG RUNS OF CONCRETE BARRIER WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN BEING DELINEATED, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL PANELS.

ITEM SPECIAL - WORK ZONE GUARDRAIL

THIS ITEM OF WORK SHALL INCLUDE SUPPLYING, INSTALLING MAINTAINING AND SUBSEQUENTLY REMOVING A TEMPORARY GUARDRAIL ON THE SOUTHBOUND APPROACH TO THE WILSON BRIDGE ROAD STRUCTURE. THE GUARDRAIL SHALL BE PLACED ADJACENT TO THE TEMPORARY PAVEMENT AND CONNECTED TO THE EXISTING CONCRETE BARRIER, TO BE USED FOR MAINTENANCE OF TRAFFIC. THE UNIT COST PER FT BID FOR THIS ITEM SHALL INCLUDE A BRIDGE TERMINAL ASSEMBLY, TYPE 1, TYPE 5 GUARDRAIL, AND AN ANCHOR ASSEMBLY, TYPE E-98. THIS ITEM SHALL BE IN ACCORDANCE WITH ITEM 606.

ITEM 606 - GUARDRAIL REBUILT, AS PER PLAN

THIS ITEM SHALL BE IN ACCORDANCE WITH ITEM 606. THE UNIT COST BID FOR THIS ITEM SHALL INCLUDE THE RE-ERECTION OF THE GUARDRAIL AND ANCHOR ASSEMBLIES REMOVED FOR REUSE ALONG RAMP 315C.

CALCULATED BLM CHECKED ZSS

MAINTENANCE OF TRAFFIC NOTES

FRA-315-11.37

SEQUENCE OF CONSTRUCTION

PRE-PHASE (FOR EACH PHASE AS REQUIRED):
WORK:
SET UP WORK ZONE SIGNING, STRIPING AND BARRIERS.

MOT:
CLOSED RAMP 315A OR 315C. PROVIDE DETOURS FOR RAMP TRAFFIC SHOWN ON SHEETS 25 & 26. RAMP 315A AND RAMP 315C SHALL NOT BE CLOSED AT THE SAME TIME. CLOSURE OF RAMPS ONLY PERMITTED BETWEEN:
9:00 PM AND 5:00 AM MON. - THURS.
9:00 PM AND 10:00 AM FRI. AND SAT.

PHASE 1
WORK:
CONSTRUCT TEMPORARY PAVEMENT ALONG RAMP 315A, RAMP 315C AND SOUTHBOUND S.R. 315.

MOT:
MAINTAIN TRAFFIC ON EXISTING LANES. CLOSE SHOULDERS ADJACENT TO WORK ZONES WITH PORTABLE CONCRETE BARRIER (PCB).

PHASE 2
WORK:
CONSTRUCT THE SOUTHBOUND S.R. 315 INSIDE LANE AND MEDIAN SHOULDER. CONSTRUCT THE LEFT LANE(S) OF RAMP 315A.

MOT:
MAINTAIN ONE SOUTHBOUND S.R. 315 LANE ON THE EXISTING SOUTHBOUND S.R. 315 OUTSIDE LANE AND SHOULDER NORTH OF RAMP 315A. MAINTAIN THREE SOUTHBOUND LANES ON THE EXISTING SOUTHBOUND S.R. 315 PAVEMENT, OUTSIDE SHOULDER AND TEMPORARY PAVEMENT, SOUTH OF RAMP 315A. MAINTAIN TWO LANES ON RAMP 315A BETWEEN THE RAMP 315C MERGE AND S.R. 315 ON THE EXISTING OUTSIDE LANE, SHOULDER AND TEMPORARY PAVEMENT. MAINTAIN ONE LANE ON RAMP 315A NORTH OF THE RAMP 315C MERGE ON THE EXISTING RIGHT LANE, SHOULDER AND TEMPORARY PAVEMENT. MAINTAIN ONE LANE ON RAMP 315 C NORTH OF THE MERGE WITH RAMP 315 A ON THE EXISTING RIGHT SHOULDER AND TEMPORARY PAVEMENT. SEPARATE TRAFFIC FROM WORK AREAS WITH PCB.

PHASE 3
WORK:
CONSTRUCT THE LEFT LANE OF THE THREE RAMP 315A LANES AND THE GORE AREA BETWEEN RAMP 315A AND SOUTHBOUND S.R. 315.

MOT:
MAINTAIN ONE SOUTHBOUND S.R. 315 LANE ON THE NEW INSIDE LANE AND SHOULDER NORTH OF RAMP 315A. MAINTAIN THREE SOUTHBOUND S.R. 315 LANES ON THE NEW INSIDE LANES AND SHOULDER AND ON THE EXISTING OUTSIDE LANE, SHOULDER AND TEMPORARY PAVEMENT. MAINTAIN TWO LANES ON RAMP 315A BETWEEN THE RAMP 315C MERGE AND S.R. 315 ON THE EXISTING OUTSIDE LANE, SHOULDER AND TEMPORARY PAVEMENT. MAINTAIN ONE LANE ON RAMP 315A NORTH OF THE RAMP 315C MERGE ON THE EXISTING RIGHT LANE, SHOULDER AND TEMPORARY PAVEMENT. MAINTAIN ONE RAMP LANE ON RAMP 315C NORTH OF THE MERGE WITH RAMP 315A ON THE EXISTING RIGHT SHOULDER AND TEMPORARY PAVEMENT. SEPARATE TRAFFIC FROM WORK AREAS WITH PCB.

PHASE 4
WORK:
CONSTRUCT THE CENTER LANE OF THE THREE RAMP 315A LANES. CONSTRUCT THE RIGHT LANE OF RAMP 315A, THE RAMP 315A GORE WITH RAMP 315C AND THE RAMP 315C PROPOSED PAVEMENT AND TEMPORARY PAVEMENT.

MOT:
MAINTAIN ONE SOUTHBOUND S.R. 315 LANE ON THE NEW INSIDE LANE AND SHOULDER NORTH OF RAMP 315A. MAINTAIN THREE SOUTHBOUND S.R. 315 LANES ON THE NEW INSIDE LANES AND SHOULDER AND ON THE EXISTING OUTSIDE LANE SHOULDER AND TEMPORARY PAVEMENT. MAINTAIN TWO LANES ON RAMP 315A BETWEEN RAMP 315C MERGE AND S.R. 315 ON THE EXISTING OUTSIDE SHOULDER AND TEMPORARY PAVEMENT AND ON THE NEW LEFT SIDE LANE AND SHOULDER. MAINTAIN ONE RAMP 315A LANE NORTH OF THE RAMP 315C MERGE ON THE NEW LEFT LANE AND SHOULDER. MAINTAIN ONE RAMP 315C LANE ON THE EXISTING OUTSIDE SHOULDER AND TEMPORARY PAVEMENT. SEPARATE TRAFFIC FROM WORK AREA WITH PCB.

PHASE 5
WORK:
CONSTRUCT THE OUTSIDE LANE AND SHOULDER OF THE THREE RAMP 315A LANES AND SOUTHBOUND S.R. 315.

MOT:
MAINTAIN ONE SOUTHBOUND S.R. 315 LANE ON THE NEW INSIDE LANE AND SHOULDER NORTH OF RAMP 315A. MAINTAIN THREE SOUTHBOUND S.R. 315 LANES ON THE NEW INSIDE LANES AND SHOULDER SOUTH OF RAMP 315A.
MAINTAIN TWO LANES ON RAMP 315A BETWEEN THE RAMP
315C MERGE AND S.R. 315 ON THE NEW LEFT AND CENTER LANE AND LEFT SHOULDER. MAINTAIN ONE LANE ON RAMP 315A ON THE NEW LEFT LANE AND SHOULDER NORTH OF THE RAMP 315C MERGE. MAINTAIN ONE LANE ON THE EXISTING, NEW AND TEMPORARY PAVEMENT ON RAMP 315C. SEPARATE TRAFFIC FROM THE WORK AREA WITH PCB.

CALCULATED BLM
CHECKED ZSS

SEQUENCE OF CONSTRUCTION

FRA-315-11.37

PHASE	SHEET NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE EDGELINE, CLASS 1, 740.06 TYPE 1, WHITE	614 WORK ZONE EDGELINE, CLASS 1, 740.06 TYPE 1, YELLOW	614 WORK ZONE LANE LINE, CLASS 1, 740.06 TYPE 1	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06 TYPE 1,	614 WORK ZONE IMPACT ATTENUATOR	SPECIAL WORK ZONE GUARDRAIL	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE CONCRETE BARRIER, 32"
					MILE	MILE	MILE	FT	EACH	FT	SQ YD	FT
1	27	131+00.00	132+50.00	LT.								150
1	27	131+63.60	132+50.00	LT.							14	
1	28	132+50.00	133+80.10	LT.								130
1	28	132+50.00	133+80.10	LT.							64	
1	28	826+03.82	832+50.00	LT.								646
1	28	826+03.82	831+57.75	LT.							485	
1	29	838+13.39	841+20.00	LT.								307
1	29	838+13.39	840+00.00	LT.							62	
1	29	841+20.00		LT.					1			
1	29	846+00.00	850+00.00	LT/RT								800
1	29	846+00.00	850+00.00	RT.							869	
1	29	850+00.00	851+77.24	RT.								177
1	29	850+00.00	851+77.24	RT.							284	
1	29	832+50.00	836+40.00	LT.								390
1	29	835+25.90	836+40.00	LT.							23	
1	31	835+50.00	836+63.00	RT.								113
1	31	837+43.00	846+00.00	RT.								857
1	31	838+72.37	846+00.00	RT.							1031	
1	31	844+55.00	846+00.00	LT.								145
2	32	103+70.00	107+50.00	LT.	0.07							
2	32	103+70.00	107+50.00	LT.		0.07						
2	32	103+70.00	107+50.00	LT.				760				
2	33	107+50.00	120+00.00	LT.	0.24							
2	33	107+50.00	120+00.00	LT.		0.24						
2	33	107+50.00	120+00.00	LT.				2500				
2	33	115+00.00	120+00.00	LT.								500
2	34	120+00.00	132+50.00	LT.								1250
2	34	120+00.00	132+50.00	LT.	0.24							
2	34	120+00.00	132+50.00	LT.		0.24						
2	34	120+00.00	132+50.00	LT.				2500				
2	34	121+71.00	132+50.00	LT.			0.20					
2	34	132+12.50	132+50.00	LT.						37.5		
2	35	132+50.00	134+00.00	LT.						150		
2	35	132+50.00	145+00.00	LT.								1250
2	35	136+62.00	143+95.00	LT.								733
2	35	132+50.00	145+00.00	LT.	0.24							
2	35	132+50.00	145+00.00	LT.		0.24						
2	35	829+21.00	832+50.00	LT.								329
2	35	132+50.00	133+80.10	LT.	0.02							
2	35	132+50.00	133+80.10	LT.			0.02					
2	35	132+50.00	133+80.10	LT.		0.02						
2	35	826+03.82	832+50.00	LT.	0.12							
2	35	826+03.82	832+50.00	LT.			0.12					
2	35	826+03.82	832+50.00	LT.		0.12						
TOTALS THIS SHEET					0.93	0.93	0.34	5760	1	187.5	2832	7777

CALCULATED BLM
CHECKED RAT

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES

FRA-315-11.37

PHASE	SHEET NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE EDGELINE, CLASS 1, 740.06 TYPE 1, WHITE (MILE)	614 WORK ZONE EDGELINE, CLASS 1, 740.06 TYPE 1, YELLOW (MILE)	614 WORK ZONE LANE LINE, CLASS 1, 740.06 TYPE 1 (MILE)	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06 TYPE 1, (FT)	614 WORK ZONE IMPACT ATTENUATOR (EACH)	SPECIAL WORK ZONE GUARDRAIL (FT)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (SQ YD)	622 PORTABLE CONCRETE BARRIER, 32" (FT)
2	36	145+00.00	145+66.00	LT.								66
2	36	145+66.00		LT.					1			
2	36	145+00.00	147+45.00	LT.	0.05							
2	36	145+00.00	157+50.00	LT.		0.24						
2	37	157+50.00	163+75.26	LT.		0.12						
2	38	846+00.00	851+77.24	RT.	0.11							
2	38	846+00.00	851+77.24	RT.		0.11						
2	38	835+75.64	836+40.00	LT./RT.				129				
2	38	832+50.00	842+50.00	LT.								1000
2	38	832+50.00	842+50.00	LT.		0.19						
2	38	836+40.00	842+50.00	LT.	0.12							
2	38	833+75.00	835+75.64	LT.				201				
2	38	832+50.00	833+75.00	LT.			0.02					
2	38	832+50.00	836+40.00	LT.	0.07							
2	40	842+50.00	844+90.00	LT.								240
2	40	844+90.00		LT.					1			
2	40	842+50.00	858+75.00	LT.	0.31							
2	40	842+50.00	853+40.00	LT.		0.21						
2	41	835+50.00	840+75.00	RT.								525
2	41	834+33.00	846+00.00	RT	0.22							
2	41	839+50.00	846+00.00	RT		0.12						
2	41	836+50.80	839+50.00	LT./ RT.	0.11							
3	42	104+70.00	107+50.00	LT.	0.05							
3	42	104+70.00	107+50.00	LT.		0.05						
3	42	104+70.00	105+70.00	LT.				200				
3	42	105+70.00	107+50.00	LT.				540				
3	43	115+00.00	120+00.00	LT.								1000
3	43	107+50.00	115+00.00	LT.	0.43							
3	43	107+50.00	115+00.00	LT.				750				
3	43	107+50.00	115+00.00	LT.		0.14						
3	43	115+00.00	120+00.00	LT.	0.19							
3	43	115+00.00	120+00.00	LT.			0.09					
3	43	115+00.00	120+00.00	LT.		0.19						
3	44	120+00.00	132+50.00	LT.								2500
3	44	120+00.00	132+50.00	LT.	0.47							
3	44	120+00.00	132+50.00	LT.			0.24					
3	44	120+00.00	132+50.00	LT.		0.47						
TOTALS THIS SHEET					2.13	1.84	0.35	1820	2	0	0	5331

CALCULATED BLM
CHECKED RAT

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES

FRA-315-11.37

PHASE	SHEET NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE EDGELINE, CLASS 1, 740.06 TYPE 1, WHITE MILE	614 WORK ZONE EDGELINE, CLASS 1, 740.06 TYPE 1, YELLOW MILE	614 WORK ZONE LANE LINE, CLASS 1, 740.06 TYPE 1 MILE	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06 TYPE 1, FT	614 WORK ZONE IMPACT ATTENUATOR EACH	SPECIAL WORK ZONE GUARDRAIL FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	622 PORTABLE CONCRETE BARRIER, 32" FT
3	45	132+50.00	133+80.10	LT.	0.02							
3	45	132+50.00	145+00.00	LT.								1250
3	45	132+50.00	145+00.00	LT.	0.24							
3	45	132+50.00	145+00.00	LT.		0.24						
3	45	826+03.82	832+50.00	LT.								646
3	45	132+50.00	133+80.10	LT.								130
3	45	826+03.82	832+50.00	LT.	0.12							
3	45	826+03.82	832+50.00	LT.			0.12					
3	45	132+50.00	133+80.10	LT.			0.02					
3	45	826+03.82	832+50.00	LT.		0.12						
3	45	132+50.00	133+80.10	LT.		0.02						
3	46	145+00.00	145+60.00	LT.								60
3	46	145+00.00	157+50.00	LT.		0.24						
3	46	145+00.00	151+80.00	LT.	0.13							
3	46	151+80.00	157+50.00	LT.				570				
3	46	148+30.00	153+80.00	LT.				550				
3	46	148+30.00	157+50.00	LT.	0.17							
3	47	157+50.00	167+90.00	LT.	0.20							
3	47	157+50.00	167+90.00	LT.				1040				
3	47	157+50.00	167+90.00	LT.		0.20						
3	49	846+00.00	851+77.24	RT.	0.11							
3	49	832+50.00	836+40.00	LT.	0.07							
3	49	837+17.74	842+50.00	LT.	0.10							
3	49	846+00.00	851+00.00	RT.		0.09						
3	49	832+50.00	842+50.00	LT.		0.19						
3	49	832+50.00	834+00.00	LT.			0.03					
3	49	832+50.00	833+50.00	LT.								100
3	49	835+17.74	837+17.74	LT./ RT.				400				
3	49	834+00.00	835+17.74	LT.				118				
3	51	842+50.00	858+75.00	LT.	0.31							
3	51	842+50.00	853+40.00	LT.		0.21						
3	52	834+33.00	846+00.00	RT.	0.22							
3	52	836+50.80	839+50.00	LT.	0.11							
3	52	839+50.00	846+00.00	RT.		0.12						
4	53	104+70.00	107+50.00	LT.	0.05							
4	53	104+70.00	107+50.00	LT.		0.05						
4	53	104+70.00	105+70.00	LT.				200				
4	53	105+70.00	107+50.00	LT.				540				
4	54	115+00.00	120+00.00	LT.								1000
4	54	107+50.00	120+00.00	LT.	0.24							
4	54	115+00.00	120+00.00	LT.	0.09							
4	54	107+50.00	120+00.00	LT.		0.24						
4	54	115+00.00	120+00.00	LT.		0.09						
4	54	107+50.00	115+00.00	LT.				2250				
4	54	115+00.00	120+00.00	LT.				500				
TOTALS THIS SHEET					2.18	1.81	0.17	6168	0	0	0	3186

CALCULATED BLM
CHECKED RAT

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES

FRA-315-11.37

PHASE	SHEET NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE EDGELINE, CLASS 1, 740.06 TYPE 1, WHITE MILE	614 WORK ZONE EDGELINE, CLASS 1, 740.06 TYPE 1, YELLOW MILE	614 WORK ZONE LANE LINE, CLASS 1, 740.06 TYPE 1 MILE	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06 TYPE 1, FT	614 WORK ZONE IMPACT ATTENUATOR EACH	SPECIAL WORK ZONE GUARDRAIL FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	622 PORTABLE CONCRETE BARRIER, 32" FT
4	55	120+00.00	132+50.00	LT.								2500
4	55	120+00.00	132+50.00	LT.	0.47							
4	55	120+00.00	132+50.00	LT.		0.47						
4	55	120+00.00	132+50.00	LT.				1250				
4	55	129+80.00	132+50.00	LT.				540				
4	56	132+50.00	145+00.00	LT.	0.24							
4	56	826+03.82	832+50.00	LT. / RT.	0.24							
4	56	132+50.00	133+80.10	LT. / RT.	0.05							
4	56	132+50.00	145+00.00	LT.		0.24						
4	56	826+03.82	832+50.00	RT.		0.24						
4	56	132+50.00	133+80.10	LT.		0.05						
4	56	826+03.82	832+50.00	LT./ RT.								1292
4	56	132+50.00	133+80.10	LT.								260
4	57	145+00.00	148+30.00	LT.	0.06							
4	57	148+30.00	157+50.00	LT.	0.17							
4	57	145+00.00	157+50.00	LT.		0.24						
4	57	148+30.00	153+80.00	LT.				1100				
4	57	153+80.00	157+50.00	LT.				370				
4	58	157+50.00	167+90.00	LT.	0.20							
4	58	157+50.00	167+90.00	LT.		0.20						
4	58	157+50.00	167+90.00	LT.				1040				
4	60	832+50.00	842+50.00	LT.		0.19						
4	60	846+00.00	851+77.24	RT.		0.11						
4	60	832+50.00	836+40.00	LT.		0.07						
4	60	832+50.00	842+50.00	RT.	0.19							
4	60	846+00.00	851+77.24	RT.	0.11							
4	60	832+50.00	836+40.00	RT.	0.07							
4	60	832+50.00	842+50.00	LT. / RT.								1000
4	60	846+00.00	851+77.24	RT.								577
4	60	832+50.00	836+40.00	LT.								390
4	62	842+50.00	858+75.00	RT.		0.31						
4	62	842+50.00	858+75.00	LT.	0.31							
4	62	842+50.00	846+32.00	LT.								382
4	62	846+32.00		LT.					1			
4	63	834+33.00	846+00.00	RT.	0.22							
4	63	839+50.00	846+00.00	RT.		0.12						
4	63	836+50.80	839+50.00	LT. / RT.				598				
4	63	843+67.00	846+00.00	LT. / RT.								233
4	64	104+70.00	107+50.00	LT.	0.05							
4	64	104+70.00	107+50.00	LT.		0.05						
4	64	104+70.00	107+50.00	LT.				560				
TOTALS THIS SHEET					2.38	2.29	0.00	5458	1	0	0	6634

CALCULATED BLM
CHECKED RAT

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES

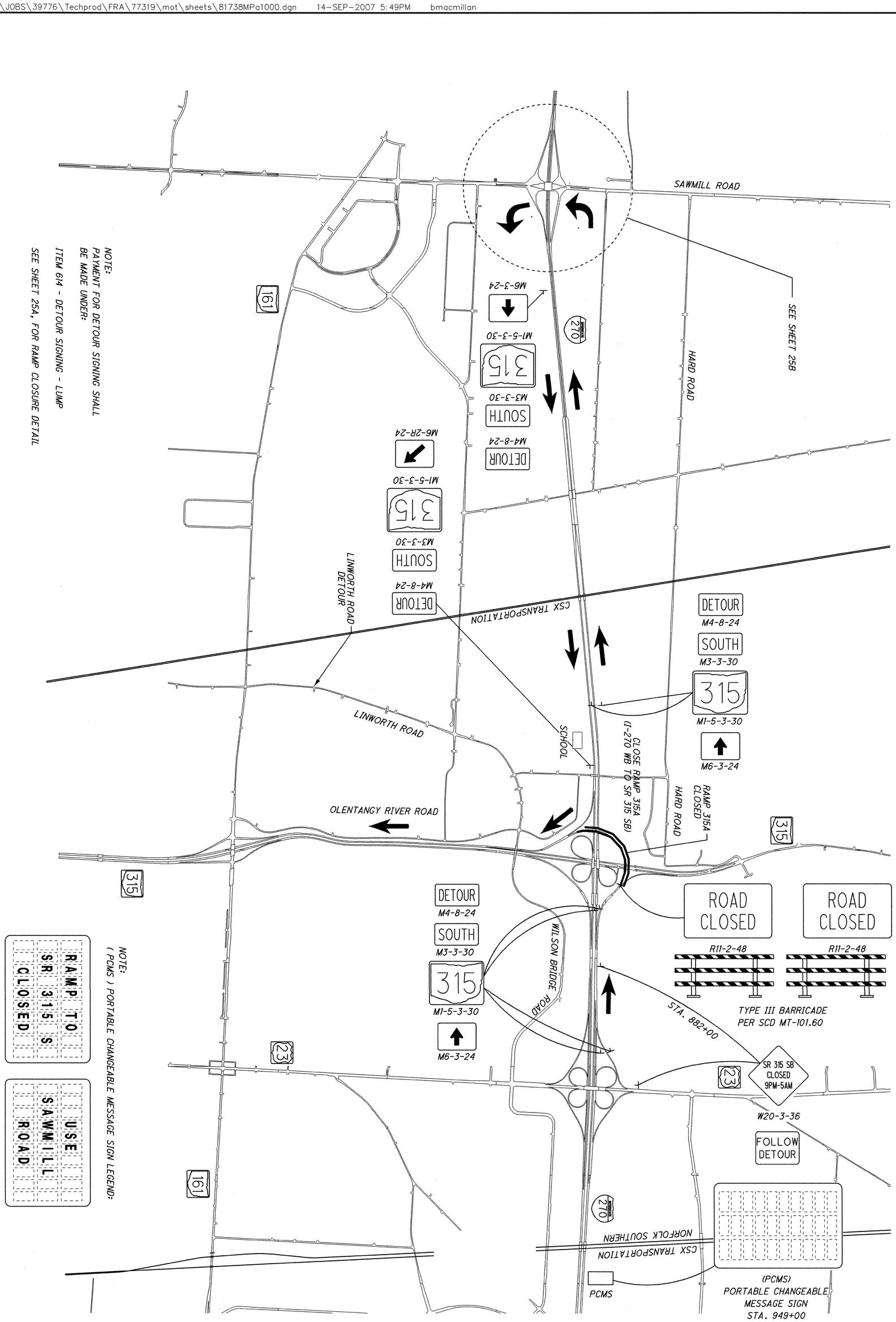
FRA-315-11.37

PHASE	SHEET NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE EDGELINE, CLASS 1, 740.06 TYPE 1, WHITE MILE	614 WORK ZONE EDGELINE, CLASS 1, 740.06 TYPE 1, YELLOW MILE	614 WORK ZONE LANE LINE, CLASS 1, 740.06 TYPE 1 MILE	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06 TYPE 1, FT	614 WORK ZONE IMPACT ATTENUATOR EACH	SPECIAL WORK ZONE GUARDRAIL FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	622 PORTABLE CONCRETE BARRIER, 32" FT
5	65	107+50.00	120+00.00	LT.	0.24							
5	65	107+50.00	120+00.00	LT.		0.24						
5	65	107+50.00	115+00.00	LT.				1500				
5	65	115+00.00	120+00.00	LT.			0.19					
5	65	115+00.00	120+00.00	LT.								500
5	66	120+00.00	132+50.00	LT.	0.24							
5	66	120+00.00	132+50.00	LT.		0.24						
5	66	120+00.00	132+50.00	LT.			0.24					
5	66	120+00.00	129+80.00	LT.			0.19					
5	66	129+80.00	132+50.00	LT.				540				
5	66	120+00.00	132+50.00	LT.								1250
5	67	135+50.00	145+00.00	LT.	0.18							
5	67	826+03.82	832+50.00	LT.	0.12							
5	67	132+50.00	133+80.10	LT.	0.02							
5	67	132+50.00	145+00.00	LT.		0.24						
5	67	827+50.00	832+50.00	RT.		0.09						
5	67	132+50.00	133+80.10	LT.		0.02						
5	67	826+03.82	832+50.00	LT./ RT.			0.12					
5	67	132+50.00	133+80.10	LT.			0.02					
5	67	132+50.00	135+50.00	LT.				600				
5	67	826+03.82	832+50.00	LT.								646
5	67	132+50.00	133+80.10	LT.								130
5	68	145+00.00	157+50.00	LT.		0.24						
5	68	145+00.00	148+30.00	LT.	0.06							
5	68	148+30.00	157+50.00	LT.	0.17							
5	68	148+30.00	153+80.00	LT.				1100				
5	68	153+80.00	157+50.00	LT.				370				
5	69	157+50.00	167+90.00	LT.	0.20							
5	69	157+50.00	167+90.00	LT.				1040				
5	69	157+50.00	167+90.00	LT.		0.20						
5	71	832+50.00	842+50.00	RT.		0.19						
5	71	846+46.00	850+14.00	LT.		0.07						
5	71	838+00.00	842+50.00	℄	0.09							
5	71	846+40.00	851+77.24	℄	0.10							
5	71	832+50.00	836+40.00	LT. / RT.	0.07							
5	71	832+50.00	834+00.00	RT.			0.03					
5	71	834+00.00	838+00.00	LT. / RT.				800				
5	71	832+50.00	836+40.00	LT.								390
5	71	846+00.00	851+77.24	LT. / RT.								577
5	73	842+50.00	858+75.00	RT.	0.31							
5	73	842+50.00	851+25.00	RT.		0.17						
		TOTALS THIS SHEET			1.80	1.70	0.79	5950	0	0	0	3493
		TOTALS CARRIED TO GENERAL SUMMARY			9.43	8.57	1.65	25156	4	187.5	2832	26422

CALCULATED BLM
CHECKED RAT

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES

FRA-315-11.37



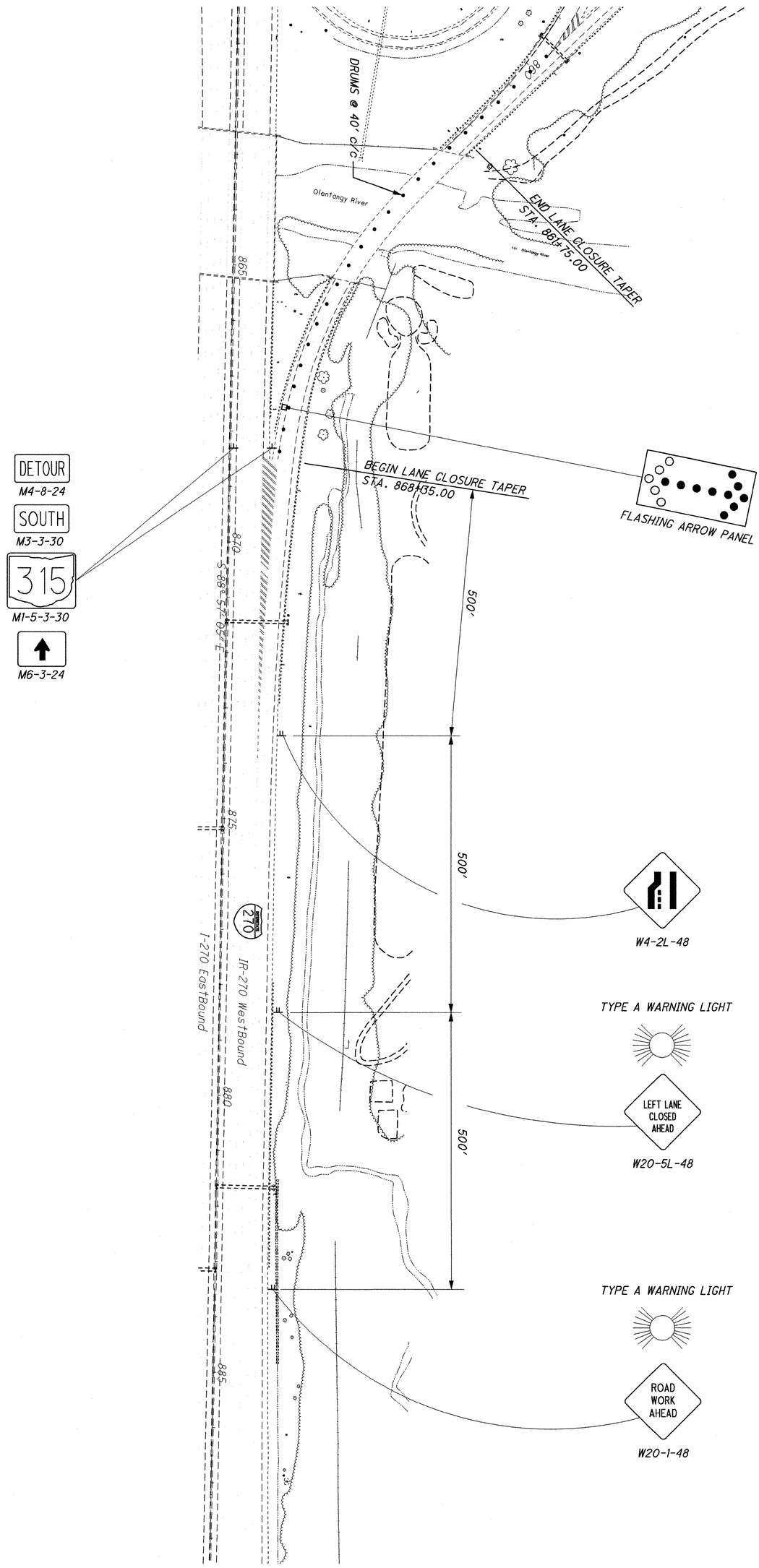
NOTE:
PAYMENT FOR DETOUR SIGNING SHALL BE MADE UNDER:

ITEM 614 - DETOUR SIGNING - LUMP

SEE SHEET 25A, FOR RAMP CLOSURE DETAIL

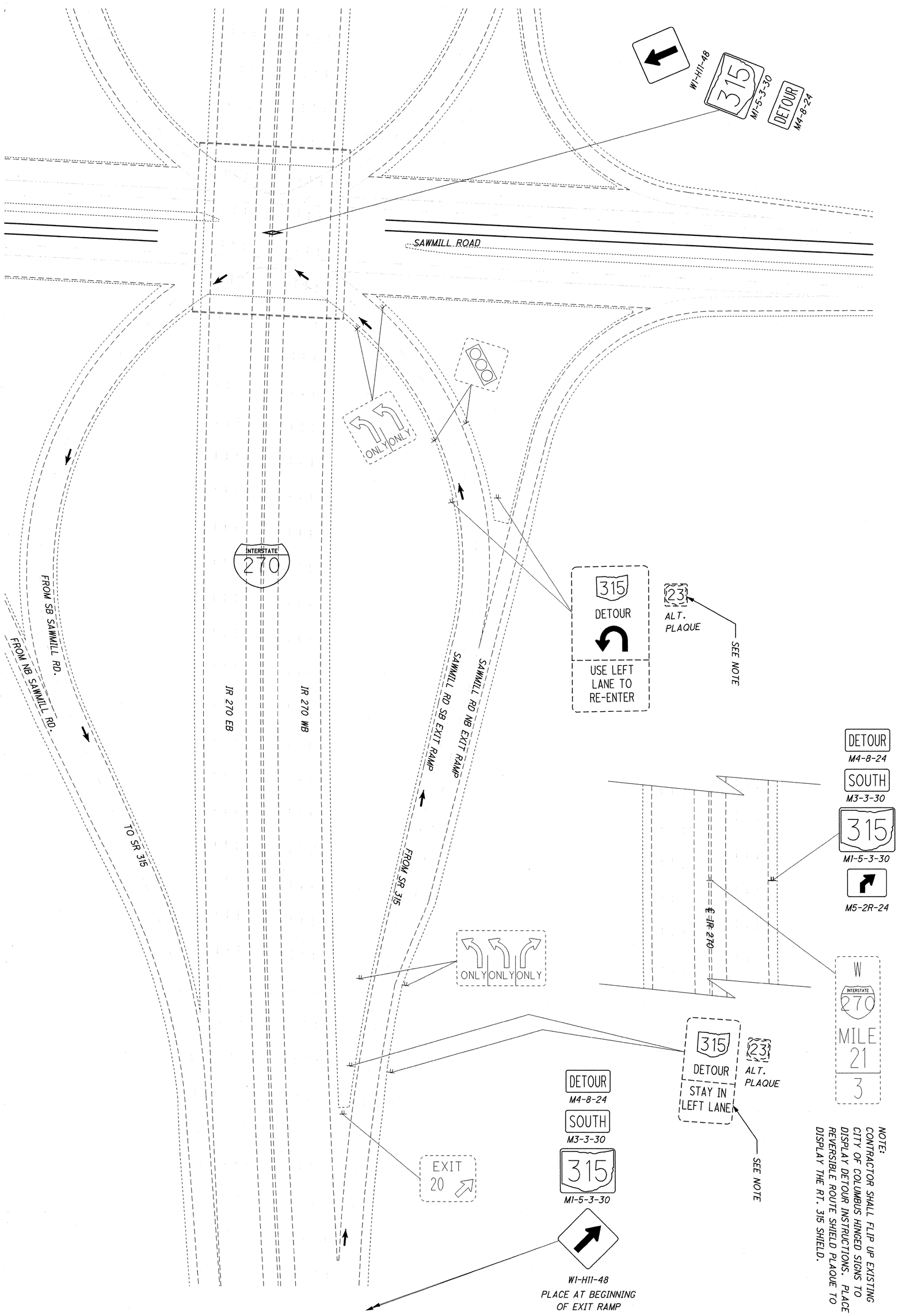
NOTE:
(PCMS) PORTABLE CHANGEABLE MESSAGE SIGN LEGEND:

25 / 163	FRA-315-11.37	MAINTENANCE OF TRAFFIC I-270 WESTBOUND TO SR 315 SOUTHBOUND	CALCULATED JMW CHECKED ZSS



25A 163	FRA-315-11.37	MAINTENANCE OF TRAFFIC I-270 WB TO SR 315 SB RAMP CLOSURE	CALCULATED BLM CHECKED ZSS	0 50 100 200 HORIZONTAL SCALE IN FEET

J:\JOBS\39776\Techprod\FRA\77319\mot\sheets\81738MPa1000b.dgn 14-SEP-2007 5:50PM bmacmillan



NOTE:
CONTRACTOR SHALL FLIP UP EXISTING CITY OF COLUMBUS HINGED SIGNS TO DISPLAY DETOUR INSTRUCTIONS. PLACE REVERSIBLE ROUTE SHIELD PLAQUE TO DISPLAY THE RT. 315 SHIELD.

25B
163

FRA-315-11.37

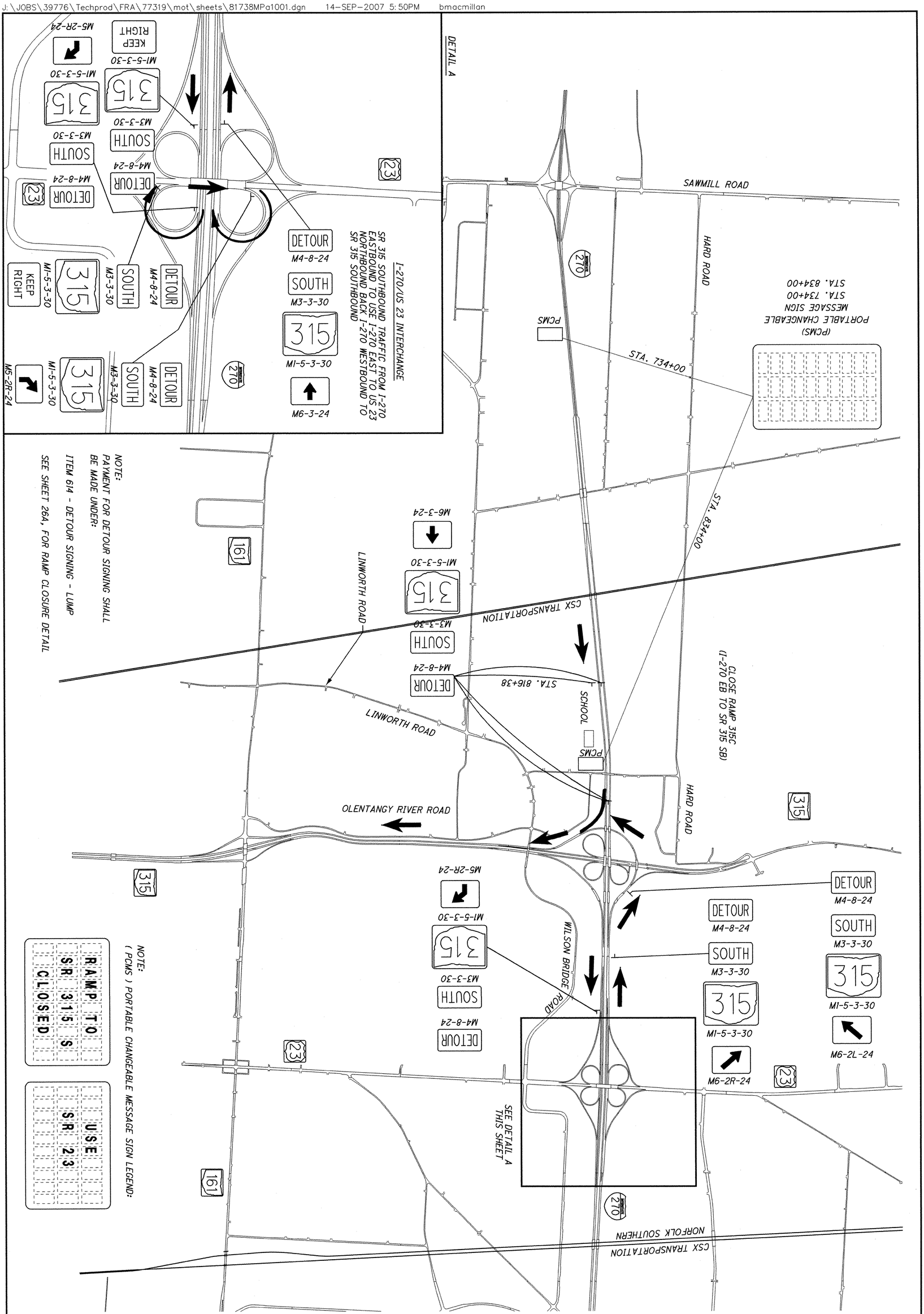
MANTENANCE OF TRAFFIC
SAWMILL RD. DETOUR

CALCULATED BLM
CHECKED ZSS

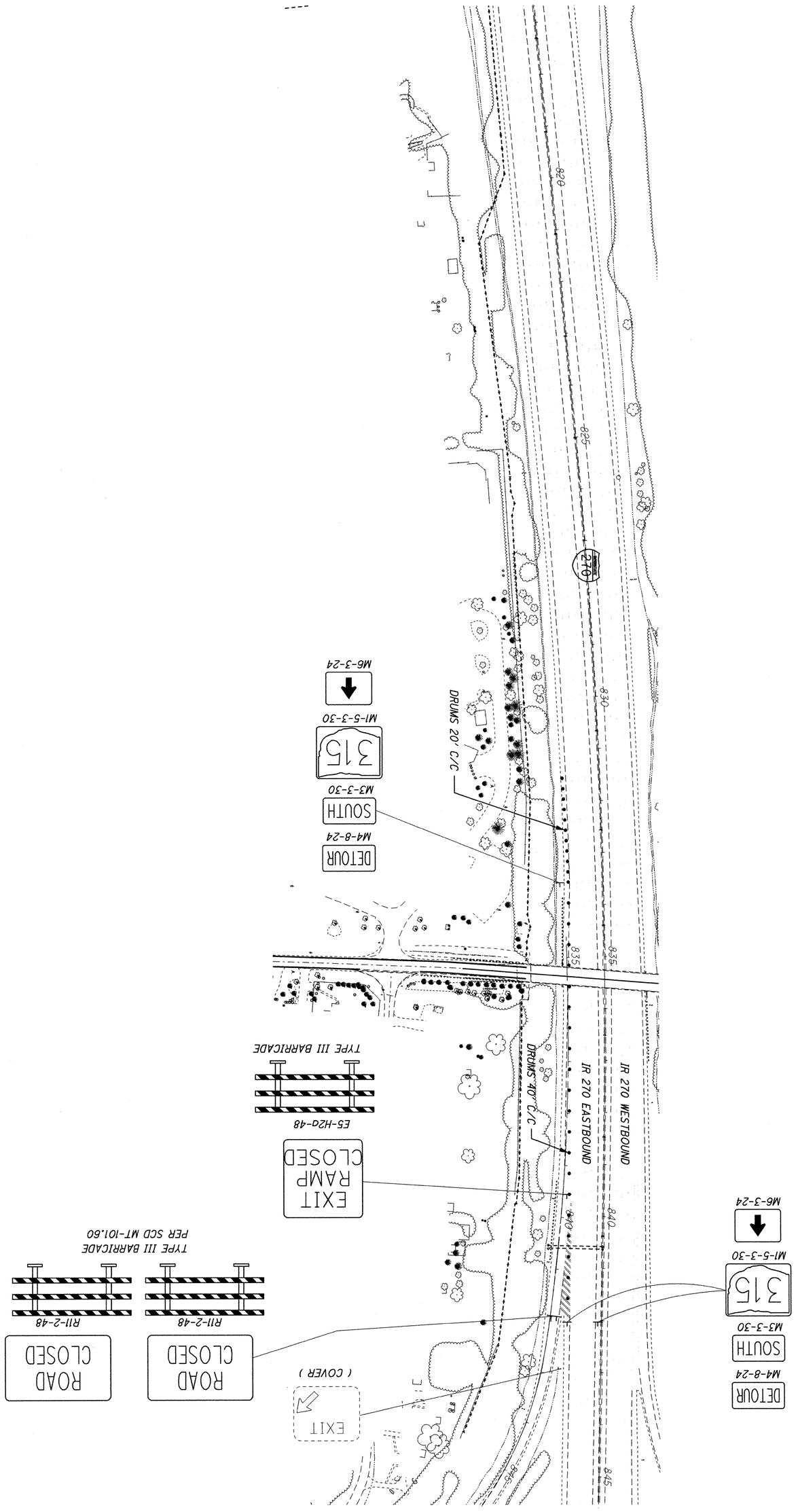
0 50
25 100
HORIZONTAL SCALE IN FEET

N

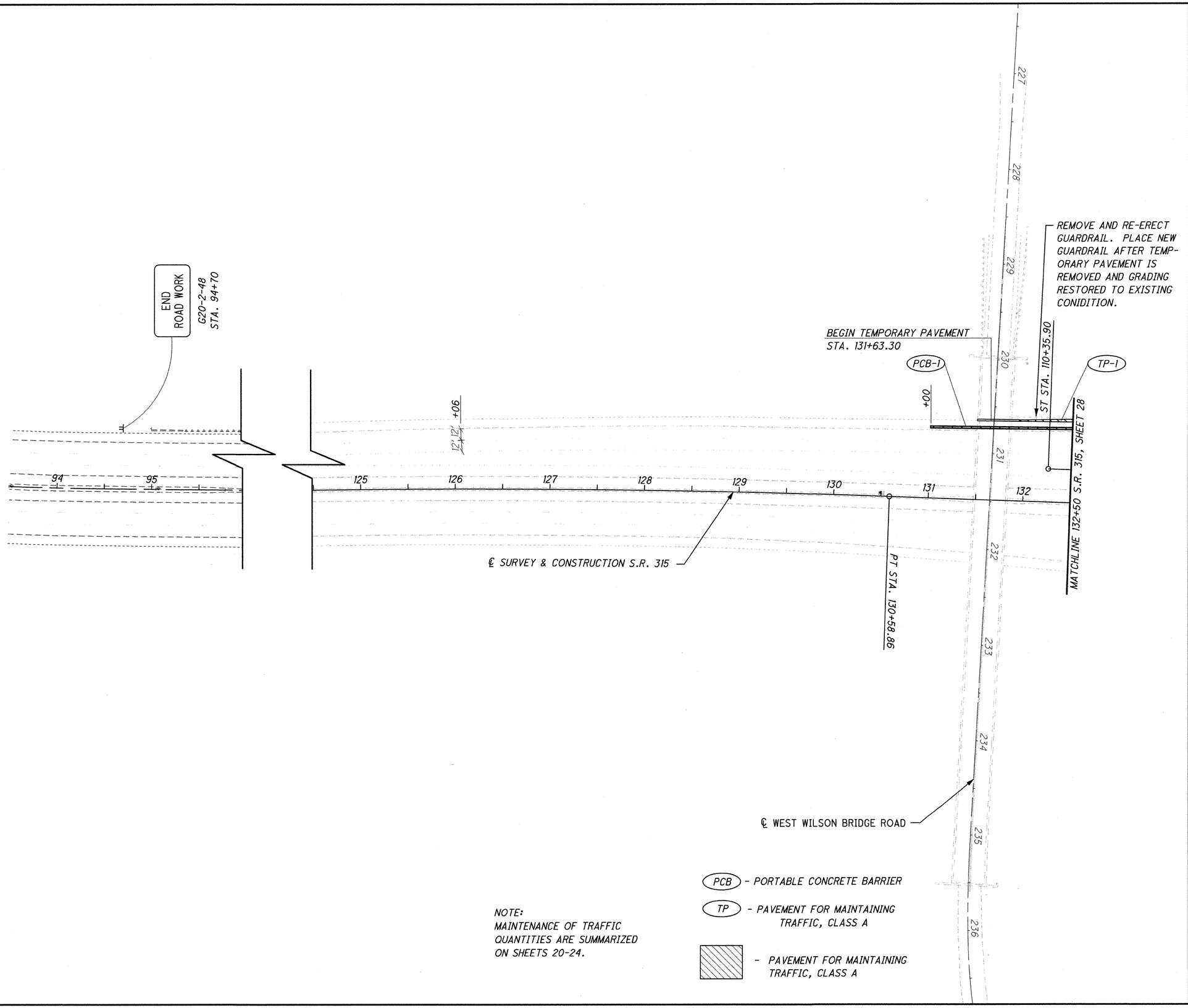
J:\JOBS\39776\Techprod\FRA\77319\mot\sheets\81738MPa1001.dgn 14-SEP-2007 5:50PM bmacmillan



26 / 163	FRA-315-11.37	MAINTENANCE OF TRAFFIC I-270 EASTBOUND TO SR 315 SOUTHBOUND	CALCULATED JMW CHECKED ZSS



26A 163	FRA-315-11.37	MAINTENANCE OF TRAFFIC I-270 EBTO SR 315 SB RAMP CLOSURE	CALCULATED BLM CHECKED ZSS	0 100 50 200 HORIZONTAL SCALE IN FEET



NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

N

0 50 100
HORIZONTAL SCALE IN FEET

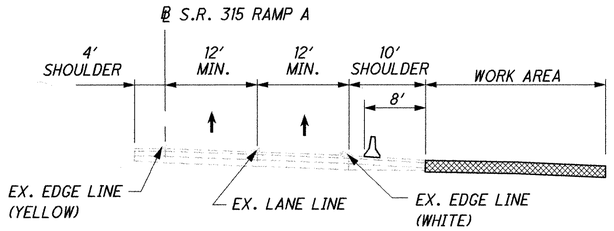
CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 1 S.R. 315

FRA-315-11.37

27
163

J:\JOBS\39776\Techprod\FRA\77319\mot\sheets\81738MPa1003.dgn 14-SEP-2007 5:50PM bmacmillan



SECTION A-A

REMOVE AND PLACE WORK ZONE GUARDRAIL.

ST STA. 826+03.82 EX. RAMP 315A = STA. 133+80.10 S.R. 315, 53.8' LT.

END TEMPORARY PAVEMENT TAPER, 40' LT

SC STA. 828+03.82

PCC STA. 830+07, 46' LT

CS STA. 830+47.40

END TEMPORARY PAVEMENT STA. 831+57.75, 43' LT.

PCB-1

+00

R 640'

R 1075'

TP-1

+28

12'|12'

A

A

827 828 829 830 831 832

℄ S.R. 315 EX. RAMP A

MATCHLINE 832+50 EX. S.R. 315 RAMP A, SHEET 29

RIGHT LANE ENDS

RIGHT LANE ENDS MERGE LEFT

STA. 144+93.39

ROAD WORK AHEAD

W20-1-36

STA. STA. 162+00

MATCHLINE 132+50 S.R. 315, SHEET 27

133 134 135 136 137 138 139 140 141 142 143 144 145

℄ SURVEY & CONSTRUCTION SR 315

S.R. 315 EX. RAMP D

PCB - PORTABLE CONCRETE BARRIER

TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED

= EXISTING TO BE REMOVED AND RE-ERECTED

- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

N

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 1 S.R. 315

FRA-315-11.37

28
163

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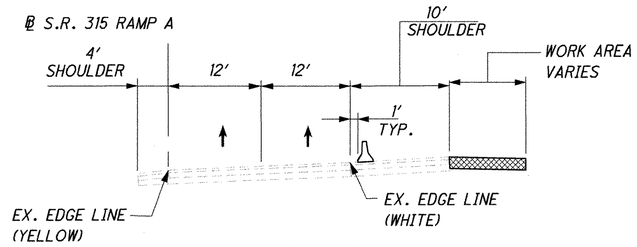
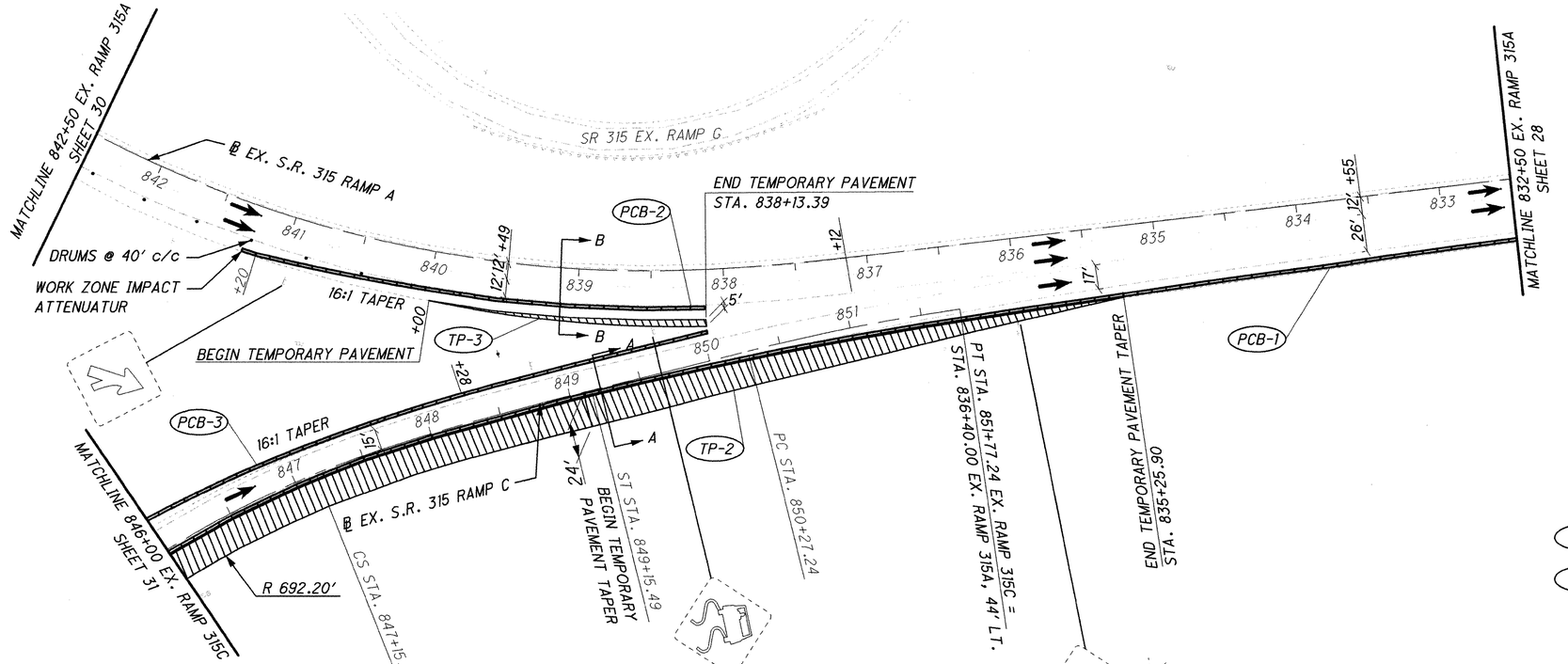
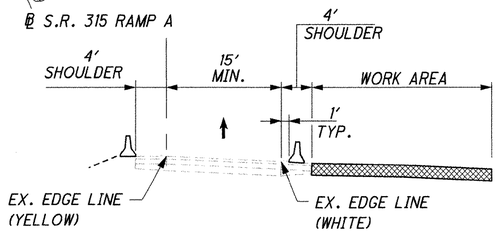


SECTION B-B





SECTION A-A

PCB - PORTABLE CONCRETE BARRIER

TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED

= EXISTING TO BE REMOVED AND RE-ERECTED

- PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 1 S.R. 315

FRA-315-11.37

29
163

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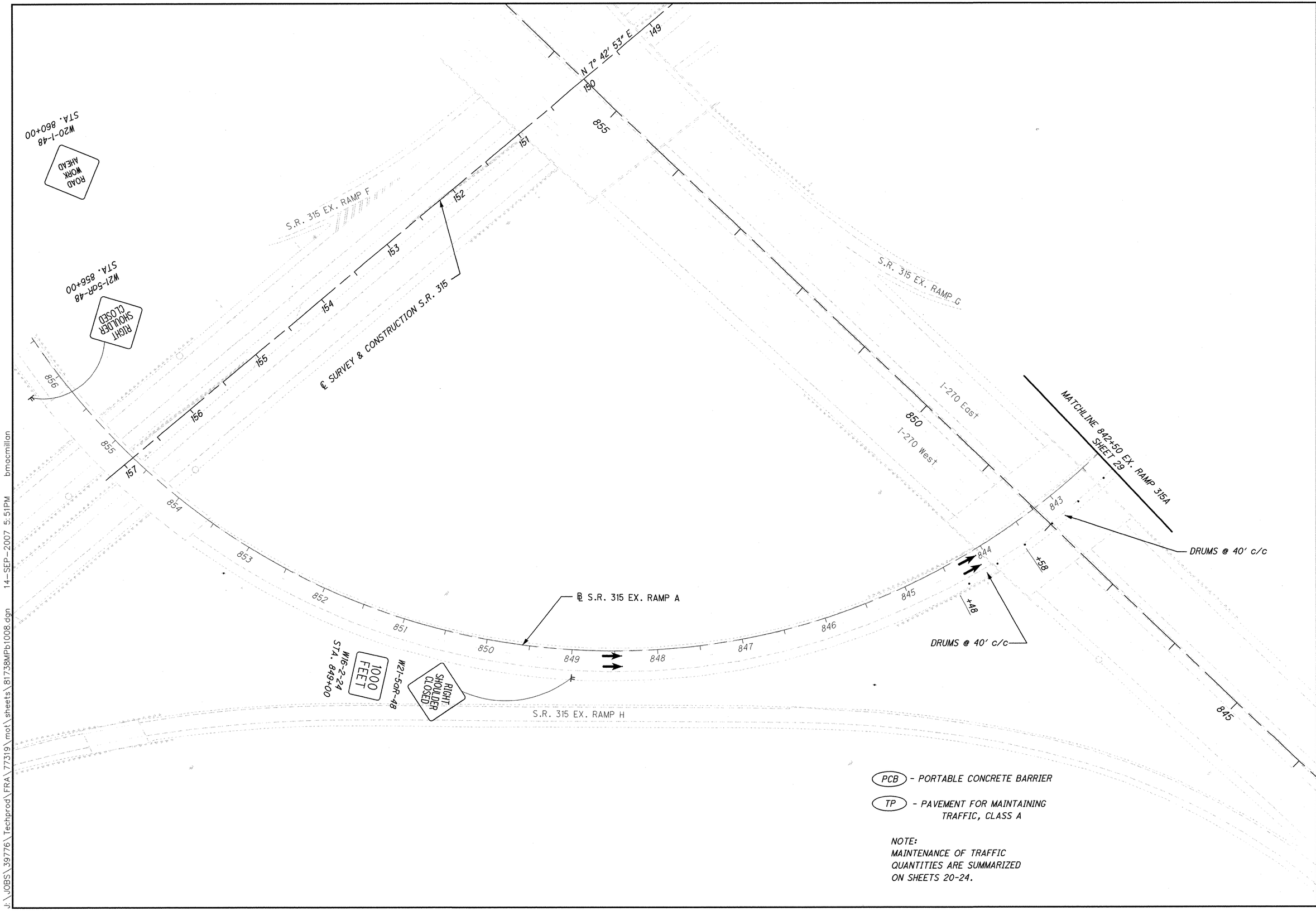

PCB - PORTABLE CONCRETE BARRIER

TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 1 S.R. 315

FRA-315-11.37

30
163

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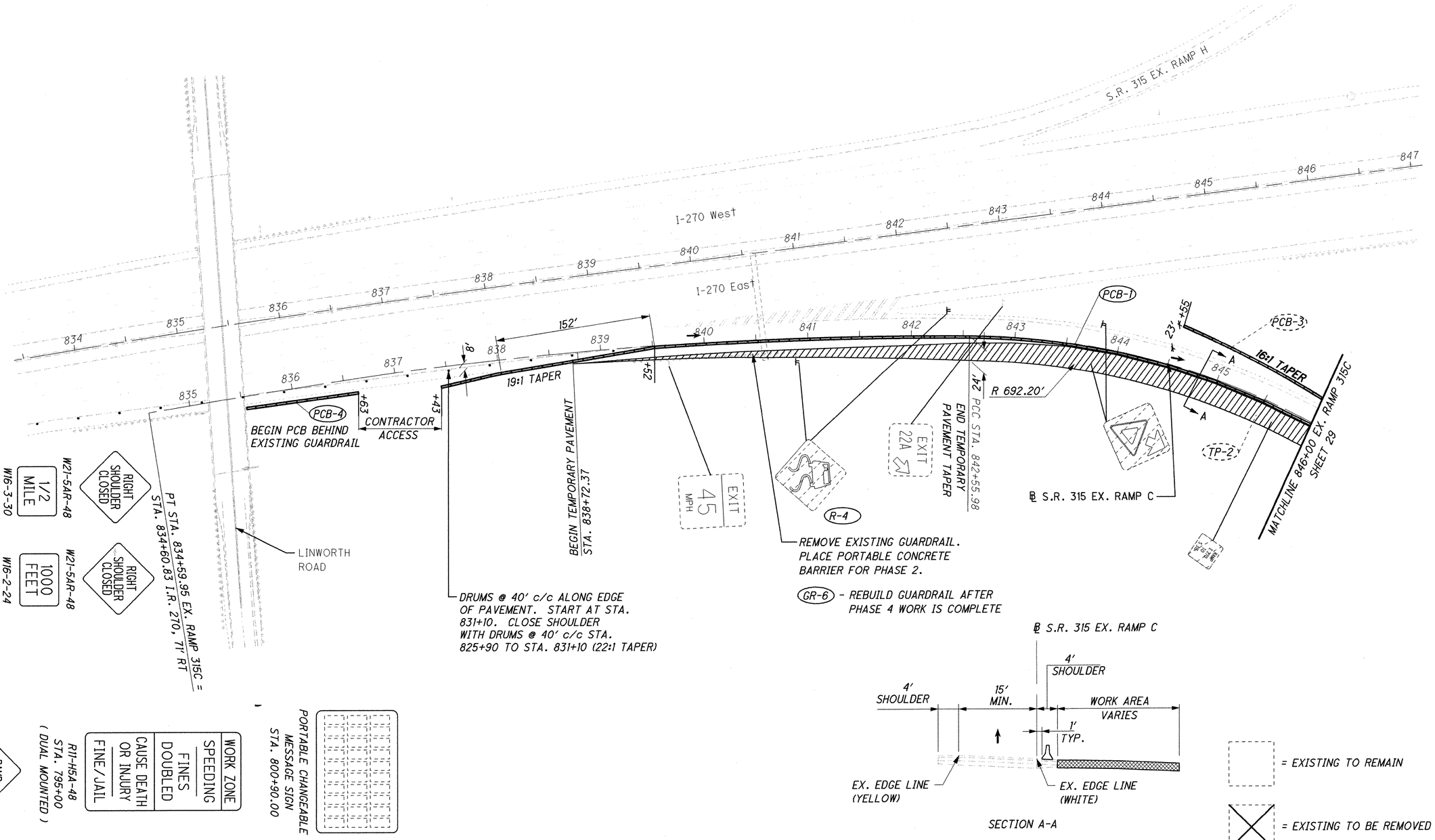

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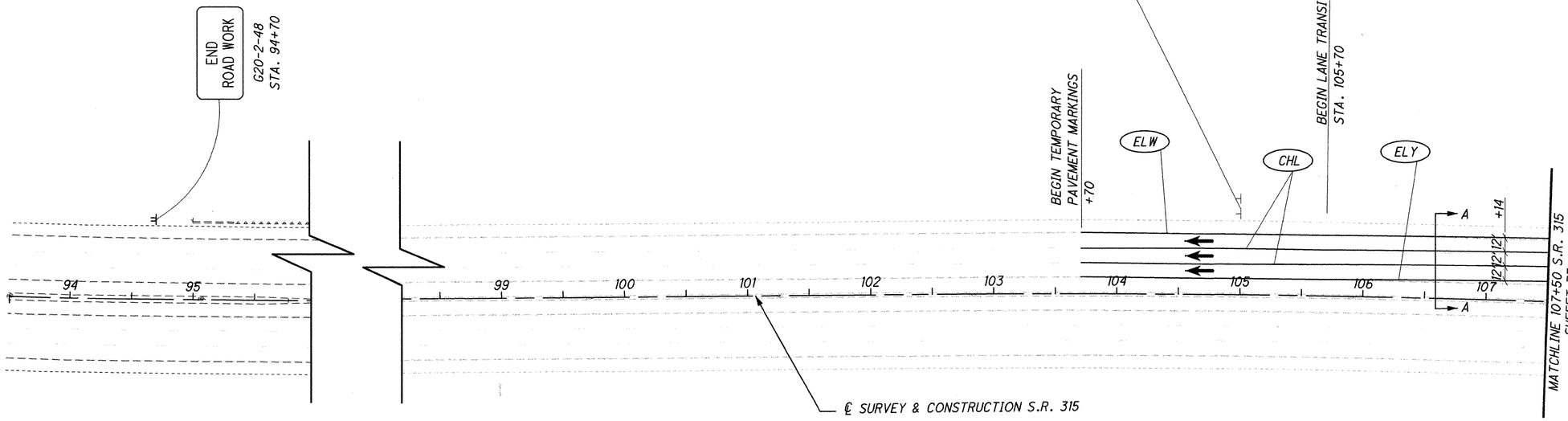
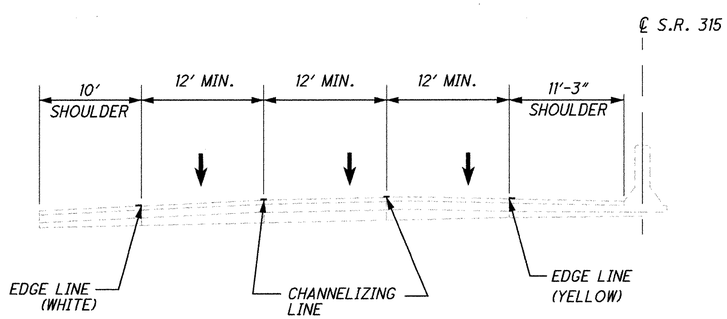
HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 1 S.R. 315

FRA-315-11.37





SECTION A-A

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

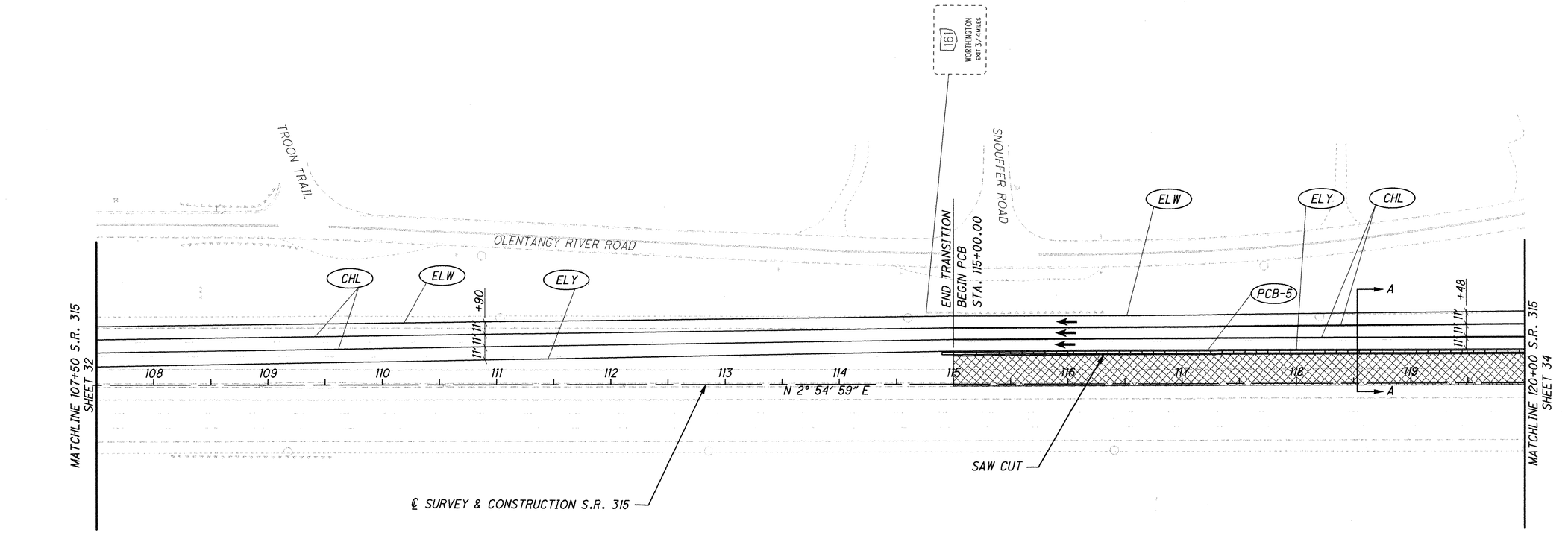
NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

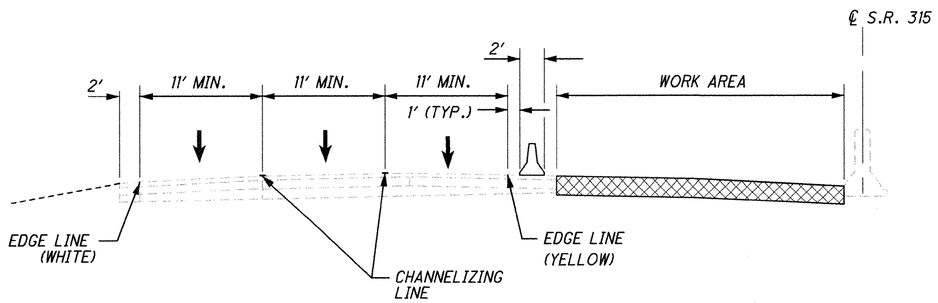
CALCULATED BLM
CHECKED ZSS

0 50 100
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC PHASE 2 S.R. 315

FRA-315-11.37





SECTION A-A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

- WORK AREA

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 2 S.R. 315

FRA-315-11.37

33
163

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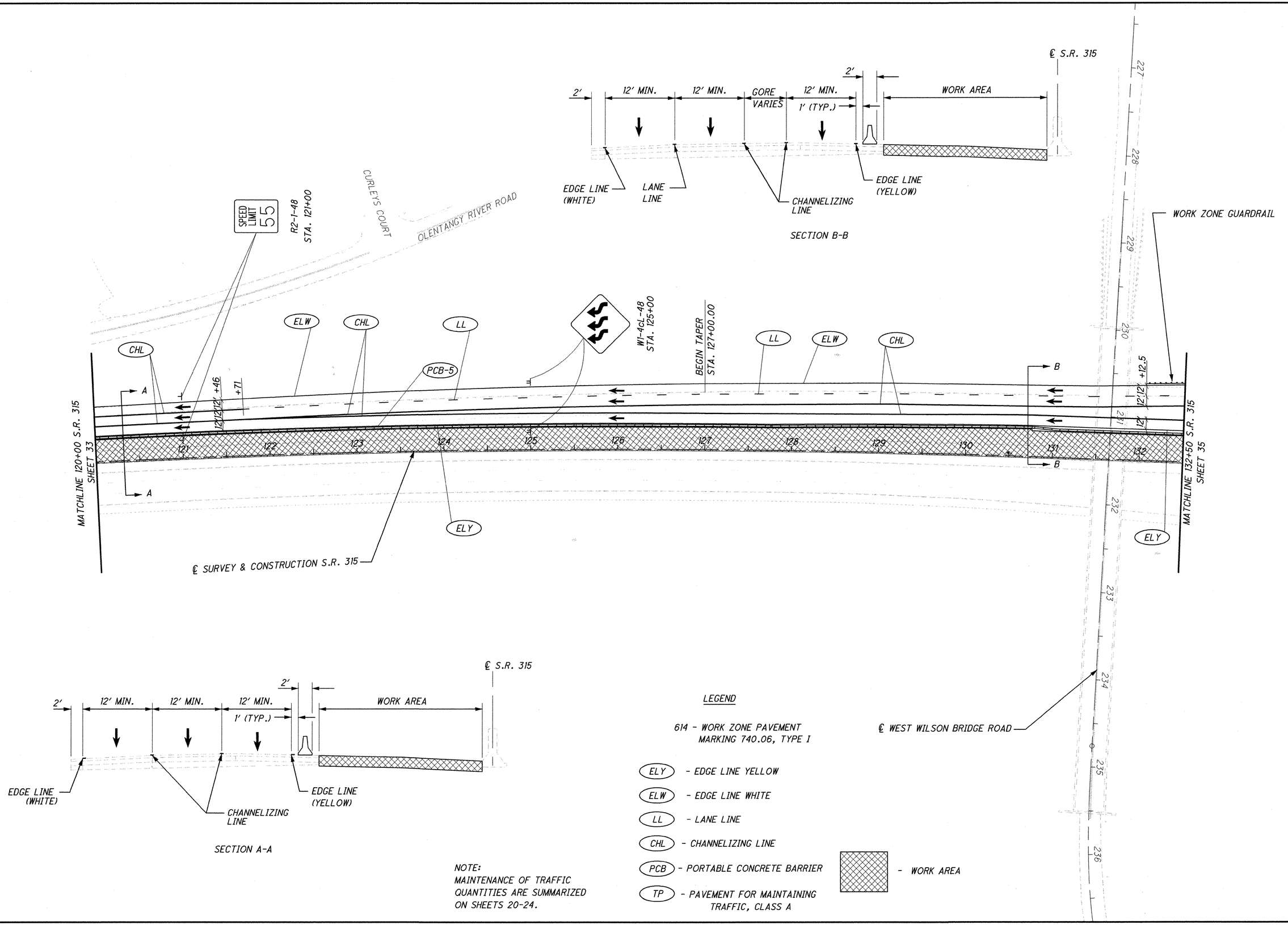
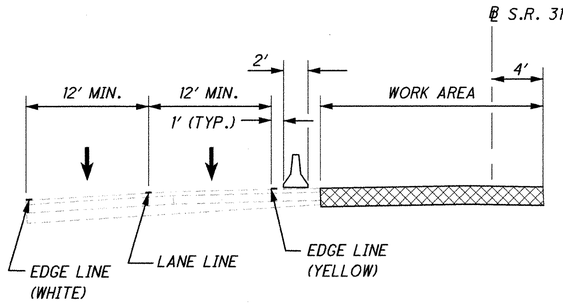
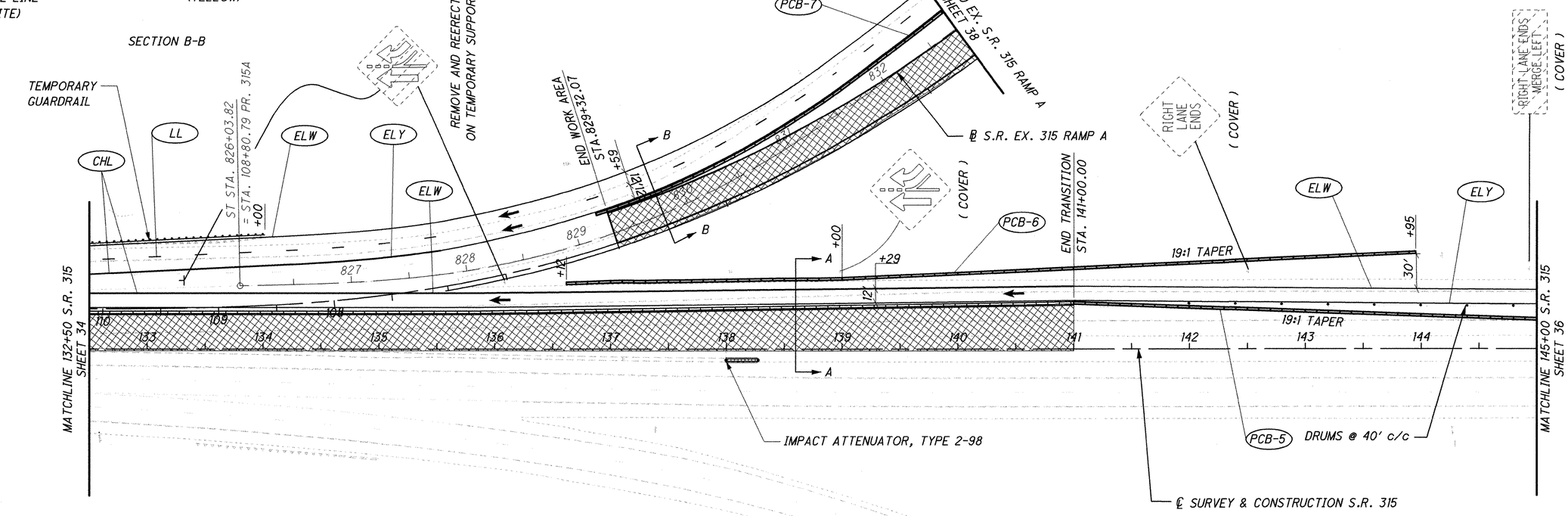
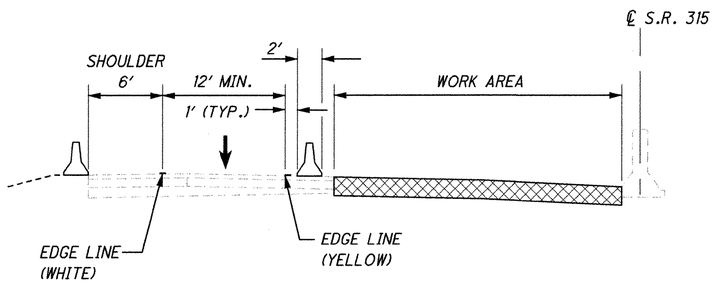




SECTION B-B





SECTION A-A

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED

= EXISTING TO BE REMOVED AND RE-ERECTED

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

- WORK AREA

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

ELY - EDGE LINE YELLOW

ELW - EDGE LINE WHITE

LL - LANE LINE

CHL - CHANNELIZING LINE

PCB - PORTABLE CONCRETE BARRIER

TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

N

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 2 S.R. 315

FRA-315-11.37

35
163

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MAINTENANCE OF TRAFFIC
PHASE 2 S.R. 315

CALCULATED BLM
CHECKED ZSS

HORIZONTAL SCALE IN FEET
0 50 100

FRA-315-11.37

S.R. 315 EX. RAMP G

S.R. 315 EX. RAMP H

MATCHLINE 145+00 S.R. 315
SHEET 35

MATCHLINE 157+50 S.R. 315
SHEET 37

℄ SURVEY & CONSTRUCTION S.R. 315

N 7° 42' 53" E

146 147 148 149 150 151 152 153 154 155 156 157

86 85 84 83 82 81 80 79 78 77 76 75

RAMP 30 MPH

BEGIN TRANSITION +45

BEGIN PCB +66

PCB-5

ELW

ELY

EAST CLEVELAND (HC) (270)

DRUMS @ 80' c/c

DRUMS @40' c/c

DRUMS @ 40' c/c

WORK ZONE IMPACT ATTENUATOR

WI-HII-48

END LANE CLOSURE
TAPER STA. 155+95.35

S.R. 315 EX. RAMP E

I-270 East

I-270 West

S.R. 315 EX. RAMP F

S.R. 315 EX. RAMP A

S.R. 315 EX. RAMP B

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

ELY - EDGE LINE YELLOW

ELW - EDGE LINE WHITE

LL - LANE LINE

PCB - PORTABLE CONCRETE BARRIER

TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

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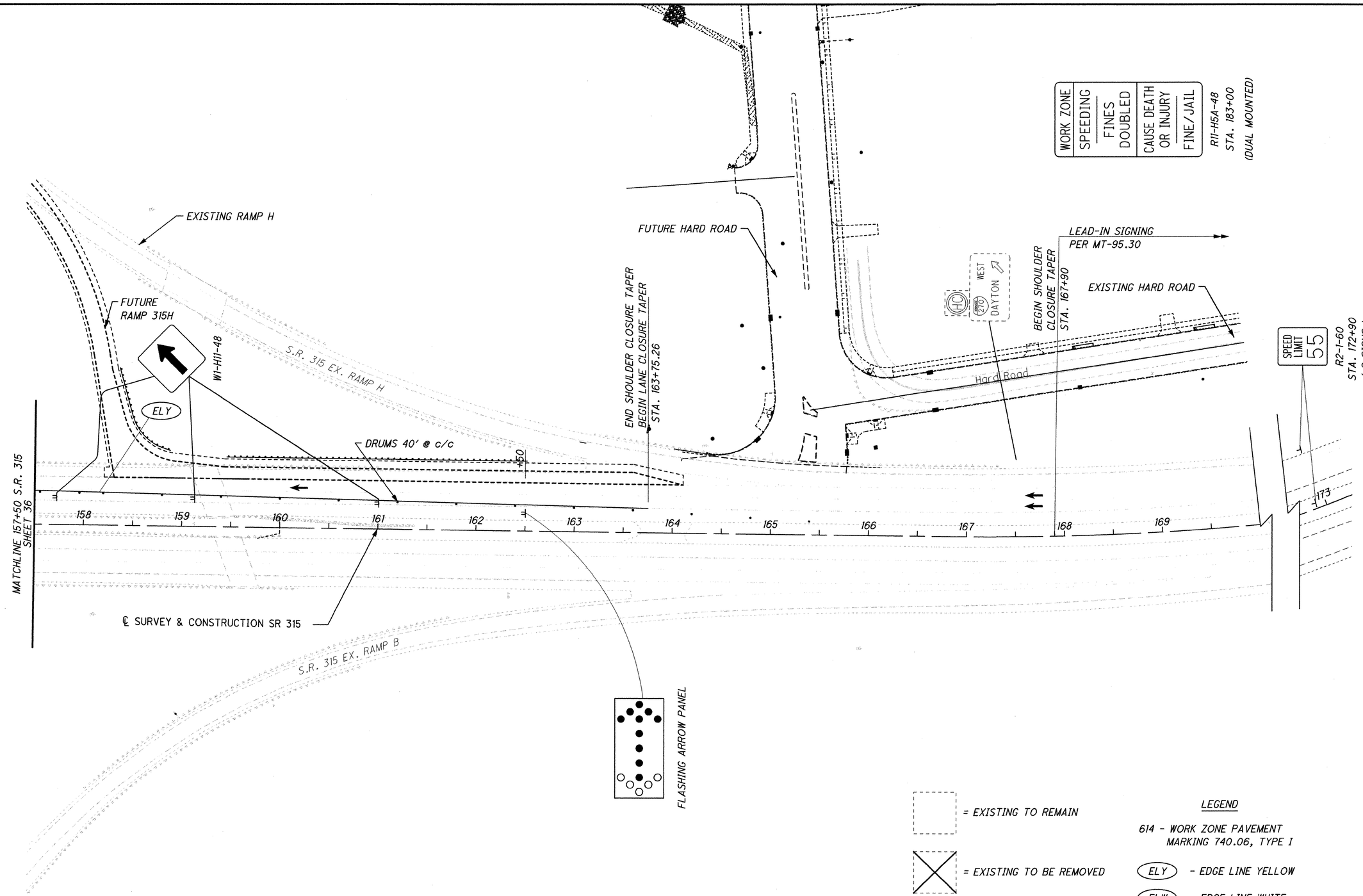

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED

= EXISTING TO BE REMOVED AND RE-ERECTED

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

ELY - EDGE LINE YELLOW

ELW - EDGE LINE WHITE

LL - LANE LINE

CHL - CHANNELIZING LINE

PCB - PORTABLE CONCRETE BARRIER

TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 2 S.R. 315

FRA-315-11.37

37
163

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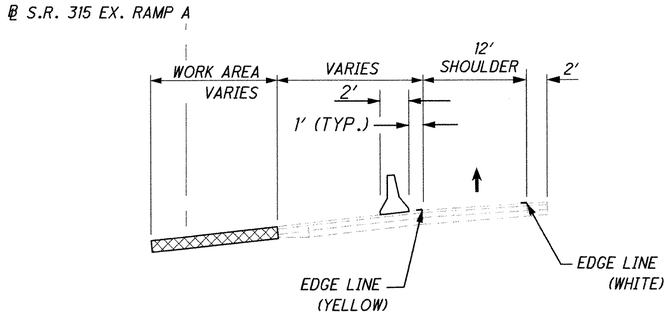
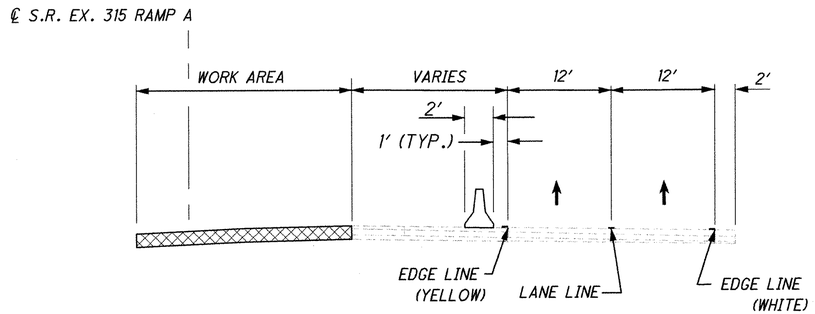
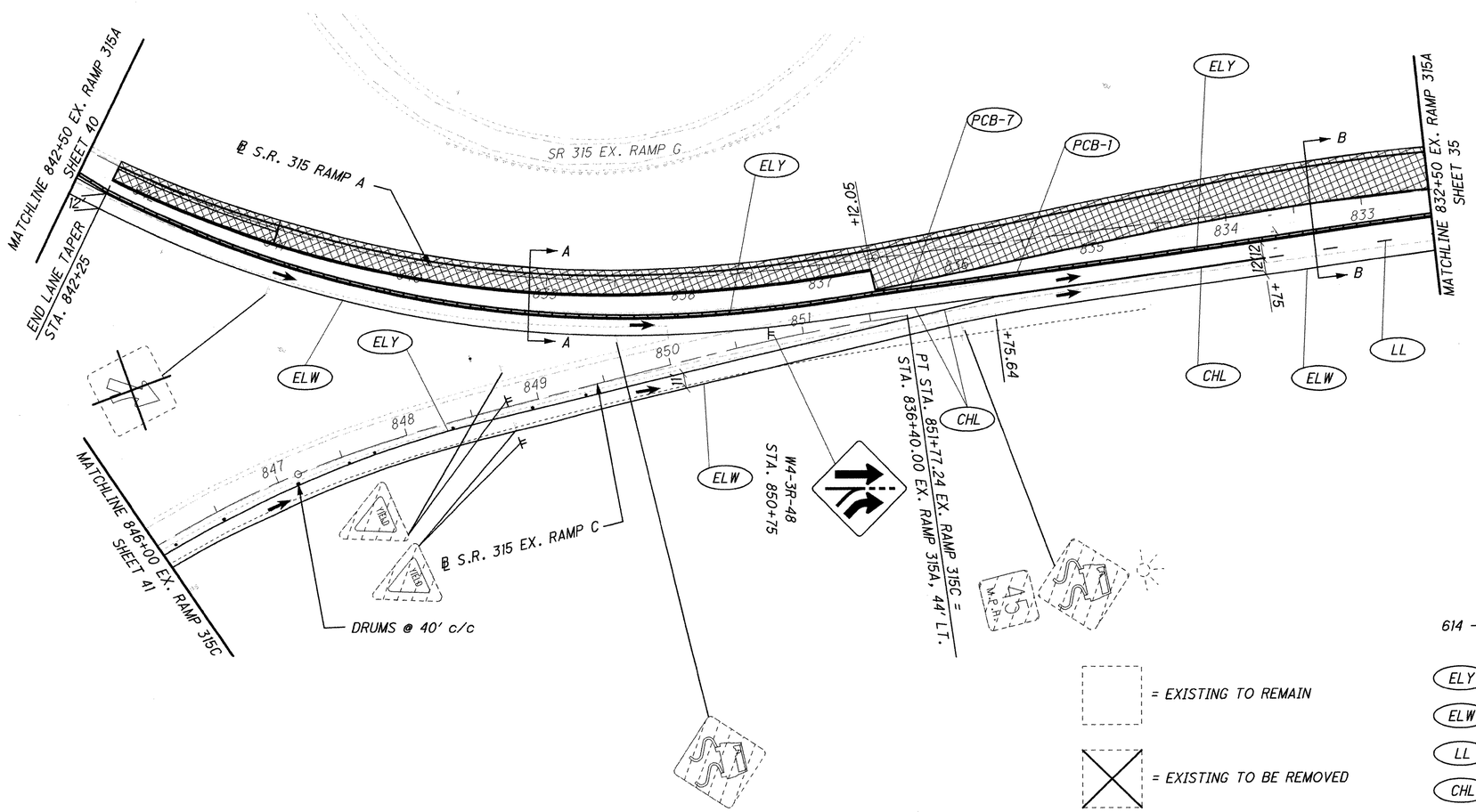


SECTION A-A



SECTION B-B



NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

- WORK AREA

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED

= EXISTING TO BE REMOVED AND RE-ERECTED

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC
PHASE 2 S.R. 315

FRA-315-11.37

38
163

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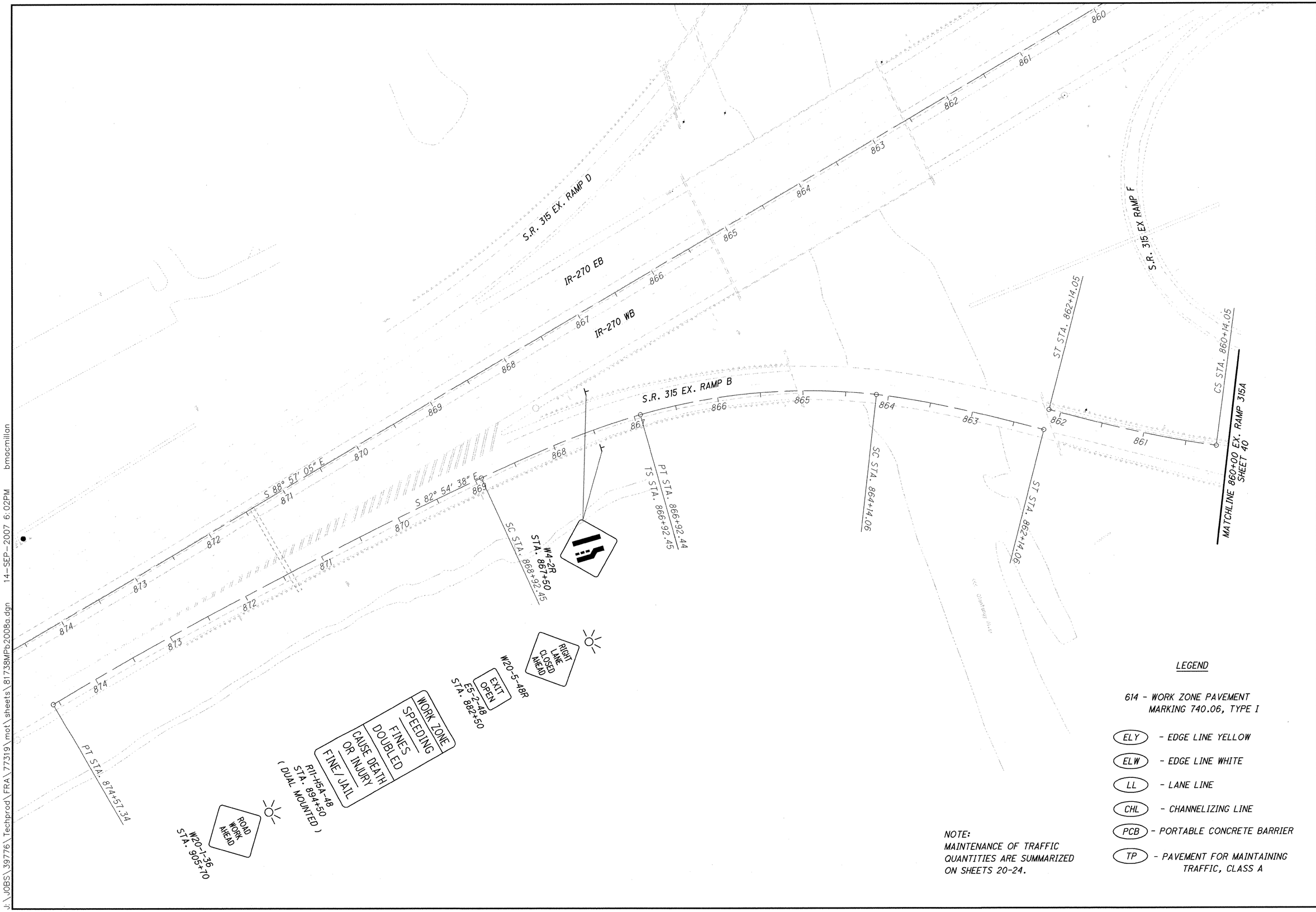

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- (ELY) - EDGE LINE YELLOW
- (ELW) - EDGE LINE WHITE
- (LL) - LANE LINE
- (CHL) - CHANNELIZING LINE
- (PCB) - PORTABLE CONCRETE BARRIER
- (TP) - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED JMW

MAINTENANCE OF TRAFFIC
PHASE 2 S.R. 315

FRA-315-11.37

39
163

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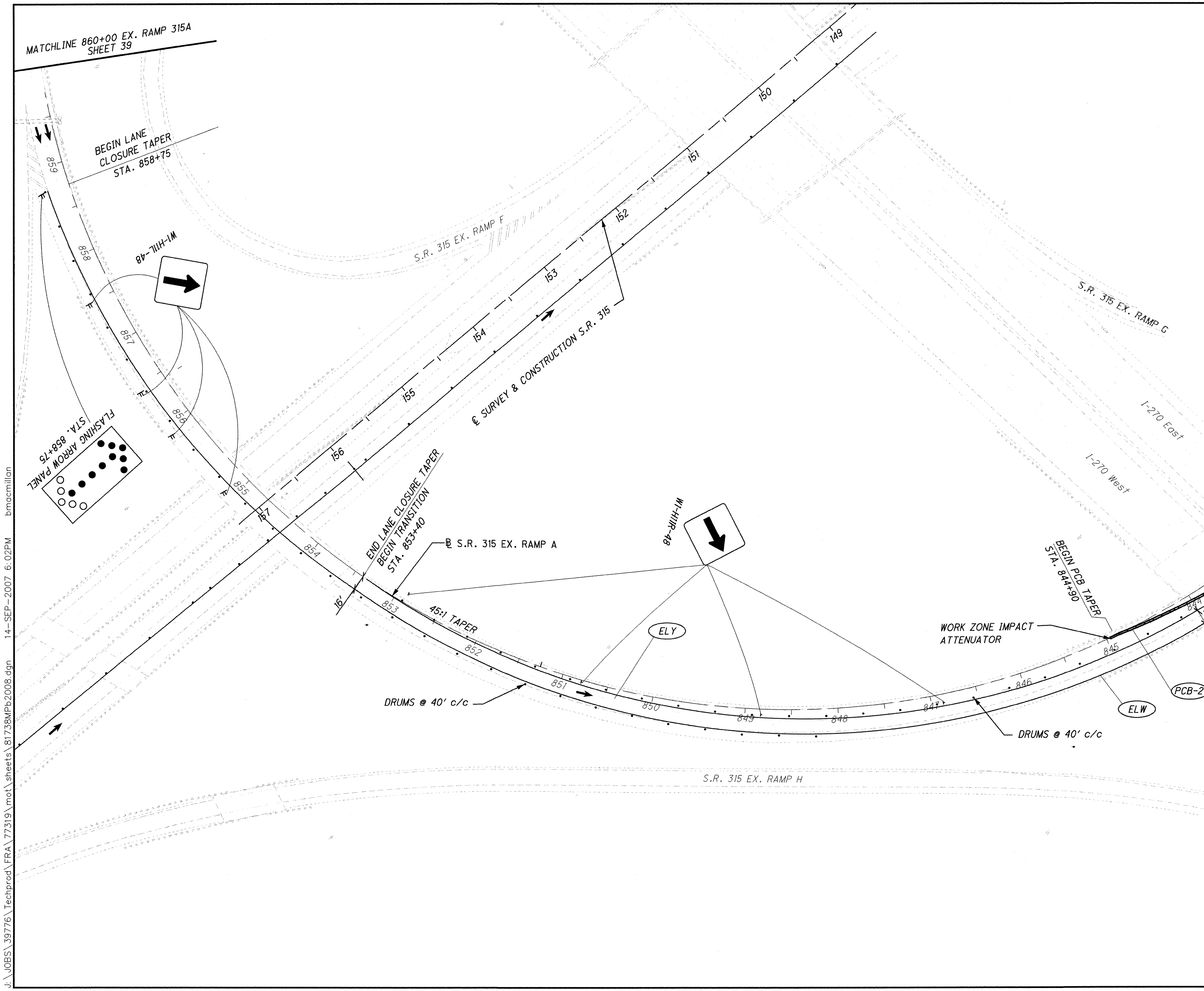

MATCHLINE 860+00 EX. RAMP 315A
SHEET 39
BEGIN LANE
CLOSURE TAPER
STA. 858+75
W1-H1L-48
FLASHING ARROW PANEL
STA. 858+75
S.R. 315 EX. RAMP F
℄ SURVEY & CONSTRUCTION S.R. 315
S.R. 315 EX. RAMP G
I-270 East
I-270 West
END LANE CLOSURE TAPER
BEGIN TRANSITION
STA. 853+40
℄ S.R. 315 EX. RAMP A
W1-H1R-48
45:1 TAPER
ELY
DRUMS @ 40' c/c
MATCHLINE 842+50 EX. RAMP 315A
SHEET 38
BEGIN PCB TAPER
STA. 844+90
WORK ZONE IMPACT
ATTENUATOR
PCB-2
ELW
END LANE TRANSITION
BEGIN LANE TAPER
STA. 844+00
DRUMS @ 40' c/c
S.R. 315 EX. RAMP H

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

(ELY) - EDGE LINE YELLOW

(ELW) - EDGE LINE WHITE

(LL) - LANE LINE

(CHL) - CHANNELIZING LINE

(PCB) - PORTABLE CONCRETE BARRIER

(TP) - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

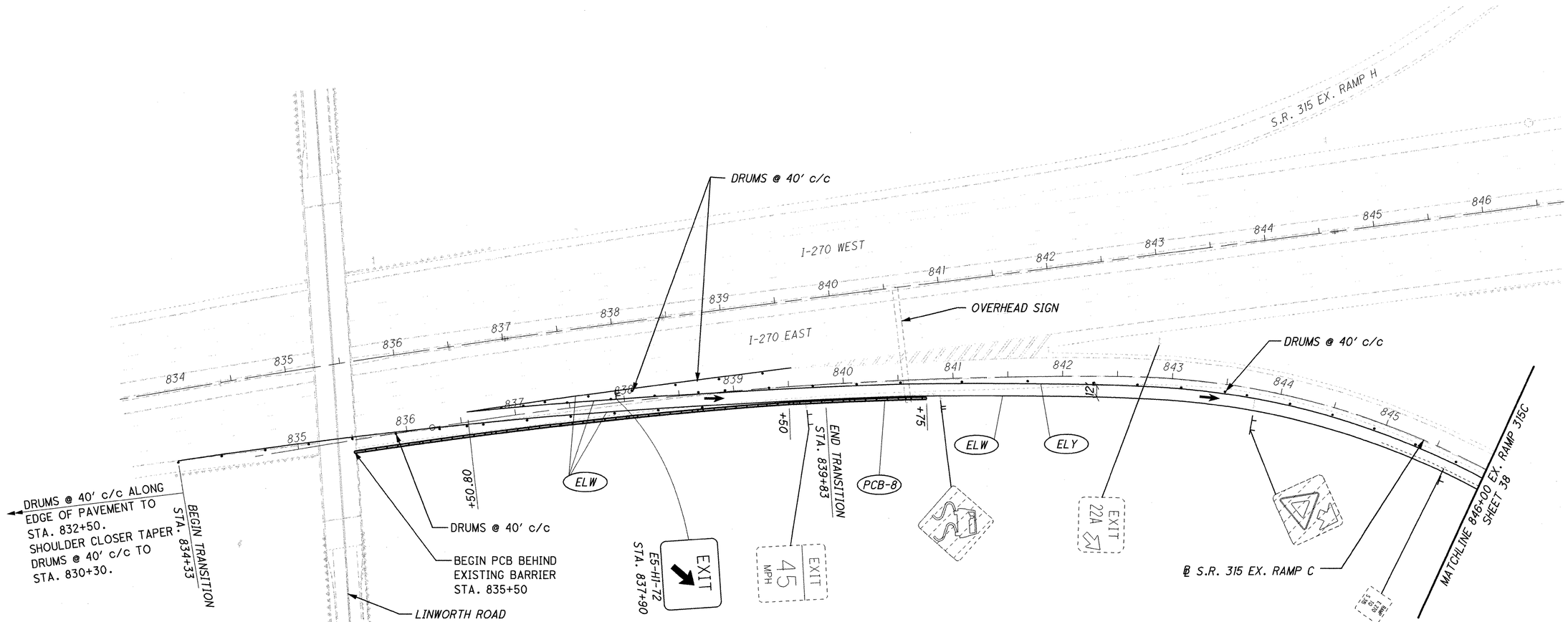
NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

HORIZONTAL SCALE IN FEET 0 50 100

CALCULATED BLM CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 2 S.R. 315

FRA-315-11.37



RAMP WORK AHEAD
W20-1-48
STA. 782+00

WORK ZONE SPEEDING FINES DOUBLED CAUSE DEATH OR INJURY FINE/JAIL
R11-H5A-48
STA. 795+00
(DUAL MOUNTED)

PORTABLE CHANGEABLE MESSAGE SIGN
STA. 800+90.00

WORK IN EXIT LANE
STA. 808+00

EXIT OPEN AHEAD
E5-H2B-48
STA. 824+00

NOTE:
PORTABLE MESSAGE SIGN MESSAGES ARE AS FOLLOWS:

WORK ON RAMP TO SR 315 S	REDUCE SPEED

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED

= EXISTING TO BE REMOVED AND RE-ERECTED

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

N

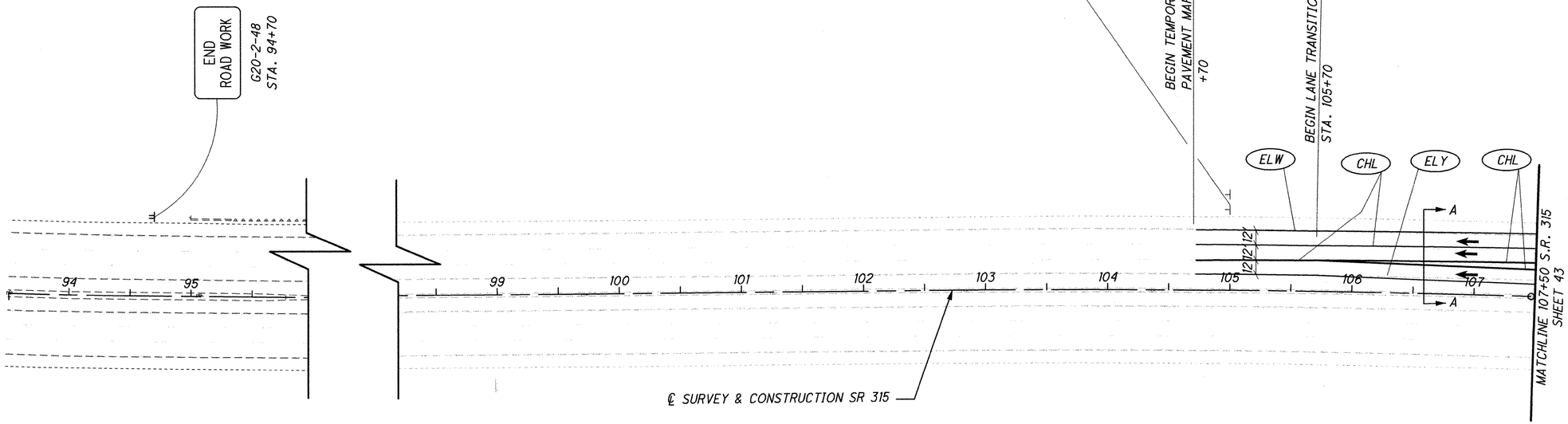
0 50 100
HORIZONTAL SCALE IN FEET

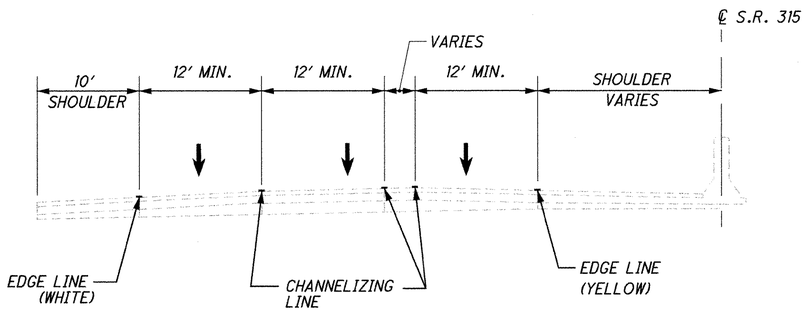
CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC
PHASE 2 S.R. 315

FRA-315-11.37

41
163





SECTION A-A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- (ELY) - EDGE LINE YELLOW
- (ELW) - EDGE LINE WHITE
- (LL) - LANE LINE
- (SLL) - SOLID LANE LINE
- (CHL) - CHANNELIZING LINE
- (PCB) - PORTABLE CONCRETE BARRIER
- (TP) - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 3 S.R. 315

FRA-315-11.37

42
163

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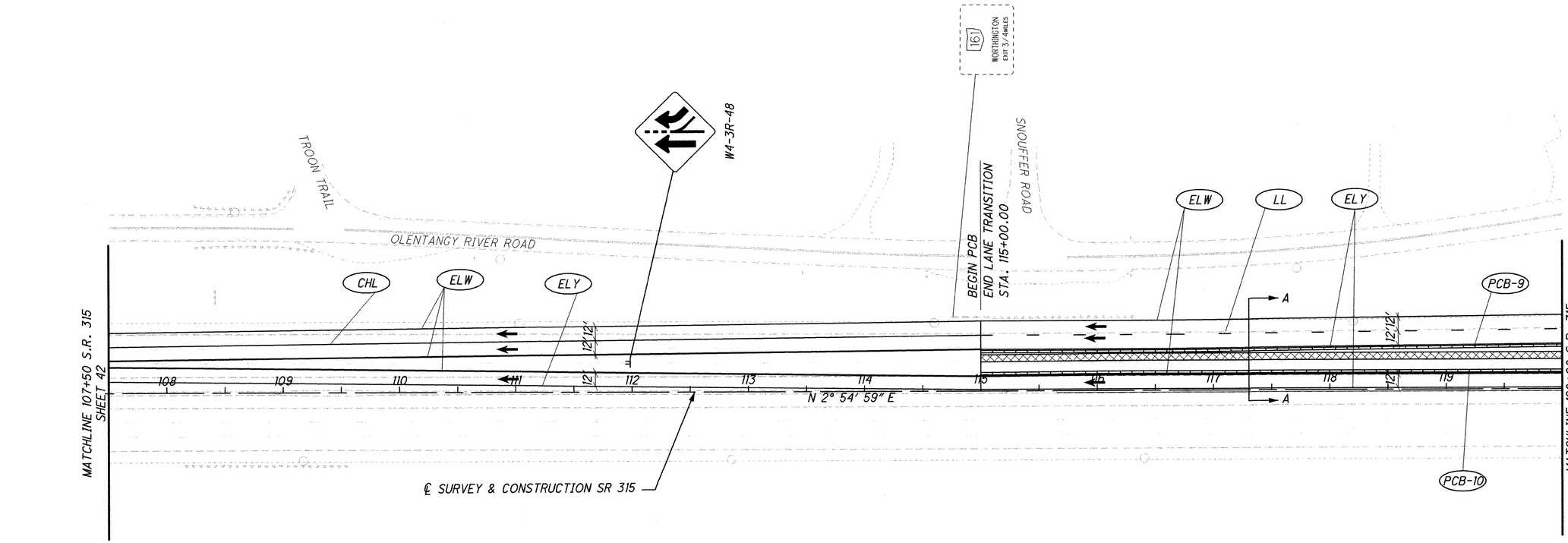
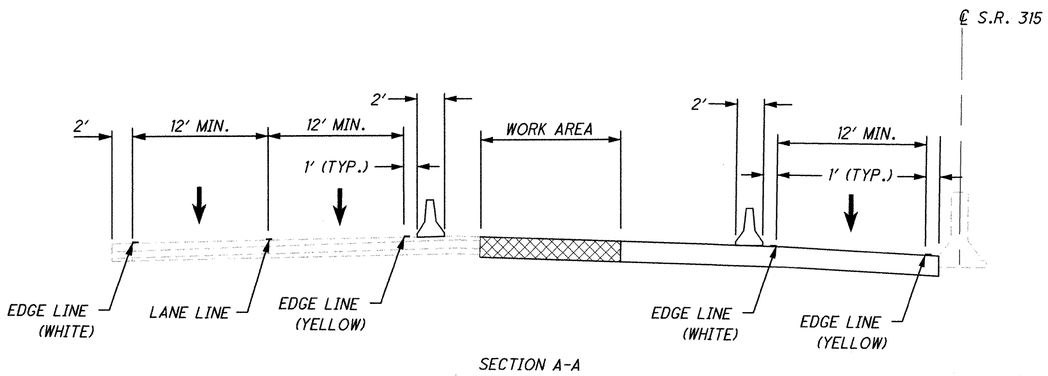




SECTION A-A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

- WORK AREA

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

N

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 3 S.R. 315

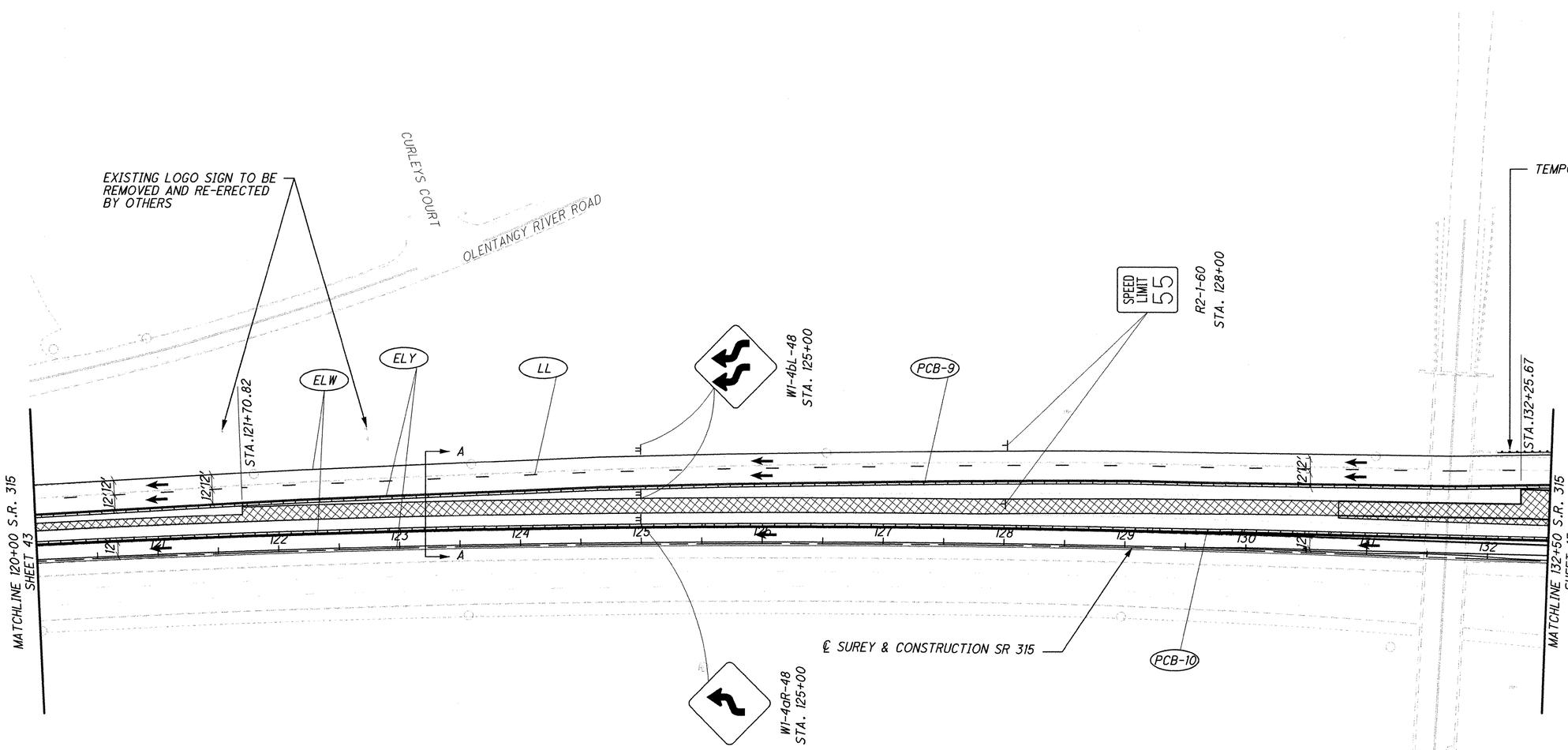
FRA-315-11.37

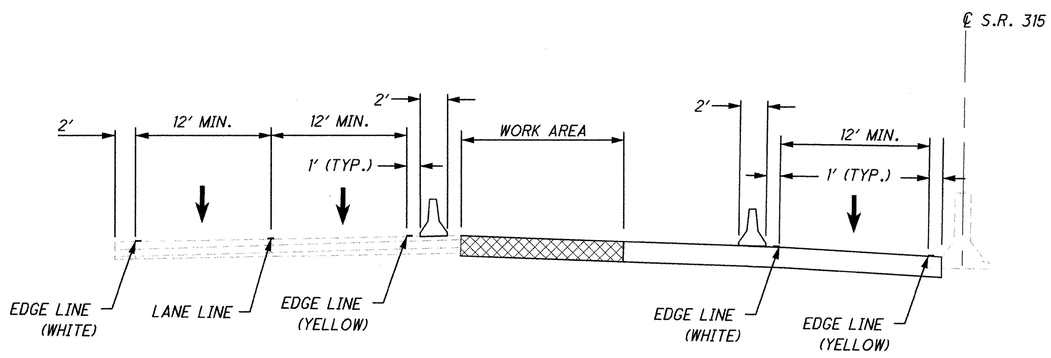
43
163

MAINTENANCE OF TRAFFIC
PHASE 3 S.R. 315

CALCULATED BLM
CHECKED ZSS

HORIZONTAL SCALE IN FEET
0 50 100





SECTION A-A

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

(ELY) - EDGE LINE YELLOW

(ELW) - EDGE LINE WHITE

(LL) - LANE LINE

(CHL) CHANNELIZING LINE

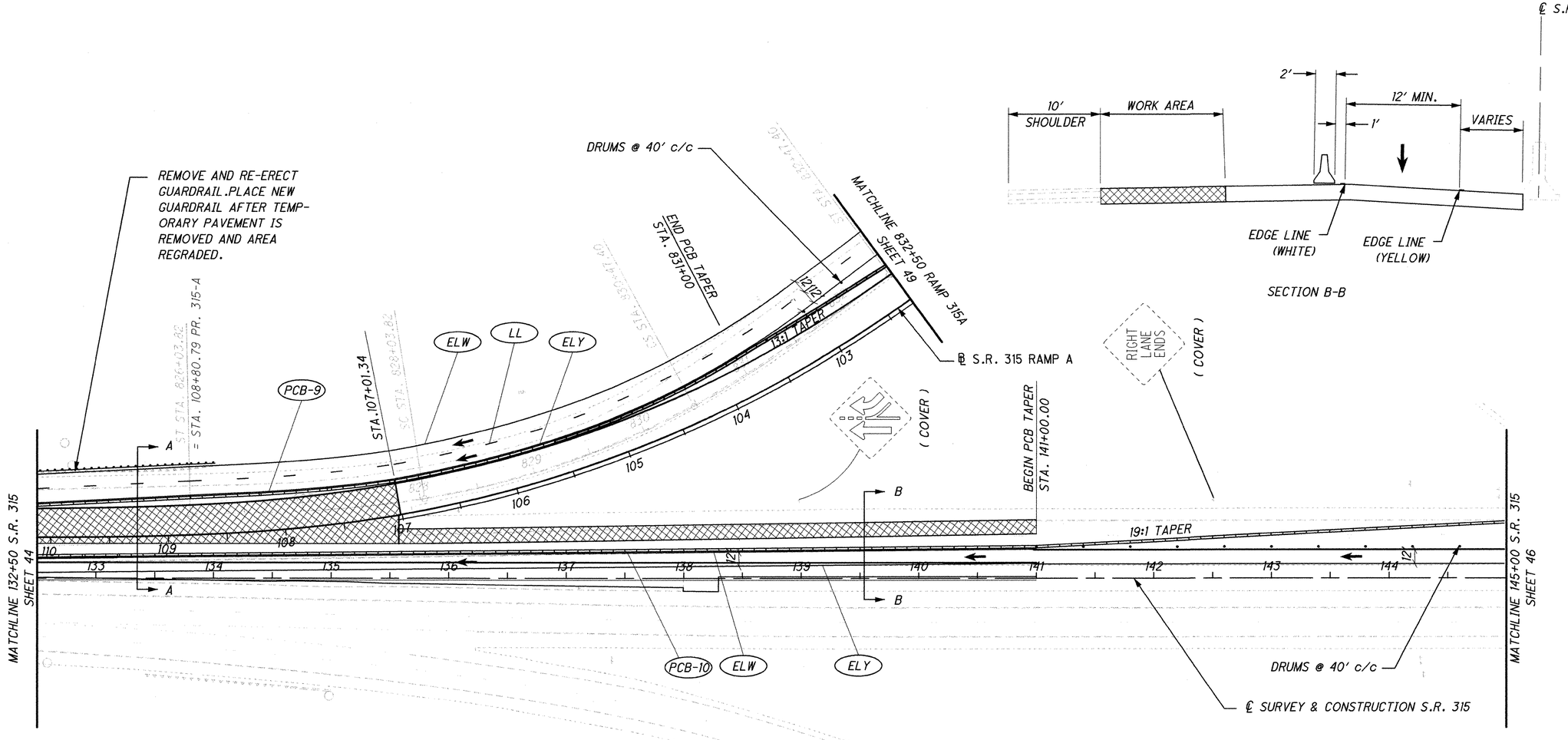
(PCB) - PORTABLE CONCRETE BARRIER

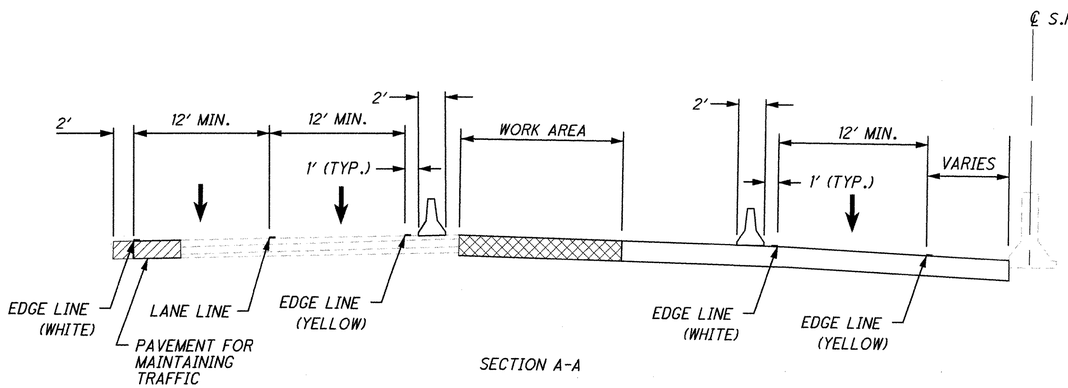
(TP) - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

- WORK AREA

FRA-315-11.37





NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

- WORK AREA

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 3 S.R. 315

FRA-315-11.37

45
163

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NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 3 S.R. 315

FRA-315-11.37

46
163

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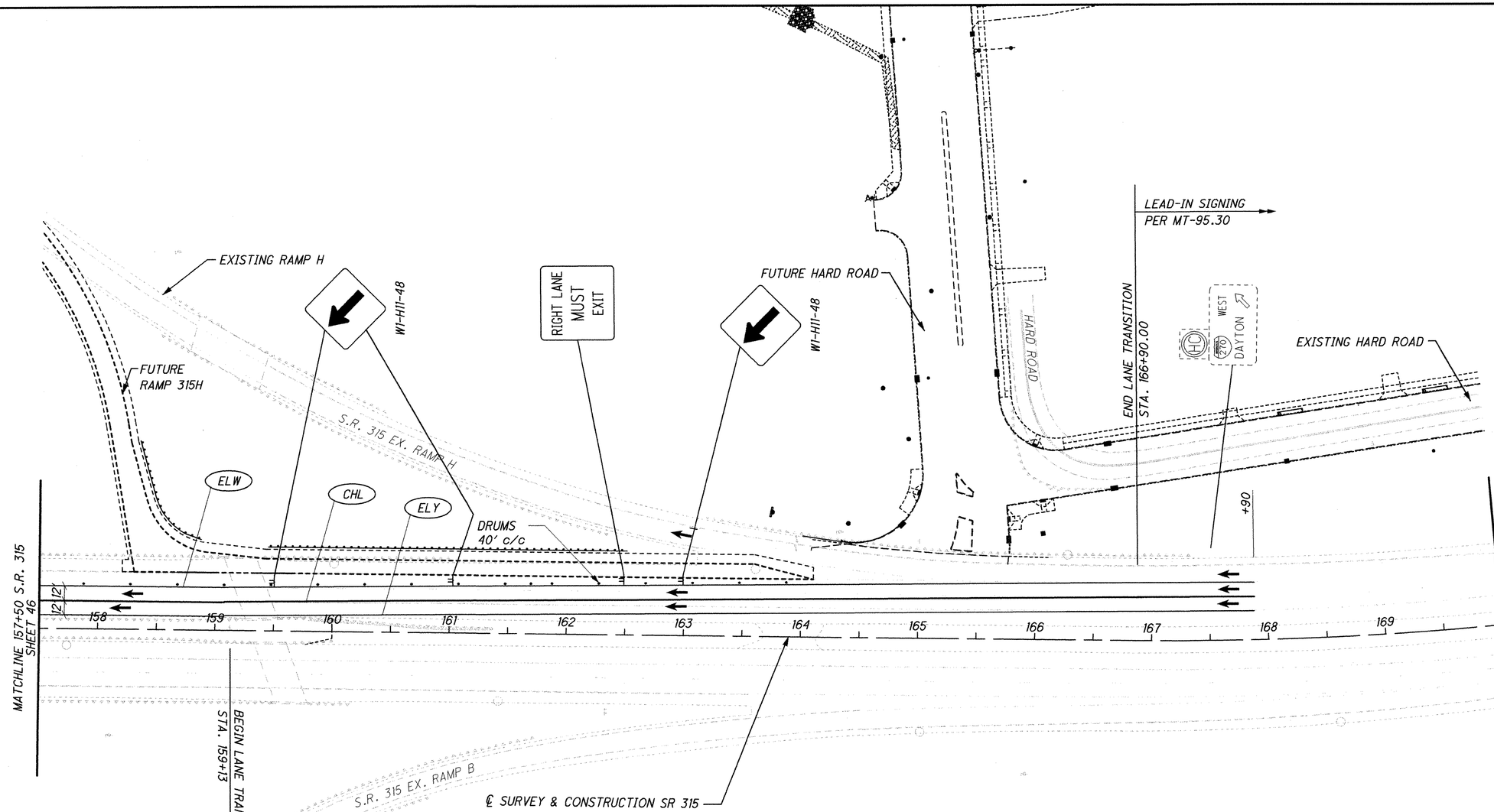

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 3 S.R. 315

FRA-315-11.37

47
163

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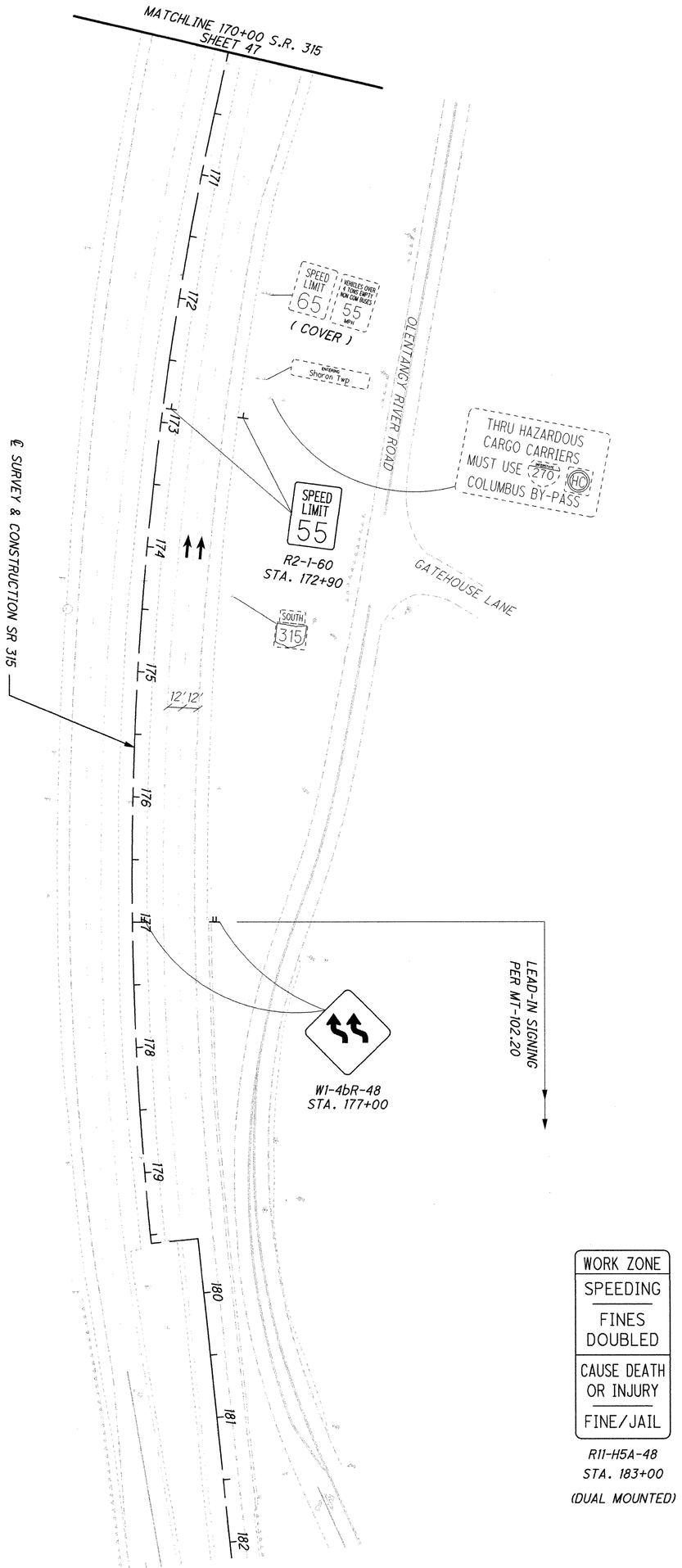
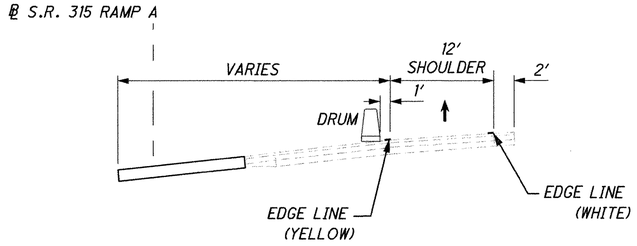


NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

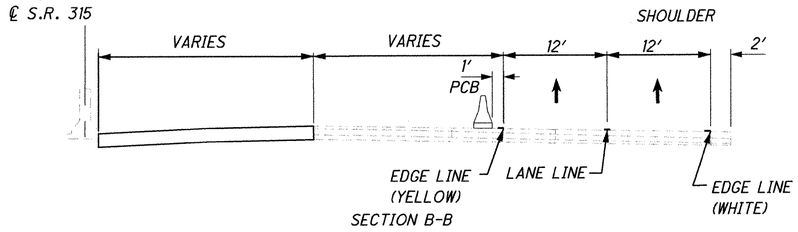
MAINTENANCE OF TRAFFIC
PHASE 3 S.R. 315

CALCULATED BLM
CHECKED ZSS

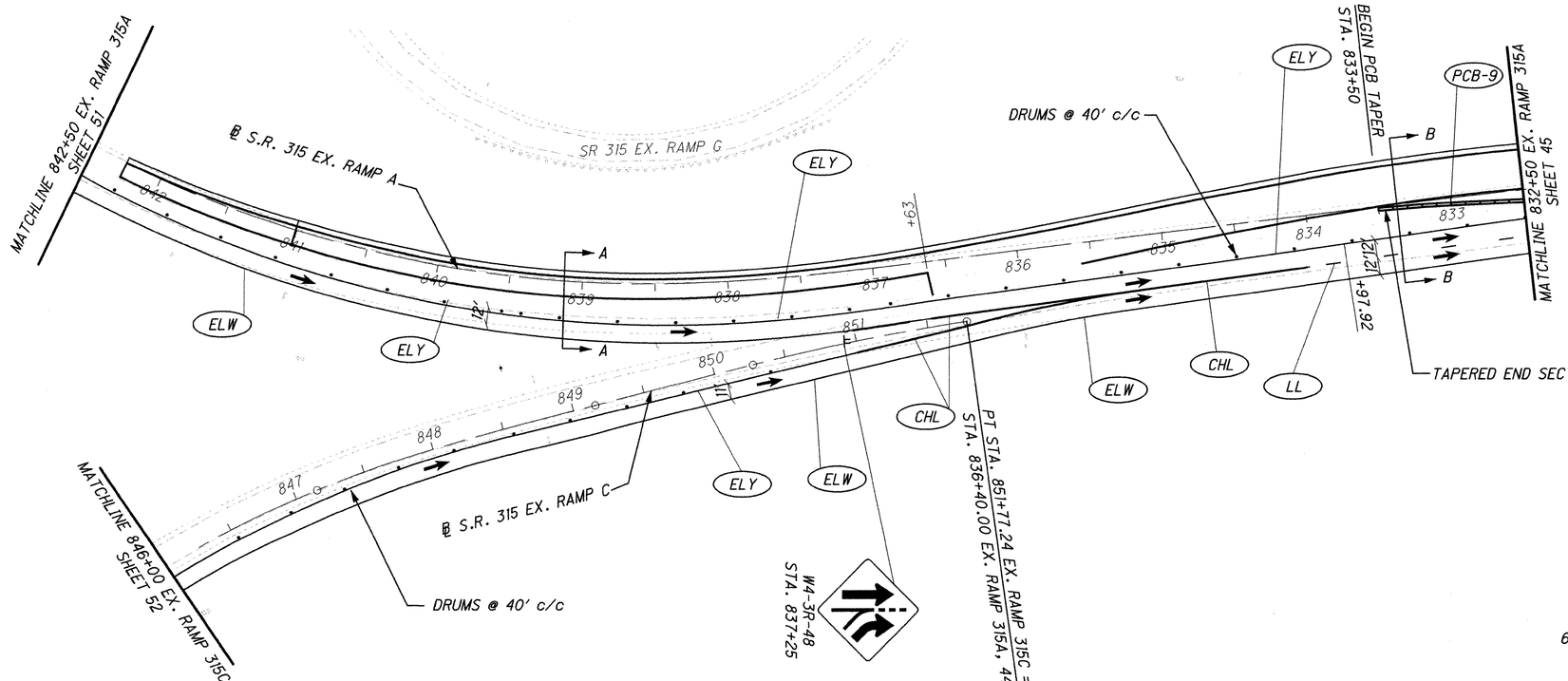
0 50 100
HORIZONTAL SCALE IN FEET



SECTION A-A



SECTION B-B



LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

(ELY) - EDGE LINE YELLOW

(ELW) - EDGE LINE WHITE

(LL) - LANE LINE

(CHL) - CHANNELIZING LINE

(PCB) - PORTABLE CONCRETE BARRIER

(TP) - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

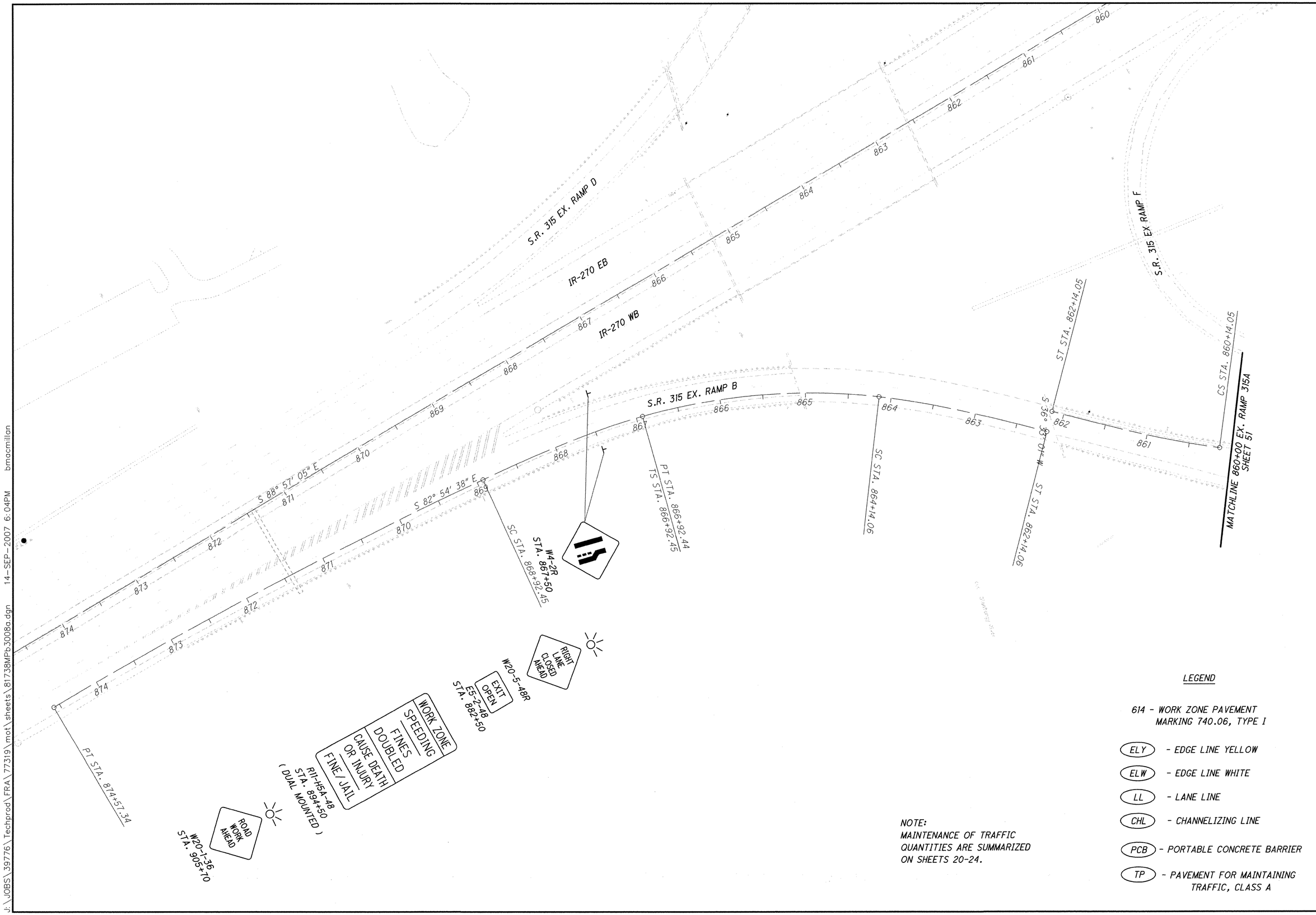
NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 3 S.R. 315

FRA-315-11.37



LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- (ELY) - EDGE LINE YELLOW
- (ELW) - EDGE LINE WHITE
- (LL) - LANE LINE
- (CHL) - CHANNELIZING LINE
- (PCB) - PORTABLE CONCRETE BARRIER
- (TP) - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

CALCULATED BLM
CHECKED JMW

HORIZONTAL SCALE IN FEET
0 50 100

MAINTENANCE OF TRAFFIC PHASE 3 S.R. 315

FRA-315-11.37

MATCHLINE 860+00 EX. RAMP 315A
SHEET 50

MATCHLINE 842+50 EX. RAMP 315A
SHEET 49

S.R. 315 EX. RAMP F

S.R. 315 EX. RAMP G

S.R. 315 EX. RAMP H

℄ SURVEY & CONSTRUCTION S.R. 315

℄ S.R. 315 EX. RAMP A

I-270 East

I-270 West

N 7° 42' 53" E

W1-H11-48

W1-H11-48

FLASHING ARROW PANEL
STA. 858+75

END LANE CLOSURE TAPER
BEGIN TRANSITION
STA. 853+40

45:1 TAPER

DRUMS @ 40' c/c

DRUMS @ 40' c/c

END LANE TRANSITION
BEGIN LANE TAPER
STA. 844+00

ELY

ELW

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

ELY - EDGE LINE YELLOW

ELW - EDGE LINE WHITE

LL - LANE LINE

CHL - CHANNELIZING LINE

PCB - PORTABLE CONCRETE BARRIER

TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

CALCULATED BLM
CHECKED ZSS

HORIZONTAL SCALE IN FEET
0 50 100

MAINTENANCE OF TRAFFIC
PHASE 3 S.R. 315

FRA-315-11.37

51
163

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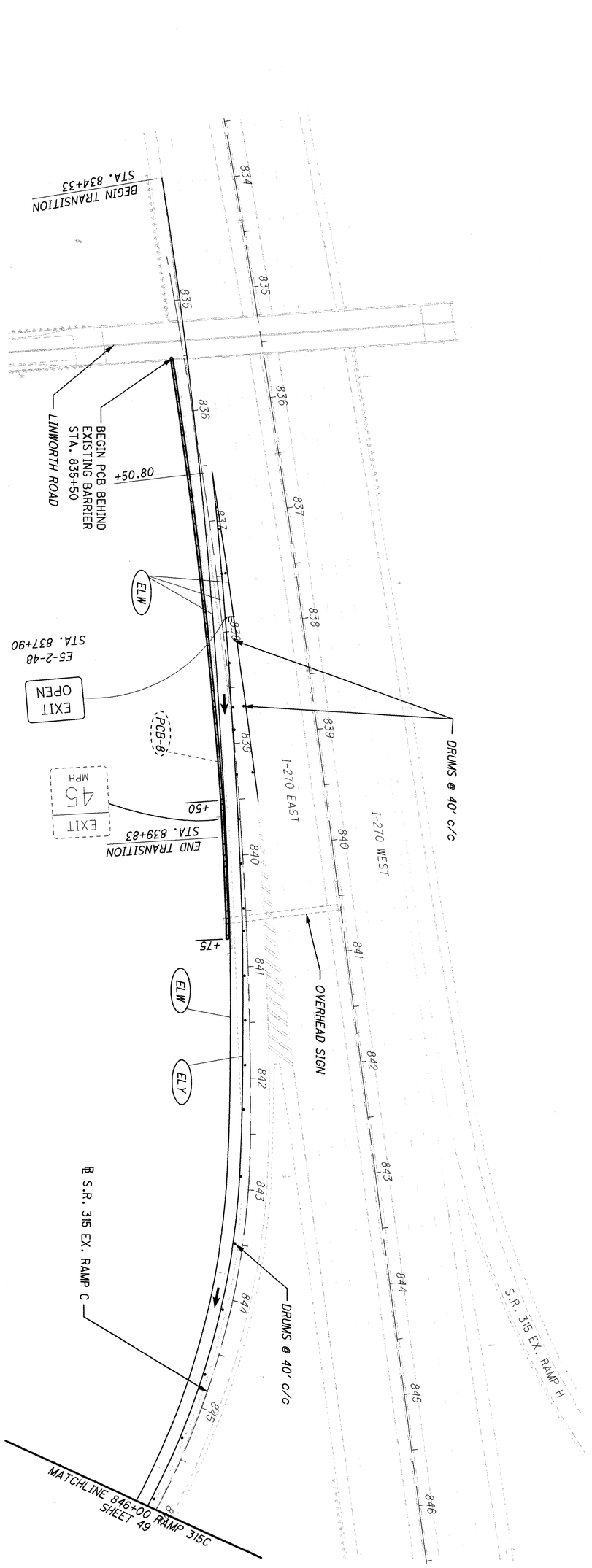


NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

(ELY) - EDGE LINE YELLOW

(ELW) - EDGE LINE WHITE

(LL) - LANE LINE

(CHL) - CHANNELIZING LINE

(PCB) - PORTABLE CONCRETE BARRIER

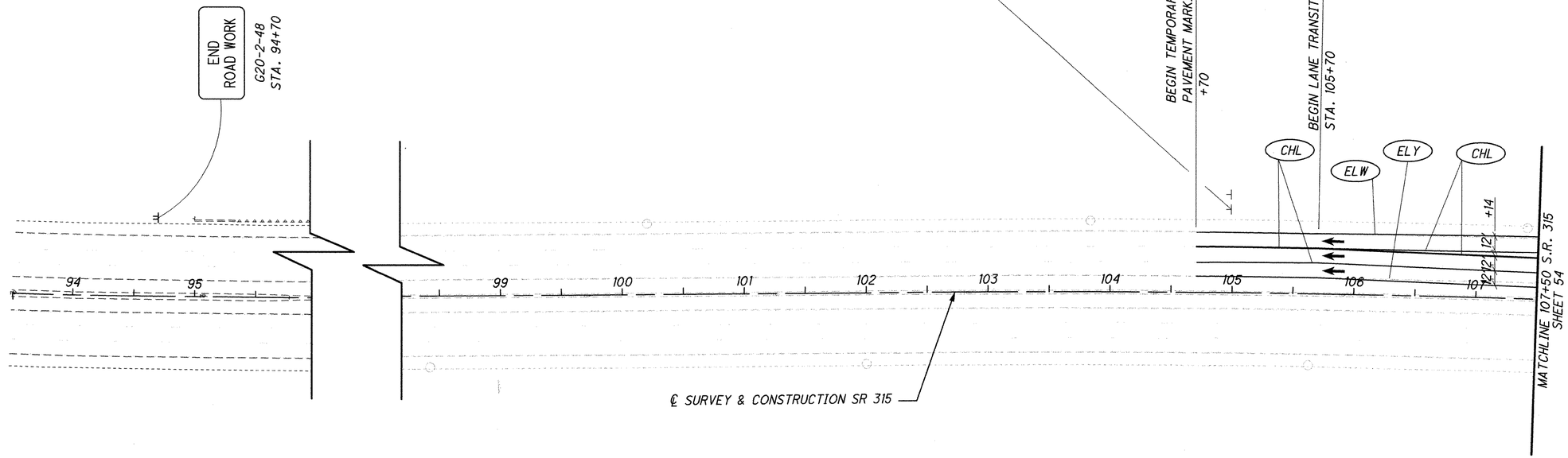
(TP) - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

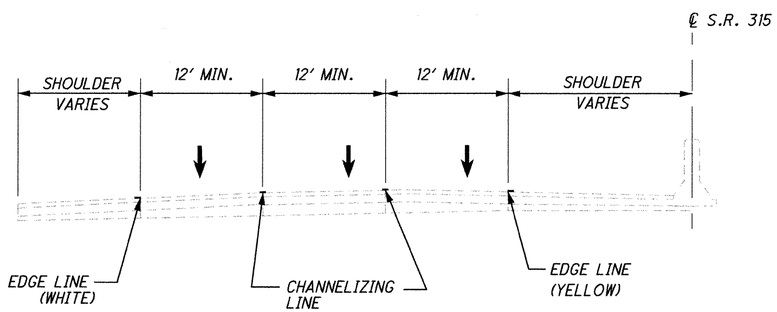
MAINTENANCE OF TRAFFIC
PHASE 3 S.R. 315

CALCULATED BLM
CHECKED ZSS

0 HORIZONTAL SCALE IN FEET

N





SECTION A-A

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- (ELY) - EDGE LINE YELLOW
- (ELW) - EDGE LINE WHITE
- (LL) - LANE LINE
- (CHL) - CHANNELIZING LINE
- (PCB) - PORTABLE CONCRETE BARRIER
- (TP) - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

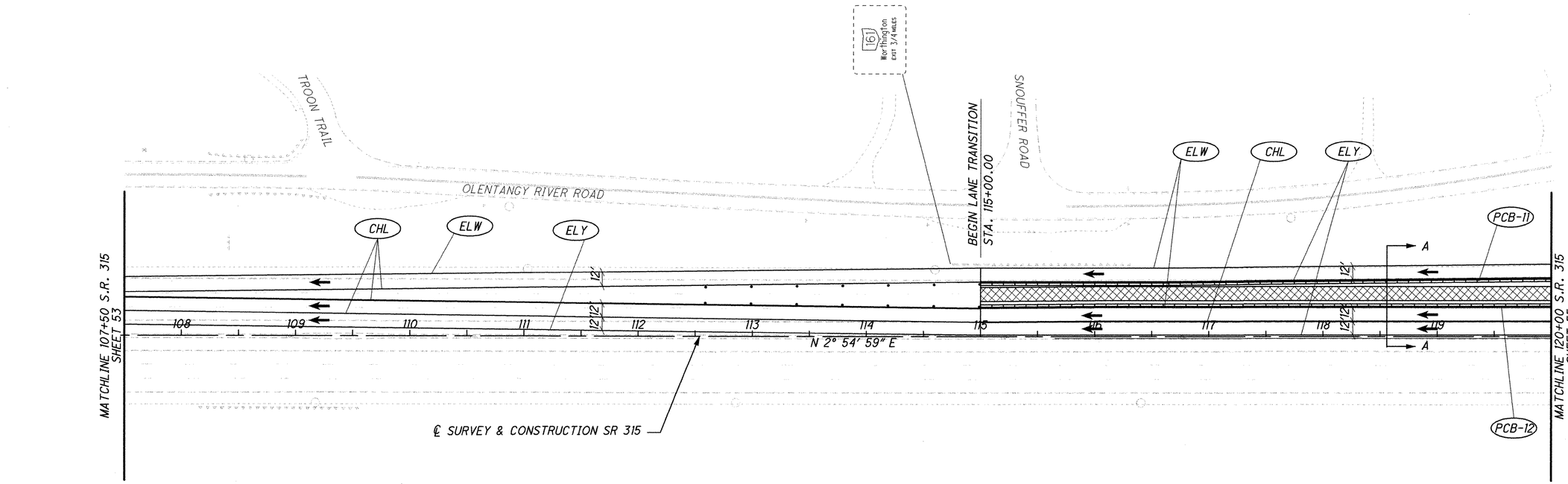
NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

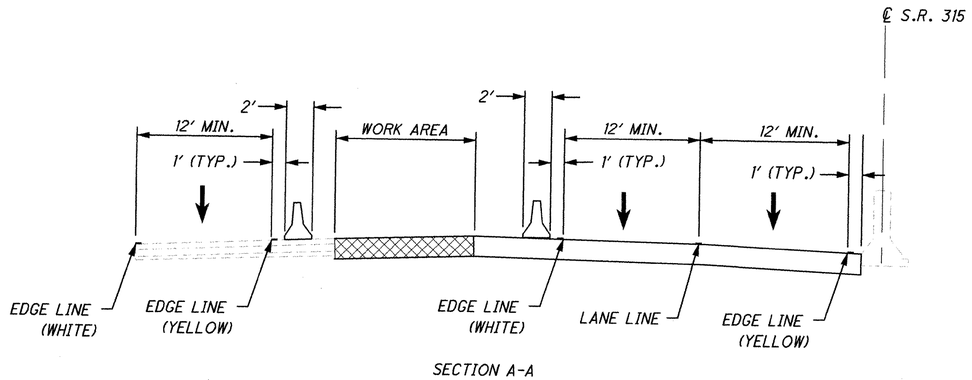
CALCULATED BLM
CHECKED ZSS

HORIZONTAL SCALE IN FEET
0 50 100

MAINTENANCE OF TRAFFIC PHASE 4 S.R. 315

FRA-315-11.37





SECTION A-A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

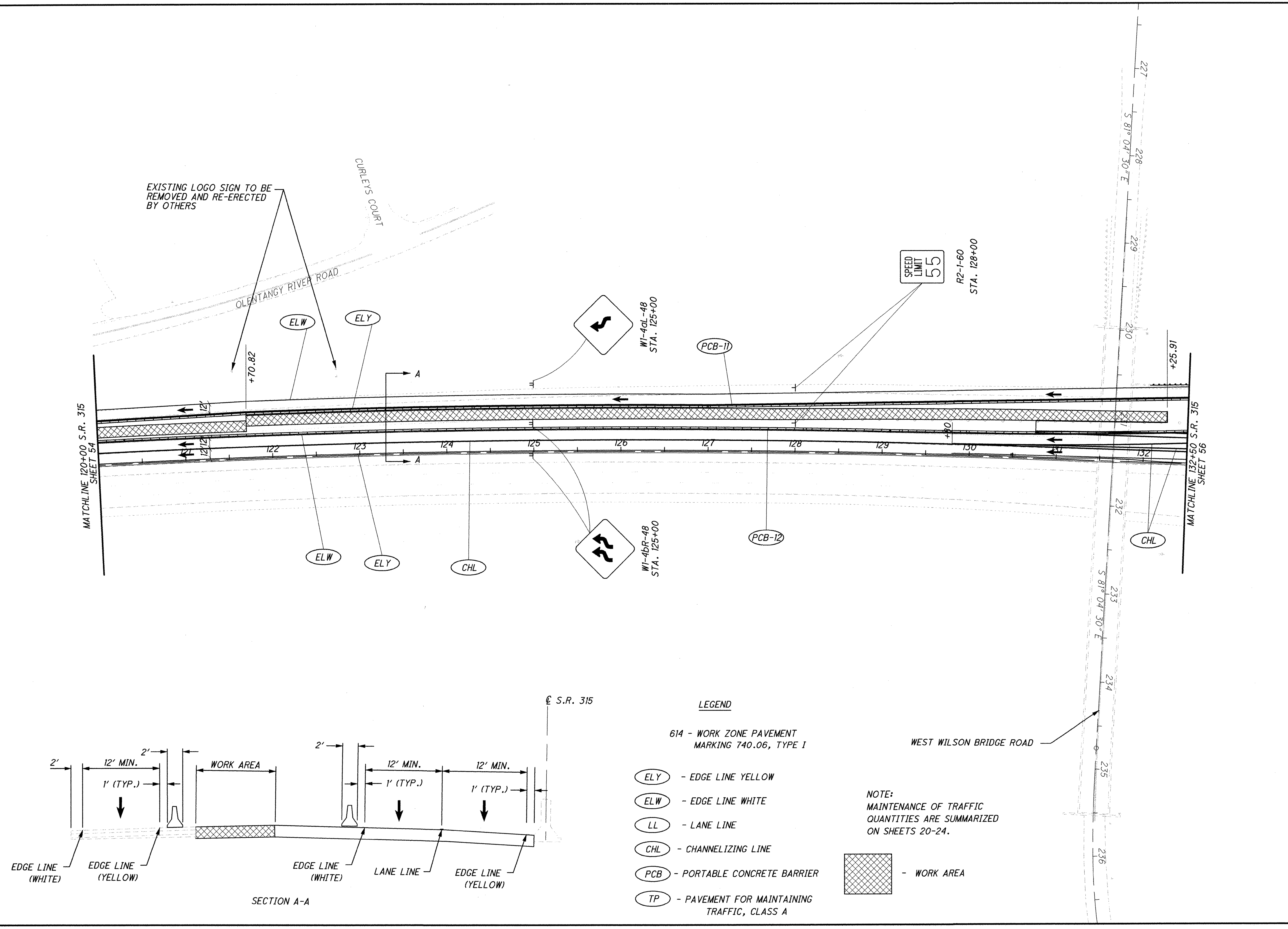
- WORK AREA

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED BLM

MAINTENANCE OF TRAFFIC PHASE 4 S.R. 315

FRA-315-11.37


EXISTING LOGO SIGN TO BE REMOVED AND RE-ERECTED BY OTHERS
CURLEYS COURT
OLENTANGY RIVER ROAD
ELW
ELY
+70.82
A
W1-4aL-48
STA. 125+00
PCB-11
SPEED LIMIT 55
R2-1-60
STA. 128+00
+25.91
MATCHLINE 120+00 S.R. 315
SHEET 54
MATCHLINE 132+50 S.R. 315
SHEET 56
122
123
124
125
126
127
128
129
130
132
ELW
ELY
CHL
W1-4bR-48
STA. 125+00
PCB-12
CHL
227
228
229
230
232
233
234
235
236
S 81° 04' 30" E
WEST WILSON BRIDGE ROAD
℄ S.R. 315
2'
12' MIN.
1' (TYP.)
WORK AREA
12' MIN.
EDGE LINE (WHITE)
EDGE LINE (YELLOW)
EDGE LINE (WHITE)
LANE LINE
EDGE LINE (YELLOW)
SECTION A-A
LEGEND
614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I
ELY - EDGE LINE YELLOW
ELW - EDGE LINE WHITE
LL - LANE LINE
CHL - CHANNELIZING LINE
PCB - PORTABLE CONCRETE BARRIER
TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
- WORK AREA
NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

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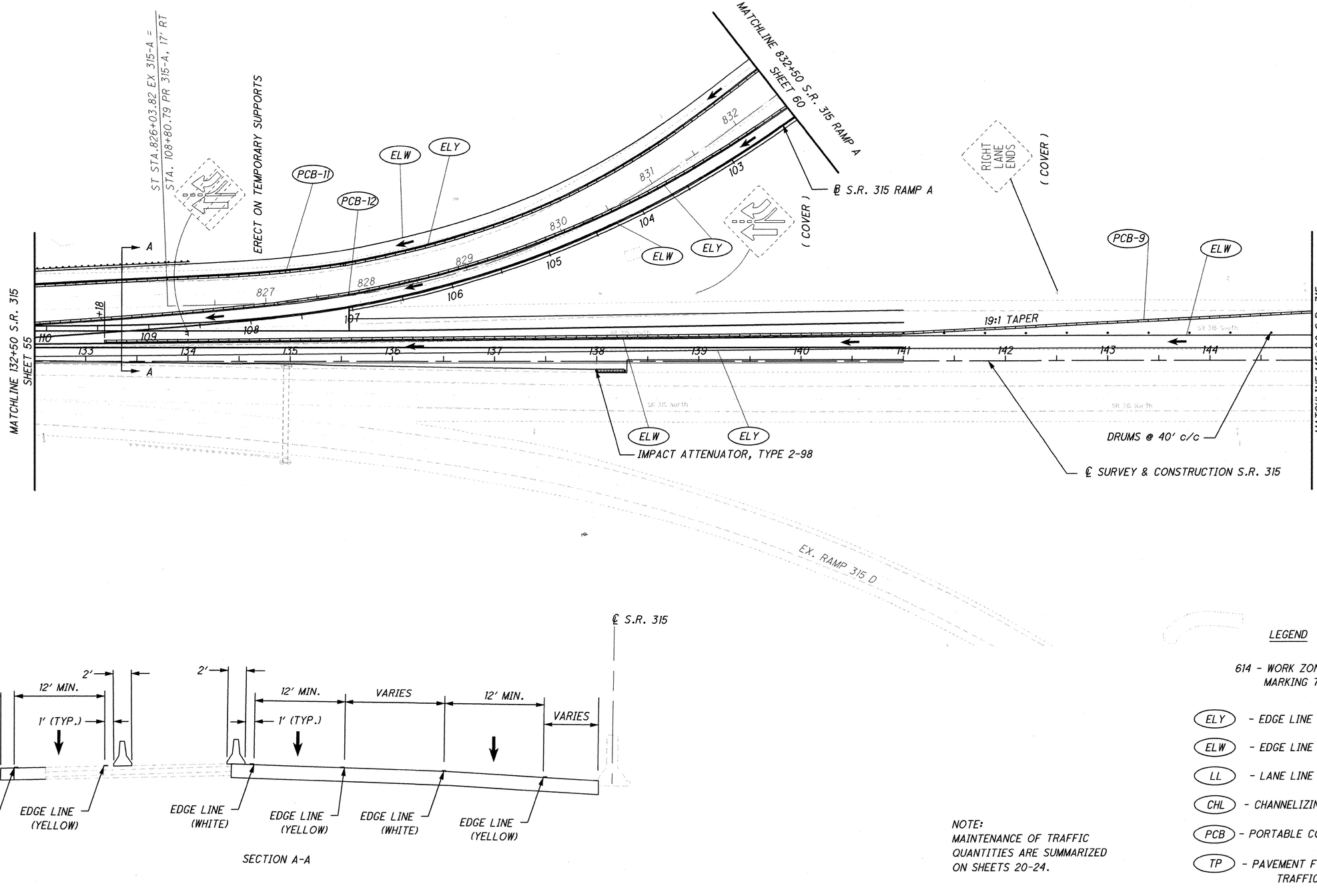
HORIZONTAL SCALE IN FEET 0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 4 S.R. 315

FRA-315-11.37

55 / 163



LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

CALCULATED BLM
CHECKED ZSS

HORIZONTAL SCALE IN FEET
0 50 100

MAINTENANCE OF TRAFFIC PHASE 4 S.R. 315

FRA-315-11.37

56
163

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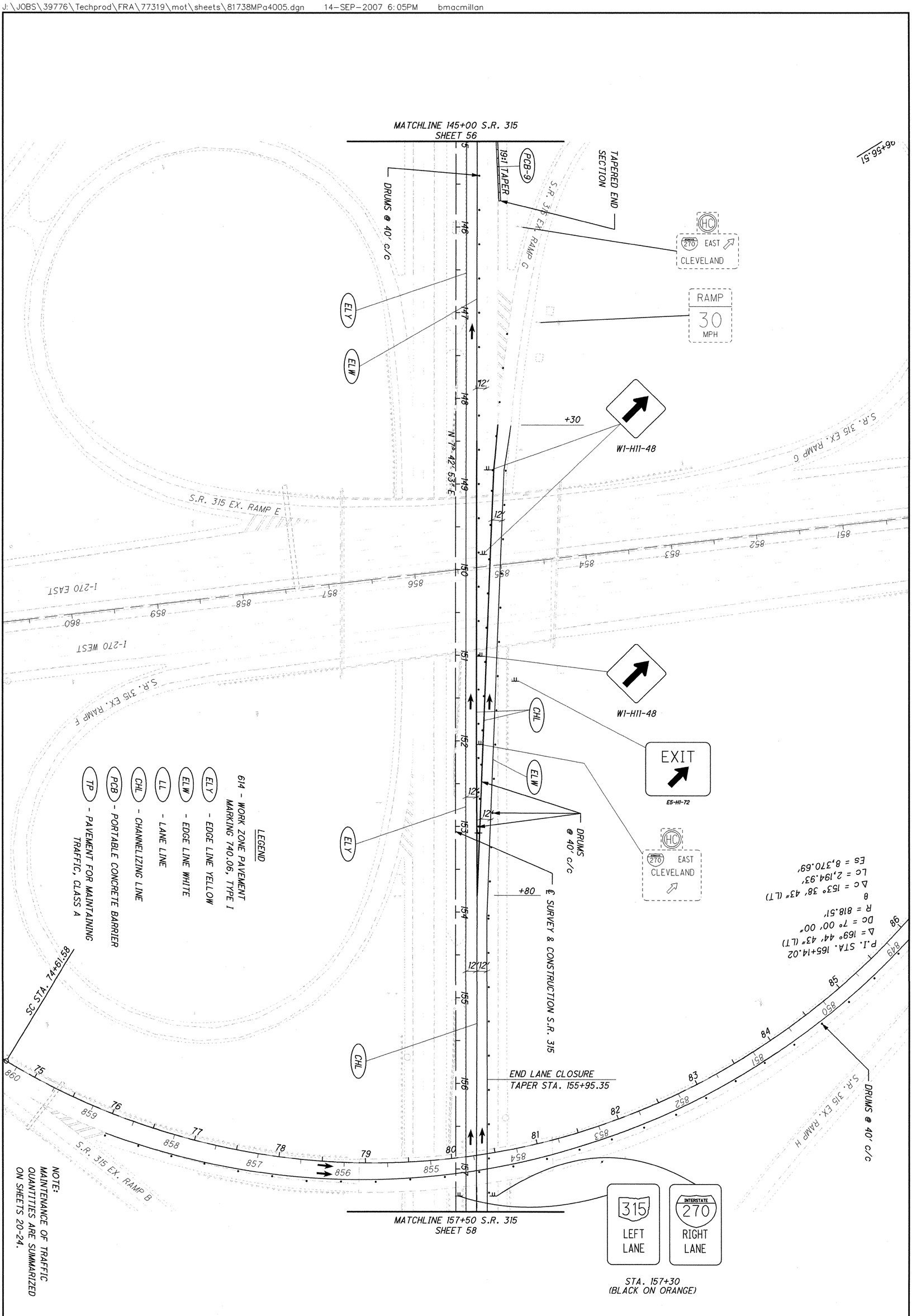


LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

ELY - EDGE LINE YELLOW

ELW - EDGE LINE WHITE

LL - LANE LINE

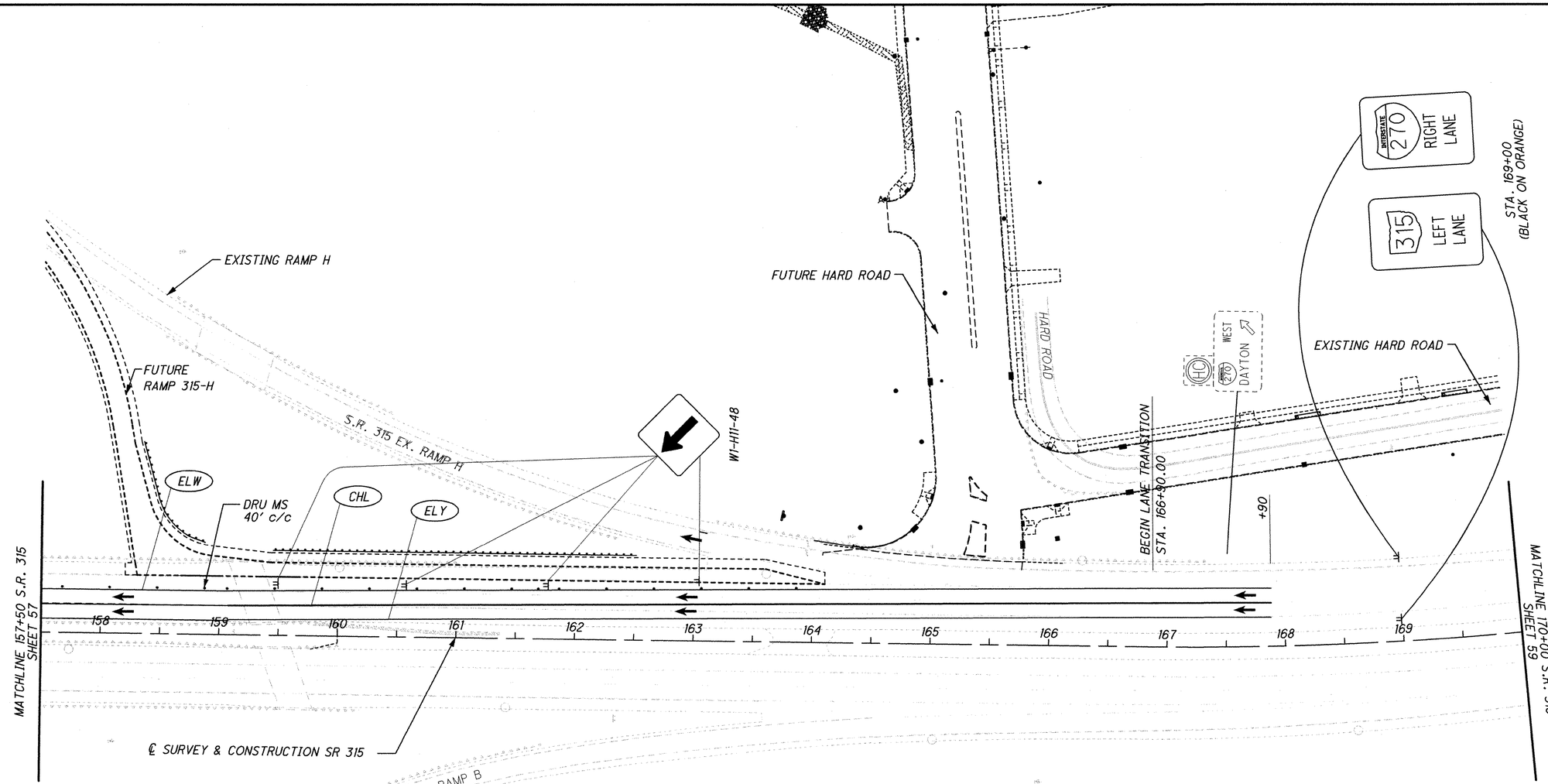
CHL - CHANNELIZING LINE

PCB - PORTABLE CONCRETE BARRIER

TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

57 / 163	FRA-315-11.37	MAINTENANCE OF TRAFFIC PHASE 4 S.R. 315	CALCULATED BLM / CHECKED ZSS	0 50 100 HORIZONTAL SCALE IN FEET



LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

(ELY) - EDGE LINE YELLOW

(ELW) - EDGE LINE WHITE

(LL) - LANE LINE

(CHL) - CHANNELIZING LINE

(PCB) - PORTABLE CONCRETE BARRIER

(TP) - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 4 S.R. 315

FRA-315-11.37

58
163

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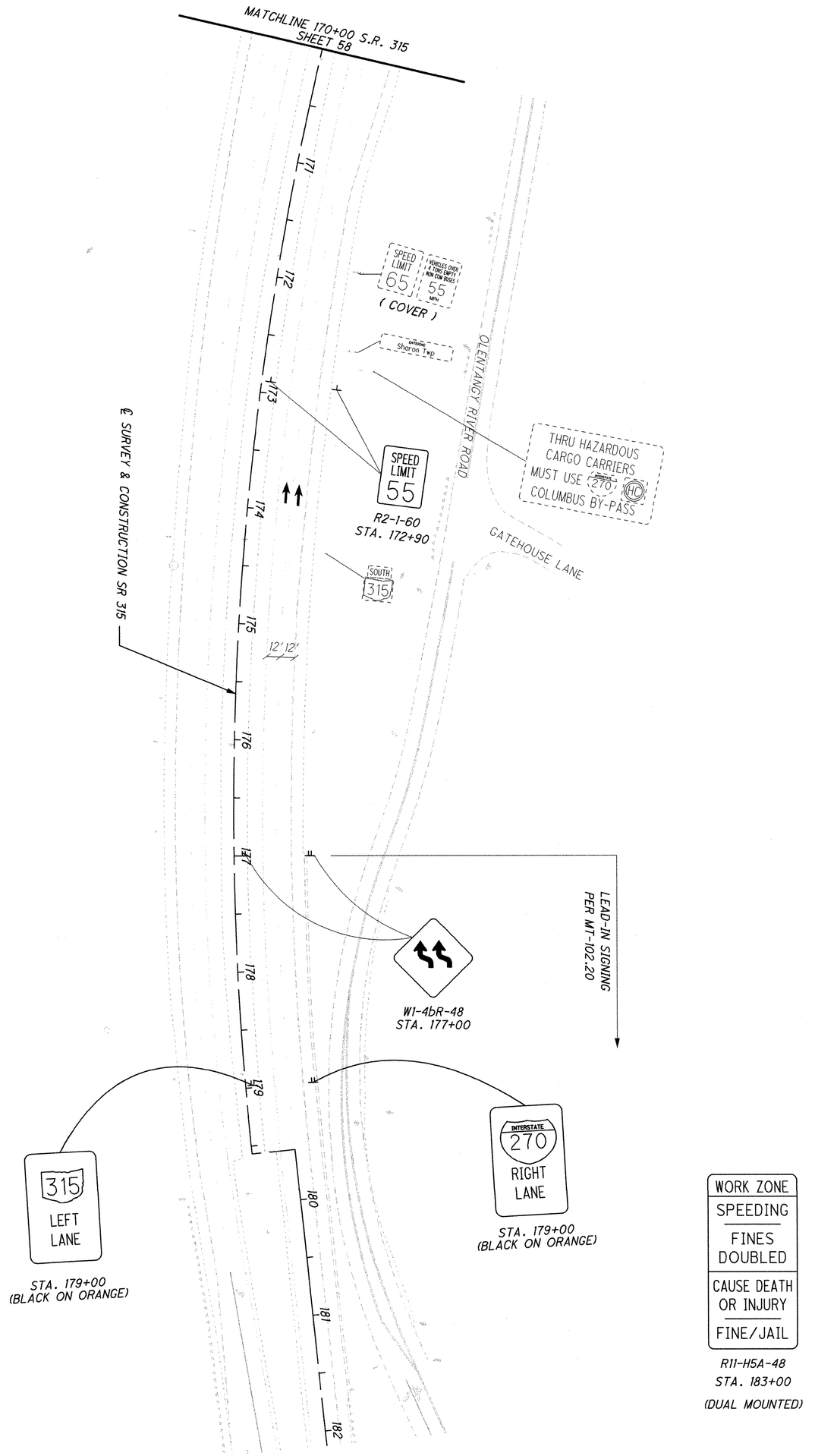
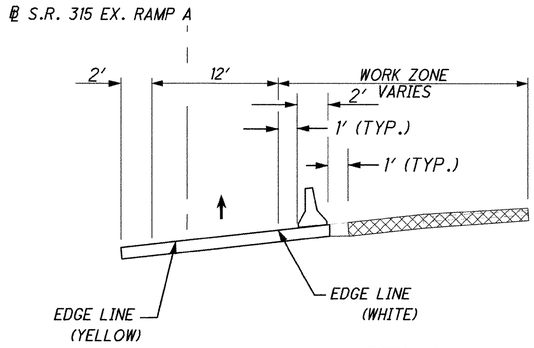
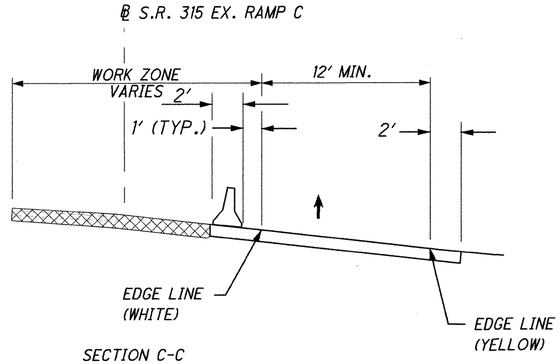


NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

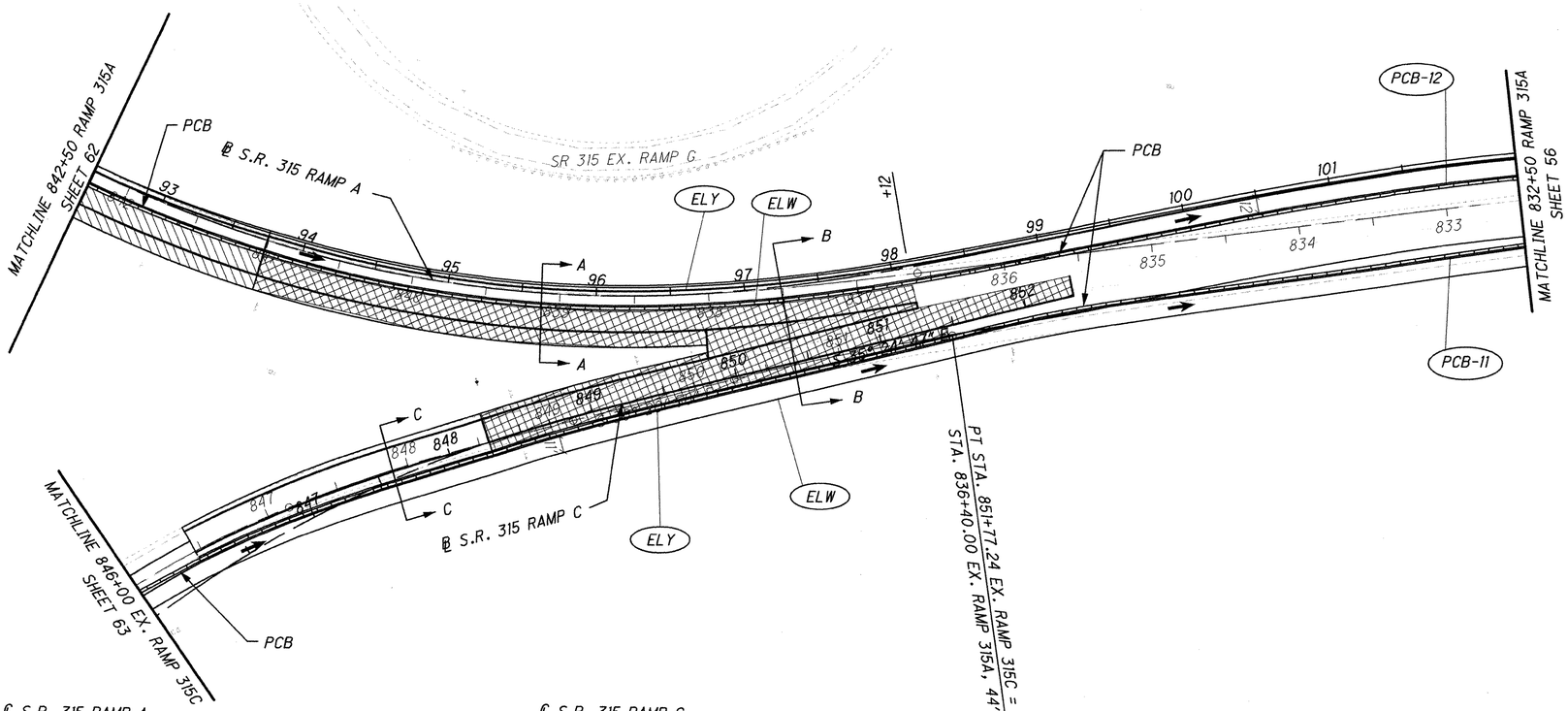
59 / 163	FRA-315-11.37	MAINTENANCE OF TRAFFIC PHASE 4 S.R. 315	CALCULATED BLM CHECKED ZSS	0 50 100 HORIZONTAL SCALE IN FEET

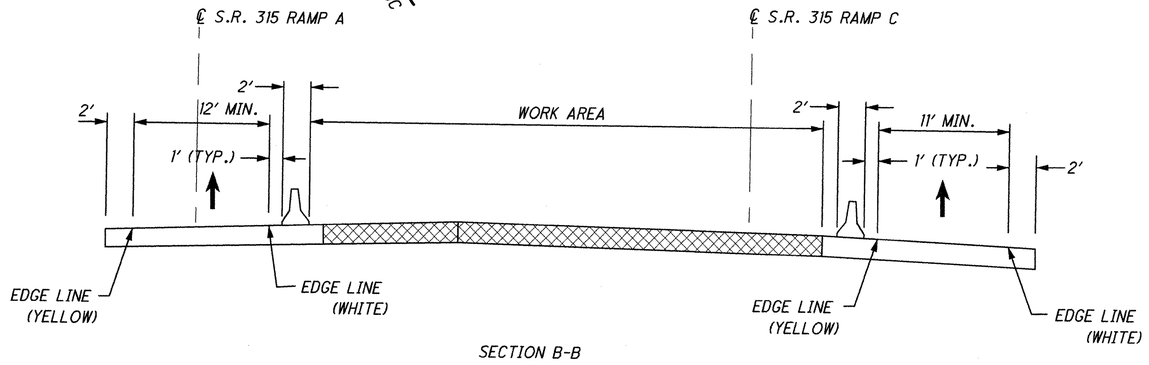


SECTION A-A



SECTION C-C





SECTION B-B

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER

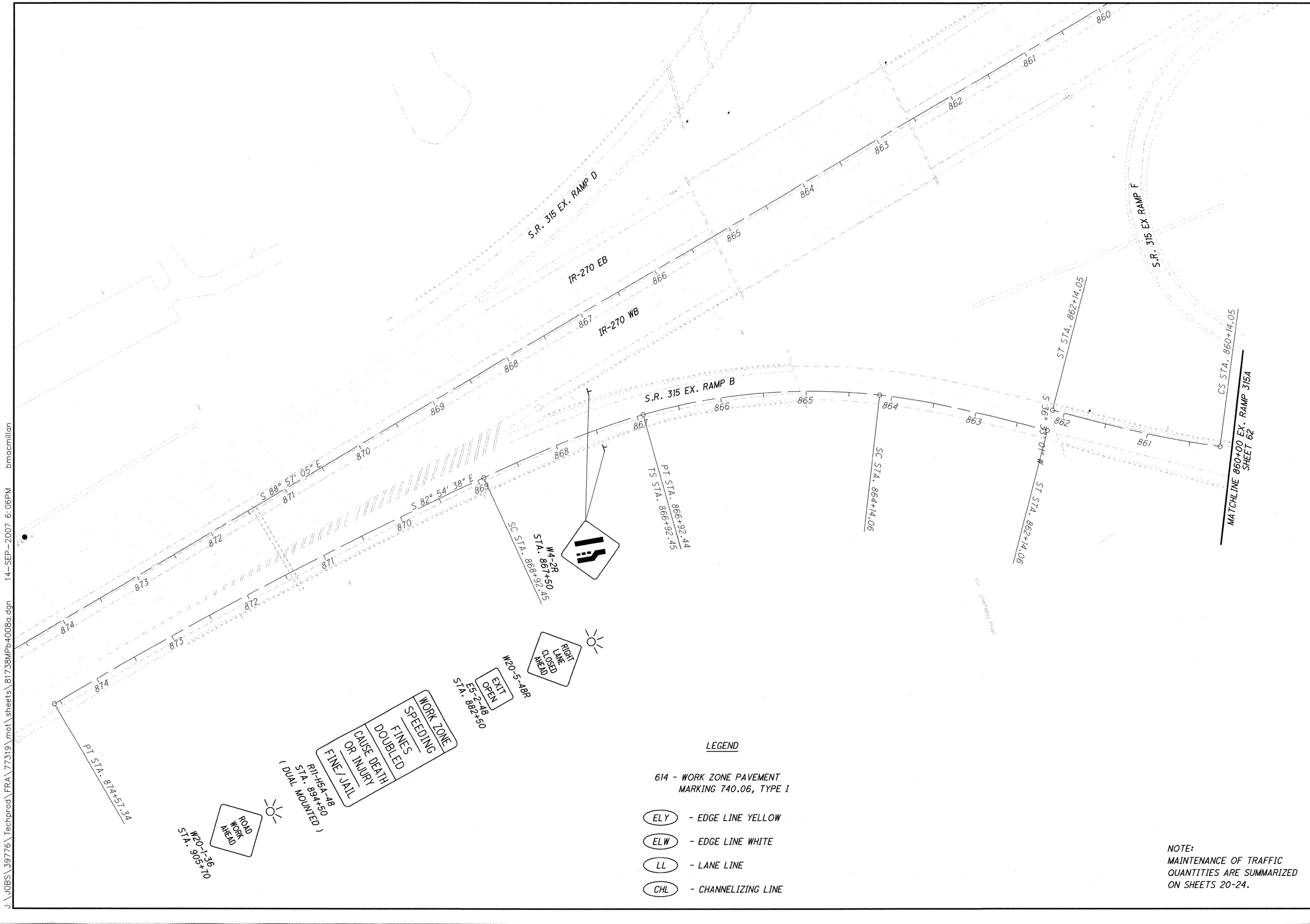
- WORK AREA
- OVERLAY

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 4 S.R. 315

FRA-315-11.37



LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

(ELY) - EDGE LINE YELLOW

(ELW) - EDGE LINE WHITE

(LL) - LANE LINE

(CHL) - CHANNELIZING LINE

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED JMW

MAINTENANCE OF TRAFFIC
PHASE 4 S.R. 315

FRA-315-11.37

61
163

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MATCHLINE 860+00 EX. RAMP 315A
SHEET 61

BEGIN LANE CLOSURE TAPER
STA. 858+75.00

STA. 858+75.00

S.R. 315 EX. RAMP F

W1-H11-48

FLASHING ARROW PANEL
STA. 858+75

45:1 TAPER

END CLOSURE TAPER
STA. 853+40.00

℄ SURVEY & CONSTRUCTION S.R. 315

S.R. 315 EX. RAMP G

I-270 EAST

I-270 WEST

MATCHLINE 842+50 RAMP 315A
SHEET 60

ELY

℄ S.R. 315 RAMP A

BEGIN LANE TAPER
STA. 847+76.00

W1-H11-48

END LANE TAPER
STA. 844+75.00

ELW

END PCB TAPER
STA. 844+75.00

PCB

PCB-12

DRUMS @ 40' c/c

DRUMS @ 40' c/c

BEGIN PCB TAPER
STA. 846+32.00

S.R. 315 EX. RAMP H

WORK ZONE IMPACT ATTENUATOR

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

(ELY) - EDGE LINE YELLOW

(ELW) - EDGE LINE WHITE

(LL) - LANE LINE

(CHL) - CHANNELIZING LINE

(PCB) - PORTABLE CONCRETE BARRIER

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC
PHASE 4 S.R. 315

FRA-315-11.37

62
163

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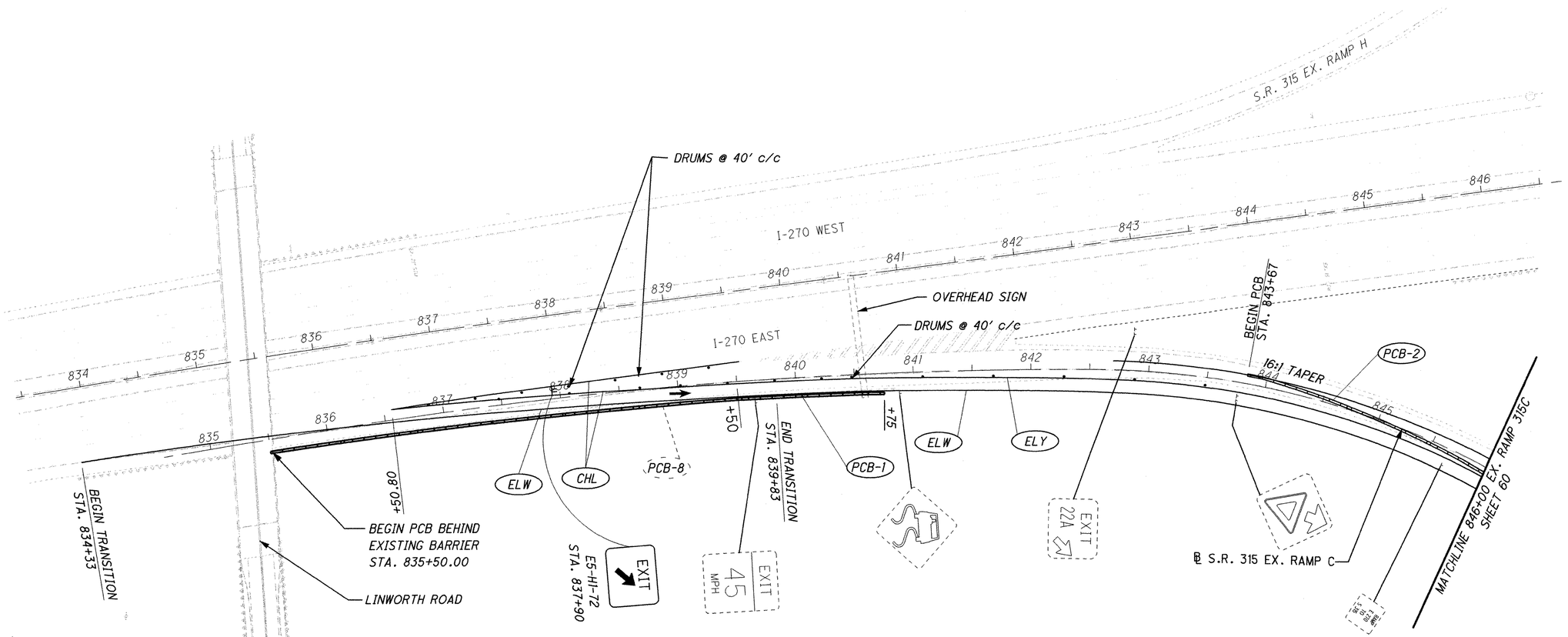


NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED

= EXISTING TO BE REMOVED AND RE-ERECTED

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

ELY - EDGE LINE YELLOW

ELW - EDGE LINE WHITE

LL - LANE LINE

CHL - CHANELLIZING LINE

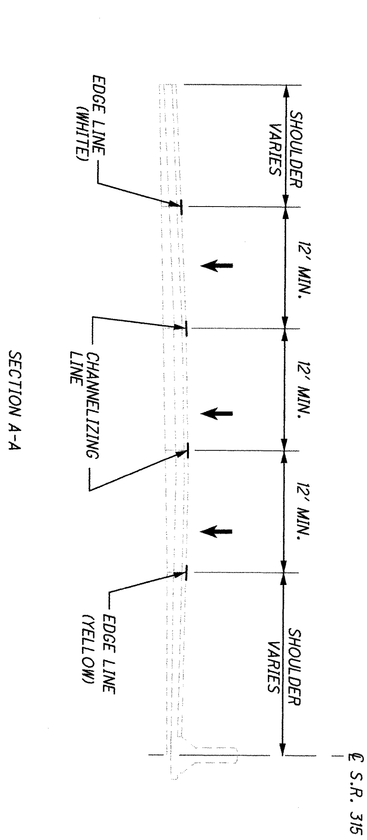
PCB - PORTABLE CONCRETE BARRIER

CALCULATED BLM
CHECKED ZSS

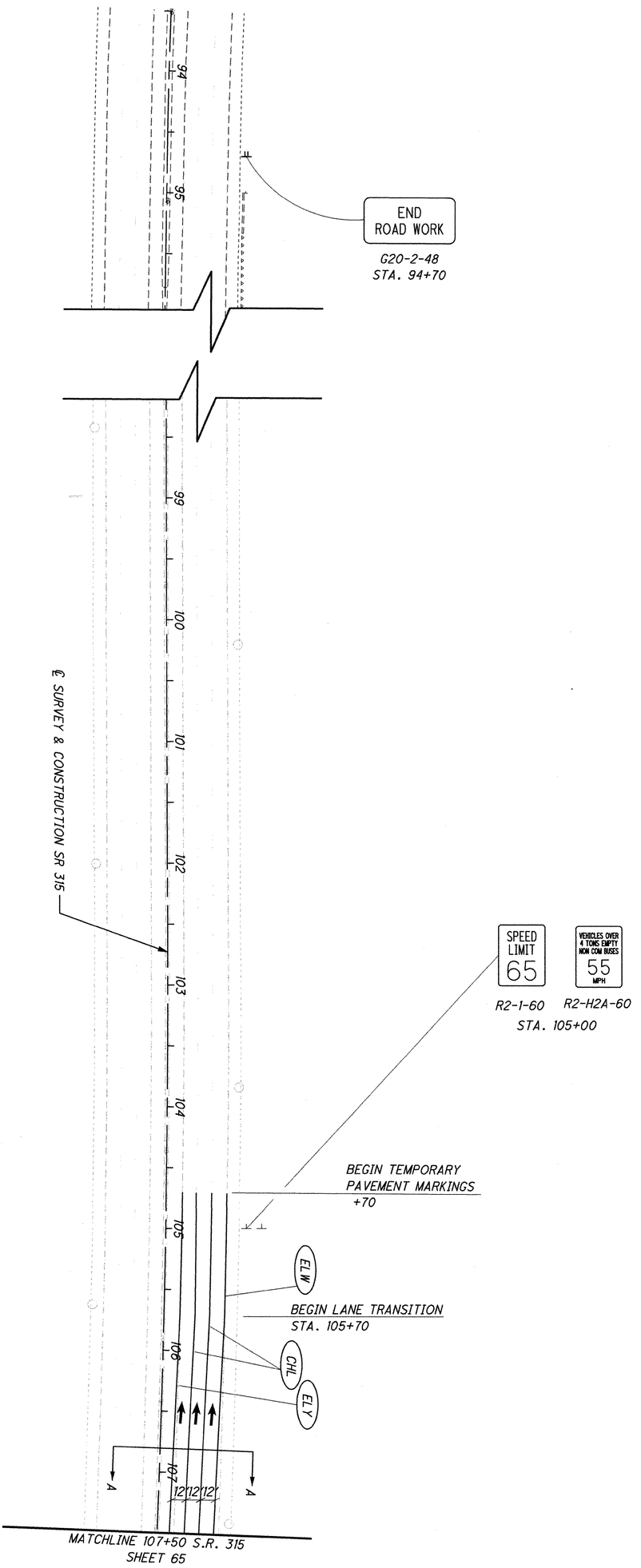
HORIZONTAL SCALE IN FEET
0 50 100

MAINTENANCE OF TRAFFIC PHASE 4 S.R. 315

FRA-315-11.37



SECTION A-A



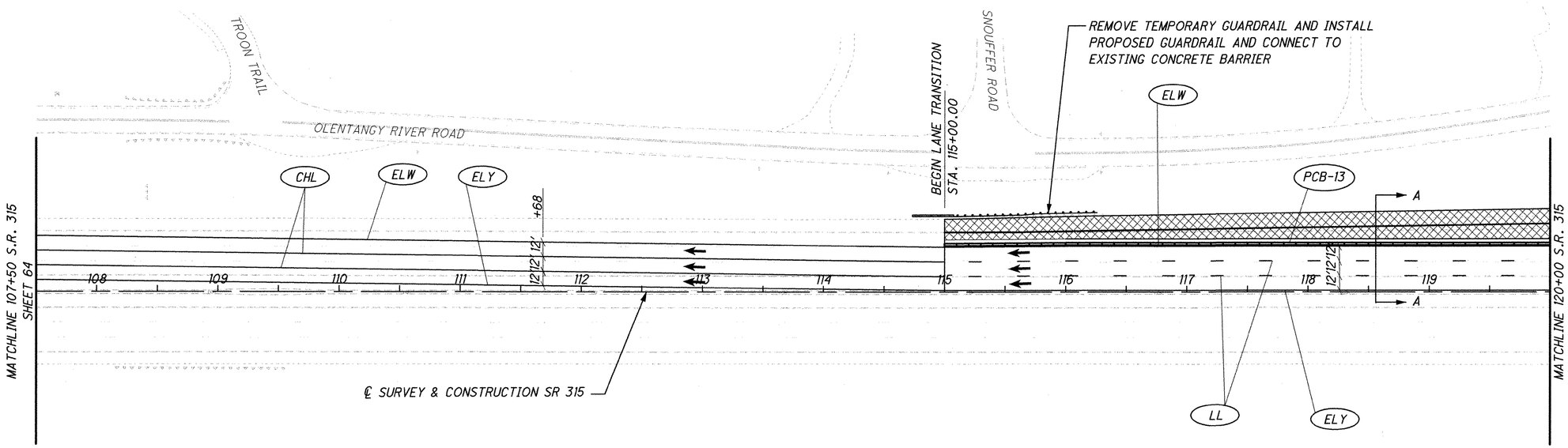
NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

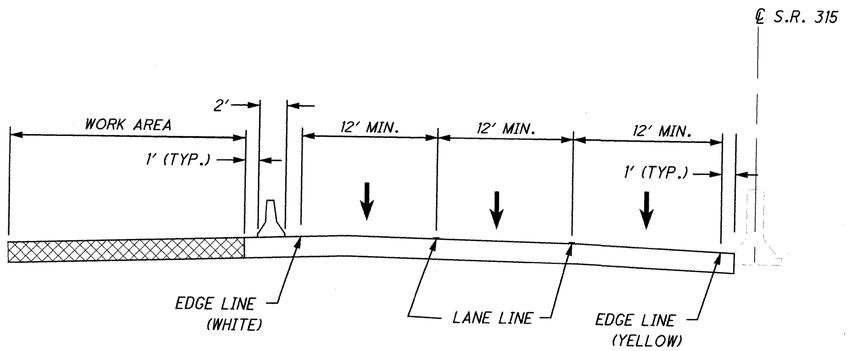
LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

(ELY) - EDGE LINE YELLOW
(ELW) - EDGE LINE WHITE
(LL) - LANE LINE
(CHL) - CHANNELIZING LINE

64 / 163	FRA-315-11.37	MAINTENANCE OF TRAFFIC PHASE 5 S.R. 315	CALCULATED BLM; CHECKED ZSS; 0 50 100 HORIZONTAL SCALE IN FEET; N





SECTION A-A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- ELY - EDGE LINE YELLOW
- ELW - EDGE LINE WHITE
- LL - LANE LINE
- CHL - CHANNELIZING LINE
- PCB - PORTABLE CONCRETE BARRIER

WORK AREA

N

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 5 S.R. 315

FRA-315-11.37

65
163

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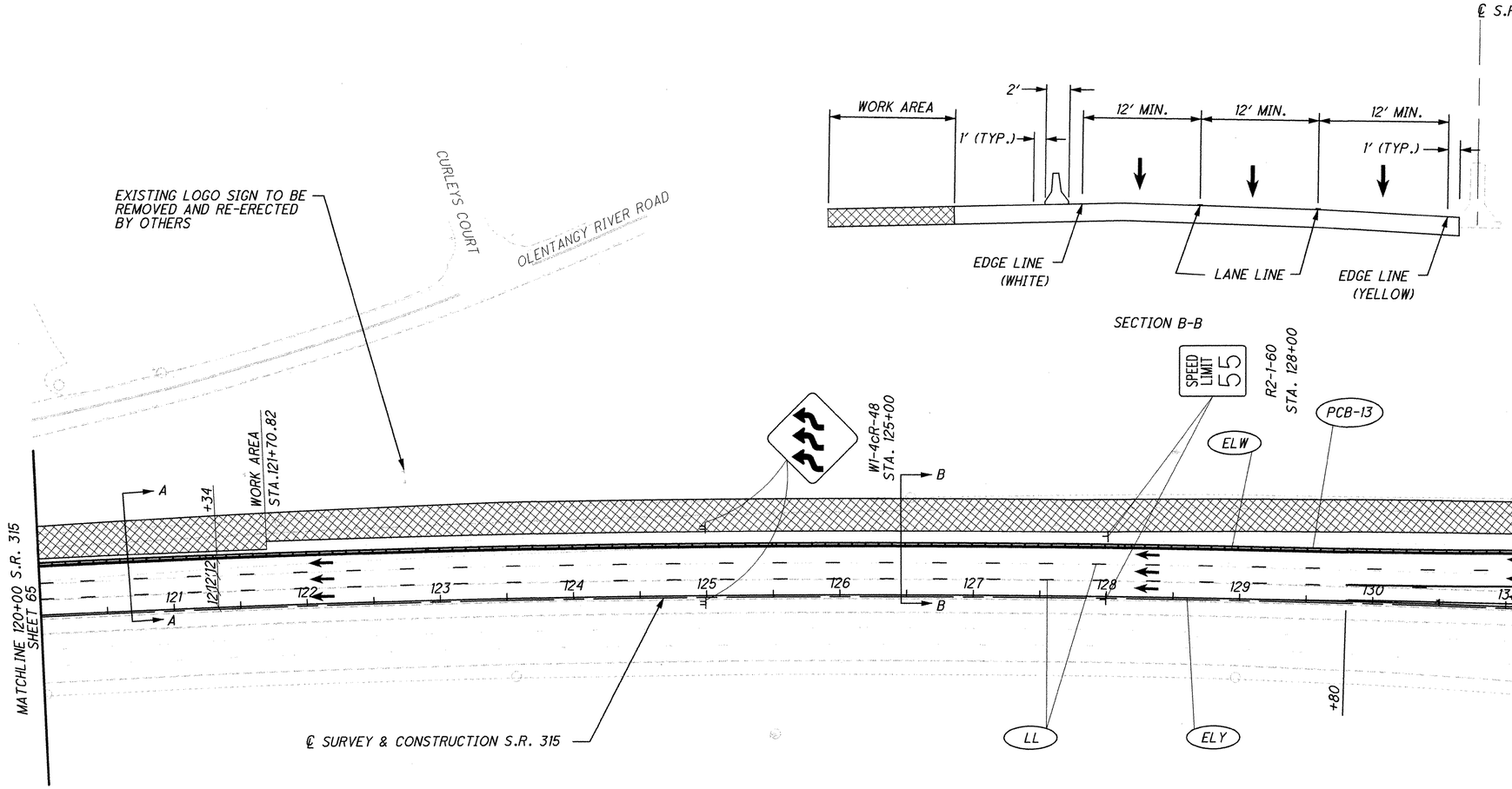
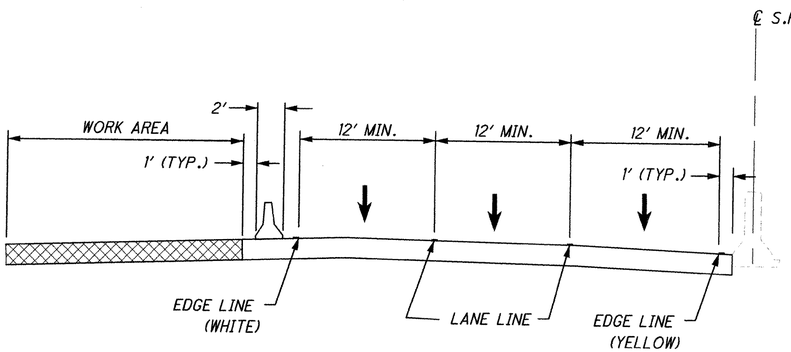




SECTION A-A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- (ELY) - EDGE LINE YELLOW
- (ELW) - EDGE LINE WHITE
- (LL) - LANE LINE
- (CHL) - CHANNELIZING LINE
- (PCB) - PORTABLE CONCRETE BARRIER
- - WORK AREA

N

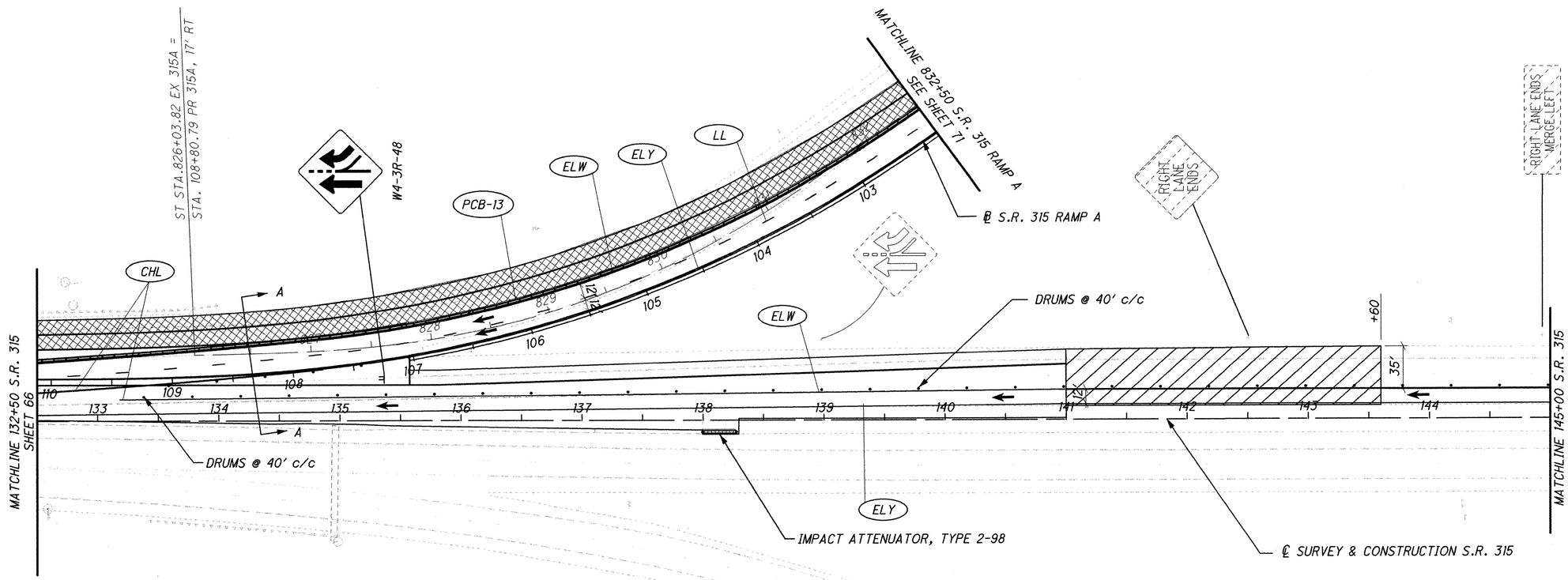
HORIZONTAL SCALE IN FEET
0 50 100

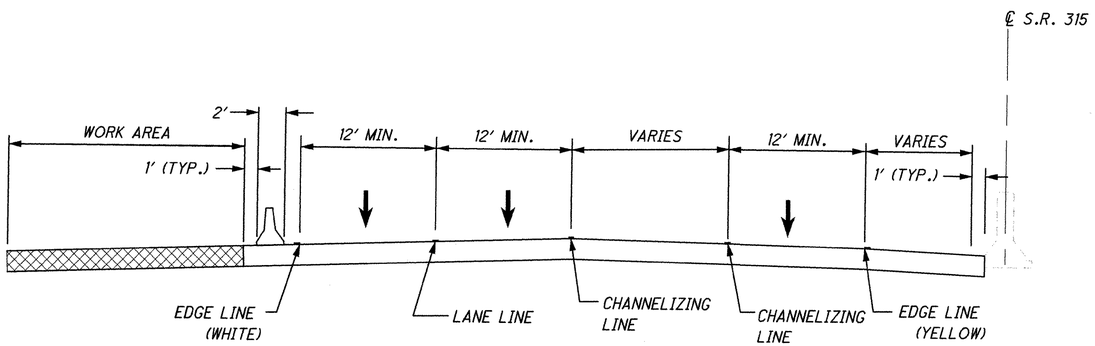
CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 5 S.R. 315

FRA-315-11.37

66
163





SECTION A-A

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- WORK AREA
- OVERLAY

ELY - EDGE LINE YELLOW
ELW - EDGE LINE WHITE
LL - LANE LINE
CHL - CHANNELIZING LINE
PCB - PORTABLE CONCRETE BARRIER

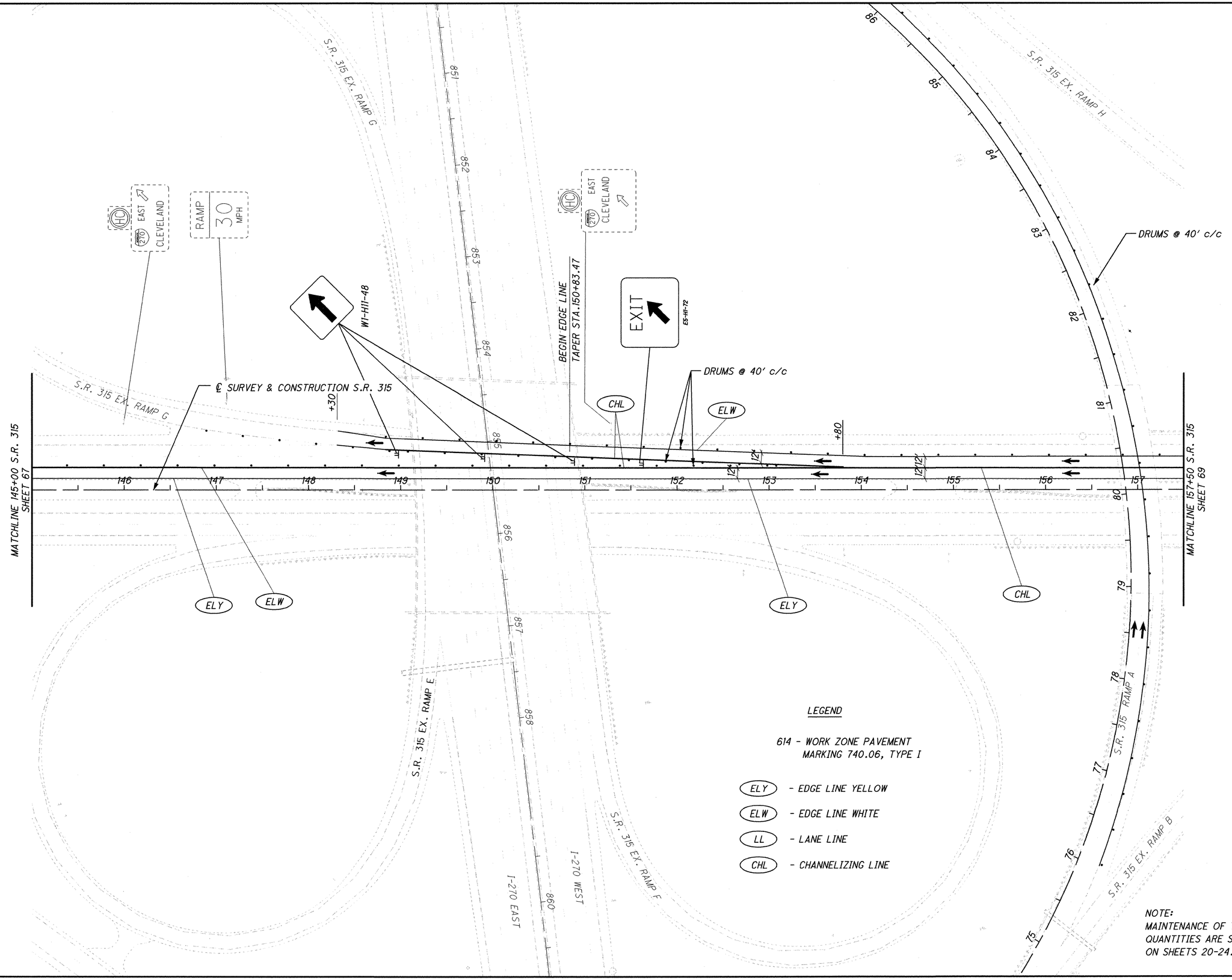
HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 5 S.R. 315

FRA-315-11.37

67
163



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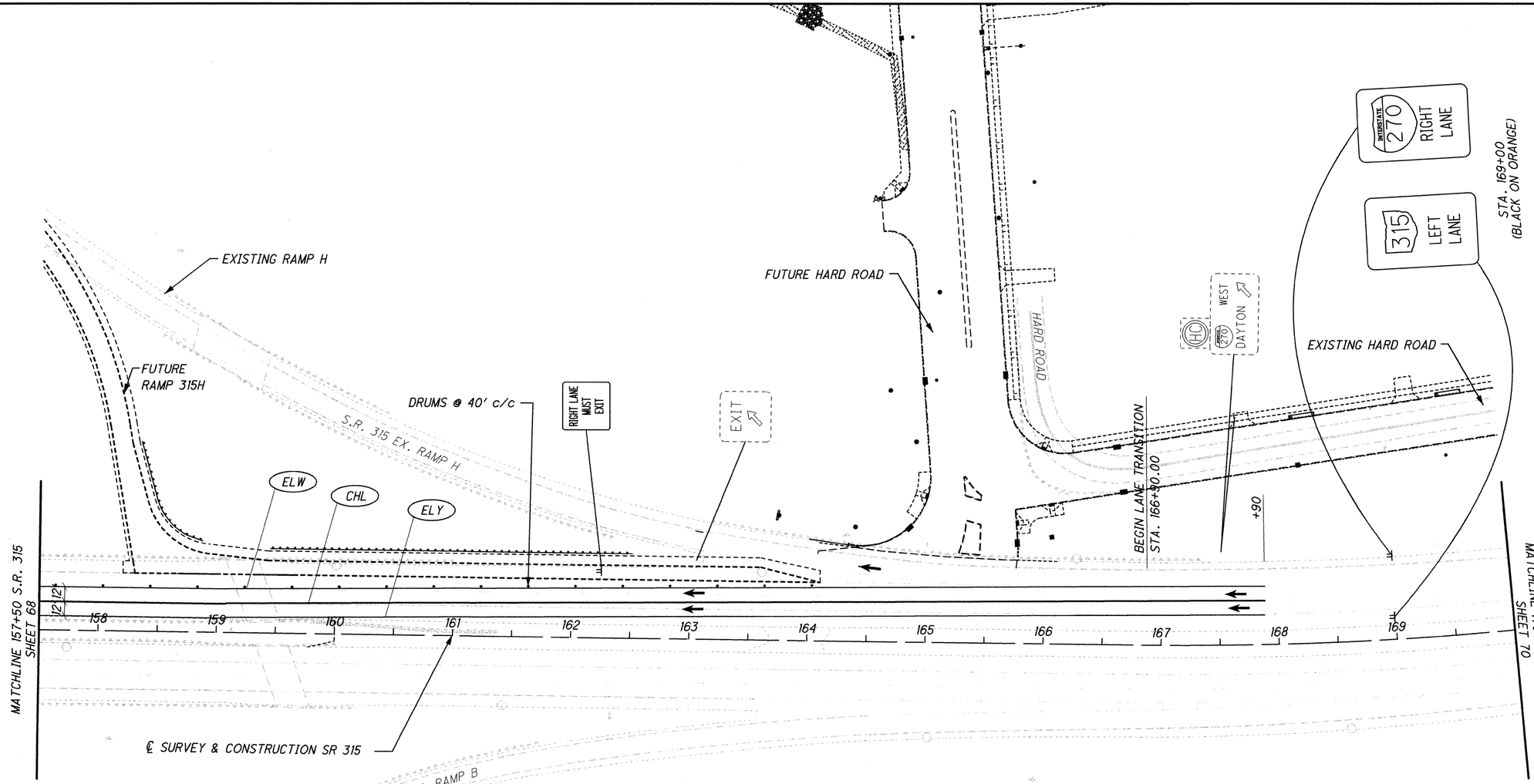
N

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 5 S.R. 315

FRA-315-11.37



LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

ELY - EDGE LINE YELLOW

ELW - EDGE LINE WHITE

LL - LANE LINE

CHT - CHANNELIZING LINE

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

N

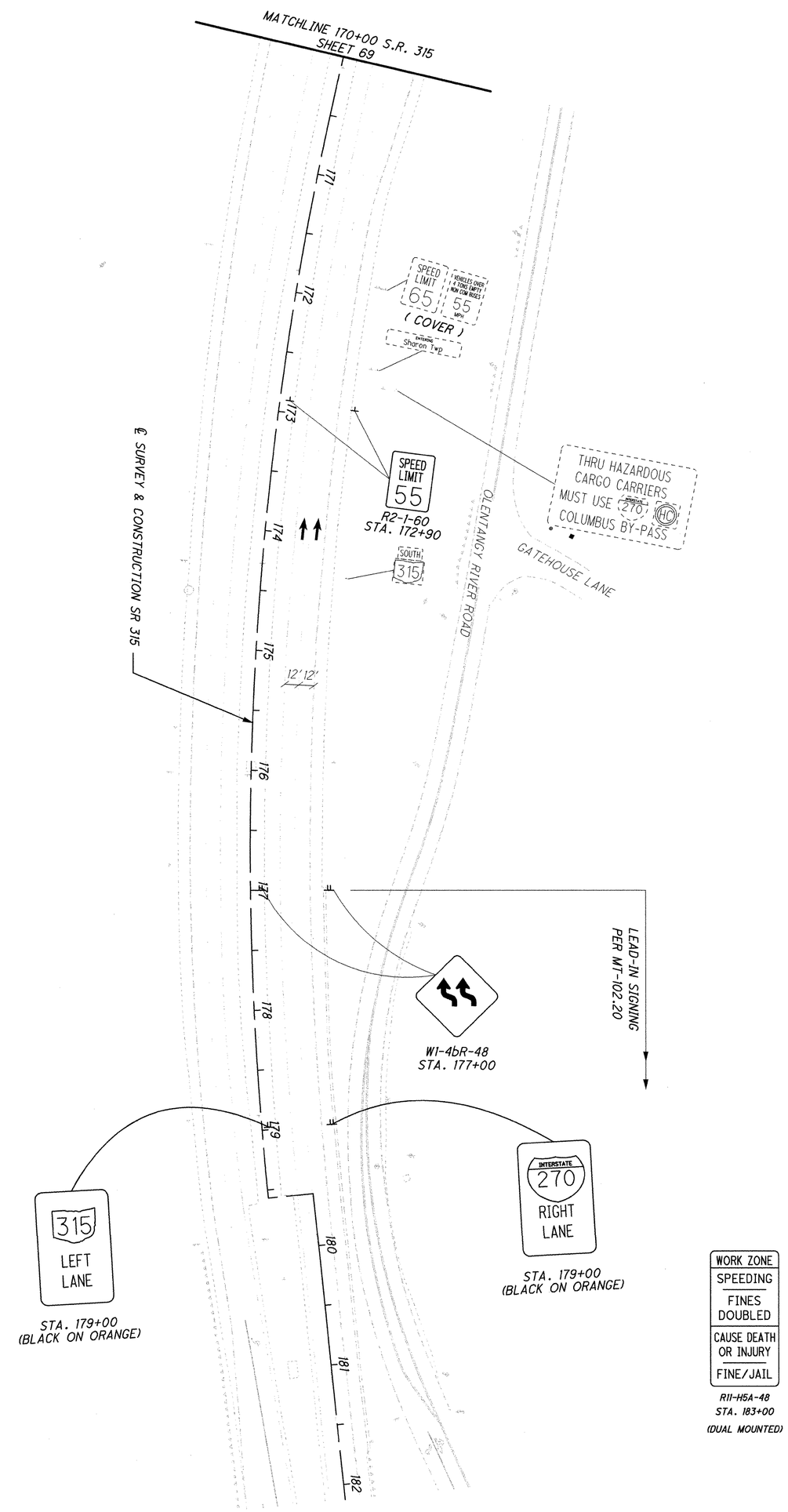
HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 5 S.R. 315

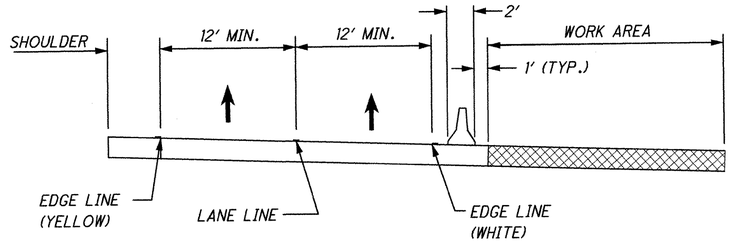
FRA-315-11.37

69
163

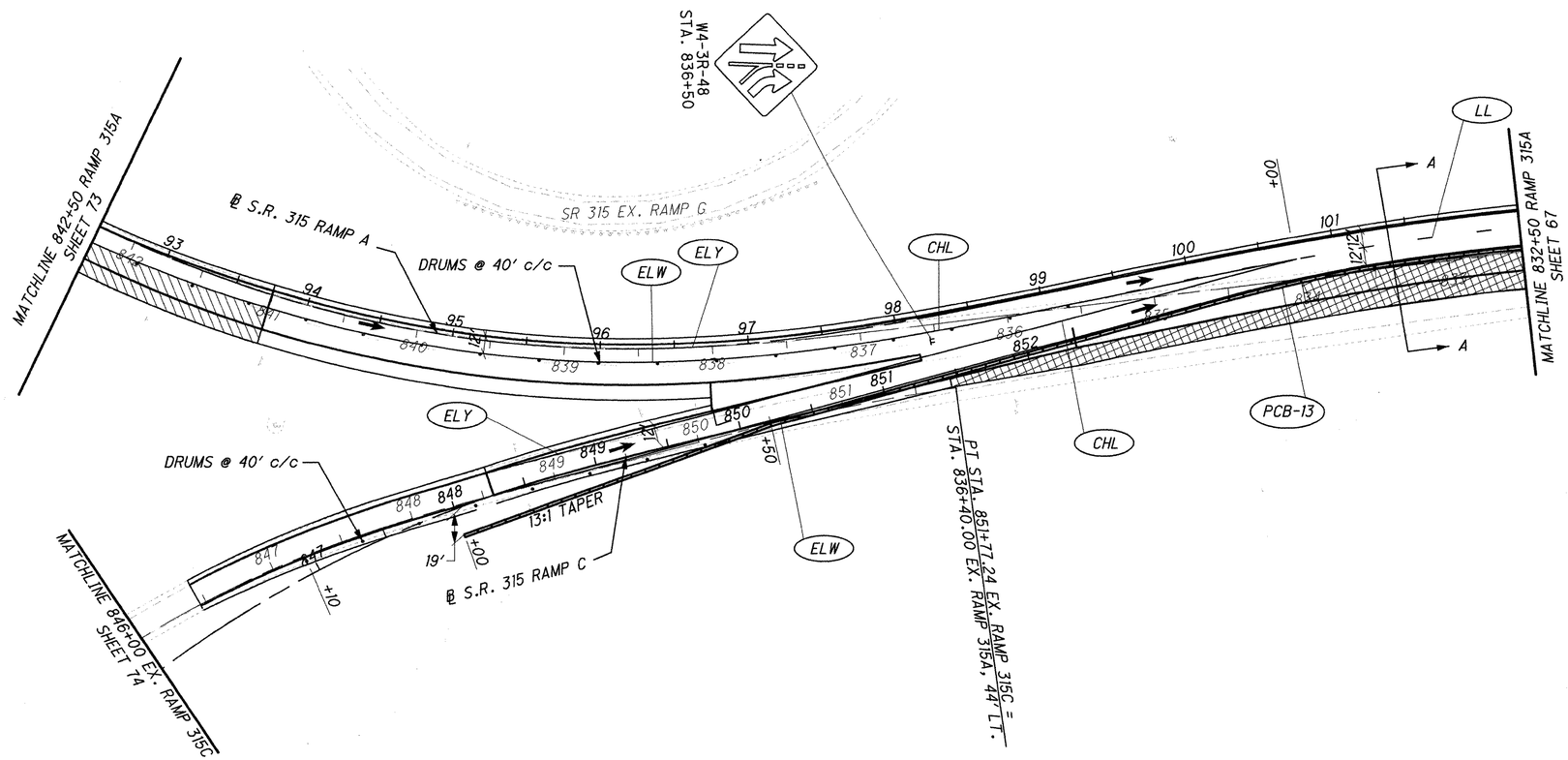


NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

70 / 163	FRA-315-11.37	MAINTENANCE OF TRAFFIC PHASE 5 S.R. 315	CALCULATED BLM CHECKED ZSS	0 50 100 HORIZONTAL SCALE IN FEET



SECTION A-A



NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

- OVERLAY
- WORK AREA

ELY - EDGE LINE YELLOW
ELW - EDGE LINE WHITE
LL - LANE LINE
CHL - CHANNELIZING LINE
PCB - PORTABLE CONCRETE BARRIER

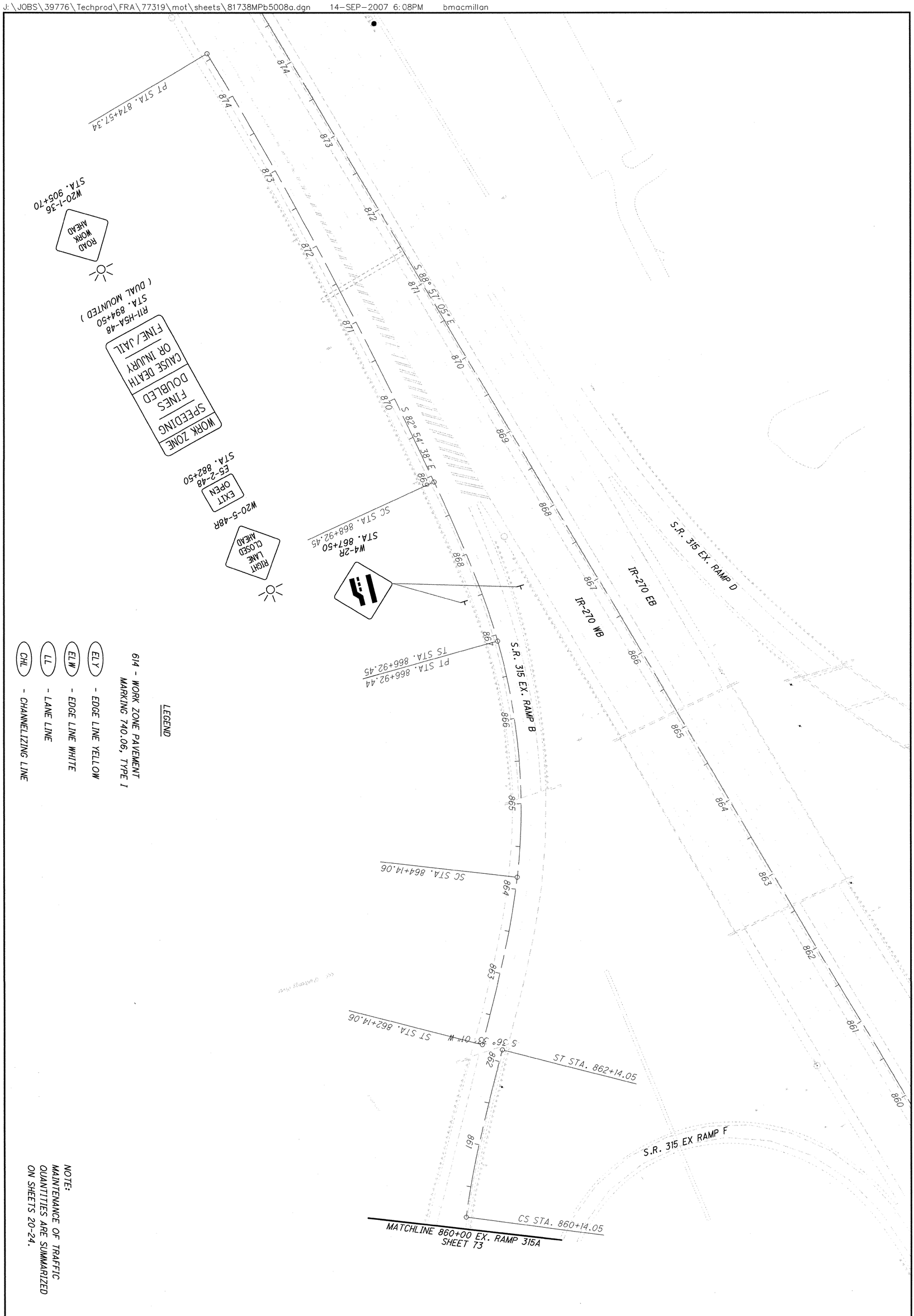
HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC PHASE 5 S.R. 315

FRA-315-11.37

71
163



NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

72 / 163	FRA-315-11.37	MAINTENANCE OF TRAFFIC PHASE 5 S.R. 315	CALCULATED BLM / CHECKED JMW	0 50 100 HORIZONTAL SCALE IN FEET

MATCHLINE 860+00 EX. RAMP 315A
SHEET 72

BEGIN LANE CLOSURE TAPER
STA. 76+00

STA. 858+75.00

W1-H11-48

FLASHING ARROW PANEL
STA. 858+75

45:1 TAPER

END CLOSURE TAPER
STA. 81+40

S.R. 315 EX. RAMP F

℄ SURVEY & CONSTRUCTION S.R. 315

N 7° 42' 53" E

S.R. 315 EX. RAMP G

I-270 EAST

I-270 WEST

MATCHLINE 842+50 RAMP 315A
SHEET 71

END LANE TAPER
STA. 842+50.00

BEGIN LANE TAPER
STA. 844+26.00

℄ S.R. 315 RAMP A

ELY

ELW

DRUMS @ 40' c/c

DRUMS @ 40' c/c

S.R. 315 EX. RAMP H

LEGEND

LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

(ELY) - EDGE LINE YELLOW

(ELW) - EDGE LINE WHITE

(LL) - LANE LINE

(CHL) - CHANNELIZING LINE

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC
PHASE 5 S.R. 315

FRA-315-11.37

73
163

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LEGEND

614 - WORK ZONE PAVEMENT MARKING 740.06, TYPE I

(ELY) - EDGE LINE YELLOW

(ELW) - EDGE LINE WHITE

(LL) - LANE LINE

(CHL) - CHANNELIZING LINE

NOTE:
MAINTENANCE OF TRAFFIC QUANTITIES ARE SUMMARIZED ON SHEETS 20-24.

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED BLM
CHECKED ZSS

MAINTENANCE OF TRAFFIC
PHASE 5 S.R. 315

FRA-315-11.37

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163

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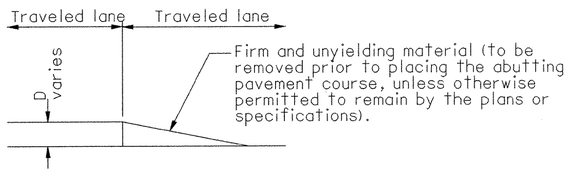
GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. The suggested treatments are intended for high volume projects that will last at least seven days and have an active work zone 1 mile [1.6 km] or less in length. For guidance on the use of this sheet, see L&D Manual Volume One, Section 500. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.
2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
5. Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing RM-4.2 and Item 622.
6. When drums are specified for a drop-off condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
7. When W8-9 (Low Shoulder) signs or W8-9a (Shoulder Drop -Off) signs or W8-11 (Uneven Lanes) signs are required, they shall be placed 750 feet [230 m] in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all inter secting roadways within the limits of the condition. When the drop-off condition extends more than 0.5 mile [800 m], additional signs should be erected at intervals of 1.0 mile [1600 m] or less.
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate a difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10 feet [3.0 m], drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5 inches [125] and approval is granted by the Project Engineer.
10. Pavement Repairs (or similar work):
    a. Lengths greater than 60 feet [18 m] - utilize appropriate treatment from Condition I.
    b. Lengths of 60 feet [18 m] or less - repairs shall be effected in accordance with CMS 255.08. Drums may be used as a separtor adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. W8-11 sign required.

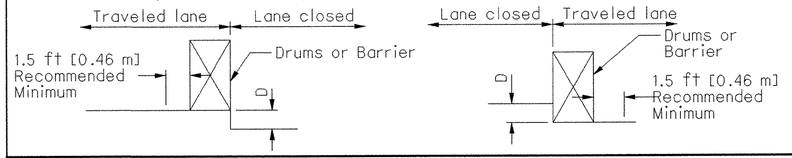


CONDITION I
DROP-OFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D - inches (mm)	Treatment
<1-1/2 [<40]	Erect W8-11 sign.
1-1/2 - 3 [40-75]	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
> 3 - 5 [>75-125]	Lane closure utilizing drums as shown below.
> 5 [>125]	Lane closure utilizing portable concrete barrier as shown below.

* Cones may be used for daytime only conditions.

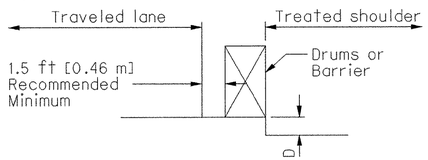


CONDITION II
DROP-OFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials or concrete). For the purpose herein, its maximum width shall be considered to be 12 feet [3.6 m].

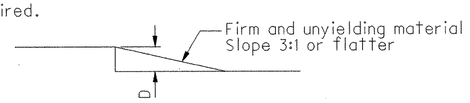
D - inches (mm)	Treatment
< 1-1/2 [<40]	1) Erect W8-9a signs.
> 1-1/2 - 5 [>40-125]	1) If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If minimum. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
> 5 -12 [125-305] Daylight only	If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below.
> 5 - 24 [>125-610]	1) If minimum lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If minimum lane width* requirements cannot be met, close adjacent lane utilizing drums.
> 24 [> 610]	Lane closure utilizing portable concrete barrier as shown below.

* Minimum lane widths shall be 10 ft [3.0 m] unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bitumunos shoulder where a hot longitudnal joint per CMS 401.15 is required.
2. W8-9 signs required.

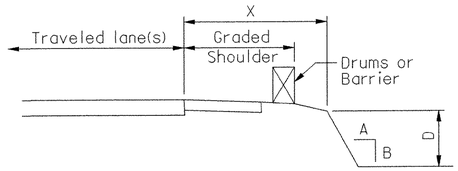


CONDITION III
DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

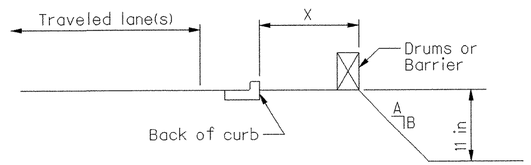
USE FOR: 1. Uncurbed Facilities
2. Curbed Facilities, where:
   a. Curbs are less than 6 inch [150] in height
   b. Curbs are 6 inch [150] or greater in height and the legal speed is greater than 40 mph [70 km/hr].



X feet (m)	D inch (mm)	A/B	Treatment Required	
			Day	Night
0 - 4 [0 - 1.2]	Any	Any	(a)	(a)
4 - 30 [1.2 - 9.1]	Any	3:1 or Flatter	None	None
4 - 12 [1.2 - 3.6]	< 3 [< 75]	Steeper than 3:1	None	None
4 - 12 [1.2 - 3.6]	> 3 - < 12 [> 75 - < 305]	Steeper than 3:1	Drums	Drums
4 - 12 [1.2 - 3.6]	> 12 [> 305]	Steeper than 3:1	Drums	Barrier
> 12 - 20 [> 3.6 - 6.1]	< 12 [< 305]	Steeper than 3:1	None	None
> 12 - 20 [> 3.6 - 6.1]	> 12 - 24 [> 305 - < 610]	Steeper than 3:1	Drums	Drums
> 12 - 20 [> 3.6 - 6.1]	> 24 [> 610]	Steeper than 3:1	Drums	Barrier
> 20 - 30 [> 6.1 - 9.1]	< 24 [< 610]	Steeper than 3:1	None	None
> 20 - 30 [> 6.1 - 9.1]	> 24 [> 610]	Steeper than 3:1	Drums	Barrier
> 30 [> 9.1 m]	Any	Any	None	None
(a) Use treatment specified under Condition II.				

CHART B

USE FOR: Curbed facilities, where the curb is 6 inches [150 mm] or greater in height and the legal speed is 40 mph [70 km/h] or less.



X feet (m)	D inch (mm)	A/B	Treatment Required	
			Day	Night
0 - 10 [0-3.0 m]	< 12 [< 305]	Any	None	Drums
0 - 10 [0-3.0 m]	> 12 [> 305]	Any	Drums	Drums
> 10 [> 3.0 m]	Any	Any	None	None

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 11/27/06 | CHECKED

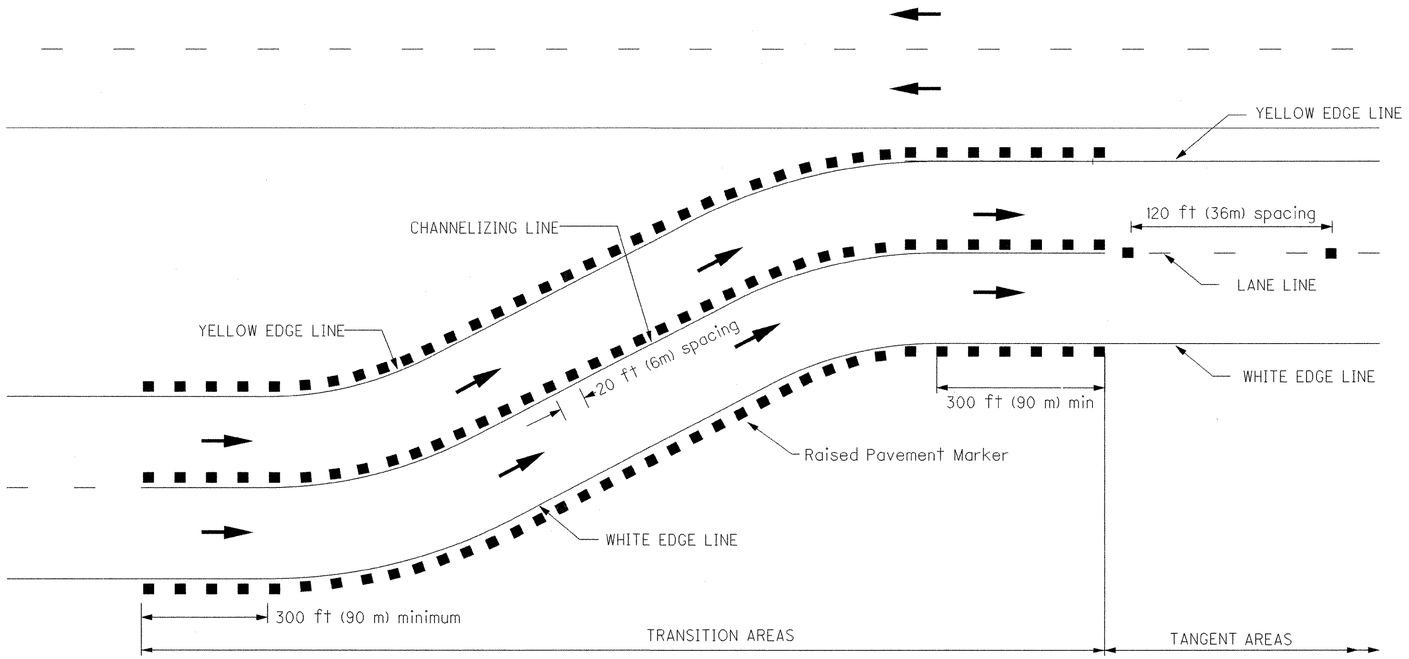
PIS NUMBER 2010190

PLAN INSERT SHEET

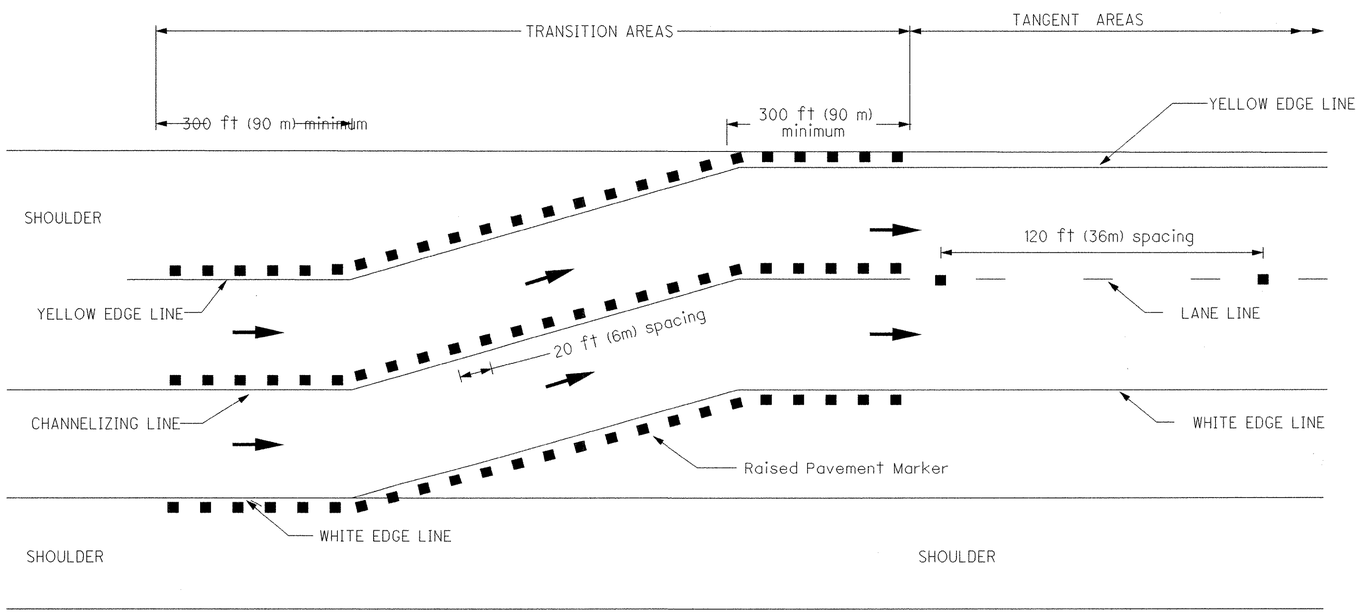
DROP OFFS IN WORK ZONES

1 / 1

75 / 163



WORK ZONE DELINEATION FOR CROSSOVERS



WORK ZONE DELINEATION FOR LANE SHIFTS

LEGEND

- RPM
- DIRECTION OF TRAVEL

NOTES

1. This drawing presents delineation procedures for freeways and expressways on asphalt surfaces. Procedures are provided for transition areas and for tangent areas. The procedures for transition areas apply to crossovers and to lane shifts of 4 feet (1.2 m) or greater. Delineation of transition areas for shifts of less than 4 inches (1.2 m)shall be as per the tangent area delineation.

2. Raised Pavement Markers shall meet the following seasonal specifications:

   a) Raised Pavement Markers in place during the normal construction season may be either 621 Raised Pavement Markers or 614 Work Zone Raised Pavement Markers (WZRPMs). The normal construction season with regard to use of WZRPMs shall be the period from April 1 through October 15.

   b) At locations where it is intended that Raised Pavement Markers will winter over, 621 Raised Pavement Markers shall be provided.

   c) At locations where it is intended that work will continue beyond October 15 but will be completed prior to the beginning of snow-plowing season, 614 WZRPMs may remain in place until such time. Snow-plowing season shall be as specified in the plans. If snow-plowing season is not specified in the plans, it shall be assumed that snow-plowing season runs from October 16 through March 31. If project delays, not the fault of ODOT, cause work to extend into the snow-plowing season, the contractor shall be responsible for replacing WZRPMs with 621 Raised Pavement Markers, as determined by the Engineer, at the contrator's expense.

3. All material furnished shall be listed on the Department's Prequalified Lists.

4. The geometrics of the crossover shall be as shown in the plans. Additional details are provided in Standard Construction Drawing MT-95.70.

5. See Standard Construction Drawings MT-102.10 and MT-102.20 for more details concerning lane shifts.

6. Spacing of raised pavement markers (RPMs) shall be at 20 feet (6 m) center-to-center for all long-line marking within transition areas. Within tangent areas RPMs shall be provided only along the lane lines, spaced at 120 foot (36 m) center-to-center.

7. The RPMs shall be 1-way, facing oncomming traffic, and shall be white or yellow to match the color of the associated line marking.

8. Along the edge lines, the RPMs shall be offset a maximum of 4 inches (100 mm) to the outside of the lines. Along the channelizing lines, the RPMs shall be offset to the left of the lines by no more than 1 inch (25 mm). Along the lane lines the RPMs shall be centered between dashes.

9. The RPMs shall be removed when they are no longer appropriate.

10. Holes resulting from removal of 621 RPMs shall be filledas per 202.10. If removal of the 621 RPMs does not take place immediately after the highlighted alignment becomes invalid, the reflectors within the 621 RPMs shall be removed.

11. Following removal of 621 RPMs resurfacing of the transition shall be performed. The resurfacing shall be performed at the time the surface course is being applied. In preparation for resurfacing, the existing pavement shall be removed to a depth necessary to match the level of the intermediate course of the proposed pavement.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED	REVIEWED
	LAM

REVISION DATE	CHECKED
11/27/06	

PID NUMBER 209930

PLAN INSERT SHEET

WORK ZONE DELINEATION ON ASPHALT SURFACES

1 / 1

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163

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
12	14	79	80	81	82	83A				PAV'T CALCS									
																		ROADWAY	
LUMP														201	11000	LUMP		CLEARING AND GRUBBING	
		27439												202	23000	27439	SQ YD	PAVEMENT REMOVED	
		78												202	30700	78	FT	CONCRETE BARRIER REMOVED	
		1080												202	35100	1080	FT	PIPE REMOVED, 24" AND UNDER	
		237.5												202	38000	237.5	FT	GUARDRAIL REMOVED	
		150												202	38200	150	FT	GUARDRAIL REMOVED FOR REUSE	
		2												202	42010	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
						165								202	54000	165	EACH	RAISED PAVEMENT MARKER REMOVED	
		6												202	58100	6	EACH	CATCH BASIN REMOVED	
	400													SPECIAL	20270100	400	FT	PIPE CLEANOUT	14
			6073											203	10000	6073	CU YD	EXCAVATION	
			2787											203	20000	2787	CU YD	EMBANKMENT	
18														204	45000	18	HOUR	PROOF ROLLING	
										1372				206	10500	1372	TON	CEMENT	
										34635				206	11000	34635	SQ YD	CURING COAT	
										34635				206	15000	34635	SQ YD	CEMENT STABILIZED SUBGRADE, 16 INCHES DEEP	
										LUMP				206	30000	LUMP		CONTRACTOR DESIGNED CHEMICALLY STABILIZED SUBGRADE	
		275												606	13000	275	FT	GUARDRAIL, TYPE 5	
		150												606	16001	150	FT	GUARDRAIL REBUILT, AS PER PLAN	18
		2												606	22010	2	EACH	ANCHOR ASSEMBLY, TYPE E-98	
		2												606	35000	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
		1												606	60024	1	EACH	IMPACT ATTENUATOR, TYPE 2-98, 70 MPH, 30" WIDTH, (BIDIRECTIONAL)	
		50												622	10160	50	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
		2												622	25000	2	EACH	CONCRETE BARRIER END SECTION, TYPE D	
																		EROSION CONTROL	
	1													659	00100	1	EACH	SOIL ANALYSIS TEST	
	1684													659	00300	1684	CU YD	TOPSOIL	
			13798											659	10000	13798	SQ YD	SEEDING AND MULCHING	
	759													659	14000	759	SQ YD	REPAIR SEEDING AND MULCHING	
	759													659	15000	759	SQ YD	INTER-SEEDING	
	2.12													659	20000	2.12	TON	COMMERCIAL FERTILIZER	
	3.13													659	31000	3.13	ACRE	LIME	
	43													659	35000	43	M GAL	WATER	
				558										670	00700	558	SQ YD	DITCH EROSION PROTECTION	
														832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
														832	30000	3000	EACH	EROSION CONTROL	
				26										836	10000	26	SQ YD	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1	
																		DRAINAGE	
				5										601	32200	5	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
				1.3										602	20000	1.3	CU YD	CONCRETE MASONRY	
					624									603	01500	624	FT	6" CONDUIT, TYPE F	
				128										603	11900	128	FT	27" CONDUIT, TYPE B	
				69										603	13400	69	FT	30" CONDUIT, TYPE B	
				295										603	13600	295	FT	30" CONDUIT, TYPE C	
				467										603	16600	467	FT	36" CONDUIT, TYPE C	
				84										603	19600	84	FT	42" CONDUIT, TYPE C	
				1 [1]										604	01600	1	EACH	CATCH BASIN, NO. 5	
				3										604	01800	3	EACH	CATCH BASIN, NO. 5A	
															[1]				

[1] - REVISED 1-15-08 EJK

CALCULATED RAT
CHECKED ZSS

GENERAL SUMMARY

FRA-315-11.37

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SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
18	81	82	83A	84	157	158				PAV'T CALCS									
	1													604	09000	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
	1													604	31500	1	EACH	MANHOLE, NO. 3	
		4												604	36600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	
		8502												605	11110	8502	FT	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP	
		780												605	13410	780	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP	
		5912												605	14020	5912	FT	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	
																		PAVEMENT	
23450										1079				254	01000	24529	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
										8169				302	46000	8169	CU YD	ASPHALT CONCRETE BASE, PG64-22	
										4987				304	20000	4987	CU YD	AGGREGATE BASE	
										22930				407	10000	22930	GALLON	TACK COAT	
										1222				407	14000	1222	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
										10591				408	10000	10591	GALLON	PRIME COAT	
										1285				442	10000	1285	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)	
										1501				442	10100	1501	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)	
																		TRAFFIC CONTROL	
			199											621	00100	199	EACH	RPM	
							250							625	25920	250	FT	CONDUIT, MISC.: MULTICELL CONDUIT SYSTEM, 4"	
					1	3								625	30700	4	EACH	PULL BOX, 725.08, 18"	
					1	3								625	31510	4	EACH	PULL BOX REMOVED	
				25										630	02100	25	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
				232										630	03100	232	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
				35										630	06400	35	FT	GROUND MOUNTED SUPPORT, S4X7.7 BEAM	
				2										630	09000	2	EACH	BREAKAWAY BEAM CONNECTION	
				96										630	80100	96	SQ FT	SIGN, FLAT SHEET	
				2										630	84500	2	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
				12										630	84900	12	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
				4										630	85100	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
				1										630	85600	1	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	
				28										630	86002	28	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
				2										630	86102	2	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	
					4	3								632	26501	7	EACH	DETECTOR LOOP, AS PER PLAN	157
				1										632	90100	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	
		3.97												644	00100	3.97	MILE	EDGE LINE	
		2.58												644	00200	2.58	MILE	LANE LINE	
		1007												644	00400	1007	FT	CHANNELIZING LINE	
		146												644	00700	146	FT	TRANSVERSE/DIAGONAL LINE, (WHITE)	

CALCULATED RAT CHECKED ZSS

GENERAL SUMMARY

FRA-315-11.37

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
15	16	17	18	24	25	26				PAV'T CALCS									
																		MAINTENANCE OF TRAFFIC	
	160													614	11100	160	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
			8											614	11500	8	MONTH	WORKSITE TRAFFIC SUPERVISOR	
				187.5										SPECIAL	61412200	187.5	FT	WORK ZONE GUARD RAIL	18
				4										614	12350	4	EACH	WORK ZONE IMPACT ATTENUATOR	
					LUMP	LUMP								614	12420	LUMP		DETOUR SIGNING	
	11													614	12470	11	EACH	WORK ZONE SPEED LIMIT SIGN	
		6												614	12484	6	EACH	WORK ZONE INCREASED PENALTIES SIGN	
	10													614	12500	10	EACH	REPLACEMENT SIGN	
	20													614	12600	20	EACH	REPLACEMENT DRUM	
			1100											614	12801	1100	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	18
25														614	13000	25	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
			11773											SPECIAL	61413170	11773	FT	LINEAR DELINEATION	18
	4													614	13200	4	EACH	BARRIER REFLECTOR, TYPE A	
	1590													614	13300	1590	EACH	BARRIER REFLECTOR, TYPE B	
	530													614	13350	530	EACH	OBJECT MARKER, ONE WAY	
			32											614	18601	32	SIGN MNTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	17, 18
				1.65										614	20200	1.65	MILE	WORK ZONE LANE LINE, CLASS I, 740.06, TYPE 1	
				18.10										614	22200	18.10	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1	
				25156										614	23400	25156	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE 1	
		LUMP												615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC	
				2832										615	20000	2832	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
	40													616	10000	40	M GAL	WATER	
				26422										622	40020	26422	FT	PORTABLE CONCRETE BARRIER, 32"	
														SPECIAL	10810000	LUMP		CPM PROGRESS SCHEDULE	
LUMP														614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16010	8	MONTH	FIELD OFFICE, TYPE B	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED RAT
CHECKED ZSS

GENERAL SUMMARY

FRA-315-11.37

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REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 CONCRETE BARRIER REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 GUARDRAIL REMOVED	202 CATCH BASIN REMOVED	202 PAVEMENT REMOVED	202 GUARDRAIL REMOVED FOR REUSE	202 ANCHOR ASSEMBLY REMOVED, TYPE E	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE E-98	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1	606 IMPACT ATTENUATOR, TYPE 2-98 (BIDIRECTIONAL)	606 GUARDRAIL REBUILT, AS PER PLAN	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D	622 CONCRETE BARRIER END SECTION, TYPE D				
					FT.	FT.	FT.	EACH	SQ.YD.	FT.	EACH	FT.	EACH	EACH	EACH	FT.	FT.	EACH				
		S.R. 315																				
B-1	86	114+73.46	115+07.53	LT.													20	1				
R-10	86	114+73.46	115+07.53	LT.	34																	
	86	115+00.00	120+00.00	LT.					3269.90													
R-1	86	115+07.53	115+88.78	LT.			81.25				1											
GR-1	86	115+07.53	115+76.28	LT.								68.75		1								
	86	115+76.28	116+26.28	LT.									1									
	88	120+00.00	125+00.00	LT.					3651.81													
	90	125+00.00	130+00.00	LT.					4160.84													
	92	130+00.00	135+00.00	LT.					4271.75													
B-2	92	131+49.16	131+93.30	LT.													30	1				
R-11	92	131+49.16	131+93.30	LT.	44																	
R-2	92	131+93.30	133+99.81	LT.			156.25				1											
GR-2	92	131+93.30	133+99.40	LT.								206.25		1								
	92	133+99.40	134+49.25	LT.									1									
R-3	92	134+44.45	134+44.45	LT.				1														
	94	135+00.00	140+00.00	LT.					3094.89													
GR-3	94	138+00.00	138+29.50	RT.											1							
GR-5	94	138+29.52	138+80.77	RT.																		
GR-4	94,96	138+80.77	147+14.10	RT.																		
	96	140+00.00	141+00.00	LT.					527.92													
		RAMP 315-A																				
	99	93+75.00	98+00.00	RT.					1897.06													
R-5	100	98+26.79	103+07.41	RT.		467		1														
	100	98+00.00	103+00.00	RT.					2813.03													
R-6	101	103+07.41	104+32.94	RT.		116		1														
	101	103+00.00	108+00.00	RT.					2151.76													
R-7	101	104+26.40	104+32.94	LCR		133		1														
	102	108+00.00	110+35.90	RT.					296.93													
		RAMP 315-C																				
R-4	31	839+22.67	840+75.60	RT.						150												
	103,104	846+20.00	851+20.00	LT.					1302.81													
R-8	103	848+44.20	848+46.73	LCR		69		1														
R-9	103	848+44.20	851+40.86	RT.		295		1														
GR-6	31	839+22.67	840+75.60	RT												150						
TOTALS CARRIED TO GENERAL SUMMARY					78	1080	237.5	6	27439	150	2	275	2	2	1	150	50	2				

CALCULATED RAT CHECKED ZSS

ROADWAY QUANTITIES

FRA-315-11.37

79
163

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SHEET NO.	203 EXCAVATION CU. YD.	203 EMBANKMENT CU. YD.	659 SEEDING AND MULCHING SQ. YD.
S.R. 315			
105	50	0	94
106	124	0	166
107	94	3	183
108	45	16	142
109	38	39	236
110	34	37	234
111	33	32	205
112	14	16	157
113	7	0	202
114	17	0	292
115	7	0	180
116	8	0	166
117	0	1	142
118	0	43	372
119	10	12	236
120	123	11	622
121	144	29	140
122	18	3	0
	766	242	3769

SHEET NO.	203 EXCAVATION CU. YD.	203 EMBANKMENT CU. YD.	659 SEEDING AND MULCHING SQ. YD.
RAMP 315-A			
123	83	16	466
124	124	94	888
125	42	170	520
126	57	331	656
127	93	183	611
128	268	124	690
129	519	91	836
130	1030	125	839
131	1244	148	704
132	1390	120	930
133	70	35	111
134	197	482	657
135	2	5	4
	5119	1924	7912

SHEET NO.	203 EXCAVATION CU. YD.	203 EMBANKMENT CU. YD.	659 SEEDING AND MULCHING SQ. YD.
RAMP 315-C			
136	0	0	0
137	29	119	474
138	142	165	653
139	0	1	5
140	0	4	52
141	0	19	83
142	0	10	29
143	0	14	39
144	8	24	63
145	9	107	402
146	0	158	317
	188	621	2117

TOTALS CARRIED TO GENERAL SUMMARY

ITEM 203 - EXCAVATION

766 + 5119 + 188 = 6073 CU. YD.

ITEM 203 - EMBANKMENT

242 + 1924 + 621 = 2787 CU. YD.

ITEM 659 - SEEDING AND MULCHING

3769 + 7912 + 2117 = 13798 SQ.YD.

TOTALS CARRIED TO GENERAL SUMMARY

CALCULATED RAT CHECKED TCS

ROADWAY QUANTITIES

FRA-315-11.37

80 163

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CU. YD.	602 CONCRETE MASONARY CU. YD.	603 27" CONDUIT, TYPE B FT.	603 30" CONDUIT, TYPE B FT.	603 30" CONDUIT, TYPE C FT.	603 36" CONDUIT, TYPE C FT.	603 42" CONDUIT, TYPE C FT.	604 CATCH BASIN, ADJUSTED TO GRADE EACH	604 CATCH BASIN, NO. 5 EACH	604 CATCH BASIN, NO. 5A EACH	604 MANHOLE, NO. 3 EACH	670 DITCH EROSION PROTECTION SQ. YD.	836 SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 SQ. YD.
		RAMP 315-C															
D-1	103	848+46.73	848+44.20	LCR				69						1			
D-2	103	848+44.20	851+40.86	RT.					295					1			
		RAMP 315-A															
D-3	100	98+26.79	103+07.41	RT.						467				1			
E-2	100	100+50.00	104+24.57	LT.												318	
E-1	100	101+00.00	104+01.24	RT.												240	
D-4	101	103+07.41	103+98.02	RT.	2.70	0.84					84				1		
E-3	101	103+98.98	104+30.77	RT.										[1]			26
D-5	101	104+26.40	104+32.65	LCR	1.80	0.49	128						1				
		SR 315															
D-6	92	103+50		LT								1					
TOTALS CARRIED TO GENERAL SUMMARY					5	1.3	128	69	295	467	84	1	1	3	1	558	26

[1] - REVISED 1-15-08 EJK

CALCULATED RAT
CHECKED EJK

DRAINAGE QUANTITIES

FRA-315-11.37

81
163

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SHEET NO.	REF NO.	STATIONS		ROADWAY	ELEVATIONS		603	604	605	605	605	FOR INFORMATION ONLY				
							6" CONDUIT, TYPE F	PRECAST REINFORCED CONCRETE OUTLET	6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP	6" BASE PIPE UNDERDRAIN WITH FABRIC WRAP	6" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP	6" 45° WYE	6" 45° BEND	6" 90° BEND	6" 90° TEE	6" CROSS
		FROM	TO		UPPER	LOWER	FT.	EACH	FT.	FT.	FT.	EACH	EACH	EACH	EACH	EACH
103	U-1	846+20.99	851+40.86	RAMP 315C	*	762.30	74		470				1			
99	U-2	93+75.00	96+67.90	RAMP 315A	771.62	766.47	18			293		1	1			
99	U-3	93+75.00	96+67.90	RAMP 315A	770.62	766.47	28		293			1				
100	U-4	846+19.92	103+07.41	315A/315C	*	754.70	45		996						1	
100	U-5	99+16.51	103+07.41	RAMP 315A	763.12	754.70	12			391		1	1		1	
99	U-6	92+50.00	104+26.40	RAMP 315A	*	756.63	20	1	1176						2	
101	U-7	103+07.41	105+97.37	RAMP 315A	756.04	754.70				290						
101	U-8	103+07.41	105+97.37	RAMP 315A	755.68	754.70			290							
101	U-9	104+26.40	105+97.37	RAMP 315A	758.03	756.63			171							
101	U-9A	106+02.50	107+77.35	RAMP 315A	758.05	757.54	15		165				1			
92	U-10	106+02.63	131+00.00	315A/S.R. 315	756.03	755.55	13			550		1	1		1	
92	U-11	106+02.63	131+00.00	315A/S.R. 315	755.70	755.55	46	1	550						1	
88	U-12	121+52.49	131+00.00	S.R. 315	758.88	755.55				950						
88	U-13	121+52.49	131+00.00	S.R. 315	758.36	755.55			950							
86	U-14	115+09.25	121+47.51	S.R. 315	758.89	755.78	7			640		1	1			
86	U-15	115+09.25	121+47.51	S.R. 315	758.37	755.78			640						1	
94	U-16	139+00.00	141+00.00	S.R. 315	760.19	760.09	7				195		1			
94	U-17	139+00.00	141+00.00	S.R. 315	759.67	759.57	7				195		1			
92	U-18	138+97.50	107+77.35	315A/S.R. 315	760.08	757.73	8			408			1			
92	U-19	138+97.50	107+77.35	315A/S.R. 315	759.56	755.50	91	1	411			2				
94	U-20	139+00.00	141+00.00	S.R. 315	760.17	760.07	18				195		1			
94	U-21	139+00.00	141+00.00	S.R. 315	759.59	759.17	69	1			195	3				
92	U-22	130+50.30	138+97.50	S.R. 315	759.48	756.30	16		850				1			
92	U-23	130+50.30	138+97.50	S.R. 315	760.08	756.30	10			850						
88	U-24	121+52.50	130+50.30	S.R. 315	758.31	756.30	16		900				1			
88	U-25	121+52.50	130+50.30	S.R. 315	758.87	756.30	10			900						
86	U-26	115+09.25	121+47.50	S.R. 315	758.31	755.78	76		640							
86	U-27	115+09.25	121+47.50	S.R. 315	758.87	755.78	18			640		1	1			
TOTALS CARRIED TO GENERAL SUMMARY							624	4	8502	5912	780	11	13	5	7	0

* CONNECT INTO EXISTING UNDERDRAIN

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CALCULATED RAT CHECKED ZSS

UNDERDRAIN QUANTITIES

FRA-315-11.37

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 RAISED PAVEMENT MARKER REMOVED	621 RPM (WHITE)	621 RPM (YELLOW/RED)	621 RPM (WHITE/RED)	644 EDGE LINE, (YELLOW)	644 EDGE LINE, (WHITE)	644 LANE LINE	644 CHANNELIZING LINE	644 TRANSVERSE/DIAGONAL LINE, (WHITE)
					EACH	EACH	EACH	EACH	MILE	MILE	MILE	FT.	FT.
EL-2	155	103+71.23	112+50.00	LT.						0.17			
EL-1	155	103+71.23	112+50.00	LT.					0.17				
LL-1	155	103+71.23	112+50.00	LT.							0.33		
RPM-1	155	103+71.23	112+50.00	LT.	7	7							
RPM-2	155	103+71.23	112+50.00	LT.	7	7							
EL-2	156	112+50.00	125+00.00	LT.						0.24			
EL-1	156	112+50.00	125+00.00	LT.					0.24				
LL-1	156	112+50.00	125+00.00	LT.							0.47		
LL-1	156	123+45.33	125+00.00	LT.							0.03		
RPM-1	156	112+50.00	125+00.00	LT.	11	11							
RPM-2	156	112+50.00	125+00.00	LT.	11	11							
RPM-3	156	123+45.33	125+00.00	LT.		2							
EL-2	157	132+25.67	137+50.00	LT.						0.10			
EL-2	157	125+00.00	132+25.67	LT.						0.14			
EL-1	157	125+00.00	137+50.00	LT.					0.24				
RPM-1	157	125+00.00	132+25.67	LT.	6	6							
RPM-2	157	125+00.00	132+25.67	LT.	6	6							
RPM-3	157	125+00.00	132+25.67	LT.		6							
RPM-4	157	107+02.96	110+35.90	LT./RT.	9			9					
RPM-5	157	105+00.00	110+35.90	RT.	7			7					
RPM-6	157	105+00.00	110+35.90	RT.				7					
RPM-7	157	105+00.00	107+02.96	RT.	3		3						
LL-1	157	125+00.00	132+25.67	LT.							0.41		
EL-2	157	105+00.00	110+35.90	RT.						0.10			
EL-1	157	105+00.00	107+02.96	℄					0.04				
LL-1	157	105+00.00	110+35.90	RT.							0.20		
CL-1	157	107+02.96	110+35.90	℄								333	
EL-2	158	137+50.00	146+63.01	LT.						0.17			
EL-1	158	137+50.00	150+00.00	LT.					0.24				
T-1	158	146+63.01	148+09.33	LT.									146
LL-1	158	141+00.00	150+00.00	LT.							0.17		
EL-2	158	99+16.51	105+00.00	RT.						0.11			
EL-1	158	99+16.51	105+00.00	℄					0.11				
LL-1	158	99+16.51	105+00.00	RT.							0.22		
EL-2	158	852+00.00	852+33.11	RT.						0.01			
EL-1	158	852+00.00	852+33.11	℄					0.01				
LL-1	158	852+00.00	852+33.11	RT.							0.01		
CL-1	158	146+63.01	148+09.33	LT.								293	
RPM-5	158	99+16.51	105+00.00	RT.	7			7					
RPM-6	158	99+16.51	105+00.00	RT.				7					
RPM-7	158	99+16.51	105+00.00	RT.			7						
RPM-8	158	146+63.01	148+09.33	LT.	4			4					
RPM-9	158	146+63.01	148+09.33	LT.	5			5					
RPM-10	158	141+00.00	150+00.00	LT.	8	8							
SUBTOTALS					91	64	10	46	1.05	1.04	1.85	626	146

CALCULATED ZSS
CHECKED RAT

PAVEMENT MARKING SUB-SUMMARY

FRA-315-11.37

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 RAISED PAVEMENT MARKER REMOVED	621 RPM (WHITE)	621 RPM (YELLOW/RED)	621 RPM (WHITE/RED)	644 EDGE LINE, (YELLOW)	644 EDGE LINE, (WHITE)	644 LANE LINE	644 CHANNELIZING LINE	644 TRANSVERSE/DIAGONAL LINE, (WHITE)
					EACH	EACH	EACH	EACH	MILE	MILE	MILE	FT.	FT.
EL-2	159	150+00.00	162+50.00	LT.						0.24			
EL-1	159	150+00.00	162+50.00	LT.					0.24				
LL-1	159	150+00.00	162+50.00	LT.							0.24		
RPM-10	159	150+00.00	162+50.00	LT.	11	11							
EL-2	160	162+50.00	167+88.73	LT.						0.10			
EL-1	160	162+50.00	167+88.73	LT.					0.10				
LL-1	160	162+50.00	167+88.73	LT.							0.10		
RPM-10	160	162+50.00	167+88.73	LT.	5	5							
EL-2	161	836+50.52	852+00.00	LC						0.29			
EL-1	161	841+78.32	849+84.21	LT.					0.15				
LL-1	161	851+29.21	852+00.00	LT.							0.01		
CL-1	161	849+84.21	851+29.21	LT.								145	
CL-1	161	839+42.24	841+78.32	LT.								236	
EL-2	161	90+00.00	98+12.68	RT.						0.15			
EL-1	161	90+00.00	98+82.24	LC					0.17				
LL-1	161	90+00.00	98+82.24	RT.							0.17		
RPM-5	161	90+00.00	99+16.51	RT.	12			12					
RPM-6	161	98+12.84	99+16.51	℄	1			1					
RPM-7	161	90+00.00	99+16.51	℄	12		12						
RPM-11	161	849+84.21	851+29.21	RT.				5					
RPM-12	161	846+20.00	849+84.21	RT.	5		5						
EL-2	162	78+50.00	90+00.00	RT.						0.22			
EL-1	162	78+50.00	90+00.00	C					0.22				
LL-1	162	78+50.00	90+00.00	RT.							0.22		
RPM-5	162	78+50.00	90+00.00	RT.	14		14						
RPM-7	162	78+50.00	90+00.00	℄	14			14					
TOTALS THIS SHEET					74	16	31	32	0.88	1.00	0.74	381	0
TOTALS CARRIED TO GENERAL SUMMARY					165	199			3.97		2.58	1007	146

CALCULATED ZSS
CHECKED RAT

PAVEMENT MARKING SUB-SUMMARY

FRA-315-11.37

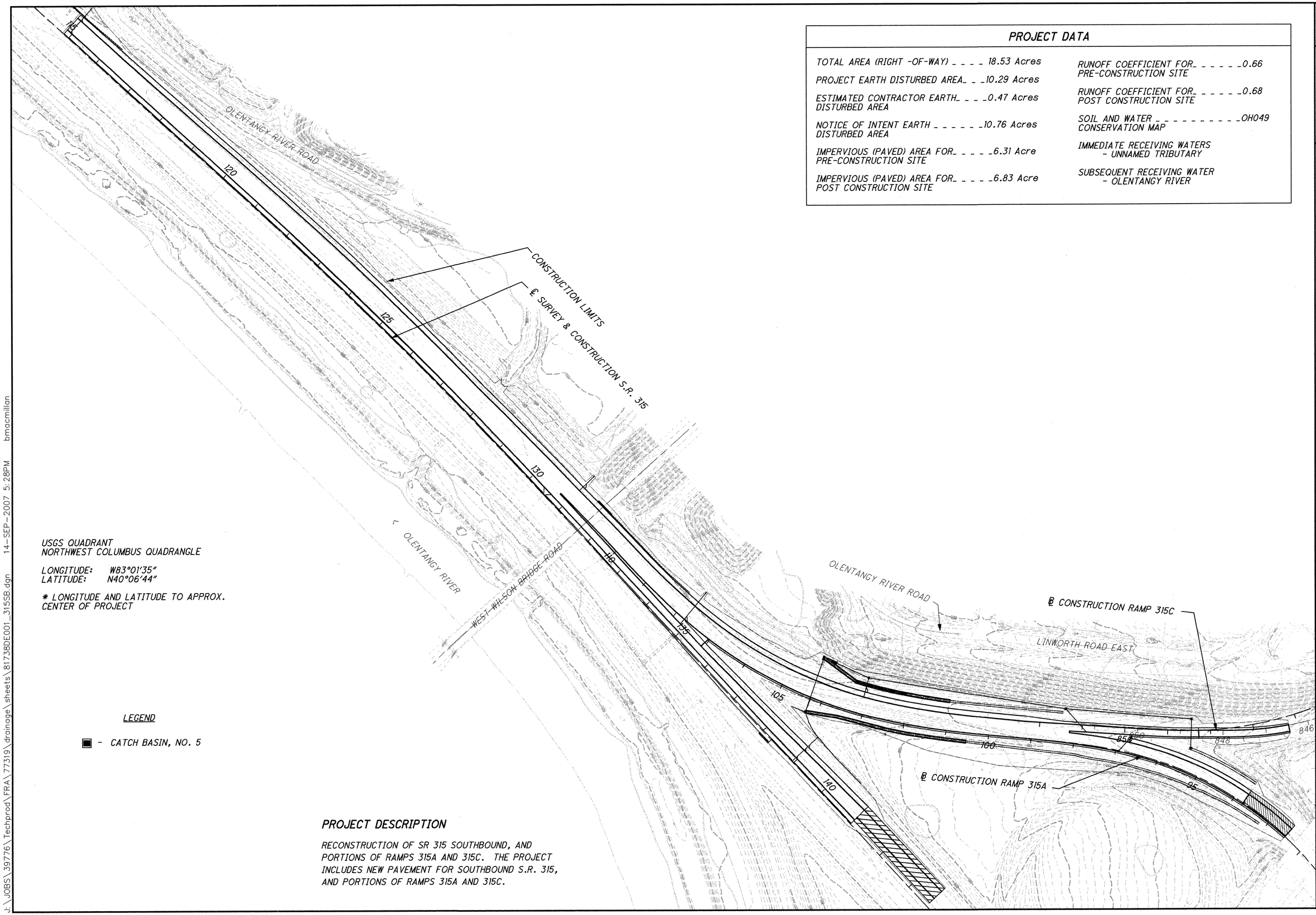
83A
163

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT.	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT.	630 GROUND MOUNTED SUPPORT, S4X7.7 BEAM FT.	630 BREAKAWAY BEAM CONNECTION EACH	630 SIGN, FLAT SHEET SQ. FT.	630 GROUND MOUNTED BEAM SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL EACH	632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION EACH		
156	S-1	S.R. 315	116+02.42	LT.	R2-H2c	84"x72"			35	2		2			1		2			
156	S-2	S.R. 315	123+45.00	LT.	W4-2R-48	48"x48"		29			16									
157	S-4	S.R. 315	136+08.60	LT.	W3-3R-48	48"x48"								1		2				
157	S-4	S.R. 315	136+29.32	LT.	W3-3R-48	48"x48"		29												
157	S-3	RAMP 315 A	107+17.00	RT.	W9-1R-48	48"x48"		29			16									
158	S-5	S.R. 315	141+00.00	LT.	W4-2R-48	48"x48"		29			16									
158	S-6	S.R. 315	142+50.74	LT.	W9-1R	48"x48"										2				
158	R-8	S.R. 315	138+98.09	LT.	W4-2R-48	48"x48"							1			2				
158	S-6	S.R. 315	143+00.00	LT.	W9-1R-48	48"x48"		29						1						
161	R-1	RAMP 315-C	840+79.39	LT.	W8-5								1			2				
161	R-2	RAMP 315-C	843+61.11	LT.	W302								1			2				
161	S-7	RAMP 315-C	845+40.04	LT.	D10-H5A	30"x30"	12.5							1		1				
161	R-3	RAMP 315-C	848+48.36	RT.	W3-2								1			2				
161	R-3	RAMP 315-C	848+50.54	LT.	W3-2								1			2				
161	R-4	RAMP 315-C	849+37.16	LT.	W8-5								1			2				
161	S-8	RAMP 315-C	851+83.20	RT.	D10-H5A	30"x30"	12.5							1		1				
161	R-5	RAMP 315-C	851+84.78	RT.	W8-5								2			2		1		
161	S-11	RAMP 315-C	846+60.00	RT.	W4-6-48	48"x48"		29			16									
161	R-6	RAMP 315-A	90+61.18	RT.	W4-1R								1			2				
161	S-9	RAMP 315-A	90+61.18	RT.	W4-3R-48	48"x48"		29			16									
161	R-7	RAMP 315-A	93+79.69	RT.	W4-1R								1			2				
161	S-10	RAMP 315-A	93+79.69	RT.	W4-3R-48	48"x48"		29			16									
161	R-8	RAMP 315-C	848+50.00	LT/RT	R1-2-36	36"x36"							2			4				
TOTALS CARRIED TO GENERAL SUMMARY							25	232	35	2	96	2	12	4	1	28	2	1		

CALCULATED ZSS
CHECKED RAT

SIGNING SUBSUMMARY

FRA-315-11.37



PROJECT DATA

TOTAL AREA (RIGHT -OF-WAY) _ _ _ _ 18.53 Acres	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE _ _ _ _ _ 0.66
PROJECT EARTH DISTURBED AREA _ _ _ 10.29 Acres	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE _ _ _ _ _ 0.68
ESTIMATED CONTRACTOR EARTH DISTURBED AREA _ _ _ 0.47 Acres	SOIL AND WATER CONSERVATION MAP _ _ _ _ _ _ _ _ _ _ OH049
NOTICE OF INTENT EARTH DISTURBED AREA _ _ _ _ _ 10.76 Acres	IMMEDIATE RECEIVING WATERS - UNNAMED TRIBUTARY
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE _ _ _ _ 6.31 Acre	SUBSEQUENT RECEIVING WATER - OLENTANGY RIVER
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE _ _ _ _ 6.83 Acre	

USGS QUADRANT
NORTHWEST COLUMBUS QUADRANGLE

LONGITUDE: W83°01'35"
LATITUDE: N40°06'44"

* LONGITUDE AND LATITUDE TO APPROX. CENTER OF PROJECT

LEGEND

■ - CATCH BASIN, NO. 5

PROJECT DESCRIPTION

RECONSTRUCTION OF SR 315 SOUTHBOUND, AND PORTIONS OF RAMPS 315A AND 315C. THE PROJECT INCLUDES NEW PAVEMENT FOR SOUTHBOUND S.R. 315, AND PORTIONS OF RAMPS 315A AND 315C.

HORIZONTAL SCALE IN FEET
0 50 100 200

PROJECT SITE PLAN

FRA-315-11.37

CONCRETE BARRIER, TYPE D

+00.00 BEGIN FULL DEPTH PAVEMENT REPLACEMENT
BEGIN SHOULDER TRANSITION

STA. 115+07.53 CONNECT TO EX. BARRIER

STA. 115+65.00 BEGIN PAVEMENT TAPER

STA. 116+00.00 END SHOULDER TRANSITION

ANCHOR ASSEMBLY TYPE E-98

Ex LA-R/W

+26.28

GR-1

U-14

CONSTRUCTION LIMITS

U-15

65:1 TAPER

+74

10'-6"

12'

R-10

R-1

B-1

BRIDGE TERMINAL ASSEMBLY, TYPE 1

36'

+05.57

+99.51

S.R. 315 SOUTHBOUND

EXISTING BARRIER

11'-3"

115

116

117

118

119

N 2° 54' 59" E

STA. 116+00.00

℄ SURVEY & CONSTRUCTION S. R. 315

U-26

U-27

S.R. 315 NORTHBOUND

MATCH LINE STA. 120+00 S.R. 315
SHEET 88

EX. 42" STM. CULVERT

EX. 15" STM.

BEGIN PROJECT
STA. 115+00.00
S.L.M. 11.37

E060(881)

NOTES:

FOR QUANTITIES	SEE SHEET 79-84.
FOR CROSS SECTIONS	SEE SHEET 105-146.
FOR UNDERDRAIN DETAILS	SEE SHEET 152.

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BLM
CHECKED ZSS

PLAN S.R. 315
STA. 115+00 TO STA. 120+00

FRA-315-11.37

86
163

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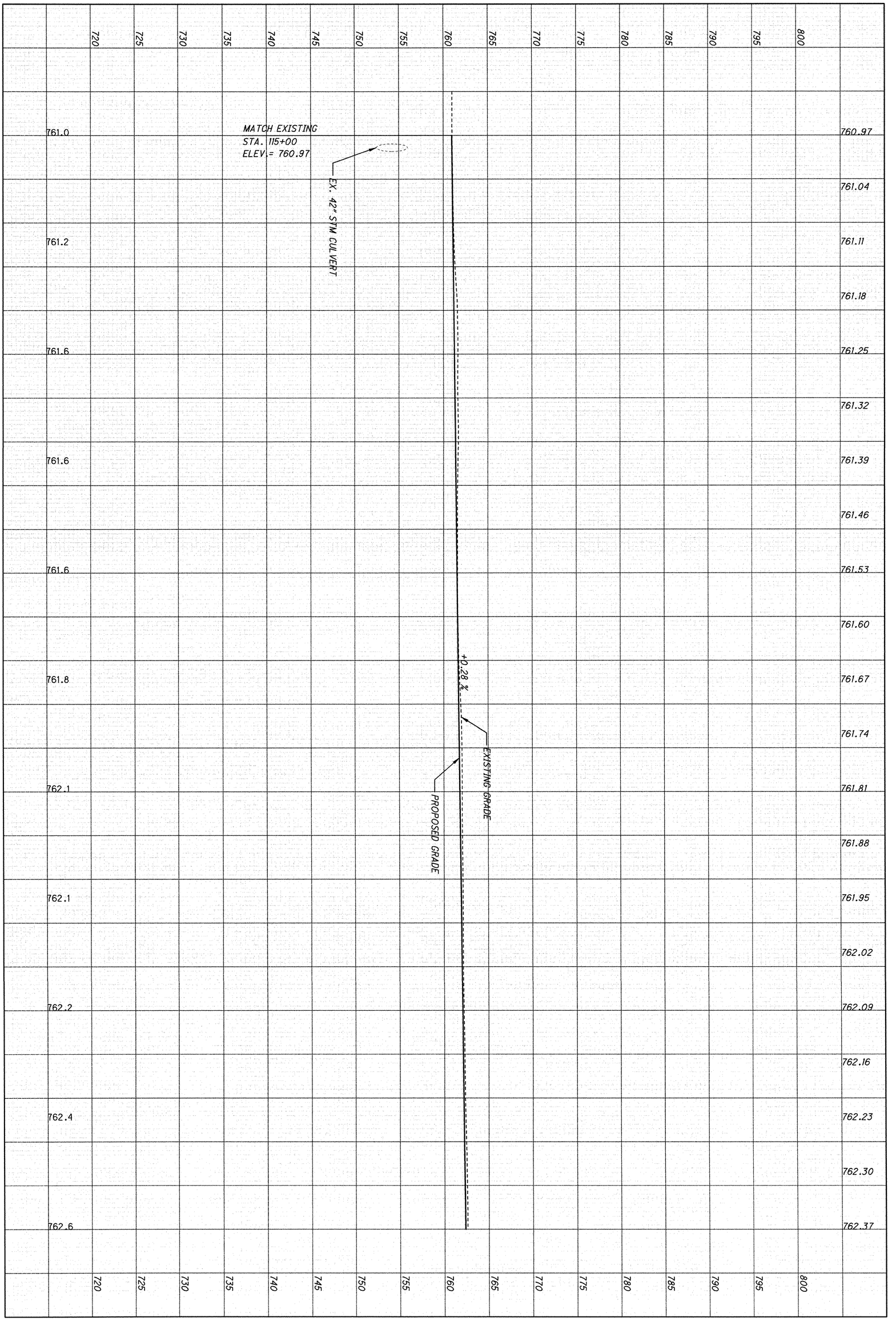
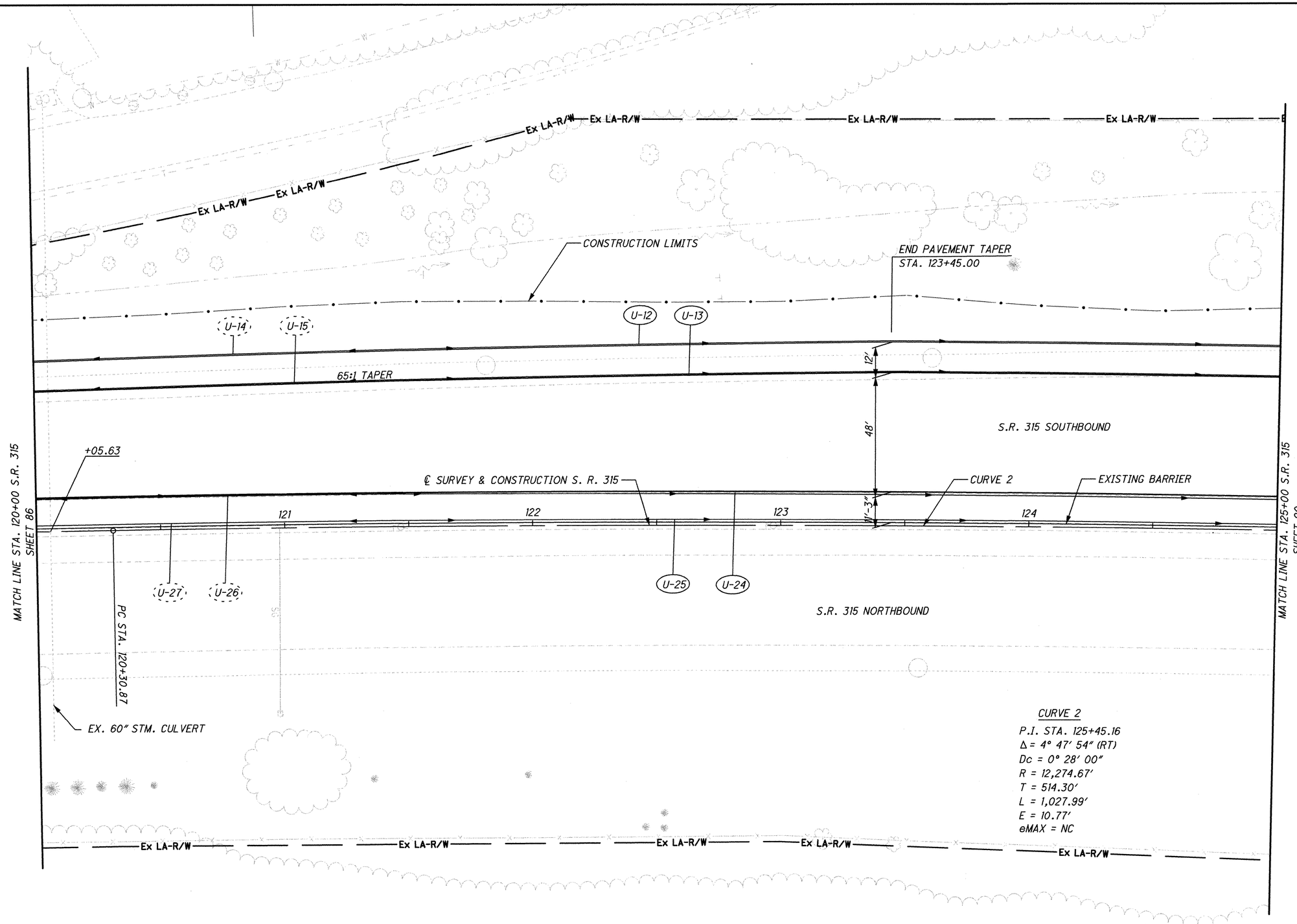


87 / 163	FRA-315-11.37	PROFILE - S.R. 315 SB STA. 115+00 TO STA. 120+00	CALCULATED JMW CHECKED ZSS



CURVE 2
P.I. STA. 125+45.16
Δ = 4° 47' 54" (RT)
Dc = 0° 28' 00"
R = 12,274.67'
T = 514.30'
L = 1,027.99'
E = 10.77'
eMAX = NC

NOTES:

FOR QUANTITIES	SEE SHEET 79-84.
FOR CROSS SECTIONS	SEE SHEET 105-146.
FOR UNDERDRAIN DETAILS	SEE SHEET 152.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JMW
CHECKED ZSS

PLAN S.R. 315
STA. 120+00 TO STA. 125+00

FRA-315-11.37

88
163

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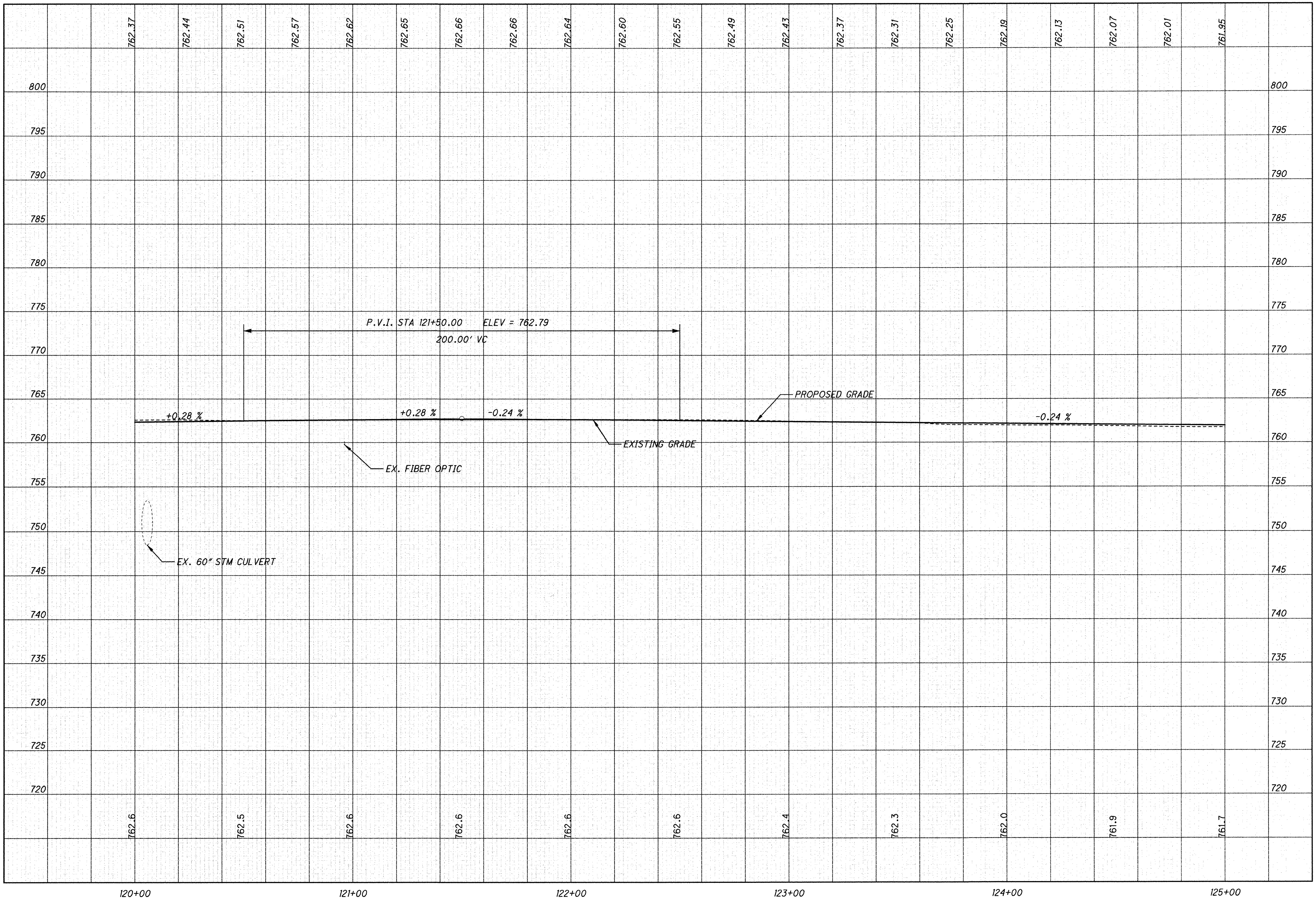
762.37
762.44
762.51
762.57
762.62
762.65
762.66
762.66
762.64
762.60
762.55
762.49
762.43
762.37
762.31
762.25
762.19
762.13
762.07
762.01
761.95
800
795
790
785
780
775
770
765
760
755
750
745
740
735
730
725
720
P.V.I. STA 121+50.00 ELEV = 762.79
200.00' VC
+0.28 %
+0.28 %
-0.24 %
-0.24 %
PROPOSED GRADE
EXISTING GRADE
EX. FIBER OPTIC
EX. 60" STM CULVERT
762.6
762.5
762.6
762.6
762.6
762.6
762.4
762.3
762.0
761.9
761.7
120+00
121+00
122+00
123+00
124+00
125+00

CALCULATED JMW
CHECKED ZSS

PROFILE - S.R. 315 SB
STA. 120+00 TO STA. 125+00

FRA-315-11.37

Ex LA-R/W — Ex LA-R/W — Ex LA-R/W — Ex LA-R/W — Ex LA-R/W

BEGIN PAVEMENT TRANSITION
STA. 127+75.31

CONSTRUCTION LIMITS

U-12 U-13

12'

50:1 TAPER

48'

S.R. 315 - SOUTHBOUND

MATCH LINE STA. 125+00 S.R. 315
SHEET 88

CURVE 2

℄ SURVEY & CONSTRUCTION S.R. 315

EXISTING BARRIER

126 127 128 129

11'-3"

+00.59

U-25 U-24

S.R. 315 - NORTHBOUND

MATCH LINE STA. 130+00 S.R. 315
SHEET 92

EX. 96" STM. CULVERT

CURVE 2
P.I. STA. 125+45.16
Δ = 4° 47' 54" (RT)
Dc = 0° 28' 00"
R = 12,274.67'
T = 514.30'
L = 1,027.99'
E = 10.77'
eMAX = NC

Ex LA-R/W — Ex LA-R/W — Ex LA-R/W — Ex LA-R/W — Ex LA-R/W

Ex R/W

NOTES:

FOR QUANTITIES SEE SHEET 79-84.
FOR CROSS SECTIONS SEE SHEET 105-146.
FOR UNDERDRAIN DETAILS SEE SHEET 152.

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BLM
CHECKED ZSS

PLAN S.R. 315
STA. 125+00 TO STA. 130+00

FRA-315-11.37

90
163

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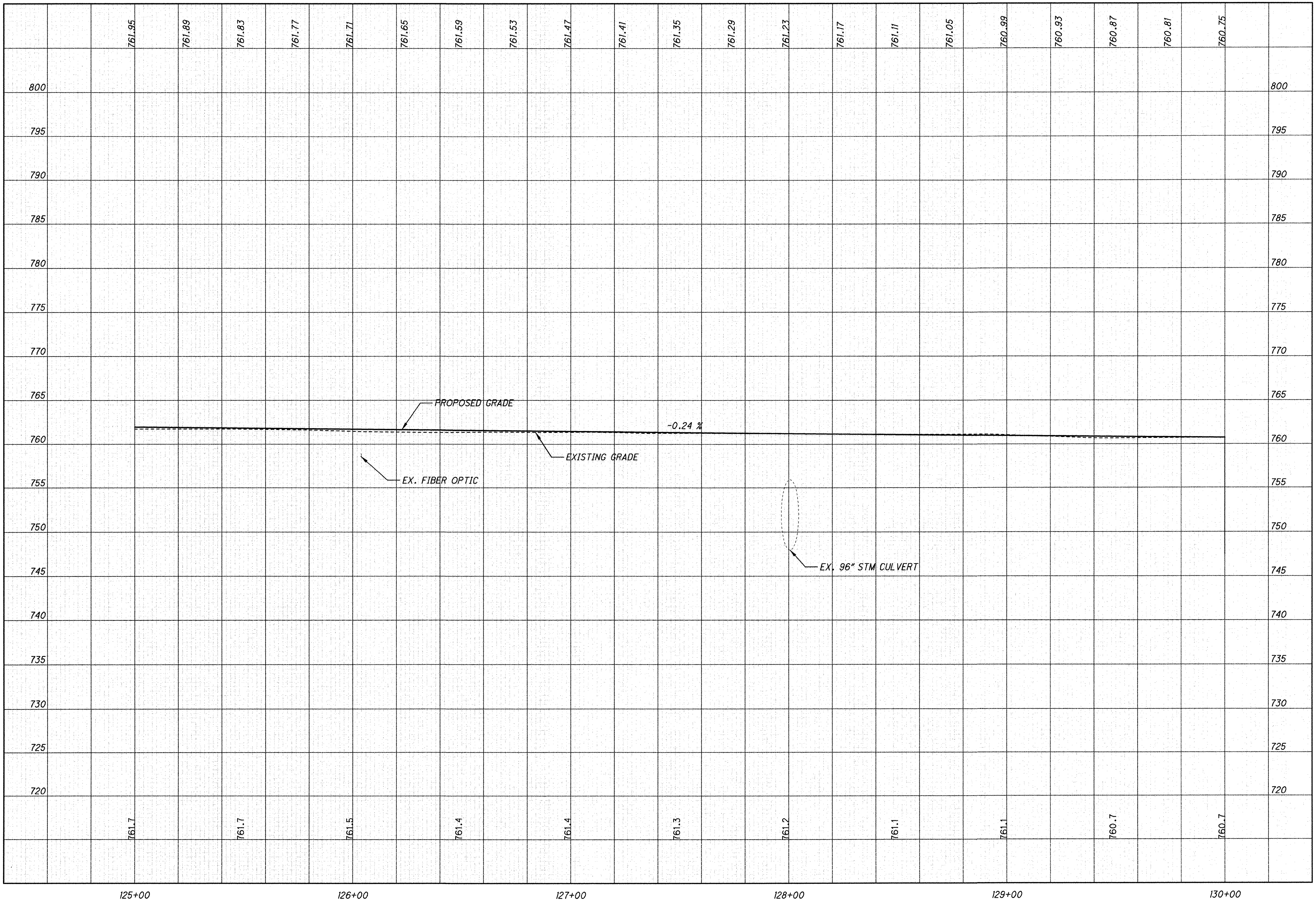
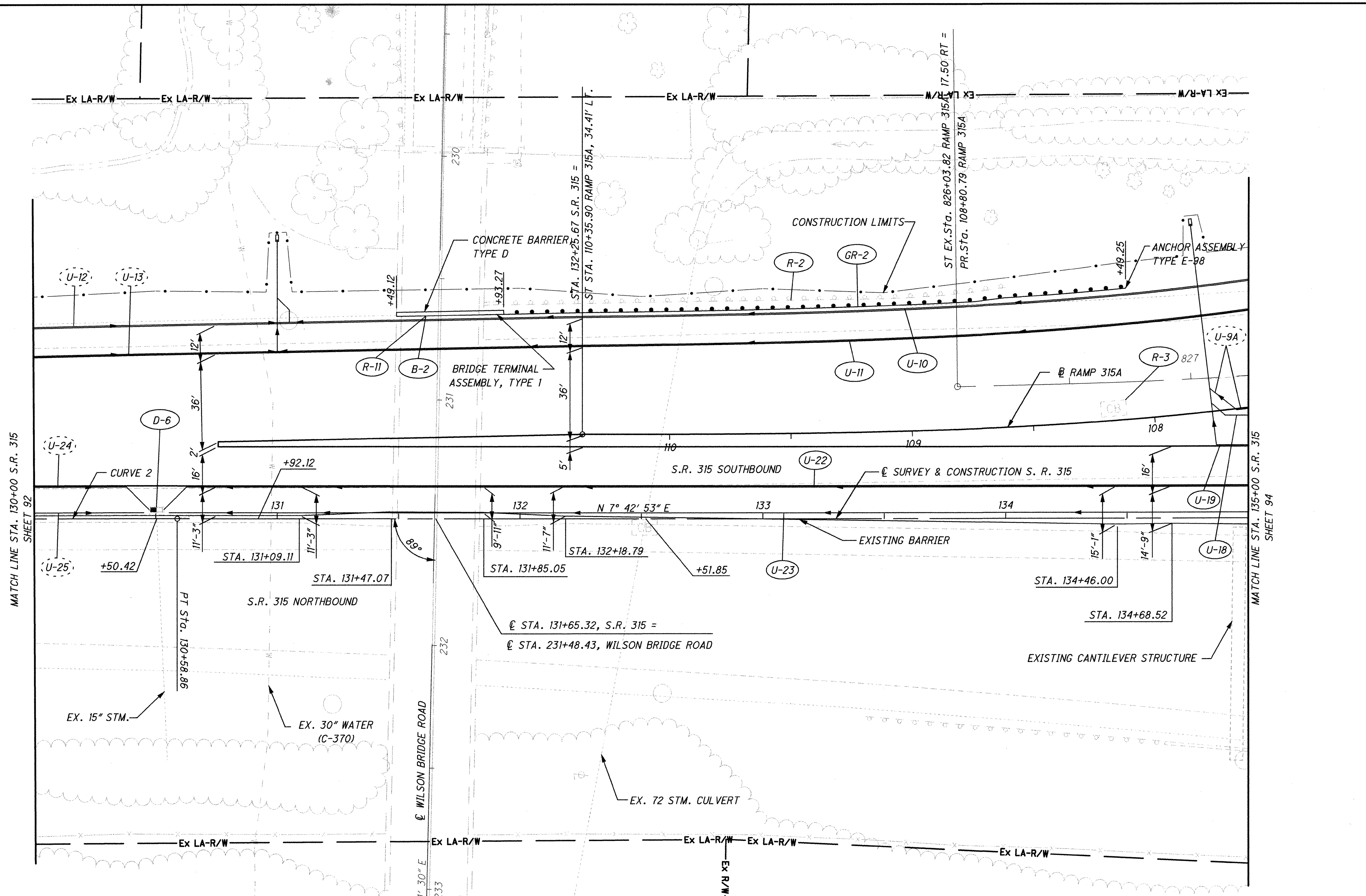


PROFILE - S.R. 315 SB
STA. 125+00 TO STA. 130+00

CALCULATED JMW
CHECKED ZSS

FRA-315-11.37



Ex LA-R/W
CONSTRUCTION LIMITS
CONCRETE BARRIER TYPE D
ANCHOR ASSEMBLY TYPE E-98
STA. 132+25.67 S.R. 315 = ST STA. 110+35.90 RAMP 315A, 34.41' LT.
ST EX.Sta. 826+03.82 RAMP 315A 17.50' RT = PR.Sta. 108+80.79 RAMP 315A
+49.12
+93.27
+49.25
U-12
U-13
R-2
GR-2
R-11
B-2
BRIDGE TERMINAL ASSEMBLY, TYPE 1
U-11
U-10
U-9A
R-3
℄ RAMP 315A
D-6
U-24
CURVE 2
+92.12
S.R. 315 SOUTHBOUND
U-22
℄ SURVEY & CONSTRUCTION S. R. 315
U-19
N 7° 42' 53" E
EXISTING BARRIER
U-18
MATCH LINE STA. 130+00 S.R. 315 SHEET 92
MATCH LINE STA. 135+00 S.R. 315 SHEET 94
U-25
+50.42
STA. 131+09.11
STA. 131+47.07
STA. 131+85.05
STA. 132+18.79
+51.85
U-23
STA. 134+46.00
STA. 134+68.52
S.R. 315 NORTHBOUND
℄ STA. 131+65.32, S.R. 315 =
℄ STA. 231+48.43, WILSON BRIDGE ROAD
EXISTING CANTILEVER STRUCTURE
PT Sta. 130+58.86
EX. 15" STM.
EX. 30" WATER (C-370)
EX. 72 STM. CULVERT
℄ WILSON BRIDGE ROAD
S 81° 04' 30" E
Ex R/W

CURVE 2

P.I. STA. 125+45.16
Δ = 4° 47' 54" (RT)
Dc = 0° 28' 00"
R = 12,274.67'
T = 514.30'
L = 1,027.99'
E = 10.77'
eMAX = NC

NOTES:

FOR QUANTITIES	SEE SHEET 79-84.
FOR CROSS SECTIONS	SEE SHEET 105-146.
FOR UNDERDRAIN DETAILS	SEE SHEET 152.

PLAN S.R. 315
STA. 130+00 TO STA. 135+00

HORIZONTAL SCALE IN FEET

CALCULATED JMW CHECKED ZSS

FRA-315-11.37

760.75 760.70 760.67 760.67 760.68 760.72 760.77 760.85 760.95 761.06 761.17 761.28 761.39 761.50 761.61 761.72 761.83 761.94 762.05 762.16 762.27

800 795 790 785 780 775 770 765 760 755 750 745 740 735 730 725 720

℄ EX. WILSON BRIDGE ROAD

VERTICAL CLEARANCE
14.87' PROP. & EXIST.

PROPOSED GRADE

-0.24 %

+0.44 %

+0.44 %

EXISTING GRADE

EX. 30" WATER

P.V.I. STA 131+00.00 ELEV = 760.51
200.00' VC

EX. 72" STM CULVERT

760.7 760.5 760.6 760.6 761.0 761.0 761.3 761.5 761.6 761.8 762.1

130+00 131+00 132+00 133+00 134+00 135+00

PROFILE - S.R. 315 SB
STA 130+00 TO STA. 135+00

CALCULATED JMW
CHECKED ZSS

FRA-315-11.37

93
163

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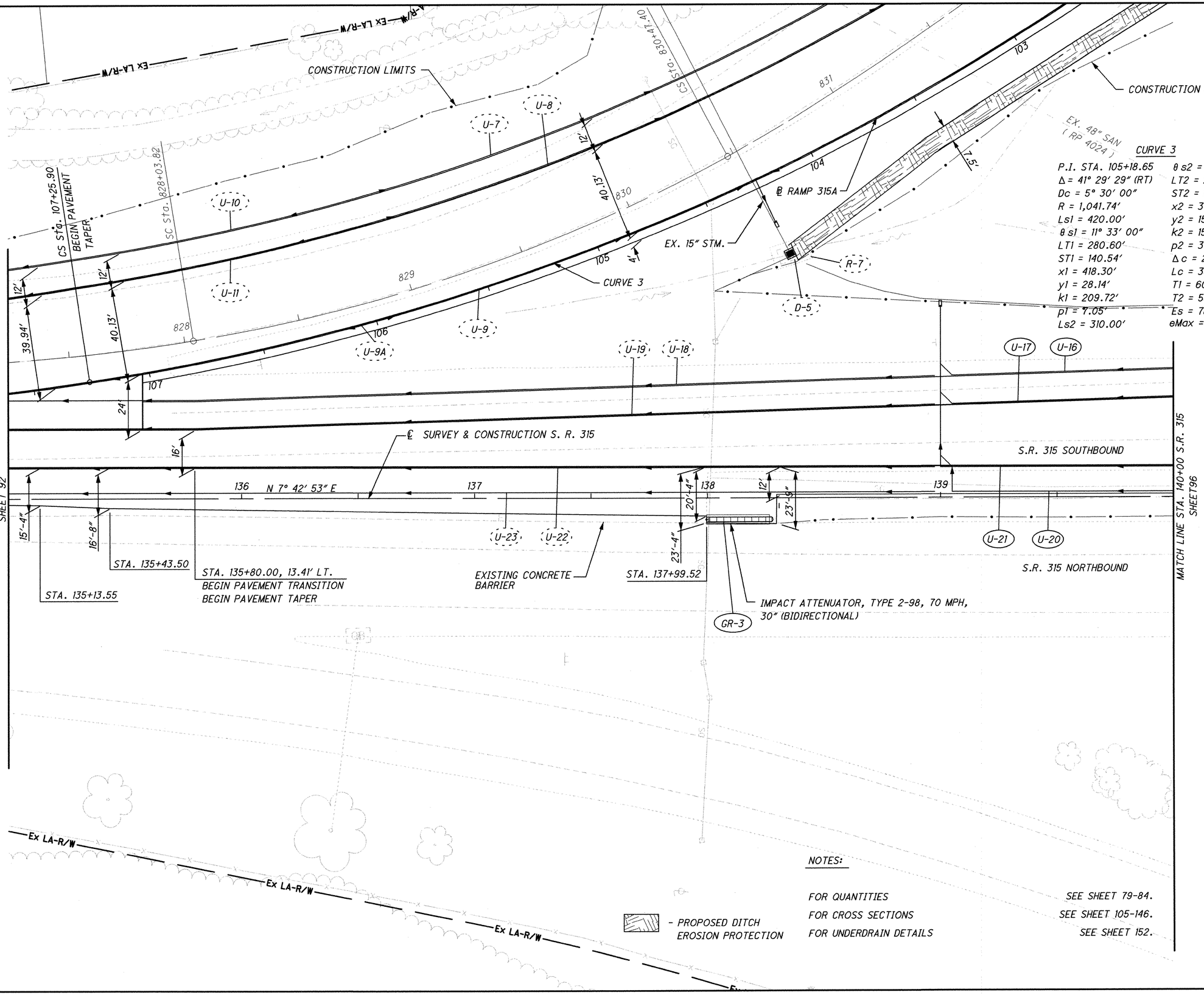

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BLM
CHECKED ZSS

PLAN S.R. 315 STA. 135+00 TO STA. 140+00

FRA-315-11.37

94
163

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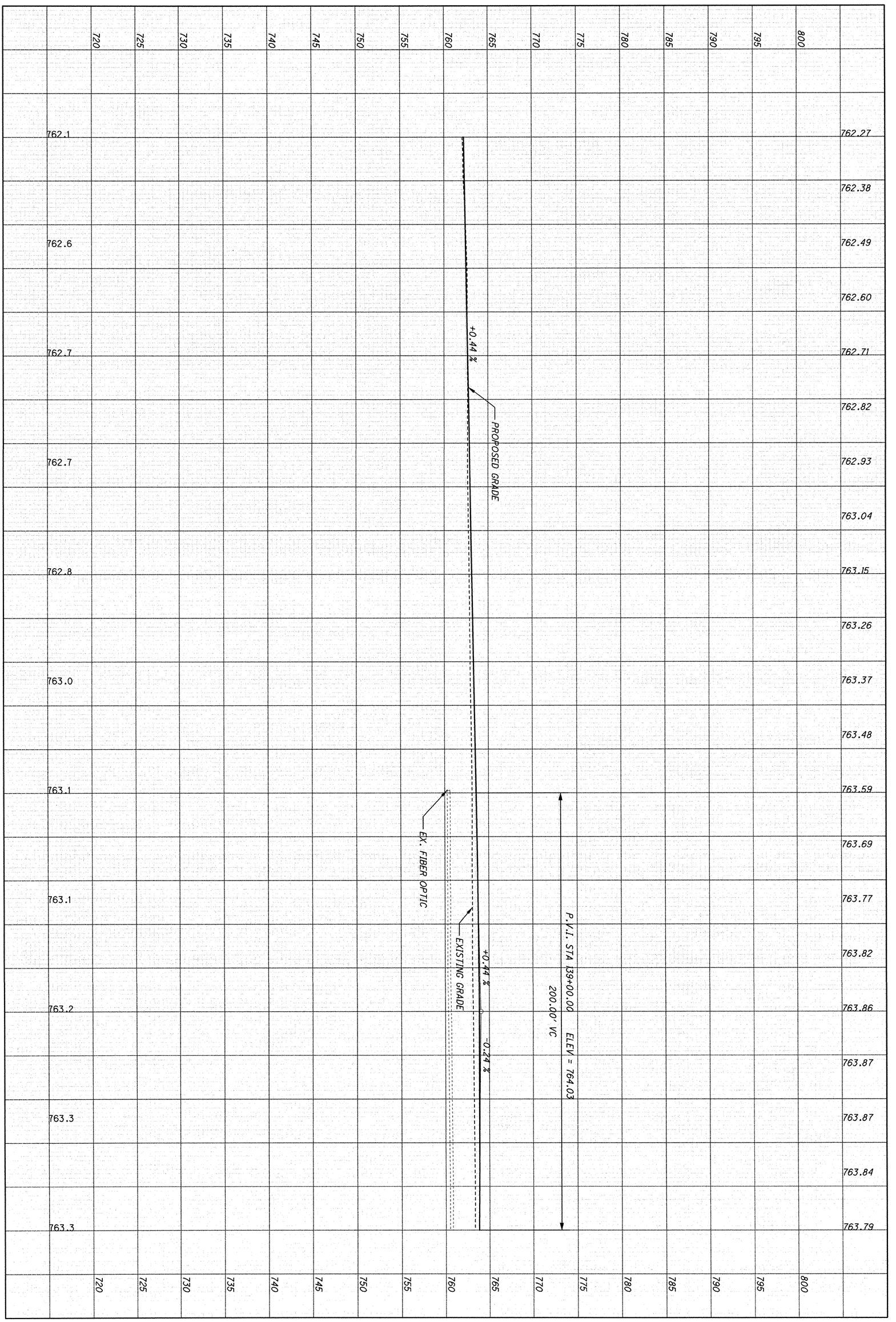

95 / 163	FRA-315-11.37	PROFILE - S.R. 315 SB STA. 135+00 TO STA. 140+00	CALCULATED JMW CHECKED ZSS

STA. 141+00.00
END FULL DEPTH PAVEMENT REPLACEMENT
END PAVEMENT TRANSITION
BEGIN OVERLAY

E060(881)
END PROJECT
STA. 141+00.00
S.L.M. 11.86

STA. 143+60.00
END OVERLAY
MATCH EXISTING PAVEMENT

CONSTRUCTION LIMITS

SAW CUT

U-16 U-17

12"

32'

13.41'

24'

S.R. 315 SOUTHBOUND

141 142 143 144

N 7° 42' 53" E

MATCH LINE STA. 140+00 S.R. 315
SHEET 94

U-20 U-21

CONSTRUCTION LIMITS

℄ SURVEY & CONSTRUCTION S. R. 315

S.R. 315 NORTHBOUND

EX. 48" SAN
(RP 4024)

NOTES:

FOR QUANTITIES	SEE SHEET 79-84.
FOR CROSS SECTIONS	SEE SHEET 105-146.
FOR UNDERDRAIN DETAILS	SEE SHEET 152.

- OVERLAY SECTION

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JMW
CHECKED ZSS

PLAN S.R. 315
STA. 140+00 TO STA. 141+00

FRA-315-11.37

96
163

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763.79 763.73 763.67 763.61 763.55

OVERLAY SECTION

PROPOSED GRADE

-0.24 %

END PROJECT
STA. 141+00.00

END WIDENING AND OVERLAY
STA. 143+60.00

EXISTING GRADE

EX. FIBER OPTIC

EX. 48" SAN.

EX. FIBER OPTIC

763.3 763.3 763.1 763.0 762.9 762.5 762.5 762.4 762.2 762.1 762.0

800 795 790 785 780 775 770 765 760 755 750 745 740 735 730 725 720

140+00 141+00 142+00 143+00 144+00 145+00

PROFILE - S.R. 315 SB
STA. 140+00 TO STA. 141+00

CALCULATED JMW
CHECKED ZSS

FRA-315-11.37

97
163

CURVE 4

P.I. STA. 165+14.02
Δ = 169° 44′ 43″ (LT)
Dc = 7° 00′ 00″
R = 818.51′
Δc = 153° 38′ 43″ (LT)
Lc = 2,194.93′
Es = 8,370.69′
eMAX = 0.058

I-270 West

I-270 East

849

848

℄ RAMP 315A

CURVE 4

MATCH EXISTING
BEGIN TAPER
BEGIN FULL DEPTH
SHOULDER REPLACEMENT
BEGIN TEMPORARY PAVEMENT
WIDENING AND RESURFACING
STA. 92+50.00

SAW CUT

2′
25:1 TAPER

12′

10′

MATCH LINE STA. 93+00 RAMP 315A
SHEET 99

CONSTRUCTION LIMITS

NOTES:

FOR QUANTITIES	SEE SHEET 79-84.
FOR CROSS SECTIONS	SEE SHEET 105-146.
FOR UNDERDRAIN DETAILS	SEE SHEET 152.

EXISTING GRADE

785 780 775 770 765 760 755 750

778.7 778.1 777.6 777.1 776.6 776.1 775.7 775.1 774.6 774.1 773.7

88+00 89+00 90+00 91+00 92+00 93+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JMW
CHECKED ZSS

PLAN AND PROFILE RAMP 315A
STA. 92+50 TO STA. 93+00

FRA-315-11.37

98
163

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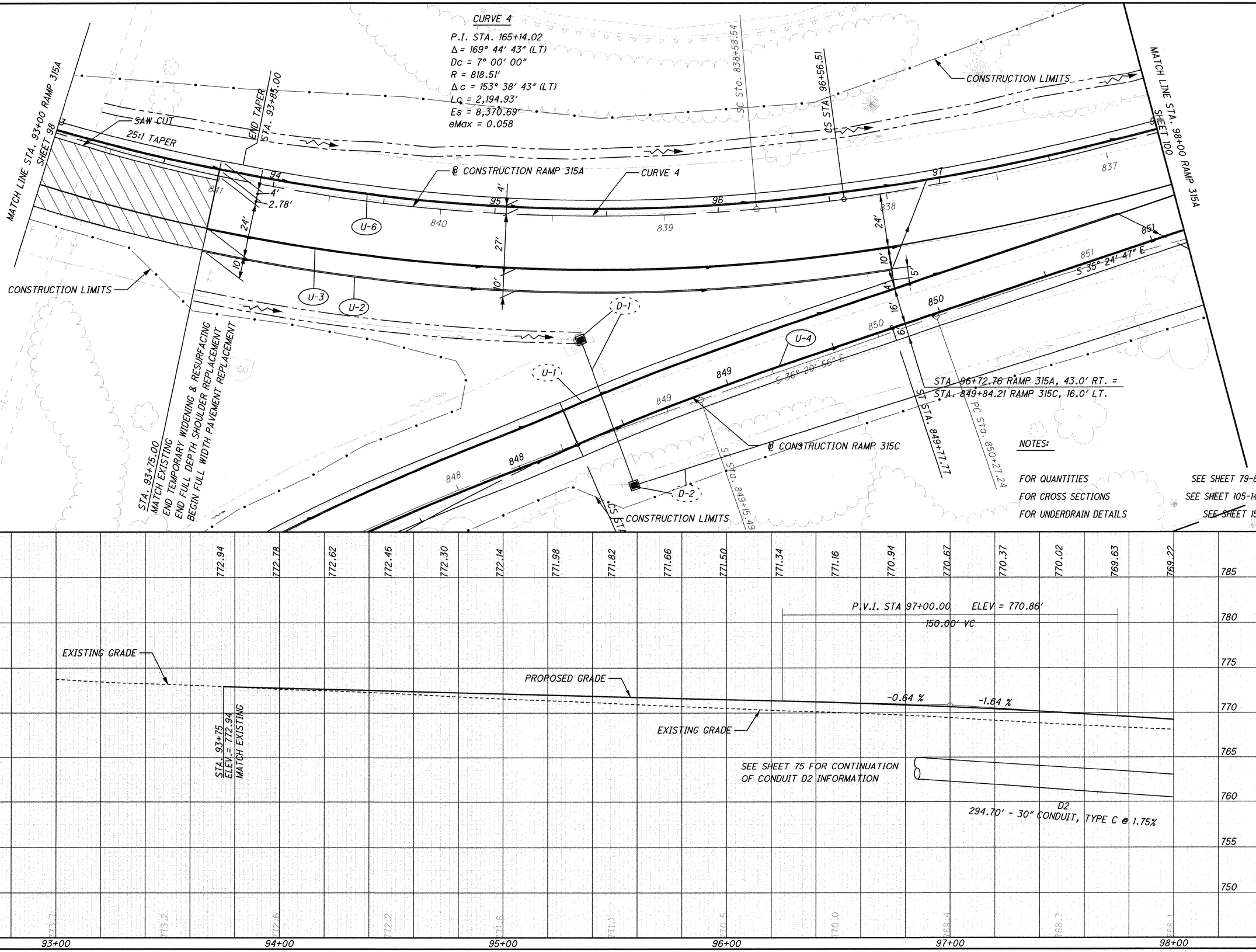

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BLM
CHECKED ZSS

PLAN AND PROFILE RAMP 315A
STA. 93+00 TO STA. 98+00

FRA-315-11.37

99
163

CURVE 4

P.I. STA. 165+14.02
Δ = 169° 44′ 43″ (LT)
Dc = 7° 00′ 00″
R = 818.51′
Δ c = 153° 38′ 43″ (LT)
Lc = 2,194.93′
Es = 8,370.69′
eMAX = 0.058

CURVE 3

P.I. STA. 105+18.65
Δ = 41° 29′ 29″ (RT)
Dc = 5° 30′ 00″
R = 1,041.74′
Ls1 = 420.00′
θ s1 = 11° 33′ 00″
LT1 = 280.60′
ST1 = 140.54′
x1 = 418.30′
y1 = 28.14′
k1 = 209.72′
p1 = 7.05′
Ls2 = 310.00′
θ s2 = 8° 31′ 30″
LT2 = 206.91′
ST2 = 103.55′
x2 = 309.31′
y2 = 15.35′
k2 = 154.89′
p2 = 3.84′
Δ c = 21° 24′ 59″ (RT)
Lc = 389.39′
T1 = 602.14′
T2 = 555.77′
Es = 78.06′
eMax = 0.058

CONSTRUCTION LIMITS

SNS STA. 99+16.51

CURVE 4

MATCH LINE STA. 98+00 RAMP 315A SHEET 99

MATCH LINE STA. 103+00 RAMP 315A SHEET 101

℄ CONSTRUCTION RAMP 315A

℄ CONSTRUCTION RAMP 315C

CURVE 3

S 35° 24′ 47″ E 852

U6 U-6 U-5 U-4 E-2 E-1

99 100 101 102 103

+50 +00

4′ 25.2′ 16′ 4′ 6′ 40.14′ 12′ 7.5′ 7.5′

D-3 R-5

STA. 851+45.28, 6.00′ RT
RAMP 315C
BEGIN SHOULDER TAPER

POT Sta. 852+33.11,
RAMP 315C =
END SHOULDER TAPER
STA.99+16.51, 40.14 RT
RAMP 315A

CONSTRUCTION LIMITS

NOTES:

FOR QUANTITIES — SEE SHEET 79-84.
FOR CROSS SECTIONS — SEE SHEET 105-146.
FOR UNDERDRAIN DETAILS — SEE SHEET 152.

- PROPOSED DITCH EROSION PROTECTION

D3, CB NO.(5A) 1
STA. 98+27.81, 78.7′ RT
T/C=764.50
30″ FL=759.99 (NW)
36″ FL=759.49 (SE)

PROPOSED GRADE

EXISTING GRADE

D3
466.95′ - 36″ CONDUIT, TYPE C @ 1.25%

P.V.I. STA 103+50.00 ELEV = 760.20′
260.00′ VC

1 - REVISED 1-15-08 EJK

769.22 768.81 768.40 767.99 767.58 767.17 766.76 766.35 765.94 765.53 765.12 764.71 764.30 763.89 763.48 763.07 762.66 762.25 761.89 761.58 761.34

768.7 768.4 766.8 765.7 764.3 763.5 763.0 762.3 761.2 759.6 759.7 760.3

780 775 770 765 760 755 750 745

98+00 99+00 100+00 101+00 102+00 103+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JMW CHECKED ZSS

PLAN AND PROFILE RAMP 315A STA. 98+00 TO STA. 103+00

FRA-315-11.37

100
163

CURVE 3

P.I. STA. 105+18.65
Δ = 41° 29′ 29″ (RT)
Dc = 5° 30′ 00″
R = 1,041.74′
Ls1 = 420.00′
θs1 = 11° 33′ 00″
LT1 = 280.60′
ST1 = 140.54′
x1 = 418.30′
y1 = 28.14′
k1 = 209.72′
p1 = 7.05′
Ls2 = 310.00′
θs2 = 8° 31′ 30″
LT2 = 206.91′
ST2 = 103.55′
x2 = 309.31′
y2 = 15.35′
k2 = 154.89′
p2 = 3.84′
Δc = 21° 24′ 59″ (RT)
Lc = 389.39′
T1 = 602.14′
T2 = 555.11′
Es = 78.06′
eMax = 0.058

SSC Sta. 103+36.51

℄ SURVEY & CONSTRUCTION S.R. 315

N 7° 42′ 53″ E

S.R. 315 - SOUTHBOUND

℄ CONSTRUCTION RAMP 315A

CURVE 3

MATCH LINE STA. 103+00 RAMP 315A SHEET 100

MATCH LINE STA. 108+00 RAMP 315A SHEET 102

EX. 48″ SAN (RP 4024)

HEADWALL, HW-2.2
STA. 104+29.78, 92.5′ RT.

8′ x 4′ x 18″ ROCK CHANNEL PROTECTION, TYPE C

CONSTRUCTION LIMITS

HEADWALL, HW-2.2
STA. 103+98.21, 95.6′ RT.

12′ x 4′ x 18″ ROCK CHANNEL PROTECTION, TYPE C

- PROPOSED DITCH EROSION PROTECTION

CS STA. 107+25.90, RAMP 315A = STA. 135+34.98, 49.76′ LT ℄ CONSTRUCTION S.R. 315 BEGIN PAVEMENT TRANSITION

NOTES:
FOR QUANTITIES — SEE SHEET 79-84.
FOR CROSS SECTIONS — SEE SHEET 105-146.
FOR UNDERDRAIN DETAILS — SEE SHEET 152.

761.34 761.16 761.05 760.99 761.00 761.08 761.21 761.41 761.65 761.89 762.11 762.28 762.40 762.47 762.49 762.46 762.41 762.36 762.30 762.24 762.17

760.3 760.5 760.6 760.9 761.2 761.1 761.3 761.9 762.2 762.2 762.0

D4, MH NO. 3
STA. 103+06.85, 85.5′ RT
T/C=758.93
36″ FL=753.60(NW)
42″ FL=753.10 (SE)

D4, HW-2.2
STA. 103+98.21, 95.6′ RT
42″ FL=752.68 (NW)

D5, HW-2.2
STA. 104+29.78, 92.4′ RT
27″ FL=750.97 (NE)

D4
83.4′ - 42″ CONDUIT, TYPE C @ 0.50%

P.V.I. STA 103+50.00 ELEV = 760.20′
260.00′ VC

P.V.I. STA 106+00.00 ELEV = 762.62′
150.00′ VC

-1.64 % +0.97 % +0.97 % -0.21 %

END RAMP 315A STA. 107+02.96 ELEV. = 762.40

PROPOSED GRADE
EXISTING GRADE
EXISTING GRADE
GRAPHIC GRADE
EX. FIBER OPTIC
EX. STORM
ROCK CHANNEL PROTECTION
EX. 48″ SAN

775 770 765 760 755 750 745

103+00 104+00 105+00 106+00 107+00 108+00

PLAN AND PROFILE RAMP 315A
STA. 103+00 TO STA. 108+00

CALCULATED JMW CHECKED ZSS

HORIZONTAL SCALE IN FEET 0 10 20 40

FRA-315-11.37

101
163

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CURVE 3

P.I. STA. 105+18.65
Δ = 41° 29′ 29″ (RT)
Dc = 5° 30′ 00″
R = 1,041.74′
Ls1 = 420.00′
θ s1 = 11° 33′ 00″
LT1 = 280.60′

ST1 = 140.54′
x1 = 418.30′
y1 = 28.14′
k1 = 209.72′
p1 = 7.05′
Ls2 = 310.00′

θ s2 = 8° 31′ 30″
LT2 = 206.91′
ST2 = 103.55′
x2 = 309.31′
y2 = 15.35′
k2 = 154.89′
p2 = 3.84′

Δ c = 21° 24′ 59″ (RT)
Lc = 389.39′
T1 = 602.14′
T2 = 555.77′
Es = 78.06′
eMax = 0.058

CURVE 2

P.I. STA. 125+45.16
Δ = 4° 47′ 54″ (RT)
Dc = 0° 28′ 00″
R = 12,274.67′
T = 514.30′
L = 1,027.99′
E = 10.77′
e_{max} = NC

EX. 30″ WATER (C-370)

EX. MEDIAN BARRIER TO REMAIN

℄ CONSTRUCTION S.R. 315

℄ STA. 13+65.32, S.R. 315 =
℄ STA. 231+48.43, WILSON BRIDGE ROAD

PT Sta. 130+58.86

CURVE 2

MATCH LINE STA. 108+00 RAMP 315A
SHEET 101

S 7° 42′ 53.45″ W

S 81° 04′ 30″ E

S.R. 315 - SOUTHBOUND

88° 47′ 23″

CURVE 3

℄ CONSTRUCTION RAMP 315A

BRIDGE TERMINAL ASSEMBLY, TYPE 1

Wilson Bridge Road

CONSTRUCTION LIMITS

ANCHOR ASSEMBLY TYPE E-98

STA. 132+25.67, 34.41′ LT
℄ CONSTRUCTION S.R. 315 =
ST Sta. 110+35.90,
℄ RAMP 315A
END PAVEMENT TRANSITION

CONCRETE BARRIER, TYPE D

NOTES:

FOR QUANTITIES — SEE SHEET 79-84.
FOR CROSS SECTIONS — SEE SHEET 105-146.
FOR UNDERDRAIN DETAILS — SEE SHEET 152.

GRAPHIC GRADE

EXISTING GRADE

RAMP 315-A
STA. 110+35.90

EX. 72″ STM CULVERT

HORIZONTAL SCALE IN FEET

CALCULATED JMW
CHECKED ZSS

PLAN AND PROFILE RAMP 315A
STA. 108+00 TO STA. 110+35.90

FRA-315-11.37

102
163

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STA. 846+45.85 ℄ EX. RAMP 315C
BEGIN FULL DEPTH PAVEMENT
REPLACEMENT
MATCH EXISTING

CONSTRUCTION LIMITS

RAMP 315C

SAW CUT

CURVE 8

CS STA. 847+15.49

CONSTRUCTION LIMITS

SAW CUT

CURVE 4

℄ RAMP 315A

CS STA. 96+56.51

RAMP 315A

R-8

D-1

CURVE 5

℄ CONSTRUCTION RAMP 315C

R-9

CS STA. 848+27.77

D-2

S STA. 849+15.49

U-4

U-1

S STA. 849+77.77
RAMP 315A, 43.0' RT.
STA. 849+84.21 RAMP 315C, 16.0' LT.

MATCH LINE STA. 850+00 RAMP 315C
SHEET 104

S 36° 20' 56" E

4'
16'
6'
24'
10'
5'
16'
6'

CURVE 4

P.I. STA. 165+14.02
Δ = 169° 44' 43" (LT)
Dc = 7° 00' 00"
R = 818.51'
Δc = 153° 38' 43" (LT)
Lc = 2,194.93'
Es = 8,370.69'
eMAX = 0.058

CURVE 8

P.I. STA. 844+93.96
Δ = 36° 45' 39" (RT)
Dc = 8° 00' 00"
R = 716.20'
T = 237.98'
L = 459.51'
E = 38.50'

CURVE 5

P.I. STA. 845+75.90
Δ = 36° 33' 19" (RT)
Dc = 7° 00' 00"
R = 818.51'
T = 270.34'
L = 522.22'
E = 43.49'
e_{max} = 0.058

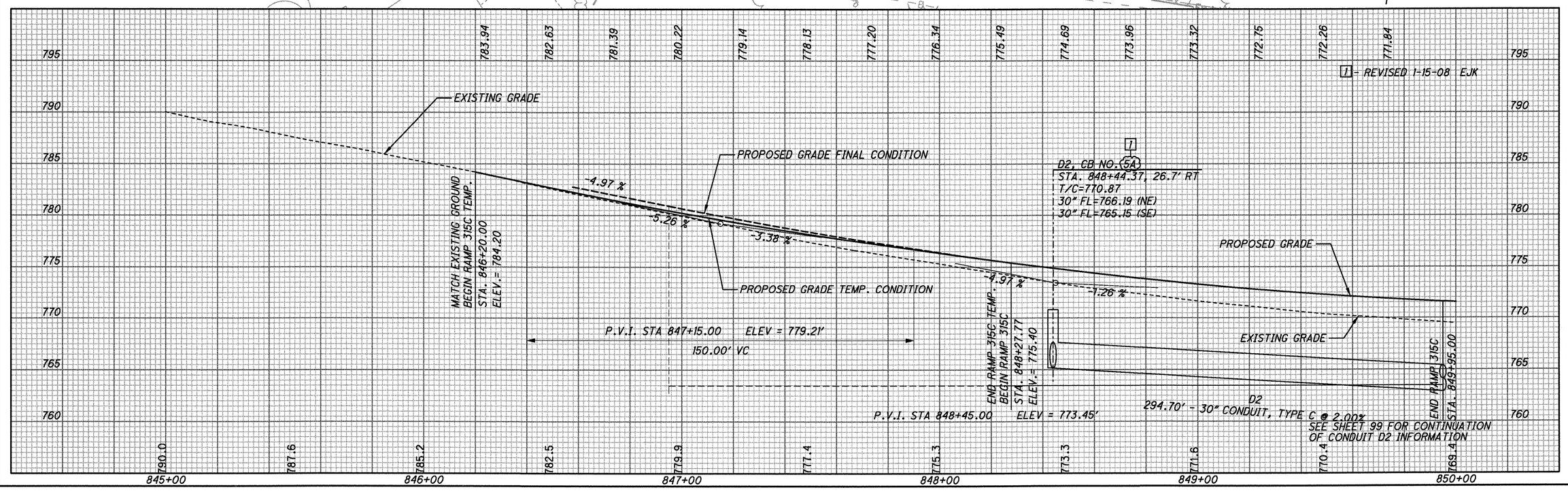
P.I. STA. 848+77.81
Ls = 150.00'
θs = 5° 15' 00"
LT = 100.04'
ST = 50.04'
x = 149.87'
y = 4.58'
k = 74.98'
p = 1.15'

NOTES:

FOR QUANTITIES
FOR CROSS SECTIONS
FOR UNDERDRAIN DETAILS

SEE SHEET 79-84.
SEE SHEET 105-146.
SEE SHEET 152.

Ex LA-R/W



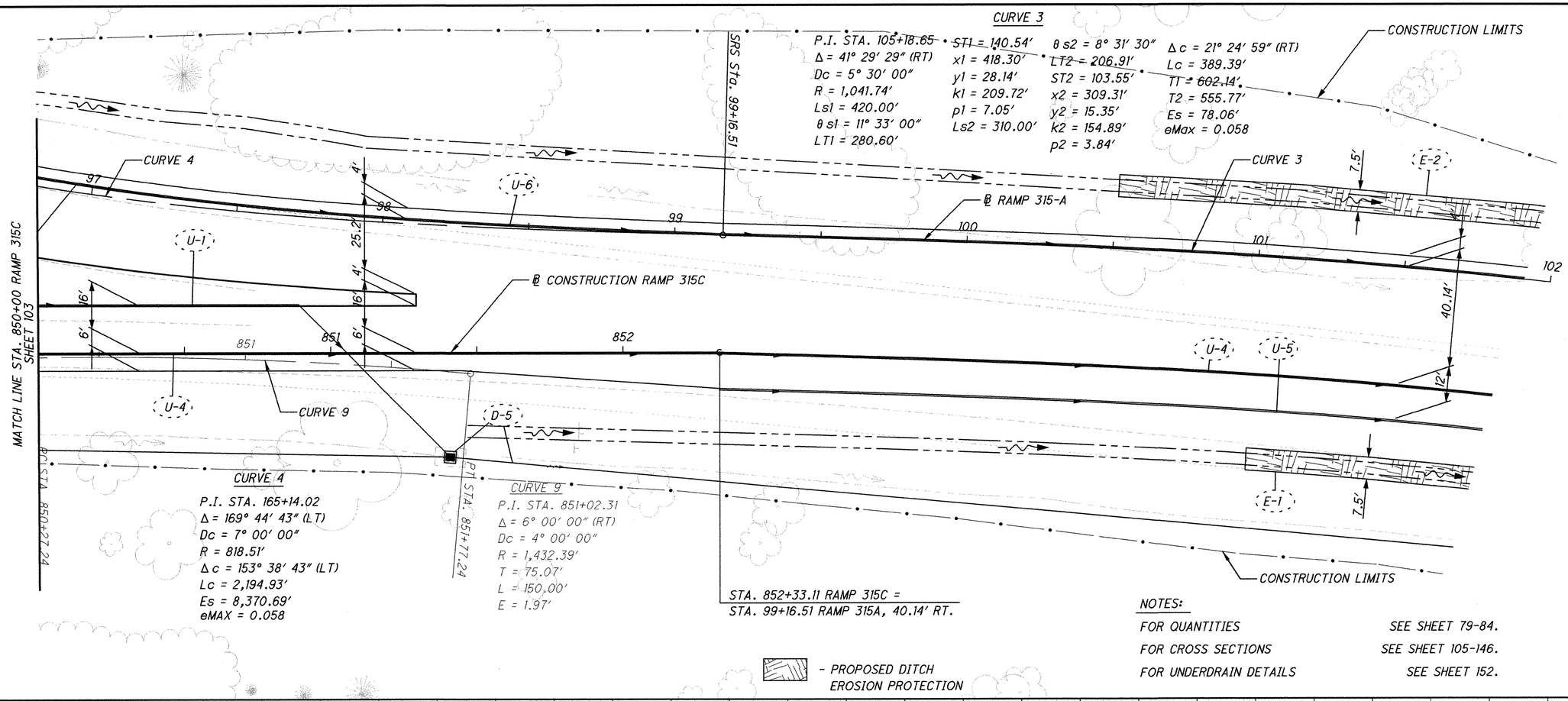
1 - REVISED 1-15-08 EJK

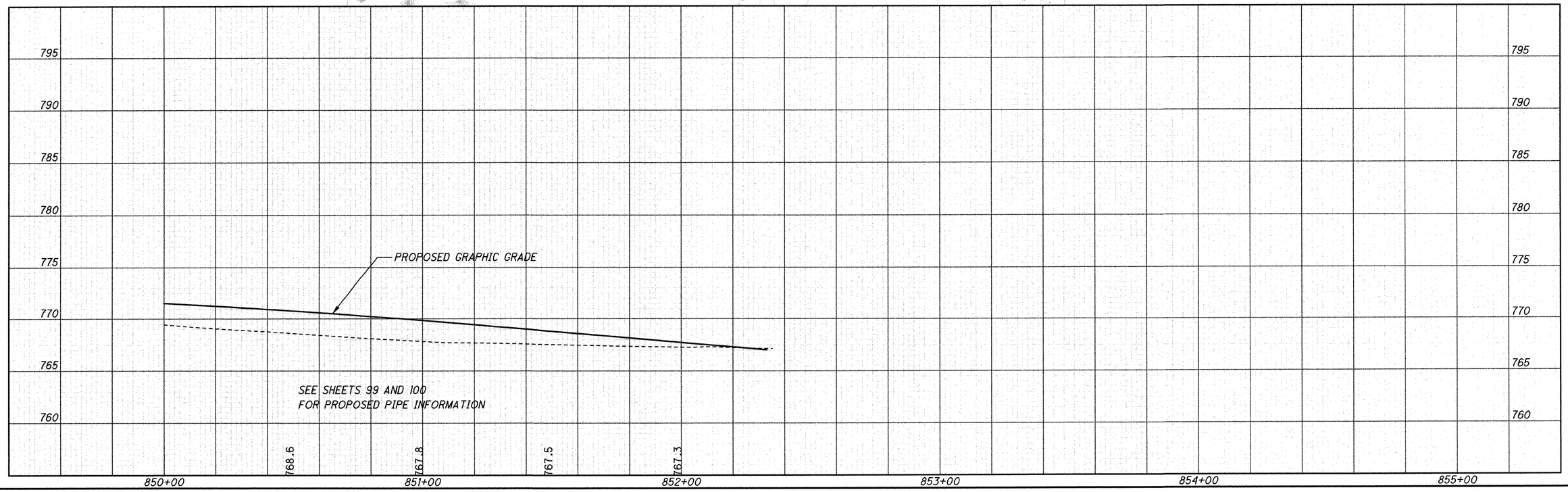
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JMW
CHECKED ZSS

PLAN AND PROFILE RAMP 315C
STA. 845+00 TO STA. 850+00

FRA-315-11.37





HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED JMW
CHECKED ZSS

PLAN AND PROFILE RAMP 315C
STA. 850+00 TO STA. 852+33.11

FRA-315-11.37

104
163

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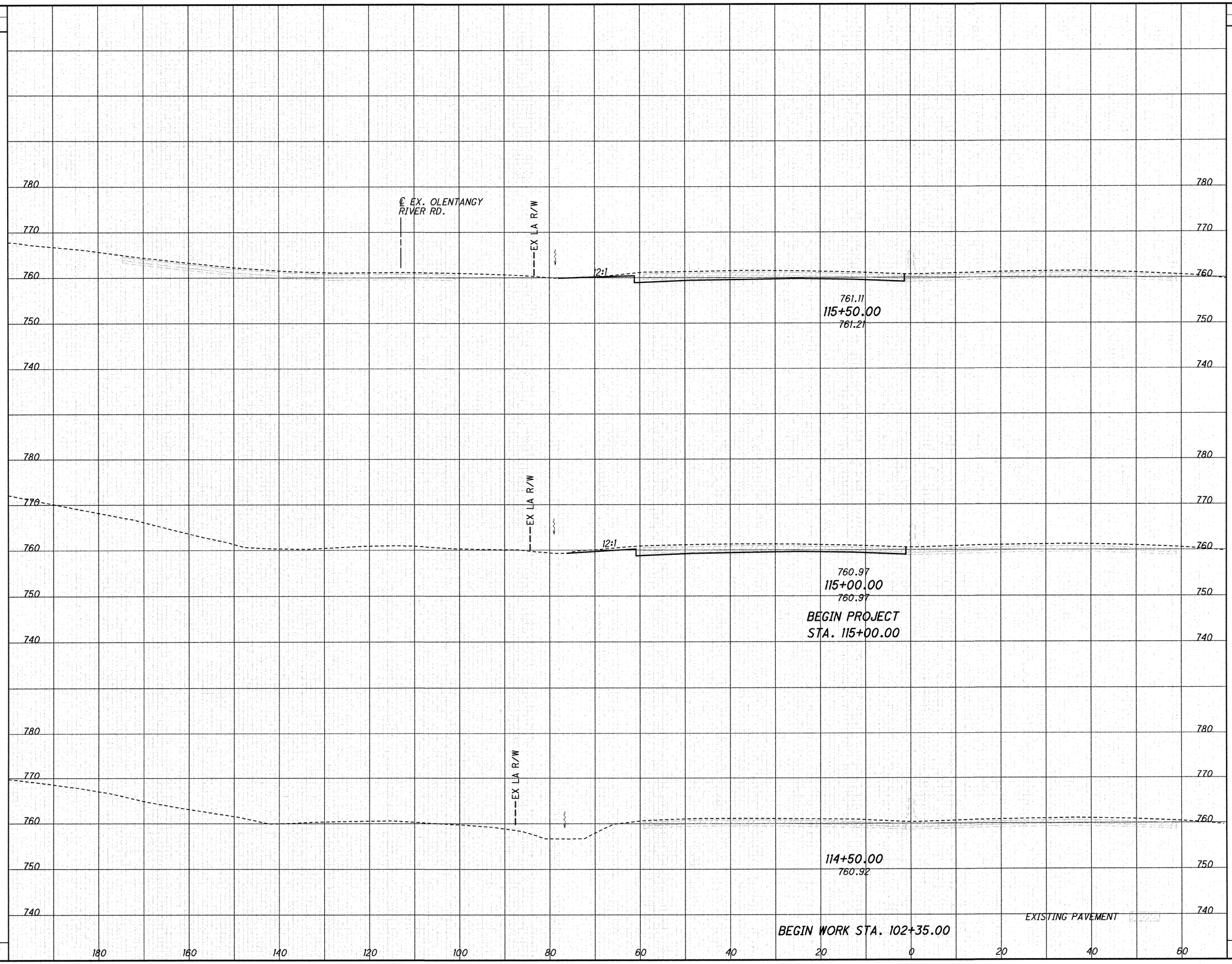
SEEDING	
END WIDTH	SQ. YDS.
18	94
16	0
0	94



END AREA		VOLUME	
CUT	FILL	CUT	FILL
17	0	33	0
18	0	17	0
0	0	50	0

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 114+50.00 TO STA. 115+50.00

FRA-315-11.37

105
163

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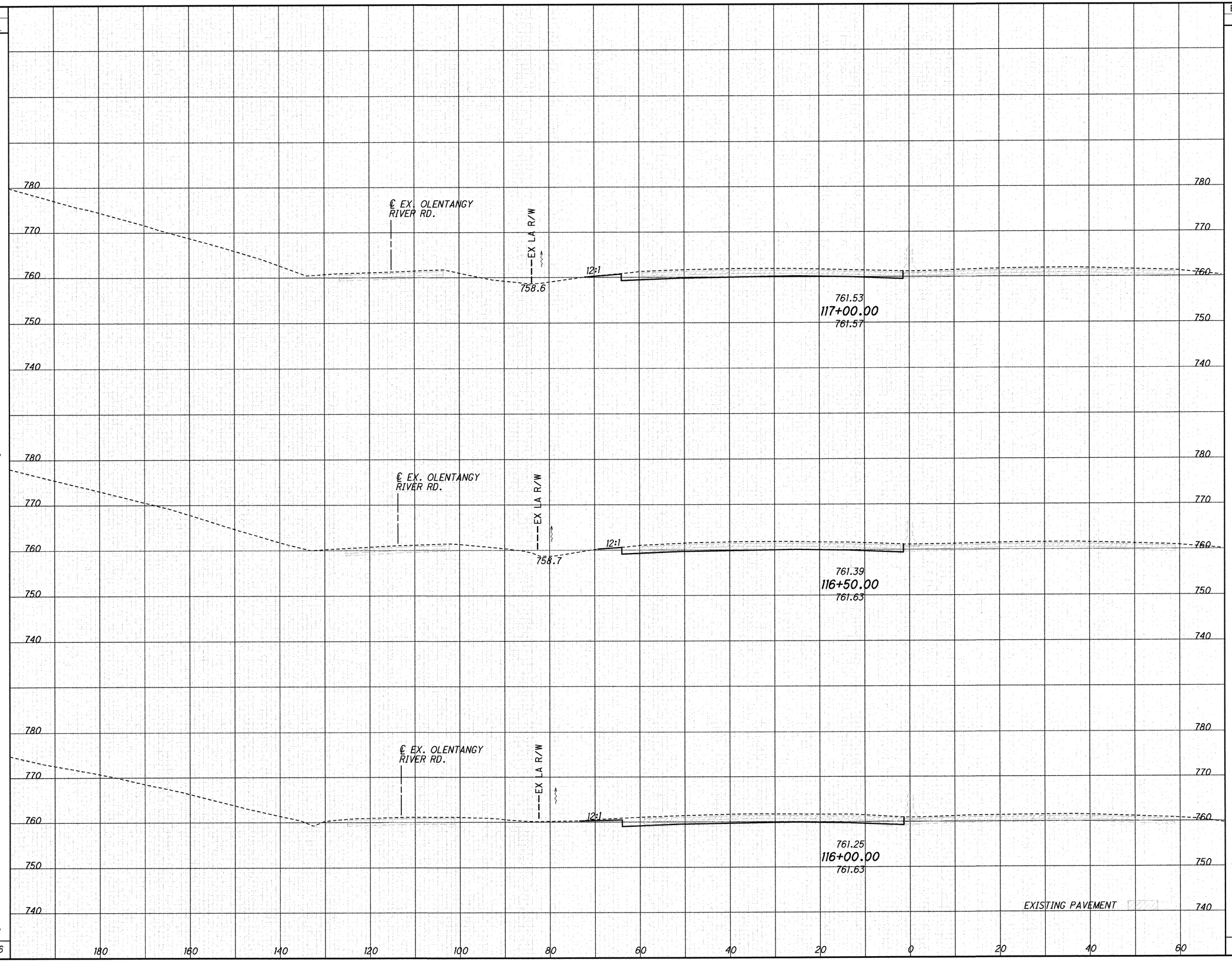
SEEDING	
END WIDTH	SQ. YDS.
9	42
6	46
10	78
	166



END AREA		VOLUME	
CUT	FILL	CUT	FILL
16	0	35	0
21	0	46	0
28	0	43	0
		124	0

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 116+00.00 TO STA. 117+00.00

FRA-315-11.37

106
163

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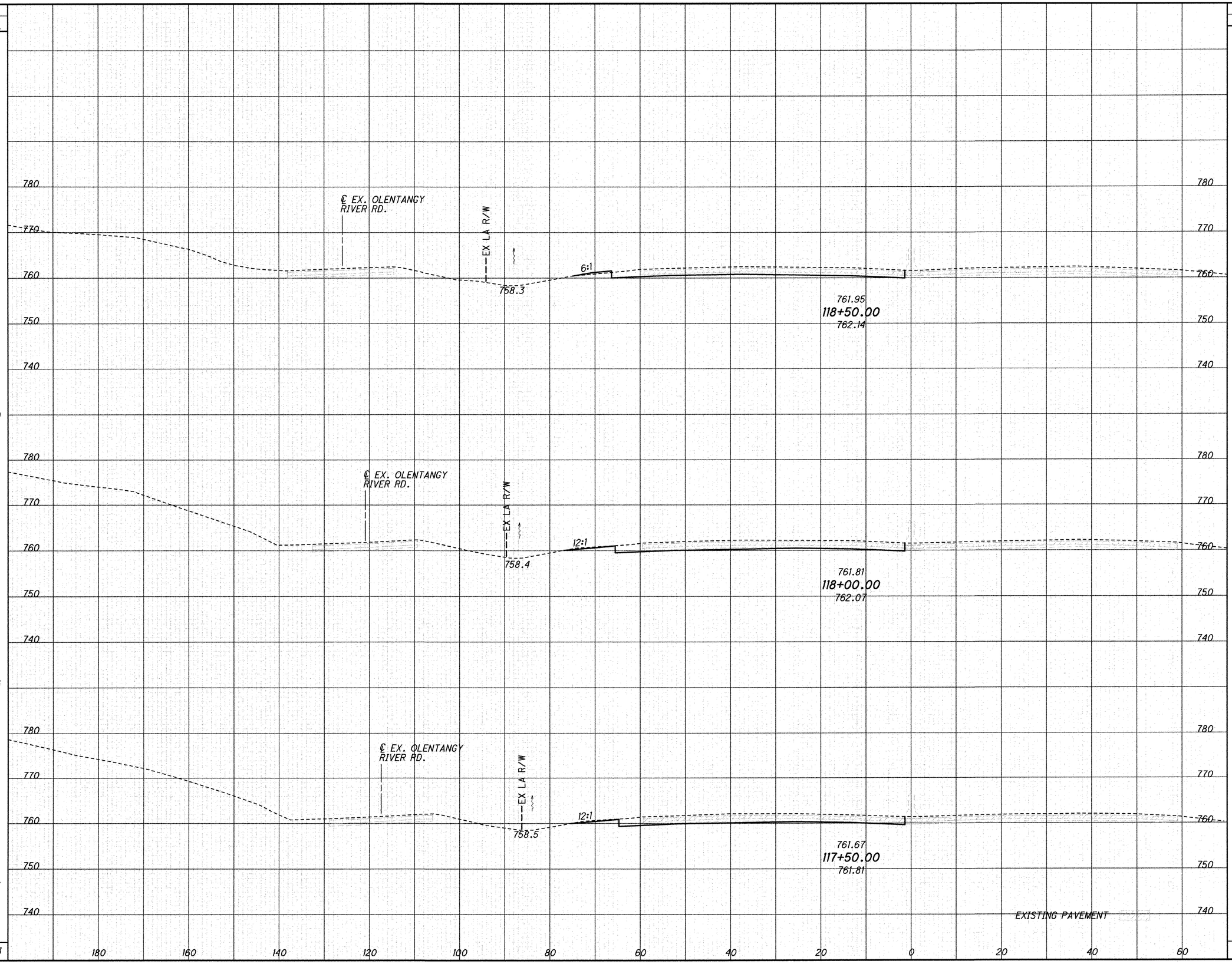
SEEDING	
END WIDTH	SQ. YDS.
10	60
12	66
12	57
	183



END AREA		VOLUME	
CUT	FILL	CUT	FILL
8	2		
23	0	29	3
		36	0
16	0		
		29	0
		94	3

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 117+50.00 TO STA. 118+50.00

FRA-315-11.37

107
163

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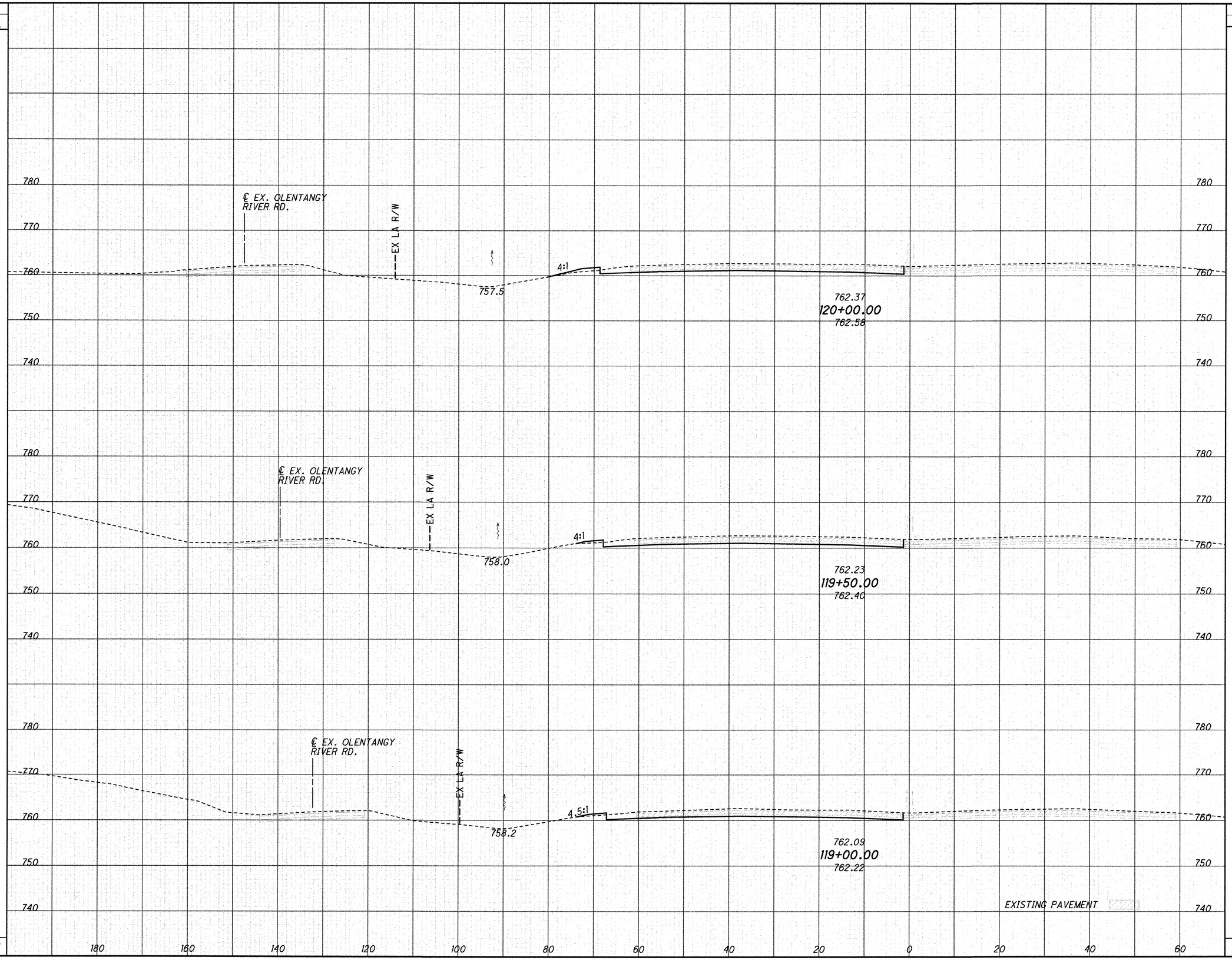
SEEDING	
END WIDTH	SQ. YDS.
13	55
7	40
8	47
	142



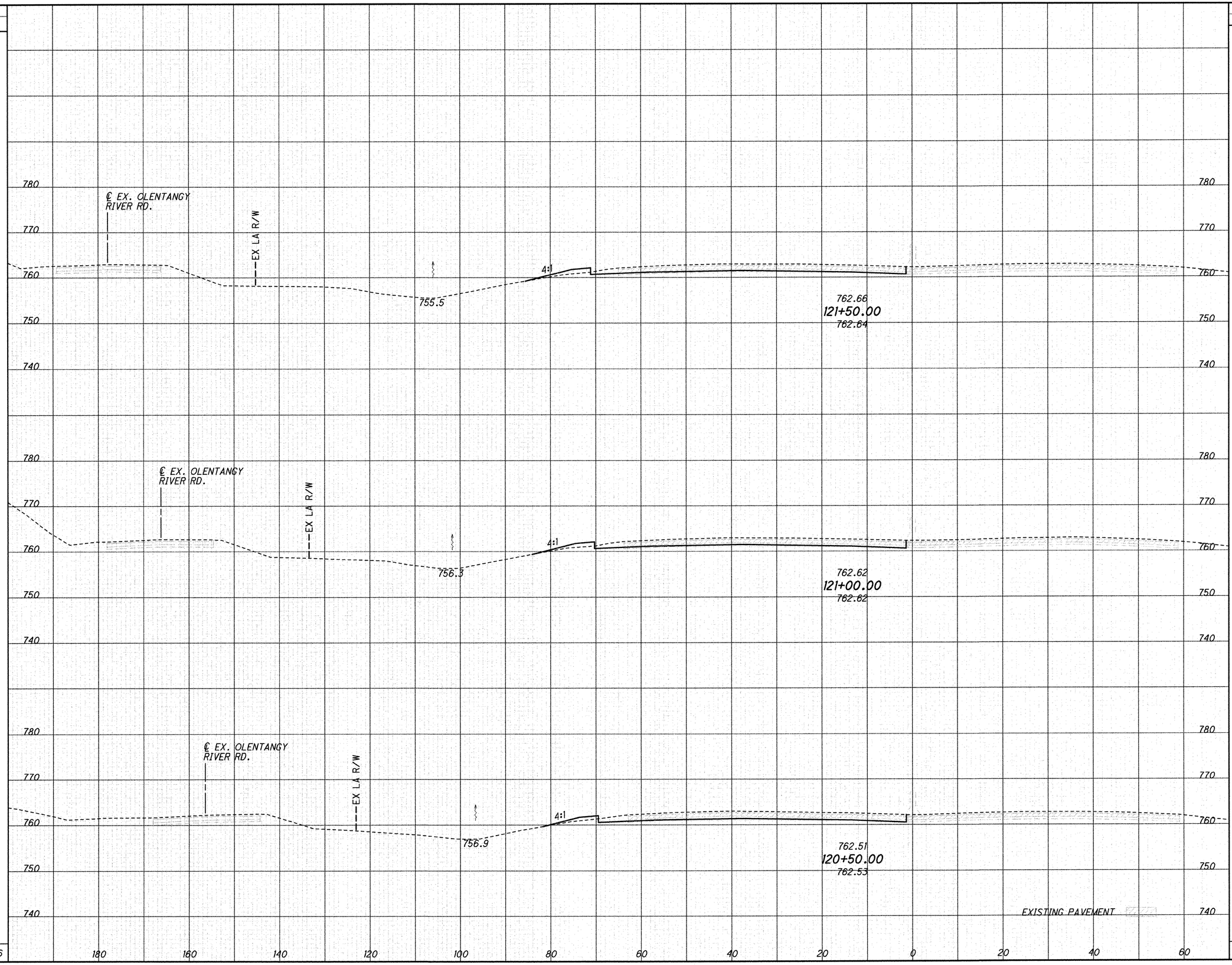
END AREA		VOLUME	
CUT	FILL	CUT	FILL
8	5		
8	2	15	7
8	2	15	5
		15	4
		45	16

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 119+00.00 TO STA. 120+00.00

FRA-315-11.37

108
163



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16	85	5	9	11	15
15	78	6	7	13	13
13	73	7	6	14	11
	236			38	39

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 120+50.00 TO STA. 121+50.00

FRA-315-11.37

109
163

bmacmillan
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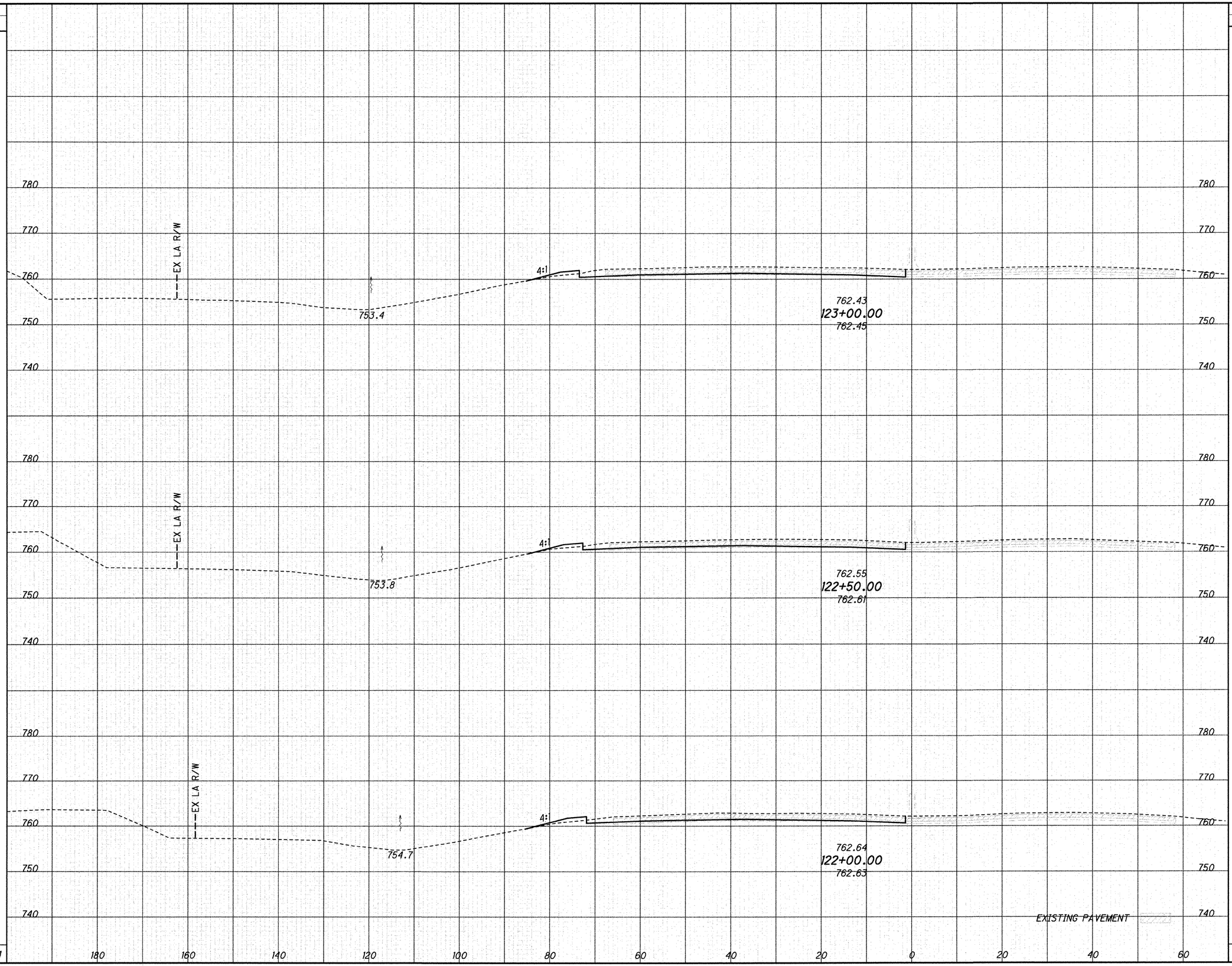
SEEDING	
END WIDTH	SQ. YDS.
13	72
13	78
15	84
	234



END AREA		VOLUME	
CUT	FILL	CUT	FILL
7	5		
6	5		
		11	12
6	7		
		10	15
		34	37

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 122+00.00 TO STA. 123+00.00

FRA-315-11.37

110
163

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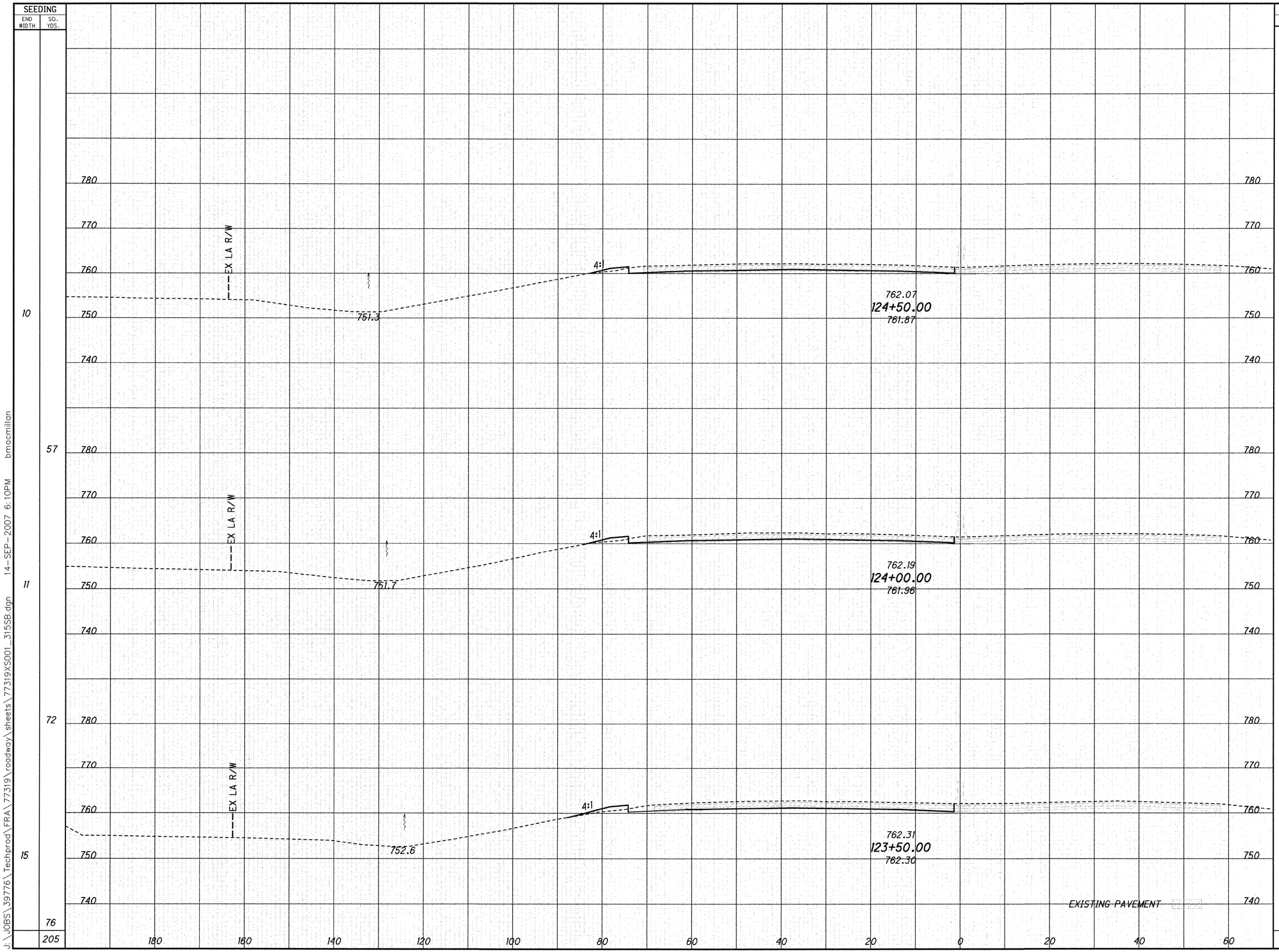
SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
10	57	4	4	10	8	
11	72	5	5	11	12	
15	76	6	7	12	12	
	205			33	32	

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 123+50.00 TO STA. 124+50.00



FRA-315-11.37

111
163

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SEEDING	
END WIDTH	SQ. YDS.
3	38
11	61
11	58
	157

END AREA	
CUT	FILL
0	0
2	3
3	3

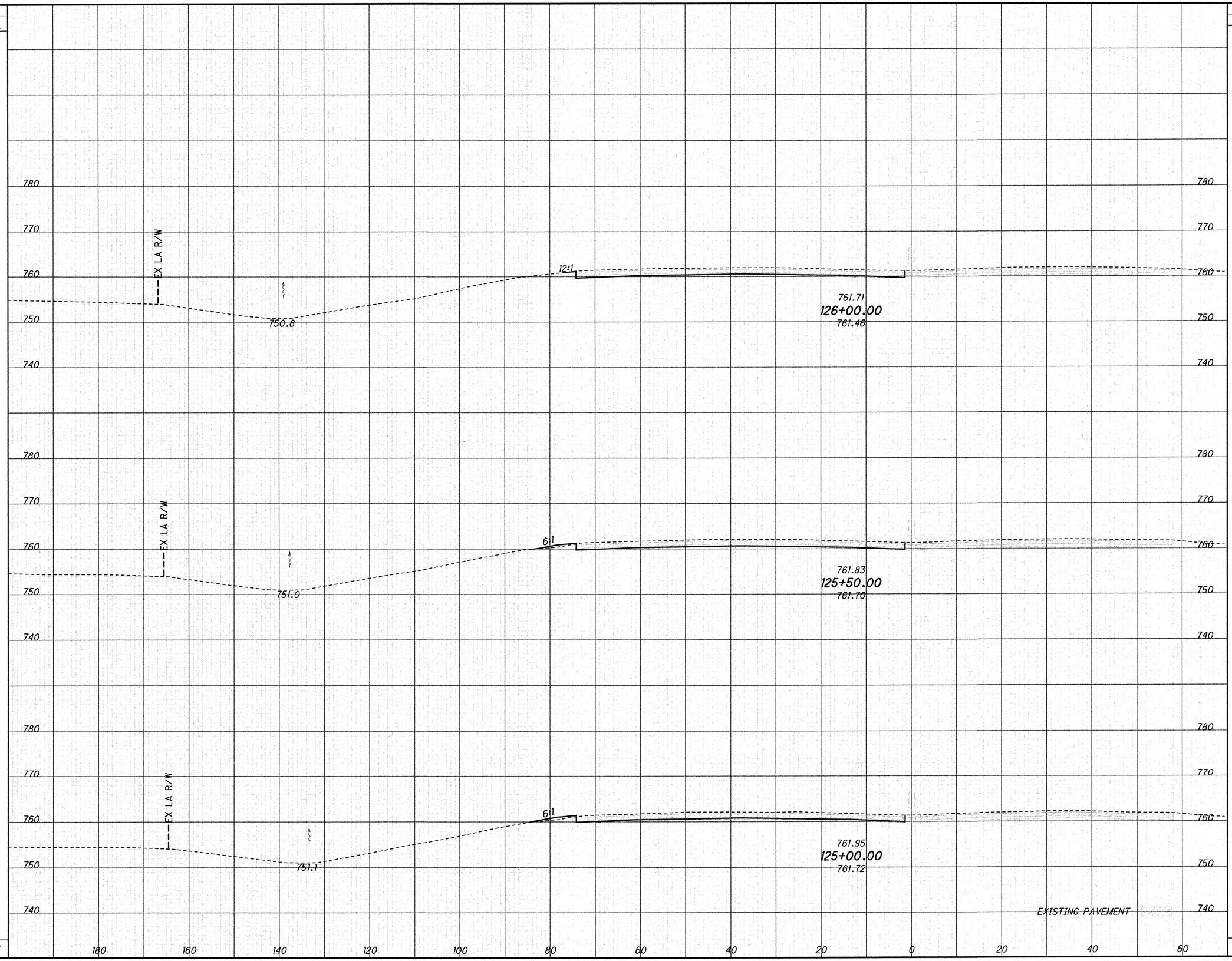
VOLUME	
CUT	FILL
2	3
5	6
7	7
14	16

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 125+00.00 TO STA. 126+00.00

FRA-315-11.37

112
163



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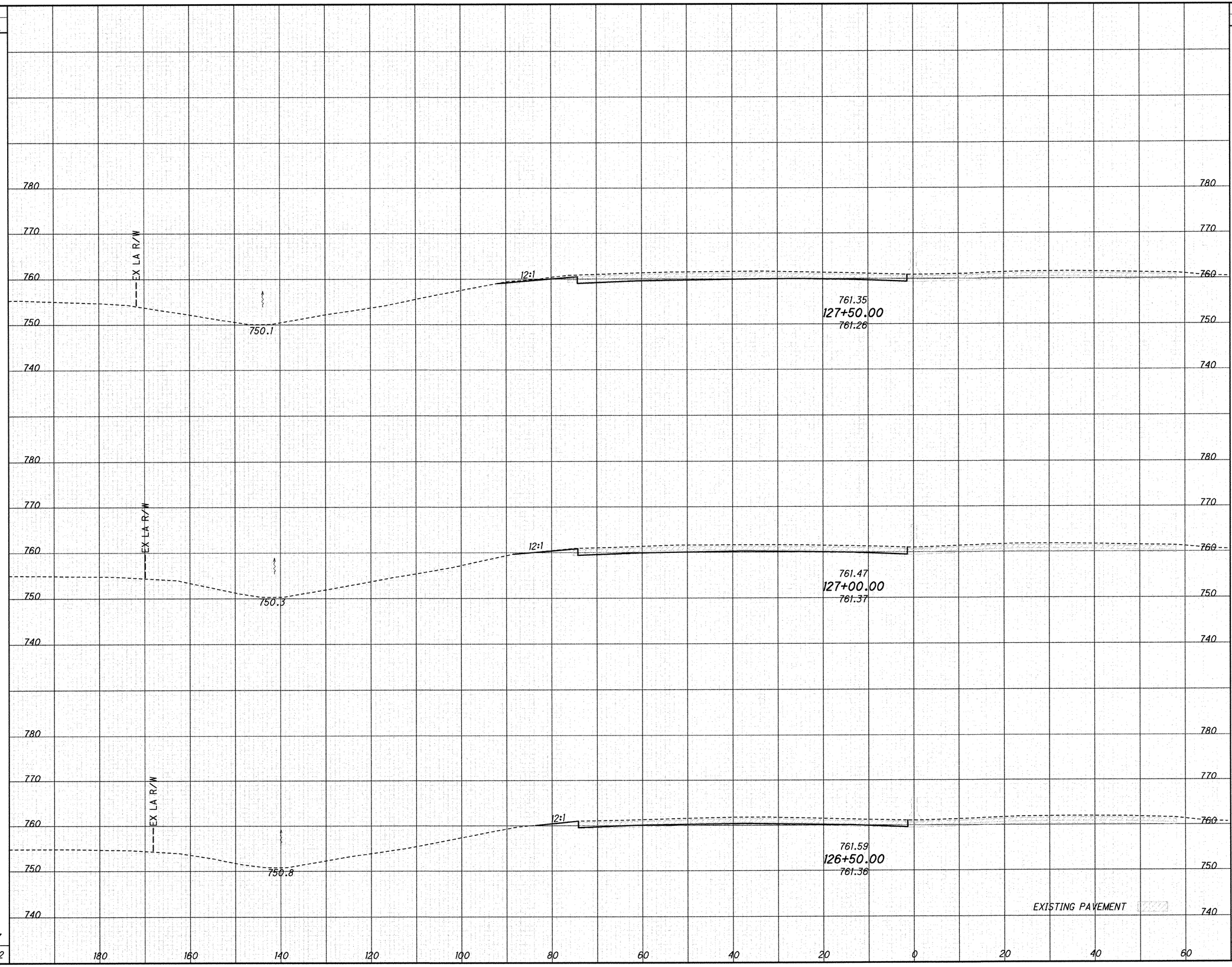
SEEDING	
END WIDTH	SQ. YDS.
19	94
15	71
10	37
	202



END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	0	5	0
1	0	1	0
0	0	1	0
		1	0
		7	0

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 126+50.00 TO STA. 127+50.00

FRA-315-11.37

113
163

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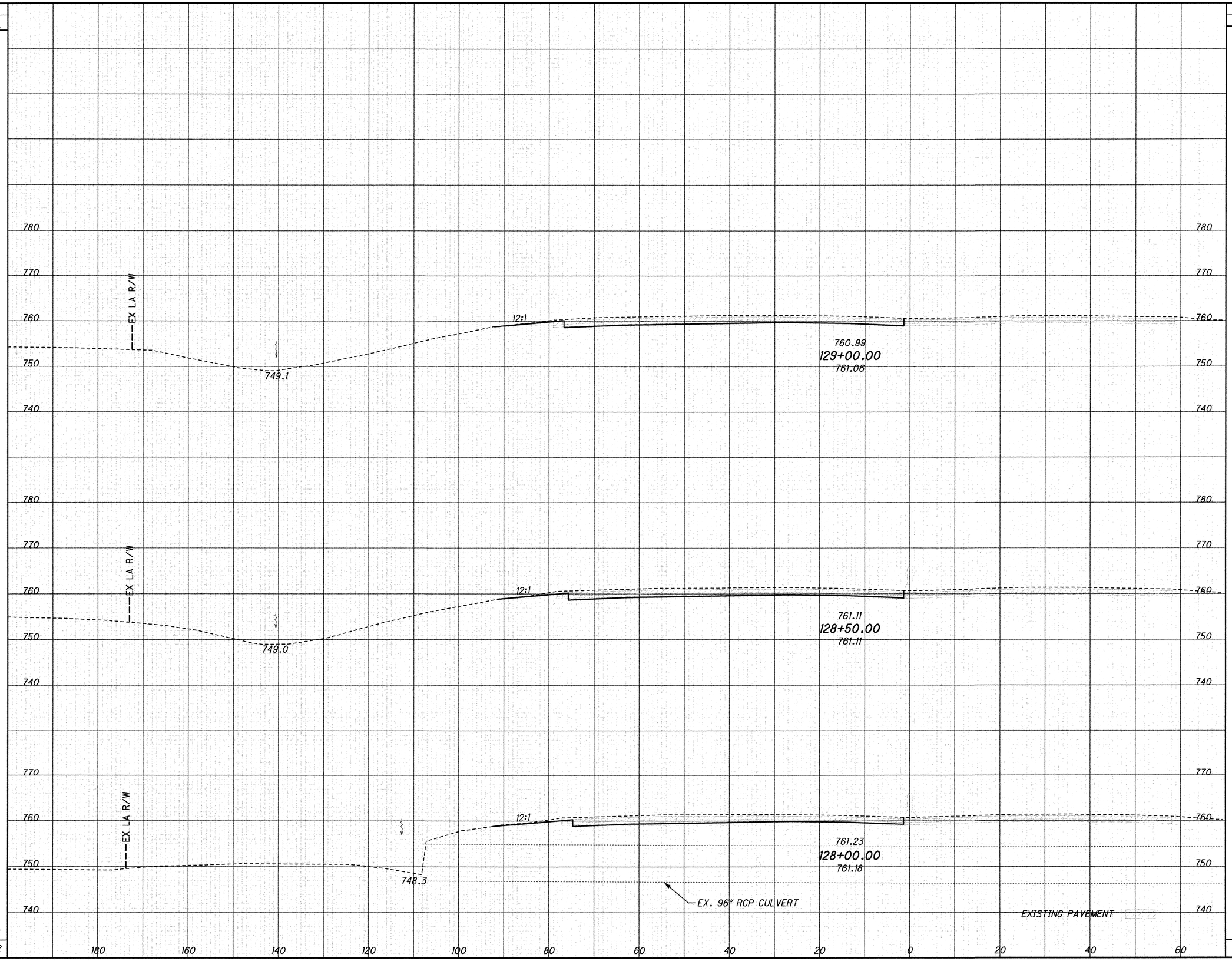
SEEDING	
END WIDTH	SQ. YDS.
16	91
17	98
19	103
	292



END AREA		VOLUME	
CUT	FILL	CUT	FILL
1	0		
		4	0
3	0		
		6	0
4	0		
		7	0
		17	0

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 128+00.00 TO STA. 129+00.00

FRA-315-11.37

114
163

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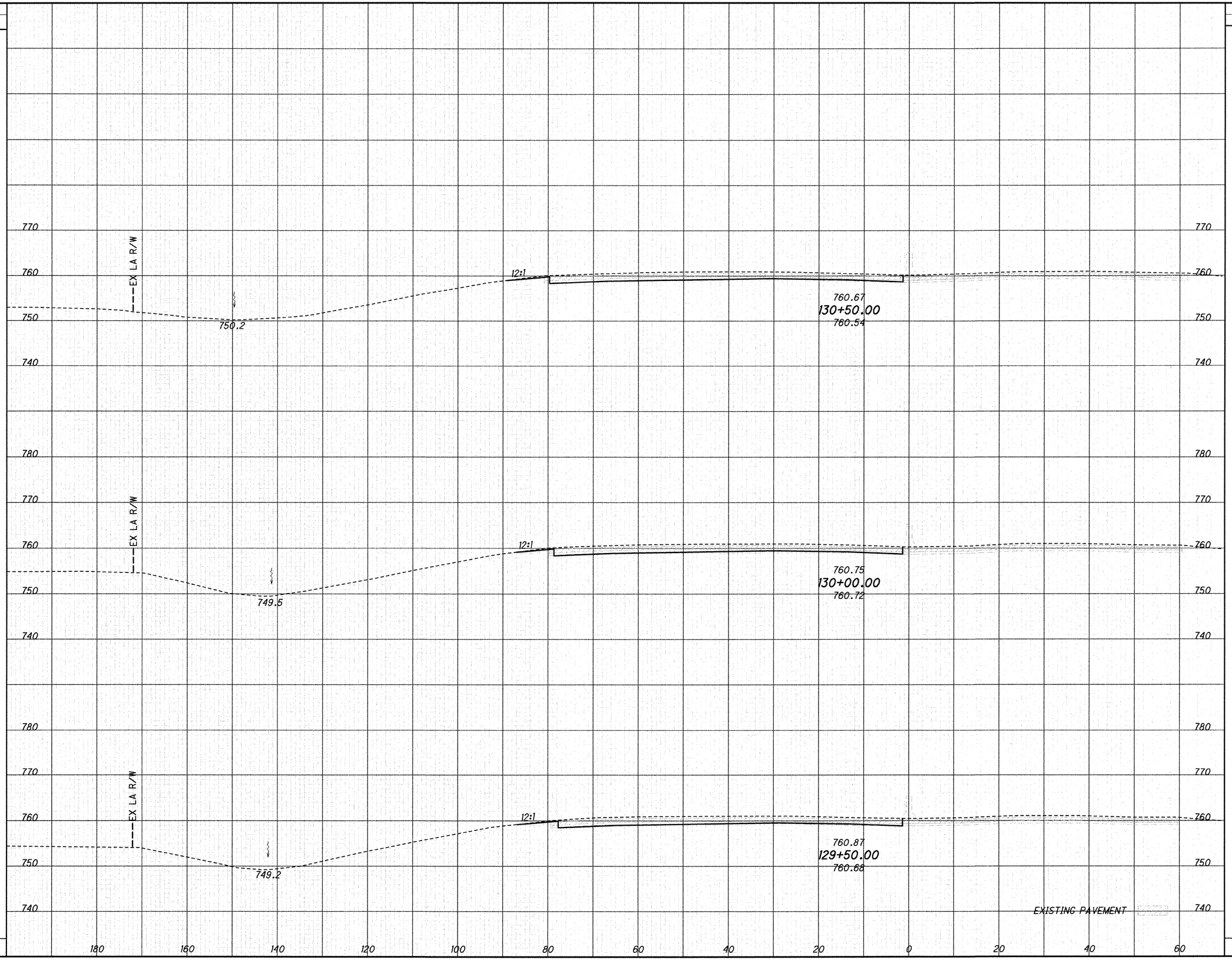
SEEDING	
END WIDTH	SQ. YDS.
10	54
9	53
10	73
	180



END AREA		VOLUME	
CUT	FILL	CUT	FILL
1	0		
		3	0
1	0		
		2	0
1	0		
		2	0
		7	0

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 129+50.00 TO STA. 130+50.00

FRA-315-11.37

115
163

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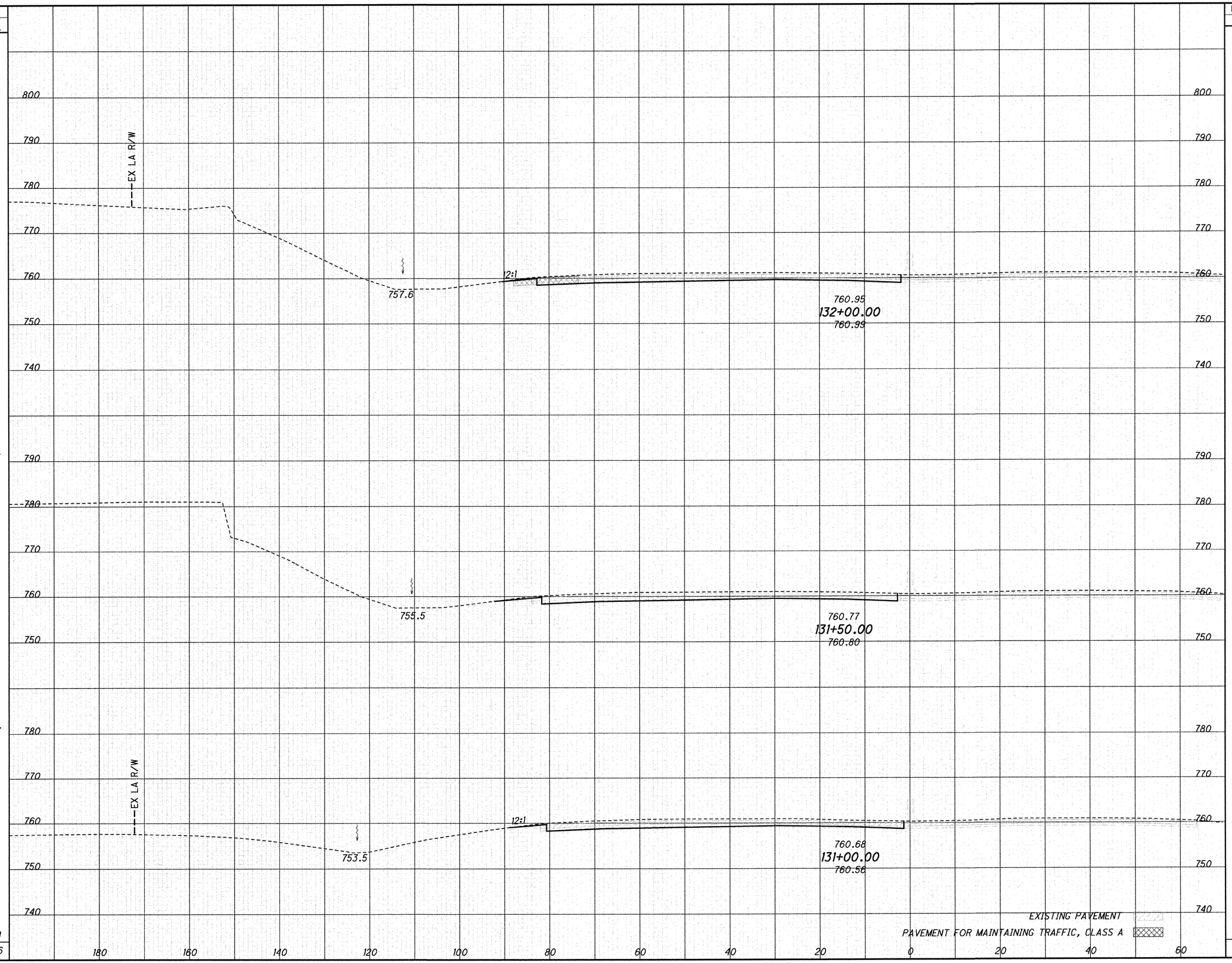
SEEDING	
END WIDTH	SQ. YDS.
9	55
11	57
9	54
	166



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		2	0
2	0		
		3	0
1	0		
		3	0
		8	0

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 131+00.00 TO STA. 132+00.00

FRA-315-11.37

116
163

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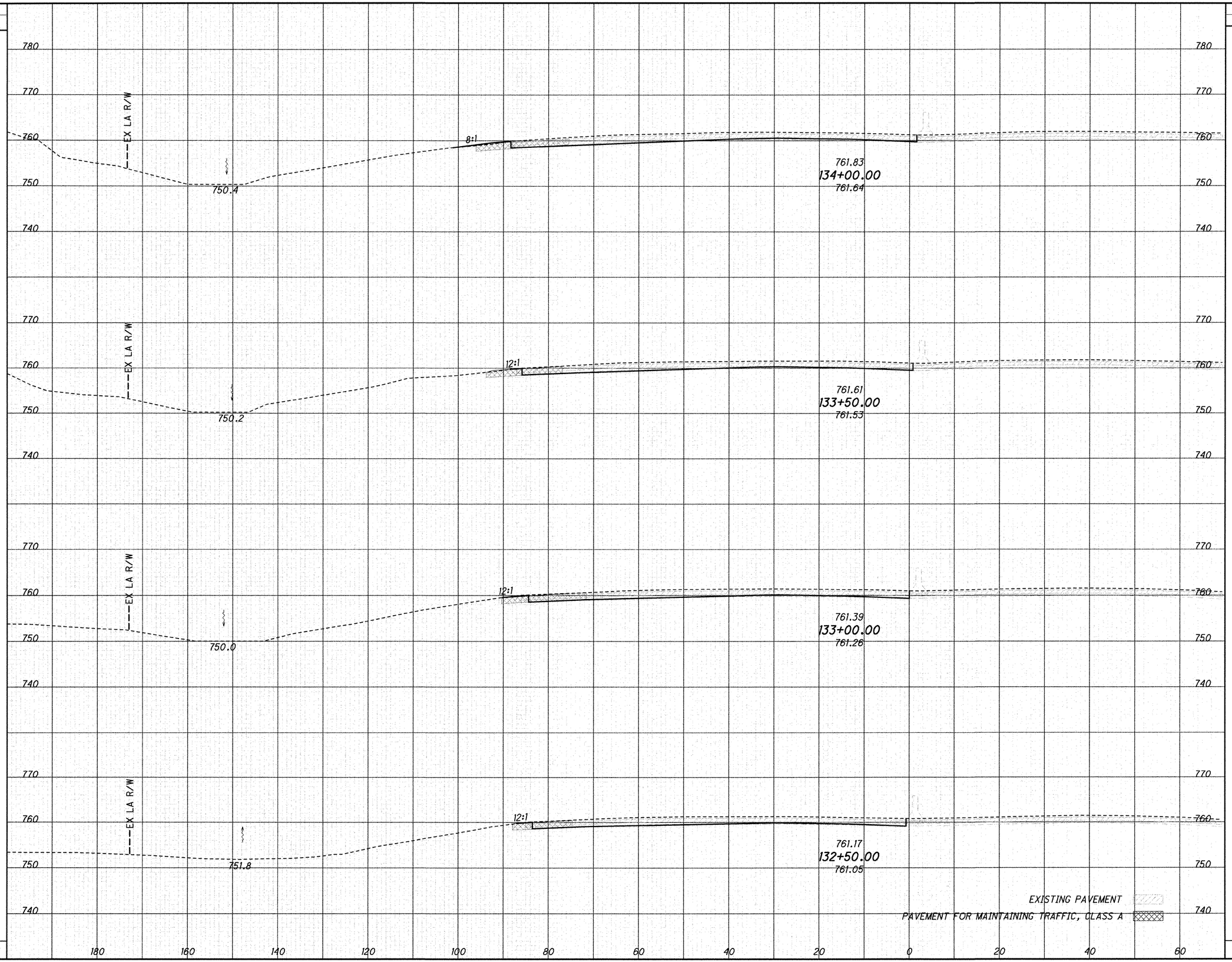
SEEDING END WIDTH	SEEDING SQ. YDS.
4	48
4	28
4	30
4	36
	142



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0.5	0	1
0	0		
		0	0
0	0	0	0
0	0		
		0	0
0	0		
		0	0
		0	1

CALCULATED RAT
CHECKED ZSS

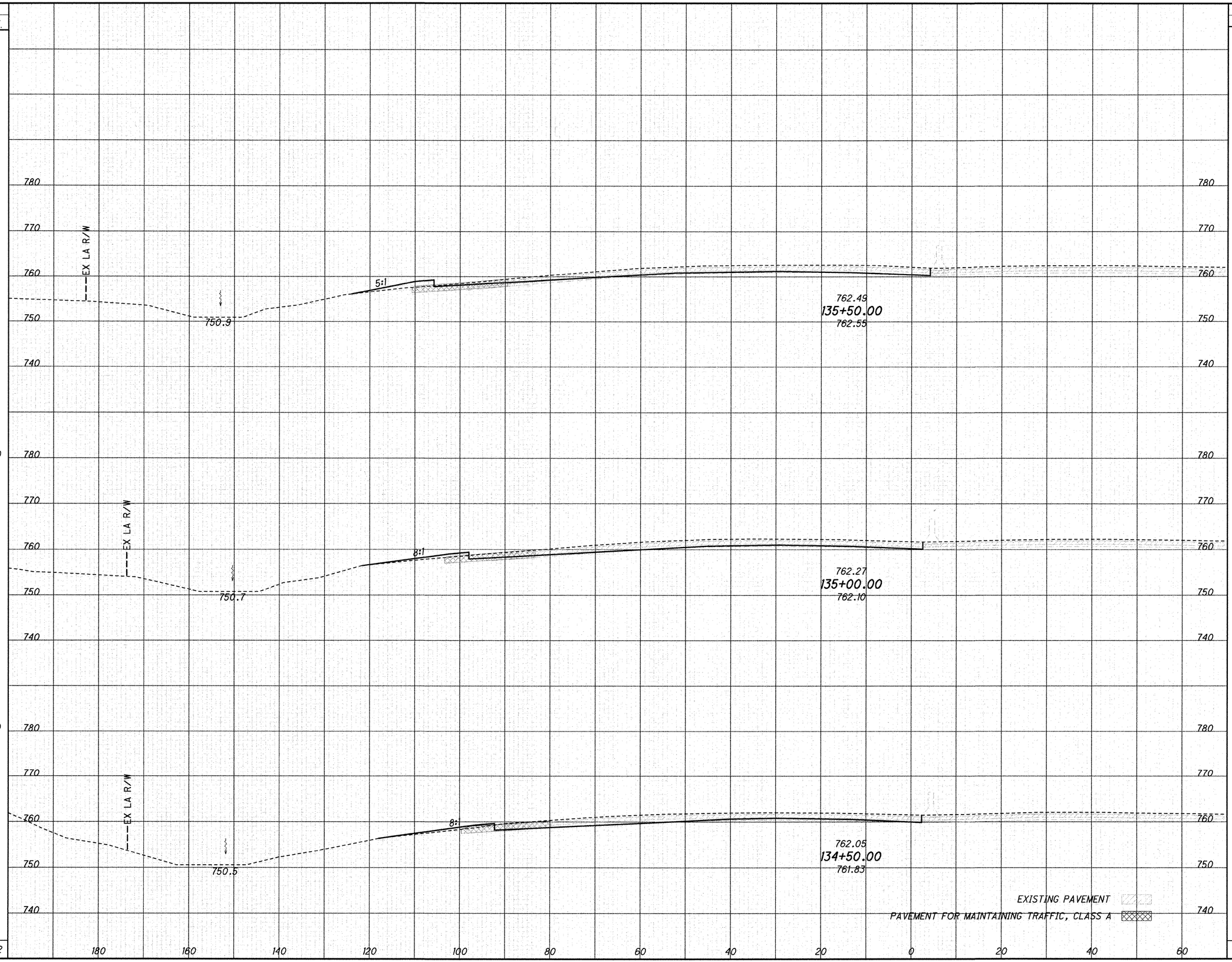
CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 132+50.00 TO STA. 134+00.00

FRA-315-11.37

117
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\sheets\77319XS001_315SB.dgn 14-SEP-2007 6:10PM bmacmillan

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
20	120	0	13	0	20
24	140	0	9	0	15
27	112	0	7	0	8
	372			0	43



CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 134+50.00 TO STA. 135+50.00

FRA-315-11.37

118
163

bmacmillan
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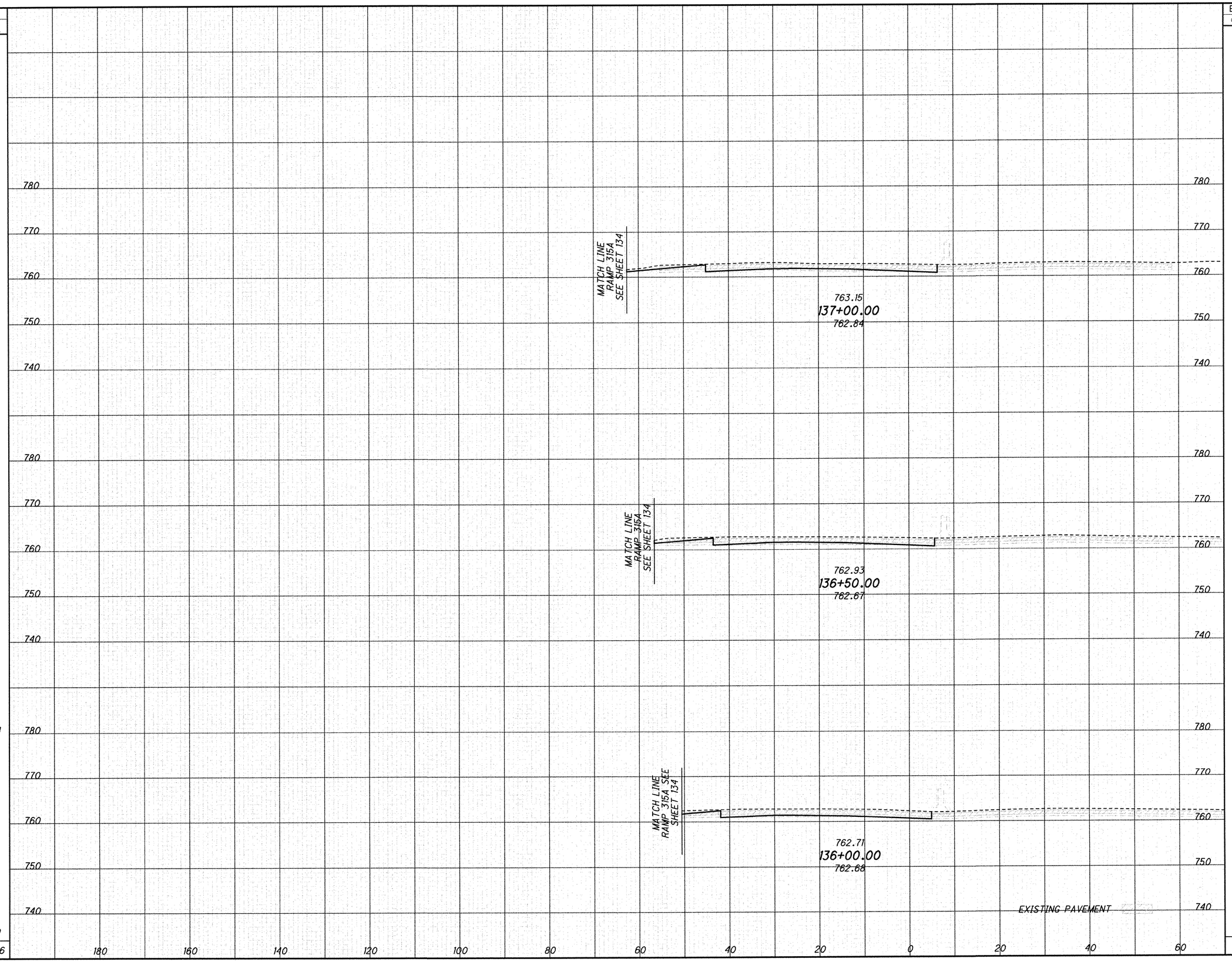
SEEDING	
END WIDTH	SQ. YDS.
19	93
14	64
9	79
	236



END AREA		VOLUME	
CUT	FILL	CUT	FILL
5	0	7	0
2	0	3	0
0	0	0	12
		10	12

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 136+00.00 TO STA. 137+00.00

FRA-315-11.37

119
163

SEEDING	
END WIDTH	SQ. YDS.
33	187
34	165
26	143
26	127
	622

END AREA		VOLUME	
CUT	FILL	CUT	FILL
15	4	27	7
14	3	44	4
33	0	39	0
9	0	13	0
		123	11

CALCULATED RAT
CHECKED ZSS

MATCH LINE RAMP 315A SEE SHEET 132

12:1 6:1 762.4

763.86
139+00.00
763.18

MATCH LINE RAMP 315A SEE SHEET 132

12:1 8:1 762.5

763.77
138+50.00
763.15

MATCH LINE RAMP 315A SEE SHEET 133

12:1

763.59
138+00.00
763.12

MATCH LINE RAMP 315A SEE SHEET 133

12:1

763.37
137+50.00
762.96

EXISTING PAVEMENT

770
760
750
740

180 160 140 120 100 80 60 40 20 0 20 40 60

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 137+50.00 TO STA. 139+00.00

FRA-315-11.37

120
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\sheets\77319XS001_3155B.dgn 14-SEP-2007 6:11PM bmacmillan

SEEDING	
END WIDTH	SQ. YDS.
32	35
38	35
38	35
35	35
35	140

END WORK
STA. 167+88.73

763.55
141+00.00
763.15

END PROJECT
STA. 141+00.00

763.67
140+50.00
763.29

763.79
140+00.00
763.32

763.87
139+50.00
763.28

758.8 | 762.1
758.5 | 762.2
757.8 | 762.3
757.2 | 762.3

12:1 | 6:1

770 / 760 / 750 / 740

EXISTING PAVEMENT

180 160 140 120 100 80 60 40 20 0 20 40 60

END AREA		VOLUME	
CUT	FILL	CUT	FILL
19	3		
		39	6
23	3		
		41	7
21	4		
		35	8
16	4		
		29	8
		144	29

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 139+50.00 TO STA. 141+00.00

FRA-315-11.37

121
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\sheets\77319XS001_315SB.dgn 14-SEP-2007 6:11PM bmacmillan

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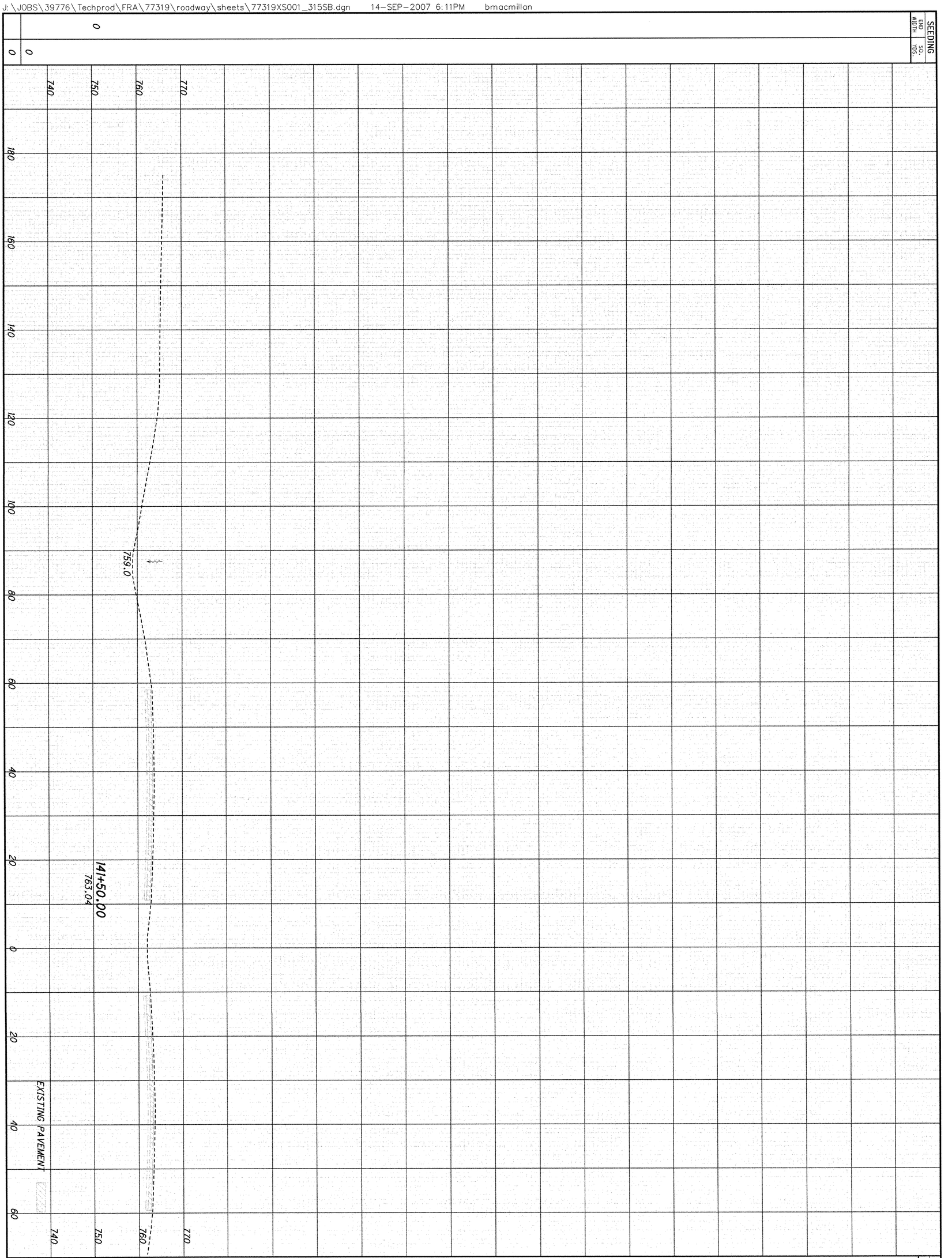
SEEDING	
END WIDTH	SQ. YDS.
0	0



END AREA	
CUT	FILL
0	0

VOLUME	
CUT	FILL
18	3

122/163

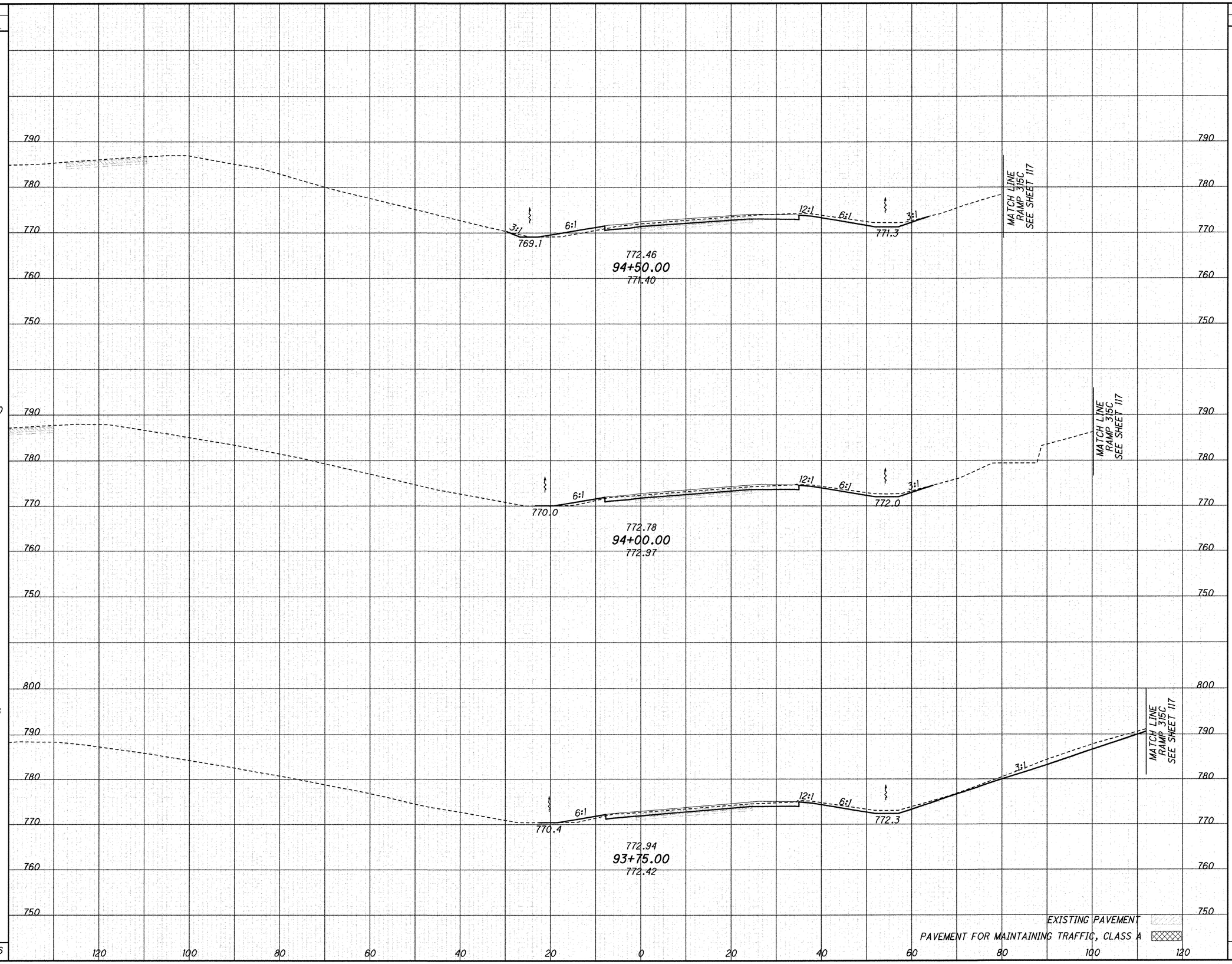
FRA-315-11.37

CROSS SECTIONS - S.R. 315 SOUTHBOUND
STA. 141+50.00

CALCULATED RAT

CHECKED ZSS

SEEDING	
END WIDTH	SQ. YDS.
51	
	270
46	
	196
95	
	466



END AREA		VOLUME	
CUT	FILL	CUT	FILL
33	7		
		46	11
16	4		
		37	5
64	5		
		83	16

CALCULATED RAT
CHECKED ZSS

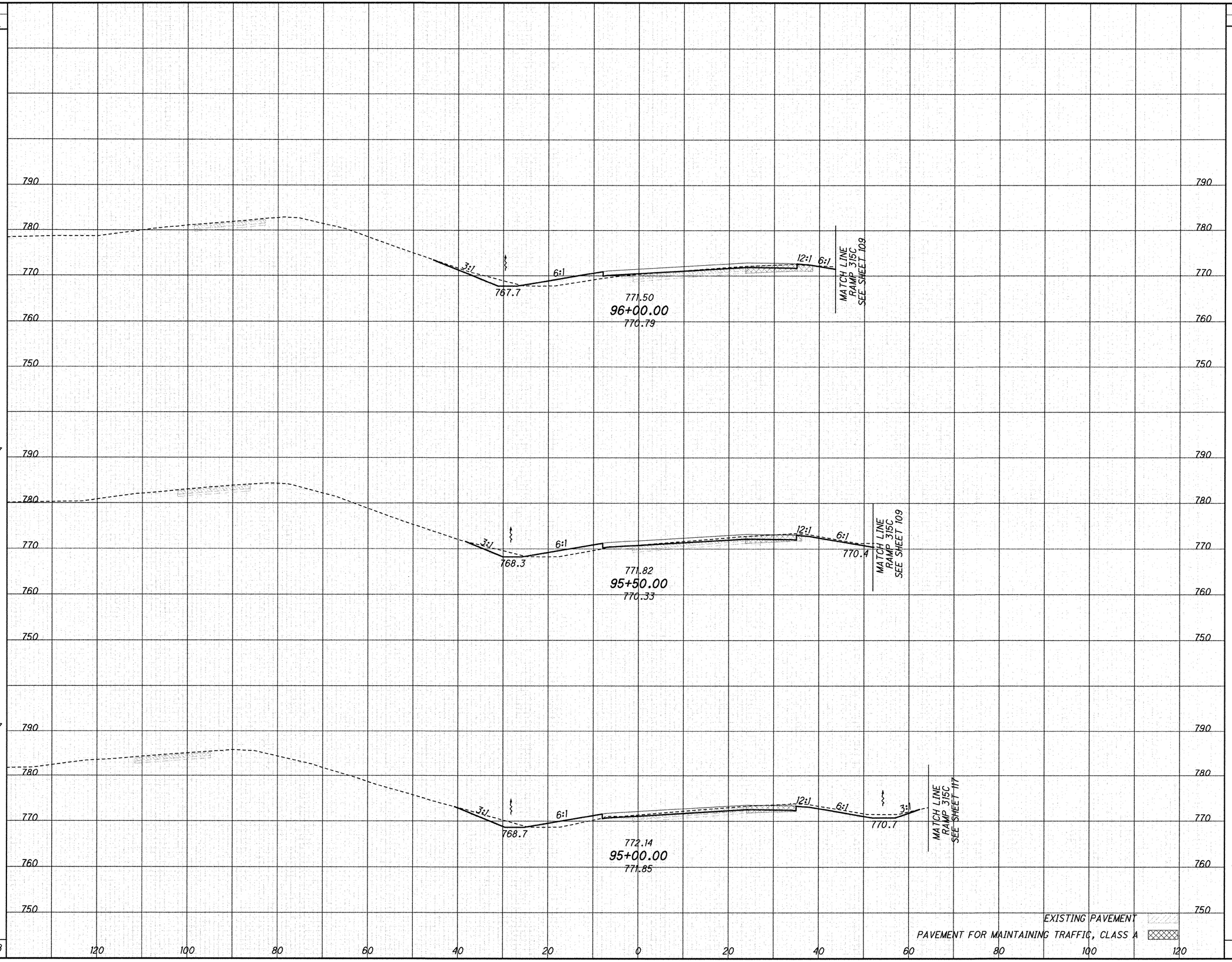
CROSS SECTIONS - RAMP 315A
STA. 93+75.00 TO STA. 94+50.00

FRA-315-11.37

123
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\basemaps\81738XS004.dgn 14-SEP-2007 6:12PM bmacmillan

SEEDING	
END WIDTH	SQ. YDS.
48	267
49	307
62	314
	888



END AREA		VOLUME	
CUT	FILL	CUT	FILL
14	24		
15	18		
28	16		
		27	40
		40	32
		57	22
		124	94

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315A
STA. 95+00.00 TO STA. 96+00.00

FRA-315-11.37

124
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\basemaps\81738XS004.dgn 14-SEP-2007 6:12PM bmacmillan

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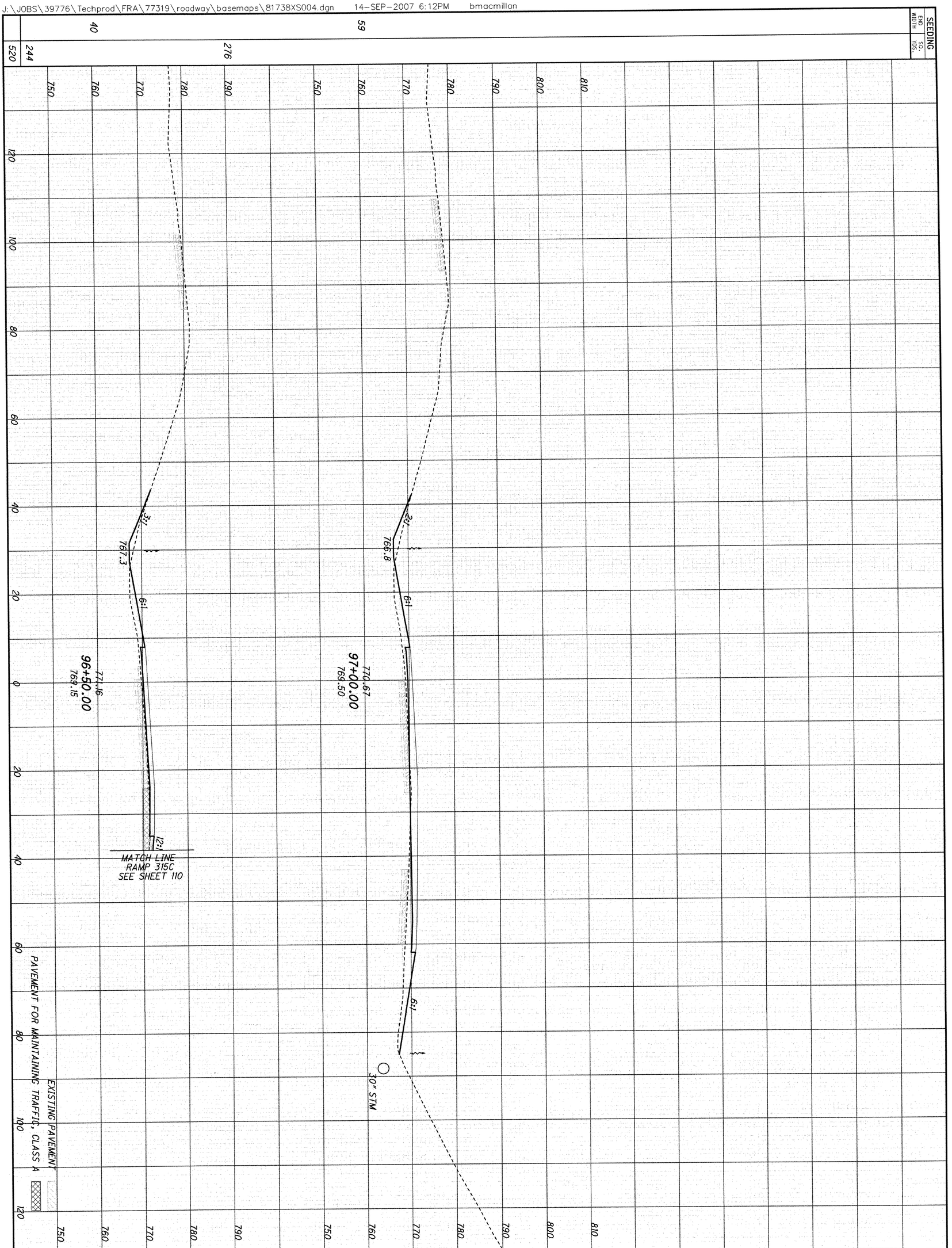
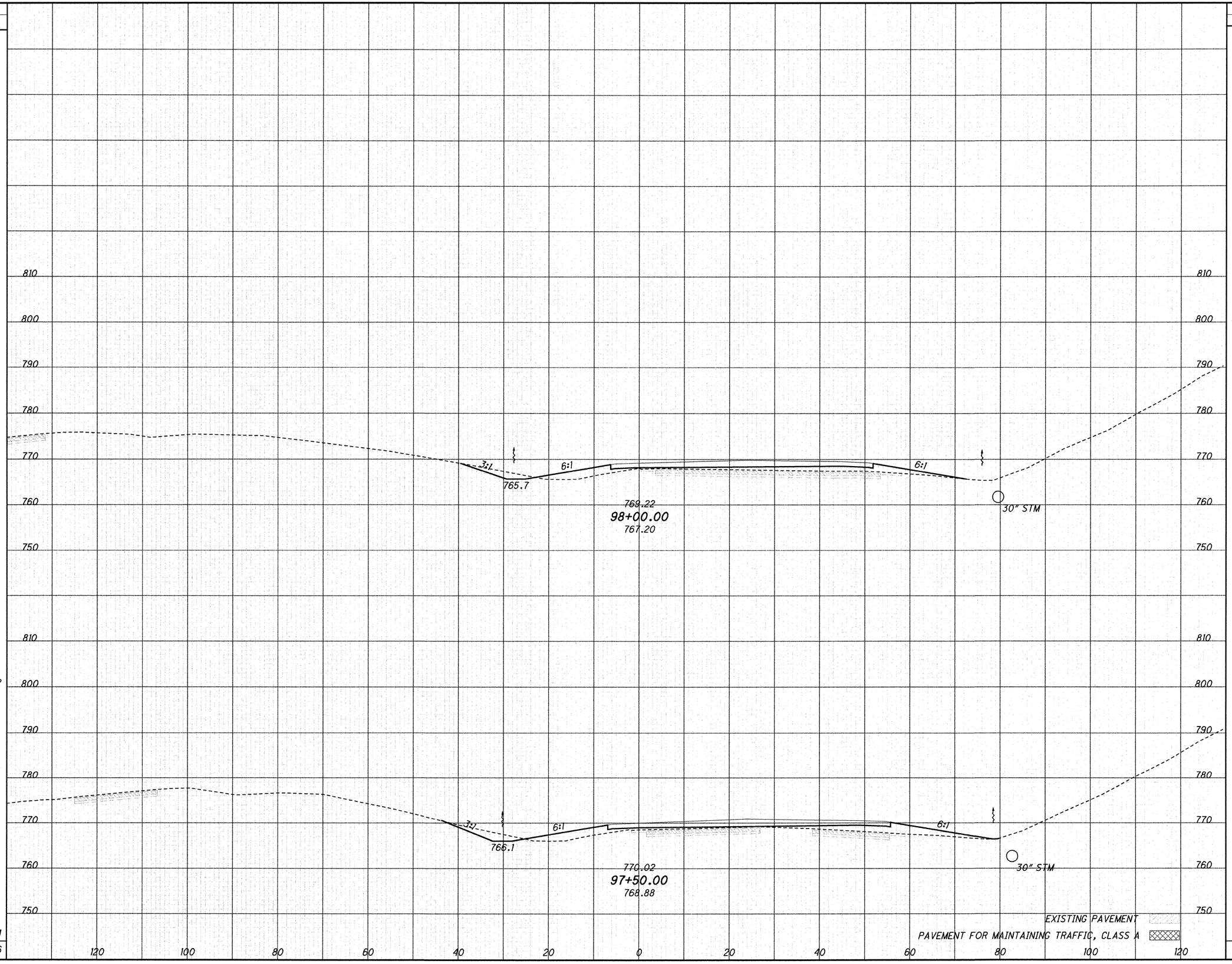


125 / 163	FRA-315-11.37	CROSS SECTIONS - RAMP 315A STA. 96+50.00 TO STA. 97+00.00	CALCULATED RAT CHECKED ZSS

SEEDING	
END WIDTH	SQ. YDS.
55	322
61	334
	656



END AREA		VOLUME	
CUT	FILL	CUT	FILL
13	81		
		29	161
17	92		
		28	170
		57	331

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315A
STA. 97+50.00 TO STA. 98+00.00

FRA-315-11.37

126
163

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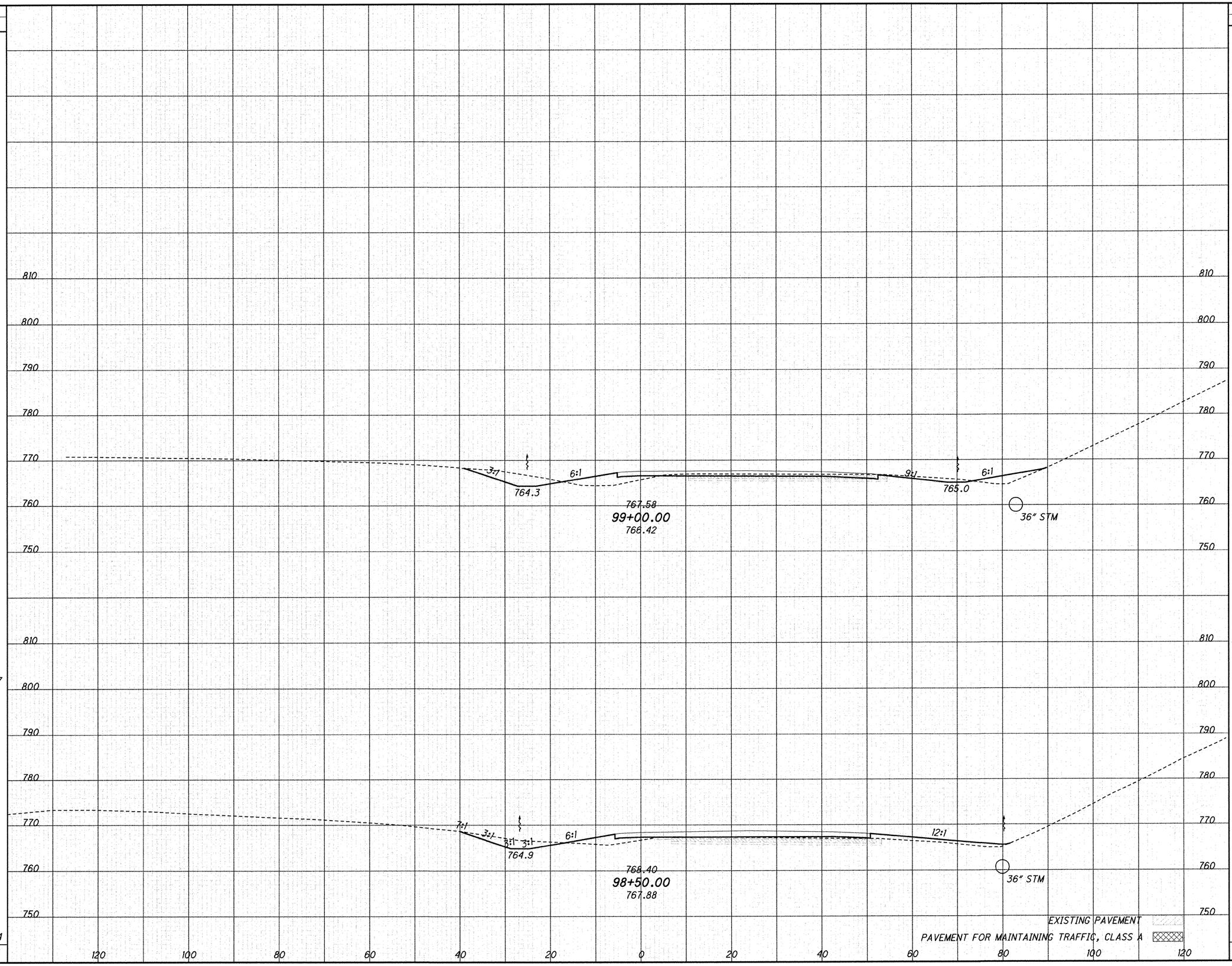
SEEDING	
END WIDTH	SQ. YDS.
35	277
65	334
	611



END AREA		VOLUME	
CUT	FILL	CUT	FILL
34	29		
26	44		
		56	68
		37	115
		93	183

CALCULATED RAT

CHECKED ZSS

CROSS SECTIONS - RAMP 315A
STA. 98+50.00 TO STA. 99+00.00

FRA-315-11.37

127
163

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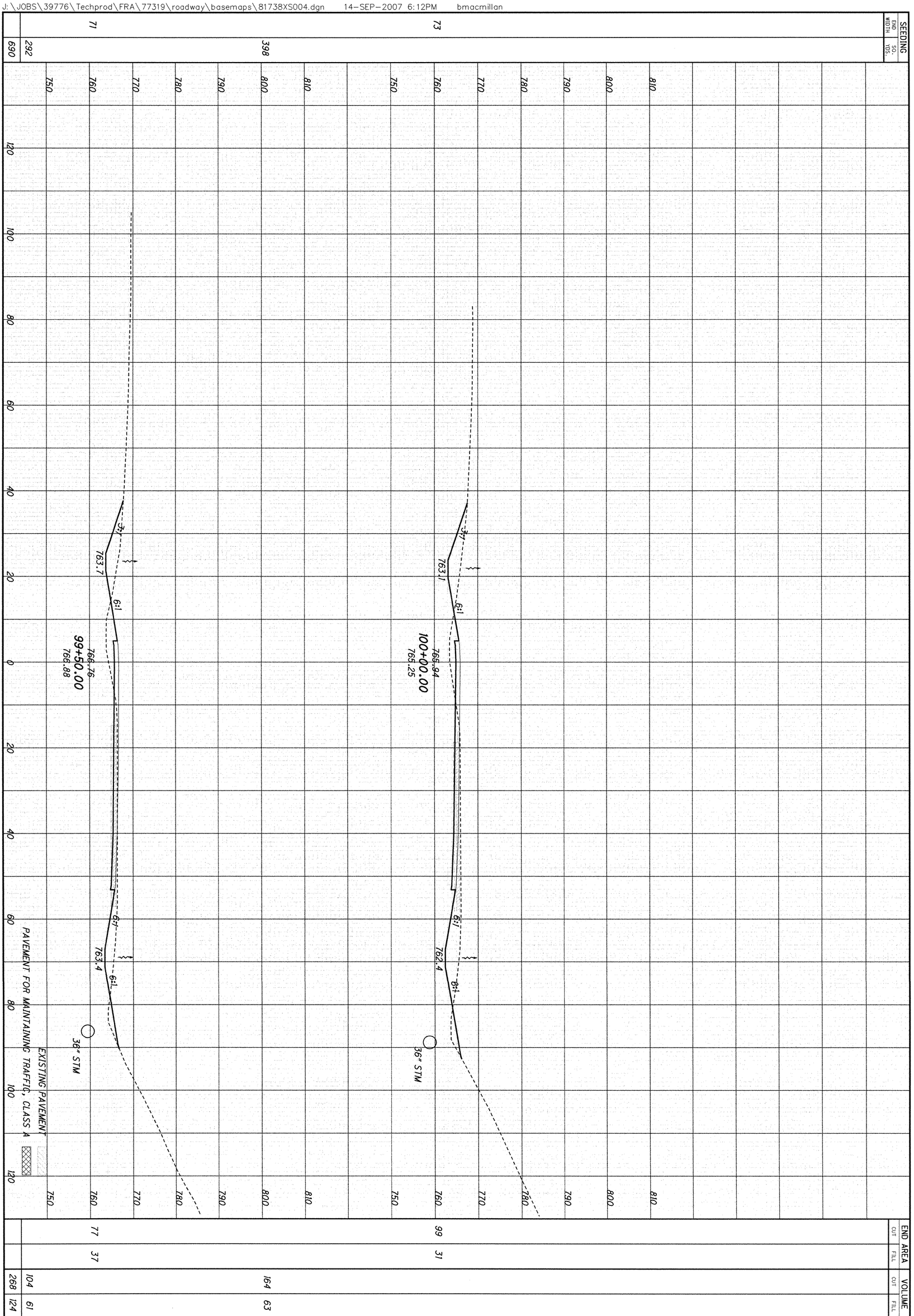


128
163

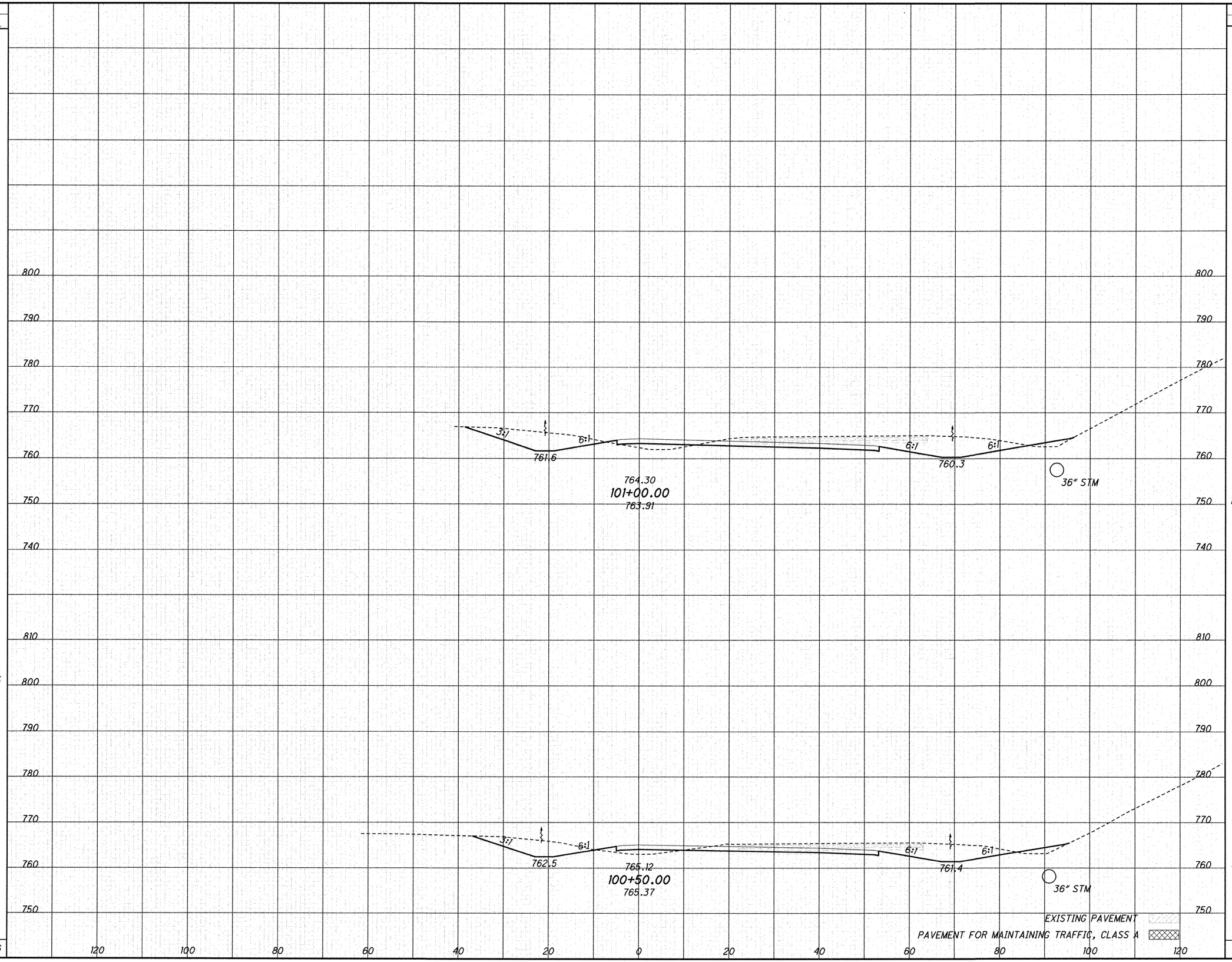
FRA-315-11.37

CROSS SECTIONS - RAMP 315A
STA. 99+50.00 TO STA. 100+00.00

CALCULATED RAT

CHECKED ZSS

SEEDING	
END WIDTH	SQ. YDS.
78	425
75	411
	836



END AREA		VOLUME	
CUT	FILL	CUT	FILL
198	22		
131	22		
		305	41
		214	50
		519	91

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315A
STA. 100+50.00 TO STA. 101+00.00

FRA-315-11.37

129
163

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SEEDING	
END WIDTH	SQ. YDS.
74	
	414
75	
	425
	839

EXISTING PAVEMENT ▨

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A ▩

END AREA		VOLUME	
CUT	FILL	CUT	FILL
233	32		
		639	83
224	24		
		391	42
		1030	125

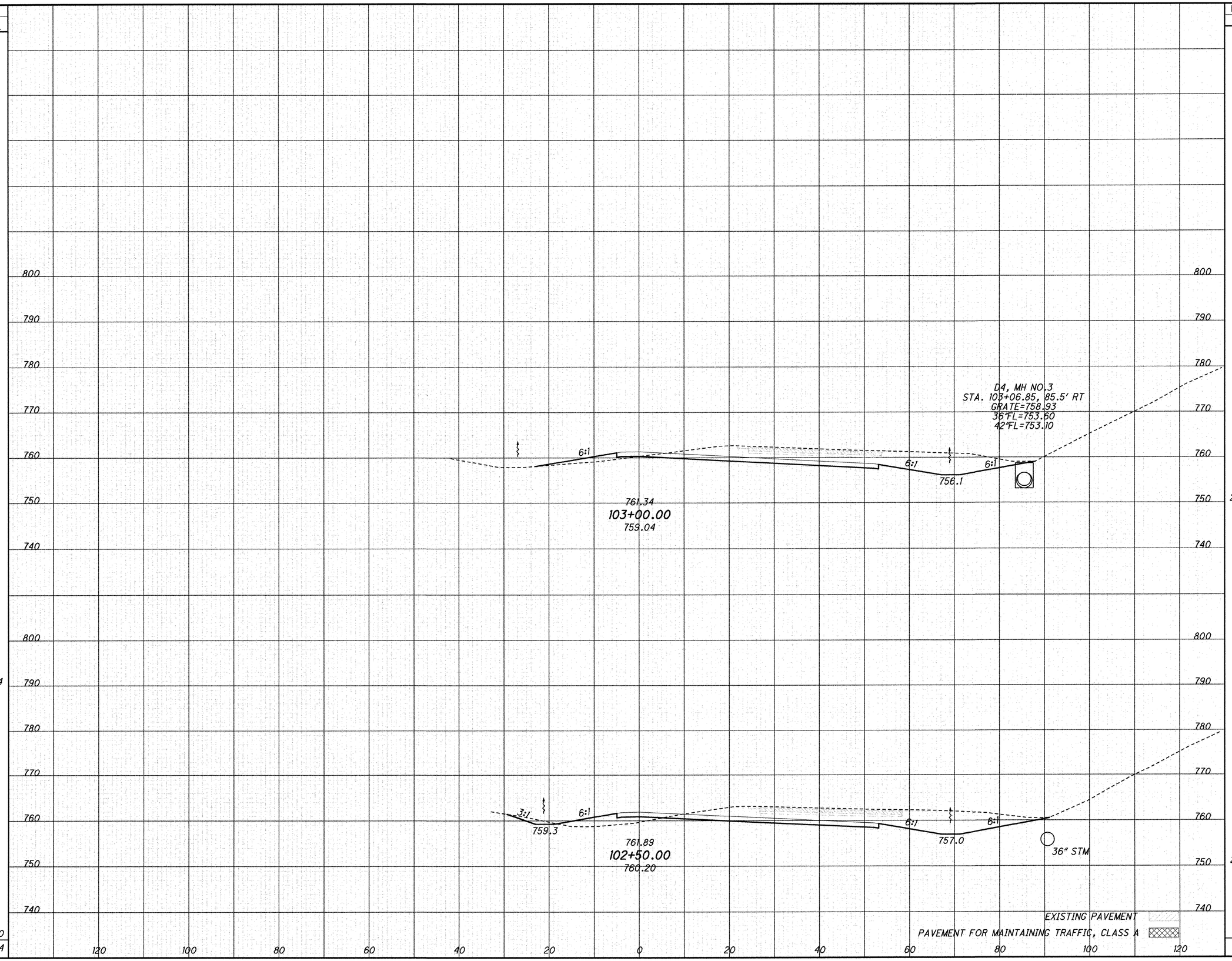
CALCULATED RAT

CHECKED ZSS

CROSS SECTIONS - RAMP 315A
STA. 101+50.00 TO STA. 102+00.00

FRA-315-11.37

SEEDING	
END WIDTH	SQ. YDS.
54	
	324
63	
	380
	704



END AREA		VOLUME	
CUT	FILL	CUT	FILL
220	16		
		615	59
223	32		
		629	89
		1244	148

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315A
STA. 102+50.00 TO STA. 103+00.00

FRA-315-11.37

131
163

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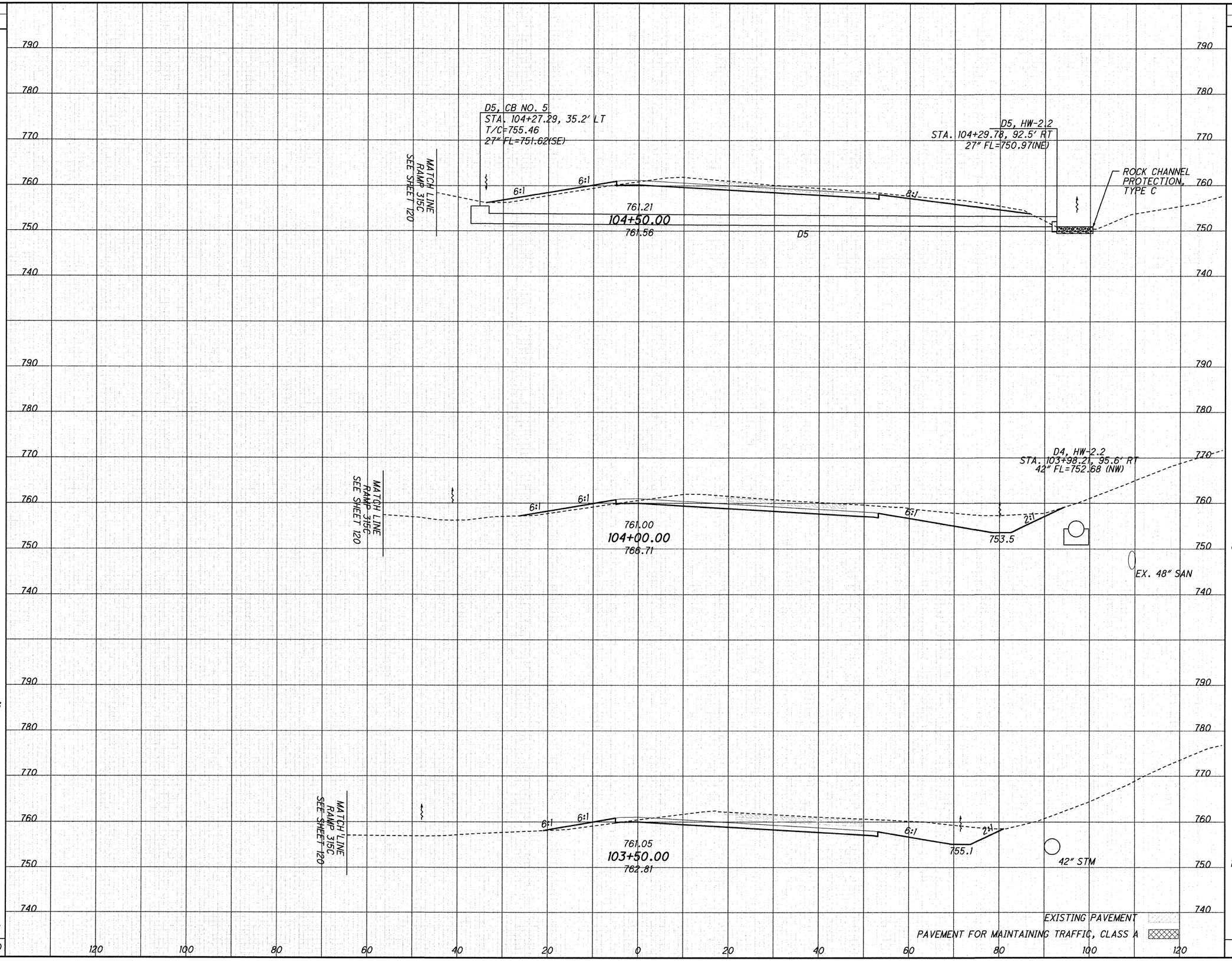
SEEDING	
END WIDTH	SQ. YDS.
63	353
64	303
45	274
	930

END AREA	
CUT	FILL
65	20
186	13
197	11

VOLUME	
CUT	FILL
294	49
527	35
569	36
1390	120

CALCULATED RAT
CHECKED ZSS

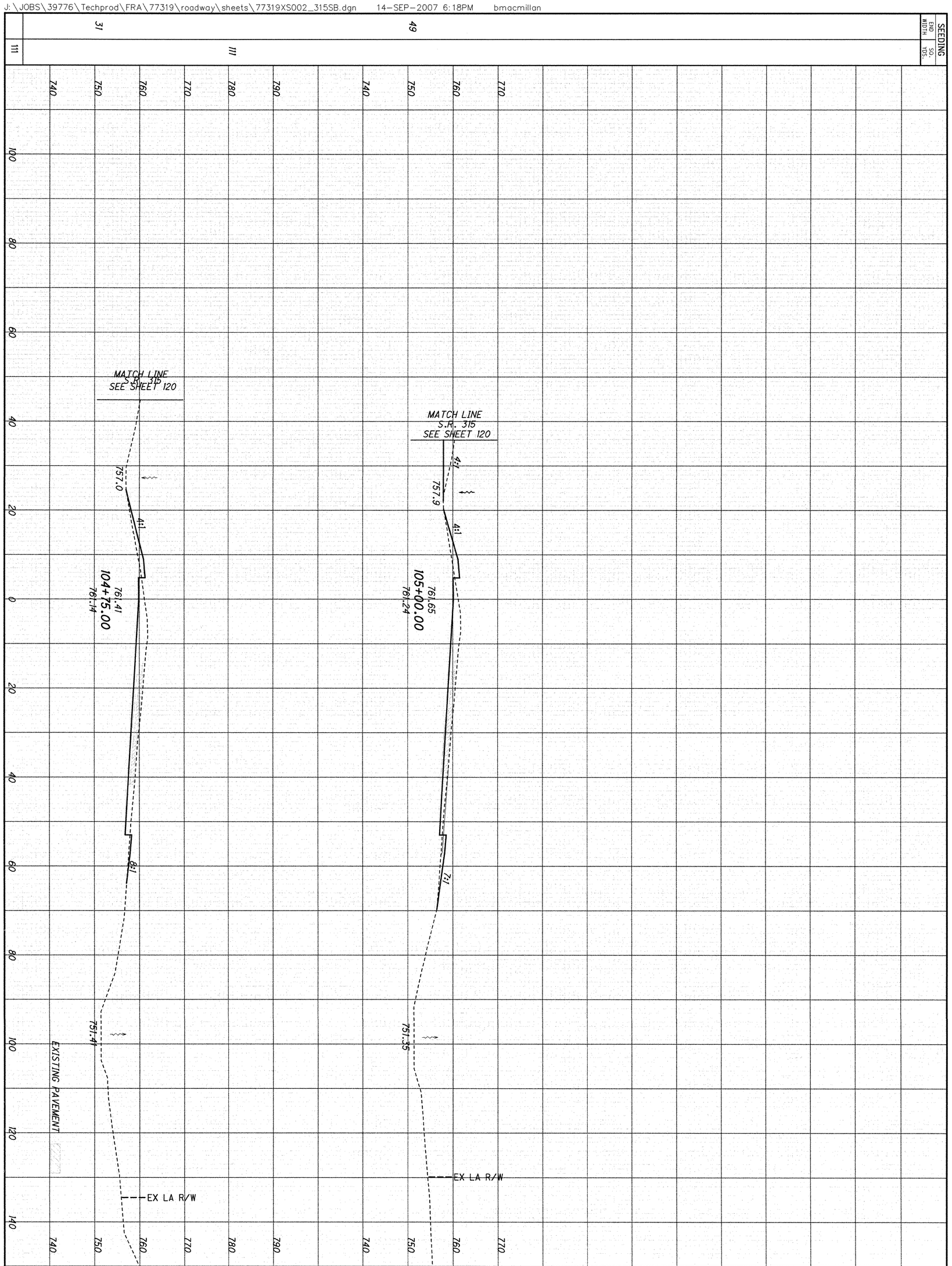


CROSS SECTIONS - RAMP 315A
STA. 103+50.00 TO STA. 104+50.00

FRA-315-11.37

132
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\basemaps\81738XS004.dgn 14-SEP-2007 6:13PM bmacmillan



133
163

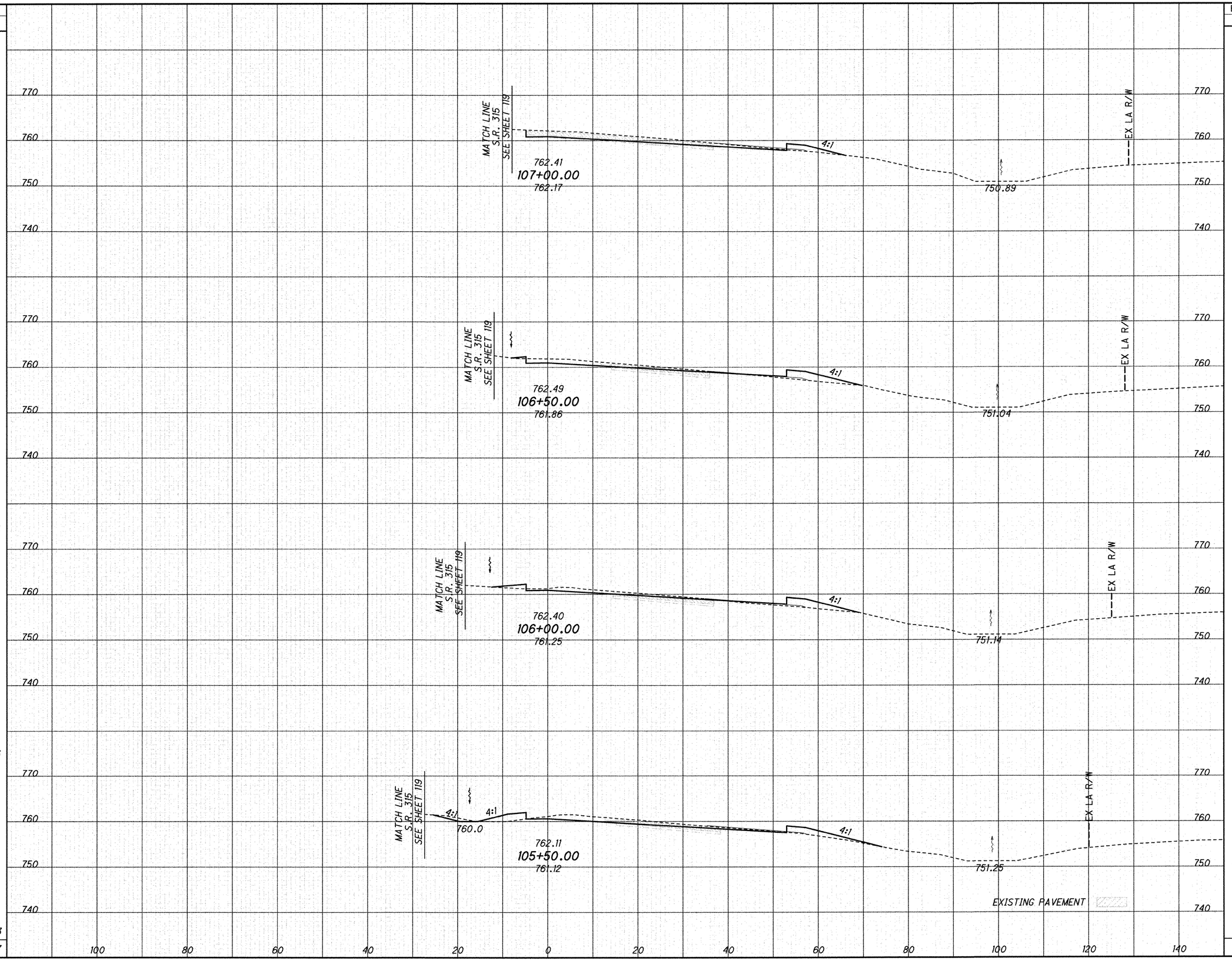
FRA-315-11.37

CROSS SECTIONS - RAMP 315-A
STA. 104+75.00 TO STA. 105+00.00

CALCULATED RAT

CHECKED ZSS

SEEDING	
END WIDTH	SQ. YDS.
13	94
20	124
25	186
43	253
	657



END AREA		VOLUME	
CUT	FILL	CUT	FILL
7	27	29	91
18	44	43	131
11	53	41	143
22	48	84	117
		197	482

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315-A
STA. 105+50.00 TO STA. 107+00.00

FRA-315-11.37

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SEEDING: END WIDTH | SQ. YDS.

13 | 4 | 4

740 750 760 770

100 80 60 40 20 0 20 40 60 80 100 120 140

MATCH LINE
S.R. 315
SEE SHEET 119

107+02.96
762.40
762.18

4:1

750.88

EXISTING PAVEMENT

EX LA R/W

740 750 760 770

END AREA: CUT | FILL

7 | 24

VOLUME: CUT | FILL

2 | 2

5 | 5

135
163

FRA-315-11.37

CROSS SECTIONS - RAMP 315-A
STA. 107+02.96 TO STA. 107+02.96

CALCULATED RAT

CHECKED ZSS

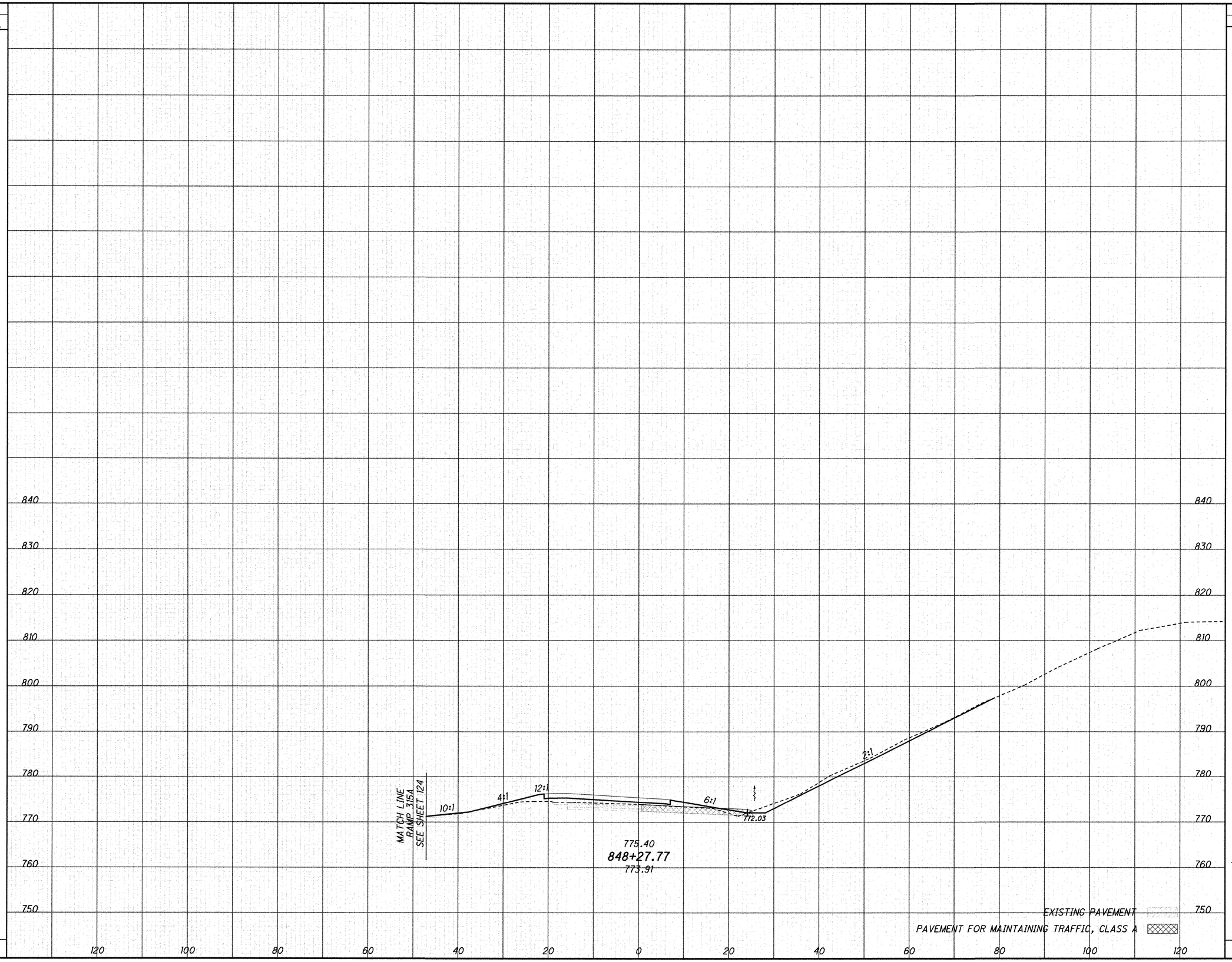
SEEDING	
END WIDTH	SQ. YDS.
105	

END AREA	
CUT	FILL
31	37

VOLUME	
CUT	FILL

CALCULATED RAT

CHECKED ZSS

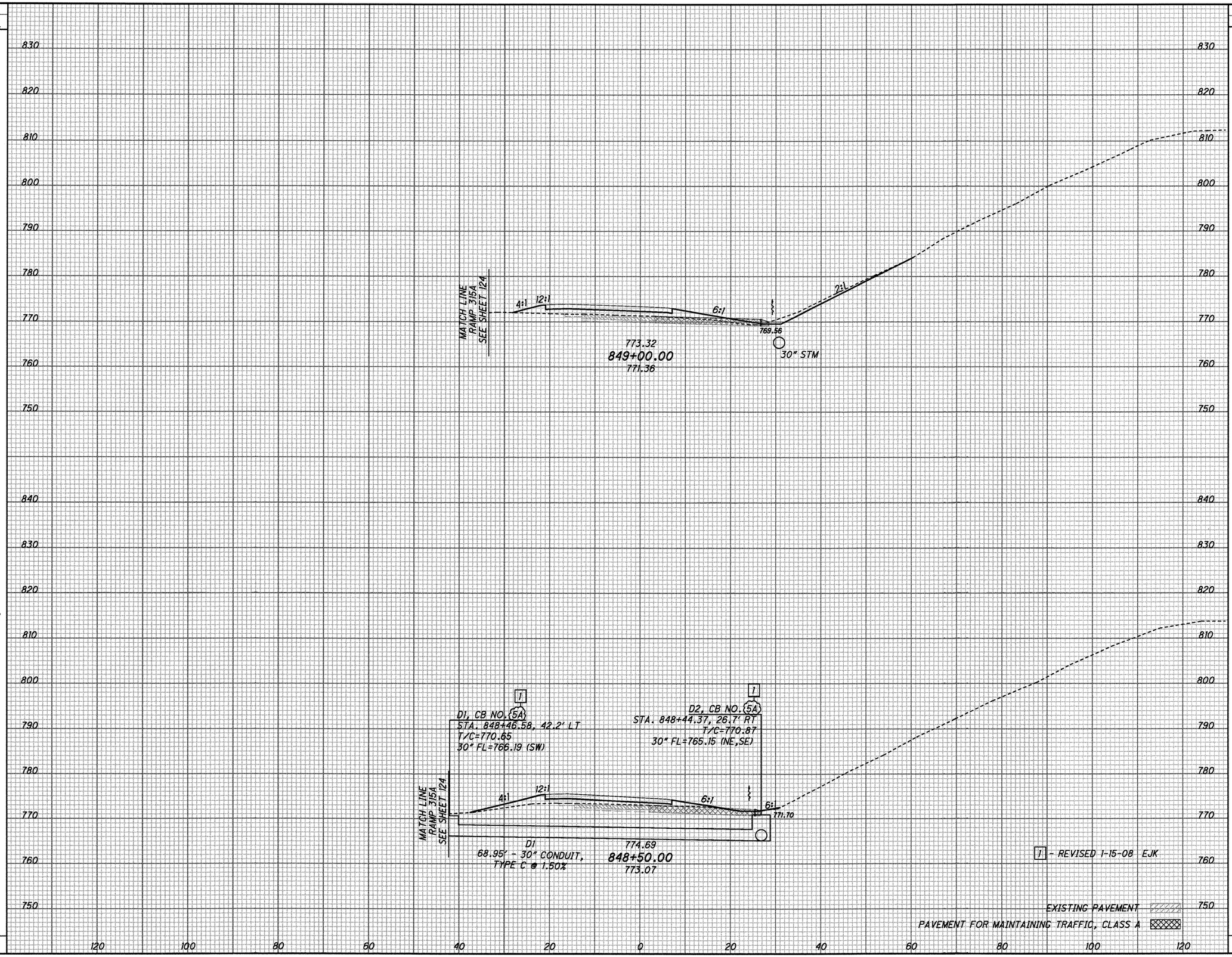


CROSS SECTIONS - RAMP 315C
STA. 848+27.77 TO STA. 848+27.77

FRA-315-11.37

136
163

SEEDING	
END WIDTH	SQ. YDS.
65	
	294
41	
	180
	474



END AREA		VOLUME	
CUT	FILL	CUT	FILL
17	49		
		16	86
0	43		
		13	33
		29	119

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315C
STA. 848+50.00 TO STA. 849+00.00

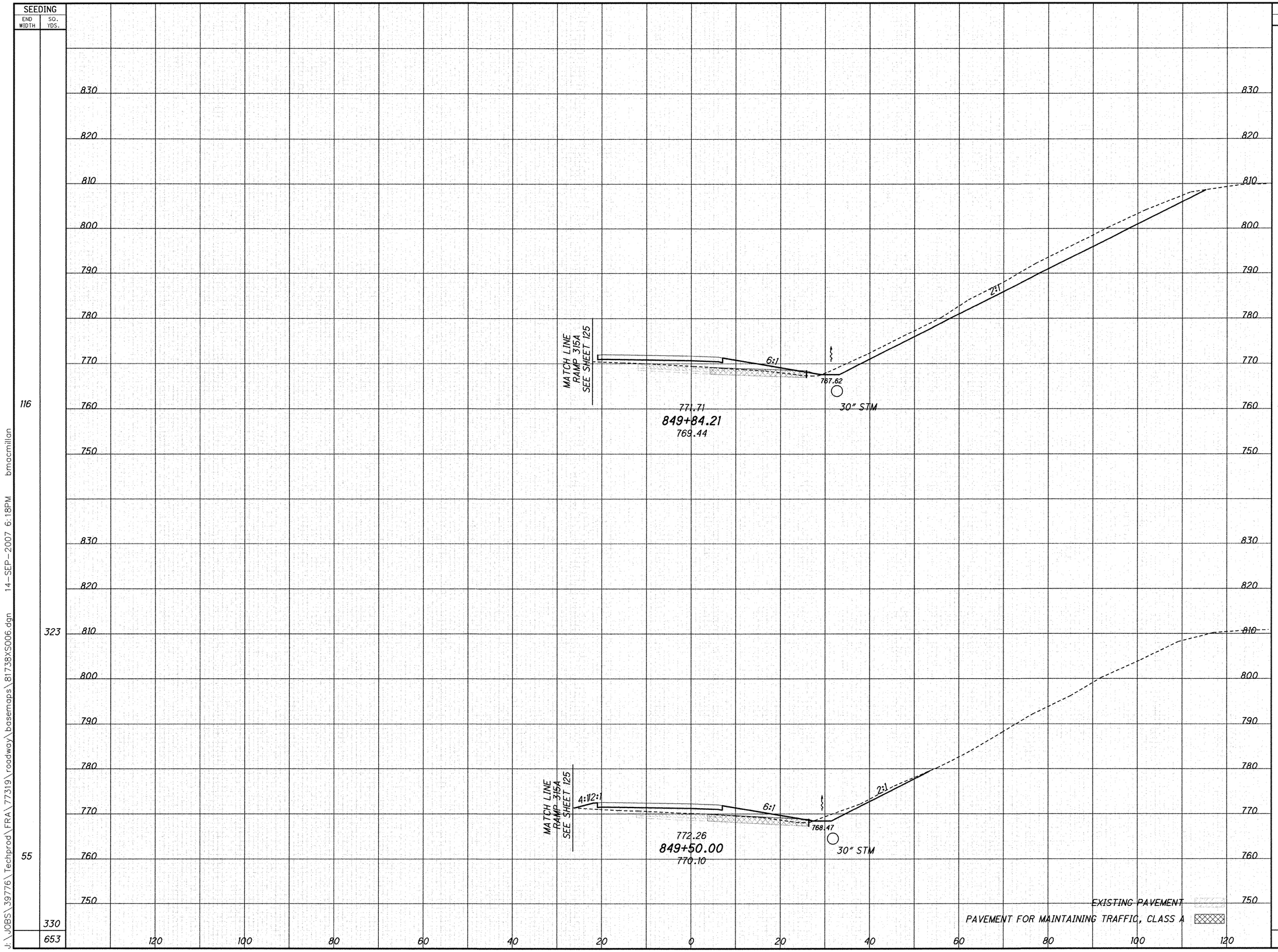
FRA-315-11.37

137
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\basemaps\81738XS006.dgn 17-JAN-2008 11:09AM ekisiel

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
116	55	159	49		
	323			111	67
	330	16	56		
	653			142	165

CALCULATED RAT
CHECKED ZSS



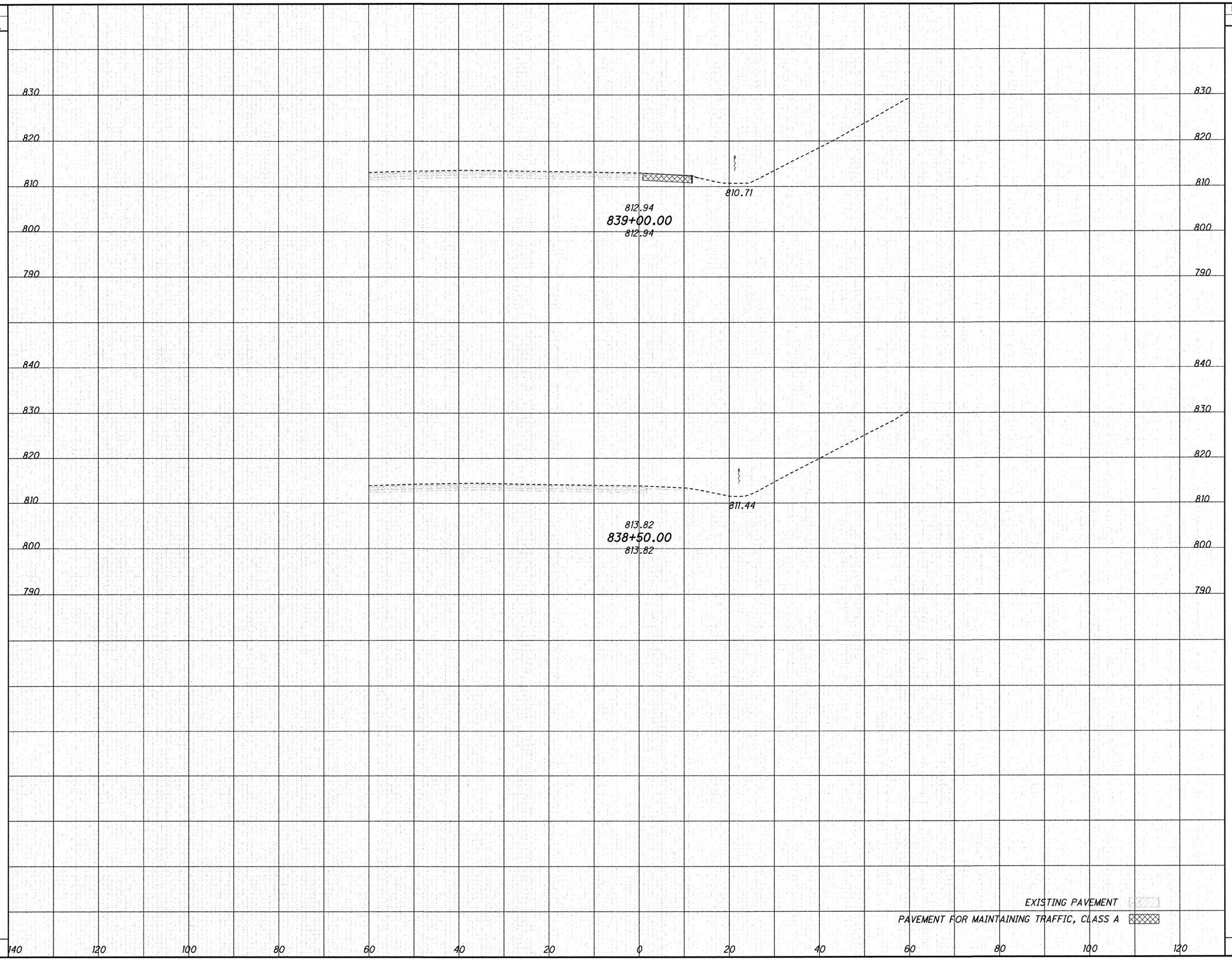
CROSS SECTIONS - RAMP 315C
STA. 849+50.00 TO STA. 849+84.21

FRA-315-11.37

138
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\basemaps\81738XS006.dgn 14-SEP-2007 6:18PM bmacmillan

SEEDING	
END WIDTH	SQ. YDS.
1.7	5
0	
	5



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

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315C (TEMPORARY WIDENING)
STA. 838+00.00 TO STA. 839+00.00

FRA-315-11.37

139
163

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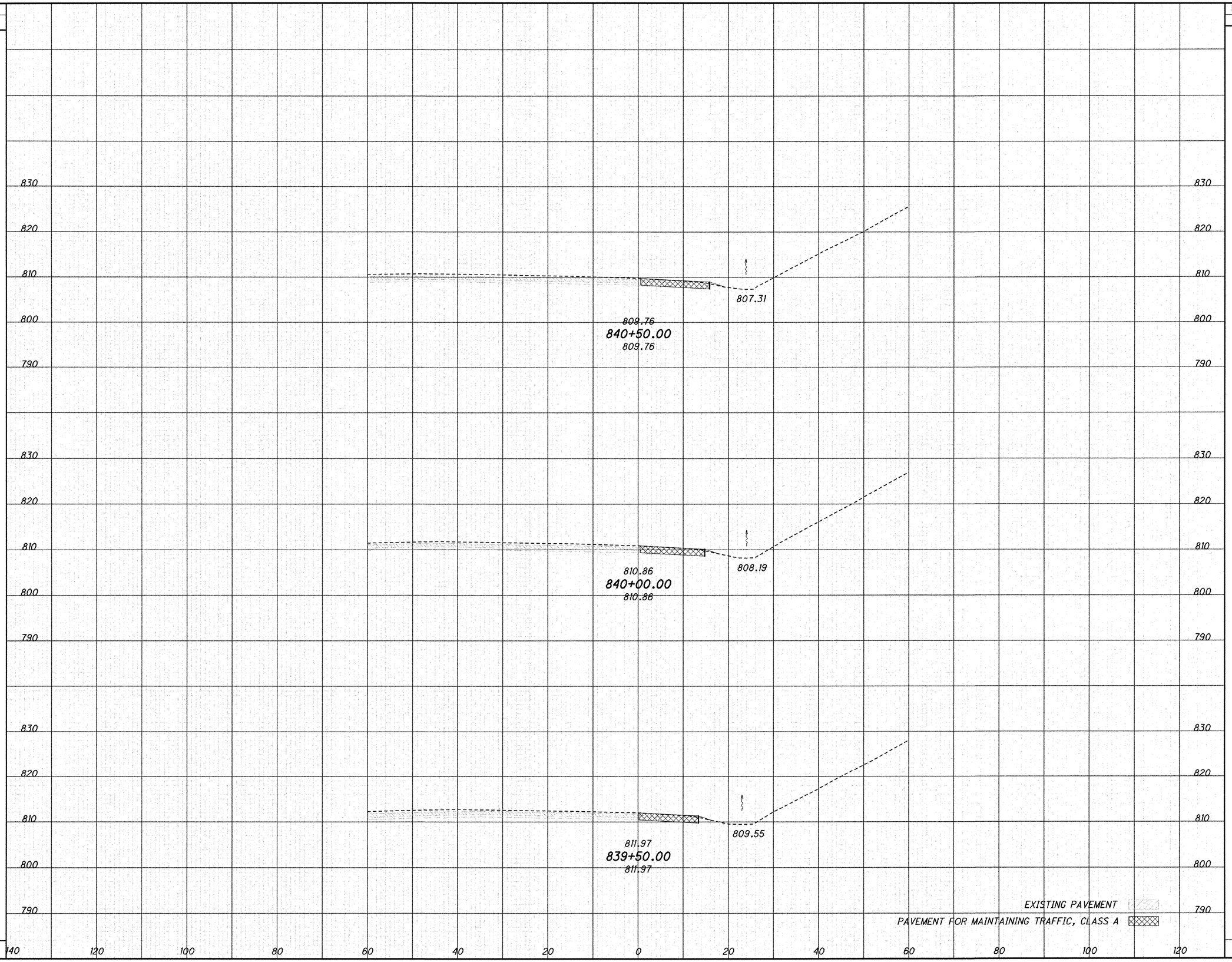
SEEDING	
END WIDTH	SQ. YDS.
4	20
3	18
3	14
	52



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	1		
		0	2
0	1		
		0	1
0	1		
		0	1
		0	4

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315C (TEMPORARY WIDENING)
STA. 839+50.00 TO STA. 840+50.00

FRA-315-11.37

140
163

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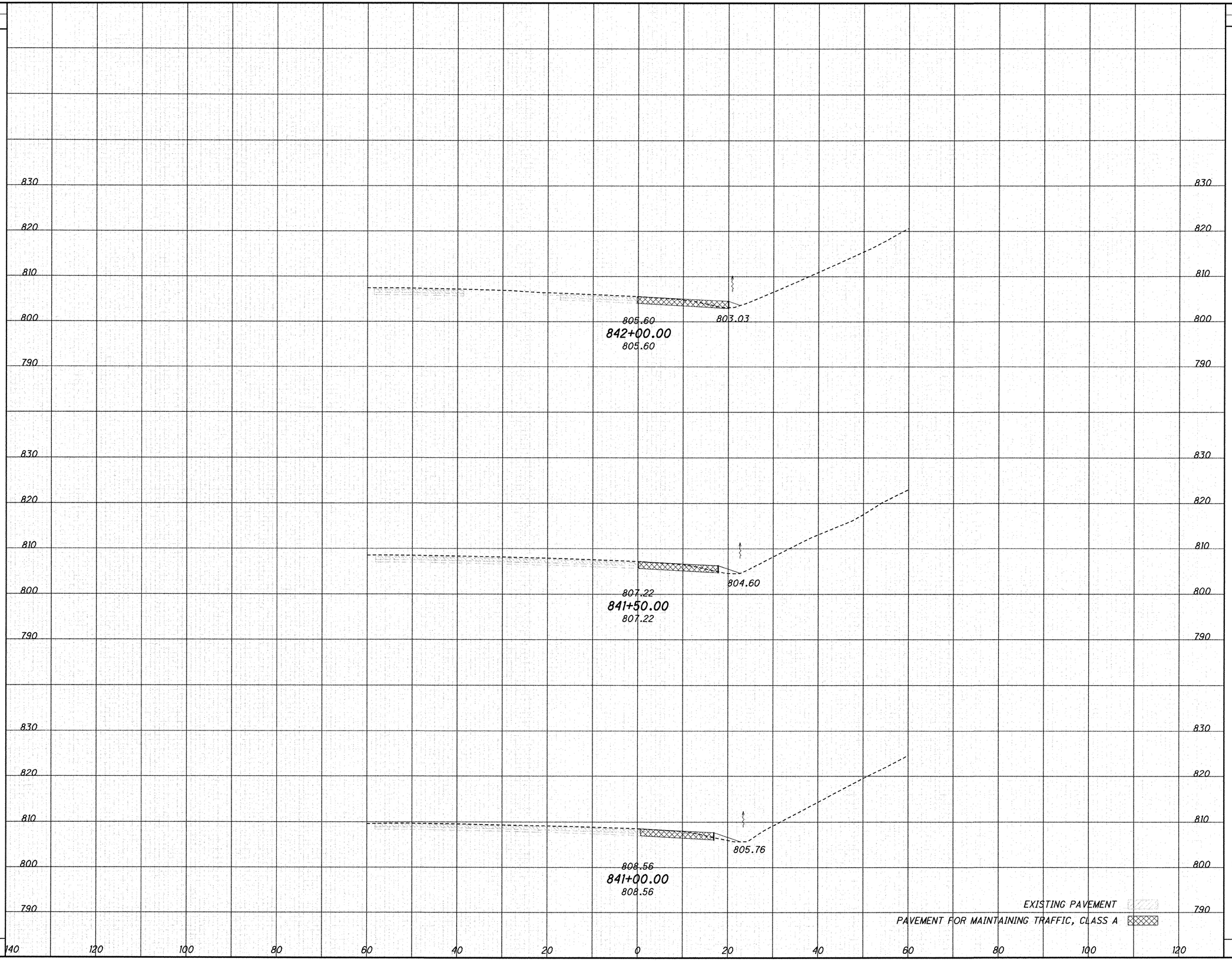
SEEDING	
END WIDTH	SQ. YDS.
3	23
5	32
6	28
	83



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	2		
		0	6
0	4		
		0	8
0	4		
		0	5
		0	19

CALCULATED RAT
CHECKED ZSS

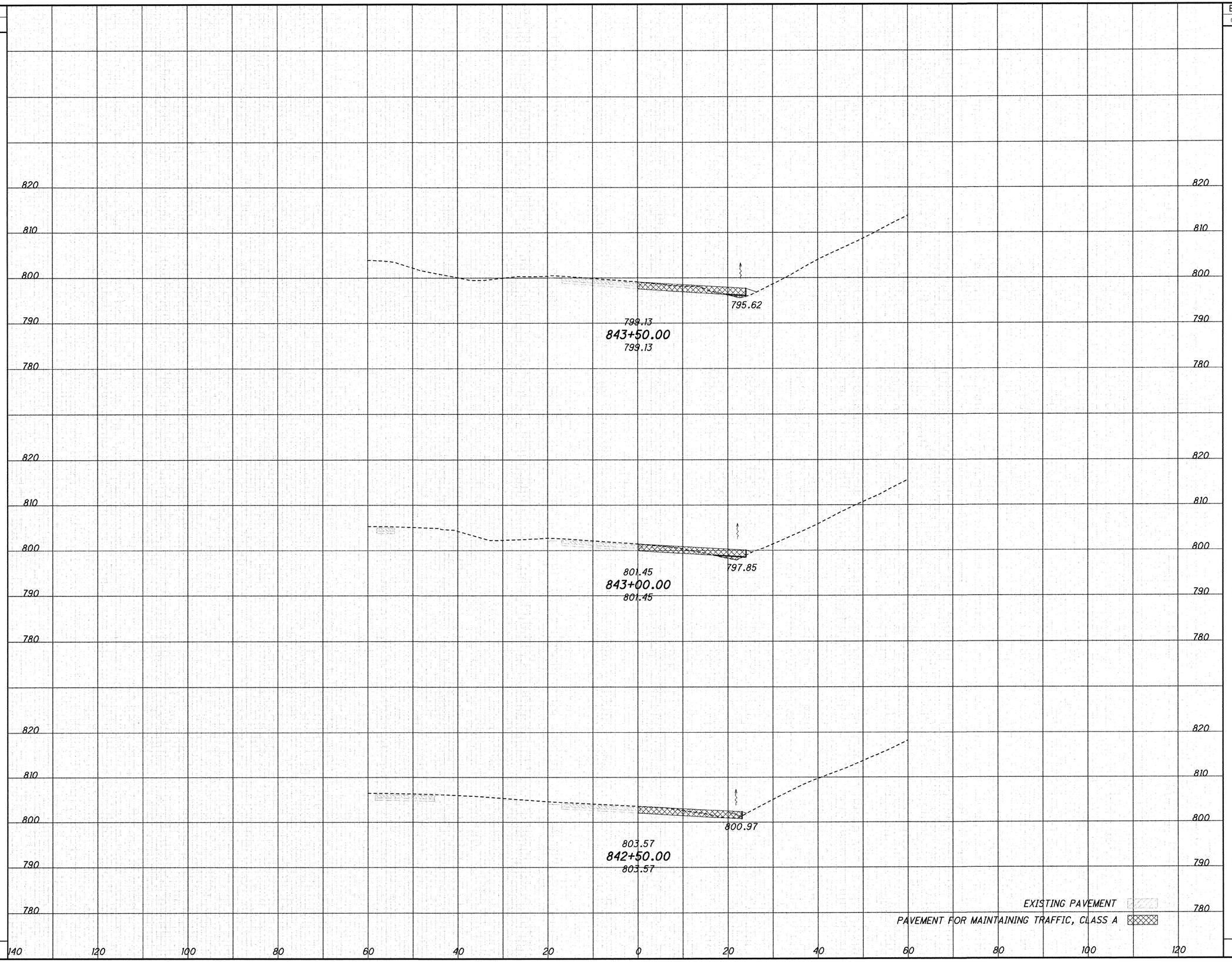
CROSS SECTIONS - RAMP 315C (TEMPORARY WIDENING)
STA. 841+00.00 TO STA. 842+00.00

FRA-315-11.37

141
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\basemaps\81738XS006temp.dgn 14-SEP-2007 6:18PM bmacmillan

SEEDING	
END WIDTH	SQ. YDS.
3	
	11
1	
	7
1	
	11
	29



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	2		
		0	5
0	1		
		0	2
0	1		
		0	3
		0	10

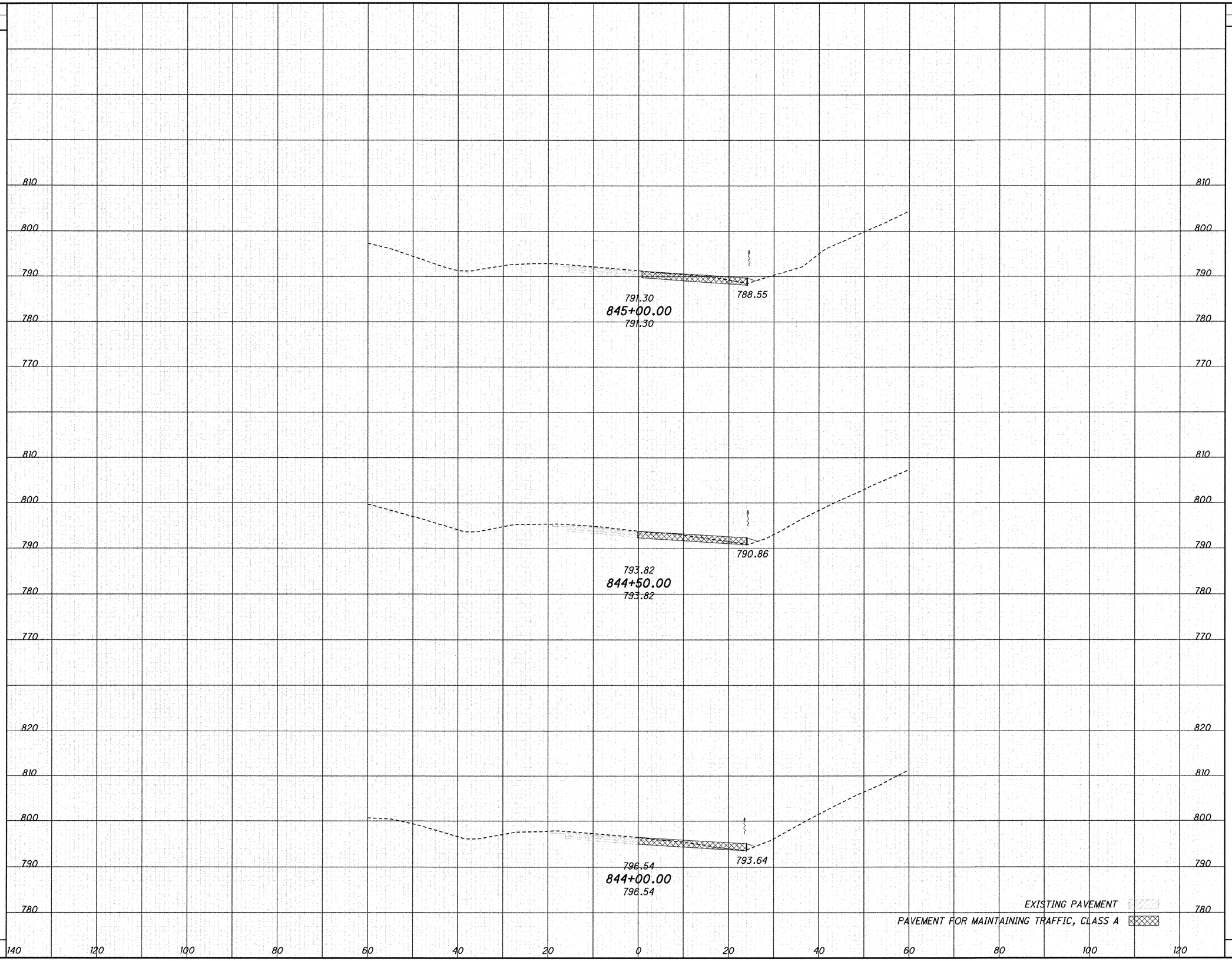
CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315C (TEMPORARY WIDENING)
STA. 842+50.00 TO STA. 843+50.00

FRA-315-11.37

142
163

SEEDING	
END WIDTH	SQ. YDS.
2	13
	13
3	13
	13
2	13
	39



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	1		
		0	4
0	2		
		0	5
0	1		
		0	5
		0	14

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315C (TEMPORARY WIDENING)
STA. 844+00.00 TO STA. 845+00.00

FRA-315-11.37

143
163

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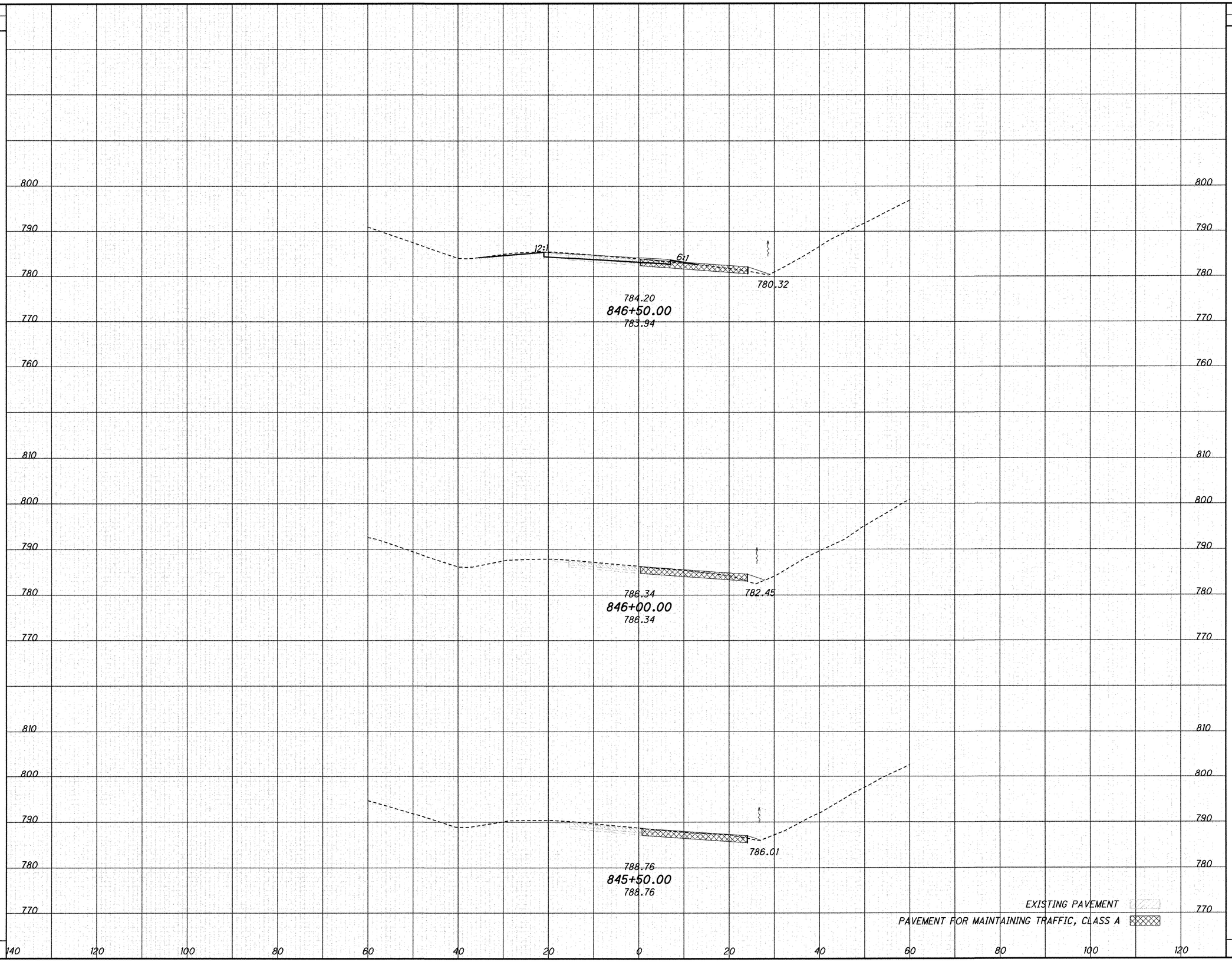
SEEDING	
END WIDTH	SQ. YDS.
5	27
4	21
3	15
	63



END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	3		
		8	10
0	5		
		0	10
0	1		
		0	4
		8	24

CALCULATED RAT
CHECKED ZSS

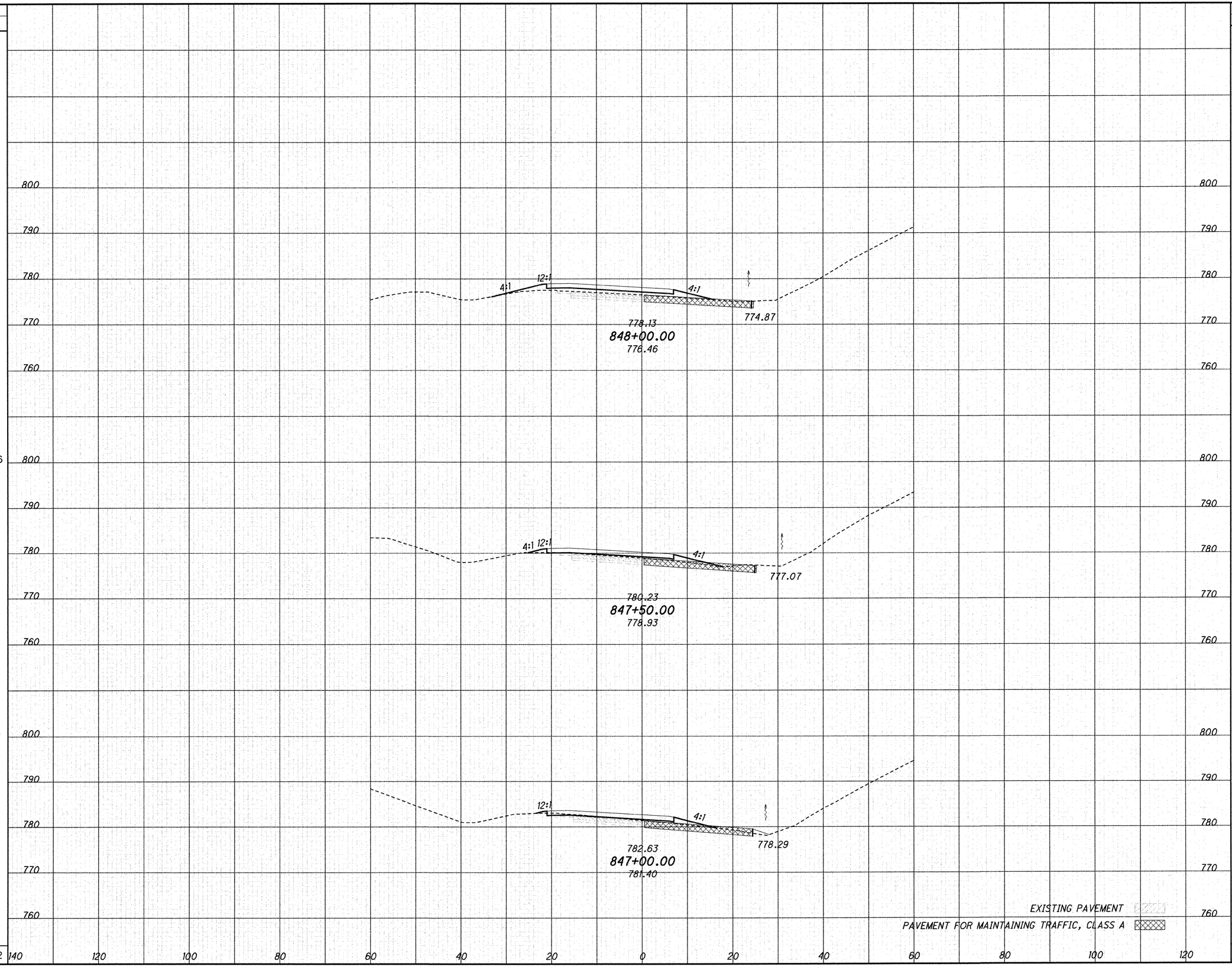
CROSS SECTIONS - RAMP 315C (TEMPORARY WIDENING)
STA. 845+50.00 TO STA. 846+50.00

FRA-315-11.37

144
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\basemaps\81738XS006temp.dgn 14-SEP-2007 6:19PM bmacmillan

SEEDING	
END WIDTH	SQ. YDS.
51	
	246
38	
	123
7	
	33
	402



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	32		
		0	72
0	13		
		2	27
1	3		
		7	8
		9	107

CALCULATED RAT
CHECKED ZSS

CROSS SECTIONS - RAMP 315C (TEMPORARY WIDENING)
STA. 847+00.00 TO STA. 848+00.00

FRA-315-11.37

145
163

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SEEDING	
END WIDTH	SQ. YDS.
63	
	317
	317

EXISTING PAVEMENT ▨

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A ▩

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	69		
		0	158
		0	158

CALCULATED RAT

CHECKED ZSS

CROSS SECTIONS - RAMP 315C (TEMPORARY WIDENING)
STA. 848+50.00

FRA-315-11.37

SUPERELEVATION TABLE

P.I. STATION 845+87.40 | Dc = 7°00'00"

LEFT SIDE					CENTERLINE CONTROL		
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	
776.33	185 : 1	0.93	0.0580	16.00	848+27.77 R 1	775.40	F.S., C.S.
775.50		0.81	0.0505	16.00	848+50.00 R 1	774.69	
774.64		0.67	0.0421	16.00	848+75.00 R 1	773.97	
773.86		0.54	0.0336	16.00	849+00.00 R 1	773.32	
773.15		0.40	0.0251	16.00	849+25.00 R 1	772.75	
772.52		0.27	0.0167	16.00	849+50.00 R 1	772.26	
772.47		0.26	0.0160	16.00	849+52.09 R 1	772.22	
772.10		0.26	0.0160	16.00	849+75.00 R 1	771.84	
772.06		0.26	0.0160	16.00	849+77.77 R 1	771.80	S.T.

SUPERELEVATION TABLE

LEFT SIDE					CENTERLINE CONTROL		
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	

CALCULATED RAT
CHECKED ZSS

SUPERELEVATION TABLE
RAMP 315C

FRA-315-11.37

147
163

J:\JOBS\39776\Techprod\FRA\77319\roadway\sheets\77319GE011_315SB.dgn 14-SEP-2007 6:19PM bmacmillan

SUPERELEVATION TABLE

P.I. STATION 165+14.02 | Dc = 7°00'00"

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
772.71		-0.23	-0.0830	2.78	93+75.00 R 1	772.94	24.00	0.0830	1.99		774.93	
772.55		-0.23	-0.0774	3.00	94+00.00 R 1	772.78	24.00	0.0774	1.86		774.64	
772.40	185 : 1	-0.22	-0.0717	3.00	94+25.00 R 1	772.62	24.00	0.0717	1.72		774.34	
772.26		-0.20	-0.0661	3.00	94+50.00 R 1	772.46	24.00	0.0661	1.59		774.05	
772.12		-0.18	-0.0605	3.00	94+75.00 R 1	772.30	24.00	0.0605	1.45		773.75	
772.11		-0.18	-0.0600	3.00	94+77.12 R 1	772.29	24.00	0.0600	1.44		773.73	
772.06		-0.17	-0.0580	3.00	94+86.00 R 1	772.23	24.00	0.0580	1.39		773.62	F.S.
771.97		-0.17		3.00	95+00.00 R 1	772.14	24.00	0.0580	1.39		773.53	
771.81		-0.17		3.00	95+25.00 R 1	771.98	24.00	0.0580	1.39		773.37	
771.65		-0.17		3.00	95+50.00 R 1	771.82	24.00	0.0580	1.39		773.21	
771.49		-0.17		3.00	95+75.00 R 1	771.66	24.00	0.0580	1.39		773.05	
771.33		-0.17		3.00	96+00.00 R 1	771.50	24.00	0.0580	1.39		772.89	
771.17		-0.17		3.00	96+25.00 R 1	771.34	24.00	0.0580	1.39		772.73	
770.99		-0.17		3.00	96+50.00 R 1	771.16	24.00	0.0580	1.39		772.55	
770.93		-0.17	-0.0580	3.00	96+56.51 R 1	771.11	24.00	0.0580	1.39		772.50	F.S., C.S.
770.81		-0.15	-0.0544	2.81	96+72.76 R 1	770.96	24.00	0.0544	1.31		772.26	
770.79		-0.15	-0.0539	2.79	96+75.00 R 1	770.94	24.00	0.0539	1.29		772.23	
770.78		-0.15	-0.0537	2.78	96+75.73 R 1	770.93	24.00	0.0537	1.29		772.22	
770.59		-0.12	-0.0491	2.54	96+96.40 R 1	770.71	24.00	0.0491	1.18		771.89	
770.55		-0.12	-0.0483	2.50	97+00.00 R 1	770.67	24.00	0.0483	1.16		771.83	
770.27		-0.09	-0.0427	2.21	97+25.00 R 1	770.37	24.00	0.0427	1.02		771.39	
770.12		-0.08	-0.0400	2.07	97+37.20 R 1	770.20	24.00	0.0400	0.96		771.16	
769.95	186.78 : 1	-0.07	-0.0372	1.92	97+50.00 R 1	770.02	24.00	0.0372	0.89		770.91	
769.58		-0.05	-0.0315	1.63	97+75.00 R 1	769.63	24.00	0.0315	0.76		770.39	
769.19		-0.03	-0.0260	1.34	98+00.00 R 1	769.22	24.00	0.0260	0.62		769.84	
768.98		-0.03	-0.0232	1.20	98+12.68 R 1	769.01	24.00	0.0232	0.56		769.57	
768.79		-0.02	-0.0204	1.06	98+25.00 R 1	768.81	24.00	0.0204	0.49		769.30	
768.47		-0.01	-0.0160	0.83	98+44.79 R 1	768.49	24.00	0.0160	0.38		768.87	
768.39		-0.01	-0.0148	0.77	98+50.00 R 1	768.40	24.00	0.0148	0.36		768.76	
767.98		-0.01	-0.0093	0.48	98+75.00 R 1	767.99	24.00	0.0093	0.22		768.21	
767.58		-0.00	-0.0037	0.19	99+00.00 R 1	767.58	24.00	0.0037	0.09		767.67	
					99+16.51 R 1	767.31	24.00	0.0000	0.00		767.31	S.R.S

SUPERELEVATION TABLE

P.I. STATION 105+18.65 | Dc = 5°30'00"

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
					99+16.51 R 1	767.31	24.00	0.0000	0.00		767.31	S.R.S
					99+25.00 R 1	767.17	24.00	-0.0012	-0.03		767.14	
					99+50.00 R 1	766.76	24.00	-0.0046	-0.11		766.65	
					99+75.00 R 1	766.35	24.00	-0.0081	-0.19		766.16	
					100+00.00 R 1	765.94	24.00	-0.0115	-0.28		765.66	
					100+25.00 R 1	765.53	24.00	-0.0150	-0.36		765.17	
					100+32.37 R 1	765.41	24.00	-0.0160	-0.38		765.03	
					100+50.00 R 1	765.12	40.14	-0.0184	-0.74		764.38	
					100+75.00 R 1	764.71	40.14	-0.0219	-0.88		763.83	
					101+00.00 R 1	764.30	40.14	-0.0253	-1.02	201.15 : 1	763.28	
					101+25.00 R 1	763.89	40.14	-0.0288	-1.16		762.73	
					101+33.75 R 1	763.75	40.14	-0.0300	-1.20		762.54	
					101+50.00 R 1	763.48	40.14	-0.0323	-1.29		762.19	
					101+75.00 R 1	763.07	40.14	-0.0357	-1.43		761.64	
					102+00.00 R 1	762.66	40.14	-0.0391	-1.57		761.09	
					102+06.16 R 1	762.56	40.14	-0.0400	-1.61		760.95	
					102+25.00 R 1	762.25	40.14	-0.0426	-1.71		760.54	
					102+50.00 R 1	761.89	40.14	-0.0460	-1.85		760.04	
					102+75.00 R 1	761.58	40.14	-0.0495	-1.99		759.59	
					103+00.00 R 1	761.34	40.14	-0.0530	-2.13		759.22	
					103+25.00 R 1	761.16	40.14	-0.0564	-2.26		758.90	
					103+36.51 R 1	761.10	0.00	-0.0580	-2.33		758.77	F.S., S.C.
					103+50.00 R 1	761.05	0.00		-2.33		758.72	
					103+75.00 R 1	760.99	0.00		-2.33		758.66	
					104+00.00 R 1	761.00	0.00		-2.33		758.67	
					104+25.00 R 1	761.08	0.00		-2.33		758.75	
					104+50.00 R 1	761.21	0.00		-2.33		758.88	
					104+75.00 R 1	761.41	0.00		-2.33		759.08	
					105+00.00 R 1	761.65	0.00		-2.33		759.32	
					105+25.00 R 1	761.89	0.00		-2.33		759.56	
					105+50.00 R 1	762.11	0.00		-2.33		759.78	
					105+75.00 R 1	762.28	0.00		-2.33		759.95	
					106+00.00 R 1	762.40	0.00		-2.33		760.07	
					106+25.00 R 1	762.47	0.00		-2.33		760.14	
					106+27.29 R 1	762.47	0.00		-2.33		760.14	
					106+50.00 R 1	762.49	0.00		-2.33		760.16	
					106+52.96 R 1	762.49	0.00		-2.33		760.16	
					106+75.00 R 1	762.46	0.00		-2.33		760.13	
					107+00.00 R 1	762.41	0.00		-2.33		760.08	
					107+02.95 R 1	762.40	0.00		-2.33		760.07	
					107+25.00 R 1	762.36	0.00		-2.33		760.03	
					107+25.90 R 1	762.35	0.00	-0.0580	-2.33		760.02	F.S., C.S.
					107+50.00 R 1	762.30	39.81	-0.0547	-2.18		760.12	
					107+75.00 R 1	762.24	39.48	-0.0514	-2.03		760.21	
					108+00.00 R 1	762.17	39.14	-0.0480	-1.88		760.29	
					108+25.00 R 1	762.09	38.81	-0.0446	-1.73		760.36	
					108+50.00 R 1	762.00	38.48	-0.0412	-1.58		760.42	
					108+58.76 R 1	761.97	38.36	-0.0400	-1.53	205.03 : 1	760.44	
					108+75.00 R 1	761.91	38.14	-0.0378	-1.44		760.47	
					109+00.00 R 1	761.82	37.81	-0.0344	-1.30		760.51	
					109+25.00 R 1	761.72	37.48	-0.0310	-1.16		760.55	
					109+50.00 R 1	761.61	37.14	-0.0278	-1.02		760.59	
					109+75.00 R 1	761.51	36.81	-0.0242	-0.89		760.61	
					110+00.00 R 1	761.40	36.48	-0.0209	-0.76		760.64	
					110+25.00 R 1	761.29	36.15	-0.0175	-0.63		760.66	
					110+35.90 R 1	761.24	36.00	-0.0160	-0.58		760.66	S.T.

CALCULATED RAT | CHECKED ZSS

SUPERELEVATION TABLE
RAMP 315A

FRA-315-11.37

148
163

CURVE 3

P.I. STA. 105+18.65
Δ = 41° 29′ 29″ (RT)
Dc = 5° 30′ 00″
R = 1,041.74′
Ls1 = 420.00′
θ s1 = 11° 33′ 00″
LT1 = 280.60′
ST1 = 140.54′
x1 = 418.30′
y1 = 28.14′
k1 = 209.72′
p1 = 7.05′
Ls2 = 310.00′
θ s2 = 8° 31′ 30″
LT2 = 206.91′
ST2 = 103.55′
x2 = 309.31′
y2 = 15.35′
k2 = 154.89′
p2 = 3.84′
Δ c = 21° 24′ 59″ (RT)
Lc = 389.39′
T1 = 602.14′
T2 = 555.77′
Es = 78.06′
eMax = 0.058

℄ STA. 131+65.32, S.R. 315 =
℄ STA. 231+48.43, WILSON BRIDGE ROAD

STA. 135+57.63, 29.41′ LT.; ℄ S.R. 315 =
STA. 107+06.95, 24′ LT.; ℄ RAMP 315A

℄ S.R. 315

EX. CONCRETE MEDIAN BARRIER

N 7° 42′ 33.45″ E

PT Sta. 130+58.86

℄ RAMP 315A

CURVE 3

CS Sta. 107+25.90

ST Sta. 110+35.90

STA. 107+02.96, 0.00′ LT.; ℄ RAMP 315A
STA. 135+57.63, 29.41′ LT; ℄ S.R. 315

STA. 132+25.67, 34.41′ LT.; ℄ S.R. 315 =
STA. 110+35.90, ℄ RAMP 315A

STA. 130+75.67, 31.41′ LT.; ℄ S.R. 315

℄ WILSON BRIDGE ROAD

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RAT
CHECKED ZSS

PAVEMENT DETAILS
RAMP 315A AND S.R. 315

FRA-315-11.37

149
163

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STA. 96+72.76, 24.00' RT.; ℄ RAMP 315A

STA. 98+12.68, 24.00' RT.; ℄ RAMP 315A

℄ RAMP 315A

SRS Sta. 99+16.51

770.93 771.17 4' 770.98 770.75CS Sta. 96+56.51 770.59 770.81 770.79 770.57 770.36 770.55 770.10 770.27 769.79 769.95 769.42 769.58 769.03 769.19 768.81 768.98 768.63 768.79 768.23 768.39

24' 97 98 99

772.73 772.61 772.55 772.43 10' 772.26 772.23 771.83 771.39 770.91 770.39 25.20' 769.84 4' 769.57 4'

19' 772.11

772.59 772.52 772.46 772.10 771.97 771.77 771.42 771.03 770.59 770.10 16' 769.59 769.48

℄ RAMP 315C

POT Sta. 852+33.11

16' 850 851 852

772.26 772.02 6' 771.84 771.60 771.71 771.47 771.52 771.28 771.17 770.93 770.78 770.54 770.33 770.09 769.84 769.60 S 35° 24' 47" E 769.32 769.08 769.23 768.99 768.80 768.55 768.28 767.96 12'

ST Sta. 849+77.77

STA. 849+84.20, 16.00' LT.; ℄ RAMP 315C

STA. 851+29.21, 16.00' LT.; ℄ RAMP 315C

+29.80
BEGIN SHOULDER TAPER

+16.51
END SHOULDER TAPER

STA. 852+33.11, 0.00' LT.; ℄ RAMP 315C
STA. 99+16.51, 40.14' RT; ℄ RAMP 315A

CALCULATED RAT | CHECKED ZSS

0 5 10 20
HORIZONTAL SCALE IN FEET

PAVEMENT DETAILS
RAMP 315A AND RAMP 315C

FRA-315-11.37

150
163

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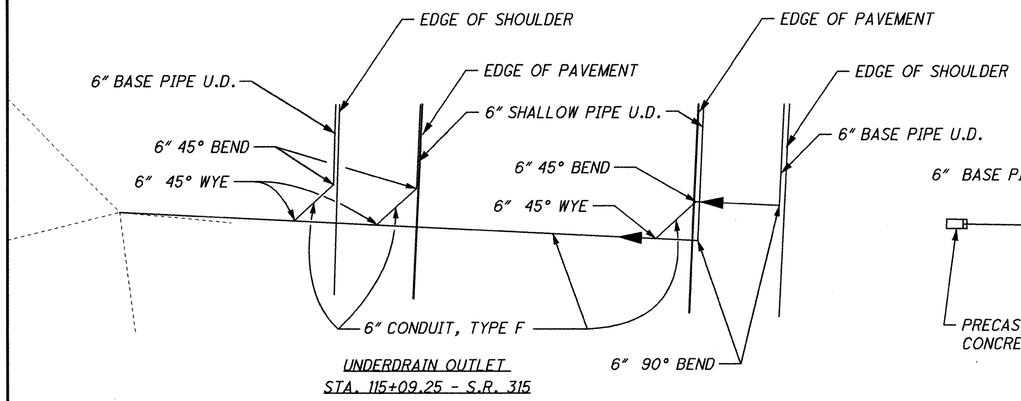
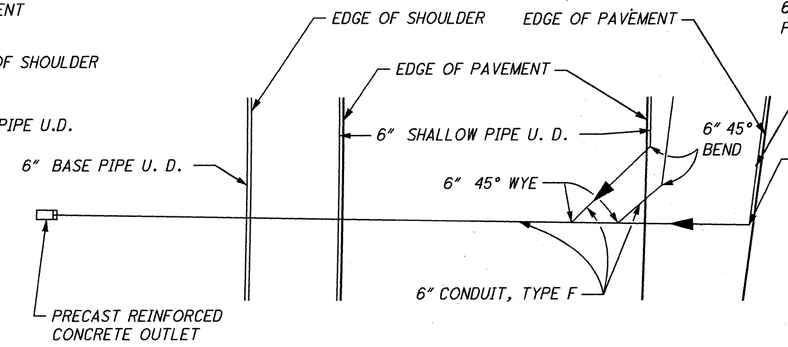
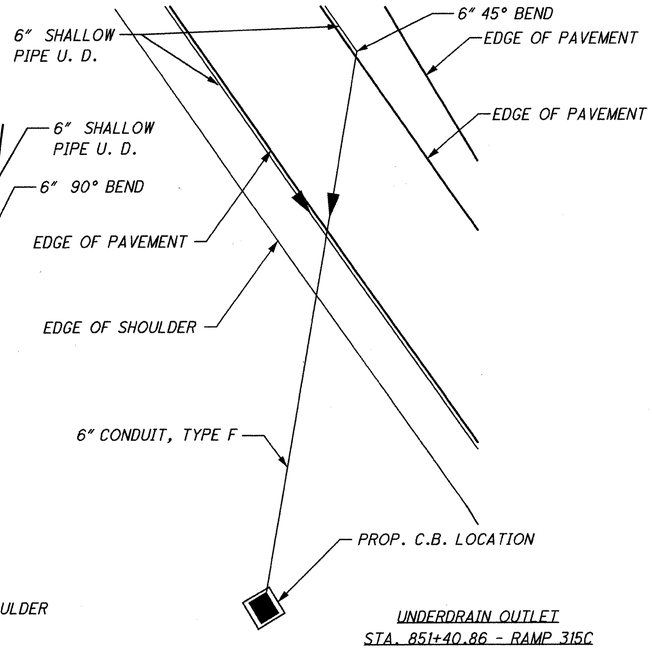


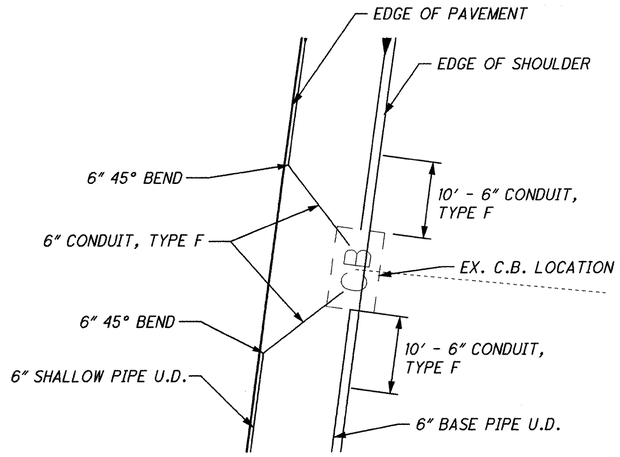
UNDERDRAIN OUTLET
STA. 115+09.25 - S.R. 315



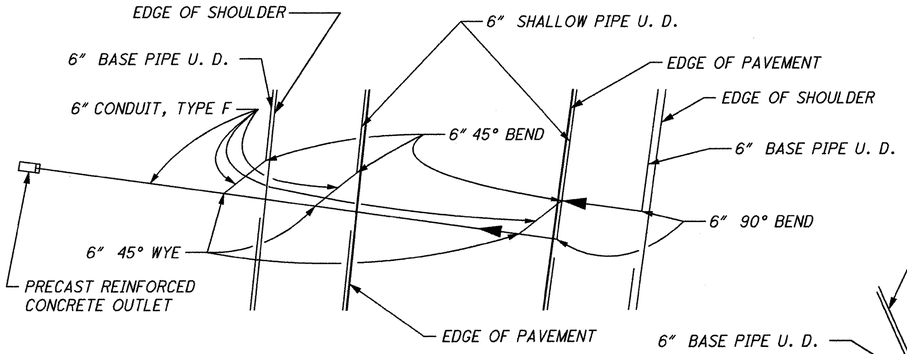
UNDERDRAIN OUTLET
STA. 107+77.38 - RAMP 315A



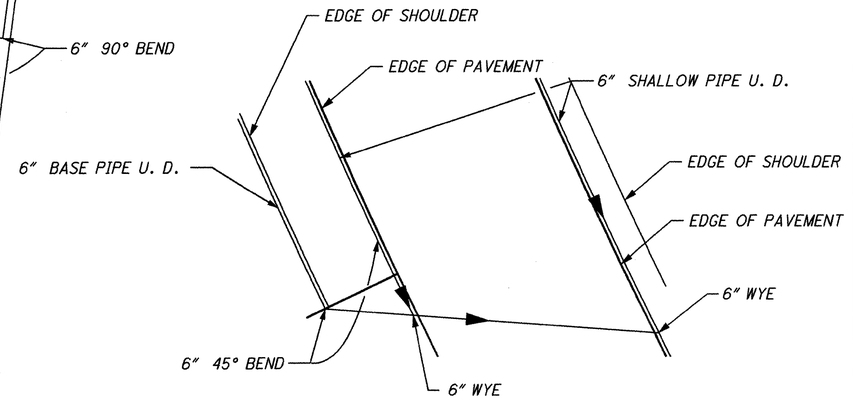
UNDERDRAIN OUTLET
STA. 851+40.86 - RAMP 315C



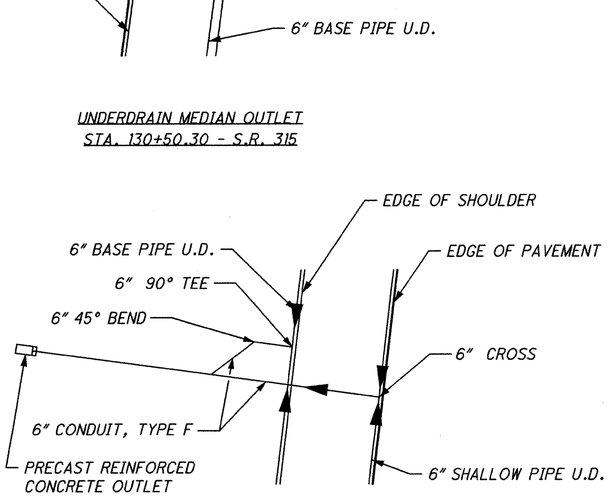
UNDERDRAIN MEDIAN OUTLET
STA. 130+50.30 - S.R. 315



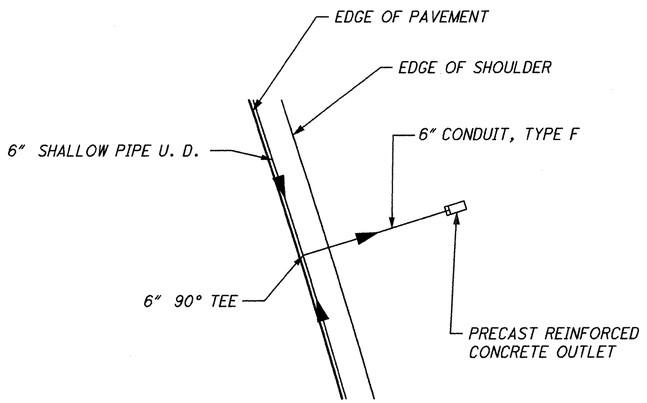
UNDERDRAIN OUTLET
STA. 139+00.00 - S.R. 315



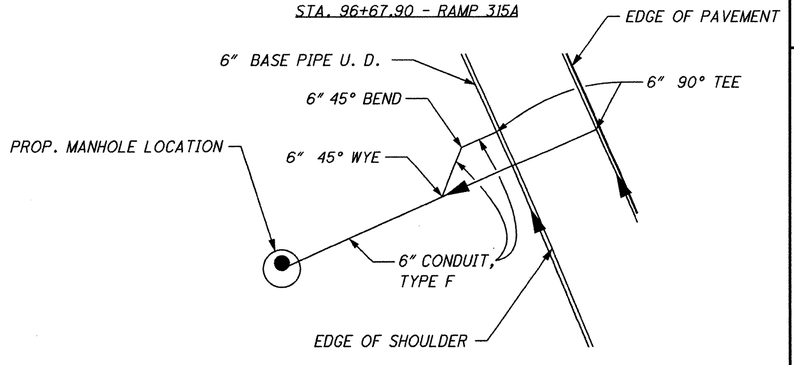
UNDERDRAIN DETAIL
STA. 96+67.90 - RAMP 315A



UNDERDRAIN OUTLET
STA. 131+00.00 - S.R. 315



UNDERDRAIN OUTLET
STA. 104+26.40 - RAMP 315A



UNDERDRAIN OUTLET
STA. 103+07.41 - RAMP 315A

CALCULATED RAT
CHECKED ZSS

UNDERDRAIN OUTLET DETAILS

FRA-315-11.37

152
163

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SIGNING LEGEND

= NEW

= EXISTING TO BE REMOVED

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED AND RE-ERECTED

NOTE:
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 83 & 83A
FOR SIGN QUANTITIES, SEE SHEET 84.

LEGEND

- EL-1 - EDGE LINE, YELLOW
- EL-2 - EDGE LINE, WHITE
- LL-1 - LANE LINE
- RPM - RPM

N

0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED BLM
CHECKED BLM

SIGNING & PAVEMENT MARKING PLAN S.R. 315
STA. 105+70 TO STA. 112+50

FRA-315-11.37

155
163

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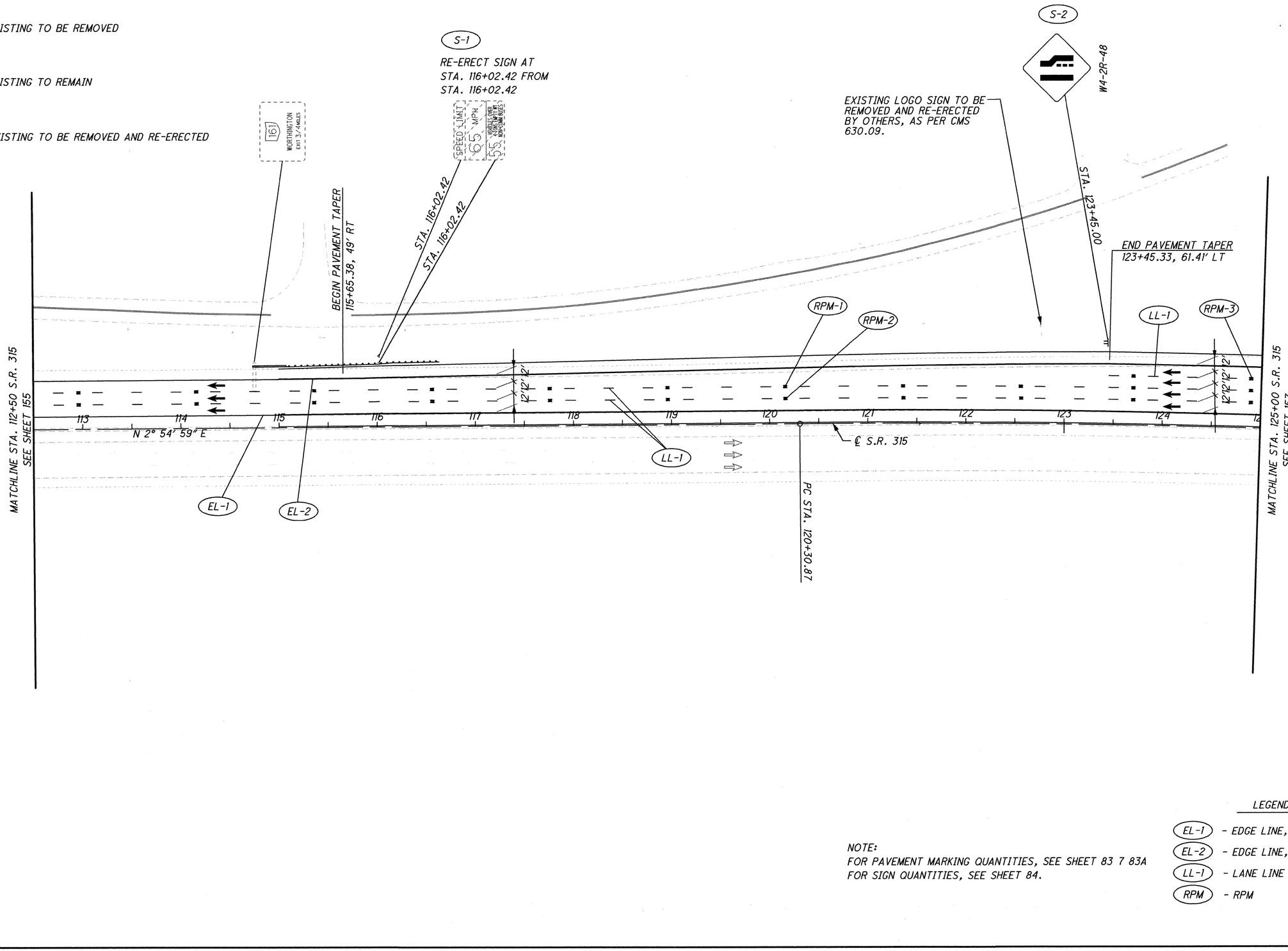
SIGNING LEGEND

= NEW

= EXISTING TO BE REMOVED

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED AND RE-ERECTED



NOTE:
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 83 7 83A
FOR SIGN QUANTITIES, SEE SHEET 84.

LEGEND

- EL-1 - EDGE LINE, YELLOW
- EL-2 - EDGE LINE, WHITE
- LL-1 - LANE LINE
- RPM - RPM

N

0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED BLM CHECKED ZSS

SIGNING & PAVEMENT MARKING PLAN S.R. 315
STA. 112+50 TO STA. 125+00

FRA-315-11.37

156
163

SIGNING LEGEND

= NEW

= EXISTING TO BE REMOVED

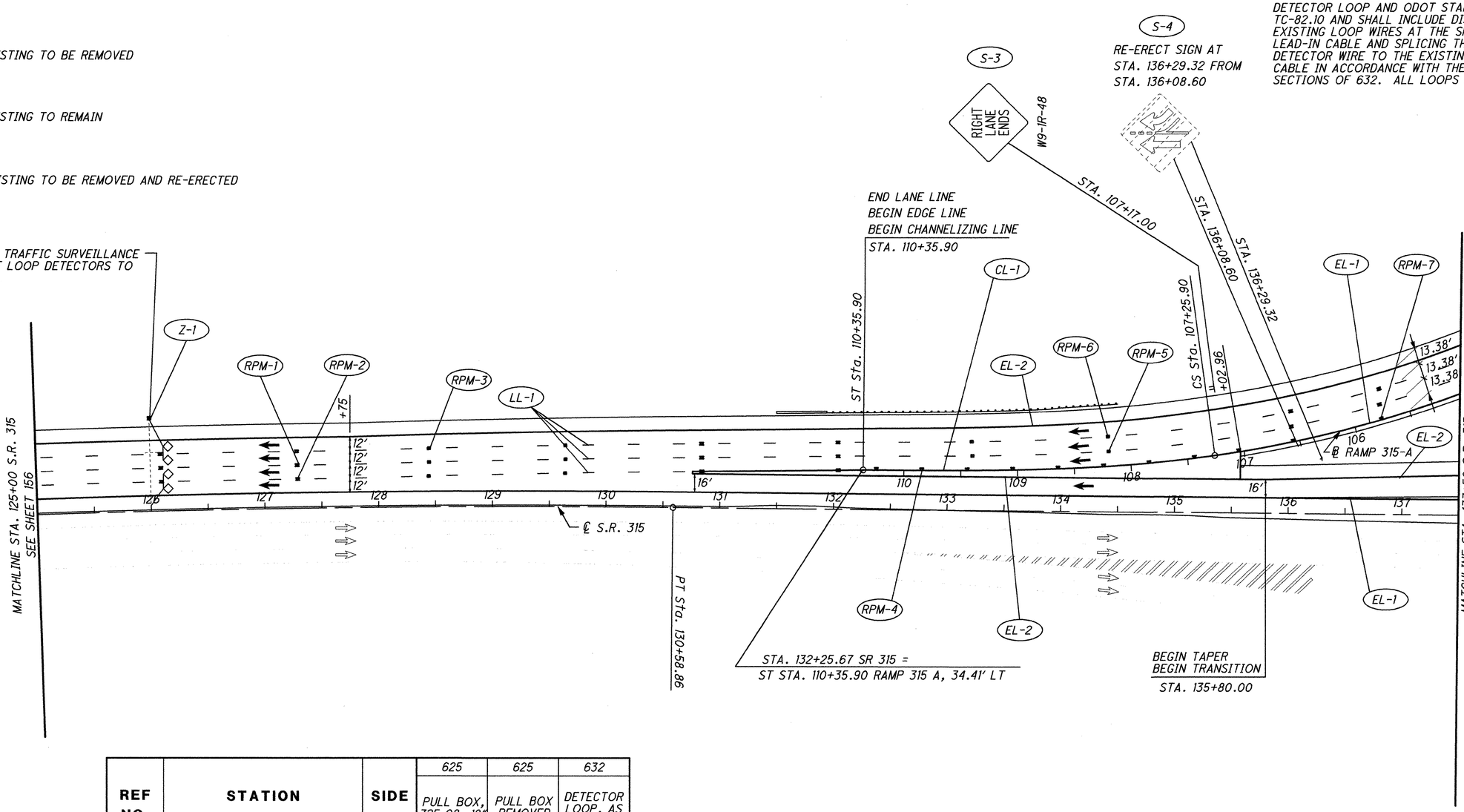
= EXISTING TO REMAIN

= EXISTING TO BE REMOVED AND RE-ERECTED

DETECTOR LOOP, AS PER PLAN

THIS ITEM SHALL BE COMPLETED IN ACCORDANCE WITH ALL REQUIREMENTS OF ITEM 632- DETECTOR LOOP AND ODOT STANDARD DRAWING TC-82.10 AND SHALL INCLUDE DISCONNECTING EXISTING LOOP WIRES AT THE SPLICES TO THE LEAD-IN CABLE AND SPLICING THE LOOP DETECTOR WIRE TO THE EXISTING OR LEAD-IN CABLE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF 632. ALL LOOPS SHALL BE 6'X 6'.

INSTALL FOUR (4) TRAFFIC SURVEILLANCE LOOPS. CONNECT LOOP DETECTORS TO EXISTING SYSTEM.



REF NO.	STATION		SIDE	625	625	632
	FROM	TO		PULL BOX, 725.08, 18"	PULL BOX REMOVED	DETECTOR LOOP, AS PER PLAN
				EACH	EACH	EACH
Z-1	126+00	126+00	LT	1	1	4
TOTALS CARRIED TO GENERAL SUMMARY				1	1	4

NOTE:
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 83 & 83A
FOR SIGN QUANTITIES, SEE SHEET 84.

LEGEND

- CL-1 - CHANNELIZING LINE
- EL-1 - EDGE LINE, YELLOW
- EL-2 - EDGE LINE, WHITE
- LL-1 - LANE LINE
- RPM - RPM

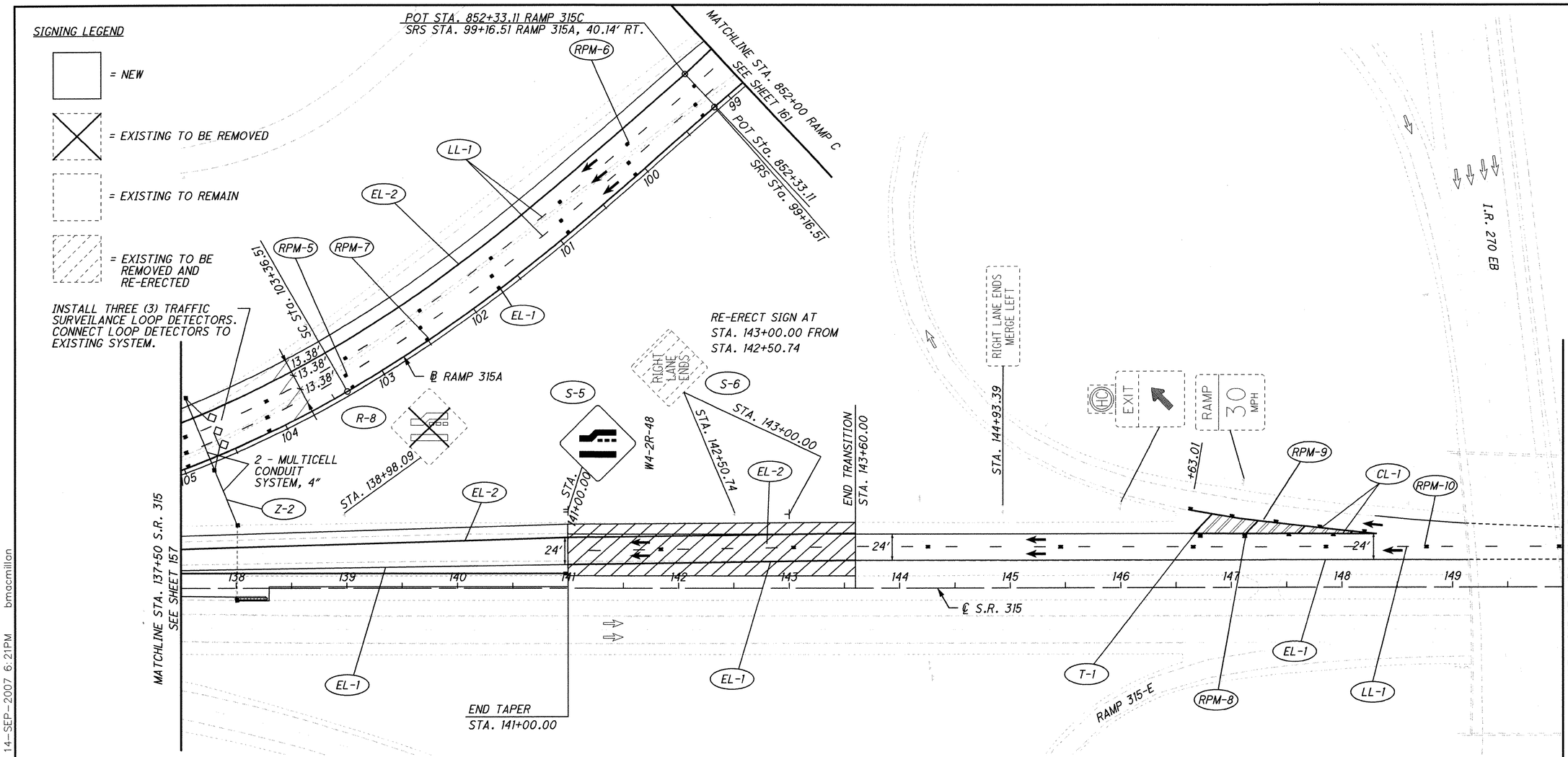
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED BLM CHECKED ZSS

SIGNING & PAVEMENT MARKING PLAN S.R. 315
STA. 125+00 TO STA. 137+50

FRA-315-11.37

157/163



REF NO.	STATION FROM	STATION TO	SIDE	625 PULL BOX, 725.08, 18" EACH	625 PULL BOX REMOVED EACH	625 CONDUIT, MISC. MULTICELL CONDUIT SYSTEM, 4" FOOT	632 DETECTOR LOOP, AS PER PLAN EACH
Z-2	138+00	138+00	LT	3	3	250	3
TOTALS CARRIED TO GENERAL SUMMARY				3	3	250	3

ITEM 625: CONDUIT, MISC.: MULTICELL CONDUIT SYSTEM, 4"

THE FIBER OPTIC CONDUIT SHALL CONSIST OF A FACTORY ASSEMBLED SYSTEM OF FOUR (4) INNERDUCTS ASSEMBLED WITHIN A PROTECTIVE OUTERDUCT. THE OUTERDUCT SHALL BE A NORMAL 4" PVC, TYPE C TELEPHONE DUCT. VEETING BELLCORE CAO-8546 SPECIFICATIONS, AND FURTHER DEFINED AS FOLLOWS:

4.350" AVERAGE OUTSIDE DIAMETER
0.063" MININUM WALL THICKNESS

THE COUPLING SHALL BE DESIGNED IN A MANNER TO PERMIT EASY FIELD ASSEMBLY. THE COUPLING SHALL BE MARKED OR KEYED IN A MANNER TO ENSURE THE INNERDUCTS ARE PROPERLY ALIGNED, ANY COLOR CODES ARE CONTINUED AND THE ADJOINING SECTION IS INSERTED TO THE PROPER DEPTH IN THE BELL. ALL KEYS AND/ OR MARKINGS SHALL BE VISIBLE AFTER ASSEMBLY, TO ALLOW THE INSPECTION OF EACH JOINT FOR PROPER ASSEMBLY BEFORE BURIAL. THE SEALING SYSTEM SHALL BE DESIGNED TO ASSURE AIR INTEGRITY OF EACH INDIVIDUAL INNERDUCT AND WATER INTEGRITY OF THE ENTIRE SYSTEM.

THE INNERDUCTS SHALL BE PRE-LUBRICATED AT THE FACTORY WITH A MATERIAL THAT WILL PROVIDE A LOW COEFFICIENT OF FRICTION BETWEEN THE CABLE AND THE INSIDE WALL WITHOUT THE ADDITION OF PULLING SOAP OR OTHER LUBRICANT.

WHERE A MULTICELL DUCT IS TO REMAIN EMPTY, A ¼" NYLON PULL ROPE SHALL BE INSTALLED IN A UNIQUE COLORED INNERDUCT CHOSEN BY THE ENGINEER. THE ROPE WILL REMAIN TO BE USED FOR A FUTURE CABLE INSTALLATION.

NOTE:
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 83 & 83A
FOR SIGN QUANTITIES, SEE SHEET 84.

- OVERLAY SECTION

LEGEND

- CL-1 - CHANNELIZING LINE
- EL-1 - EDGE LINE, YELLOW
- EL-2 - EDGE LINE, WHITE
- LL-1 - LANE LINE
- T-1 - TRANSVERSE LINE, WHITE
- RPM - RPM

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BLM
CHECKED ZSS

SIGNING & PAVEMENT MARKING PLAN S.R. 315
STA. 137+50 TO STA. 150+00

FRA-315-11.37

158
163

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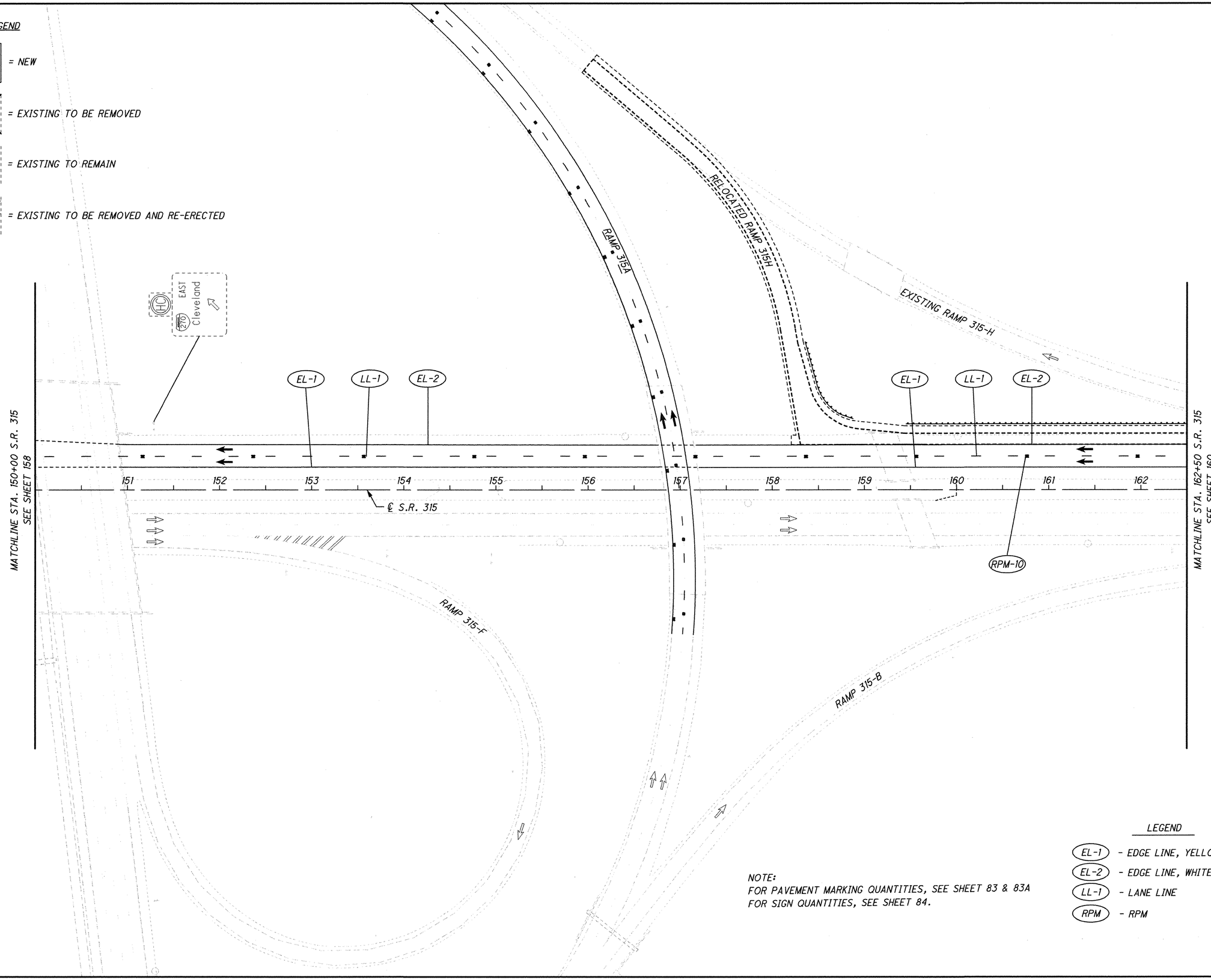
SIGNING LEGEND

= NEW

= EXISTING TO BE REMOVED

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED AND RE-ERECTED



NOTE:
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 83 & 83A
FOR SIGN QUANTITIES, SEE SHEET 84.

LEGEND

EL-1 - EDGE LINE, YELLOW
EL-2 - EDGE LINE, WHITE
LL-1 - LANE LINE
RPM - RPM

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED BLM
CHECKED ZSS

SIGNING & PAVEMENT MARKING PLAN S.R. 315
STA. 150+00 TO STA. 162+50

FRA-315-11.37

159
163

SIGNING LEGEND
= NEW
= EXISTING TO BE REMOVED
= EXISTING TO REMAIN
= EXISTING TO BE REMOVED AND RE-ERECTED
RELOCATED HARD ROAD
EXIT
WEST
270
Dayton
THRU HAZARDOUS
CARGO CARRIERS
MUST USE 270
COLUMBUS BY-PASS
SPEED LIMIT 65
55
SOUTH
315
EL-2
RPM-10
EL-1
LL-1
PC Sta. 166+32.88
+88.73
END PAVEMENT MARKINGS
MATCHLINE STA. 162+50 S.R. 315
SEE SHEET 159
163
164
165
166
167
168
169
170
171
172
173
174
175
176
℄ S.R. 315

NOTE:
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 83 & 83A
FOR SIGN QUANTITIES, SEE SHEET 84.

LEGEND

- EL-1 - EDGE LINE, YELLOW
- EL-2 - EDGE LINE, WHITE
- LL-1 - LANE LINE
- CL-1 - CHANNELIZING LINE
- RPM - RPM

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED BLM
CHECKED ZSS

SIGNING & PAVEMENT MARKING PLAN S.R. 315
STA. 162+50 TO STA. 166+89

FRA-315-11.37

SIGNING LEGEND

= NEW

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED

= EXISTING TO BE REMOVED AND RE-ERECTED

MATCHLINE STA. 852+00 RAMP 315-C
SEE SHEET 158

STA. 851+83.20

+29.21

RPM-6

CL-1

RPM-11

+84.21

ST Sta. 849+77.77

EL-2

CS Sta. 848+27.77
END TRANSITION

R-5

R-4

S-8

RE-ERECT SIGN AT
STA. 851+83.20 FROM
STA. 851+83.20

S-11

W4-6-48

STA. 846+60.00

BEGIN TRANSITION
Sta. 846+20

R-8

S-7

RE-ERECT SIGN AT
STA. 845+40.04 FROM
STA. 845+40.04

STA. 845+40.04

R-2

SC Sta. 842+05.55

STA. 843+01.11

℄ RAMP 315-C

EXIT 24

CS Sta. 841+55.55

R-1

EXIT 45 MPH

STA. 839+57.10

STA. 840+19.39

EL-2

CL-1

837

838

839

840

841

842

843

844

845

846

847

848

849

850

851

S 35° 24' 47" E

+12.84

98

97

96

95

94

93

92

91

16'

13.5'

13.5'

RAMP 315C

EL-2

EL-1

RPM-12

W4-3R-48

S-10

R-7

LL-1

STA. 93+79.69

CS Sta. 96+56.61

℄ RAMP 315 A

EL-2

EL-1

END TRANSITION
STA. 93+75

BEGIN TRANSITION
BEGIN PAVEMENT MARKING
STA. 92+50

RPM-5

12'

12'

EL-1

RPM-7

RAMP 315A

I.R. 270 EASTBOUND

I.R. 270 WESTBOUND

RAMP 315H

R-6

STA. 90+61.18

S-9

W4-3R-48

MATCHLINE STA. 90+00 RAMP 315 A
SEE SHEET 162

LEGEND

- EL-1 - EDGE LINE, YELLOW
- EL-2 - EDGE LINE, WHITE
- LL-1 - LANE LINE
- CL-1 - CHANNELIZING LINE
- RPM - RPM

NOTE:
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 83 & 83A
FOR SIGN QUANTITIES, SEE SHEET 84.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED RAT
CHECKED ZSS

SIGNING & PAVEMENT MARKING PLAN
RAMP 315A & 315C

FRA-315-11.37

161
163

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SIGNING LEGEND

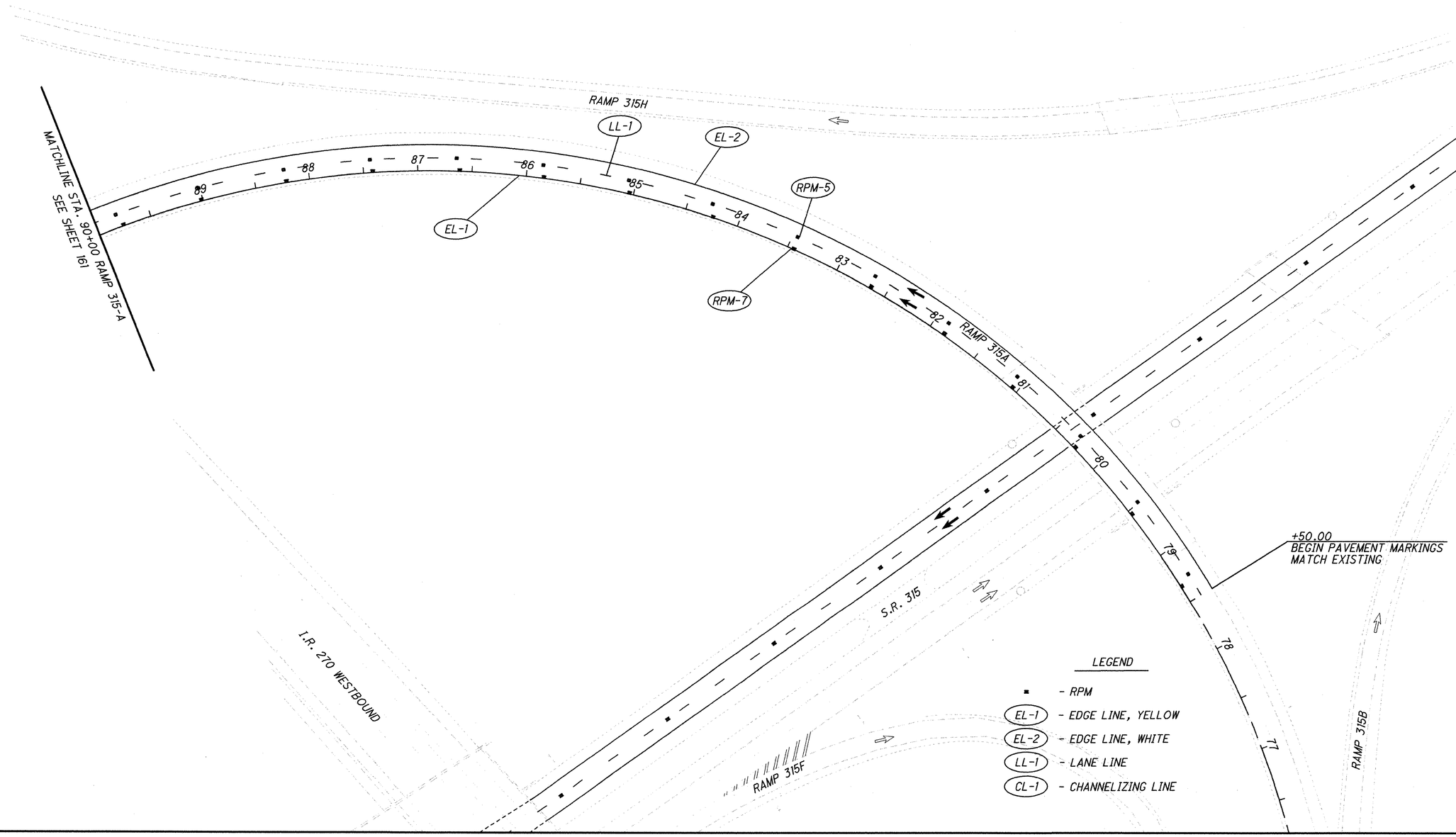
= NEW

= EXISTING TO BE REMOVED

= EXISTING TO REMAIN

= EXISTING TO BE REMOVED AND RE-ERECTED

NOTE:
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 83 & 83A
FOR SIGN QUANTITIES, SEE SHEET 84.



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED RAT
CHECKED ZSS

SIGNING & PAVEMENT MARKING PLAN
RAMP 315A-STA. 90+00 TO STA. 83+50

FRA-315-11.37

162
163

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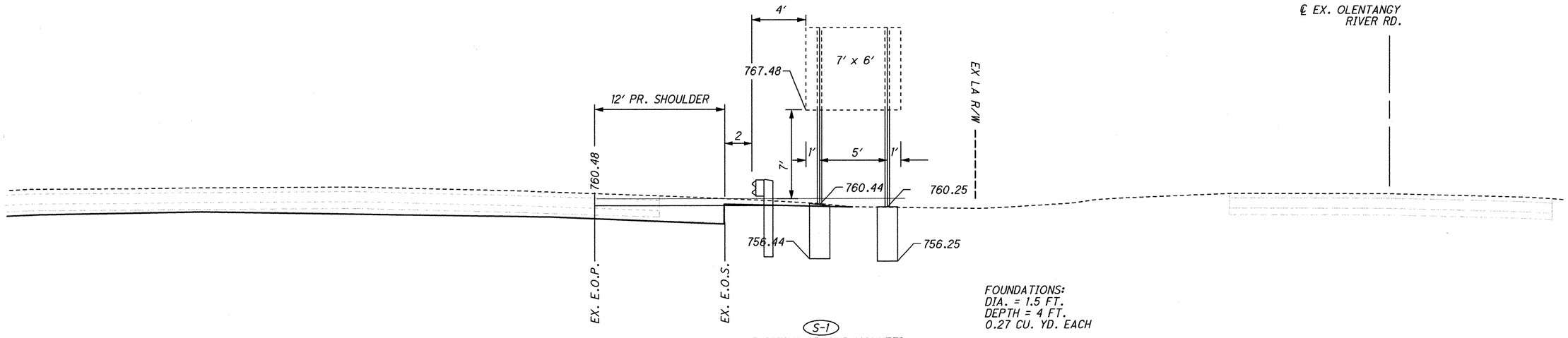

FOUNDATIONS:
DIA. = 1.5 FT.
DEPTH = 4 FT.
0.27 CU. YD. EACH

S-1

EXISTING GROUND MOUNTED
SIGN WITH NEW TWO BEAM
INSTALLATION S4 x 7.7, WITH
BREAKAWAY BEAM CONNECTION, RE-ERECTED
ON NEW FOUNDATION TC-41.10
STA. 116+02, 70.0' LT., S.R. 315
BEAM 1 - 14.9'
BEAM 2 - 15.1'

CALCULATED JMW
CHECKED RAW

SIGN DETAIL

FRA-315-11.37

163
163

GENERAL INFORMATION

INTRODUCTION

THE PROJECT INDENTIFIED AS FRA-270-21.63, INVOLVES THE RECONSTRUCTION OF INTERCHANGES ALONG INTERSTATE 270 AT STATE ROUTE 315 AND US ROUTE 23 IN FRANKLIN COUNTY, OHIO. INTERCHANGE RAMPS AND ROADWAYS ARE TO BE CONSTRUCTED AS A PART OF THE PROJECT.

SITE GEOLOGY

THE PROJECT SITE LIES ON THE GLACIATED ROLLING MISSISSIPPI RIVER VALLEY PLAIN. THE AREA WAS GLACIATED BY BOTH THE ILLINOIAN AND WISCONSIN ICE SHEETS. THE OLENTANGY RIVER FLOWS WITHIN THE LIMITS OF AN ANCIENT BURIED VALLEY IN THE WESTERN PORTION OF THE PROJECT. SOILS WITH THE BURIED VALLEY CONSIST MOSTLY OF SAND AND GRAVEL, WITH LAYERS OF GLACIAL TILL, COBBLES AND BOULDERS FROM THE WISCONSIN ICE SHEET. THE DEPTH TO BEDROCK WITHIN THE BURIED VALLEY IS IN EXCESS OF 80 FEET.

BEYOND THE LIMITS OF THE ANCIENT BURIED VALLEY, THE SUBSURFACE CONDITIONS ARE CONSIDERABLY DIFFERENT. NEAR SURFACE SOILS WILL RANGE FROM RECENT SILTY CLAYS OVER GLACIAL TILLS. THE DEPTH TO BEDROCK IN MOST AREAS WILL BE LESS THAN 15 FEET. EXPOSED SHALE BEDROCK CAN BE SEEN IN THE CUT SLOPES NORTH AND SOUTH OF I-270.

THE BEDROCK BELOW THE SITE CONSISTS OF RELATIVELY HARD, OHIO SHALE OVER LIMESTONE OF THE COLUMBUS OR DELAWARE FORMATION.

EXPLORATION

THE BORING EXPLORATION PROGRAM FOR THE PROJECT INCLUDED STRUCTURE BORINGS FOR THE BRIDGES AND RETAINING WALLS, ROADWAY BORINGS, AND TRENCH BORINGS FOR THE EAST AND WEST RETAINING WALLS IN THE US 23 TRENCH. A SUMMARY OF THE BORINGS USED FOR THIS REPORT IS AS FOLLOWS:

BORING TYPE	NUMBER	RANGE OF BORING DEPTHS (FEET)
BRIDGE BORINGS	75	15 TO 95
RETAINING WALL BORINGS	16	13 TO 75
ROADWAY BORINGS	229	1.5 TO 74
US 23 TRENCH	43	10.6 TO 61

THE BRIDGE, RETAINING WALL, AND ROADWAY BORINGS WERE COMPLETED FROM AUGUST 2004 THROUGH NOVEMBER 2005. THE US 23 TRENCH BORINGS WERE COMPLETED BETWEEN JUNE 5 AND AUGUST 12, 2004. THE NUMBER AND LOCATIONS OF THE MAJORITY OF THE BORINGS WERE SELECTED BY CTL. AN IN-SITU GEOTECHNICAL TESTING PROGRAM WAS CONDUCTED AND COMPRISED OF ADVANCING 15 OF THE US 23 TRENCH BOREHOLES, WHICH WERE SELECTED BY HNTB CORPORATION.

BORINGS WERE ADVANCED USING CONTINUOUS-FLIGHT HOLLOW-STEM AUGERS. SOIL SAMPLING WAS PERFORMED AT 2.5-FOOT OR 5-FOOT INTERVALS TO THE TERMINATION DEPTH OR REFUSAL, WHICHEVER OCCURRED FIRST. DISTURBED SOIL SAMPLES WERE OBTAINED USING A SPLIT-BARREL SAMPLER DRIVEN DURING STANDARD PENETRATION TESTS (SPT) IN GENERAL ACCORDANCE WITH ASTM D1586, STANDARD METHOD OF PENETRATION TEST AND SPLIT BARREL SAMPLING OF SOILS. A 2-INCH OUTSIDE DIAMETER, 1-3/8" INSIDE DIAMETER SPLIT SPOON SAMPLER WAS DRIVEN INTO THE SOIL FOR A DISTANCE OF 18 INCHES BY MEANS OF 140-LB HAMMER WITH A FREE FALL OF 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLING DEVICE THE LAST 12 INCHES IS CONSIDERED THE STANDARD PENETRATION TEST N - VALUE OR BLOWCOUNT. IF THE SAMPLER ENCOUNTERED HARD DRIVING, THE SAMPLING PROCESS MAY HAVE BEEN TERMINATED AND THE NUMBER OF BLOWS FOR A GIVEN DISTANCE OF SAMPLER PENETRATION NOTED.

IN ADDITION TO SPLIT-BARREL SAMPLES, 3-INCH DIAMETER SHELBY TUBE SAMPLES WERE OBTAINED FROM THE BORINGS ON COHESIVE (PLASTIC) SOIL SAMPLES. THE TUBES WERE PUSHED IN GENERAL ACCORDANCE WITH ASTM D1587 PROCEDURES.

IF ROCK CORING WAS PERFORMED, CORES WERE OBTAINED AT 5-FOOT INTERVALS BY MEANS OF A MECHANICALLY-POWERED ROTARY-TYPE DRILLING MACHINE, EMPLOYING AN NQ CORE BARREL WITH AN INDUSTRIAL DIAMOND CUTTING HEAD. OF THE BOREHOLES DRILLED FOR THE PRESSUREMETER AND CROSS-HOLE TESTING, ATV-MOUNTED OR TRUCK-MOUNTED DRILL RIGS WERE USED TO ADVANCE A MECHANICALLY-POWERED TRI-CONE ROTARY-TYPE DRILL BIT.

INVESTIGATION FINDINGS AND OBSERVATIONS

ROADWAY I-270

THE MAJORITY OF THE BORINGS ALONG THE PROPOSED ALIGNMENT INDICATED PAVEMENT OR TOPSOIL OVER SAND AND GRAVELS, SILTY SANDS, AND SANDY SILTS IN THE TOP 3.5 TO 5.0 FEET BELOW PAVEMENT GRADE. THE PAVEMENT CONSISTED OF 8 TO 14 INCHES OF ASPHALT OVER 4 TO 6 INCHES OF BASE COURSE FOR A TOTAL OF 12 TO 20 INCHES OF PAVEMENT MATERIALS. TOPSOIL WAS NOTED AS 6 INCHES IN DEPTH. THE GRANULAR MATERIALS BELOW THE PAVEMENT / TOPSOIL WERE BROWN AND MEDIUM; CONTAINED COBBLES; AND WERE CLASSIFIED ACCORDING TO ODOT AS A-1 AND A-4A MATERIALS. SILTY CLAY AND CLAYEY SILT MATERIALS CLASSIFIED AS A-4A AND A-6B, WHERE ENCOUNTERED, WERE NOTED UNDERLYING THE GRANULAR MATERIALS. THE TOP OF THE COHESIVE LAYER WAS NOTED FROM 3.5 TO GREATER THAN 10 FEET BELOW GRADE. THE COHESIVE MATERIALS WERE BROWN TO GRAY AND CONTAINED SHALE FRAGMENTS.

WATER LEVELS RECORDED AFTER BORING COMPLETION WERE DRY IN ALL BORINGS EXCEPT RA-301, WHICH INDICATED WATER AT 890.6 FEET, MSL OR 10 FEET BELOW THE TOP OF THE BORING.

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C.N.	MP	02/21/06	CHECKED

SOIL PROFILE

FRA-270-21.63

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US 23 NORTHBOUND TRENCH LANES

THE PAVEMENT CONSISTED OF 9 TO 32 INCHES OF EITHER ASPHALT OR ASPHALT UNDERLAIN BY CONCRETE OVER 5 TO 18 INCHES OF BASE COURSE. BELOW THE PAVEMENT, THE PREDOMINANT SOIL OVERBURDEN CONSISTED OF SILTY CLAY / CLAY / CLAYEY SILT WITH A FEW INTERBEDDED LAYERS OF SANDY SILT / SILTY SAND. THE BROWN AND GRAY SILTY CLAY / CLAY / CLAYEY SILT WAS GENERALLY MEDIUM STIFF TO STIFF BUT WAS NOTED AS VERY STIFF TO HARD AT GREATER DEPTHS TYPICALLY NORTH OF STATION 113+00. COBBLES AND BOULDERS WERE NOTED IN MORE THAN A FEW BORINGS AT GREATER DEPTHS BEYOND STATION 113+00. THIS COHESIVE LAYER APPEARED TO BE MOIST, AS THE MAJORITY OF MOISTURE CONTENTS WERE BELOW OR JUST ABOVE THE PLASTIC LIMIT.

THE MEDIUM DENSE SANDY SILT AND SILTY SAND LAYERS WERE NOTED IN A FEW LOCATIONS. THIS COHESIONLESS LAYER WAS GENERALLY DESCRIBED AS BROWN TO BROWN AND GRAY AND CONTAINED SHALE FRAGMENTS. THE MOISTURE OF THE SILT / SAND APPEARED TO BE MOIST TO SATURATED BASED ON LABORATORY MOISTURE CONTENTS.

BETWEEN STATIONS 82+00 AND 117+00, THE THICKNESS OF SOIL OVERBURDEN RANGED FROM ABOUT 0 TO GREATER THAN 54 FEET. THE ELEVATION AT THE BOTTOM OF THE SOIL OVERBURDEN (OR BASE ELEVATION) RANGED APPROXIMATELY BETWEEN 813 AND 903 FEET, MSL. THE THINNEST DEPOSITS (LESS THAN 3 FEET THICK) WERE NOTED GENERALLY BETWEEN STATIONS 96+50 AND 108+50 WITH BASE ELEVATIONS RANGING BETWEEN 881 AND 903 FEET, MSL. THE THICKER DEPOSITS (GREATER THAN 20 FEET THICK) WERE NOTED AT STATIONS GREATER THAN 113+50 WITH BASE ELEVATIONS BELOW 841 FEET, MSL.

BELOW THE BASE SOIL ELEVATION, SHALE TO SILTY SHALE BEDROCK WAS NOTED. THE SHALE WAS DESCRIBED AS GRAY TO DARK GRAY TO BLACK AND RANGED FROM HIGHLY WEATHERED TO NON-WEATHERED.

A POCKET OF CLAYSHALE WAS ALSO NOTED APPROXIMATELY BETWEEN STATIONS 89+50 AND 91+50. THE BROWN AND GRAY CLAYSHALE WAS BETWEEN 1.5 TO 5.5 FEET THICK AND NOTED BETWEEN THE SILTY CLAY/CLAY/CLAYEY SILT AND THE SHALE BEDROCK.

THE SOIL SUPPORTING THE PROPOSED ROADWAY WILL CONSIST OF THE SILTY CLAY AND CLAY CLASSIFIED AS ODOT A-6A AND A-7-6 BETWEEN APPROXIMATE STATIONS 75+00 AND 83+00; SHALE BEDROCK BETWEEN APPROXIMATE STATIONS 83+00 AND 113+00; EITHER SILTY CLAY, CLAYEY SILT OR SANDY SILT CLASSIFIED AS ODOT A-6, A-4A, OR A-7-6 BETWEEN APPROXIMATE STATIONS 113+00 AND 122+00.

WATER LEVELS WERE RECORDED IN THE BORINGS AFTER COMPLETION BUT INDICATED VARYING RESULTS DUE TO THE COHESIVE NATURE OF THE OVERBURDEN SOILS. FOUR MONITORING WELLS WERE INSTALLED BETWEEN STATIONS 84+00 AND 110+00 TO OBSERVE LONG-TERM WATER LEVELS AND FLUCTUATIONS. THE READINGS INDICATED WATER LEVELS BETWEEN + 7 AND 9.5 FEET BELOW GRADE OR BETWEEN + 892 AND 900 FEET, MSL AT STATIONS LESS THAN 104+00. THE WATER LEVELS WERE NOTED IN THE SHALE OR NEAR THE SHALE INTERFACE. AT STATIONS GREATER THAN 104+00, THE WATER LEVEL DROPPED FROM ABOUT + 893 FEET, MSL TO ABOUT + 872 FEET, MSL. THIS DROP IN WATER LEVEL ALSO APPEARED TO FOLLOW THE DROP IN THE TOP OF THE BEDROCK.

US 23 NORTHBOUND (NB) AND SOUTHBOUND (SB) LOCAL LANES

BETWEEN STATIONS 62+00 AND 75+00, THE MAJORITY OF THE BORINGS IN THE TOP 5 FEET BELOW PROPOSED GRADE CONSISTED OF MEDIUM STIFF TO VERY STIFF SILTY CLAY, SANDY CLAY, CLAY OR CLAYEY SILTS. THE COHESIVE DEPOSITS WERE GENERALLY MEDIUM STIFF TO VERY STIFF AND BROWN AND GRAY AND CLASSIFIED ACCORDING TO ODOT AS A-4A, A-6A, A-6B, OR A-7-6. SHALE BEDROCK WAS NOTED BETWEEN 8 AND 10 FEET BELOW EXISTING GRADE EXCEPT NEAR BRIDGE BR. 270.5, WHERE IT DROPPED TO 18.5 TO 38.5 FEET BELOW EXISTING I-270.

BETWEEN STATIONS 75+00 AND 122+00, THE COMPLETE GENERAL SOIL PROFILE AND DESCRIPTIONS WERE DESCRIBED IN SECTION 4.2. IN THIS SECTION, HOWEVER, THE ROADWAY PROFILE WILL BE SUPPORTED ON THE SILTY CLAYS, CLAYEY SILTS, CLAY, AND/OR SANDY SILTS BETWEEN APPROXIMATE STATIONS 75+00 AND 100+50 AND STATIONS 106+50 AND 122+00. THE SILTY CLAYS/CLAYEY SILTS, AND SANDY SILTS WERE CLASSIFIED IN GENERAL AS A-4A, A-6A, A-6B, AND A-7-6. BETWEEN APPROXIMATE STATIONS 100+50 AND 106+50, CLAYSHALE OR WEATHERED SHALE WAS NOTED IN THE TOP 5 FEET BELOW PROPOSED GRADE.

WATER LEVELS WERE RECORDED IN THE BORINGS AS WELL AS OBSERVATION WELLS. IT APPEARS THAT WATER LEVELS RANGE BETWEEN 7 AND 9.5 FEET BELOW GRADE AT STATIONS LESS THAN 104+00. BETWEEN STATIONS 104+00 AND 112+00, THE WATER LEVEL DROPPED FROM ABOUT + 893 FEET, MSL TO ABOUT + 872 FEET, MSL, RANGING BETWEEN 7.5 AND 10 FEET BELOW EXISTING GRADE. THIS DROP IN WATER LEVEL ALSO APPEARED TO FOLLOW THE DROP IN THE TOP OF THE BEDROCK. BEYOND STATION 112+00, THE WATER LEVEL WAS AT 20 FEET BELOW EXISTING GRADE.

SR 315

THE GENERAL SOIL PROFILE CONSISTED OF TOPSOIL OR PAVEMENT OVER VARIABLE FILL MATERIALS. THE TOPSOIL RANGED FROM 6 TO 12 INCHES. THE PAVEMENT (ASPHALT AND/OR CONCRETE_ RANGED FROM 5 TO 17 INCHES THICK WITH AN AVERAGE THICKNESS OF 10 INCHES. THE FILL SOILS TYPICALLY CONSISTED OF LOOSE TO MEDIUM DENSE SAND AND GRAVEL AND/OR SILTY SAND FOLLOWED BY MEDIUM STIFF TO STIFF SILTY CLAY, CLAYEY SILT, WEATHERED SHALE FILL AND/OR SANDY SILT ALL CONTAINING SHALE FRAGMENTS. THE MAJORITY OF SAND AND GRAVEL AND/OR SILTY SAND SAMPLES WERE CLASSIFIED AS ODOT A-1A, A-1B, A-2-4, AND A-4A. THE MAJORITY OF SILTY CLAY, CLAYEY SILT, WEATHERED SHALE FILL, AND/OR SANDY SILT SAMPLES WERE CLASSIFIED AS ODOT A-2-6, A-4A, A-6A, AND A-7-6.

THE MAJORITY OF THE BORINGS, WHICH WERE 10 FEET OR LESS, INDICATED DRY CONDITIONS. WATER LEVELS WERE NOTED IN FOUR BORINGS. THREE OF THE FOUR BORINGS WERE STRUCTURE BORINGS AND INDICATED THAT THE WATER LEVEL WAS BETWEEN 18 AND 23 FEET BELOW GRADE, OR 738 AND 745 FEET, MSL. ONE ROADWAY BORING NOTED A WATER LEVEL AT 7.2 FEET BELOW GRADE OR 755.1 FEET, MSL. THE WATER LEVEL OF THE OLENTANGY RANGES BETWEEN 742 AND 755 FEET, MSL.

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RAMP 23B (US 23 NB TO RAMP 23G)

FROM EXISTING GRADE TO 5 FEET BELOW PROPOSED GRADE, THE MAJORITY OF THE BORINGS GENERALLY CONSISTED OF 5 TO 8 INCHES OF TOPSOIL OVER SILTY CLAY, SHALE FILL, OR SHALE. THE SILTY CLAY AND SHALE FILL CONTAINED COBBLES AND SHALE FRAGMENTS AND WAS DESCRIBED AS STIFF TO HARD AND BROWN. ACCORDING TO ODOT, SAMPLES WERE CLASSIFIED AS A-6A, A-6B OR A-7-6. MOISTURE CONTENTS INDICATED MOIST TO WET CONDITIONS. DARK BROWN SHALE BEDROCK WAS NOTED ABOUT 3.5 TO 5 FEET BELOW GRADE (887 TO 889.2 FEET, MSL) AT STATION 61+00, AT THE SURFACE (882.7 FEET, MSL) AT STATIONS 65+37 AND 67+61, 7.5 FEET BELOW GRADE AT STATION 69+74 (876 FEET, MSL) AND BELOW BORING DEPTHS (BELOW 882.0 FEET, MSL) AT STATION 73+88. IN THE 1960S BORINGS COMPLETED ON RAMPS A AND B, TOP OF SHALE BEDROCK WAS ENCOUNTERED + 890 FEET, MSL EXCEPT WHERE THE CREEK INTERSECTS THE RAMP. AT THE CREEK, SHALE BEDROCK WAS NOTED ALONG THE BANKS RANGING FROM 895 FEET, MSL AT THE TOP TO ABOUT 870 FEET, MSL AT THE BOTTOM. ONE EXCEPTION WAS NOTED IN BORING RA-2002, WHICH INDICATED 1.5 FEET OF BROWN, MEDIUM DENSE SAND AND GRAVEL WITH COBBLES (A-1-B) AT THE SURFACE.

WATER LEVELS AFTER COMPLETION WERE RECORDED TO BE 883.7 TO 886.7 FEET, MSL OR 8.5 TO 9 FEET BELOW GRADE IN TWO BORINGS (W6B-2 AND RA-2002 AT STATION 61+00) AND DRY IN THE REMAINING BORINGS.

RAMP 23C (US 23 NB TO I-270 WB / SR 315)

IN-SITU SOIL CONDITIONS IN THE TOP SIX FEET BELOW THE SUBGRADE WERE BROKEN UP INTO TWO SEGMENTS: (1) STATIONS 15+45 TO 32+75 AND (2) STATIONS 32+75 TO 45+26. IN SEGMENT 1, THE SOIL CONDITIONS CONSISTED OF 6 TO 12 INCHES OF TOPSOIL OR SANDY FILL OVER SILTY CLAY, CLAY OR CLAYEY SILT MATERIALS. THE COHESIVE MATERIALS WERE BROWN TO GRAY AND GENERALLY STIFF TO VERY STIFF. MOISTURE CONTENTS INDICATED MOIST TO WET SAMPLES. THE SILTY CLAY, CLAY, OR CLAYEY SILT WERE GENERALLY CLASSIFIED AS ODOT A-6A, A-6B, AND A-7-6.

IN SEGMENT 2, SOIL CONDITIONS GENERALLY CONSISTED OF TOPSOIL/FILL OR PAVEMENT OVER SILTY CLAY OR CLAYEY SILT FILL OVER WEATHERED SHALE BEDROCK. THE TOPSOIL / FILL RANGED BETWEEN 6 TO 12 INCHES, AND THE PAVEMENT CONSISTED OF 5 TO 13 INCHES OF ASPHALT OVER 0 TO 9 INCHES OF CONCRETE OVER 5 TO 8 INCHES OF BASE COURSE. THE SILTY CLAY AND CLAYEY SILT SOILS WERE SIMILAR TO THE MATERIALS IN SEGMENT 1. THE BROWN TO GRAY WEATHERED SHALE BEDROCK WAS NOTED FROM THE SURFACE TO 4.5 FEET BELOW GRADE. THE TOP OF ROCK GENERALLY FOLLOWED THE TOPOGRAPHY OF THE EXISTING GRADE.

AFTER COMPLETION OF THE BORINGS, WATER LEVELS WERE RECORDED IN THE MAJORITY OF BORINGS, WHICH INDICATED DRY EXCEPT THREE. THESE THREE BORINGS (23R1, 23R2, AND 23R8) INDICATED WATER LEVELS FROM 13 TO 23.5 FEET BELOW GRADE (838.4, 835.2 AND 814.6 FEET, MSL, RESPECTIVELY).

RAMP 23D (I-270 WB TO US 23 NB)

THE MAJORITY OF BORINGS INDICATED THAT THE IN-SITU MATERIALS IN THE TOP FIVE FEET BELOW SUBGRADE GENERALLY CONSISTED OF PAVEMENT OR TOPSOIL OVER COHESIVE DEPOSITS. THE PAVEMENT WAS MADE UP OF 9 TO 11 INCHES OF CONCRETE OVER 7 TO 9 INCHES OF BASE COURSE. TOPSOIL RANGED FROM 1 TO 6.5 INCHES THICK. THE COHESIVE DEPOSITS TYPICALLY CONSISTED OF SILTY CLAY, SANDY CLAY, CLAY, OR CLAYEY SILT, WHICH WERE BROWN AND GRAY, STIFF TO VERY STIFF, AND MOIST TO WET BASED ON MOISTURE CONTENTS. SOME DEPOSITS CONTAINED SHALE FRAGMENTS AND WERE TYPICALLY CLASSIFIED AS ODOT A-4A, A-6A, A-6B, AND A-7-6.

AFTER BORING COMPLETION, WATER LEVELS WERE RECORDED. THE SHALLOWER BORINGS, WHERE WERE TERMINATED LESS THAN 10 FEET BELOW GRADE, WERE GENERALLY DRY. THE DEEPER RETAINING WALL BORINGS INDICATED WATER LEVELS AT 840.5 AND 881.5 FEET, MSL, WHICH ARE ABOUT 64.5 AND 21 FEET BELOW THE TOP OF THE BORING AND 49.2 AND 8 FEET BELOW PROPOSED GRADE.

RAMP 23F1 (US 23 SB TO SR 315)

THE MAJORITY OF IN-SITU MATERIALS GENERALLY CONSISTED OF 1 TO 12 INCHES OF TOPSOIL OVER COHESIVE DEPOSITS OVER CLAYSHALE AND/OR WEATHERED SHALE. THE COHESIVE DEPOSITS WERE MADE UP OF PRIMARILY SILTY CLAY, CLAYEY SILT, CLAY, AND SILT AND DESCRIBED AS BROWN TO GRAY, MEDIUM STIFF TO VERY STIFF, AND MOIST TO WET BASED ON THE MOISTURE CONTENTS. MOST OF THE CLASSIFICATIONS OF THE COHESIVE MATERIALS WERE CHARACTERIZED AS ODOT A-4A, A-6A, A-6B, AND A-7-6.

ELEVATION 894.6 FEET, MSL IN BORING T-2, WHICH WAS LOCATED ABOUT 500 FEET FROM THE BEGINNING OF THE ALIGNMENT. THE CLAYSHALE AND/OR WEATHERED SHALE LAYERS WERE THEN NOTED AT 858.1 FEET, MSL AT STATION 33+00, DIPPED TO 824.9 FEET, MSL AT STATION 39+00, AND THEN ROSE UP TO 868.6 FEET, MSL AT STATION 43+00.

AFTER BORING COMPLETION, THE MAJORITY OF WATER LEVELS WERE RECORDED AS DRY EXCEPT IN BORINGS RA-1703 AND RA-709. THESE BORINGS INDICATED WATER LEVELS AT 863.2 FEET, MSL (2.0 FEET BELOW GRADE) AT STATION 31+00 AND 867.2 FEET, MSL (2.0 FEET BELOW GRADE) AT THE INTERFACE OF THE CLAYSHALE AND WEATHERED SHALE AT STATION 44+00, RESPECTIVELY.

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SOIL PROFILE

FRA-270-21.63

3

RAMP 23F2 (US 23 SB TO RAMP 23C / I-270 WB)

THE MAJORITY OF IN-SITU MATERIALS BELOW THE FILL GENERALLY CONSISTED OF 4 TO 12 INCHES OF TOPSOIL/BERM FILL OVER COHESIVE DEPOSITS OVER WEATHERED SHALE. THE COHESIVE DEPOSITS WERE MADE UP OF PRIMARILY SILTY CLAY, SANDY CLAY, SILT (WITH VARYING SAND CONTENTS), AND CLAY. THE DEPOSITS WERE DESCRIBED AS BROWN, STIFF TO VERY STIFF, AND MOIST TO WET BASED ON THE MOISTURE CONTENTS. MOST OF THE CLASSIFICATIONS OF THE COHESIVE MATERIALS WERE CHARACTERIZED AS ODOT A-4A, A-6A, AND A-7-6.

WEATHERED SHALE WAS NOTED IN BORINGS BETWEEN STATION 31+25 AND 36+80. THE TOP OF THE BROWN WEATHERED SHALE WAS NOTED AT 846.1 FEET, MSL (20 FEET BELOW GRADE) AT STATION 31+25; 846.6 AT STATION 31+88 (16 FEET BELOW GRADE); BETWEEN 856.4 AND 856.6 FEET, MSL (3.0 AND 5.5 FEET BELOW GRADE) BETWEEN STATION 32+50 AND 33+00; DOWN TO 827.6 FEET, MSL (32.5 FEET BELOW GRADE) AT STATION 34+77, TO 834.4 FEET, MSL (4.5 FEET BELOW GRADE) AT STATION 35+01, AND TO 828.8 FEET, MSL (6.0 FEET BELOW GRADE) AT STATION 35+31; AND THEN SHARPLY ROSE TO 845.4 FEET, MSL (14.5 FEET BELOW GRADE) AT STATION 36+51 AND 861.2 FEET, MSL (0.5 FEET BELOW GRADE) AT STATION 36+80.

AFTER BORING COMPLETION, WATER LEVELS WERE RECORDED AS DRY IN 9 OUT OF 10 BORINGS EVALUATED. THE REMAINING BORING, 23R16, INDICATED A WATER LEVEL AT 849.1 FEET, MSL (11 FEET BELOW GRADE).

RAMP 23F3 (RAMP 23C TO RAMP 23F1)

THE IN-SITU SOIL CONDITIONS APPEARED TO BE TOPSOIL OVER COHESIVE FILLS CONSISTING OF CLAYEY SILTS, SANDY SILT, AND/OR SILTY CLAY OVER WEATHERED SHALE. THE TOPSOIL WAS NOTED UP TO 8 INCHES THICK. THE FILL WAS GENERALLY VERY STIFF TO HARD CLAYEY SILT AND SILTY CLAY AND CLASSIFIED AS ODOT A-4A, A-6A, AND A-7-6. LAYERS OF LOOSE TO MEDIUM DENSE SANDY SILT AND SILTY SAND WERE ALSO NOTED IN THE FILL. WEATHERED SHALE WAS NOTED AT 5.5 FEET BELOW GRADE (857.6 TO 858.9) IN BORINGS 23R14 AND 23R15 BETWEEN STATIONS 31+73 AND 31+97; AND 18.5 FEET BELOW GRADE (861.1 FEET, MSL) IN BORING RA-2102 AT STATION 33+00. WATER LEVELS WERE RECORDED AS DRY IN ALL BORINGS AFTER COMPLETION.

RAMP 23G (US 23 SB TO I-270 EB)

THE MAJORITY OF IN-SITU MATERIALS IN THE TOP 5 FEET BELOW PROPOSED GRADE CONSISTED OF TOPSOIL OR PAVEMENT OVER GENERALLY COHESIVE FILL OVER WEATHERED SHALE. THE TOPSOIL RANGED FROM 3 TO 8 INCHES OF TOPSOIL/BERM FILL. THE PAVEMENT TYPICALLY CONSISTED OF 0 TO 4 INCHES OF ASPHALT OVER 9 TO 12 INCHES OF CONCRETE.

THE COHESIVE FILL CONSISTED OF GENERALLY SILTY CLAY, CLAYEY SILT, SANDY SILT, OR SHALE FILL. THE DEPOSITS WERE DESCRIBED AS BROWN AND GRAY, MEDIUM STIFF TO VERY STIFF, AND MOIST TO WET BASED ON THE MOISTURE CONTENTS. MOST OF THE CLASSIFICATIONS OF THE COHESIVE MATERIALS WERE CHARACTERIZED AS ODOT A-4A, A-6A, A-6B, AND A-7-6.

WEATHERED SHALE WAS NOTED IN 4 BORINGS LOCATED BETWEEN STATIONS 899+00 AND 920+00. THE TOP OF THE BROWN TO GRAY WEATHERED SHALE WAS NOTED AT 2 FEET BELOW GRADE OR 878.2 FEET, MSL AT STATION 899+00, THEN DESCENDED TO 854.4 FEET, MSL AT STATION 903+00 AND 853.7 FEET, MSL AT STATION 908+00; AND THEN ROSE BACK UP IN ELEVATION SIMILAR TO THE TOPOGRAPHY TO 2 FEET BELOW GRADE OR 896.5 FEET, MSL AT STATION 920+00.

AFTER BORING COMPLETION, WATER LEVELS WERE NOTED AS DRY OR NOT RECORDED EXCEPT IN ONE BORING RA-1902, WHICH NOTED WATER AT 8.5 FEET BELOW GRADE.

RAMP 23H (ROADWAY EB CD-B TO US 23)

THE IN-SITU MATERIALS BELOW THE SUBGRADE CONSISTED OF TOPSOIL OVER COHESIVE SOIL OR SAND AND GRAVEL FILL OVER WEATHERED SHALE. THE TOPSOIL RANGED FROM 5 TO 8 INCHES IN THICKNESS. THE MAJORITY OF COHESIVE SOIL WAS MADE UP OF CLAYEY SILT, SILTY CLAY, AND SANDY CLAY. THE COHESIVE SOIL WAS MEDIUM STIFF TO STIFF, BROWN TO GRAY, AND MOIST AND GENERALLY CLASSIFIED AS ODOT A-4A, A-6A, AND A-7-6. THE SAND AND GRAVEL FILL WAS LESS THAN 2 FEET IN THICKNESS AND DESCRIBED AS MEDIUM DENSE, BROWN AND MOIST. THE SAND AND GRAVEL FILL WITH LAB TESTING WAS CLASSIFIED AS ODOT A-1A AND A-2-6.

THE TOP OF WEATHERED SHALE WAS NOTED FROM THE SURFACE TO 8.5 FEET BELOW GRADE. THE TOP OF THE ROCK GENERALLY FOLLOWED THE TOPOGRAPHY AND ROSE FROM 835.6 FEET, MSL AT STATION 895+54 TO 884.3 FEET, MSL AT 908+13.

AFTER BORING COMPLETION, WATER LEVELS WERE RECORDED AS DRY IN ALL THE BORINGS.

ROADWAY WB CD (US 23/I-270 WB TO SR 315)

SOIL CONDITIONS IN THE TOP 5 FEET BELOW SUBGRADE GENERALLY CONSISTED OF TOPSOIL, BERM OR PAVEMENT OVER EITHER COHESIVE MATERIALS OR GRANULAR DEPOSITS OVER WEATHERED SHALE. TOPSOIL OR BERM FILL RANGED FROM 7 TO 12 INCHES. THE PAVEMENT ENCOUNTERED IN THE BORINGS INDICATED 8 TO 10 INCHES OF ASPHALT OR CONCRETE OVER 4 TO 8 INCHES OF BASE.

THE COHESIVE MATERIALS WERE NOTED BETWEEN APPROXIMATE STATIONS 111+00 TO 115+00 AND FROM STATIONS 127+00 AND 131+00, AND GRANULAR DEPOSITS WERE INDICATED BETWEEN STATIONS 133+00 AND 149+00. THE COHESIVE MATERIALS GENERALLY CONSISTED OF CLAYEY SILT, SILTY CLAY, AND CLAY THAT WERE DESCRIBED AS BROWN AND GRAY, MEDIUM STIFF TO STIFF, AND MOIST TO WET. THE CLAYEY SILT, SILTY CLAY, AND CLAY WERE GENERALLY CLASSIFIED AS ODOT A-6A, A-6B, OR A-7-6. THE GRANULAR DEPOSITS GENERALLY CONSISTED OF SANDY SILT OR SILTY SAND MIXED WITH CLAYEY SILT LAYERS THAT WERE DESCRIBED AS MEDIUM DENSE, BROWN AND GRAY, AND MOIST. THE SANDY SILT AND SILTY SAND WERE CLASSIFIED AS ODOT A-6A AND A-4A.

BELOW THE COHESIVE OR GRANULAR DEPOSITS, WEATHERED SHALE WAS ENCOUNTERED. BETWEEN STATIONS 111+00 AND 115+00, THE SHALE WAS NOTED UP TO 6 FEET BELOW GRADE OR BETWEEN 844.4 AND 850.4 FEET, MSL. BETWEEN STATIONS 115+00 AND 127+00 AND 131+00 AND 133+00, THE SHALE ROCK WAS NOTED WITHIN 3 FEET OF THE EXISTING GRADE AND AT THE PROPOSED ROADWAY GRADE. BETWEEN STATIONS 127+00 AND 131+00 AND BEYOND STATIONS 133+00, SHALE WAS ENCOUNTERED ABOUT 6 TO 18.5 FEET BELOW EXISTING GRADE OR BETWEEN 772 AND 783 FEET, MSL.

THE MAJORITY OF THE BORING LOGS INDICATED DRY WATER CONDITIONS AFTER BORING COMPLETION EXCEPT AT BORING 23R1, WHICH NOTED WATER AT 23 FEET BELOW GRADE OR ELEVATION 838.4 FEET, MSL.

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SOIL PROFILE

FRA-270-21.63

4

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RAMP 315A (ROADWAY WB CD TO SR 315 SB)

THE MAJORITY OF THE BORINGS EXCEPT RA-503 AND RA-403, INDICATED THAT THE SOIL CONDITIONS IN THE TOP FIVE FEET BELOW PROPOSED GRADE CONSISTED OF MEDIUM DENSE TO DENSE SHALE FILLS, SANDY SILTS, AND/OR SAND AND GRAVEL MIXTURES CONTAINING SHALE FRAGMENTS. THESE GRANULAR MIXTURES GENERALLY HAVE ODOT CLASSIFICATIONS OF A-1, A-2-4, A-2-6, AND A-4A. BORINGS RA-503 AND RA-403 NOTED WEATHERED SHALE WITHIN 2 FEET BELOW THE TOP OF THE BORING.

THE MAJORITY OF THE BORINGS INDICATED THAT WATER LEVELS WERE DRY AFTER DRILLING COMPLETION OR WERE NOT RECORDED. FOUR BORINGS (A-1, RA-403, RA-505B, AND RA-504) HAD WATER LEVELS AFTER COMPLETION. BORING A-1 COMPLETED IN SR 315 INDICATED A WATER LEVEL AT 738.1 FEET, MSL. BORINGS RA-403, RA-504, AND RA-505B LOCATED BETWEEN STATIONS 97+00 AND 104+00 HAD INDICATED WATER LEVELS BETWEEN 753.9 AND 761.8 FEET, MSL.

RAMP 315B (ROADWAY WB CD TO SR 315 NB)

SOIL CONDITIONS IN THE TOP FIVE FEET BELOW EXISTING GRADE CONSISTED OF TOPSOIL OR BERM FILL OVER GRANULAR SOILS OVER SHALE FILL. TOPSOIL AND BERM FILL WAS ENCOUNTERED IN BORINGS RA-501 AND RA-602 AND WAS APPROXIMATELY 5 AND 8 INCHES THICK, RESPECTIVELY. IN BORING RA-601, PAVEMENT CONSISTING OF 8 INCHES OF ASPHALT OVER 8 INCHES OF CONCRETE OVER BASE COURSE WAS NOTED. THE GRANULAR MATERIALS WERE DESCRIBED AS BROWN, LOOSE TO MEDIUM DENSE SANDY SILT AND SAND AND GRAVEL FILL. THESE PREDOMINATELY GRANULAR SOILS HAD ODOT CLASSIFICATIONS OF A-1-A, A-2-4, AND A-4A. THE SHALE FILL WAS DESCRIBED AS BROWN AND GRAY AND MEDIUM DENSE TO DENSE.

THE BORINGS INDICATED WATER LEVELS AS DRY AFTER DRILLING COMPLETION OR WERE NOT RECORDED. THE WATER LEVEL OF THE OLENTANGY RANGES BETWEEN 742 AND 755 FEET, MSL.

RAMP 315C (ROADWAY EB CDA TO SR 315 SB)

SOIL CONDITIONS IN THE TOP FIVE FEET OF EXISTING GRADE CONSISTED OF TOPSOIL OVER SAND AND GRAVEL OR GRAVEL OVER WEATHERED SHALE AND/OR SHALE FILL. TWO BORINGS INDICATED 6 TO 8 INCHES OF TOPSOIL. THE OTHER BORINGS INDICATED GRAVEL BASE. THE SAND AND GRAVEL WAS DESCRIBED AS BROWN AND GRAY AND MEDIUM DENSE WITH ODOT CLASSIFICATIONS A-1-A OR A-1-B. THE WEATHERED SHALE AND OR SHALE FILL WAS MEDIUM DENSE TO VERY DENSE AND NOTED WITHIN 2 FEET FROM THE TOP OF THE BORINGS.

THE MAJORITY OF BORINGS INDICATED DRY WATER CONDITIONS AFTER DRILLING COMPLETION EXCEPT BORING RA-401B, WHICH WAS DRILLED ON TOP OF THE ADJACENT SLOPE, AND RA-403. THE BORINGS NOTED WATER AT 11 AND 9 FEET BELOW THE TOP OF THE BORING OR 811.3 AND 759.5 FEET, MSL, RESPECTIVELY. THE WATER LEVEL OF THE OLENTANGY RANGES BETWEEN 742 AND 755 FEET, MSL.

RAMP 315E (ROADWAY EB CDA TO SR 315 NB)

BASED ON THE SOIL CONDITIONS IN THE BORINGS, THE SOIL PROFILE WAS DIVIDED INTO TWO SECTIONS: (A) 841+70 TO 853+00 AND (B) 853+00 TO 866+95. IN THE FIRST SECTION, THE BORINGS INDICATED SILTY SAND OR SAND AND GRAVEL FILL CONTAINING SHALE FRAGMENTS THAT GENERALLY BECAME THICKER WITH INCREASING RAMP ALIGNMENT STATIONING. THE MEDIUM DENSE TO DENSE BROWN FILL RANGED IN THICKNESS FROM 0 INCHES TO GREATER THAN 5 FEET AND HAD ODOT CLASSIFICATIONS OF A-2-4. THE FILL WAS UNDERLAIN BY WEATHERED GRAY TO BROWN SHALE BEDROCK. THE TOP OF THE SHALE BEDROCK WAS WITHIN 2 FEET OF THE EXISTING SURFACE GRADE AT BORINGS BETWEEN STATIONS 841+70 AND 850+00 AND THEN BEGAN TO DROP OFF TO GREATER THAN 5 FEET BELOW EXISTING GRADE AT STATIONS BEYOND 850+00.

BETWEEN STATIONS 853+00 AND 866+95, THE TOP 5 FEET BELOW EXISTING GRADE PRIMARILY CONSISTED OF BROWN SAND AND GRAVEL, SILT, OR SHALE FILL. THE EXISTING MEDIUM DENSE TO DENSE FILL WAS CLASSIFIED ACCORDING TO ODOT AS A-2-4, A-4A, OR A-6A. SHALE BEDROCK WAS NOT ENCOUNTERED IN THE UPPER 5 FEET BELOW EXISTING GRADE; BUT WAS NOTED TO RAPIDLY DROP OFF FROM AN ELEVATION OF 771.2 FEET, MSL AT STATION 853+69 (BORING E-1) TO 725.7 FEET, MSL AT STATION 856+71 (BORING E-4).

WATER LEVELS WERE NOTED DRY IN 7 BORINGS, NOT RECORDED IN 1 BORING, AND AT VARYING LEVELS IN THE REMAINING 5 BORINGS. BASED ON THE SOIL TYPES AND MOISTURE CONTENTS, IT APPEARED THAT WATER LEVELS WERE GREATER THAN 5 FEET BELOW GRADE BETWEEN STATIONS 841+70 AND 850+00 WHERE ROCK WAS ENCOUNTERED.

BEYOND STATIONS 850+00, WATER WAS ENCOUNTERED AT ELEVATION 779.8 FEET, MSL, OR 3.5 FEET BELOW THE TOP OF THE BORING IN RA-1004 AT STATION 853+00. WHERE BRIDGE 315-E.2 IS LOCATED, BRIDGE BORINGS INDICATED WATER LEVELS BETWEEN 737 AND 738 FEET, MSL. WHERE BRIDGE 315-F.2 IS LOCATED, BRIDGE BORINGS INDICATED WATER LEVELS BETWEEN 743 AND 744 FEET, MSL. THE REMAINING BORINGS NOTED DRY CONDITIONS, OR WATER LEVELS WERE GREATER THAN 5 FEET BELOW EXISTING GRADE. THEREFORE, BASED ON BORING LOGS, SOIL TYPES, AND MOISTURE CONTENTS, IT APPEARS THAT IN THE TOP 5 FEET BELOW EXISTING GRADE, WATER MAY BE ENCOUNTERED BETWEEN STATIONS 850+00 AND 856+00 AND WILL LIKELY NOT BE ENCOUNTERED BETWEEN STATION 841+70 AND 850+00 AND BETWEEN STATIONS 856+00 AND 866+95.

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FRA-270-21.63

5

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RAMP 315F (SR 315 NB TO I-270 WB)

THE PROFILE IN FIRST SECTION LOCATED FROM 138+72 AND 162+00 CONSISTED OF TOPSOIL OR PAVEMENT OVER COHESIVE FILL OR GRANULAR DEPOSITS. THE TOPSOIL RANGED FROM 5 TO 12 INCHES THICK. THE PAVEMENT WAS NOTED IN TWO BORINGS THAT INDICATED 4 INCHES OF ASPHALT OVER 12 INCHES OF CONCRETE AND THEN 17 INCHES OF ASPHALT. THE COHESIVE FILL TYPICALLY CONSISTED OF CLAYEY SILT AND SILTY CLAY WITH VARYING AMOUNTS OF GRAVEL, COBBLES, AND WEATHERED SHALE FRAGMENTS. THE COHESIVE FILL WAS DESCRIBED AS STIFF TO HARD, BROWN TO GRAY WITH DEPTH, AND MOIST. THE FILL WAS NOTED BETWEEN STATIONS 138+72 TO 148+00 AND THEN 153+00 TO 161+00 AND CLASSIFIED AS EITHER ODOT A-4A, A-6A, A-6B, AND A-7-6.

THE GRANULAR DEPOSITS WERE NOTED BETWEEN STATIONS 148+00 AND 153+00 AND CONSISTED TYPICALLY OF SANDY SILT, SILTY SAND, AND SAND AND GRAVEL. THE GRANULAR SOILS WERE GENERALLY DESCRIBED AS BROWN TO GRAY WITH DEPTH, MEDIUM DENSE TO DENSE, AND MOIST TO WET. COBBLES, BOULDERS, AND VARYING AMOUNTS OF SILTS WERE ALSO NOTED WITHIN THE DEPOSITS.

THE PROFILE IN THE SECOND SECTION LOCATED FROM 162+00 TO 170+22 CONSISTED OF TOPSOIL OVER GRANULAR FILL OVER WEATHERED SHALE BEDROCK. THE TOPSOIL RANGED FROM 6 TO 8 INCHES. THE GRANULAR FILL CONSISTED OF SILTY SAND AND SAND AND GRAVEL, DESCRIBED AS MEDIUM DENSE TO DENSE, BROWN, AND MOIST. THE SAMPLES WITH LAB TESTING WERE GENERALLY CLASSIFIED AS ODOT A-1A AND A-4A. THE TOP OF THE WEATHERED SHALE BEDROCK WAS ENCOUNTERED FROM THE SURFACE TO 2.5 FEET BELOW GRADE.

WATER LEVEL READINGS TAKEN AFTER BORING COMPLETION INDICATED THE WATER LEVEL RANGED FROM ABOUT 735 TO 761 FEET, MSL BETWEEN STATIONS 138+72 TO 154+00; ROSE TO ABOUT 769 TO 770 FEET, MSL BETWEEN STATIONS 154+00 AND 164+00; AND THEN WAS NOT CONCLUSIVE OR BELOW BORING DEPTHS BEYOND STATION 164+00.

RAMP 315G (SR 315 SB TO ROADWAY EB CD-B)

THE SOILS IN THE TOP 5 FEET BELOW SUBGRADE CONSISTED OF TOPSOIL OVER SILTY SAND / SANDY SILT OVER WEATHERED SHALE. THE TOPSOIL RANGED FROM 6 TO 12 INCHES ALONG THE ALIGNMENT. THE SILTY SAND / SANDY SILT WAS DESCRIBED AS BROWN AND CONTAINED GRAVEL AND SHALE FRAGMENTS. THESE SOILS WERE CLASSIFIED AS ODOT A-2-4, A-4A, AND A-6A. THE WEATHERED SHALE WAS NOTED 6.5 FEET BELOW THE SURFACE IN BORING RA-1103 AND AT THE SURFACE IN BORING RA-1104. IN THESE TWO BORINGS, WATER LEVELS WERE RECORDED AS DRY.

RAMP 315H (SR 315 SB TO I-270 WB)

THE SOILS WITHIN THE TOP FIVE FEET BELOW SUBGRADE CONSISTED OF PAVEMENT OR TOPSOIL OVER FILL OVER WEATHERED SHALE. TOPSOIL RANGED FROM 3 TO 8 INCHES IN TWO BORINGS, AND THE REMAINING BORING INDICATED 13 INCHES OF ASPHALT. THE FILL CONSISTED OF 2 TO 3.5 FEET OF SAND AND GRAVEL, SILTY SAND AND/OR SANDY SILT FILL, THAT WAS DESCRIBED AS BROWN, MEDIUM DENSE TO DENSE, AND MOIST. THE FILL THAT HAD LAB TESTING WAS CLASSIFIED AS ODOT A-1A OR A-4A. THE TOP OF THE WEATHERED SHALE WAS ENCOUNTERED AT THE 2 TO 3.5 FEET BELOW GRADE IN BORINGS RA-208 AND RA-101, RESPECTIVELY, AND AT THE SURFACE IN BORING RA-209. WATER LEVELS TAKEN AFTER BORING COMPLETION WERE DRY IN BORINGS RA-101 AND RA-208 AND THEN ABOUT 3 FEET BELOW GRADE IN BORING RA-209.

ROADWAY EB CD-A (I-270 EB TO RAMPS 315C AND 315E)

THE SOILS WITHIN THE TOP FIVE FEET BELOW SUBGRADE CONSISTED OF TOPSOIL OR ASPHALT PAVEMENT OVER SAND AND GRAVEL FILL OVER WEATHERED SHALE BEDROCK. THE TOPSOIL RANGED FROM 5 TO 9 INCHES THICK, AND THE ASPHALT PAVEMENT WAS NOTED 8 INCHES THICK IN ONE BORING. THE SAND AND GRAVEL FILL WAS DESCRIBED AS BROWN OR GRAY, MEDIUM DENSE TO DENSE, AND DRY TO MOIST BASED ON THE MOISTURE CONTENTS. THE FILL HAD ODOT CLASSIFICATIONS OF A-1B, A-2-4, AND A-4A. THE WEATHERED SHALE BEDROCK WAS NOTED FROM THE SURFACE TO AS DEEP AS 4 FEET BELOW THE TOP OF THE BORINGS. WATER LEVELS TAKEN AFTER BORING COMPLETION INDICATED DRY CONDITIONS IN ALL THE BORINGS.

ROADWAY EB CD-B (SR 315 NB TO US23 / I-270 EB)

SOIL CONDITIONS IN THE TOP FIVE FEET WERE DIVIDED INTO TWO SEGMENTS. THE FIRST SEGMENT WAS APPROXIMATELY BETWEEN STATIONS 126+00 AND 162+00 AND BETWEEN 170+00 AND 179+00. THE TOP 5 FEET CONSISTED OF TOPSOIL, GRAVEL BERM, OR PAVEMENT OVER FILL. THE TOPSOIL AND GRAVEL BERM RANGED BETWEEN 1 AND 12 INCHES IN THICKNESS. THE MAJORITY OF THE BORINGS INDICATING PAVEMENT NOTED 7 TO 12.5 INCHES OF ASPHALT. TWO BORINGS INDICATED 4 INCHES OF ASPHALT OVER 4 TO 11 INCHES OF CONCRETE.

THE FILL NOTED BENEATH CONSISTED OF VARYING LAYERS OF SILTY SAND / SANDY SILT; SILTY CLAY / CLAYEY SILT; AND/OR CLAYSHALE / WEATHERED SHALE FILL. THE SILTY SAND / SANDY SILT LAYERS WERE BROWN OR GRAY, LOOSE TO MEDIUM DENSE, AND MOIST. THE LAYERS CONTAINED GRAVEL COBBLES, AND / OR SHALE FRAGMENTS AND WERE CLASSIFIED AS ODOT A-2-4, A-4A, A-6A, OR A-7-6. THE SILTY CLAY / CLAYEY SILT LAYERS WERE BROWN OR GRAY, MOIST, AND STIFF TO VERY STIFF. THESE LAYERS ALSO CONTAINED SHALE FRAGMENTS, COBBLES, AND BOULDERS AND WERE CLASSIFIED AS ODOT A-4A, A-6A, A-6B, OR A-7-6. THE CLAYSHALE / WEATHERED SHALE FILL LAYERS, CLASSIFIED AS ODOT A-4A OR A-6A, WERE BROWN OR GRAY, MOIST, AND STIFF TO HARD. WATER LEVELS WERE NOTED BELOW 6 FEET BELOW GRADE IN THE BORINGS WHICH INDICATED WATER.

IN THE SECOND SEGMENT APPROXIMATELY BETWEEN STATIONS 162+00 AND 170+00 AND BETWEEN 179+00 AND 189+00, THE TOP FIVE FEET CONSISTED OF TOPSOIL OR PAVEMENT OVER FILL OVER BEDROCK. THE TOPSOIL RANGED FROM 6 TO 12 INCHES AND 8 INCHES OF ASPHALT PAVEMENT WAS NOTED IN ONE BORING IN THE SEGMENT. THE FILL CONSISTED OF SANDY SILT / SILTY SAND AND/OR SILTY CLAY / CLAYEY SILT LAYERS. THE SANDY SILT / SILTY SAND FILL LAYERS WERE BROWN OR GRAY, LOOSE TO MEDIUM DENSE, AND MOIST. THE SILTY CLAY / CLAYEY SILT FILL LAYERS WERE GRAY, MEDIUM STIFF TO STIFF, AND MOIST AND ALSO CONTAINED ROCK FRAGMENTS. THE FILL CONTAINED SHALE FRAGMENTS AND WAS CLASSIFIED AS ODOT A-1B, A-4A, AND A-6A. THE BEDROCK NOTED WITHIN THE TOP FIVE FEET WAS DESCRIBED AS CLAYSHALE, SILTY SHALE, OR WEATHERED SHALE THAT WAS GRAY TO DARK GRAY OR BROWN.

IN BORINGS INDICATING WATER, WATER LEVELS WERE GREATER THAN 8 FEET BELOW GRADE.

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FRA-270-21.63

6

RAMP CD-B (I-270 EB TO ROADWAY EB CD-B)

BETWEEN STATIONS 858+00 AND 859+00, SOILS WITHIN THE TOP FIVE FEET BELOW SUBGRADE CONSISTED OF 6 TO 10 INCHES OF TOPSOIL OVER PRIMARILY GRANULAR MATERIALS. THE GRANULAR MATERIALS WERE MADE UP OF SILTY SAND, SANDY SILT, OR SAND AND GRAVEL WITH SHALE FRAGMENTS. THE LAYER WAS DESCRIBED AS MEDIUM DENSE, BROWN, AND MOIST. COBBLES, BOULDERS, AND SHALE FRAGMENTS WERE ALSO NOTED. THE SAMPLES WERE ODOT CLASSIFIED AS A-2-6, A-2-4, A-4A, AND/OR A-6A.

BETWEEN STATIONS 870+00 AND 873+00, SOILS WITHIN THE TOP FIVE FEET BELOW SUBGRADE CONSISTED OF TOPSOIL OR PAVEMENT OVER COHESIVE DEPOSITS OVER WEATHERED SHALE. THE TOPSOIL RANGED FROM 4 TO 10 INCHES. THE ASPHALT PAVEMENT WAS NOTED IN BORING RA-816 AND WAS 12.5 INCHES THICK. THE COHESIVE DEPOSITS PRIMARILY CONSISTED OF CLAYEY SILT, SILTY CLAY, AND SHALE FILL CLASSIFIED AS ODOT A-2-6, A-2-4, A-4A, AND A-6A. THE DEPOSITS WERE DESCRIBED AS BROWN, MEDIUM STIFF TO VERY STIFF, AND MOIST. THE WEATHERED SHALE WAS NOTED ONLY IN ONE BORING (W4-B-1) IN THE TOP FIVE FEET.

WEATHERED SHALE WAS ENCOUNTERED AT 727.5 FEET, MSL AT ABOUT STATION 864+00, ROSE TO 745.6 FEET, MSL AT ABOUT STATION 867+40 AND TO 788.2 AT ABOUT STATION 69+99, AND THEN DESCENDED TO 765.8 FEET, MSL AT ABOUT STATION 874+00.

GROUNDWATER WAS NOTED BETWEEN 742.6 AND 748.1 FEET, MSL FROM STATIONS 859+00 TO 868+00 AND THEN BETWEEN 780.8 AND 780.9 FEET, MSL APPROXIMATELY FROM STATIONS 871+00 TO 875+00. THE GROUNDWATER ELEVATION APPEARED TO RISE BETWEEN STATIONS 868+00 AND 871+00 AS DID THE TOPOGRAPHY.

FLINT ROAD

SOIL CONDITIONS ENCOUNTERED WITHIN THE TOP FIVE FEET BELOW SUBGRADE CONSISTED OF 8 TO 11 INCHES OF ASPHALT OR TOPSOIL OVER WEATHERED SHALE (SOIL-LIKE) IN BORINGS FL-1 AND FL-3A OR SAND AND GRAVEL OVER SANDY SILT IN BORING FL-2. THE SOIL-LIKE WEATHERED SHALE WAS MOIST, BROWN AND GRAY, AND VERY STIFF AND CLASSIFIED AS ODOT A-6A. THE SAND AND GRAVEL AND SANDY SILT WERE BROWN, LOOSE TO MEDIUM DENSE, AND MOIST AND CLASSIFIED AS ODOT A-4A. WATER LEVELS WERE DRY OR NOT RECORDED IN THE BORINGS.

CAMPUS VIEW BOULEVARD

SOIL CONDITIONS IN THE TOP FIVE FEET CONSISTED OF PAVEMENT OVER CLAYEY SILT AND/OR SILTY CLAY. THE PAVEMENT INCLUDED 4 TO 6 INCHES OF ASPHALT, AND BORING CV-2 INDICATED 5 INCHES OF CONCRETE BENEATH THE ASPHALT. THE CLAYEY SILT AND/OR SILTY CLAY WAS DESCRIBED AS BROWN AND GRAY, MOIST TO WET, AND MEDIUM STIFF TO STIFF AND CLASSIFIED AS ODOT A-4A AND A-7-6. SHALE FRAGMENTS WERE ALSO NOTED WITHIN THIS LAYER. WATER LEVELS WERE NOT RECORDED ON THE BORING LOGS.

YORK TEMPLE ROAD

BASED ON THE BORINGS, THE SUBGRADE SOILS WITHIN THE TOP 5 FEET BELOW THE PROPOSED GRADE CONSISTED OF 7 TO 12 INCHES OF TOPSOIL OVER 7 TO 9.3 FEET OF COHESIVE MATERIALS OVER WEATHERED SHALE BEDROCK. THE COHESIVE MATERIALS INCLUDED SILTY CLAY, CLAYEY SILT, CLAY AND SILT WITH THIN LAYERS OF SANDY SILT ENCOUNTERED IN SOME BORINGS. THE COHESIVE MATERIALS WERE DESCRIBED AS MEDIUM STIFF TO STIFF, BROWN AND GRAY, AND MOIST TO WET AND CLASSIFIED AS ODOT A-2-4, A-6A, AND A-7-6. THE TOP OF THE WEATHERED SHALE BEDROCK RANGED FROM 7 TO 9.3 FEET BELOW GRADE OR BETWEEN 880.4 AND 888.0 FEET, MSL. THE BORINGS INDICATED DRY CONDITIONS IN ALL BUT ONE BORING, YT-1. THE WATER LEVEL IN YT-1 WAS NOTED AT 880 FEET, MSL OR 9.6 FEET, BELOW GRADE.

RADIO CITY BOULEVARD

SOIL CONDITIONS IN THE TOP FIVE FEET CONSISTED OF 23 TO 24 INCHES OF ASPHALT PAVEMENT OVER 10 INCHES OF BASECOURSE OVER WEATHERED SHALE OR CLAYSHALE. WATER LEVELS WERE NOTED AS DRY.

DIMENSION ROAD

SOIL CONDITIONS IN THE TOP FIVE FEET CONSISTED OF 9 INCHES OF ASPHALT CONCRETE OVER 9 INCHES OF BASECOURSE OVER 1.5 FEET OF SILTY SAND OVER SILT. THE SILTY SAND AND SILT WERE DESCRIBED AS VERY DENSE TO MEDIUM DENSE AND GRAY TO BROWN. WATER LEVEL WAS INDICATED AS DRY.

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SOIL PROFILE

FRA-270-21.63

7

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS 796 SAMPLES TESTED

DESCRIPTION	CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-a	65	15	9	6	5	20	5	7	13
GRAVEL WITH SAND	A-1-b	43	23	15	11	8	22	5	11	41
FINE SAND	A-3	1	28	66	5		NP	NP	26	1
COARSE AND FINE SAND	A-3a	15	24	37	15	9	NP	NP	17	5
GRAVEL WITH SAND AND SILT	A-2-4	44	15	13	15	13	28	8	11	52
GRAVEL WITH SAND AND SILT	A-2-5	15	29	31	17	8	46	7	26	1
GRAVEL WITH SAND AND CLAY	A-2-6	43	15	14	15	14	33	13	14	23
GRAVEL WITH SAND AND CLAY	A-2-7	38	13	14	15	20	43	14	17	1
SANDY SILT	A-4a	17	12	17	28	26	25	8	13	149
SILT	A-4b	7	3	12	54	24	24	7	14	7
SILT AND CLAY	A-6a	16	10	14	28	32	33	13	15	181
SILTY CLAY	A-6b	11	7	13	29	40	37	17	17	72
ELASTIC CLAY	A-7-5	7	5	10	33	45	50	17	30	9
CLAY	A-7-6	4	3	6	25	62	47	23	23	118
OTHER SOILS	VISUAL	45	16	11	14	14	-	-	10	123
RANDOM FILL					VISUAL CLASSIFICATION					
WEATHERED SHALE					VISUAL CLASSIFICATION					
SHALE					VISUAL CLASSIFICATION					
CLAYSHALE					VISUAL CLASSIFICATION					
LIMESTONE/DOLOMITE					VISUAL CLASSIFICATION					
WEATHERED SANDSTONE					VISUAL CLASSIFICATION					

- SOD AND/OR TOP SOIL = X = APPROXIMATE DEPTH
- BERM MATERIAL
- AUGER BORING - PLAN VIEW
- DRIVE SAMPLE AND/OR CORE BORING - PLAN VIEW
- ROADWAY OR AUGER BORING PLOTTED TO VERTICAL SCALE ONLY
- DRIVE SAMPLE AND/OR CORE BORING PLOTTED TO VERTICAL SCALE ONLY
- WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT
- INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT
- W FREE WATER
- STATIC WATER LEVEL
- NUMBER OF BLOWS FOR STANDARD PENETRATION TEST
  - X = NUMBER OF BLOWS FOR FIRST 6"
  - Y = NUMBER OF BLOWS FOR SECOND 6"
  - Z = NUMBER OF BLOWS FOR THIRD 6"
  - or X/Y/Z

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT. e.g. 15

NOTE

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS, SOIL TESTS, AND BEDROCK BORINGS 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.

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SOIL PROFILE

FRA-270-21.63

8

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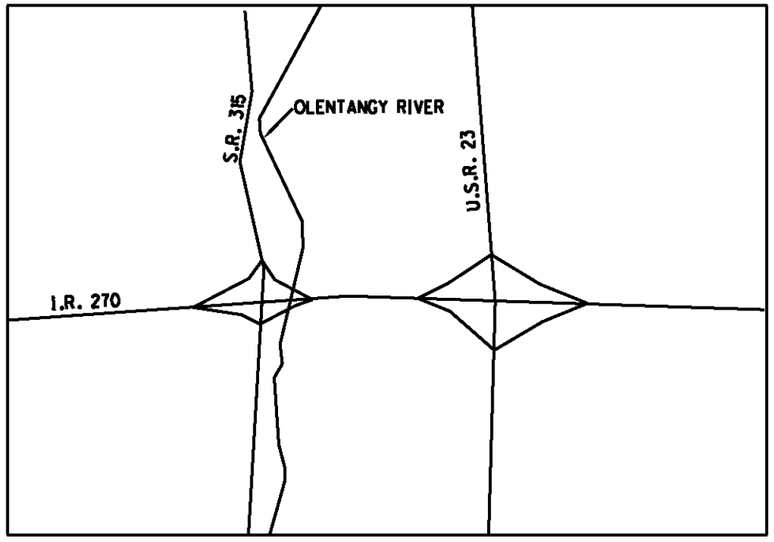
PROJECT INDEX			
STATIONS FROM TO	PLAN/PROFILE SHEET	CUT MAX.	FILL MAX.
I-270 ROADWAY 796+00 832+00	-	7.0′	0.0′
US 23 TRENCH 75+03 122+09	-	27.9′	2.5′
US 23 LOCAL 54+00 118+06		0.7′	5.4′
SR 315 115+00 170+00	21-24	0.4′	3.3′
RAMP 23B 62+79 70+99	-	-	20.1′
RAMP 23C 15+45 45+26	-	3.5′	38.4′
RAMP 23D 19+07 33+54	-	18.8′	4.8′
RAMP 23F1 26+23 45+23	-	61.1′	8.5′
RAMP 23F2 28+34 36+90	-	-	47.4′
RAMP 23F3 29+98 33+72	-	17.0′	10.1′
RAMP 23G 62+79 70+99	-	0.9′	5.8′
RAMP 23H 895+21 907+71	-	24.6′	7.6′
ROADWAY WB-CD 111+82 152+38	-	62.9′	7.2′
RAMP 315A 72+62 85+00 93+70 109+00	25-26	-	5.0′
RAMP 315B 155+32 163+67	-	2.6′	1.9′
RAMP 315C 841+71 849+74	26-27	6.0′	3.6′
RAMP 315E 841+70 866+95	-	3.3′	9.1′
RAMP 315F 138+72 170+22	-	-	26.8′
RAMP 315G 127+90 145+78	-	2.0′	25.6′
RAMP 315H 179+37 185+50	-	1.4′	0.8′
ROADWAY EB-CD-A 127+60 189+06	-	1.4′	0.8′
ROADWAY EB-CD-B 857+98 873+00	-	1.0′	3.5′
RAMP CD-B 857+98 873+00	-	3.3′	4.1′
FLINT RD. 20+90 22+50	-	1.3′	-
CAMPUS VIEW RD. 18+00 21+75	-	-	3.6′
YORK TEMPLE RD. 10+00 22+83	-	1.4′	3.7′
RADIO CITY 18+50 21+00	-	-	-
DIMENSION DR. 42+50 43+75	-	-	-



LOCATION MAP
N.T.S.

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SOIL PROFILE

FRA-270-21.63

9

SUMMARY OF SOIL TEST DATA - S.R. 315 ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
• DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET SR-315	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
R-7 99+00.02, 60.00' Lt.	0.0'-1.2'		ASPHALT CONCRETE (10") OVER BASE (4")							
	1.2'-2.5'	55	9	12	13	11			11	VIS.
	2.5'-4.0'	46	10	14	15	15	31	12	17	A-2-6
	4.0'-5.5'	70	11	7	7	5	NP	NP	4	A-1-a
	6.5'-8.0'		BROWN CLAYEY SILT						25	VIS.
	8.5'-10.0'		BROWN CLAYEY SILT						29	VIS.
R-8 103+00.10, 60.00' Lt.	0.0'-1.2'		ASPHALT CONCRETE (10") OVER BASE (4")							
	1.2'-2.5'		BROWN SAND AND GRAVEL (FILL)						4	VIS.
	2.5'-4.0'	53	13	9	14	11	27	9	10	A-2-4
	4.0'-5.5'	6	7	14	34	39	42	17	19	A-7-6
	6.5'-8.0'		BROWN SANDY SILT (FILL)						14	VIS.
	8.5'-10.0'		BROWN CLAYEY SILT						26	VIS.
R-18 104+75.83, 55.47' Lt.	0.0'-1.3'		ASPHALT CONCRETE (10") OVER BASE (5")							
	1.3'-2.8'	43	17	12	18	10	21	4	13	A-2-4
	2.8'-3.5'		BROWN WEATHERED SHALE (FILL)						4	VIS.
	4.0'-5.5'	10	9	15	36	30	32	12	11	A-6a
	6.5'-8.0'	0	1	4	46	49	44	17	32	A-7-6
	8.5'-10.0'		BROWN SILTY CLAY						20	VIS.
R-9 107+00.25, 60.00' Lt.	0.0'-1.2'		ASHPALT CONCRETE (11") OVER BASE (4")							
	1.2'-2.5'		BROWN SAND AND GRAVEL (FILL)						3	VIS.
	2.5'-4.0'	85	6	3	4	2			5	VIS.
	4.0'-5.5'	12	10	15	36	27	33	12	17	A-6a
	6.5'-8.0'		BROWN CLAYEY SILT (POSSIBLE FILL)						23	VIS.
	8.5'-10.0'		BROWN CLAYEY SILT (POSSIBLE FILL)						16	VIS.
R-10 111+00.98 59.94' Lt.	0.0'-1.2'		ASPHALT CONCRETE (10") OVER BASE (4")							
	1.2'-2.5'	60	14	8	13	5	NP	NP	6	A-1-b
	2.5'-4.0'	59	13	10	13	5	24	7	10	A-2-4
	4.0'-5.5'		GRAY SANDY SILT WITH SHALE FRAGMENTS (FILL)						8	VIS.
	6.5'-8.0'	0	1	10	47	42	41	17	22	A-7-6
	8.5'-10.0'		BROWN CLAYEY SILT						14	VIS.
R-11 115+00.08, 54.90' Lt.	0.0'-1.2'		ASPHALT CONCRETE (9") OVER BASE COURSE (5")							
	1.2'-2.5'	61	14	8	16	1	NP	NP	5	A-1-b
	2.5'-4.0'	38	14	8	19	21	30	15	11	A-6a
	4.0'-5.5'		SHALE FRAGMENTS (FILL)						21	VIS.
	6.5'-8.0'	7	6	16	45	26	38	17	16	A-6b
	8.5'-10.0'		BROWN CLAYEY SILT						16	VIS.
R-12 118+99.95, 59.97' Lt.	0.0'-1.2'		ASPHALT CONCRETE (9") OVER BASE (5")							
	1.2'-2.0'	56	22	10	8	4				
	2.5'-4.0'	28	17	13	25	17	31	11	10	A-6a
	4.0'-5.5'	29	21	13	21	16	30	13	6	A-6a
	6.5'-8.0'		BROWN WEATHERED SHALE						5	VIS.
	8.5'-10.0'		BROWN WEATHERED SHALE						4	VIS.
R-13 122+99.67, 63.86' Lt.	0.0'-1.1'		ASPHALT CONCRETE (10") OVER BASE (3")							
	1.1'-2.0'	45	19	12	19	5	NP	NP	6	A-1-b
	2.0'-3.5'		BROWN AND GRAY CLAYSHALE (POSSIBLE FILL)						8	VIS.
	4.5'-6.0'		BROWN AND GRAY CLAYSHALE						5	VIS.
	6.0'-7.5'		BROWN AND GRAY CLAYSHALE						7	VIS.
	8.5'-10.0'		BROWN AND GRAY CLAYSHALE						14	VIS.
R-14 127+00.85, 71.21' Lt.	0.0'-1.3'		ASPHALT CONCRETE (10") OVER BASE (5")							
	1.3'-2.5'	46	19	12	17	6			9	VIS.
	2.5'-3.0'		BROWN CLAYSHALE						6	VIS.
	3.0'-4.0'		BROWN AND GRAY SHALE							
	4.0'-5.5'		BROWN AND GRAY SHALE						5	VIS.
	6.5'-7.0'		BROWN CLAY (VISUAL)							VIS.
	7.0'-8.0'		BROWN AND GRAY WEATHERED SHALE						2	VIS.
	8.0'-9.5'		BROWN AND GRAY WEATHERED SHALE						6	VIS.
R-19 130+49.80, 57.83' Rt.	0.0'-1.3'		ASPHALT CONCRETE (4") OVER PORTLAND CEMENT CONCRETE (3") OVER ASPHALT CONCRETE (4") OVER BASE (4")							
	1.5'-3.0'	34	32	14	13	7	NP	NP	4	A-1-b
	3.0'-4.5'	36	23	16	16	9	NP	NP	4	A-1-b
	4.5'-6.0'		BROWN SAND AND GRAVEL (FILL)						5	VIS.
	6.5'-8.0'		BROWN SAND AND GRAVEL (FILL)						5	VIS.

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA - S.R. 315 ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
• DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
R-15 130+96.39, 76.82' Lt.	0.0'-1.2'		ASPHALT CONCRETE (10") OVER BASE (4")							
	1.2'-2.5'	28	15	14	21	22	24	9	14	A-4a
	2.5'-4.0'	41	16	5	22	16	37	13	11	A-6a
	4.0'-5.5'		BROWN AND GRAY CLAYSHALE (SOIL-LIKE)						8	VIS.
	6.0'-6.5'		BROWN WEATHERED SHALE						3	VIS.
R-20 133+97.33, 77.98' Rt.	0.0'-1.2'		ASPHALT CONCRETE (10") OVER BASE (4")							
	1.5'-3.0'	26	10	8	33	23	37	13	11	A-6a
	3.0'-4.5'	19	9	7	35	30	36	14	10	A-6a
	4.5'-6.0'		GRAY CLAYSHALE (FILL)						4	VIS.
	6.5'-8.0'		BROWN CLAYEY SILT (TILL)						10	VIS.
	8.5'-10.0'	0	1	18	45	36	39	19	19	A-6b
R-16 135+00.12, 43.26' Lt.	0.0'-1.5'		PORTLAND CEMENT CONCRETE (4") BASE (4") ASPHALT CONCRETE (5") BASE (5")							
	1.5'-3.0'	30	16	14	19	21	29	12	8	A-6a
	3.0'-4.5'	24	7	4	41	24	33	9	9	A-4a
	4.5'-6.0'		BROWN WEATHERED SHALE						7	VIS.
	6.0'-7.5'		BROWN WEATHERED SHALE						7	VIS.
	8.5'-10.0'		BROWN WEATHERED SHALE						5	VIS.
R-21 138+13.26, 58.51' Rt.	0.0'-1.3'		ASPHALT CONCRETE (11") OVER BASE (5")							
	1.5'-3.0'	18	11	11	33	27	36	15	8	A-6a
	3.0'-4.5'	27	13	11	23	26	31	13	15	A-6a
	4.5'-6.0'		GRAY SILTY CLAY WITH SHALE FRAGMENTS						9	VIS.
	6.5'-8.0'		GRAY CLAYSHALE						7	VIS.
	8.5'-10.0'		BROWN WEATHERED SHALE						6	VIS.
R-17 139+00.19, 52.19' Lt.	0.0'-1.5'		ASPHALT CONCRETE (13") OVER BASE COURSE (5")							
	1.5'-3.0'	35	11	10	17	27	34	13	11	A-6a
	3.0'-4.5'	32	12	9	20	27	34	12	10	A-6a
	4.5'-6.0'		BROWN TO GRAY SANDY SILT WITH SHALE FRAGMENTS							VIS.
	6.5'-8.0'		BROWN TO GRAY SANDY SILT WITH SHALE FRAGMENTS						10	VIS.
	8.0'-10.0'		BROWN TO GRAY SANDY SILT WITH SHALE FRAGMENTS						9	VIS.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
R-22 140+98.86, 55.34' Rt.	0.0'-1.3'		ASPHALT CONCRETE (12") OVER BASE (4")							
	1.5'-3.0'	30	15	13	22	20	30	10	8	A-4a
	3.0'-4.5'		GRAY WEATHERED SHALE						9	VIS.
	4.5'-6.0'		GRAY WEATHERED SHALE						8	VIS.
	6.5'-8.0'		GRAY WEATHERED SHALE						9	VIS.
	8.5'-10.0'		GRAY WEATHERED SHALE						8	VIS.
R-28 142+98.66, 53.81' Lt.	0.0'-1.5'		ASPHALT CONCRETE (8") BASE (10")							
	1.5'-3.0'		BROWN SANDY SILT TO SILTY SAND						12	VIS.
	3.0'-4.5'	31	14	12	28	15	23	7	15	A-4a
	4.5'-6.0'	24	16	16	25	19	28	8	18	A-4a
	6.5'-8.0'		BROWN SANDY SILT TO SILTY SAND						19	VIS.
	8.0'-10.0'		BROWN SANDY SILT TO SILTY SAND						10	VIS.
R-23 144+98.41, 54.99' Rt.	0.0'-1.5'		ASPHALT CONCRETE OVER BASE							
	1.5'-3.0'	40	20	13	18	9	22	7	12	A-2-4
	3.0'-4.5'		GRAY CLAYSHALE (FILL)						10	VIS.
	4.5'-6.0'	44	12	12	16	16	30	10	12	A-2-4
	6.5'-8.0'		BROWN SANDY SILT WITH SHALE FRAGMENTS (FILL)						15	VIS.
	8.5'-10.0'		GRAY SANDY SILT						19	VIS.
R-24 147+42.74, 75.82' Rt.	0.0'-1.4'		ASPHALT CONCRETE (7") BASE (10")							
	1.5'-3.0'	35	11	13	17	24	29	9	12	A-4a
	3.0'-4.5'	37	13	15	15	20	30	6	10	A-2-4
	4.5'-6.0'		BROWN SILTY CLAY WITH SHALE FRAGMENTS (FILL)						16	VIS.
	6.0'-7.5'		BROWN SILTY CLAY WITH SHALE FRAGMENTS (FILL)						16	VIS.
	8.5'-10.0'		DARK BROWN CLAYEY SILT						28	VIS.
R-25 152+02.43, 75.26' Lt.	0.0'-0.7'		GRAVEL (8")							
	0.7'-2.0'	24	13	17	18	28	32	10	11	A-4a
	2.0'-3.5'	31	14	14	16	25	33	14	13	A-6a
	3.5'-5.0'		BROWN SILTY CLAY (FILL)						11	VIS.
	5.5'-7.0'		BROWN SILTY CLAY (FILL)						21	VIS.
	8.5'-10.0'		BROWN AND DARK BROWN CLAYEY SILT (FILL)						23	VIS.
R-26 156+07.52, 55.7' Rt.	0.0'-0.5'		TOPSOIL (6")							
	0.5'-2.0'	43	14	13	13	17	30	9	11	A-2-4
	2.0'-3.5'	26	14	18	19	23	30	10	11	A-6a
	3.5'-5.0'		BROWN SANDY SILT (FILL)							VIS.
	5.5'-7.0'		BROWN SANDY SILT (FILL)						22	VIS.
	8.5'-10.0'		BROWN SANDY SILT (FILL)						17	VIS.

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SOIL PROFILE

FRA-270-21.63

11

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SUMMARY OF SOIL TEST DATA - S.R. 315 ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
• DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
A-1	0.0'-1.0'		TOPSOIL (12") (FILL)							
80+7.76	1.0'-2.0'		BROWN SANDY SILT (FILL)						11	VIS.
25.54' Lt.	3.5'-5.0'		BROWN SANDY SILT (FILL)						16	VIS.
	6.0'-7.5'		BROWN CLAYEY SILT (POSSIBLE FILL)						23	VIS.
	8.5'-10.0'	2	6	12	29	51	37	16	18	A-6b
	11.0'-12.5'		BROWN SILTY CLAY WITH SHALE FRAGMENTS						21	VIS.
	13.5'-15.0'		BROWN WEATHERED SHALE						4	VIS.
	16.0'-17.5'		BROWN WEATHERED SHALE						9	VIS.
	18.5'-20.0'		BROWN WEATHERED SHALE						3	VIS.
	23.5'-25.0'		GRAY AND DARK GRAY WEATHERED SHALE						7	VIS.
	28.5'-30.0'		GRAY AND DARK GRAY WEATHERED SHALE						11	VIS.
	33.5'-35.0'		GRAY AND DARK GRAY WEATHERED SHALE						11	VIS.
	35.0'-40.0'		MODERATELY HARD, WEATHERED TO HIGHLY WEATHERED, HIGHLY FRACTURED, GRAY CLAYSHALE WITH HARD , FRESH, GRAY LIMESTONE SEAM FROM 35.9' to 36.2'							
R-29	0.0'-1.7'		ASPHALT CONCRETE (8") OVER PORTLAND CEMENT CONCRETE (8") OVER BASE COARSE (4")							
159+05.03,	1.7'-3.2'	43	15	13	13	16	34	11	17	A-2-6
16.3' Lt.	3.2'-4.5'	58	16	15	7	4			6	VIS.
	4.5'-6.0'		CONCRETE FRAGMENTS (FILL)						7	VIS.
	7.0'-8.5'		BROWN SANDY SILT (FILL)						12	VIS.
	8.5'-10.0'		BROWN SANDY SILT (FILL)						10	VIS.
R-27	0.0'-1.3'		ASPHALT CONCRETE (10") OVER BASE COARSE (4")							
159+35.54,	1.3'-2.5'	63	13	11	8	5			14	VIS.
54.8' Rt.	2.5'-4.0'	38	13	14	15	20	43	14	17	A-2-7
	4.5'-6.0'		BROWN SILTY CLAY WITH SHALE FRAGMENTS (FILL)						11	VIS.
	6.5'-8.0'		BROWN SILTY CLAY WITH COBBLES (FILL)						7	VIS.
	8.5'-10.0'		BROWN SILTY CLAY WITH COBBLES (FILL)						9	VIS.
R-30	0.0'-0.7'		TOPSOIL (FILL) (8")							
162+95.56,	0.7'-2.0'		BROWN FINE TO COARSE SAND AND GRAVEL (FILL)						5	VIS.
60.8' Lt.	2.0'-3.5'	55	12	11	10	12	30	10	9	A-2-4
	3.5'-5.0'	49	10	11	14	16	32	10	11	A-2-4
	6.5'-8.0'		BROWN SANDY SILT (FILL)						12	VIS.
	8.5'-10.0'		BROWN SANDY SILT (FILL)						19	VIS.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
RA-799	0.0'-0.7'		SAND AND GRAVEL (FILL) (8")							
93+5.23,	0.7'-2.0'	30	17	19	16	18	28	9	12	A-2-4
60.13' Rt.	2.0'-3.5'	29	14	18	21	18	26	8	8	A-4a
	3.5'-5.0'		BROWN SILTY SAND WITH SHALE FRAGMENTS (FILL)						17	VIS.
	6.0'-7.5'		GRAY WEATHERED SHALE						5	VIS.
	8.5'-10.0'		GRAY WEATHERED SHALE							VIS.
RA-800	0.0'-0.5'		TOPSOIL (FILL) (6")							
96+87.14,	0.5'-2.0'	34	13	21	16	16	31	12	14	A-2-6
61.46' Rt.	2.0'-3.5'	53	17	12	8	10			9	VIS.
	3.5'-5.0'		BROWN AND GRAY WEATHERED SHALE (FILL)						4	VIS.
	6.0'-7.5'		BROWN AND GRAY WEATHERED SHALE (FILL)						4	VIS.
	8.5'-10.0'		GRAY CLAYEY SILT						25	VIS.
RA-801	0.0'-1.1'		ASPHALT CONCRETE (9") OVER BASE (4")							
100+97.46,	1.1'-2.0'	46	22	12	15	5	NP	NP	4	A-1-b
55.8' Rt.	2.0'-3.5'	14	11	16	29	30			15	VIS.
	4.0'-5.5'		BROWN SILTY CLAY (FILL)						17	VIS.
	6.5'-8.0'	10	7	15	30	38	51	25	20	A-7-6
	8.5'-10.0'		BROWN SANDY SILT (FILL)						23	VIS.
RA-802	0.0'-1.1'		ASPHALT CONCRETE (8") OVER BASE (5")							
104+99.34,	1.1'-2.5'	15	3	19	32	31	38	17	12	A-6b
55.74' Rt.	2.5'-4.0'	54	17	12	10	7			12	VIS.
	4.0'-5.5'		BROWN WEATHERED SHALE (FILL)						14	VIS.
	6.5'-8.0'		BROWN WEATHERED SHALE (FILL)						6	VIS.
	8.5'-10.0'	5	7	31	25	32	35	16	15	A-6b
RA-803	0.0'-1.2'		ASPHALT CONCRETE (9") OVER BASE (5")							
109+00.17,	1.2'-2.5'	32	9	14	22	23	30	13	10	A-6a
55.08' Rt.	2.5'-4.0'	60	18	8	9	5	27	9	10	A-2-4
	4.0'-5.5'		BROWN WEATHERED SHALE (FILL)						7	VIS.
	6.5'-8.0'	5	5	18	49	23	30	15	14	A-6a
	8.5'-10.0'		BROWN CLAYEY SILT (FILL)						25	VIS.
RA-804	0.0'-1.1'		ASPHALT CONCRETE (9") OVER BASE (4")							
112+99.18,	1.1'-2.5'	30	19	14	16	21	25	11	11	A-6a
55.75' Rt.	2.5'-4.0'	30	17	15	22	16	27	10	5	A-4a
	4.0'-5.5'		BROWN WEATHERED SHALE (FILL)						12	VIS.
	6.5'-8.0'		BROWN WEATHERED SHALE (FILL)						12	VIS.
	8.5'-10.0'		GRAY AND BROWN WEATHERED SHALE AND LIMESTONE (FILL)						5	VIS.

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SOIL PROFILE

FRA-270-21.63

SUMMARY OF SOIL TEST DATA - RAMP 315A ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
• DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
RA-501 74+99.91 7.91' Lt.	0.0'-0.4'		TOPSOIL (FILL) (5")							
	0.5'-1.5'	49	12	8	16	15	28	9	12	A-2-4
	1.5'-3.0'	29	15	12	23	21	25	8	6	A-4a
	3.0'-4.5'	42	15	13	16	14	25	6	4	A-2-4
	4.5'-6.0'		GRAY SHALE (FILL)						7	VIS
	6.0'-7.5'		BROWN SILTY SAND						7	VIS
	8.5'-10.0'		BROWN CLAYEY SILT						14	VIS
RA-502 78+89.99 8.01' Lt.	0.0'-0.4'		TOPSOIL (FILL) (5")							
	0.5'-1.5'	54	16	8	11	11			4	VIS
	1.5'-3.0'	58	18	8	9	7			6	VIS
	3.0'-4.5'	43	15	14	11	17			14	VIS
	4.5'-6.0'		BROWN CLAYEY SILT (FILL)						14	VIS
	6.0'-7.5'		BROWN SHALE (FILL)						6	VIS
	8.5'-10.0'		BROWN CLAYEY SILT						11	VIS
RA-502B 81+49.95, 0.02' Rt.	0.0'-1.5'	50	17	11	12	10	26	8	7	A-2-4
	1.5'-3.0'	18	11	15	23	33	37	15	20	A-6a
	3.0'-4.5'		BROWN SANDY SILT (FILL)						15	VIS
	4.5'-6.0'		BROWN SANDY SILT (FILL)						14	VIS
	7.0'-8.5'		BROWN SANDY SILT (FILL)						20	VIS
	9.5'-11.0'	29	16	15	24	16	25	7	16	A-4a
	13.5'-14.0'		BROWN SANDY SILT (FILL)						14	VIS
	14.0'-15.0'		BROWN WEATHERED SHALE						3	VIS
RA-503 96+16.92 8' Lt.	0.0'-0.5'		GRAVEL BASE (FILL) (6")							
	0.5'-2.0'	53	20	13	9	5			2	VIS
	2.0'-3.5'		GRAY WEATHERED SHALE						14	VIS
	3.5'-5.0'		GRAY WEATHERED SHALE						10	VIS
	6.0'-7.5'		GRAY WEATHERED SHALE						8	VIS
	8.5'-10.0'		GRAY WEATHERED SHALE						7	VIS
RA-504 99+99.97 8.08' Lt.	0.0'-0.3'		TOPSOIL (FILL) (3")							
	0.3'-1.8'	53	19	12	7	9	28	6	10	A-1-b
	2.0'-3.5'		BROWN SAND AND GRAVEL WITH SHALE FRAGMENTS (FILL)						6	VIS.
	3.5'-5.0'	64	16	10	6	4	NP	NP	4	A-1-a
	6.0'-7.5'		BROWN SAND AND GRAVEL WITH SHALE FRAGMENTS (FILL)						3	VIS.
	8.5'-10.0'		BROWN WEATHERED SHALE (POSSIBLE FILL)						6	VIS.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
RA-505B 104+00, 129.86' Rt.	0.0'-0.6'		TOPSOIL (FILL) (7")							
	0.6'-2.1'		BROWN SANDY SILT (FILL)						16	VIS
	3.0'-4.5'		BROWN SANDY SILT (FILL)						14	VIS
	5.5'-7.0'	9	10	14	29	38	23	8	12	A-4a
	8.5'-10.0'		BROWN SANDY SILT (FILL)						12	VIS
	11.0'-12.5'		BROWN SANDY SILT (FILL)						15	VIS
	13.5'-15.0'		BROWN SANDY SILT (FILL)						11	VIS
	16.0'-17.5'	22	11	23	28	16	18	4	14	A-4a
	18.5'-19.5'		BROWN SILTY SAND AND GRAVEL (FILL)						11	VIS
	19.5'-21.0'		BROWN SANDY SILT (POSSIBLE FILL)						14	VIS
	23.5'-24.0'		BROWN SILTY SAND						14	VIS
	24.0'-25.5'	43	15	10	21	11	23	5	15	A-2-4
	26.0'-27.5'		BROWN SANDY SHALE						7	VIS
	28.5'-30.0'		BROWN SANDY SHALE						2	VIS
	31.0'-32.5'		BROWN SANDY SHALE						12	VIS
	33.0'-34.5'		BROWN SANDY SHALE						2	VIS
	34.5'-36.0'		BROWN SANDY SHALE						2	VIS
	36.0'-37.5'		HARD, WEATHERED, GRAY TO DARK GRAY SHALE, FRACTURED							VIS
	38.0'-39.5'		HARD, WEATHERED, DARK GRAY TO GRAY SHALE, FRACTURED							VIS
RA-505 104+00.93 27.92' Lt. RAMP 315-A	0.0'-0.3'		GRAVEL (FILL) (6")							
	0.3'-1.8'	25	17	14	22	22	30	12	4	A-6a
	2.0'-3.5'	36	16	14	17	17	33	12	7	A-2-6
	3.5'-5.0'	48	9	11	14	18			10	VIS.
	6.0'-7.5'		BROWN SANDY SILT (FILL)						8	VIS.
	8.5'-10.0'		BROWN SANDY SILT WITH COBBLES (FILL)						8	VIS.
RA-506 108+4.19 16.06' Lt. RAMP 315-A	0.0'-1.9'		ASPHALT CONCRETE (18") OVER BASE COURSE (5")							
	2.0'-2.5'	58	18	9	12	3	NP	NP	6	A-1-a
	2.5'-4.0'		BROWN SAND AND GRAVEL (FILL)						5	VIS.
	4.0'-5.5'	71	14	6	6	3			9	VIS.
	6.5'-8.0'		BROWN SANDY SILT WITH SHALE FRAGMENTS (FILL)						11	VIS.
	8.5'-10.0'		BROWN WEATHERED SHALE						7	VIS.

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SUMMARY OF SOIL TEST DATA - RAMP 315A ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
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STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
RA-507 111+22.57 3.55' Rt.	0.0'-1.8'	ASPHALT CONCRETE (5") OVER PORTLAND CEMENT CONCRETE (12") OVER BASE COURSE (5")								
	2.0'-3.5'	21	12	13	26	28	38	21	8	A-6b
	3.5'-5.0'	47	19	14	12	8	NP	NP	11	A-1-b
	5.0'-6.5'	GRAY SAND AND GRAVEL WITH COBBLES (FILL)								VIS.
	6.5'-8.0'	29	14	12	21	24	27	13	7	A-6a
	8.5-10.0'	GRAY SAND AND GRAVEL (FILL)							17	VIS.

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15

SUMMARY OF SOIL TEST DATA - RAMP 315C ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
RA-401 843+00.05 8.09' Lt.	0.0'-0.7'		TOPSOIL (FILL) (8")							
	0.7'-2.0'	73	12	13					6	VIS.
	2.0'-3.5'		GRAY WEATHERED SHALE						2	VIS.
	3.5'-5.0'		GRAY WEATHERED SHALE						3	VIS.
	6.0'-7.5'		GRAY WEATHERED SHALE						2	VIS.
	8.5'-10.0'		GRAY WEATHERED SHALE						2	VIS.
RA-401B 843+99.74, 71.99' Rt.	0.0'-0.5'		TOPSOIL (6")							VIS.
	0.5'-2.0'		BROWN SILTY CLAY AND SAND						22	VIS.
	3.0'-4.5'	6	9	20	32	33	26	9	13	A-4a
	5.5'-7.0'	39	10	20	16	15	29	6	16	A-2-4
	8.5'-10.0'		BROWN SILTY SAND						17	VIS.
	11.0'-12.5'		BROWN SHALE						18	VIS.
	13.5'-14.0'		BROWN SHALE							VIS.
	14.0'-19.0'		HARD, SLIGHTLY WEATHERED, GRAY TO DARK GRAY, SHALE, FRACTURED							VIS
	19.0'-24.0'		HARD, SLIGHTLY WEATHERED, DARK GRAY TO GRAY SHALE, FRACTURED							VIS
	24.0'-29.0'		HARD, SLIGHTLY WEATHERED, GRAY TO DARK GRAY SHALE, SLIGHTLY FRACTURED							VIS
	29.0'-34.0'		HARD, SLIGHTLY WEATHERED, DARK GRAY TO GRAY SHALE, SLIGHTLY FRACTURED							VIS
	34.0'-39.0'		HARD, SLIGHTLY WEATHERED, GRAY TO DARK GRAY, SHALE							VIS
	39.0'-43.0'		HARD, SLIGHTLY WEATHERED, DARK GRAY TO GRAY SHALE, SLIGHTLY FRACTURED							VIS
RA-402 846+98.80 2.04' Lt.	0.0'-0.7'		TOPSOIL-BERM (FILL) (8")							
	0.7'-2.0'	51	14	10	12	13	NP	NP	12	A-1-b
	2.0'-3.5'	23	33	21	14	9	NP	NP	8	A-1-b
	3.5'-5.0'		BROWN AND GRAY WEATHERED SHALE (FILL)						14	VIS.
	6.0'-7.5'		BROWN AND GRAY WEATHERED SHALE (FILL)						23	VIS.
	8.5'-10.0'		BROWN SANDY SILT (TILL)						8	VIS.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
RA-403 851+00.69 17.03' Lt.	0.0'-0.5'		TOPSOIL (FILL) (6")							
	0.5'-2.0'	56	16	11	9	8			6	VIS.
	2.0'-3.5'		BROWN TO GRAY WEATHERED SHALE						4	VIS.
	3.5'-5.0'		BROWN TO GRAY WEATHERED SHALE						4	VIS.
	5.0'-7.0'		BROWN TO GRAY WEATHERED SHALE						2	VIS.
	8.5'-10.0'		BROWN TO GRAY WEATHERED SHALE						3	VIS.

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15

SUMMARY OF SOIL TEST DATA - RAMP 315F ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
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STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
RA-201 135+99.68, 0.24' Lt.	0.0'-1.8'		ASPHALT CONCRETE (4") OVER PORTLAND CEMENT CONCRETE (11") OVER BASE COURSE (6")							
	2.0'-3.5'	41	12	7	18	22	43	20	10	A-7-6
	3.5'-5.0'	26	11	6	25	32	37	13	16	A-6a
	5.0'-6.5'		GRAY SILTY CLAY WITH SHALE FRAGMENTS (FILL)						11	VIS.
	6.5'-8.0'		GRAY WEATHERED SHALE (FILL)						9	VIS.
	8.5'-10.0'		BROWN CLAYEY SILT (FILL)						17	VIS.
RA-202 139+99.97, 8.15' Lt.	0.0'-0.5'		TOPSOIL (FILL) (7")							
	0.5'-2.0'	11	11	15	29	34	29	12	15	A-6a
	2.0'-3.5'		BROWN AND GRAY SILTY CLAY (FILL)						12	VIS.
	3.5'-5.0'	43	15	11	15	16	31	10	10	A-2-4
	5.0'-6.5'		BROWN AND GRAY SILTY SAND AND GRAVEL (FILL)						7	VIS.
	7.5'-9.0'		BROWN AND GRAY SILTY SAND AND GRAVEL WITH COBBLES (FILL)						7	VIS.
	9.0'-10.5'		BROWN AND GRAY SILTY SAND AND GRAVEL WITH COBBLES (FILL)							VIS.
	13.5'-15.0'	27	15	26	19	13	36	14	20	A-2-6
	18.5'-20.0'		BROWN AND GRAY SILTY SAND						7	VIS.
	23.5'-25.0'	44	13	9	18	16	27	9	10	A-2-4
	28.5'-30.0'		BROWN SANDY SILT (TILL)						13	VIS.
RA-204 143+82.33, 97.77' Lt.	0.0'-0.9'		TOPSOIL (FILL) (11")							
	0.9'-2.4'	16	12	14	29	29	38	17	20	A-6b
	3.5'-5.0'	7	6	12	46	29	39	14	24	A-6a
	5.0'-6.5'		BROWN CLAYEY SILT						22	VIS.
	8.5'-10.0'		BROWN CLAYEY SILT						26	VIS.
	13.5'-15.0'	46	16	12	21	5			4	VIS.
	18.5'-20.0'	15	15	15	29	26	48	12	15	A-7-5
	23.5'-25.0'		BROWN FINE TO COARSE SAND AND GRAVEL WITH COBBLES						16	VIS.
	28.5'-30.0'		BROWN FINE TO COARSE SAND AND GRAVEL WITH COBBLES						14	VIS.
	33.5'-35.0'		BROWN FINE TO COARSE SAND AND GRAVEL WITH COBBLES						15	VIS.
RA-203 144+06.77, 29.59' Lt.	0.0'-0.4'		TOPSOIL (FILL) (5")							
	0.4'-1.9'	27	6	14	27	26	36	14	11	A-6a
	2.0'-3.5'	5	4	17	38	36	30	11	15	A-6a
	3.5'-5.0'		BROWN CLAYEY SILT WITH COBBLES AND BOULDERS (FILL)							VIS.
	8.5'-10.0'	11	6	11	40	32	33	13		A-6a
RA-203 CONTD.	13.5'-15.0'	46	19	10	16	9	32	16	14	A-2-6
	18.5'-20.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS						5	VIS.
	23.5'-25.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS						11	VIS.
	28.5'-30.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS							VIS.
	30.0'-35.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS						8	VIS.
RA-205 144+14.76, 50.99' Rt. RAMP 315-F	0.0'-0.7'		TOPSOIL (FILL) (8")							
	0.7'-2.0'	18	12	13	31	26	36	13	15	A-6a
	3.0'-4.5'	25	12	12	26	25	34	15	5	A-6a
	5.5'-7.0'	20	15	18	26	21	26	9	14	A-4a
	9.0'-10.5'		GRAY SANDY SILT (TILL)						21	VIS.
	14.0'-15.5'	36	24	19	8	13			17	VIS.
	19.0'-20.5'		GRAY SANDY SILT (TILL)						21	VIS.
	23.5'-25.0'	38	24	14	13	11	26	6	5	A-1-b
	28.5'-30.0'		BROWN TO GRAY SILTY SAND AND GRAVEL WITH COBBLES							VIS.
	33.5'-35.0'		BROWN TO GRAY SILTY SAND AND GRAVEL WITH COBBLES						16	VIS.
F-1 144+53.16, 7.98' Lt. RAMP 315-F	0.0'-0.7'		TOPSOIL (FILL) (8")							
	0.7'-2.0'		BROWN CLAYEY SILT (FILL)						15	VIS.
	3.0'-4.5'	38	10	10	21	21	26	8	17	A-4a
	5.5'-7.0'		BROWN CLAYEY SILT (FILL)						15	VIS.
	8.5'-10.0'	0	1	14	37	48	43	16	28	A-7-6
	11.0'-12.5'		DARK GRAY CLAYEY SILT						33	VIS.
	13.5'-15.0'		BROWN SAND AND GRAVEL WITH COBBLES AND BOULDERS							VIS.
	16.0'-17.5	50	11	14	14	11	NP	NP	12	A-1-b
	18.5'-20.0'		BROWN SAND AND GRAVEL WITH COBBLES AND BOULDERS						14	VIS.
	23.5'-25.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS						7	VIS.
	28.5'-30.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS						8	VIS.
	33.5'-35.0'	51	16	11	11	11	22	6	7	A-1-b
	38.5'-40.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS						8	VIS.
	43.5'-45.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS							VIS.
	48.5'-50.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS						10	VIS.

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SOIL PROFILE

FRA-270-21.63

16

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SUMMARY OF SOIL TEST DATA - RAMP 315F ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
• DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
F-10 153+61.21, 7.10' Lt.	1.0'-2.5'	5	7	17	27	44	37	14	17	A-6a
	3.5'-5.0'	0	2	6	43	49	47	18	26	A-7-6
	6.0'-7.5'	BROWN AND GRAY SILTY CLAY							27	VIS.
	8.5'-10.0'	9	11	50	12	18	NP	NP	17	A-3a
	11.0'-12.5'	BROWN AND GRAY SILTY SAND							18	VIS.
	13.5'-15.0'	27	33	27	3	10	23	5	23	A-1-b
	16.0'-17.5'	BROWN SAND AND GRAVEL							15	VIS.
	18.5'-20.0'	BROWN SAND AND GRAVEL							10	VIS.
	23.5'-25.0'	31	38	14	8	9	18	3	12	A-1-b
	28.5'-30.0'	GRAY SAND AND GRAVEL							12	VIS.
	33.5'-38.5'	HIGHLY WEATHERED MEDIUM TO SOFT GRAY SILTY CLAYSHALE								VIS.
F-11 154+82.02, 11.23' Lt.	1.0'-2.5'	4	5	16	35	40	35	13	16	A-6a
	3.5'-5.0'	1	2	8	35	54	41	17	24	A-7-6
	6.0'-7.5'	RUSTY BROWN SILTY CLAY							28	VIS.
	8.5'-10.0'	21	13	15	17	34	33	14	16	A-6a
	11.0'-12.5'	BROWN CARBONACEOUS SHALE							7	VIS.
	13.0'-18.0'	HARD SLIGHTLY WEATHERED BROWN SHALE HIGHLY HORIZONTAL FRACTURING								VIS.
F-12 155+82.34, 12.04' Lt.	1.0'-2.5'	31	10	13	25	21	33	14	20	A-6a
	3.5'-5.0'	BROWN WEATHERED SHALE (FILL)							16	VIS.
	5.0'-6.5'	BROWN WEATHERED SHALE (FILL)							11	VIS.
		HARD SLIGHTLY WEATHERED GRAY SILTY SHALE								VIS.
F-13 156+54.78, 13.85' Lt.	0.0'-0.5'	TOPSOIL (18")								
	0.5'-2.0'	21	8	14	24	33	29	11	4	A-6a
	2.0'-3.5'	BROWN SANDY SILT WITH COBBLES (FILL)							3	VIS.
	3.5'-5.0'	53	18	11	8	10			6	VIS.
	6.0'-7.5'	25	10	14	18	33	34	16	13	A-6b
	8.5'-10.0'	GRAY WEATHERED SHALE								VIS.
	10.0'-15.0'	HARD FRESH BROWN SHALE ABUNDANT HORIZONTAL FRACTURING AS WELL AS ANGULAR AND 13.2'-13.8'								VIS.
	15.0'-20.0'	HARD FRESH BROWN SHALE ABUNDANT HORIZONTAL FRATURES VERTICAL FRACTURING 16' TO 17' COMPRESSIVE STRENGTH = 15,400psi								VIS.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
F-15 160+92.11, 19.62' Lt.	0.0'-0.7'	TOPSOIL (FILL) (18")								
	0.7'-2.0'	BROWN CLAYEY SILT (FILL)							11	VIS.
	3.0'-4.5'	BROWN CLAYEY SILT WITH SHALE FRAGMENTS (FILL)								VIS.
	5.5'-7.0'	61	15	10	6	8	34	12	14	A-2-6
	8.5'-10.0'	DARK GRAY WEATHERED SHALE							8	VIS.
	10.0'-15.0'	HARD FRESH DARK GRAY POORLY FISSILE SHALE								VIS.
		ANGULAR FRACTURES FROM 12" TO 14"								
	15.0'-20.0'	HARD FRESH DARK GRAY POORLY FISSILE SHALE								VIS.
F-16 161+97.52, 24.73' Lt.	0.0'-0.5'	TOPSOIL (6")								
	0.5'-2.0'	BROWNISH GRAY TO GRAY WEATHERED SHALE							3	VIS.
	3.0'-4.5'	BROWNISH GRAY TO GRAY WEATHERED SHALE							2	VIS.
	4.5'-5.0'	BROWNISH GRAY TO GRAY WEATHERED SHALE							3	VIS.
	5.0'-7.0'	DARK GRAY POOR FISSILE SHALE WITH ANGULAR FRACTURES								VIS.
	7.0'-15.0'	DARK GRAY TO BLACK HARD POORLY FISSILE SHALE								VIS.
F-17 162+61.80, 7.05' Rt.	0.0'-0.5'	TOPSOIL (FILL) (6")								
	0.5-2.0'	BROWNISH GRAY WEATHERED SHALE							6	VIS.
	3.0'-4.5'	DARK BROWN TO DARK GRAY WEATHERED SHALE							10	VIS.
	5.5'-7.0'	DARK BROWN TO DARK GRAY WEATHERED SHALE							6	VIS.
	8.5'-9.0'	DARK BROWN TO DARK GRAY WEATHERED SHALE							2	VIS.
	9.0'-10.0'	HARD SLIGHTLY WEATHERED DARK GRAY SILTY SHALE								VIS.
	10.0'-12.0'	LIGHT GRAY SILTY SHALE								VIS.
	12.0'-15.5'	HARD DARK BROWNISH GRAY POORLY FISSILE SHALE								VIS.
	15.5'-17.0'	HARD LIGHT GRAY FINE GRAINED SANDSTONE								VIS.
	17.0'-19.0'	DARK BROWNISH GRAY POORLY FISSILE SHALE								VIS.

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA - RAMP 315G ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
RA-1103 127+57.43, 8.64' Rt.	0.0'-1.3'		ASPHALT CONCRETE (10") OVER BASE (6")							
	1.3'-2.8'	39	13	14	16	18	29	10	13	A-2-4
	3.0'-4.5'		BROWN SANDY SILT WITH SHALE FRAGMENTS						12	VIS.
	4.5'-6.0'		BROWN SANDY SILT WITH SHALE FRAGMENTS						12	VIS.
	6.5'-8.0'		DARK GRAY WEATHERED SHALE						3	VIS.
	8.5'-10.0'		DARK GRAY WEATHERED SHALE						5	VIS.
RA-1104 131+59.58, 19.6' Rt.	0.0'-0.5'		TOPSOIL(FILL) (6")							
	0.5'-2.0'		BROWN HIGHLY WEATHERED SHALE						4	VIS.
	2.0'-3.5'		BROWN HIGHLY WEATHERED SHALE						10	VIS.
	3.5'-4.5'		BROWN HIGHLY WEATHERED SHALE						2	VIS.
RA-1106 135+25.89, 62.88' Lt.	0.0'-0.7'		TOPSOIL (FILL) (8")							
	0.7'-2.0'		BROWN SANDY SILT WITH COBBLES (FILL)						6	VIS.
	2.0'-3.0'	16	13	18	30	23	26	10	14	A-4a
	3.5'-5.0'	13	13	16	28	30			12	VIS.
	8.5'-10.0'		BROWN SILTY CLAY WITH COBBLES (POSSIBLE FILL)						3	VIS.
	13.5'-15.0'	50	19	12	14	5	NP	NP	3	A-1-b
	18.5'-20.0'		BROWN SILTY SAND AND GRAVEL WITH COBBLES						5	VIS.
	23.5'-25.0'		BROWN SILTY SAND AND GRAVEL WITH COBBLES							VIS.
	28.5'-30.0'		BROWN SILTY SAND AND GRAVEL WITH COBBLES						13	VIS.
	33.5'-35.0'		GRAY SILTY SAND						11	VIS.
RA-1105 135+30.09, 12.03' Rt.	0.0'-0.5'		TOPSOIL (FILL) (6")							
	0.5'-1.5'		BROWN SHALE (FILL) (6")						3	VIS.
	2.0'-3.5'	5	1	14	62	18	NP	NP	16	A-4b
	3.5'-5.0'		BROWN FINE SAND (FILL)						4	VIS.
	6.0'-7.5'		BROWN FINE TO COARSE SAND AND GRAVEL						4	VIS.
	8.5'-10.0'		BROWN FINE TO COARSE SAND AND GRAVEL						4	VIS.
RA-1105 CONTD.	13.5'-15.0'		BROWN FINE TO COARSE SAND AND GRAVEL WITH COBBLES						9	VIS.
	18.5'-20.0'		GRAY CLAYSHALE TO WEATHERED SHALE						10	VIS.
	23.5'-25.0'		GRAY CLAYSHALE TO WEATHERED SHALE						4	VIS.
	28.0'-29.5'		GRAY CLAYSHALE TO WEATHERED SHALE						7	VIS.
RA-1107 135+32.14, 67.01' Rt.	0.0'-0.5'		TOPSOIL (FILL) (6")							
	0.5'-2.0'	26	19	14	23	18	31	12	10	A-6a
	2.0'-3.5'	25	12	12	24	27			7	VIS.
	3.5'-5.0'		BROWN SANDY SILT TO SILTY SAND WITH COBBLES						10	VIS.
	6.0'-7.5'	0	1	39	30	30	34	11	7	A-6a
	8.5'-10.0'		GRAY TO DARK GRAY SHALE						5	VIS.
	13.5'-15.0'		GRAY TO DARK GRAY SHALE						10	VIS.
G-1 136+75.90, 13.99' Lt.	0.0'-1.0'		TOPSOIL (FILL) (12")							
	1.0'-2.5'		BROWN AND GRAY SILTY CLAY TO CLAYEY SILT						14	VIS.
	3.5'-5.0'	9	9	16	31	35	28	11	2	A-6a
	6.0'-7.5'		BROWN AND GRAY SILTY CLAY TO CLAYEY SILT						4	VIS.
	8.5'-10.0'		BROWN AND GRAY SILTY CLAY TO CLAYEY SILT						10	VIS.
	11.0'-12.5'	18	14	17	26	25			12	VIS.
	13.5'-15.0'		BROWN AND GRAY SILTY CLAY TO CLAYEY SILT						11	VIS.
	16.0'-17.5'		BROWN AND GRAY SILTY CLAY TO CLAYEY SILT						14	VIS.
	18.5'-20.0'	31	15	17	18	19			15	VIS.
	23.5'-25.0'	14	38	28	18	2	NP	NP	17	A-1-b
	28.5'-30.0'	18	9	17	28	28	24	9	2	A-4a
	33.5'-35.0'	14	35	40	5	6	NP	NP	17	A-3a
	38.5'-40.0'		GRAY SANDY SILT (TILL)						8	VIS.
	43.5'-45.0'	21	9	15	29	26	23	9	12	A-4a
	48.5'-49.5'		GRAY SANDY SILT (TILL)						6	VIS.
	49.5'-52.5'		HARD FRESH GRAY DOLOMITE @49.5' COMPRESSIVE STRENGTH = 7,900psi @51' COMPRESSIVE STRENGTH = 13,610psi							VIS.

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SOIL PROFILE

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18

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SUMMARY OF SOIL TEST DATA - RAMP 315G ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
• DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
G-2 137+68.17, 9.84' Lt.	0.0'-1.7'		GRAVEL (FILL) (20")							
	1.7'-3.2'		BROWN AND GRAY SANDY SILT WITH ROCK FRAGMENTS (FILL)						15	VIS.
	3.5'-5.0'	47	15	8	14	16			9	VIS.
	6.0'-7.5'		BROWN AND GRAY SANDY SILT (FILL)						12	VIS.
	8.5'-10.0'		BROWN AND GRAY SANDY SILT (FILL)						11	VIS.
	11.0'-12.5'		BROWN AND GRAY SANDY SILT (FILL)						16	VIS.
	13.5'-14.3'	0	0	32	43	25	32	9	17	A-4a
	16.0'-17.5'		BROWN SILT						26	VIS.
	19.0'-20.5'	53	17	11	12	7			17	VIS.
	23.5'-25.0'		BROWN SAND AND GRAVEL						13	VIS.
	28.5'-30.0'	16	9	16	30	29	25	10	15	A-4a
	33.5'-35.0'		GRAY CLAYEY SILT (TILL)						13	VIS.
	38.5'-40.0'	1	6	66	15	12			15	VIS.
	43.5'-45.0'		GRAY FINE TO COARSE SAND AND GRAVEL						22	VIS.
	48.5'-50.0'		GRAY FINE TO COARSE SAND AND GRAVEL						12	VIS.
	50.0'-55.5'		VERY HARD, DARK, GRAY, DOLOMITE WITH PYRITE SEAMS							VIS.
			COMPRESSIVE STRENGTH = 7,970psi							
G-3 138+52.16, 3.49' Rt.	0.0'-0.4'		TOPSOIL (FILL) (5")							
	0.5'-2.0'	33	10	10	21	26			1	VIS.
	3.0'-4.5'		BROWN CLAYEY SILT WITH SHALE FRAGMENTS (FILL)						9	VIS.
	5.5'-7.0'	37	17	5	23	18	34	12	7	A-6a
	8.5'-10.0'		BROWN CLAYEY SILT WITH SHALE FRAGMENTS (FILL)						3	VIS.
	11.0'-12.5'		BROWN CLAYEY SILT WITH SHALE FRAGMENTS (FILL)						17	VIS.
	13.5'-15.0'	0	0	12	45	43	41	16	24	A-7-6
	16.0'-17.5'		BROWN CLAYEY SILT						33	VIS.
	18.5'-20.0'		BROWN SAND AND GRAVEL WITH COBBLES & BOULDERS							VIS.
	23.0'-24.5'	61	14	8	11	6	NP	NP	13	A-1-b
	28.5'-30.0'		BROWN SAND AND GRAVEL WITH COBBLES & BOULDERS						11	VIS.
	33.5'-35.0'		BROWN SAND AND GRAVEL WITH COBBLES & BOULDERS						10	VIS.
	38.5'-40.0'		BROWN SAND AND GRAVEL WITH TILL LAYERS AND COBBLES						10	VIS.
	43.5'-45.0'	17	34	42	1	6	NP	NP	21	A-1-b
	48.0'-49.0'		WEATHERED, GRAY LIMESTONE							VIS.
	49.0'-54.0'		HARD, FRESH, GRAY LIMESTONE WITH FRAGMENTS OF DOLOMITE, ABUNDANT HORIZONTAL AND ANGULAR FRACTURING FROM 49' TO 51'							VIS.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
G-4 139+53.69, 6.61' Rt.	1.0'-2.5'		BROWN AND GRAY TO DARK BROWN CLAYSHALE TO SHALE (FILL)						12	VIS.
	3.5'-5.0'		BROWN AND GRAY TO DARK BROWN CLAYSHALE TO SHALE (FILL)							VIS.
	6.0'-7.5'	57	12	12	8	11	23	6	12	A-1-b
	8.5'-10.0'		BROWN AND GRAY TO DARK BROWN CLAYSHALE TO SHALE (FILL)						11	VIS.
	11.5'-13.0'	0	1	17	35	47	40	14	29	A-6a
	13.5'-14.4'		DARK GRAY SILTY CLAY						18	VIS.
	16.0'-16.5'		BROWN SANDY SILT						17	VIS.
	16.5'-18.0'		BROWN SILTY SAND AND GRAVEL							
	18.5'-20.0'	58	11	11	11	9	24	6	11	A-1-b
	23.5'-25.0'	50	25	10	9	6	24	5	8	A-1-a
	28.5'-29.5'		BROWN SAND AND GRAVEL WITH COBBLES						15	VIS.
	29.5'-31.0'		GRAY SILTY SAND AND GRAVEL							
	33.5'-35.0'		GRAY SILTY SAND AND GRAVEL						8	VIS.
	38.5'-40.0'	38	34	14	7	7	NP	NP	19	A-1-b
	43.5'-45.0'		GRAY SILTY SAND AND GRAVEL						13	VIS.
	48.5'-50.0'		GRAY SILTY SAND AND GRAVEL						8	VIS.
	51.0'-56.0'		HARD LIGHT GRAY DOLOMITE							VIS.
			@51.5' COMPRESSIVE STRENGTH = 20,020 psi							
G-5 141+09.05, 9.49' Rt.	0.0'-0.6'		TOPSOIL (FILL) (6")							
	0.6'-2.1'		BROWN SILTY CLAY (FILL)						13	VIS.
	3.0'-4.5'	19	13	18	16	34	36	14	25	A-6a
	5.5'-7.0'		BROWN SILTY CLAY (FILL)						9	VIS.
	8.5'-10.0'		BROWN SILTY CLAY (FILL)						14	VIS.
	11.0'-12.5'	48	18	8	14	12			2	VIS.
	13.5'-15.0'		BROWN SAND AND GRAVEL WITH COBBLES AND BOULDERS (POSSIBLE FILL)						5	VIS.
	16.0'-17.5'	66	14	6	7	7			7	VIS.
	18.5'-20.0'		BROWN SAND AND GRAVEL						3	VIS.
	23.5'-25.0'		GRAY SAND AND GRAVEL						1	VIS.
	28.5'-30.0'	7	72	18					23	VIS.
	33.5'-35.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS						9	VIS.
	38.5'-40.0'	35	26	25	3	11			2	VIS.
	43.5'-45.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS						0	VIS.
	48.5'-49.0'		GRAY SAND AND GRAVEL WITH COBBLES AND BOULDERS							VIS.
	49.0'-54.0'		HARD, FRESH, GRAY LIMESTONE HORIZONTAL FRACTURES AT 51', JOINT AT 50.2'							VIS.

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA - ROADWAY EBCD-B ALIGNMENT

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
• DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
W2B-1 122+99.81, 13.03' Rt.	0.0'-0.8'		TOPSOIL (FILL) (10")							
	1.0'-2.5'	23	11	15	27	24	33	11	15	A-6a
	3.5'-5.0'		BROWN AND GRAY SANDY SILT (FILL)						12	VIS
	6.0'-7.5'	0	1	24	40	35	33	10	22	A-4a
	8.5'-10.0'		BROWN AND GRAY CLAYEY SILT						29	VIS
	11.0'-12.5'		BROWN AND GRAY CLAYEY SILT						33	VIS
	13.5'-15.0'		BROWN SAND AND GRAVEL						17	VIS
	16.0'-17.5'	34	54	5	4	3			18	VIS
	18.5'-20.0'		BROWN SAND AND GRAVEL						19	VIS
	23.5'-25.0'		BROWN SAND AND GRAVEL WITH COBBLES						8	VIS
	28.5'-30.0'		BROWN SAND AND GRAVEL WITH COBBLES						9	VIS
	33.5'-35.0'	69	17	6	4	4			10	VIS
	38.5'-40.0'		BROWN SAND AND GRAVEL						10	VIS
	43.5'-45.0'		BROWN SAND AND GRAVEL						6	VIS
RA-807 124+99.68, 8.5' Lt.	0.0'-0.5'		TOPSOIL (FILL) (6")							
	0.5'-2.0'	35	16	13	22	14	35	12	8	A-6a
	2.0'-3.5'	47	18	12	13	10	34	7	7	A-2-4
	3.5'-5.0'		BROWN WEATHERED SHALE (FILL)						7	VIS.
	6.0'-7.5'		BROWN WEATHERED SHALE (FILL)						6	VIS.
	8.5'-10.0'		GRAY WEATHERED SHALE (FILL)						2	VIS.
W2B-2 127+50.6, 12.98' Rt.	0.0'-0.1'		TOPSOIL (FILL) (10")							
	1.0'-2.5'	48	14	11	16	11			8	VIS
	3.5'-5.0'		BROWN SANDY SILT WITH COBBLES (FILL)						13	VIS
	6.0'-7.5'		BROWN SAND AND GRAVEL (FILL)						11	VIS
	8.5'-10.0'		BROWN SAND AND GRAVEL (FILL)						11	VIS
	11.0'-12.5'	2	3	23	39	33	29	10	27	A-4a
	13.5'-15.0'		BROWN SILTY SAND AND GRAVEL						25	VIS
	16.0'-17.5'		BROWN SILTY SAND AND GRAVEL						24	VIS
	18.5'-20.0'		BROWN SILTY SAND AND GRAVEL						10	VIS
	23.5'-25.0'	7	3	15	55	20	NP	NP	18	A-4b
	28.5'-30.0'	10	9	28	37	16	18	4	9	A-4a
	33.5'-35.0'	26	32	26	10	6	NP	NP	13	A-1-b
	38.5'-40.0'		GRAY SAND						11	VIS

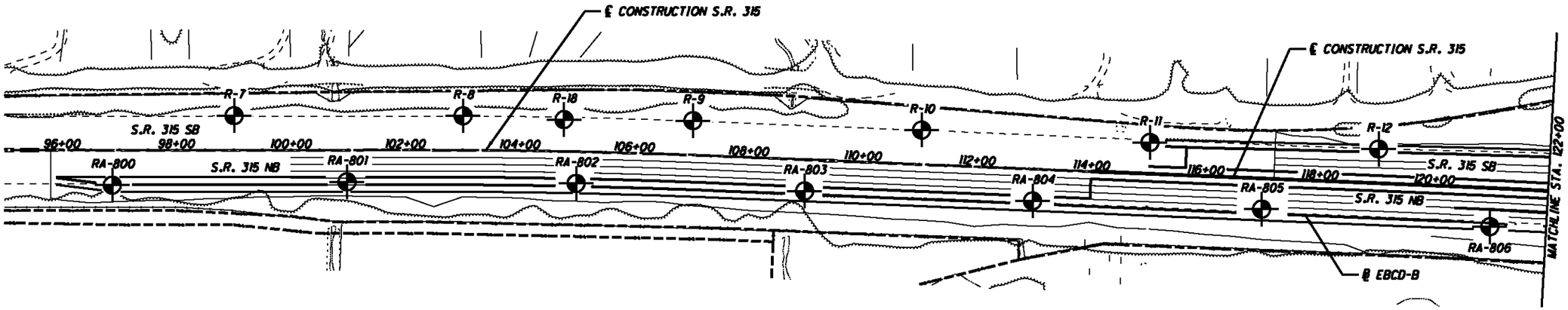
STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS
RA-808 128+99.80, 8.55' Lt.	0.0'-0.5'		TOPSOIL (FILL) (6")							
	0.5'-2.0'	7	10	10	43	30	41	18	16	A-7-6
	2.0'-3.5'	18	5	13	37	27	39	15	22	A-6a
	3.5'-5.0'		DARK BROWN CLAYEY SILT (FILL)						9	VIS.
	6.0'-7.5'		BROWN WEATHERED SHALE (FILL)						3	VIS
	8.5'-10.0'		BROWN CLAYEY SILT						22	VIS.
W2B-3 131+98.82, 12.8' Rt.	0.0'-0.9'		TOPSOIL (FILL) (11")							
	1.0'-2.5'		BROWN SAND AND GRAVEL (FILL)						4	VIS
	3.5'-5.0'		BROWN SAND AND GRAVEL WITH COBBLES (FILL)						7	VIS
	6.0'-7.5'		BROWN SAND AND GRAVEL WITH COBBLES (FILL)						25	VIS
	8.5'-10.0'	43	22	12	14	9	29	10	8	A-2-4
	11.0'-12.5'		BROWN SAND AND GRAVEL WITH COBBLES (FILL)							VIS
	13.5'-15.0'		BROWN SAND AND GRAVEL						17	VIS
	16.0'-17.5'	45	17	13	15	10			14	VIS
	18.5'-20.0'		BROWN SAND AND GRAVEL WITH COBBLES						13	VIS
	23.5'-25.0'		BROWN SAND AND GRAVEL WITH COBBLES						10	VIS
	28.5'-30.0'		GRAY SILTY SAND AND GRAVEL WITH COBBLES						13	VIS
	33.5'-35.0'	2	1	62	24	11	NP	NP	22	A-4a
	38.5'-40.0'		GRAY SILTY FINE SAND						15	VIS
RA-809 132+99.78, 8.49' Lt.	0.0'-0.5'		TOPSOIL (FILL) (6")							
	0.5'-2.0'		BROWN AND GRAY WEATHERED SHALE (FILL)						8	VIS.
	2.0'-3.5'		BROWN AND GRAY WEATHERED SHALE (FILL)						16	VIS.
	3.5'-5.0'		DARK GRAY WEATHERED SHALE (FILL)						3	VIS.
	6.0'-7.5'		DARK GRAY WEATHERED SHALE (FILL)						3	VIS.
	8.5'-10.0'		DARK GRAY WEATHERED SHALE (FILL)							VIS.
RA-810 137+00.67, 2.16' Rt.	0.0'-0.5'		TOPSOIL (FILL) (6")							
	0.5'-2.0'	58	13	10	11	8			14	VIS.
	2.0'-3.5'	46	13	12	14	15			12	VIS.
	3.5'-5.0'		GRAY WEATHERED SHALE (FILL)						8	VIS.
	6.0'-7.5'		GRAY WEATHERED SHALE (FILL)						5	VIS.
	8.5'-10.0'		GRAY SANDY SILT						14	VIS.

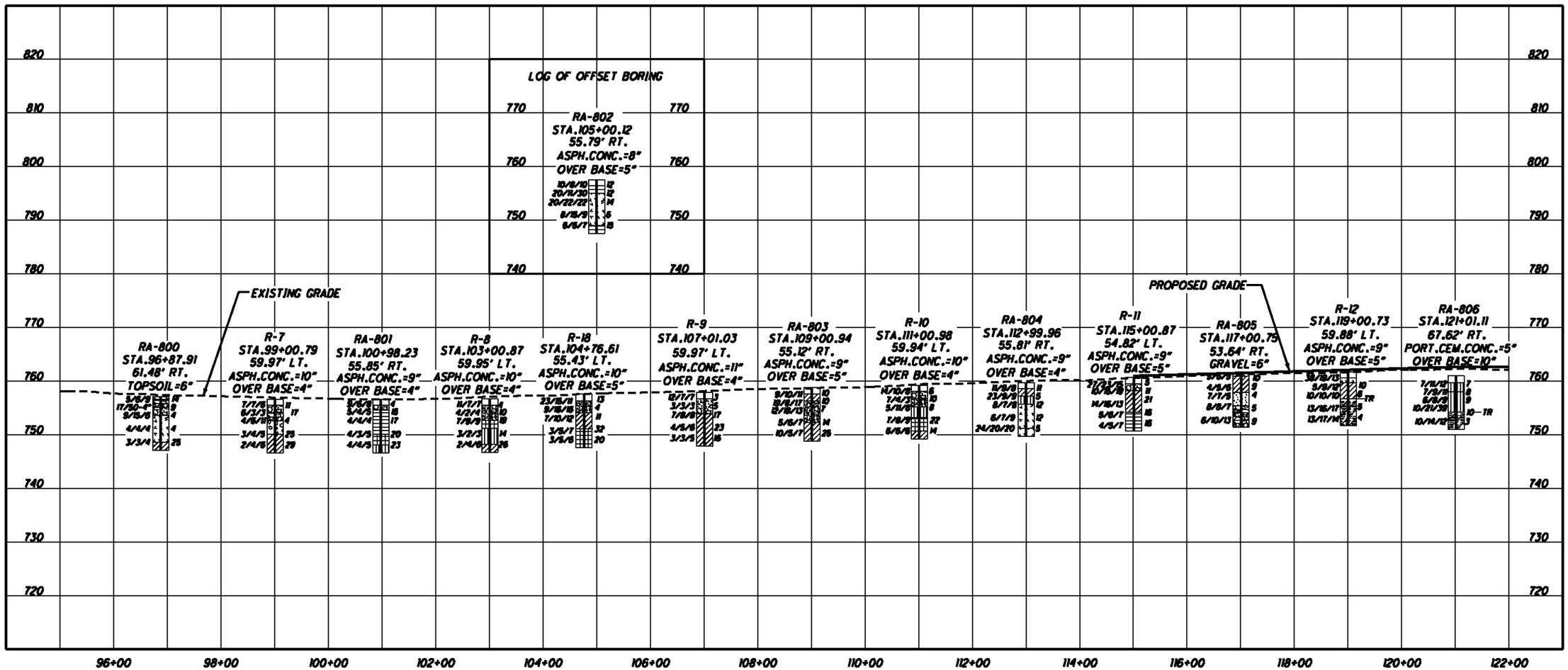
CTL ENGINEERING, INC.
2860 FISHER ROAD
COLUMBUS, OHIO 43204
PHONE: 614/276-8123 FAX: 614/276-6377

DRAWN C.M. | REVIEWED MP | DATE 02/2/06 | CALCULATED | CHECKED

SOIL PROFILE

FRA-270-21.63





HORIZONTAL SCALE IN FEET
0 50 100 200

DRAWN N.K.S.
CHECKED NT

SOIL PROFILE S.R. 315 MANLINE
STA. 95+00 TO STA. 122+00

FRA-270-21.63

21

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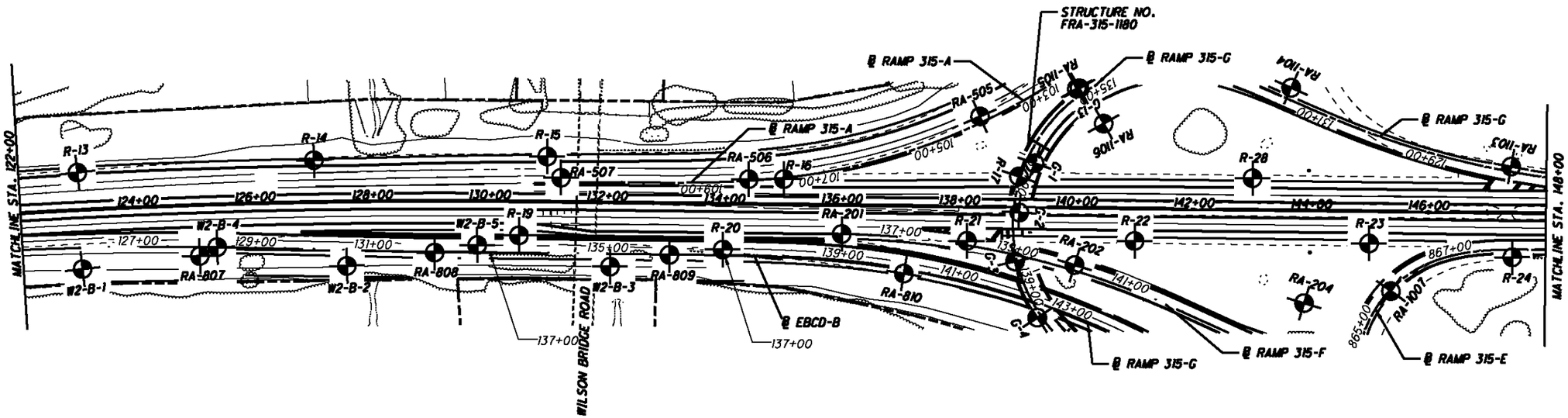

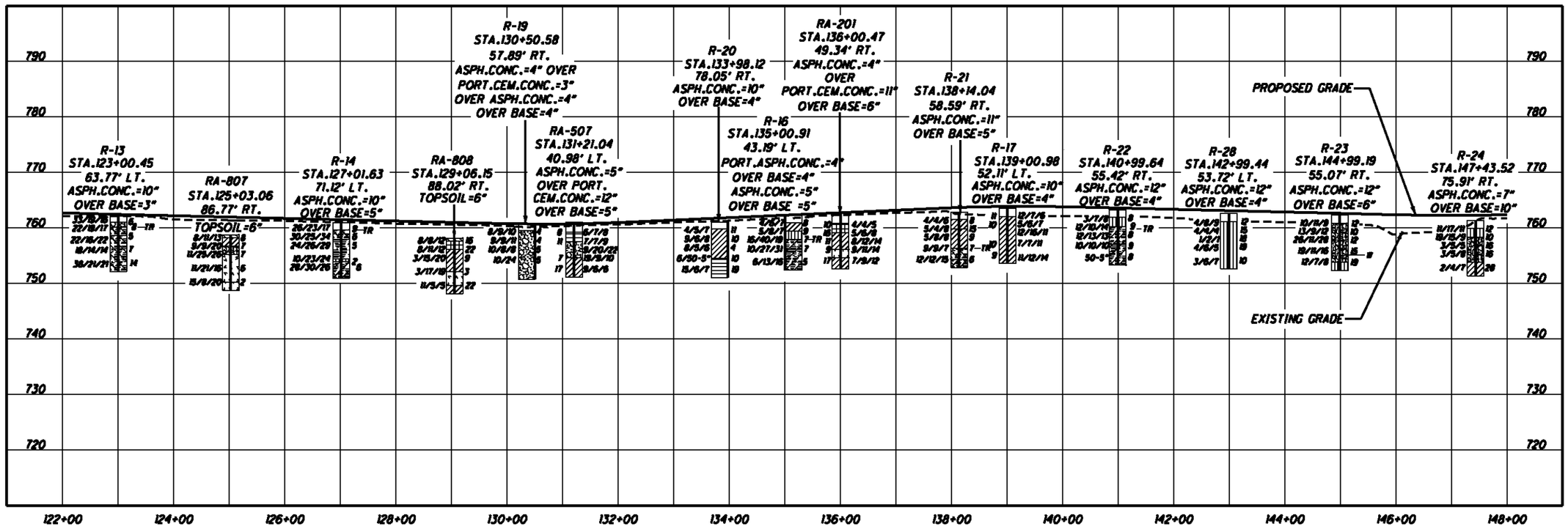

HORIZONTAL SCALE IN FEET
0 50 100 200

DRAWN M.K.S.
CHECKED NT

SOIL PROFILE S.R. 315 MAINLINE
STA. 122+00 TO STA. 148+00

FRA-270-21.63

22

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LOF OF OFFSET BORING
G-1
STA.139+27.65
75.05' LT.
TOPSOIL=12"

RA-809
STA.133+07.35
88.09' RT.
TOPSOIL=6"

R-15
STA.130+97.18
76.75' LT.
ASPH.CONC.=10"
OVER BASE=4"

RA-506
STA.134+40.97
42.07' LT.
ASPH.CONC.=18"
OVER BASE=5"

G-2
STA.139+2.6
9.23' RT.
TOPSOIL=12"

RA-202
STA.139+97.77
97.66' RT.

RA-1103
STA.146+89.82
78.56' LT.
ASPH.CONC.=10"
OVER BASE=6"

PROPOSED GRADE

EXISTING GRADE

860 850 840 830 820 810 800 790 780 770 760 750 740 730 720 710 700

122+00 124+00 126+00 128+00 130+00 132+00 134+00 136+00 138+00 140+00 142+00 144+00 146+00 148+00

HORIZONTAL SCALE IN FEET
0 50 100 200

DRAWN M.K.S.
CHECKED NT

SOIL PROFILE S.R. 315 MAINLINE
STA. 122+00 TO STA. 148+00

FRA-270-21.63

23

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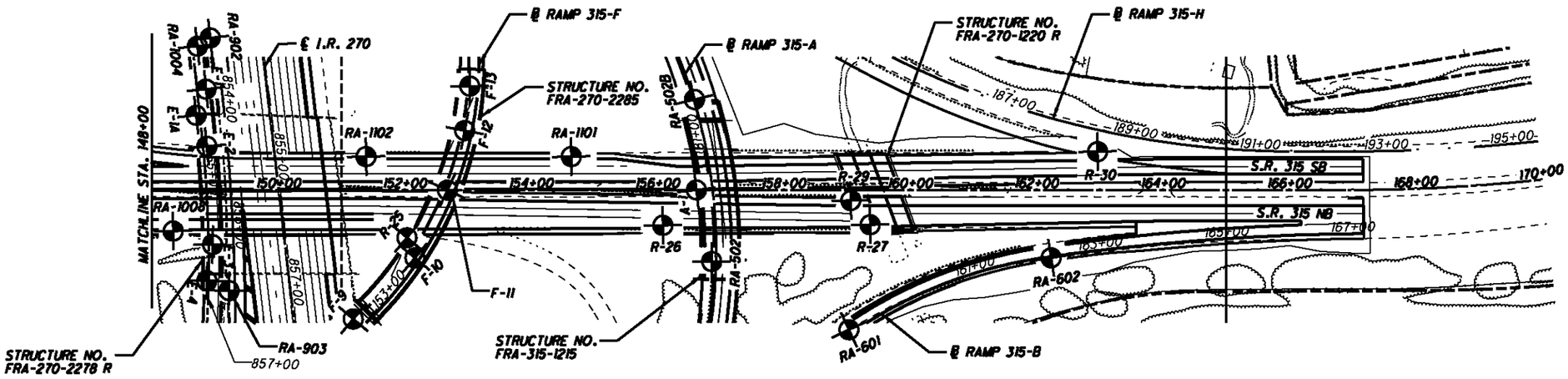

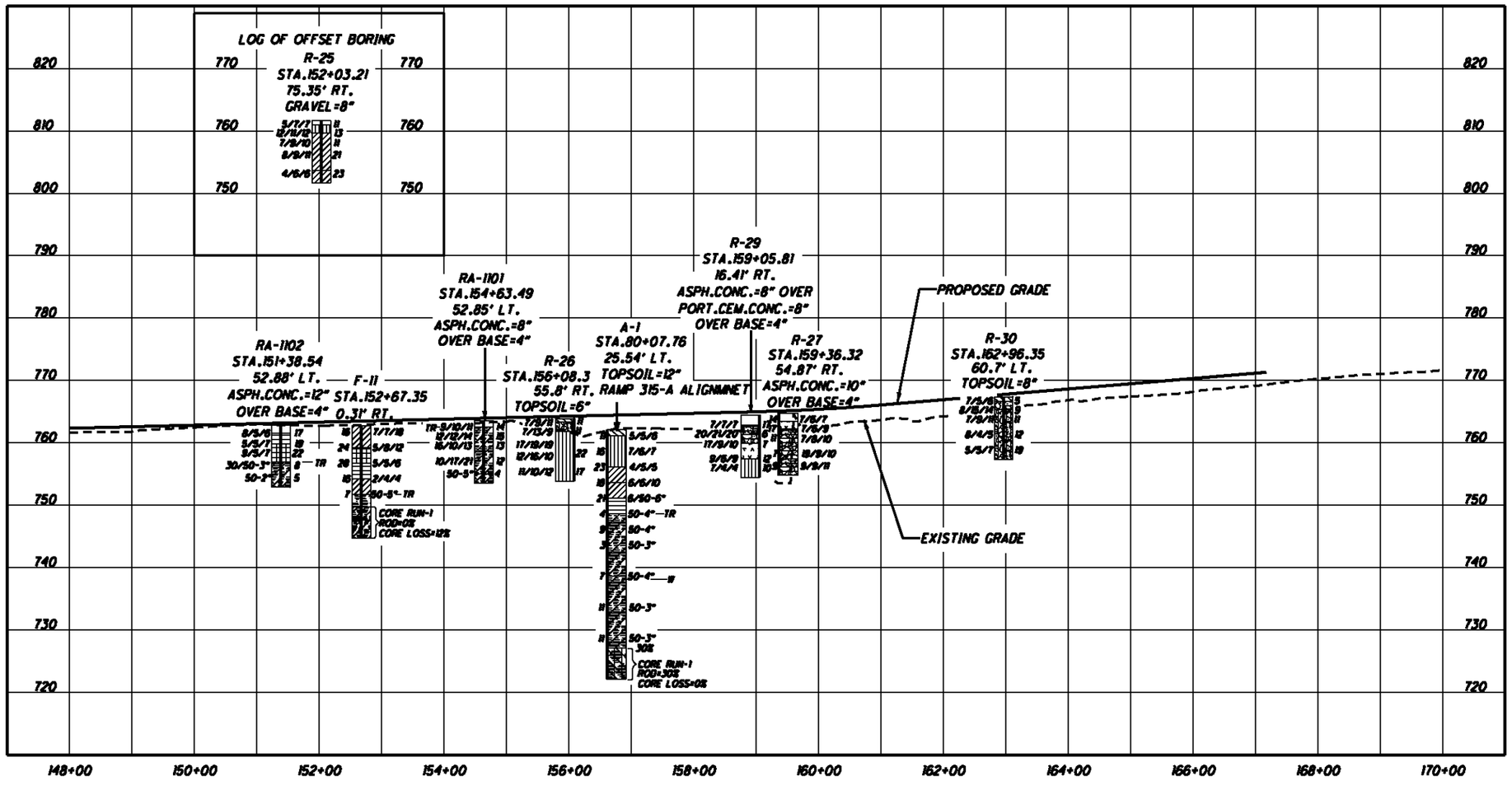

HORIZONTAL SCALE IN FEET
0 50 100 200

DRAWN N.K.S.
CHECKED NT

SOIL PROFILE S.R. 315 MAINLINE
STA. 148+00 TO STA. 170+00

FRA-270-21.63

24

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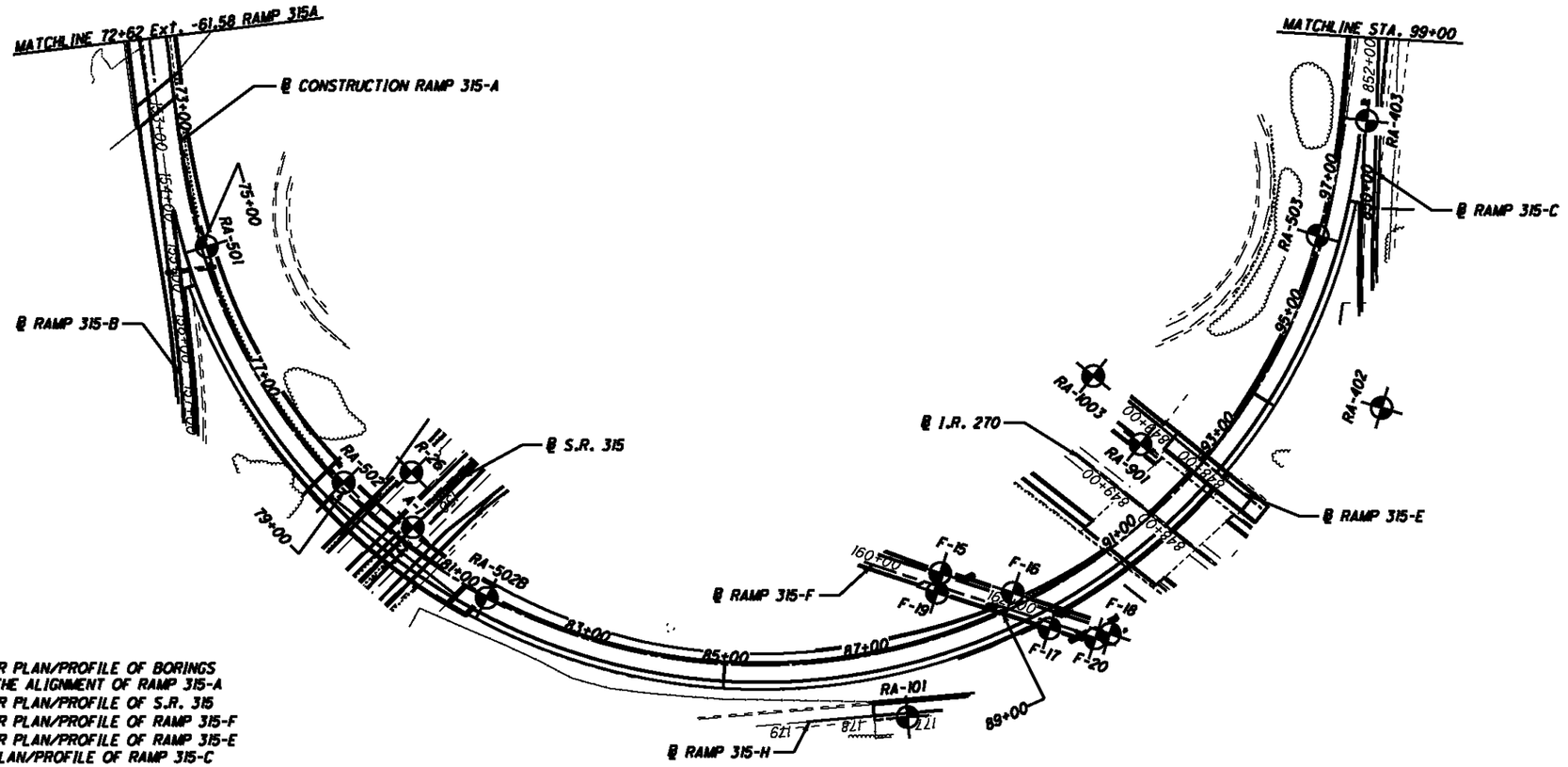
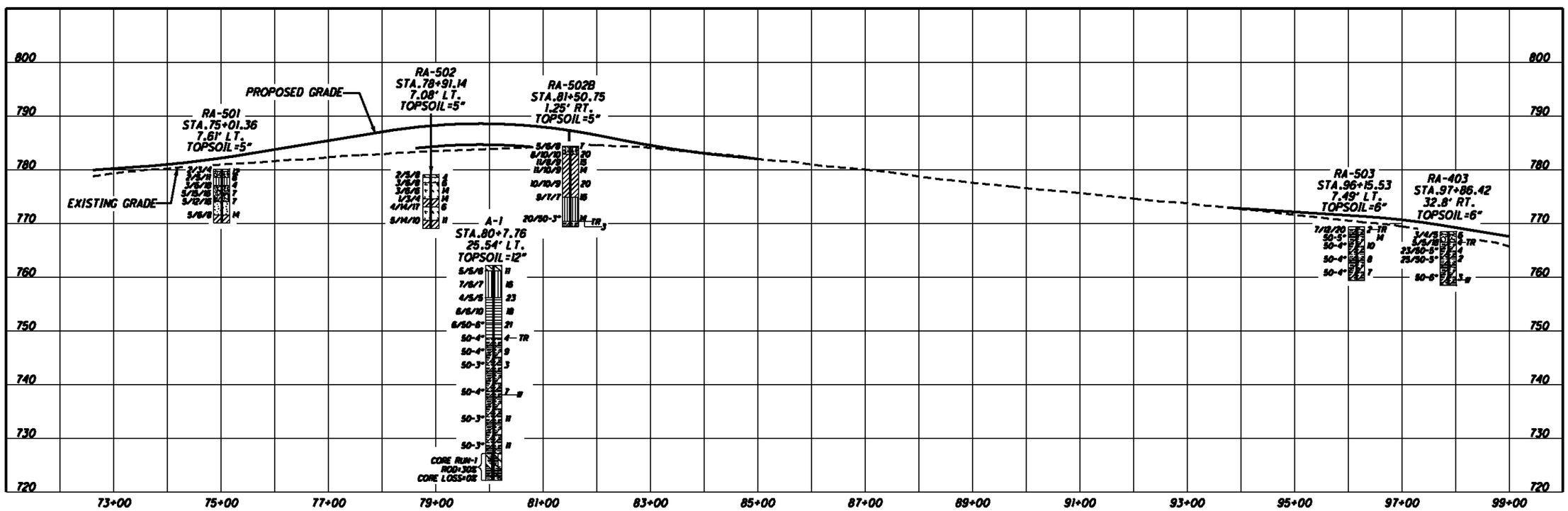


NOTE: SEE SHEETS --- OF - FOR PLAN/PROFILE OF BORINGS SHOWN ALONG OR NEAR THE ALIGNMENT OF RAMP 315-A
SEE SHEETS --- OF - FOR PLAN/PROFILE OF S.R. 315
SEE SHEETS --- OF - FOR PLAN/PROFILE OF RAMP 315-F
SEE SHEETS --- OF - FOR PLAN/PROFILE OF RAMP 315-E
SEE SHEET - OF - FOR PLAN/PROFILE OF RAMP 315-C



HORIZONTAL SCALE IN FEET
0 50 100 200

DRAWN M.K.S.
CHECKED NT

SOIL PROFILE RAMP 315-A
STA. 72+62 TO STA. 99+00

FRA-270-21.63

25

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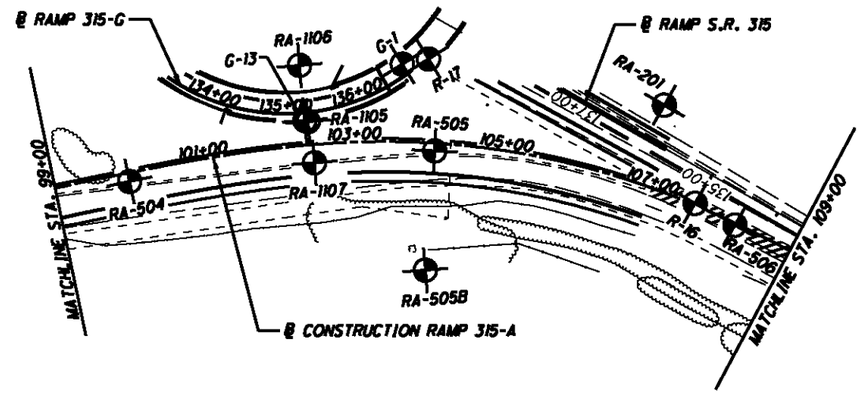
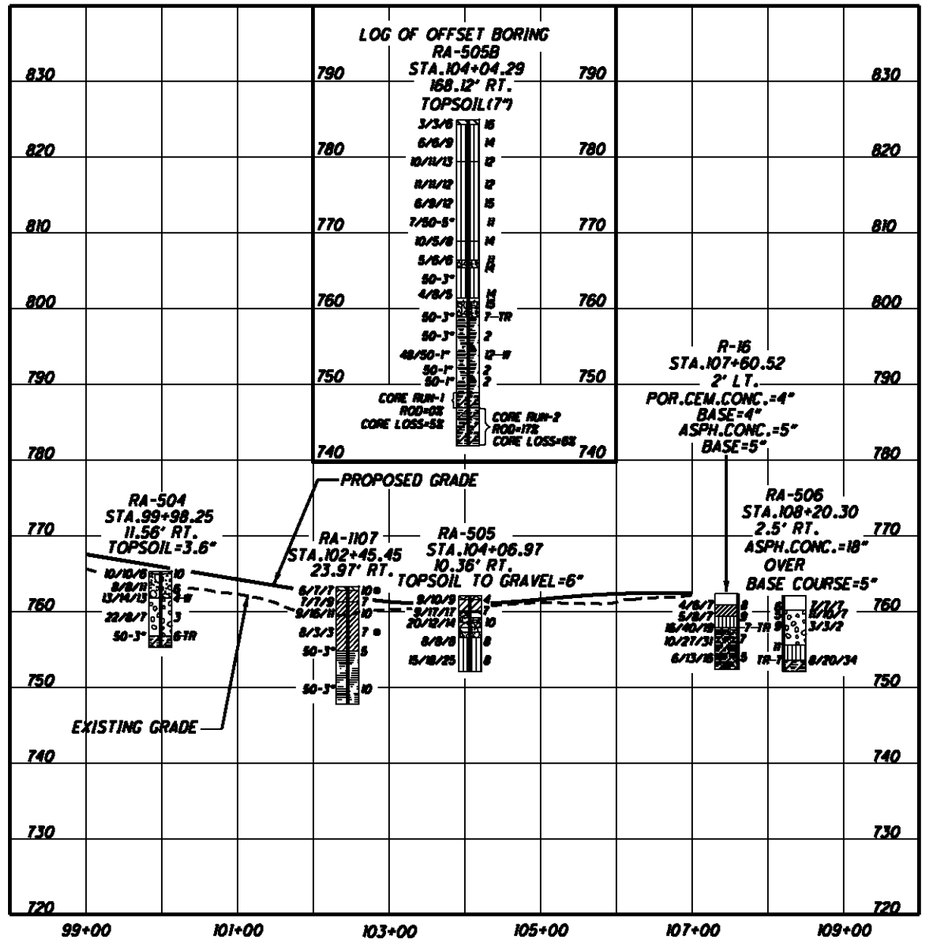


NOTE:
SEE SHEETS --- OF - FOR PLAN/PROFILE OF RAMP 315-G
SEE SHEETS --- OF - FOR PLAN/PROFILE OF S.R. 315



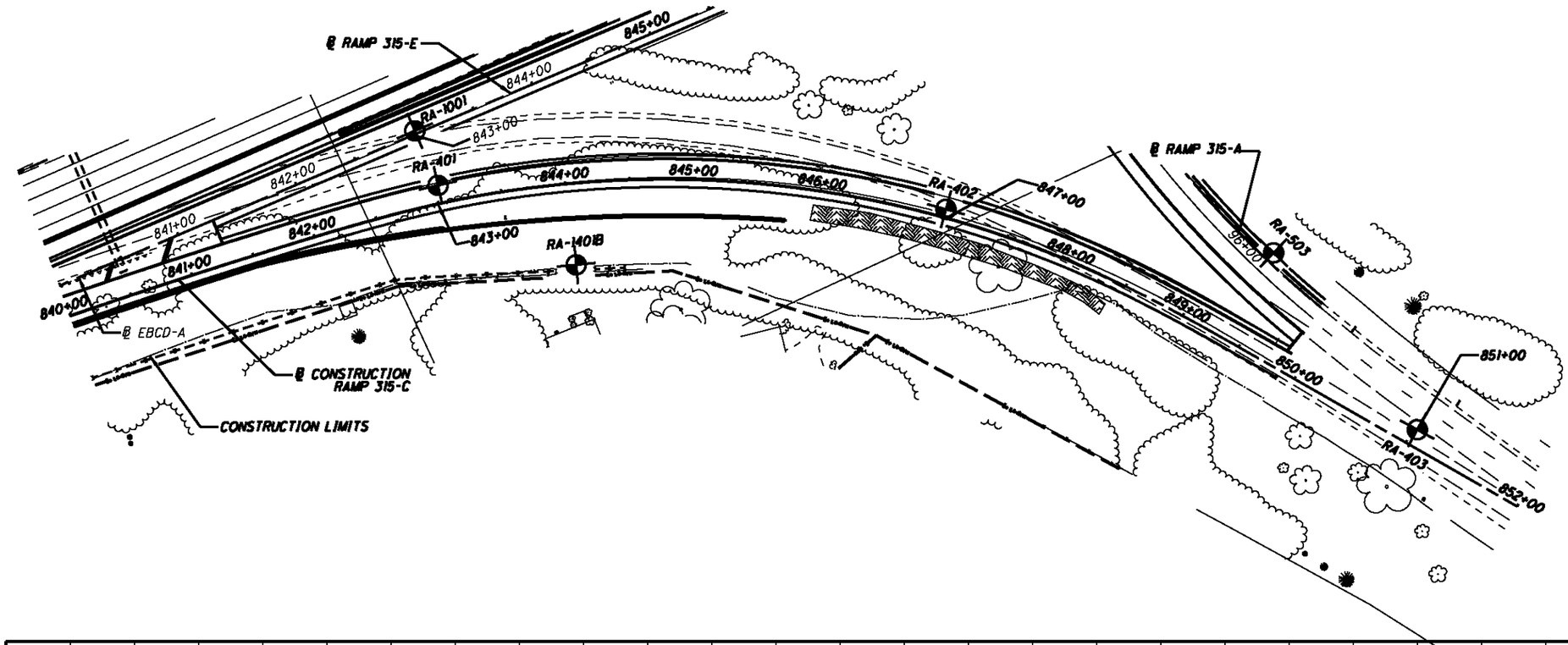
SOIL PROFILE RAMP 315-A
STA. 99+00 TO STA. 109+00

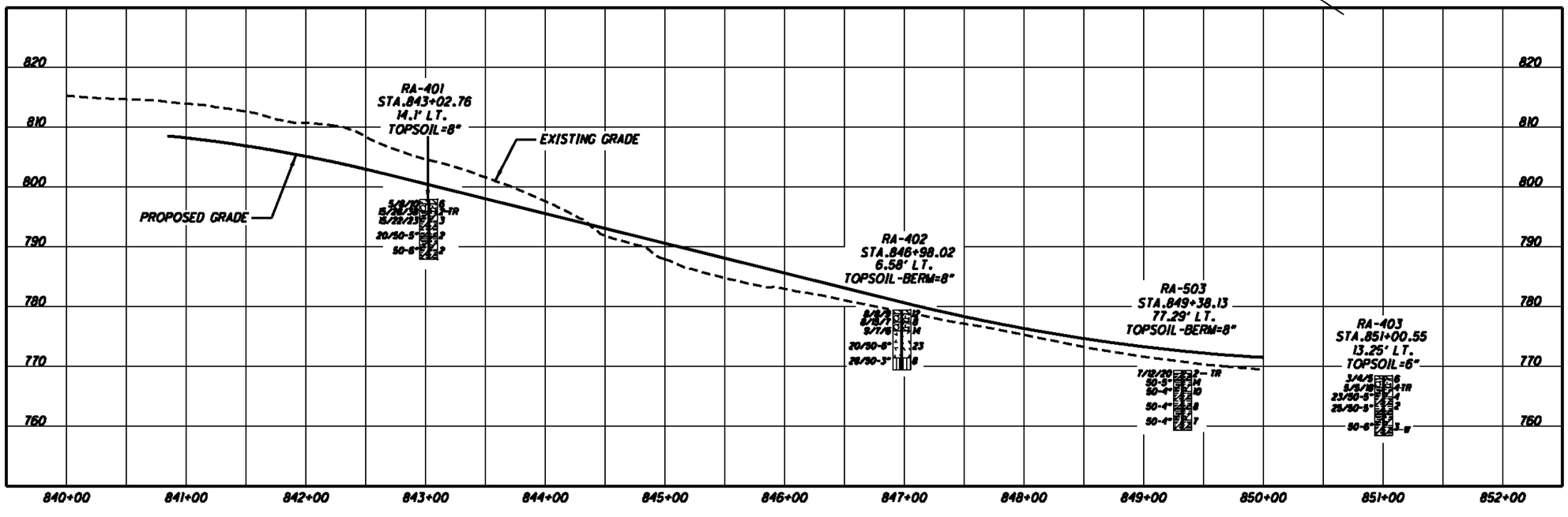
FRA-270-21.63

26

DRAWN N.K.S.
CHECKED NT

HORIZONTAL SCALE IN FEET
0 50 100 200





HORIZONTAL SCALE IN FEET
0 50 100 200

DRAWN N.K.S.
CHECKED NT

SOIL PROFILE RAMP 315-C
STA. 840+00 TO STA. 852+00

FRA-270-21.63

27

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