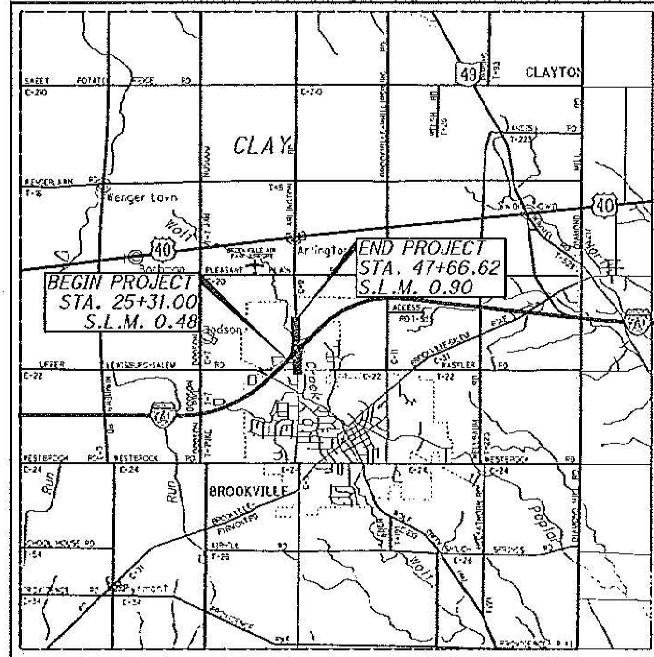


STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

**MOT-70-3.34**

CITY OF BROOKVILLE  
MONTGOMERY COUNTY



LOCATION MAP

LATITUDE: 39° 50' 55" LONGITUDE: 84° 25' 30"



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

DESIGN DESIGNATION

CURRENT ADT (2018)	8,140	ARLINGTON RD
DESIGN YEAR ADT (2038)	9,910	
DESIGN HOURLY VOLUME (2038)	980	
DIRECTIONAL DISTRIBUTION	67%	
TRUCKS (24 HOUR B&C)	4%	
DESIGN SPEED	40 MPH	
LEGAL SPEED	35 MPH	
DESIGN FUNCTIONAL CLASSIFICATION:		
URBAN COLLECTOR		
NHS PROJECT	NO	

DESIGN EXCEPTIONS

NONE REQUIRED

**UNDERGROUND UTILITIES**  
CONTACT BOTH SERVICES  
CALL TWO WORKING DAYS  
BEFORE YOU DIG

CALL  
**1-800-362-2764**  
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

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

PLAN PREPARED BY:

**WOOLPERT**  
DESIGN | ACCESS | UTILITIES | INFRASTRUCTURE

ONE EASTON OVAL  
SUITE 310  
COLUMBUS, OH 43219  
T 614-476-6000  
F 614-476-6225

FOR STRUCTURES  
OVER 20' SPAN:

7-28-17  
THOMAS M. LESS  
PE-78901  
REGISTERED PROFESSIONAL ENGINEER

FOR ENTIRE PLAN  
EXCEPT STRUCTURES  
OVER 20' SPAN:

STATE OF OHIO  
NATHAN J. FISCHER  
E-71880  
REGISTERED PROFESSIONAL ENGINEER

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2
TYPICAL SECTIONS	3-4
GENERAL NOTES	5-7
MAINTENANCE OF TRAFFIC	8-17
GENERAL SUMMARY	18-21
DRAINAGE SUBSUMMARY	22
PROJECT SITE PLAN	23
PLAN & PROFILE - ARLINGTON RD	24-29
CROSS SECTIONS - ARLINGTON RD	30-43
RAMP PROFILES	44-45
INTERSECTION DETAILS	46-47
DRIVEWAY DETAILS	48
DRAINAGE PROFILES	49-51
SIGNING AND PAVEMENT MARKING	52-61
TRAFFIC SIGNALS	62-78
LIGHTING	79-85
STRUCTURES 20' AND OVER	
MOT-70-3.34	86-136
STRUCTURE FOUNDATION EXPLORATION	

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS	
BP-3.1	7/18/14	MGS-1.1	7/21/17	HL-10.12	1/20/17	MT-99.20	7/21/17	TC-42.20	10/18/13	800	7/21/17	OEPA DEMO 5/4/15
BP-4.1	7/19/13	MGS-2.1	7/19/13	HL-10.13	1/20/17	MT-99.60	7/15/15	TC-52.10	10/18/13	809	7/21/17	
BP-5.1	7/19/13	MGS-3.1	7/21/17	HL-20.11	4/21/17	MT-101.60	1/20/17	TC-52.20	7/21/17	813	10/21/16	
BP-7.1	7/18/14	MGS-3.2	1/18/13	HL-30.11	7/21/17	MT-101.70	1/17/14	TC-65.10	1/17/14	815	1/19/07	
		MGS-4.2	7/19/13	HL-30.21	1/17/14	MT-101.75	7/15/15	TC-65.11	7/21/17	821	4/20/12	
CB-2.1	1/15/16	MGS-4.3	1/18/13	HL-30.22	1/17/14	MT-101.90	7/21/17	TC-71.10	1/20/17	832	1/17/14	
CB-2.2	1/15/16	MGS-5.2	7/15/16	HL-30.31	1/17/14	MT-105.10	7/19/13	TC-81.21	7/15/16	855	4/21/17	
		MGS-6.1	7/19/13	HL-30.32	1/17/14	MT-120.00	1/20/17	TC-83.20	7/21/17	916	4/15/16	
HW-1.1	1/18/13	RM-4.2	4/18/14	HL-40.10	1/20/17	TC-21.10	7/21/17	TC-85.10	7/21/17	921	4/20/12	
HW-2.1	7/21/17	RM-4.5	7/21/17	HL-50.21	7/21/17	TC-21.20	7/21/17	TC-85.20	1/15/16			
HW-2.2	7/21/17	RM-4.6	7/19/13	HL-60.11	7/21/17	TC-22.10	10/18/13	ITS-10.10	7/17/15			
MHT-1.2	1/15/16	AS-1-15	7/17/15	HL-60.31	7/21/17	TC-41.10	7/19/13	ITS-10.11	7/17/15			
		BR-2-15	7/17/15	MT-95.30	7/21/17	TC-41.20	10/18/13	ITS-12.10	7/17/15			
DM-1.1	7/21/17	GSD-1-96	7/19/02	MT-95.45	7/21/17	TC-41.30	10/18/13	ITS-14.10	7/17/15			
DM-1.2	1/18/13	SBR-1-13	1/17/14	MT-97.10	7/18/14	TC-41.50	10/18/13	ITS-14.11	7/17/15			
DM-4.4	1/15/16	VPF-1-90	7/17/15	MT-97.12	1/20/17	TC-42.10	10/18/13	ITS-50.10	1/15/16			

PROJECT DESCRIPTION

REHABILITATION OF THE EXISTING FOUR SPAN, SKEWED, REINFORCED CONCRETE DECK ON STEEL PLATE GIRDER BRIDGE SUPPORTED ON CAP AND COLUMN PIERS AND STUB ABUTMENTS ON CIP PILES. BRIDGE WORK TO INCLUDE SUPERSTRUCTURE REPLACEMENT, PIER CAP REHABILITATION AND CONVERSION TO WALL TYPE, AND ABUTMENT REPLACEMENT WITH NEW SEMI-INTEGRAL ABUTMENTS. THE VERTICAL CLEARANCE OVER IR-70 WILL BE INCREASED AND THE BRIDGE WIDENED TO ACCOMMODATE AN ADDITIONAL LANE AND A SIDEWALK. ROADWAY WORK TO INCLUDE MINOR PROFILE ADJUSTMENTS, ROADWAY WIDENING AND SIDEWALK ADDITION, SIGNAL ADJUSTMENTS AT WESTBOUND RAMPS, NEW SIGNALS AT EASTBOUND RAMPS, GRADING, CURB & GUTTER, DRAINAGE STRUCTURES AND GUARDRAIL INSTALLATION.

EARTH DISTURBED AREA

PROJECT EARTH DISTURBED AREA:	5.46 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	5.71 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.

2016 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 11.

APPROVED *Randy Chevaley* PE PS/ISSW  
DATE 8/31/17 DISTRICT DEPUTY DIRECTOR

APPROVED *Tom Wray*  
DATE 8/29/17 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.  
E150(233)

PID NO.  
99623

CONSTRUCTION PROJECT NO.  
NONE

RAILROAD INVOLVEMENT  
NONE

MOT-70-3.34

MOT - IR 70-03.34  
170597 PID - 99623  
Dist 7 11/16/2017

Contract Proposal Available @  
www.contracts.dot.state.oh.us/home  
Conformed Set

G:\DE\clients\ODOT\075863\MOT\_70\_0334\96

REFERENCE LINES

EX. R/W STATION	CONSTR. STATION	OFFSET RIGHT	DESCRIPTION
26+00.00	26+00.00	0.00	MATCHING C R/W
36+48.61	26+48.61	0.00	PC, CURVE P1, DIVERGING
27+51.38	27+51.39	1.05	PT, CURVE P1, N 0° 54' 32" W
31+48.62	31+48.71	9.12	PC, CURVE P2
32+51.39	32+51.49	10.17	PT, CURVE P2, N 2° 04' 25" W
39+35.73	39+35.82	10.17	PC, CURVE P3
40+17.91	40+18.01	9.63	PT, CURVE P3, N 2° 49' 37" W
47+50.16	47+50.16	0.00	PI, CONVERGING
48+00.00	48+00.00	0.00	MATCHING C R/W

NOTE:  
REFER TO THE SURVEYING PARAMETERS NOTE IN THE GENERAL NOTES FOR PROJECT CONTROL INFORMATION.

CURVE P2 DATA

P.I. Sta. 32+00.10 (ARLINGTON RD)  
 $\Delta = 1^\circ 09' 53''$  (LT)  
 $D_c = 1^\circ 08' 00''$   
 $R = 5,055.51'$   
 $T = 51.39'$   
 $L = 102.78'$   
 $E = 0.26'$   
 $C = 102.78'$   
 $C.B. = N 1^\circ 29' 28'' W$

P.I. Sta. 2+60.24 (RAMP A)  
 $\Delta = 66^\circ 13' 37''$  (LT)  
 $D_c = 28^\circ 38' 52''$   
 $R = 200.00'$   
 $T = 130.45'$   
 $L = 231.18'$   
 $E = 38.78'$   
 $C = 218.52'$   
 $C.B. = S 34^\circ 45' 40'' W$

CURVE P1 DATA

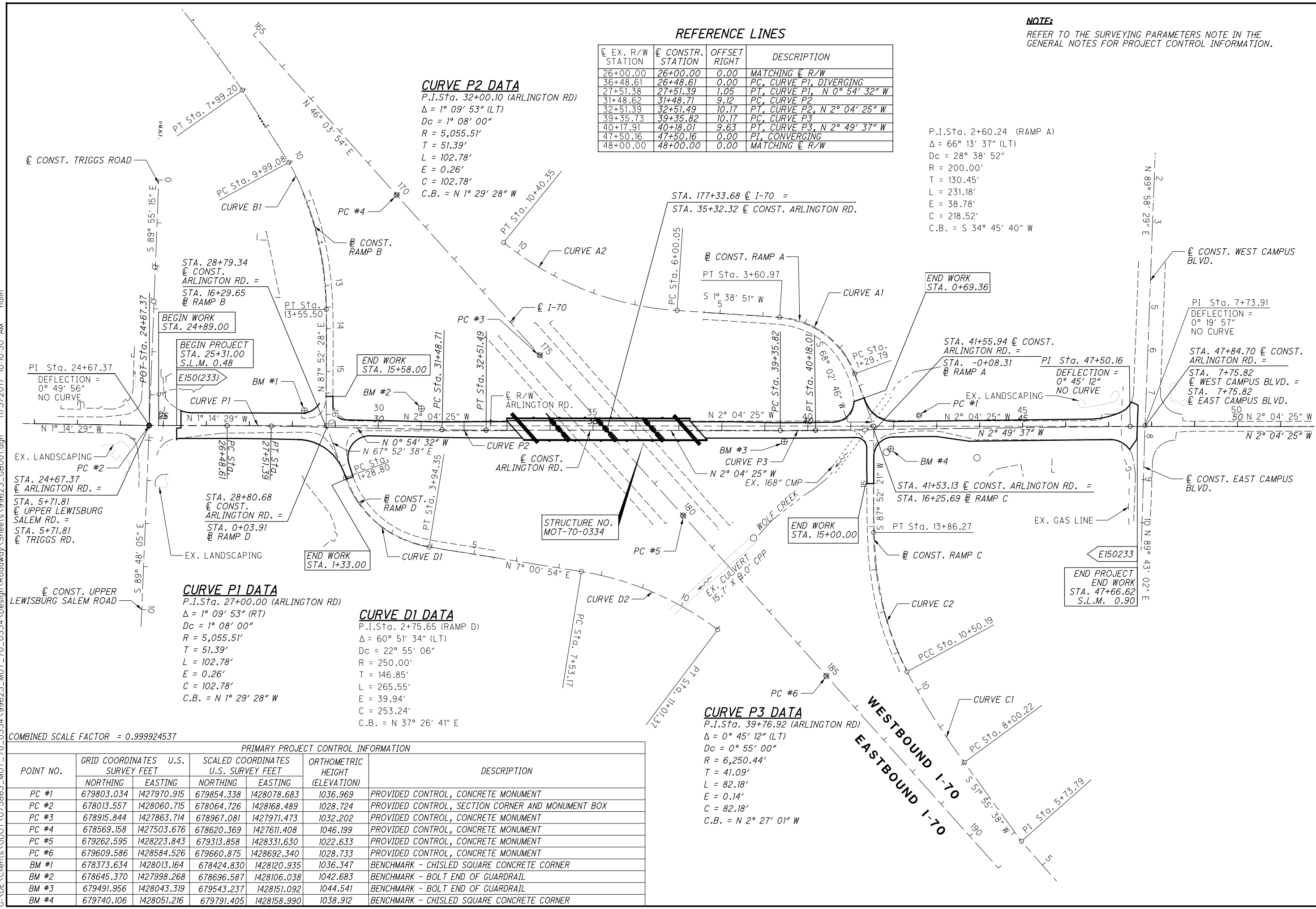
P.I. Sta. 27+00.00 (ARLINGTON RD)  
 $\Delta = 1^\circ 09' 53''$  (RT)  
 $D_c = 1^\circ 08' 00''$   
 $R = 5,055.51'$   
 $T = 51.39'$   
 $L = 102.78'$   
 $E = 0.26'$   
 $C = 102.78'$   
 $C.B. = N 1^\circ 29' 28'' W$

CURVE D1 DATA

P.I. Sta. 2+75.65 (RAMP D)  
 $\Delta = 60^\circ 51' 34''$  (LT)  
 $D_c = 22^\circ 55' 06''$   
 $R = 250.00'$   
 $T = 146.85'$   
 $L = 265.55'$   
 $E = 39.94'$   
 $C = 253.24'$   
 $C.B. = N 37^\circ 26' 41'' E$

CURVE P3 DATA

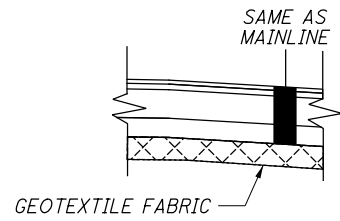
P.I. Sta. 39+76.92 (ARLINGTON RD)  
 $\Delta = 0^\circ 45' 12''$  (LT)  
 $D_c = 0^\circ 55' 00''$   
 $R = 6,250.44'$   
 $T = 41.09'$   
 $L = 82.18'$   
 $E = 0.14'$   
 $C = 82.18'$   
 $C.B. = N 2^\circ 27' 01'' W$



COMBINED SCALE FACTOR = 0.999924537

PRIMARY PROJECT CONTROL INFORMATION

POINT NO.	GRID COORDINATES U.S. SURVEY FEET		SCALED COORDINATES U.S. SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
	NORTHING	EASTING	NORTHING	EASTING		
PC #1	679803.034	1427970.915	679854.338	1428078.683	1036.969	PROVIDED CONTROL, CONCRETE MONUMENT
PC #2	678013.557	1428060.715	678064.726	1428168.489	1028.724	PROVIDED CONTROL, SECTION CORNER AND MONUMENT BOX
PC #3	678915.844	1427863.714	678967.081	1427971.473	1032.202	PROVIDED CONTROL, CONCRETE MONUMENT
PC #4	678569.158	1427503.676	678620.369	1427611.408	1046.199	PROVIDED CONTROL, CONCRETE MONUMENT
PC #5	679262.595	1428223.843	679313.858	1428331.630	1022.633	PROVIDED CONTROL, CONCRETE MONUMENT
PC #6	679609.586	1428584.526	679660.875	1428692.340	1028.733	PROVIDED CONTROL, CONCRETE MONUMENT
BM #1	678373.634	1428013.164	678424.830	1428120.935	1036.347	BENCHMARK - CHISLED SQUARE CONCRETE CORNER
BM #2	678645.370	1427998.268	678696.587	1428106.038	1042.683	BENCHMARK - BOLT END OF GUARDRAIL
BM #3	679491.956	1428043.319	679543.237	1428151.092	1044.541	BENCHMARK - BOLT END OF GUARDRAIL
BM #4	679740.106	1428051.216	679791.405	1428158.990	1038.912	BENCHMARK - CHISLED SQUARE CONCRETE CORNER

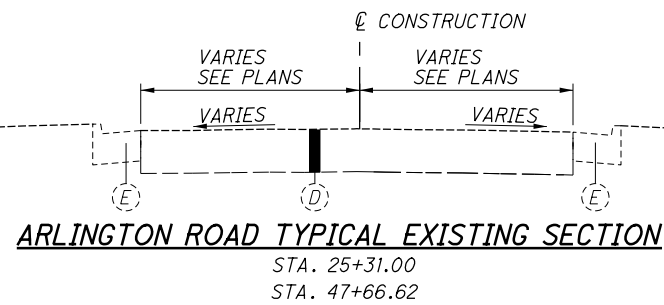


**UNDERCUT DETAIL**

LOCATION OF UNDERCUTS

STATION RANGE	SIDE	DEPTH	MATERIAL
29+22 TO 32+25	LT	12 INCHES	GRANULAR, TYPE B
29+22 TO 32+25	RT	12 INCHES	GRANULAR, TYPE B

- ITEM 204 - EXCAVATION OF SUBGRADE
- ITEM 204 - 12" GRANULAR MATERIAL, TYPE B



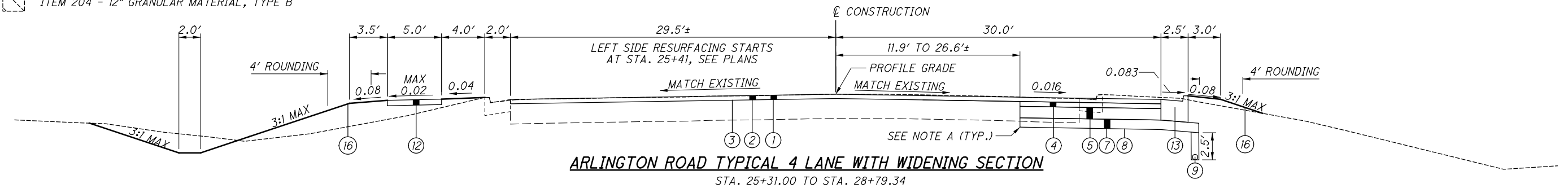
**NOTE "A"**

THE EXISTING PAVEMENT EDGES SHALL BE SAWCUT TO LOCATE A SOUND PAVEMENT EDGE PER 203.04(E) OF THE CMS. SAWCUT IS LOCATED 1 FOOT FROM EXISTING PAVEMENT OR 2 FOOT FROM PROPOSED CURB AND GUTTER.

**NOTE "B"**

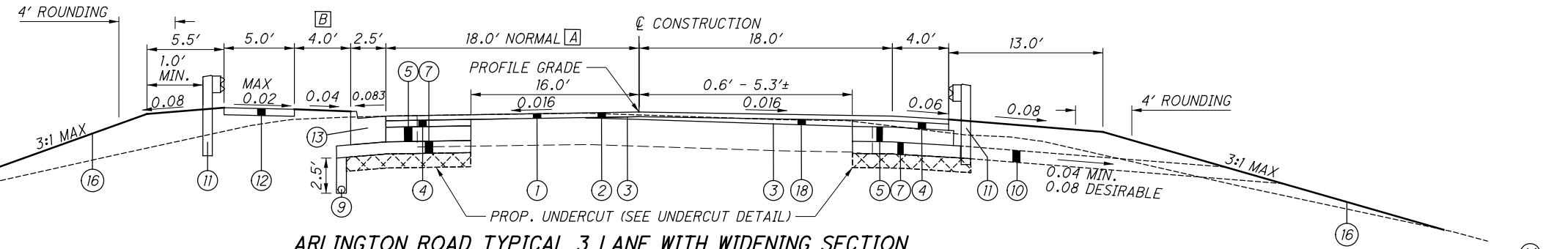
ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A, (448) (LEVELING COURSE) IS TO BE USED AS A LEVELING COURSE TO ESTABLISH A 1.60% CROSS SLOPE. OBSERVE MAXIMUM LIFT THICKNESS OF 3". IF MORE THAN 3" ARE REQUIRED, PLACE IN TWO COURSES WITH FIRST COURSE VARYING IN THICKNESS AND SECOND COURSE HELD AT A CONSTANT 1.75" THICKNESS. ESTIMATED QUANTITIES HAVE BEEN CALCULATED BASED ON CROSS-SECTIONS.

\* - FOR TACK COAT, USE AN APPLICATION RATE OF 0.085 GAL/SY ON PLANED SURFACES AND PAVEMENT THAT HAS HAD TRAFFIC RUNNING ON IT FOR 10 DAYS OR MORE AND 0.055 GAL/SY BETWEEN RECENTLY PLACED INTERMEDIATE COURSE AND SURFACE COURSES.



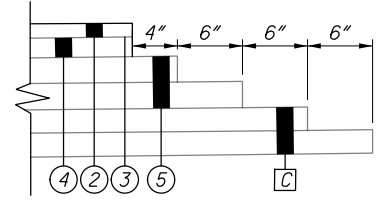
**ARLINGTON ROAD TYPICAL 4 LANE WITH WIDENING SECTION**  
STA. 25+31.00 TO STA. 28+79.34

- A** TRANSITIONS FROM 18.0' TO 20.0' BETWEEN STA. 31+48.71 TO STA. 32+51.49  
TRANSITIONS FROM 20.0' TO 18.0' BETWEEN STA. 38+21.00 TO STA. 39+21.00
- B** TRANSITIONS FROM 4.0' TO 0.0' BETWEEN STA. 31+48.71 TO STA. 32+51.48  
TRANSITIONS FROM 0.0' TO 4.0' BETWEEN STA. 38+21.00 TO STA. 39+21.00

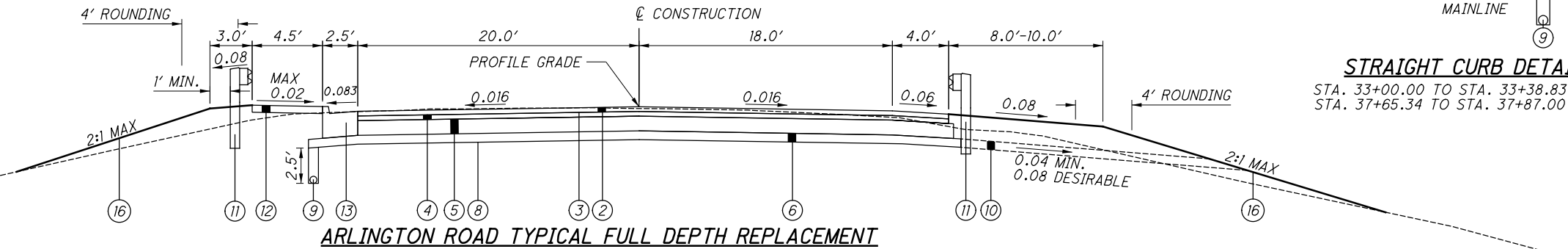


**ARLINGTON ROAD TYPICAL 3 LANE WITH WIDENING SECTION**  
STA. 28+79.34 TO STA. 32+49.00  
STA. 38+16.00 TO STA. 41+55.94

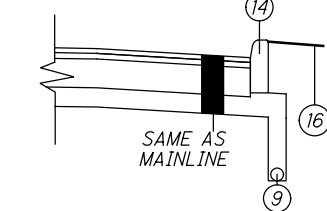
- GUARDRAIL LIMITS**
- STA. 31+88.76 TO STA. 32+99.40 (LEFT)
  - STA. 31+15.18 TO STA. 33+38.83 (RIGHT)
  - STA. 37+25.80 TO STA. 38+49.95 (LEFT)
  - STA. 37+66.23 TO STA. 38+25.73 (RIGHT)



**EDGE COURSE DETAIL**



**ARLINGTON ROAD TYPICAL FULL DEPTH REPLACEMENT**  
STA. 32+49.00 TO STA. 33+19.12  
STA. 37+45.52 TO STA. 38+16.00



**STRAIGHT CURB DETAIL**

STA. 33+00.00 TO STA. 33+38.83 (RIGHT)  
STA. 37+65.34 TO STA. 37+87.00 (RIGHT)

- C** USE ITEM (7) FOR WIDENING SECTIONS AND ITEM (6) FOR FULL DEPTH REPLACEMENT SECTIONS

**LEGEND**

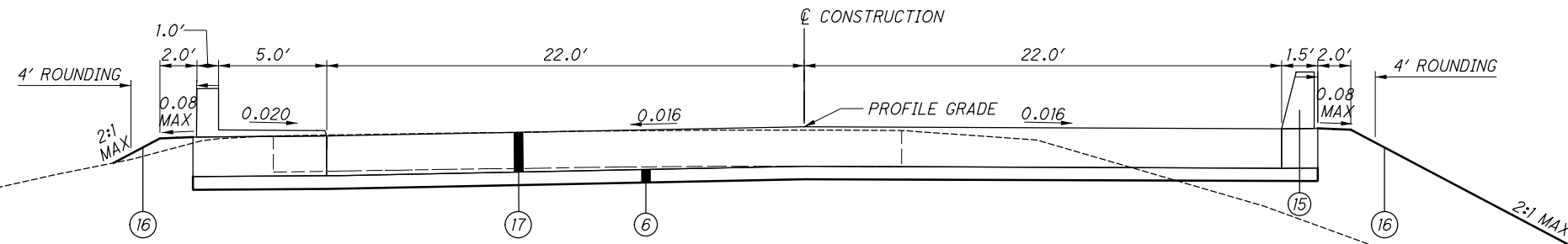
- |  |  |   |   |
|--|--|---|---|
| (1) ITEM 254 - 1.50" PAVEMENT PLANING, ASPHALT CONCRETE                        | (9) ITEM 605 - 4" SHALLOW PIPE UNDERDRAINS             | (17) ITEM 526 - REINFORCED CONCRETE APPROACH SLAB, 15"                                      | (A) EXISTING ASPHALT SURFACE (TYP. ±3.5") |
| (2) ITEM 442 - 1.50" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, (446)    | (10) ITEM 605 - AGGREGATE DRAINS                       | (18) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM TYPE A, (448), (LEVELING COURSE) | (B) EXISTING CONCRETE BASE (TYP. ±9")     |
| (3) ITEM 407 - TACK COAT*  | (11) ITEM 606 - GUARDRAIL, TYPE MGS                    | (19) ITEM 606 - GUARDRAIL, TYPE MGS WITH LONG POSTS   | (C) EXISTING ASPHALT BASE (TYP. ±6")      |
| (4) ITEM 442 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A, (446) | (12) ITEM 608 - 4" CONCRETE WALK                       | (20) ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, (448)                 | (D) EXISTING ASPHALT (TYP. ±15")          |
| (5) ITEM 302 - 9" ASPHALT CONCRETE BASE, PG64-22 (2 EQUAL LIFTS)               | (13) ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2    | (21) ITEM 302 - 7.5" ASPHALT CONCRETE BASE, PG64-22   | (E) EXISTING CURB AND GUTTER              |
| (6) ITEM 304 - 6" AGGREGATE BASE   | (14) ITEM 609 - CURB, TYPE 4-C                         | (22) ITEM 304 - 3" MIN. AGGREGATE BASE  |   |
| (7) ITEM 304 - 8" AGGREGATE BASE (2 EQUAL LIFTS)                               | (15) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D |   |   |
| (8) ITEM 204 - SUBGRADE COMPACTION   | (16) ITEM 659 - SEEDING AND MULCHING                   |   |   |

TYPICAL SECTIONS

MOT-70-3.34

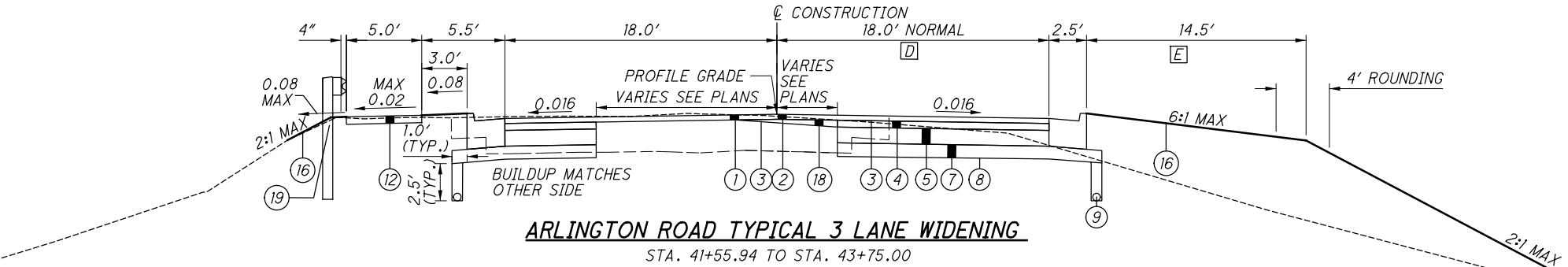
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G:\DE\Clients\ODOT\075863\_MOT\_70\_0334\_99623\_MOT\_70\_0334\Design\Roadway\Sheets\99623\_GY002.dgn 11/3/2017 10:10:31 AM hain



**ARLINGTON ROAD TYPICAL APPROACH SLAB SECTION**

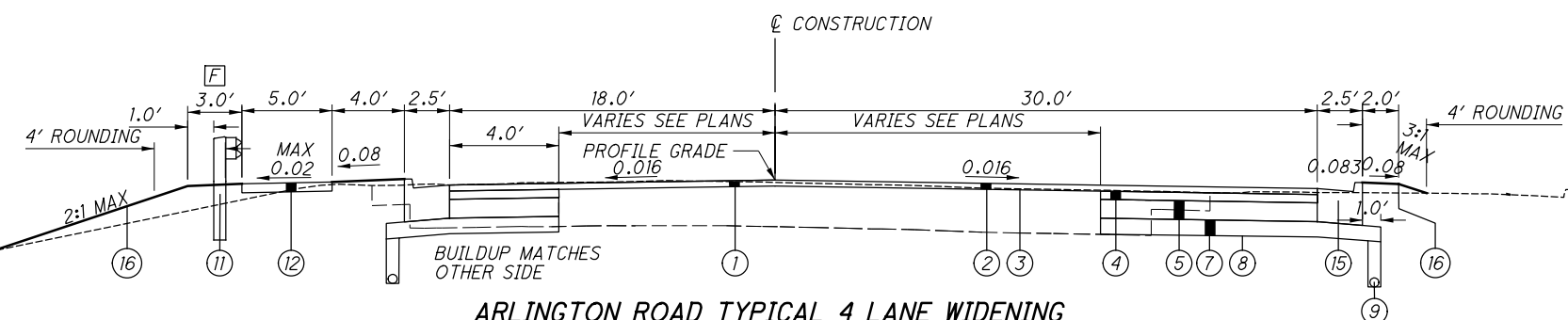
APPROACH SLAB LIMITS  
 STA. 33+19.12 TO STA. 33+44.12  
 STA. 37+20.52 TO STA. 37+45.52



**ARLINGTON ROAD TYPICAL 3 LANE WIDENING**

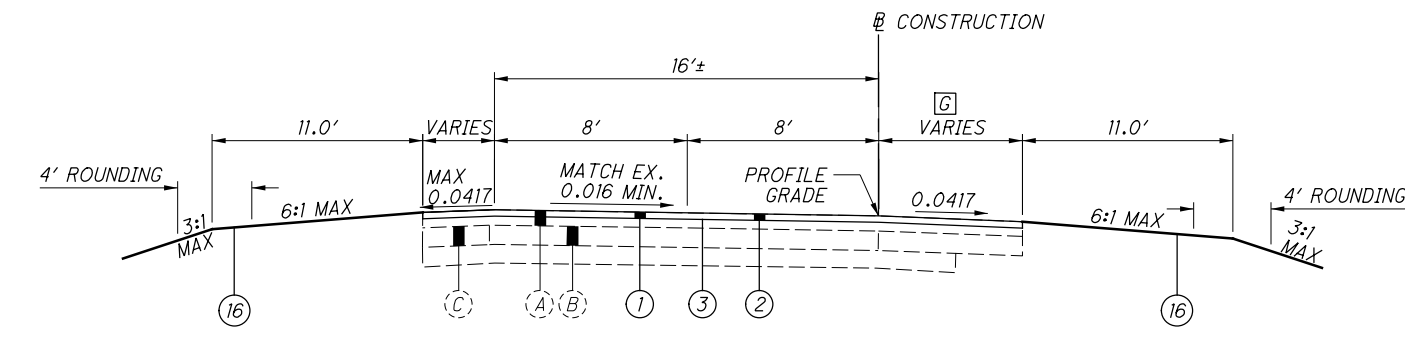
STA. 41+55.94 TO STA. 43+75.00

GUARDRAIL LIMITS  
 RAMP A STA. 0+44.94 TO ARLINGTON RD STA. 45+01.43 (LEFT)



**ARLINGTON ROAD TYPICAL 4 LANE WIDENING**

STA. 43+75.00 TO STA. 47+66.62

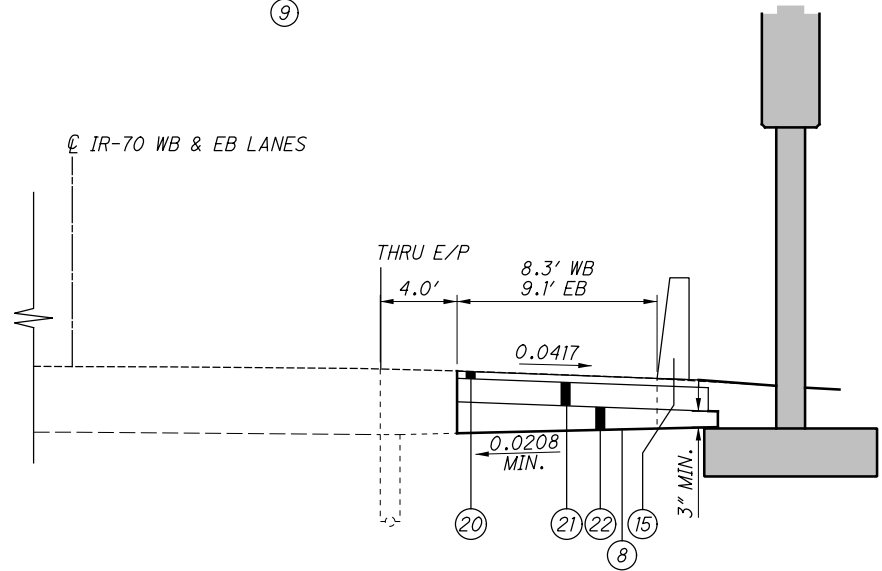


**NORMAL SECTION - RAMPS**

RAMP C - STA. 15+00.00 TO 16+25.69  
 RAMP D - STA. 0+03.91 TO 1+33.00  
 (SEE INTERSECTION DETAILS)

- D** TRANSITIONS BETWEEN 18.0' TO 30.0' BETWEEN STA. 42+98.30 TO STA. 43+74.89
- E** TRANSITIONS FROM 14.5' TO 2.0' BETWEEN STA. 42+98.30 TO STA. 43+74.89
- F** GRADED SHOULDER WIDTH 1.0' FROM 41+46.66 TO 44+29.21' TRANSITIONS FROM 1.0' AND 3.0' BETWEEN STA. 44+29.21 TO STA. 44+64.79
- G** PAVEMENT SHOULDER WRAPS AROUND TO CURB & GUTTER AT STA. 15+63.40 ON RAMP C (SEE INTERSECTION DETAILS)

FOR PAVEMENT LEGEND, SEE SHEET 3  
 FOR BASE AND SUBBASE STEP DETAIL, SEE SHEET 3



**IR 70 TYPICAL SHOULDER REPLACEMENT SECTION**

IR - 70 EASTBOUND (OUTSIDE SHOULDER) - STA. 176+20.63 TO 177+03.13  
 IR - 70 WESTBOUND (OUTSIDE SHOULDER) - STA. 177+66.40 TO 178+48.90

FOR EDGE DETAIL, SEE SHEET 3

TYPICAL SECTIONS

MOT-70-3.34

**UTILITIES**

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

ELECTRIC:  
DAYTON POWER & LIGHT TRANSMISSION  
WILLIAM GOURLEY  
1900 DRYDEN RD.  
DAYTON, OHIO 45439  
937-331-4521  
WILLIAM.GOURLEY@AES.COM

DAYTON POWER & LIGHT TRANSMISSION  
GREGORY TOKAR  
P.O BOX 1247  
DAYTON , OHIO 45401  
937-331-4647  
GREGORY.TOKAR@AES.COM

POWER / LIGHTING:  
BEN JONES  
MIAMI VALLEY LIGHTING DBA DPL ENERGY  
1065 WOODMAN DRIVE  
DAYTON, OHIO 45432  
937-259-7780  
CELL: 937-510-5236  
BENJAMIN.JONES@DPLINC.COM

RTA:  
GREATER DAYTON REGIONAL TRANSIT AUTHORITY  
ROB WILSON  
1300 EXPERIMENT FARM RD.  
DAYTON, OH 45402-1301  
937.525.8533  
RWILSON@GREATERDAYTONRTA.ORG

GAS:  
VECTREN ENERGY DELIVERY  
BRENT VANSKIVER  
1300 EXPERIMENT FARM RD.  
TROY, OH 45373  
937-440-1966  
BVANSKIVER@VECTREN.COM

VECTREN ENERGY DELIVERY  
DON SPECHT  
6500 CLYO RD.  
CENTERVILLE, OH 45459  
937-312-2533  
DSPECHT@VECTREN.COM

TELECOMMUNICATION:  
COX MEDIA GROUP OHIO  
1611 S. MAIN STREET  
DAYTON, OHIO 45409  
CLAYTON, OHIO 45315  
937-225-2000

FRONTIER COMMUNICATIONS  
(FORMERLY VERIZON NORTH)  
CHARLES BERNACCHI  
6464 WESTBROOK ROAD  
CLAYTON, OHIO 45315  
937-833-1468  
CELL: 541-390-3910  
CHARLES.BERNACCHI@FTR.COM

CABLE:  
TIM KUSS  
CHARTER  
3691 TURNER ROAD  
DAYTON, OHIO 45415  
937-425-8871  
TIM.KUSS@CHARTER.COM

ODOT TRAFFIC SIGNAL & HIGHWAY LIGHTING:  
JUSTIN YOH  
1001 ST. MARYS AVE.  
SIDNEY, OH 45365  
937-497-6897  
JUSTIN.YOH@DOT.OHIO.GOV

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

**WORK LIMITS**

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

**EXISTING PLANS**

EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT 7 OFFICE IN SIDNEY, OHIO.

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 2 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

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

**PROJECT CONTROL**

POSITIONING METHOD: FIELD SURVEY  
MONUMENT TYPE: IRON PINS

**VERTICAL POSITIONING**

ORTHOMETRIC HEIGHT DATUM: NAVD 88  
GEOID: 12A

**HORIZONTAL POSITIONING**

REFERENCE FRAME: NAD83 (2011)  
ELLIPSOID: GRS 80  
MAP PROJECTION: LAMBERT CONIC CONFORMAL  
COORDINATE SYSTEM: OHIO SOUTH 3402  
COMBINED SCALE FACTOR: COORDINATES PROVIDED ARE GRID ORIGIN OF COORDINATE SYSTEM: 0,0

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

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

**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 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

**ROUNDING**

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

**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.

**AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS**

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 200 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING AN FAA FORM 7460-1.

NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

EXPRESS PROCESSING CENTER  
THE FEDERAL AVIATION ADMINISTRATION  
SOUTHWEST REGIONAL OFFICE  
AIR TRAFFIC AIRSPACE BRANCH ASW-520  
2601 MEACHAN BLVD.  
FORT WORTH, TX 76137-4298

OHIO DEPARTMENT OF TRANSPORTATION  
OFFICE OF AVIATION  
2829 WEST DUBLIN-GRANVILLE ROAD  
COLUMBUS, OHIO 43235  
614-387-2346

**ITEM 608 - CURB RAMP, AS PER PLAN**

THIS ITEM SHALL CONSIST OF THE WORK IN ACCORDANCE WITH THE 2016 CM&S AND CURRENT SCD BP-7.1 WITH THE EXCEPTION THAT THE DESIGN AND SHAPE MAY VARY SOME FROM THE STANDARD CONSTRUCTION DRAWINGS.

CURBS RAMPS CALLED OUT IN THE PLANS AS CURB RAMPS, TYPE B3, APP SHALL BE CONSTRUCTED WITH GRASS BUFFER AND CURB AS DESIGNED IN THE PLANS. CURBS RAMPS CALLED OUT IN THE PLANS AS CURB RAMPS, TYPE B1, APP SHALL BE CONSTRUCTED WITH GRASS BUFFER AND CURB AS DESIGNED IN THE PLANS.

ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR ITEM 608 CURB RAMP, AS PER PLAN.

**CURBING ON APPROACH SLABS**

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

**PART-WIDTH CONSTRUCTION**

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

**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 POTHOLE TO VISUALLY 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 611 CONDUIT ITEM.

**PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES**

CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED METAL STRUCTURES SHALL BE MADE BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND HAVE A MINIMUM LENGTH OF 2 FEET AND A MINIMUM WALL THICKNESS OF 0.064 INCHES.

THE LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID CUTTING THROUGH JOINTS IN THE STRUCTURE.

THE FIELD WELDED JOINT, IF USED, SHALL BE THOROUGHLY CLEANED AND REGALVANIZED OR OTHERWISE SUITABLY REPAIRED. WELDING SHALL MEET THE REQUIREMENTS OF 513.21.

A MASONRY COLLAR, AS PER STANDARD DRAWING DM-1.1, WILL BE REQUIRED TO CONNECT THE LONGITUDINAL DRAINAGE TO THE STUB, WHEN PIPE OTHER THAN CORRUGATED METAL IS PROVIDED FOR THE LONGITUDINAL DRAINAGE.

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 611 OR 522.

**ITEM 611 - CONDUIT BORED OR JACKED**

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 40 FEET TO THE EDGE OF PAVEMENT. PROVIDE A 0.50 INCH UNGALVANIZED CASING PIPE CONFORMING TO 748.06 THAT HAS JOINTS WITH A CIRCUMFERENCIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE.

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CAG  
CHECKED  
NGF

GENERAL NOTES

MOT-70-3.34

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**ITEM 605 - AGGREGATE DRAINS**

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

ITEM 605 - AGGREGATE DRAIN 320 FT

**PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS**

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

ITEM 302 ASPHALT CONCRETE BASE, PG64-22 5 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 9 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

**PAVEMENT RESTORATION FOR DRAINAGE STRUCTURE INSTALLATIONS**

THE FOLLOWING QUANTITY IS PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF ITEM 604 DRAINAGE STRUCTURES.

ITEM 302 ASPHALT CONCRETE BASE, PG64-22 5 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 9 INCHES AND A WIDTH OF TWO FEET AROUND THE PERIMETER OF THE DRAINAGE STRUCTURE.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

**DELINEATION OF PERMANENT GUARDRAIL & CONCRETE BARRIER**

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL PERMANENT GUARDRAIL & CONCRETE BARRIER WALL LOCATED WITHIN 10 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 626, BARRIER REFLECTOR, TYPE 1 (ONE WAY) 6 EACH  
 ITEM 626, BARRIER REFLECTOR, TYPE 1 (BIDIRECTIONAL) 10 EACH  
 ITEM 626, BARRIER REFLECTOR, TYPE 2 (ONE WAY) 6 EACH  
 ITEM 626, BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL) 12 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEM(S).

**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 611.

**ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING**

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO 204.05.  
IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.
3. COMPACT THE SUBGRADE ACCORDING TO 204.03.
4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS. PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO 204.06.
5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.
7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

ITEM 204 - PROOF ROLLING 2 HOURS

SHEET NO.	UNDERCUT		
	204	204 12"	204
	EXCAVATION OF SUBGRADE	GRANULAR MATERIAL, TYPE B	GEOTEXTILE FABRIC
	CY	CY	SY
32	64	64	184
33	141	141	421
34	79	79	234
TOTAL TO GEN. SUM.	284	284	839

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204 EXCAVATION OF SUBGRADE.

SHEET NO.	EARTHWORK		SHEET NO.	SEEDING AND MULCHING
	203			659
	EXCAVATION	EMBANKMENT		SEEDING AND MULCHING
	CY	CY		SY
30	45	67	30	169
31	159	319	31	1060
32	240	256	32	1334
33	191	314	33	1639
34	366	695	34	1669
35	210	739	35	502
36	91	393	36	249
37	332	826	37	1158
38	147	464	38	1314
39	95	117	39	447
40	608	786	40	998
41	360	367	41	783
42	109	110	42	446
RAMPS	30	150	RAMPS	70
TOTALS TO GEN. SUM.	2983	5603	TOTALS TO GEN. SUM.	11838

**SEEDING AND MULCHING**

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

659, SOIL ANALYSIS TEST 2 EACH

659, TOPSOIL 1286 CU. YD.

659, SEEDING AND MULCHING 11,838 SQ. YD.

659, REPAIR SEEDING AND MULCHING 579 SQ. YD

659, INTER-SEEDING 579 SQ. YD.

659, COMMERCIAL FERTILIZER 1.62 TON

659, LIME 2.39 ACRES

659, WATER 64 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.

**POST CONSTRUCTION STORM WATER TREATMENT**

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

**CATCH BASINS REMOVED, AS PER PLAN**

ALL CASTINGS SHALL BE CAREFULLY REMOVED AND DELIVERED FOR SALVAGE TO THE CITY OF BROOKVILLE.

SERVICE DEPARTMENT  
 700 ARLINGTON RD.  
 BROOKVILLE, OHIO  
 ATTN: GARY BURKHOLDER  
 (937) 833-2135

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

**ITEM SPECIAL - MAILBOX REMOVED AND RESET**

THIS WORK SHALL REMOVE AND RE-ERECT THE MAILBOXES INDICATED FOR RELOCATION IN THE PLANS IN LOCATIONS ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4 INCHES BY 4 INCHES SQUARE OR 4.5 INCHES DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 INCHES I.D., AND CONFORM TO AASHTO M 181.

ALL HARDWARE INCLUDING BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, SINGLE.

ITEM SPECIAL - MAILBOX REMOVED AND RESET 2 EACH

CALCULATED CAG CHECKED NGF  
**GENERAL NOTES**  
**MOT-70-3.34**  
6  
136

**PETROLEUM CONTAMINATED SOILS**

ENVIRONMENTAL STUDIES INDICATE PETROLEUM CONTAMINATED SOILS WILL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES ADJACENT THE WENDY'S RESTAURANT AT 510 UPPER LEWISBERG-SALEM.

THE CONTRACTOR SHALL MANAGE SOILS EXCAVATED FOR THE JACK & BORE PIT AT STA. 28+13, ADJACENT TO THE WENDY'S RESTAURANT PROPERTY ACCORDING TO THE FOLLOWING NOTES:

ALL MATERIAL EXCAVATED BY THE CONTRACTOR MAY BE STOCKPILED IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL IN A LINED AND COVERED ROLL-OFF BOX. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL ON AN IMPERMEABLE MEMBRANE. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THE SUSPECTED SOILS FROM COMING IN CONTACT WITH THE ORIGINAL SOILS. AN IMPERMEABLE MEMBRANE SHALL BE PLACED OVER THE STOCKPILE TO PREVENT CONTACT WITH PRECIPITATION AND/OR SURFACE RUN-OFF. THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED CONTAMINATED MATERIAL INTO TRUCKS.

THIS MATERIAL SHALL BE PROPERLY TESTED, TRANSPORTED, AND DISPOSED OF IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY) SOLID WASTE FACILITY. IF REQUIRED BY THE SOLID WASTE FACILITY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING SAMPLING AND ANALYSIS OF THIS MATERIAL. OBTAIN ALL SIGNATURES ON THE MANIFEST FOR TRANSPORTING AND DISPOSAL OF THE MATERIAL AND PROVIDE A FINAL COPY TO THE ENGINEER.

**BASIS OF PAYMENT**

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY HANDLE, STORE (IF NECESSARY), TEST FOR DISPOSAL, TRANSPORT, AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS, APPROVALS, OR FEES WITHIN THE LIMITS IDENTIFIED ABOVE. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER TON. TONNAGE MAY BE ESTIMATED AT 1.5 TIMES THE TOTAL CUBIC YARDS. THE FOLLOWING ESTIMATED CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

690 ITEM SPECIAL - WORK INVOLVING PETROLEUM CONTAMINATED SOIL 46 TON

**DRINKING WATER RESOURCES**

THE PROJECT IS LOCATED WITHIN THE BOUNDARIES OF A DESIGNATED SOLE SOURCE AQUIFER. BEST CONSTRUCTION PRACTICES ARE TO BE IMPLEMENTED TO MINIMIZE WATER QUALITY IMPACTS. IDLE EQUIPMENT, PETROCHEMICALS, AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE STORED NEAR DRAINAGE WAYS, DITCHES OR STREAMS. REFUELING SHALL NOT BE UNDERTAKEN NEAR DRAINAGE WAYS, DITCHES OR STREAMS. A SPILL CONTAINMENT KIT IS TO BE MAINTAINED ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. SPILLS OF FUELS, OILS, CHEMICALS, OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY. IF THE SPILL IS A REPORTABLE AMOUNT, THE BROOKVILLE FIRE DEPARTMENT (937-833-4051), LOCAL EMERGENCY COORDINATOR (937-901-5112), AND THE OEPA (1-800-282-9378) MUST BE CONTACTED WITHIN 30 MINUTES OF KNOWLEDGE OF THE RELEASE.

**CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL**

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

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

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

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 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.

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

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

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

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

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

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 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, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**TRAFFIC CONTROL ALTERNATE BID (PROPOSED SIGNS)**

THE ALTERNATE BID FOR TRAFFIC CONTROL FOR PROPOSED SIGNS, INSTALLS THE STANDARD SIGNS WITH A BLACK-PAINTED SIGN BACKING, AND USING SIGN POSTS PAINTED BLACK, SUCH PAINTING HAVING BEEN DONE IN THE SHOP AFTER FABRICATION. ANY VISIBLE MOUNTING HARDWARE SHALL ALSO BE PAINTED BLACK.

**ITEM 630 - GROUND MOUNTED SUPPORT, NO. 3 POST, AS PER PLAN**

**ITEM 630 - GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7, AS PER PLAN**

**ITEM 630 - GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12, AS PER PLAN**

**ITEM 630 - ONE WAY SUPPORT, NO. 3 POST, AS PER PLAN**

PROVIDE AND INSTALL THE ITEMS LISTED ABOVE IN ACCORDANCE WITH CMS 630 AND, IN ADDITION TO THE REQUIREMENTS OF CMS 514 & 708, THE FOLLOWING SHALL APPLY: ALL ITEMS BEING PAINTED SHALL USE FEDERAL STANDARD COLOR FS-595B-27038, BLACK, AND SHALL BE PAINTED IN A CONTROLLED ENVIRONMENT PRIOR TO SHIPPING TO THE FIELD. NEW GALVANIZED STEEL OR ALUMINUM SHALL BE PREPARED FOR COATING BY A SOLVENT CLEANING TO SSPC SP-1 SURFACE PREPARATION. THE PAINTING SHALL CONSIST OF THREE-COAT PAINT SYSTEM COMPRISED OF AN INORGANIC ZINC PRIME COAT, AN EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT PER CMS 514.

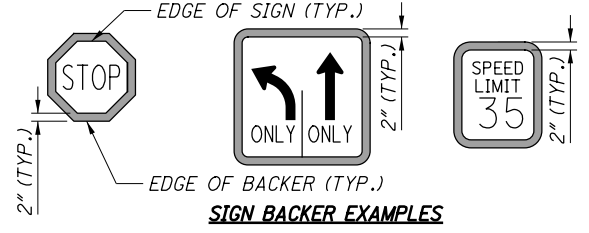
THE PAINTING OF EACH ITEM SHALL BE INCIDENTAL TO ITS PAY ITEM AS NOTED IN CMS 630.

**ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN**

PURSUANT TO THE ALTERNATE BID NOTED ABOVE, PROVIDE BOTH THE STANDARD SIGN AND AN AESTHETIC SIGN BACKING AND BORDER CONSISTING OF 0.080" THICK ALUMINUM FLAT SHEETS (CMS 730.11), CUT TO BE 2 INCHES LARGER AROUND ALL SIDES THAN THE STANDARD SIGN. PLACE THE BACKER PLATE BETWEEN THE SIGN AND THE SUPPORT AND CENTER IT TO PROVIDE A CONSISTENT 2 INCH BORDER ON ALL SIDES. THE SIGN BACKER SHALL HAVE HOLES DRILLED PRIOR TO COATING TO ALLOW THE SIGN AND BACKER TO BE BOLTED TO THE SIGN SUPPORTS.

THE SIGN BACKING SHALL BE POWDER COATED OR PAINTED IN ACCORDANCE WITH CMS 514, FEDERAL STANDARD COLOR FS-595B-27038, BLACK. THE CONTRACTOR SHALL PROVIDE ONE COMPLETE ASSEMBLY FOR APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION.

PAYMENT SHALL INCLUDE BOTH THE STANDARD SIGN AND THE AESTHETIC SIGN BACKING, ON A SQUARE FOOT BASIS AS MEASURED FOR THE STANDARD SIGN, THE BACKING SHALL BE INCIDENTAL AND WILL BE INCLUSIVE OF ALL WORK REQUIRED TO FABRICATE, PAINT OR COAT, AND ERECT THE BACKER WITH THE SIGN ON THE SUPPORTS. PAYMENT SHALL BE MADE UNDER ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN, SQUARE FOOT.



**FIELD-PAINTING OF EXISTING SIGNS AND POSTS**

THE TRAFFIC CONTROL APPLICATION DESCRIBED HEREIN PERFORMS A FIELD-PAINTING OPERATION WHEREBY THE EXISTING POSTS AND THE BACKS OF THE EXISTING SIGNS ARE PAINTED BLACK. THIS WORK APPLIES ONLY TO EXISTING SIGNS IDENTIFIED IN THE PLANS, THAT ARE WITHIN THE WORK LIMITS, THE DISPOSITION FOR WHICH, IS EITHER REMOVAL AND RE-ERECTION, OR, OTHERWISE REMAIN UNTOUCHED.

**ITEM 630 - SIGNING, MISC.: FIELD PAINT EXISTING SIGN POST**  
**ITEM 630 - SIGNING, MISC.: FIELD PAINT EXISTING SIGN**

ALL ITEMS BEING PAINTED SHALL USE FEDERAL STANDARD COLOR FS-595B-27038, BLACK, PERFORMED IN THE FIELD. THE STEEL PAINTING SHALL BE A FOUR-PART PROCESS CONSISTING OF A ONE PART SURFACE PREPARATION FOLLOWED BY A THREE-COAT PAINT SYSTEM.

THE STEEL PAINTING SHALL CONSIST OF THREE-COAT PAINT SYSTEM COMPRISED OF AN INORGANIC ZINC PRIME COAT, AN EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT PER CMS 514. TAPE OR OTHERWISE PROTECT THE FRONT OF ALL SIGNS TO AVOID PAINTING REFLECTIVE AREAS.

DISASSEMBLE THE SIGN FROM THE POST PRIOR TO PAINTING AND REASSEMBLE AFTER COMPLETION AND CURING OF PAINT.

EXISTING STEEL SHALL BE PREPARED FOR COATING BY A SOLVENT CLEANING TO SSPC SP-1 SURFACE PREPARATION STANDARDS. IF CORROSION IS FOUND IN THE FIELD SSPC SP-2 (HAND TOOL) OR SSPC SP-3 (POWER TOOL) SURFACE PREPARATION MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER, FOR WHICH NO ADDITIONAL PAYMENT WILL BE MADE. COLLECT AND CONTAIN ANY WASTE PER CMS 514.13.

EXISTING ALUMINUM SHALL BE WASHED WITH A MILD COMMON HOUSEHOLD LAUNDRY DETERGENT, RINSED COMPLETELY WITH CLEAN WATER AND LEFT TO AIR DRY. IF THE ALUMINUM HAS BEEN IN PLACE FOR LESS THAN SIX (6) MONTHS, IT SHALL BE PRE-TREATED WITH THE FOLLOWING SOLUTION TO BE APPLIED BY CLOTH OR BRUSH:  
18% PHOSPHORIC ACID (85 WT %)  
22% WATER  
25% ISOPROPYL ALCOHOL  
35% BUTYL ALCOHOL (BY VOLUME)

DO NOT ALLOW TO DRY. AFTER THREE (3) TO FIVE (5) MINUTES, RINSE WITH CLEAR WATER AND ALLOW TO DRY BEFORE COATING WITH A PRIMER COMPATIBLE WITH ALUMINUM SUBSTRATE, SPECIFICATIONS OF WHICH, SHALL BE PROVIDED TO THE ENGINEER PRIOR TO CONSTRUCTION. THE FINISH COAT OF PAINT SHALL BE COMPATIBLE WITH THE PRIMER. THE ACID PRE-TREATMENT STEP IS NOT REQUIRED FOR ALUMINUM THAT HAS BEEN IN THE FIELD FOR SIX (6) MONTHS OR MORE OR IF THE ENGINEER DETERMINES THAT IT HAS WEATHERED ENOUGH FOR THE PRIMER AND PAINT TO PROPERLY ADHERE.

THE CONTRACTOR SHALL EXERCISE THE APPROPRIATE SAFETY PRECAUTIONS TO SHIELD THE SKIN, EYES AND FACE OF THE PAINT CREWS WHEN USING THE ACID PRE-TREATMENT, INCLUDING PROTECTIVE CLOTHING, GOGGLES AND GLOVES.

PAYMENT FOR ITEM 630 MISC.: FIELD PAINT EXISTING SIGN POST SHALL BE BASED ON THE LENGTH OF POST PAINTED REGARDLESS OF THE SIZE (AMOUNT OF SURFACE AREA OF THE POST SECTION) OF THE EXISTING POST.

PAYMENT FOR ITEM 630 MISC.: FIELD PAINT EXISTING SIGN, SHALL BE BASED ON THE SQUARE FOOTAGE OF THE BACK OF THE SIGN BEING PAINTED. THE COST FOR SIGN DISASSEMBLY AND REASSEMBLY SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 630 MISC.: FIELD PAINT EXISTING SIGN.

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**ITEM 614 - MAINTAINING TRAFFIC**

**ARLINGTON ROAD**

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION ON ARLINGTON ROAD SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 150 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 11. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$10,000 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

PAYMENT FOR THE ERECTION, MAINTENANCE, AND REMOVAL OF THE DETOUR SIGNING SHALL BE MADE PER ITEM 614 - DETOUR SIGNING.

**IR-70**

A MINIMUM OF 2 LANES OF TRAFFIC IN EACH DIRECTION ON IR-70 SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT EXCEPT AS NOTED IN THE PERMITTED LANE CLOSURE TIME NOTE.

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC ON IR-70 DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING
DAYTON AIR SHOW	

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 HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

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

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

ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE B	100 CU. YD.
ITEM 616, WATER	2 M. GAL.

**ITEM 614 - MAINTAINING TRAFFIC (CONTINUED)**

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. [AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.]

THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

ROAD WILL BE CLOSED MMM-DD FOR 150 DAYS  
INFO: 888-200-9919

W20-H13-60

**NOTICE OF CLOSURE SIGN TIME TABLE**

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	>= 2 WEEKS >12 HOURS & <2 WEEKS <12 HOURS	14 CALENDAR DAYS PRIOR TO CLOSURE 7 CALENDAR DAYS PRIOR TO CLOSURE 2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 x 30 INCH ROAD CLOSED SIGNS, ADVANCE WARNING 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.

ARLINGTON ROAD JUST NORTH OF THE EASTBOUND RAMPS.  
ARLINGTON ROAD JUST SOUTH OF THE WESTBOUND RAMPS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 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.

**PERMITTED LANE CLOSURE TIMES**

THE LANE CLOSURE TIMES ON IR-70 WILL BE AS FOLLOWS: ONE LANE MAY BE CLOSED FROM 7:00 PM TO 6:00 AM, SEVEN DAYS PER WEEK. SHORT DURATION CLOSURES OF TWO LANES ON IR-70 MAY OCCUR AS DETAILED IN THE IR-70 SHORT DURATION CLOSURES NOTE ON THIS SHEET.

SHOULD THE CONTRACTOR VIOLATE ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$50 FOR EACH MINUTE THE ABOVE-DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

**IR-70 SHORT DURATION CLOSURES**

SHORT DURATION CLOSURES OF 2 LANES ON IR-70 FOR THE REMOVAL AND ERECTION OF BRIDGE BEAMS SHALL BE PER ODOT STANDARD CONSTRUCTION DRAWING MT-99.60. THE ALLOWABLE TIMES SHALL BE FROM 8:00 PM TO 6:00 AM, SEVEN DAYS PER WEEK.

SHOULD THE CONTRACTOR VIOLATE ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$50 FOR EACH MINUTE THE ABOVE-DESCRIBED SHORT DURATION CLOSURE RESTRICTIONS ARE VIOLATED.

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

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

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

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

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

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURE/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONTINUED)**

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

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

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

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 200 HRS

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

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

**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 SUBBASE 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.

**PLACEMENT OF ASPHALT CONCRETE**

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

MOT-70-3.34



**SEQUENCE OF CONSTRUCTION**

**PHASE ONE**

DURING THIS PHASE, THE EXISTING BRIDGE, ALL RAMPS, IR-70 AND ARLINGTON ROAD SHALL ALL REMAIN OPEN TO TRAFFIC UNDER EXISTING TRAFFIC CONTROL. THE CONTRACTOR SHALL PLACE THE PORTABLE BARRIER AND IMPACT ATTENUATORS ON BOTH SHOULDERS OF THE EASTBOUND AND WESTBOUND LANES OF IR-70, PRIOR TO BEGINNING ANY OTHER WORK PER MT-95.45. AFTER THE PB HAS BEEN SET, THE CONTRACTOR MAY WORK ON WIDENING THE EXISTING SUBSTRUCTURE ELEMENTS (ABUTMENTS AND PIERS) AND MAY PERFORM ANY PIER INFILL. THE PB SHALL REMAIN IN PLACE UNTIL THE PAINTING OF THE STRUCTURAL STEEL OF THE BRIDGE IS COMPLETED AND CONTRACTOR OR THE PROJECT ENGINEER DETERMINE IT IS NO LONGER NEEDED. DRAINAGE AND CONDUITS TO BE JACKED AND BORED MAY BE DONE IN THIS PHASE.

**PHASE TWO**

DURING THIS PHASE, THE CONTRACTOR WILL CLOSE THE EXISTING BRIDGE AND BEGIN THE REMOVAL OF THE STRUCTURE. ARLINGTON ROAD WILL BE CLOSED TO THRU TRAFFIC, BUT ACCESS SHALL BE MAINTAINED TO AND FROM ALL RAMPS. ALL LANES OF TRAFFIC ON IR-70 WILL REMAIN OPEN IN THE EXISTING CONFIGURATION. TRAFFIC ON ARLINGTON ROAD WILL BE DETOURED AS SHOWN ON SHEET II. THE CONTRACTOR SHALL HAVE ALL DETOURS IN PLACE PRIOR TO CLOSING ARLINGTON ROAD.

TRAFFIC ON ARLINGTON ROAD WILL BE SHIFTED TO THE WEST SIDE OF THE EXISTING PAVEMENT, WITH AT LEAST ONE LANE 11' WIDE IN EACH DIRECTION. THE CONTRACTOR SHALL CONSTRUCT THE PAVEMENT WIDENING, CURBS, SHOULDERS, DRAINAGE AND GRADING ON THE EAST SIDE OF THE ROADWAY. (DO NOT INSTALL FINAL WEARING COURSE.) THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE SPEEDWAY DRIVE BY CONSTRUCTING THE DRIVE HALF AT A TIME AND SHALL KEEP THE ENTIRE DRIVE OPEN PRIOR TO AND AFTER ITS CONSTRUCTION.

PROPOSED LIGHTING, SIGNALS AND DRAINAGE STRUCTURES SHALL BE CONSTRUCTED DURING PHASE TWO AND PHASE THREE. THE LIMITS OF THE WORK DONE IN EACH PHASE SHALL BE DETERMINED BY THE CONTRACTOR TO COINCIDE WITH THE ROADWAY WORK BEING DONE IN THAT PHASE. BAG NEW RAMP SIGNAL/PED HEADS UNTIL SIGNALS ARE ACTIVATED.

**PHASE THREE**

DURING THIS PHASE, THE CONTRACTOR WILL CONTINUE TO WORK ON THE PROPOSED BRIDGE AND SHALL SHIFT TRAFFIC ON ARLINGTON ROAD TO USE THE COMPLETED PAVEMENT ON THE EAST SIDE OF ARLINGTON ROAD AND THE EXISTING PAVEMENT TO REMAIN IN PLACE. ARLINGTON ROAD WILL CONTINUE TO BE CLOSED TO THRU TRAFFIC. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE 11' WIDE LANE OF TRAFFIC IN EACH DIRECTION ON ARLINGTON ROAD AND ACCESS TO AND FROM ALL RAMPS. THE CONTRACTOR SHALL CONSTRUCT THE PAVEMENT WIDENING, CURBS, SHOULDERS, SIDEWALKS, DRAINAGE AND GRADING ON THE WEST SIDE OF THE ROADWAY. (DO NOT INSTALL FINAL WEARING COURSE.)

PROPOSED LIGHTING, SIGNALS AND DRAINAGE STRUCTURES SHALL BE CONSTRUCTED DURING PHASE TWO AND PHASE THREE. THE LIMITS OF THE WORK DONE IN EACH PHASE SHALL BE DETERMINED BY THE CONTRACTOR TO COINCIDE WITH THE ROADWAY WORK BEING DONE IN THAT PHASE. BAG NEW RAMP SIGNAL/PED HEADS UNTIL SIGNALS ARE ACTIVATED.

DURING PHASE 3, THE CONTRACTOR SHALL COMPLETE WORK ON THE BRIDGE, INCLUDING VANDAL PROTECTION FENCING AND BRIDGE MOUNTED LIGHT POLES, SO IT CAN BE OPENED TO TRAFFIC. WORK ON THE BRIDGE, INCLUDING: SEALING AND PAINTING MAY BE COMPLETED DURING PHASE 4 WITH THE USE OF A FLAGGER WHEN NECESSARY.

**PHASE FOUR  
IR-70**

THE CONTRACTOR SHALL PAINT THE NEW STEEL BEAMS FOR THE NEW BRIDGE. TEMPORARY LANE CLOSURES ON IR-70 WILL NEED TO BE SET UP TO PAINT THE BEAMS OVER THE ROADWAY. LANE CLOSURES SHALL FOLLOW STANDARD DRAWING MT-99.60. AT LEAST ONE LANE IN EACH DIRECTION SHALL BE OPEN AT ALL TIMES. CLOSURES SHALL BE DONE PER THE PERMITTED LANE CLOSURE TIMES NOTE. WHEN PAINTING IS COMPLETE, PORTABLE BARRIER AND ATTENUATORS CAN BE REMOVED AND SHOULDERS OPENED.

**ARLINGTON ROAD**

DURING THIS PHASE, THE CONTRACTOR WILL SHIFT TRAFFIC AS NEEDED IN ACCORDANCE WITH STANDARD DRAWING MT-97.12 TO DO ANY NECESSARY PAVEMENT PLANING AND TO APPLY THE SURFACE COURSE TO ARLINGTON ROAD AND THE PORTIONS OF THE RAMPS INCLUDED IN THIS PROJECT. THE CONTRACTOR SHALL ALSO APPLY THE FINAL PAVEMENT MARKINGS TO THE ROADWAY AND COMPLETE THE INSTALLATION OF THE FINAL SIGNING AND OPEN UP THE ROADWAY TO FULL TRAFFIC.

**NOTIFICATION OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE DISTRICT 7 PUBLIC INFORMATION OFFICE. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

**NOTICE OF DISTRICT 7 PUBLIC INFORMATION OFFICE TIME TABLE**

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	>= 2 WEEKS >12 HOURS & <2 WEEKS <12 HOURS	21 CALENDAR DAYS PRIOR TO CLOSURE 14 CALENDAR DAYS PRIOR TO CLOSURE 4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS <2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE 2 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTICE TO DISTRICT 7 PUBLIC INFORMATION OFFICE TIME TABLE.

**OVERNIGHT TRENCH CLOSING**

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 5 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.

**DELINEATION OF PORTABLE BARRIER**

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

**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. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, 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. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET(S) 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 ACCOMODATE 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 AWAY FROM ALL 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.

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 2 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONTINUED)**

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 TWICE.

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 SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 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 12 SIGN MONTH ASSUMING 2 PCMS SIGNS FOR 6 MONTHS

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MAINTENANCE OF TRAFFIC GENERAL NOTES

MOT-70-3.34

**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 10 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 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 25 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

**FLOODLIGHTING**

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

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

**MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.
2. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF BROOKVILLE FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 2 HOURS AND SHALL NOT INCLUDE THE HOURS OF 6 AM TO 8 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTION WHICH SHALL BE PROTECTED BY OFF-DUTY CITY OF BROOKVILLE POLICE, HIRED BY THE CONTRACTOR:

1. ARLINGTON ROAD AND TRIGGS ROAD

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REAIR AND SYSTEM RESTORED TO FULL SERVICE;

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

**ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL), AS PER PLAN**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

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

ALTHOUGH IT MAY NOT BE SPECIFICALLY SHOWN IN THE PLANS, THE CONTRACTOR SHALL PROVIDE A MINIMUM 5 FOOT OFFSET BETWEEN THE EDGE LINE AND THE EDGE OF THE WORK ZONE IMPACT ATTENUATOR (WZIA). IF THERE IS NOT ENOUGH EXISTING PAVEMENT TO ANCHOR THE WZIA, ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, THE CONTRACTOR SHALL PLACE A TEMPORARY PAD IN ORDER TO ANCHOR THE WZIA ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

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

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

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

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

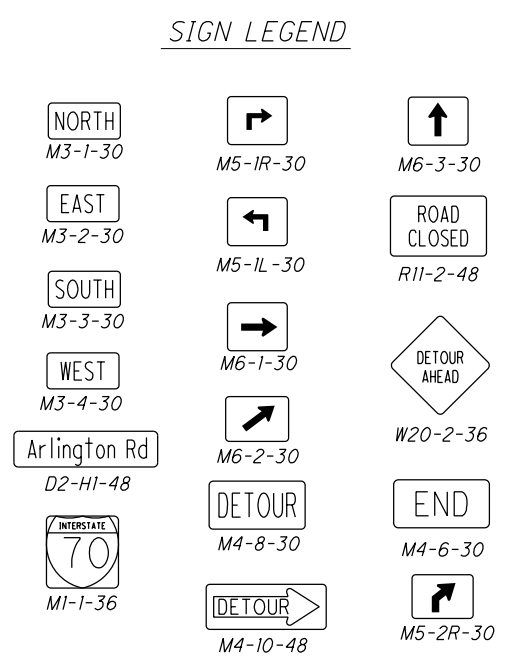
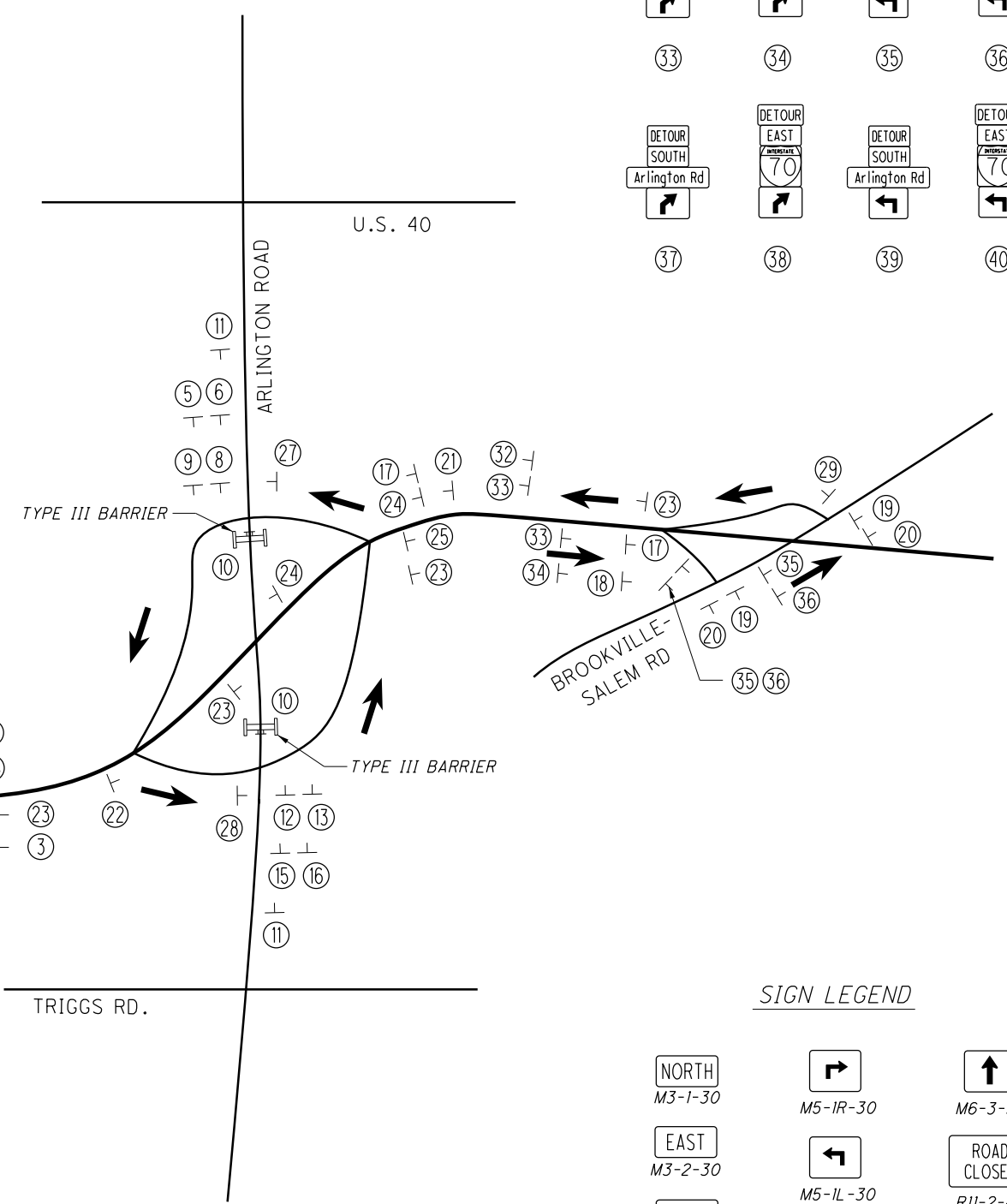
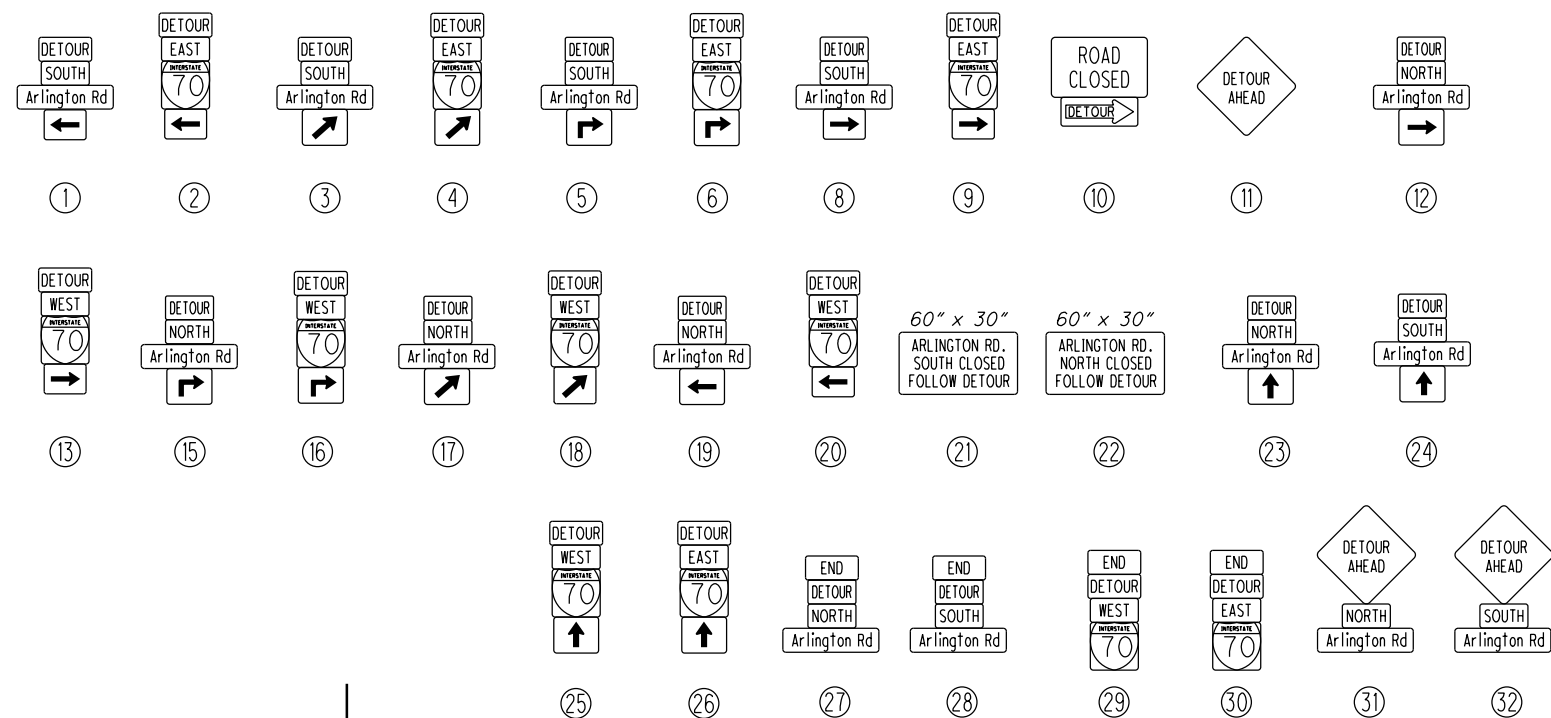
PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, TEMPORARY PAD, HARDWARE AND GRADING,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

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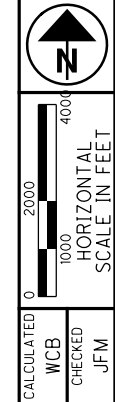
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MAINTENANCE OF TRAFFIC GENERAL NOTES

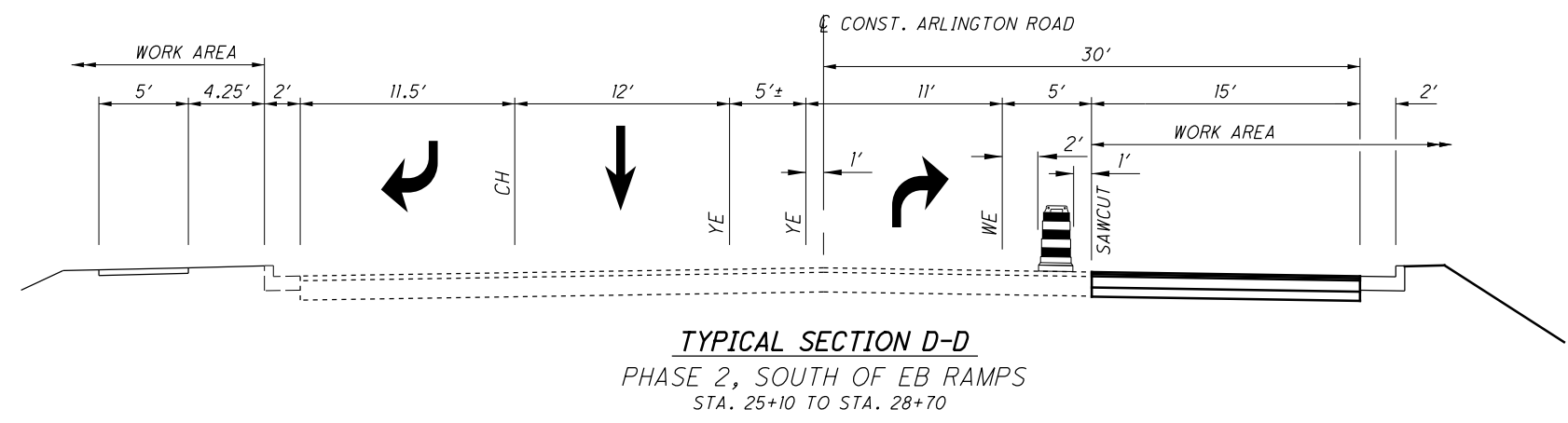
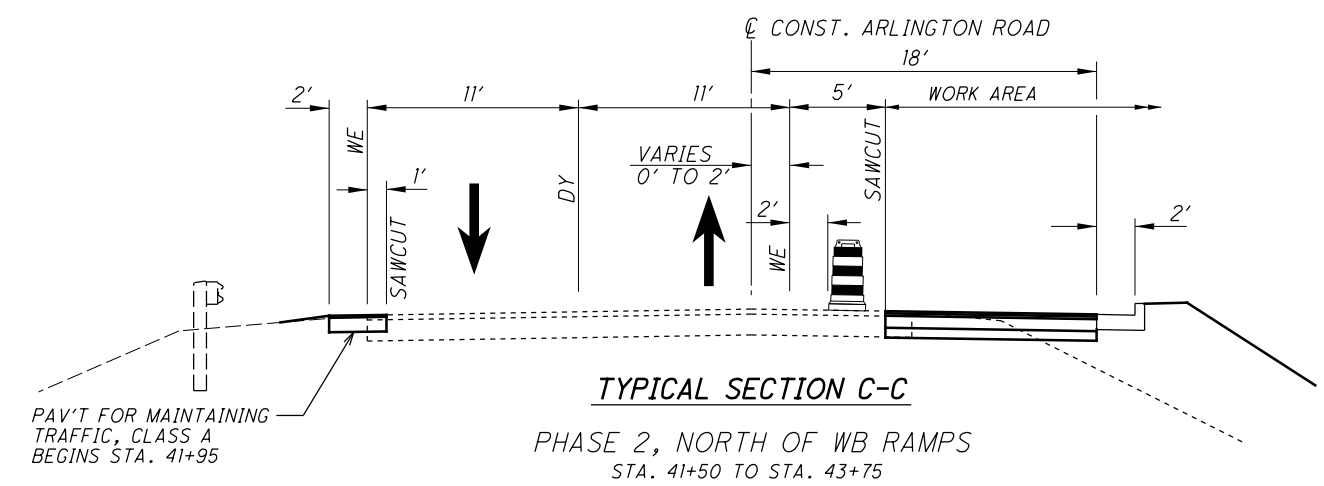
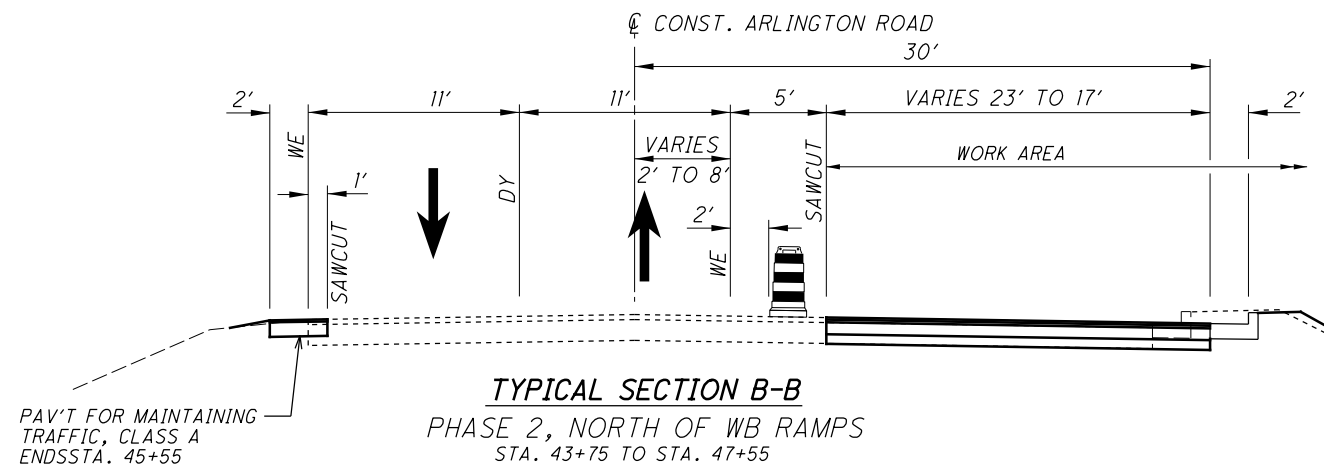
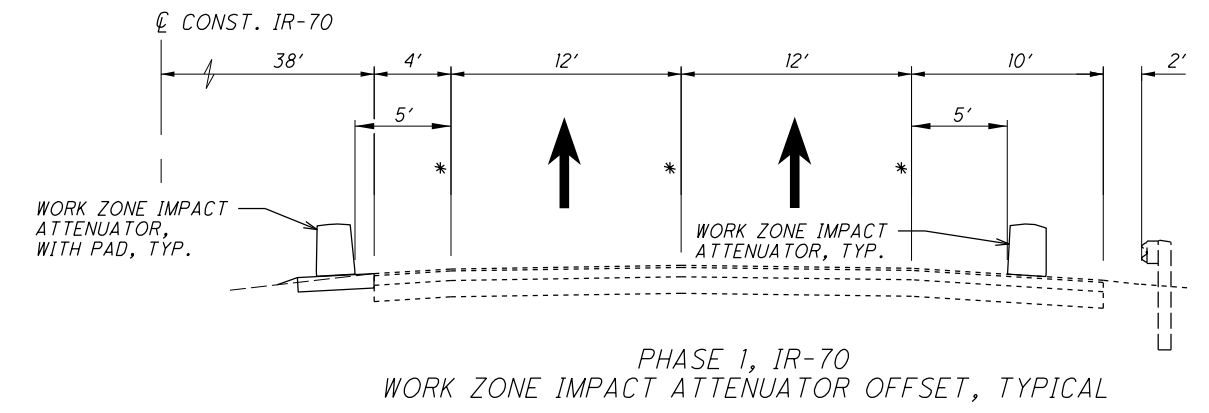
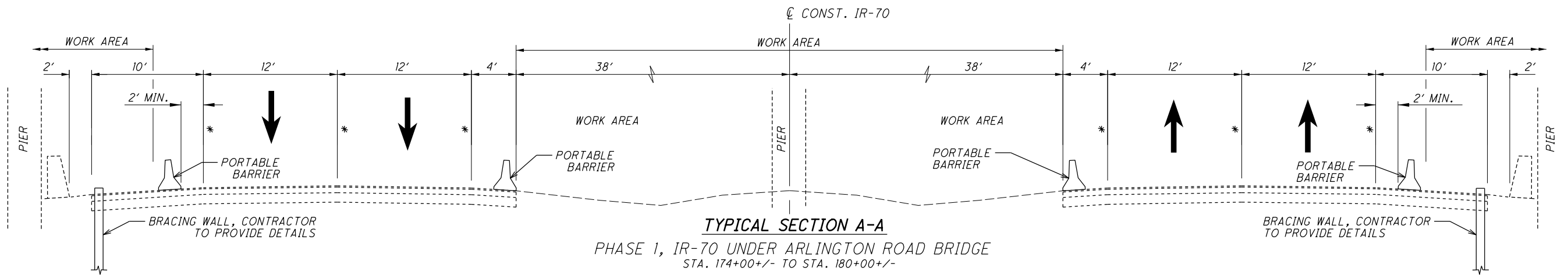
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**DETOUR SIGNING**  
 THE COST FOR THE CONTRACTOR TO INSTALL, MAINTAIN AND REMOVE ALL THE SIGNING ASSOCIATED WITH DETOURING ALL THE TRAFFIC USING ARLINGTON ROAD SHALL BE PAID FOR UNDER THE LUMP SUM QUANTITY FOR ITEM 614, DETOUR SIGNING.



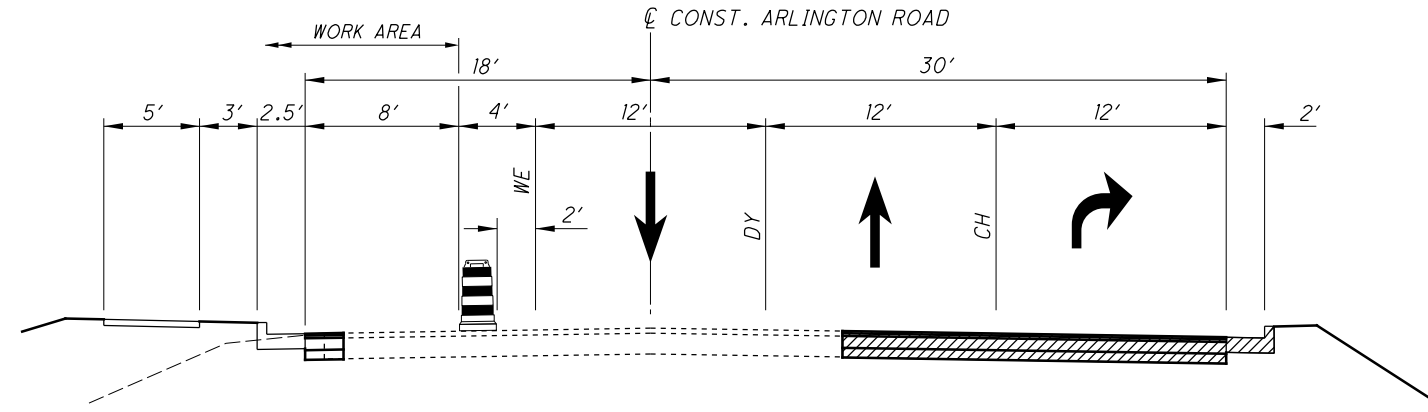
**MAINTENANCE OF TRAFFIC  
DETOUR MAP**



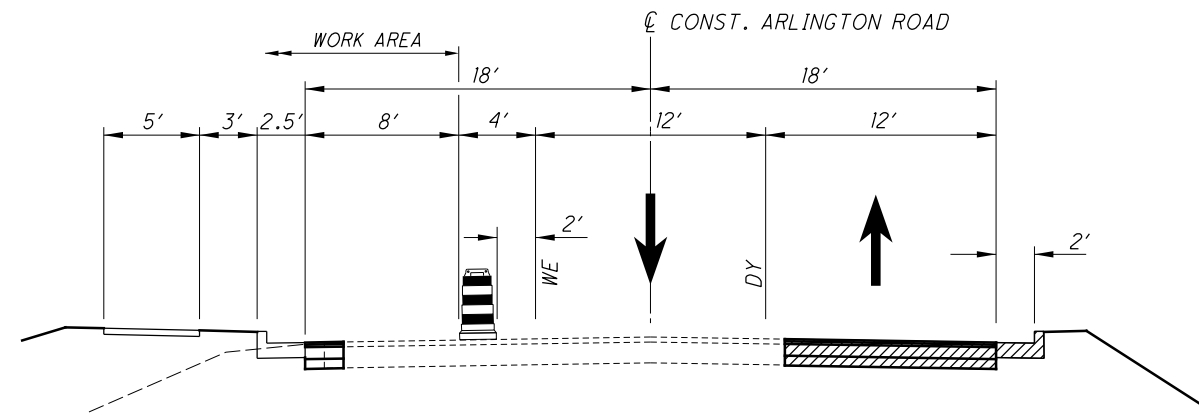
- LEGEND**
- WE - WORK ZONE WHITE EDGE LINE
  - YE - WORK ZONE YELLOW EDGE LINE
  - CH - WORK ZONE CHANNELIZING LINE
  - DY - WORK ZONE DOUBLE YELLOW CENTERLINE
  - \* - EXISTING PAVEMENT MARKING
  - NEW PAVEMENT FROM PREVIOUS PHASE

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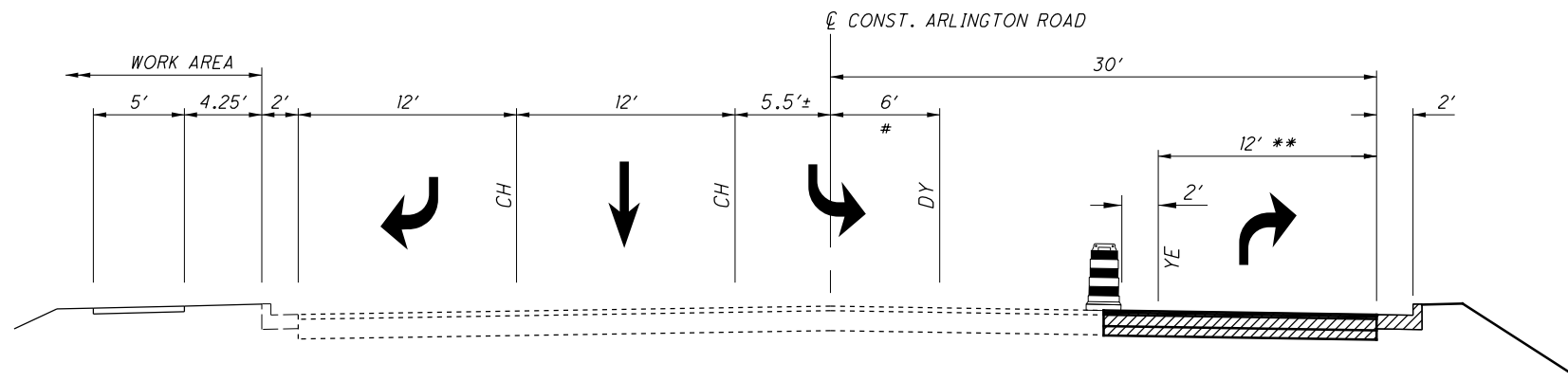
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**TYPICAL SECTION E-E**  
 PHASE 3, NORTH OF WB RAMPS  
 STA. 43+75 TO STA. 47+55



**TYPICAL SECTION F-F**  
 PHASE 3, NORTH OF WB RAMPS  
 STA. 41+50 TO STA. 43+75



**TYPICAL SECTION G-G**  
 PHASE 3, SOUTH OF EB RAMPS  
 STA. 25+10 TO STA. 28+70  
 # - VARIES FROM 6' @ 26+15 TO 0' @ 28+70  
 \*\* - VARIES FROM 20' @ 25+10 TO 12' @ 26+10

**LEGEND**

- WE - WORK ZONE WHITE EDGE LINE
- YE - WORK ZONE YELLOW EDGE LINE
- CH - WORK ZONE CHANNELIZING LINE
- DY - WORK ZONE DOUBLE YELLOW CENTERLINE
- \* - EXISTING PAVEMENT MARKING
- NEW PAVEMENT FROM PREVIOUS PHASE

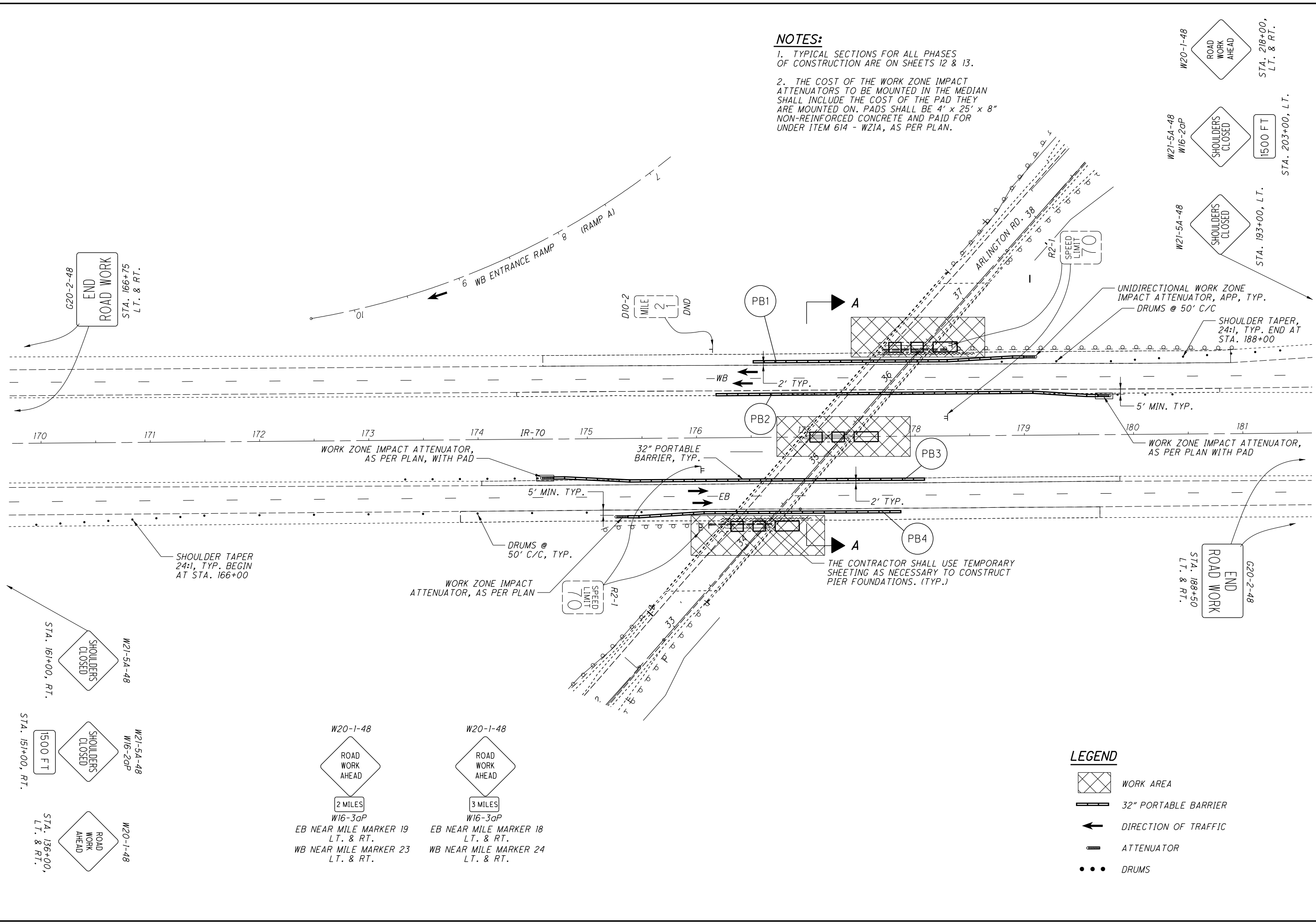
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**MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS**

**MOT-70-3.34**

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**NOTES:**  
 1. TYPICAL SECTIONS FOR ALL PHASES OF CONSTRUCTION ARE ON SHEETS 12 & 13.  
 2. THE COST OF THE WORK ZONE IMPACT ATTENUATORS TO BE MOUNTED IN THE MEDIAN SHALL INCLUDE THE COST OF THE PAD THEY ARE MOUNTED ON. PADS SHALL BE 4' x 25' x 8" NON-REINFORCED CONCRETE AND PAID FOR UNDER ITEM 614 - WZ1A, AS PER PLAN.



G20-2-48  
**END ROAD WORK**  
 STA. 166+75  
 L.T. & RT.

W20-1-48  
**ROAD WORK AHEAD**  
 STA. 218+00, L.T. & RT.

W21-5A-48  
 W16-2aP  
**SHOULDERS CLOSED**  
 1500 FT  
 STA. 203+00, L.T.

W21-5A-48  
**SHOULDERS CLOSED**  
 STA. 193+00, L.T.

G20-2-48  
**END ROAD WORK**  
 STA. 188+50  
 L.T. & RT.

W21-5A-48  
**SHOULDERS CLOSED**  
 STA. 161+00, RT.

W21-5A-48  
 W16-2aP  
**SHOULDERS CLOSED**  
 1500 FT  
 STA. 151+00, RT.

W20-1-48  
**ROAD WORK AHEAD**  
 STA. 136+00, L.T. & RT.

W20-1-48  
**ROAD WORK AHEAD**  
 2 MILES  
 W16-3aP  
 EB NEAR MILE MARKER 19  
 L.T. & RT.  
 WB NEAR MILE MARKER 23  
 L.T. & RT.

W20-1-48  
**ROAD WORK AHEAD**  
 3 MILES  
 W16-3aP  
 EB NEAR MILE MARKER 18  
 L.T. & RT.  
 WB NEAR MILE MARKER 24  
 L.T. & RT.

**LEGEND**

- WORK AREA
- 32" PORTABLE BARRIER
- DIRECTION OF TRAFFIC
- ATTENUATOR
- DRUMS

CALCULATED  
 WCB  
 CHECKED  
 JFM

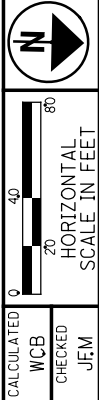
0 40 80  
 HORIZONTAL  
 SCALE IN FEET

**MOT PHASE 1  
 IR-70**

**MOT-70-3.34**

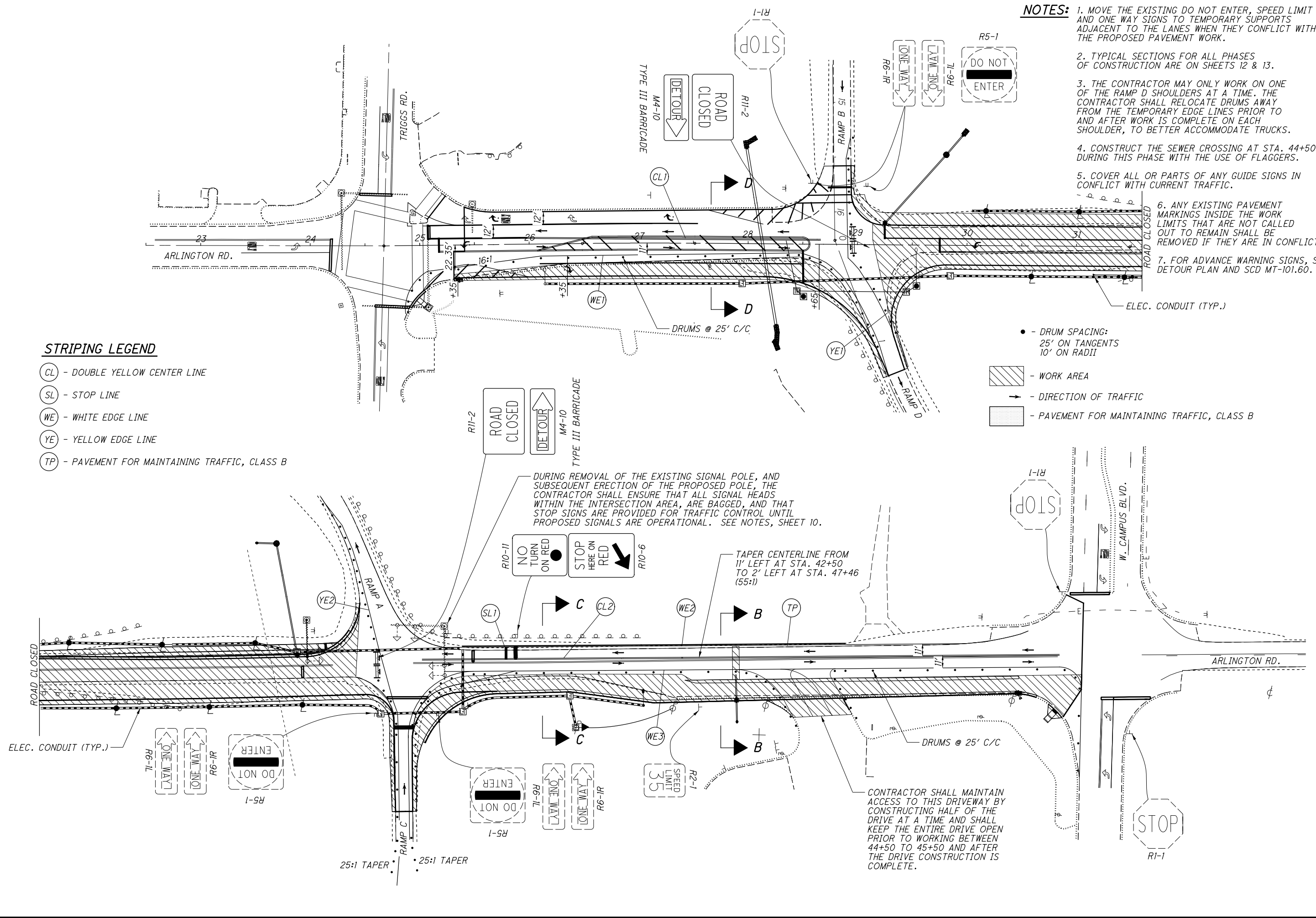
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- NOTES:**
1. MOVE THE EXISTING DO NOT ENTER, SPEED LIMIT AND ONE WAY SIGNS TO TEMPORARY SUPPORTS ADJACENT TO THE LANES WHEN THEY CONFLICT WITH THE PROPOSED PAVEMENT WORK.
  2. TYPICAL SECTIONS FOR ALL PHASES OF CONSTRUCTION ARE ON SHEETS 12 & 13.
  3. THE CONTRACTOR MAY ONLY WORK ON ONE OF THE RAMP D SHOULDERS AT A TIME. THE CONTRACTOR SHALL RELOCATE DRUMS AWAY FROM THE TEMPORARY EDGE LINES PRIOR TO AND AFTER WORK IS COMPLETE ON EACH SHOULDER, TO BETTER ACCOMMODATE TRUCKS.
  4. CONSTRUCT THE SEWER CROSSING AT STA. 44+50 DURING THIS PHASE WITH THE USE OF FLAGGERS.
  5. COVER ALL OR PARTS OF ANY GUIDE SIGNS IN CONFLICT WITH CURRENT TRAFFIC.
  6. ANY EXISTING PAVEMENT MARKINGS INSIDE THE WORK LIMITS THAT ARE NOT CALLED OUT TO REMAIN SHALL BE REMOVED IF THEY ARE IN CONFLICT.
  7. FOR ADVANCE WARNING SIGNS, SEE DETOUR PLAN AND SCD MT-101.60.



**MOT PHASE 2**  
**ARLINGTON ROAD**

**MOT-70-3.34**



**STRIPING LEGEND**

- CL - DOUBLE YELLOW CENTER LINE
- SL - STOP LINE
- WE - WHITE EDGE LINE
- YE - YELLOW EDGE LINE
- TP - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B

- - DRUM SPACING:  
25' ON TANGENTS  
10' ON RADII
- [Hatched Box] - WORK AREA
- [Arrow] - DIRECTION OF TRAFFIC
- [Dotted Box] - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B

DURING REMOVAL OF THE EXISTING SIGNAL POLE, AND SUBSEQUENT ERECTION OF THE PROPOSED POLE, THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL HEADS WITHIN THE INTERSECTION AREA, ARE BAGGED, AND THAT STOP SIGNS ARE PROVIDED FOR TRAFFIC CONTROL UNTIL PROPOSED SIGNALS ARE OPERATIONAL. SEE NOTES, SHEET 10.

TAPER CENTERLINE FROM 11' LEFT AT STA. 42+50 TO 2' LEFT AT STA. 47+46 (55:1)

CONTRACTOR SHALL MAINTAIN ACCESS TO THIS DRIVEWAY BY CONSTRUCTING HALF OF THE DRIVE AT A TIME AND SHALL KEEP THE ENTIRE DRIVE OPEN PRIOR TO WORKING BETWEEN 44+50 TO 45+50 AND AFTER THE DRIVE CONSTRUCTION IS COMPLETE.

- NOTE:**
1. ANY EXISTING PAVEMENT MARKINGS INSIDE THE WORK LIMITS THAT ARE NOT CALLED OUT TO REMAIN SHALL BE REMOVED IF THEY ARE IN CONFLICT.
  2. TYPICAL SECTIONS FOR ALL PHASES OF CONSTRUCTION ARE ON SHEETS 12 & 13.
  3. COMPLETE THE SEWER CROSSING AND CONSTRUCT THE NEW CATCH BASIN AT STA. 44+50.
  4. NEW CURB RAMP AT TRIGGS RD. SHALL BE OPEN TO PEDESTRIANS WITHIN 5 DAYS OF THE REMOVAL OF THE EXISTING RAMP.
  5. COVER ALL OR PARTS OF ANY GUIDE SIGNS IN CONFLICT WITH CURRENT TRAFFIC.

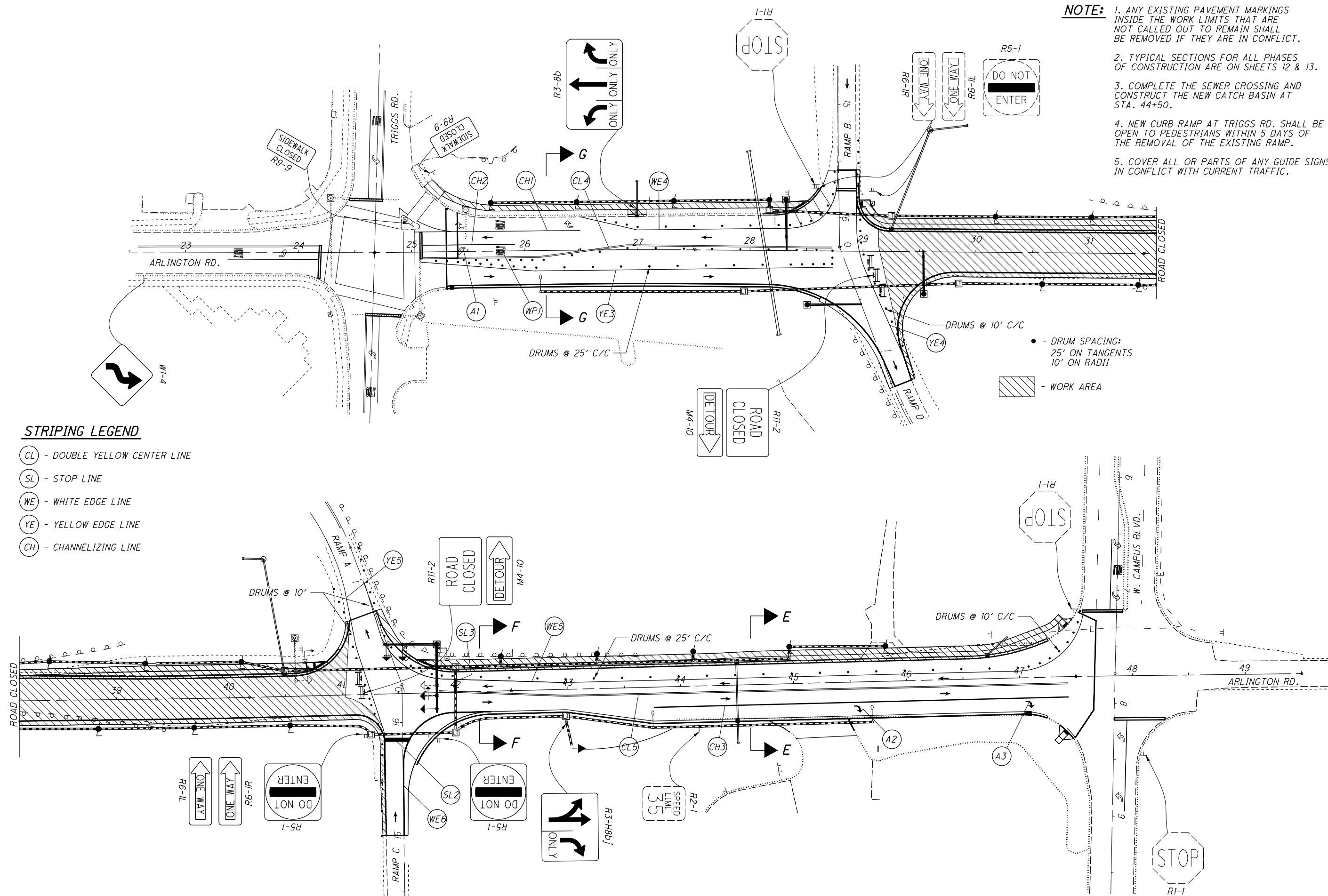
CALCULATED WCB CHECKED JFM

0 20 40 80  
HORIZONTAL SCALE IN FEET

16  
136

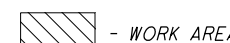
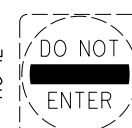
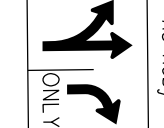
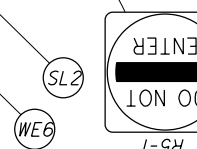
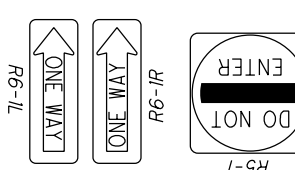
**MOT PHASE 3  
ARLINGTON ROAD**

**MOT-70-3.34**



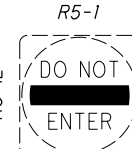
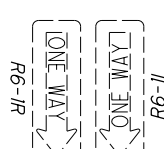
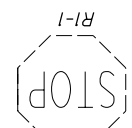
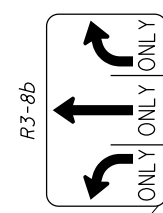
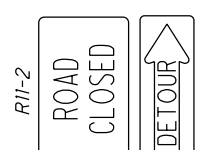
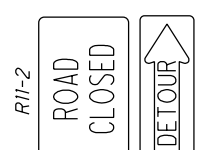
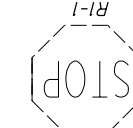
**STRIPING LEGEND**

- CL - DOUBLE YELLOW CENTER LINE
- SL - STOP LINE
- WE - WHITE EDGE LINE
- YE - YELLOW EDGE LINE
- CH - CHANNELIZING LINE



• - DRUM SPACING:  
25' ON TANGENTS  
10' ON RADII

- WORK AREA



ROAD CLOSED

ROAD CLOSED

ARLINGTON RD.

TRIGGS RD.

ARLINGTON RD.

W. CAMPUS BLVD.

23 24 25 26 27 28 29 30 31

W-1-4

DRUMS @ 10'

DRUMS @ 25' C/C

DRUMS @ 10' C/C

R11-2

M4-10

R6-1L

R6-1R

R5-1

R5-1

R3-H8b

R2-1

R5-1

R6-1R

R6-1L

R1-1

R3-8b

R9-9

CH2

CH1

CL4

WE4

A1

WP1

YE3

DRUMS @ 10' C/C

YE4

M4-10

R11-2

- WORK AREA

R1-1

R11-2

M4-10

R6-1L

R6-1R

R5-1

R5-1

R3-H8b

R2-1

R5-1

R6-1R

R6-1L

R1-1

R3-8b

R9-9

CH2

CH1

CL4

WE4

A1

WP1

YE3

DRUMS @ 10' C/C

YE4

M4-10

R11-2

- WORK AREA

R1-1

R11-2

M4-10

R6-1L

R6-1R

R5-1

R5-1

R3-H8b

R2-1

R5-1

R6-1R

R6-1L

R1-1

R3-8b

R9-9

CH2

CH1

CL4

WE4

A1

WP1

YE3

DRUMS @ 10' C/C

YE4

M4-10

R11-2

- WORK AREA

R1-1



N:\Jobs\2015\15832 - MOT-70-3.34 ODOT PID No. 99623\99623\_MOT-70-3.34\99623\_Design\MOT\_Sheets\99623\_MS100.dgn 7/26/2017 10:25:39 AM bbruce

REF. NO.	SHEET NO.	STATION		SIDE	614			614			614			615			622		
		FROM	TO		WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN	BARRIER REFLECTOR, TYPE 1, (ONE WAY)	OBJECT MARKER, ONE WAY	WORK ZONE CENTER LINE, CLASS I	WORK ZONE EDGE LINE, CLASS I, 4"	WORK ZONE EDGE LINE, CLASS I, 6"	WORK ZONE CHANNELIZING LINE, CLASS I, 8"	WORK ZONE STOP LINE, CLASS I	WORK ZONE ARROW, CLASS I	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	PORTABLE BARRIER, 32"				
					EACH	EACH	EACH	MILE	MILE	MILE	FT	FT	EACH	S. Y.	FT				
PB1	14	176+40 IR-70	179+15 IR-70	LT	1	6	6											240	
PB2	14	176+25 IR-70	179+90 IR-70	LT	1	8	8											340	
PB3	14	174+55 IR-70	178+10 IR-70	RT	1	8	8											330	
PB4	14	175+25 IR-70	177+90 IR-70	RT	1	6	6											240	
WE1	15	25+05	1+33 RAMP D	RT					0.065	0.027									
CL1	15	25+10	28+65	LT				0.069											
YE1	15	15+30 RAMP B	1+33 RAMP D	LT						0.042									
YE2	15	14+33 RAMP C	1+68 RAMP A	LT						0.069									
SL1	15	42+40		LT								12							
CL2	15	41+64	47+46	LT				0.110											
WE3	15	14+33 RAMP C	8+88 CAMPUS	RT					0.135	0.032									
WE2	15	1+25 RAMP A	47+57	LT					0.110	0.026									
TP	15	41+96	45+56	LT										120					
YE3	16	25+08	28+73	RT															
A1	16	25+40		C/L									1						
WP1	16	25+75		C/L															
CL3		NOT USED																	
CL4	16	26+14	28+73	RT/LT				0.049											
CH1	16	25+03	26+50	LT								147							
WE4	16	26+50	28+77	LT					0.031	0.015									
CH2	16	25+03	25+92	LT								89							
YE4	16	15+58 RAMP B	1+33 RAMP D	LT						0.037									
YE5	16	15+00 RAMP C	0+95 RAMP A	LT						0.042									
WE5	16	0+96 RAMP A	47+58	LT					0.108	0.027									
SL2	16	15+84 RAMP C		LT/RT								22							
SL3	16	42+00		LT								12							
CL5	16	41+86	47+42	RT				0.105											
CH3	16	43+76	47+42	RT								366							
A2	16	45+61		RT										1					
A3	16	47+13		RT										1					
WE6	16	15+00 RAMP C	42+31	RT						0.031									
TOTALS CARRIED TO GENERAL SUMMARY					4	28	28	0.33	0.45	0.35	602	46	3	120		1150			

CALCULATED	WCB
	CHECKED
JFM	
<b>MAINTENANCE OF TRAFFIC SUBSUMMARY</b>	
<b>MOT-70-3.34</b>	
17	
136	

G:\DE\Clients\ODOT\075863\_MOT\_70\_0334\_99623\_MOT\_70\_0334\_Design\Roadway\Sheets\99623\_GG001.dgn 11/3/2017 10:10:32 AM hall

SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	5	6	7	22	24	25	26	27	28	29	01/IMS/BR	02/IMS/OT	03/IMS/OT						
	LS										LS			201	11000	LS	CLEARING AND GRUBBING		
										85	85			202	23000	85	SY	PAVEMENT REMOVED	
					123	637	62	857	1,379		3,058			202	23010	3,058	SY	PAVEMENT REMOVED, ASPHALT	
					153						153			202	30000	153	SF	WALK REMOVED	
							58	60			118			202	30700	118	FT	CONCRETE BARRIER REMOVED	
										63	63			202	32000	63	FT	CURB REMOVED	
					285	10			363		699			202	32500	699	FT	CURB AND GUTTER REMOVED	
					10						45			202	35100	45	FT	PIPE REMOVED, 24" AND UNDER	
						400	100	475	225		1,200			202	38000	1,200	FT	GUARDRAIL REMOVED	
					2					3	5			202	58101	5	EACH	CATCH BASIN REMOVED, AS PER PLAN	
					1	1			1		3			202	98100	3	EACH	REMOVAL MISC.: PULL BOX	
					22						22			202	98300	22	SY	REMOVAL MISC.: ROCK	
		2,983									2,983			203	10000	2,983	CY	EXCAVATION	
		5,603									5,603			203	20000	5,603	CY	EMBANKMENT	
5,855											5,855			204	10000	5,855	SY	SUBGRADE COMPACTION	
		284									284			204	13000	284	CY	EXCAVATION OF SUBGRADE	
		284									284			204	30010	284	CY	GRANULAR MATERIAL, TYPE B	
		2									2			204	45000	2	hour	PROOF ROLLING	
		839									839			204	50000	839	SY	GEOTEXTILE FABRIC	
					175	125	137.5				437.5			606	15050	437.5	FT	GUARDRAIL, TYPE MGS	
									300		300			606	15100	300	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
							1				1			606	26050	1	EACH	ANCHOR ASSEMBLY, MGS TYPE B	
								1	1	1	3			606	26150	3	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
								1	1	1	3			606	26550	3	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
								2	2		4			606	35002	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
						1		1			2			606	35102	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
					1,555	1,958		1,677	2,756		7,946			608	10000	7,946	SF	4" CONCRETE WALK	
					105					220	325			608	52000	325	SF	CURB RAMP	
						189			179		368			608	52001	368	SF	CURB RAMP, AS PER PLAN	
							53	41			94			622	10160	94	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
							1	1			2			622	25000	2	EACH	CONCRETE BARRIER END SECTION, TYPE D	
							1	1			2			622	25050	2	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
		2									2			SPECIAL	69050350	2	EACH	MAILBOX REMOVED AND RESET	
																		EROSION CONTROL	
				25							25			601	32200	25	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
		2									2			659	00100	2	EACH	SOIL ANALYSIS TEST	
199		1,286									1,485			659	00300	1,485	CY	TOPSOIL	
		11,838									11,838			659	10000	11,838	SY	SEEDING AND MULCHING	
		579									579			659	14000	579	SY	REPAIR SEEDING AND MULCHING	
		579									579			659	15000	579	SY	INTER-SEEDING	
		1.62									1.62			659	20000	1.62	TON	COMMERCIAL FERTILIZER	
		2.39									2.39			659	31000	2.39	ACRE	LIME	
		64									64			659	35000	64	MGAL	WATER	
1,791											1,791			670	00500	1,791	SY	SLOPE EROSION PROTECTION	
											LS			832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
											38,000			832	30000	38,000	EACH	EROSION CONTROL	
																		ENVIRONMENTAL / REMEDIATION	
			46								46			SPECIAL	69065016	46	TON	WORK INVOLVING PETROLEUM CONTAMINATED SOIL	

GENERAL SUMMARY

MOT-70-3.34





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SHEET NUM.							PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8	9	10	11	17	68	69	01/IMS/BR	02/IMS/OT	03/IMS/OT						
					1,320		1,320			632	67200	1,320	FT	POWER CABLE, 2 CONDUCTOR, NO. 8 AWG	
					1		1			632	77231	1	EACH	SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN	63
					1		1			632	80603	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 12, AS PER PLAN	63
					1		1			632	81001	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 4, AS PER PLAN	63,64
						1	1			632	81071	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11, AS PER PLAN	63,64
						1	1			632	81700	1	EACH	COMBINATION SIGNAL SUPPORT, MISC.: TYPE TC-12.30, DESIGN 9 POLE, WITH MAST ARMS TC-81.21 DESIGN 13 AND DESIGN 12	64
						3	3			632	89600	3	EACH	PEDESTAL, 8'	
						1	1			632	90101	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	64
						2	2			632	90400	2	EACH	SIGNALIZATION, MISC.: AT & T CELLULAR MODEM, FURNISH ONLY	64
						1	1			633	01541	1	EACH	CONTROLLER UNIT, TYPE TS2/A2, AS PER PLAN	64
						1	1			633	01551	1	EACH	CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN	64
						2	2			633	67101	2	EACH	CABINET FOUNDATION, AS PER PLAN	65
						2	2			633	67201	2	EACH	CONTROLLER WORK PAD, AS PER PLAN	65
						2	2			633	75001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	65
						1	1			633	99000	1	EACH	CONTROLLER ITEM, MISC.: MODIFY EXISTING CONTROLLER CABINET	65
						1	1			809	60000	1	EACH	CCTV IP-CAMERA SYSTEM, DOME-TYPE	
						1	1			809	61000	1	EACH	CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET	65
						1	1			809	65000	1	EACH	ITS CABINET - GROUND MOUNTED	
						2	2			809	69000	2	EACH	ADVANCE RADAR DETECTION	65
						5	5			809	69100	5	EACH	STOP-BAR RADAR DETECTION	65
														STRUCTURES OVER 20 FOOT SPAN	
														STRUCTURE MOT-70-3.34 GENERAL SUMMARY	89
														MAINTENANCE OF TRAFFIC	
100							100			410	11000	100	CY	TRAFFIC COMPACTED SURFACE, TYPE B	
200							200			614	11110	200	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
				4			4			614	12337	4	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN	10
			LS				LS			614	12420	LS		DETOUR SIGNING	
		10					10			614	12500	10	EACH	REPLACEMENT SIGN	
		25					25			614	12600	25	EACH	REPLACEMENT DRUM	
				28			28			614	13310	28	EACH	BARRIER REFLECTOR, TYPE 1, (ONE WAY)	
				28			28			614	13350	28	EACH	OBJECT MARKER, ONE WAY	
							12			614	18601	12	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	9
				0.33			0.33			614	21000	0.33	MILE	WORK ZONE CENTER LINE, CLASS I	
				0.45			0.45			614	22000	0.45	MILE	WORK ZONE EDGE LINE, CLASS I, 4"	
				0.35			0.35			614	22000	0.35	MILE	WORK ZONE EDGE LINE, CLASS I, 6"	
				602			602			614	23000	602	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8"	
					46		46			614	26000	46	FT	WORK ZONE STOP LINE, CLASS I	
					3		3			614	30000	3	EACH	WORK ZONE ARROW, CLASS I	
				120			120			615	20000	120	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
2		10					12			616	10000	12	MGAL	WATER	
				1,150			1,150			622	41000	1,150	FT	PORTABLE BARRIER, 32"	
														INCIDENTALS	
							LS			108	30000	LS		CPM PROGRESS SCHEDULE SHORT DURATION PROJECTS	
							LS			614	11000	LS		MAINTAINING TRAFFIC	
							9			619	16010	9	MNTH	FIELD OFFICE, TYPE B	
							LS			623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
							LS			624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

MOT-70-3.34

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REF. NO.	SHEET NO.	STATION		SIDE	601		602		605		605		611		611		611		611			
		FROM	TO		ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	CONCRETE MASONRY	4" SHALLOW PIPE UNDERDRAINS	4" UNCLASSIFIED PIPE UNDERDRAINS	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	12" CONDUIT, TYPE B	12" CONDUIT, TYPE C	12" CONDUIT, TYPE F	24" CONDUIT, TYPE A	CATCH BASIN, NO. 3	CATCH BASIN, NO. 3A	MANHOLE, NO. 3						
					CU YD	CU YD	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH		
D-1	24	27+00.00	27+00.00	LT	1.3	0.20																
D-15	24	25+35.83		RT									5								1	
D-2	25	27+98.16	28+26.30	LT/RT	14.0	4.69										165					1	
D-3	25	29+58.75	29+25.00	LT											94						1	
D-3A	25	29+92.04	29+58.75	LT	1.3	0.20									34						1	
D-4	26	32+50.00	32+50.00	LT	1.3	0.20									7	70					1	
D-5	26	33+05.00	33+05.00	RT	1.3	0.20										62					1	
D-6	27	37+50.00	37+50.00	LT	1.3	0.20															1	
D-7	27	37+82.00	37+82.00	RT	1.3	0.20															1	
D-9	27	40+13.50	40+32.00	LT	1.3	0.20									18						1	
D-8	28	40+32.00	40+50.00	LT												104					1	
D-10		NOT USED																				
D-11	28	44+50.00	44+50.00	LT/RT									52								1	
D-12	28	44+50.00	44+50.00	RT	1.3	0.20									22						1	
D-13	29	46+71.92	46+91.13	LT									25								1	
D-14	29	47+08.04		RT											5							
U-1	24, 25	25+35.83	28+63.04	RT						317			10									
U-2	25	15+69.52	29+25.00	LT							50		10									
U-3	25, 26	29+25.00	32+45.00	LT						310			10									
U-4		NOT USED																				
U-5		NOT USED																				
U-6	26	32+50.00	32+93.00	LT							33		10									
U-7	26	33+05.00	33+32.00	RT							17		10									
U-8	27	37+33.00	37+50.00	LT							7		10									
U-9	27, 28	37+55.00	40+25.00	LT							283		10									
U-10	27	37+72.00	37+82.00	RT									9									
U-11		NOT USED																				
U-12	28	40+50.00	40+98.00	LT							47		10									
U-13	28	41+53.00	44+50.00	LT							293		10									
U-14	28	41+64.00	44+50.00	RT							295		10									
U-15	29	44+55.00	46+71.92	LT							192		10									
U-16	29	46+71.92	47+25.00	LT								45	10									
U-17	29	44+55.00	47+08.04	RT							228		10									
U-18	29	47+08.04	47+23.00	RT								5	10									
TOTALS CARRIED TO GENERAL SUMMARY					24.4	6.3			1975	147			149	82	314	279		165		1	11	2

CALCULATED	WCB	CHECKED	JEM
<b>DRAINAGE SUBSUMMARY</b>			
<b>MOT - 70 - 3.34</b>			
<div style="border: 1px solid black; border-radius: 50%; padding: 2px; display: inline-block;">22</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px; display: inline-block;">136</div>			

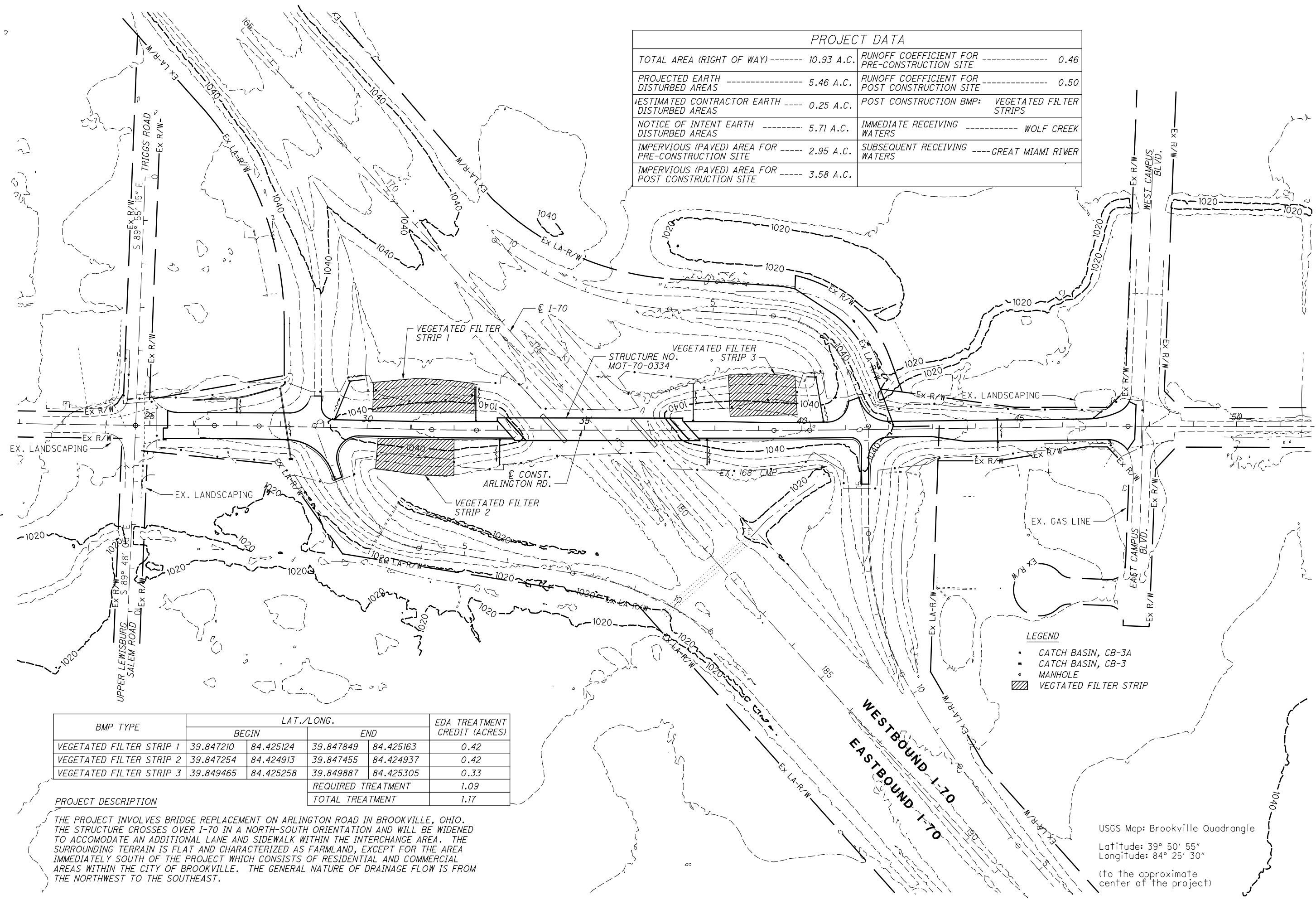


CALCULATED MS CHECKED NGF

PROJECT SITE PLAN

MOT-70-3.34

PROJECT DATA			
TOTAL AREA (RIGHT OF WAY) -----	10.93 A.C.	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE -----	0.46
PROJECTED EARTH DISTURBED AREAS -----	5.46 A.C.	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE -----	0.50
ESTIMATED CONTRACTOR EARTH -----	0.25 A.C.	POST CONSTRUCTION BMP: VEGETATED FILTER STRIPS	
NOTICE OF INTENT EARTH DISTURBED AREAS -----	5.71 A.C.	IMMEDIATE RECEIVING WATERS -----	WOLF CREEK
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE -----	2.95 A.C.	SUBSEQUENT RECEIVING WATERS -----	GREAT MIAMI RIVER
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE -----	3.58 A.C.		



- LEGEND**
- CATCH BASIN, CB-3A
  - CATCH BASIN, CB-3
  - MANHOLE
  - ▨ VEGTATED FILTER STRIP

BMP TYPE	LAT./LONG.				EDA TREATMENT CREDIT (ACRES)
	BEGIN	BEGIN	END	END	
VEGETATED FILTER STRIP 1	39.847210	84.425124	39.847849	84.425163	0.42
VEGETATED FILTER STRIP 2	39.847254	84.424913	39.847455	84.424937	0.42
VEGETATED FILTER STRIP 3	39.849465	84.425258	39.849887	84.425305	0.33
	REQUIRED TREATMENT				1.09
	TOTAL TREATMENT				1.17

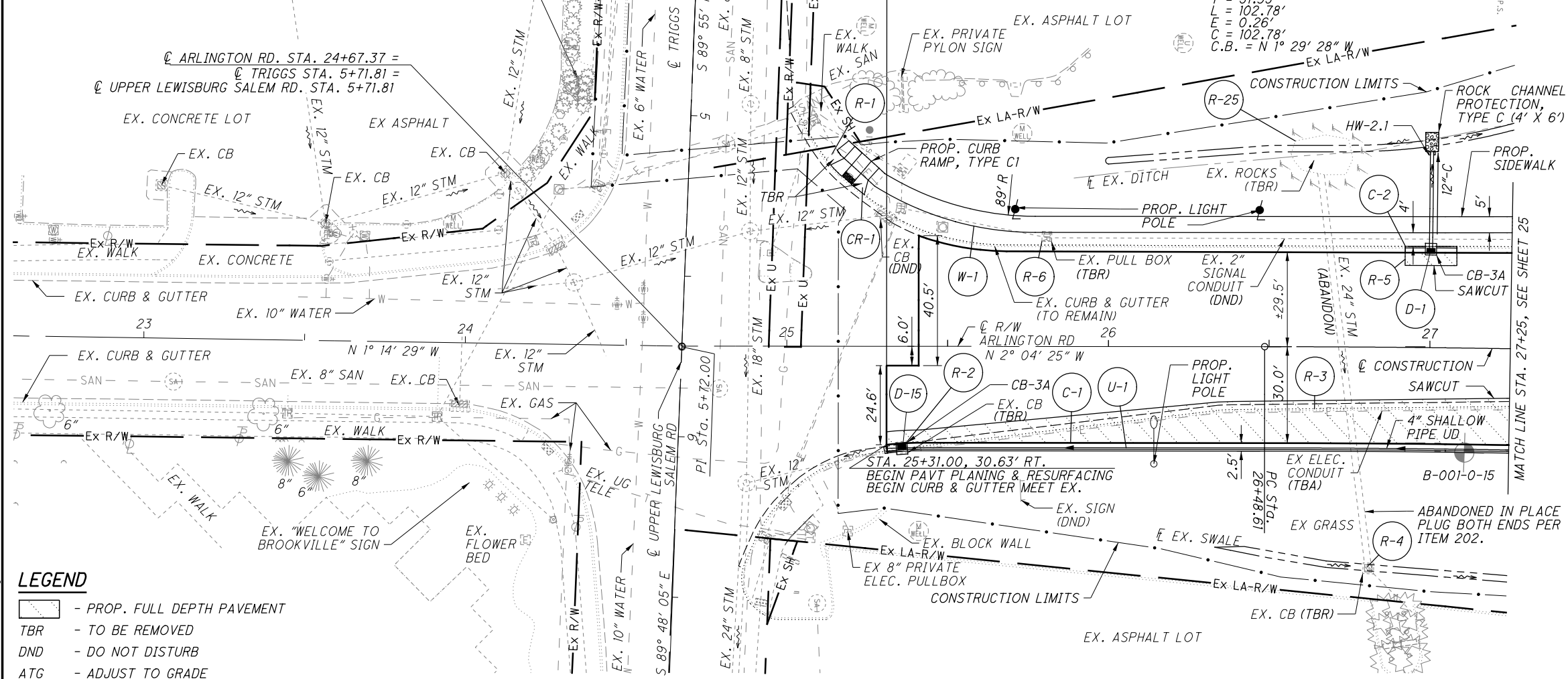
**PROJECT DESCRIPTION**

THE PROJECT INVOLVES BRIDGE REPLACEMENT ON ARLINGTON ROAD IN BROOKVILLE, OHIO. THE STRUCTURE CROSSES OVER I-70 IN A NORTH-SOUTH ORIENTATION AND WILL BE WIDENED TO ACCOMODATE AN ADDITIONAL LANE AND SIDEWALK WITHIN THE INTERCHANGE AREA. THE SURROUNDING TERRAIN IS FLAT AND CHARACTERIZED AS FARMLAND, EXCEPT FOR THE AREA IMMEDIATELY SOUTH OF THE PROJECT WHICH CONSISTS OF RESIDENTIAL AND COMMERCIAL AREAS WITHIN THE CITY OF BROOKVILLE. THE GENERAL NATURE OF DRAINAGE FLOW IS FROM THE NORTHWEST TO THE SOUTHEAST.

USGS Map: Brookville Quadrangle  
 Latitude: 39° 50' 55"  
 Longitude: 84° 25' 30"  
 (to the approximate center of the project)

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FOR  $\phi$  REFERENCES & PROJECT CONTROL INFORMATION SEE SHEET 2  
 FOR STORM PROFILES SEE SHEETS 49-51  
 FOR ESTIMATED DRAINAGE QUANTITIES SEE SHEET 22



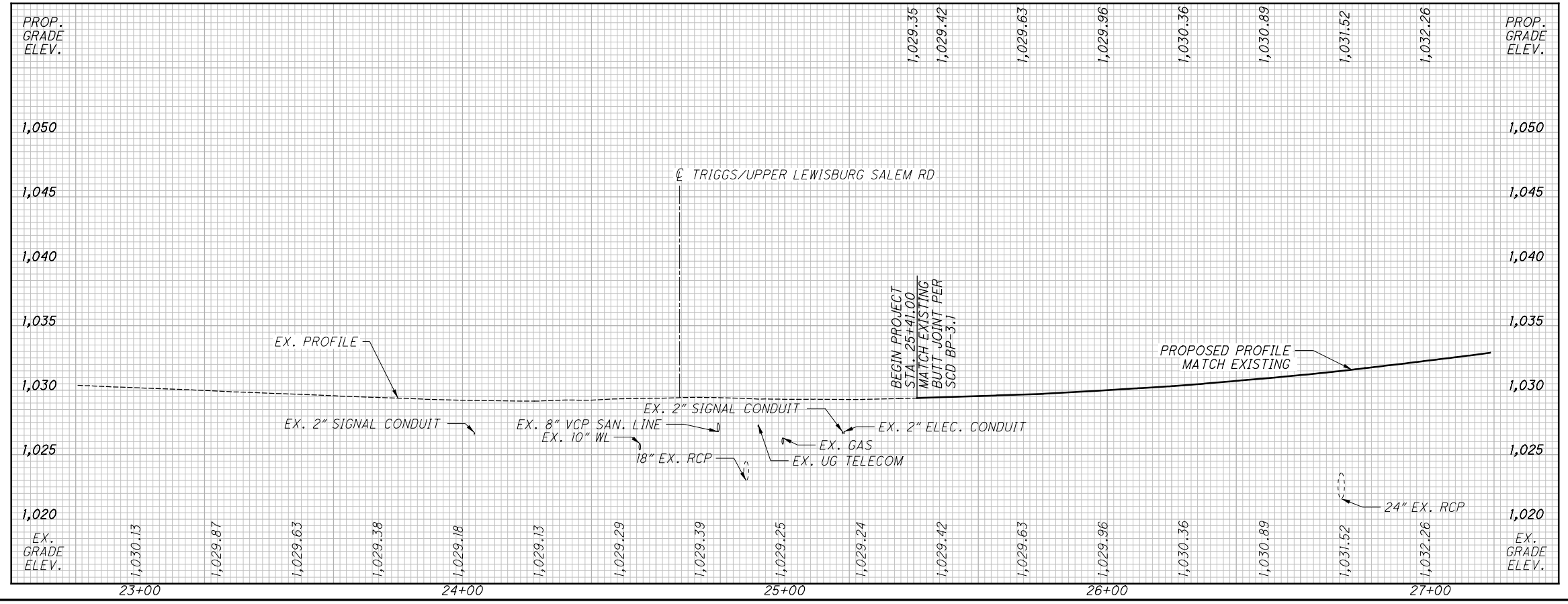
CURVE DATA  
 P.I. STA. 27+00.00  
 $\Delta = 1^\circ 09' 53''$  (RT)  
 $D_c = 1^\circ 08' 00''$   
 $R = 5,055.51'$   
 $T = 51.39'$   
 $L = 102.78'$   
 $E = 0.26'$   
 $C = 102.78'$   
 $C.B. = N 1^\circ 29' 28'' W/W$

BEGIN PROJECT  
 STA. 25+31.00  
 S.L.M 0.48  
 E150(233)

MATCH LINE STA. 27+25, SEE SHEET 25

**LEGEND**

- PROP. FULL DEPTH PAVEMENT
- TBR - TO BE REMOVED
- DND - DO NOT DISTURB
- ATG - ADJUST TO GRADE



REF NO.	STATION		SIDE	DESCRIPTION	QUANTITY	UNIT
	FROM	TO				
R-1	25+12.15	25+30.47	LT	PIPE REMOVED, 24" AND UNDER	10	FT
R-2	25+35.78	25+35.78	RT	CATCH BASIN REMOVED	1	EA
R-3	25+31.00	29+29.35	RT	CURB AND GUTTER REMOVED	269	FT
R-4	26+64.84	26+83.07	LT & RT	WALK REMOVED	16	SF
R-5	26+92.00	27+08.00	LT	PAVEMENT REMOVED, ASPHALT	8	SY
R-6	25+80.85	26+75.70	LT	PIPE REMOVED, 24" AND UNDER	1	FT
R-25	26+56.69	26+75.70	LT	CONCRETE WALK	1555	SF
CR-1	25+12.15	25+30.47	LT	REMOVAL MISC. ROCK	22	SY
C-1	25+31.00	28+63.04	RT	REMOVAL MISC. ROCK	105	SF
C-2	26+92.00	27+08.00	LT	REMOVAL MISC. ROCK	105	SF
W-1	25+30.47	28+33.40	LT	COMBIN. CURB & GUTTER, TYPE 2	374	FT
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>						

**MOT-70-3.34**

**PLAN AND PROFILE - ARLINGTON RD**  
**STA. 25+31 TO STA. 27+25**

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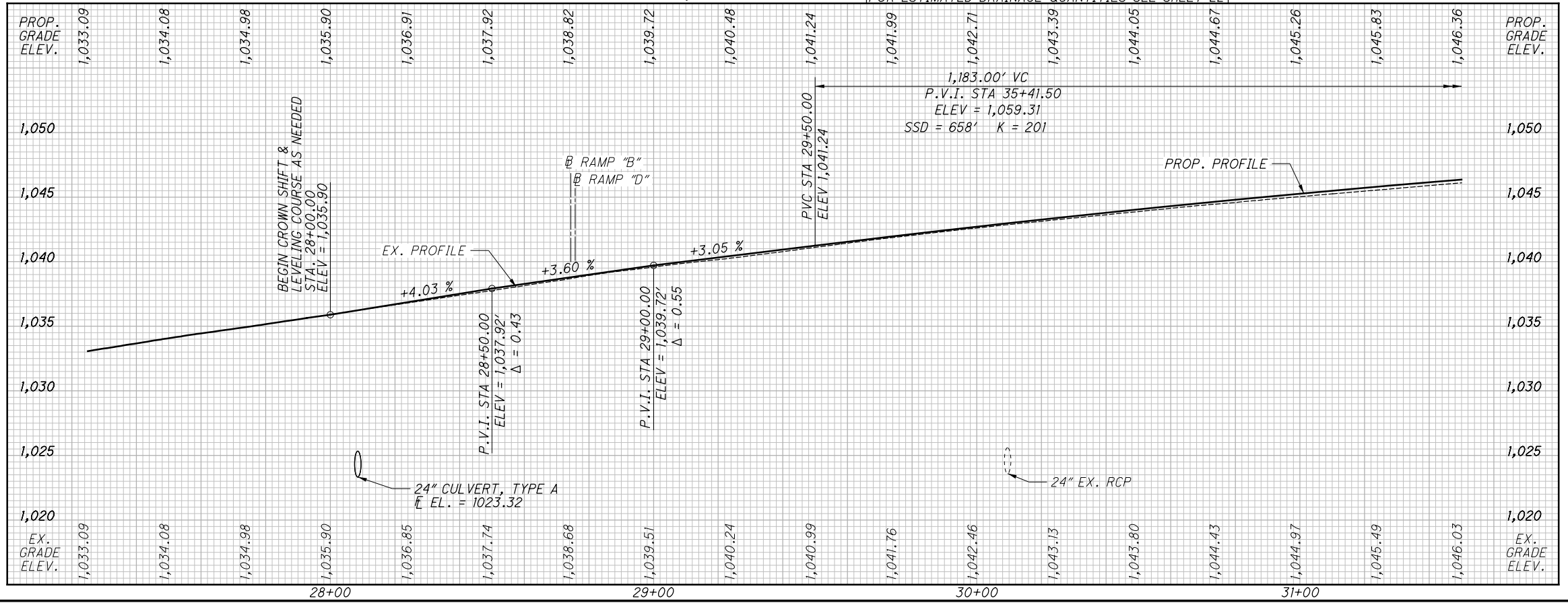
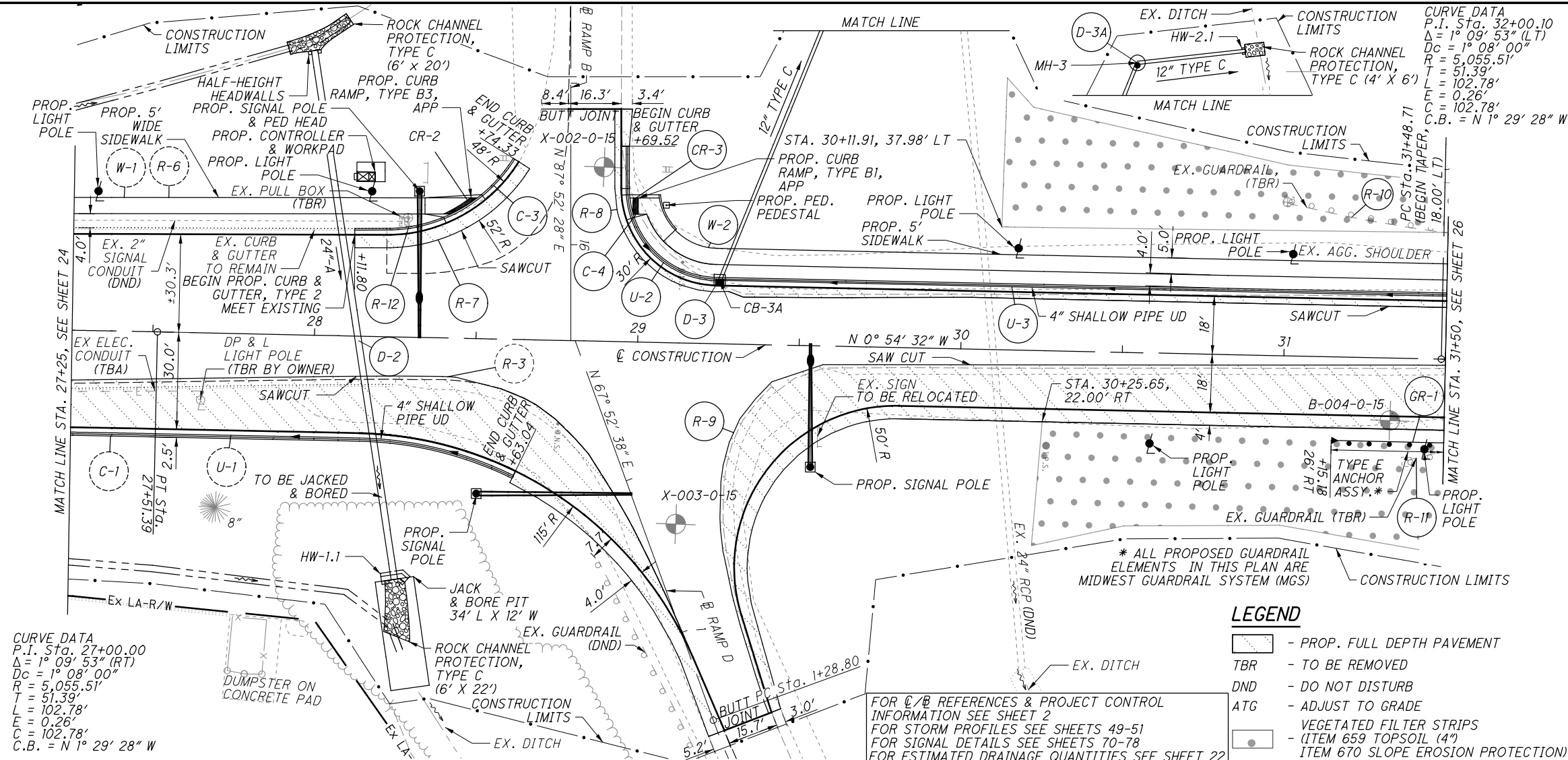
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SCALE IN FEET  
 0 20 40  
 HORIZONTAL

CALCULATED CAG NGF

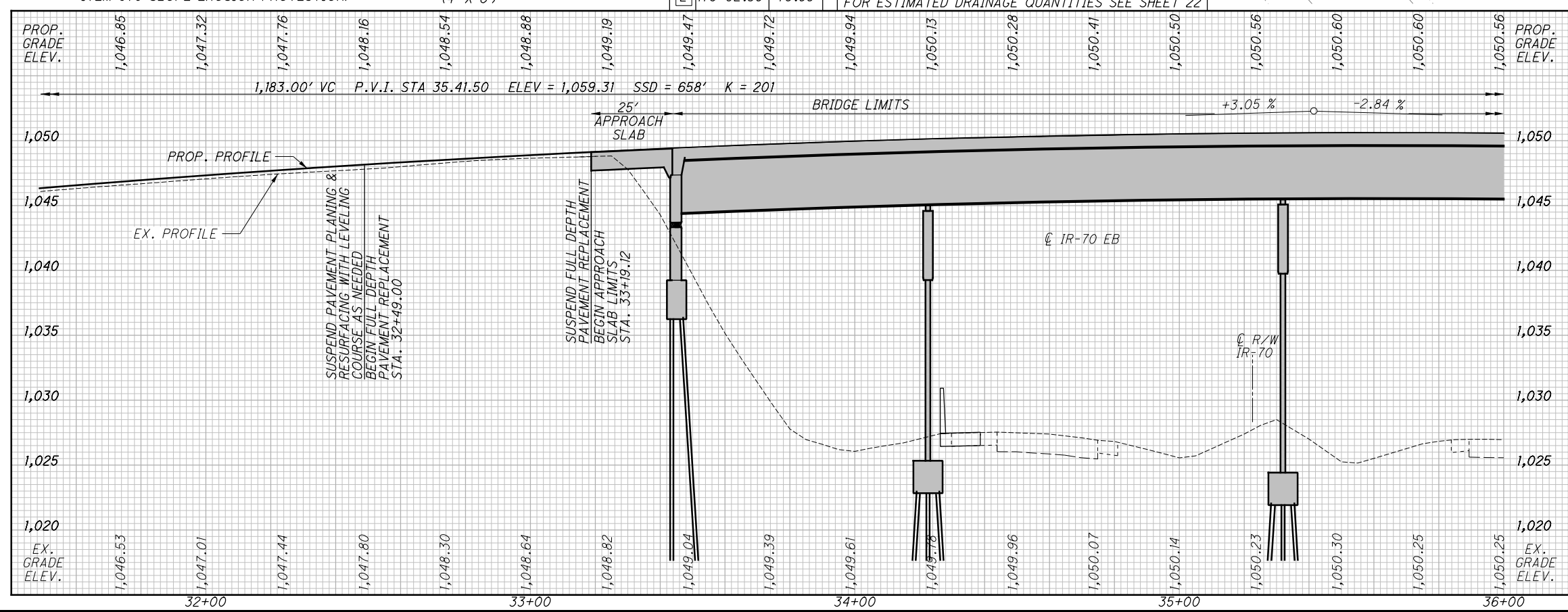
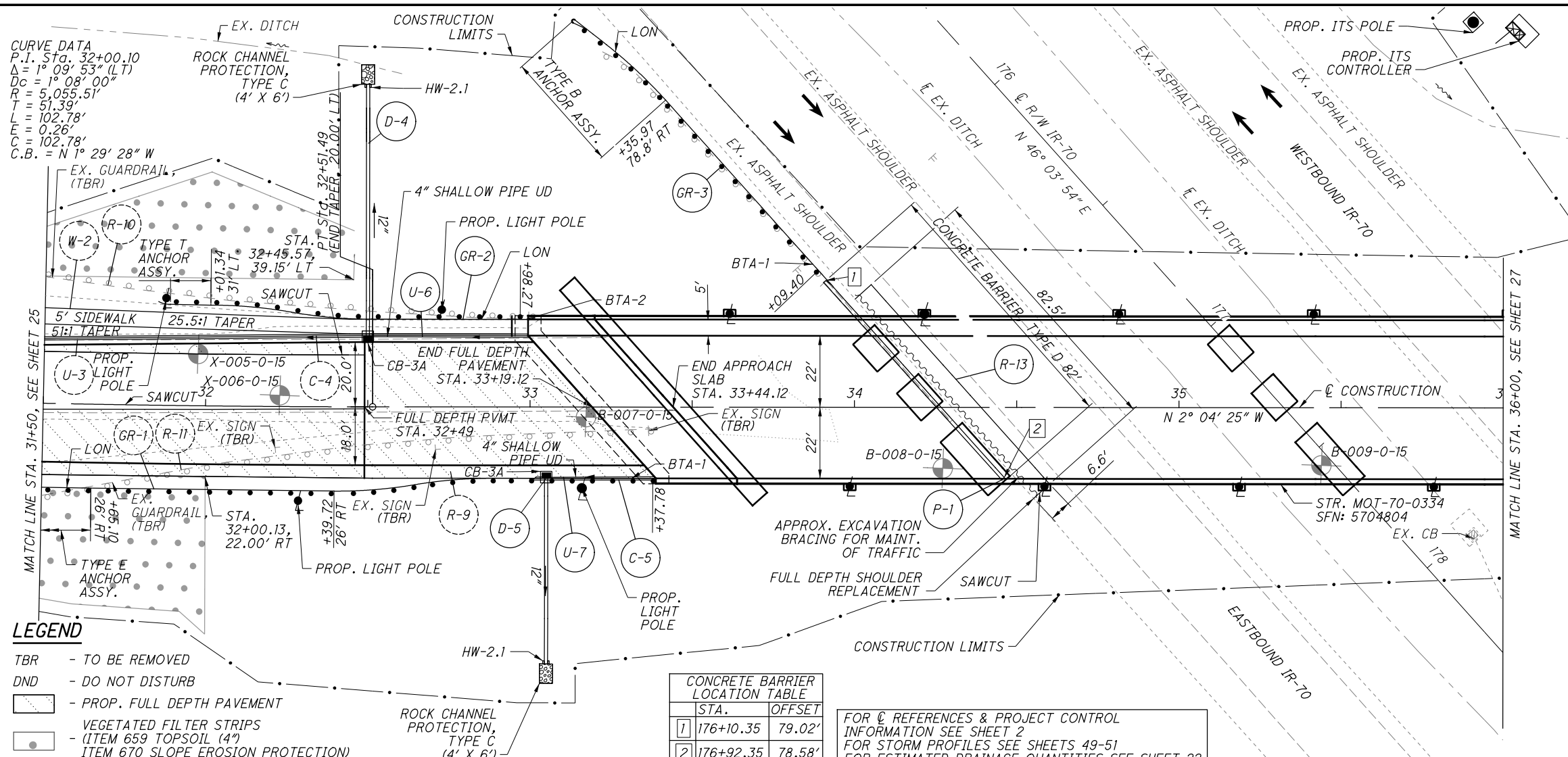


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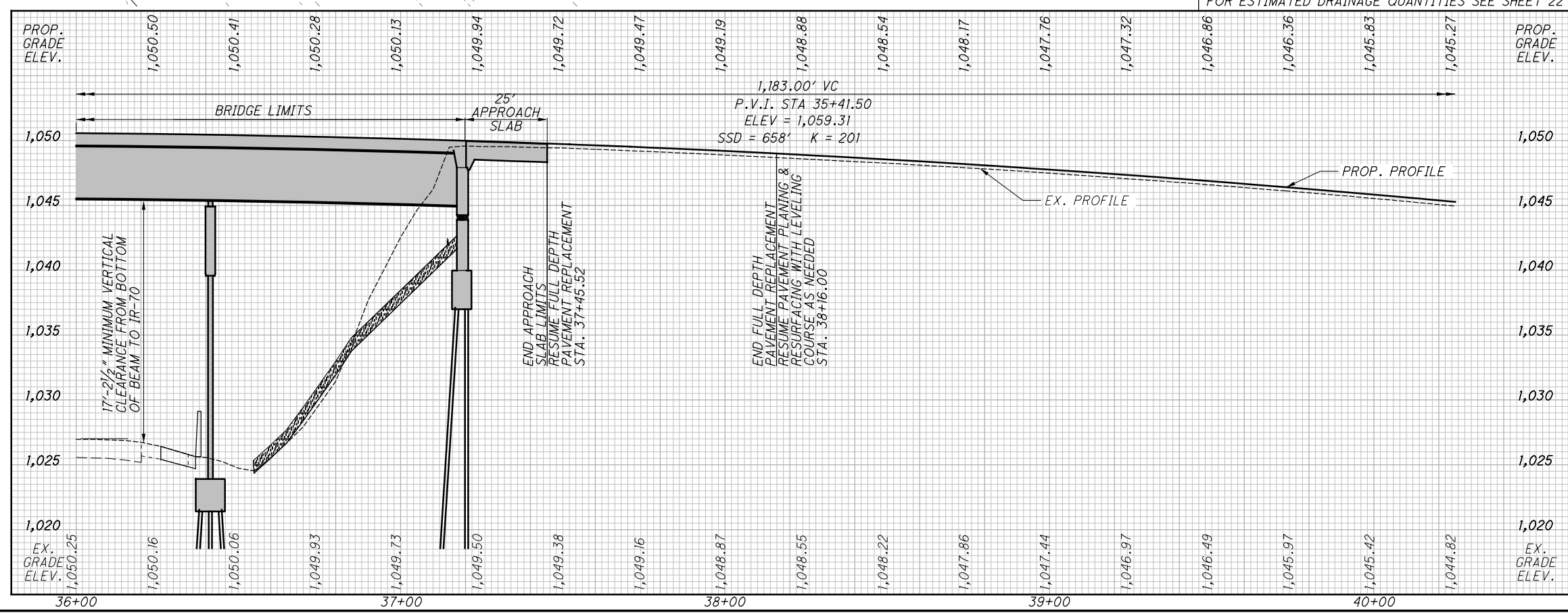
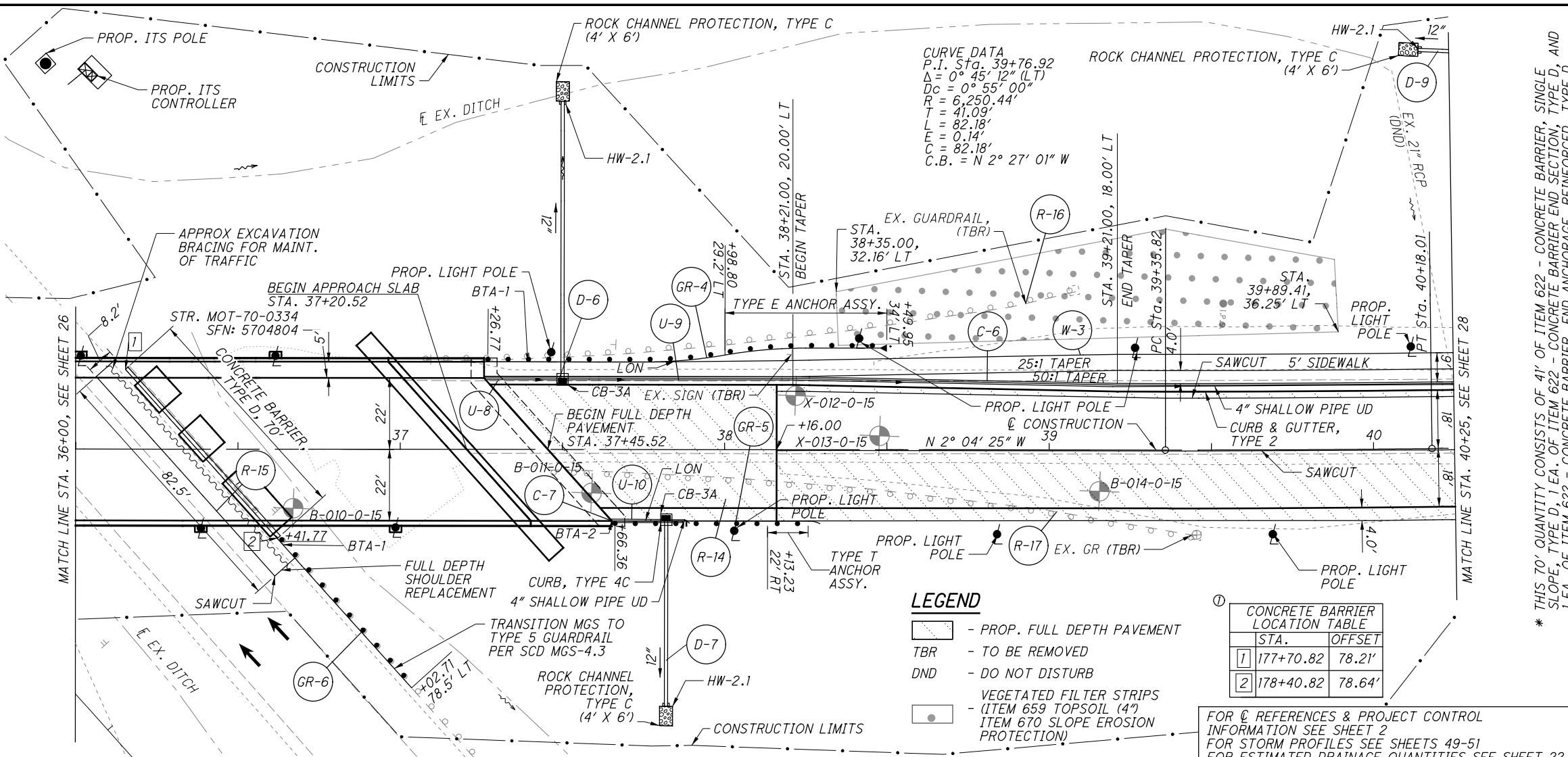


REF NO.	STATION		SIDE	PAVEMENT REMOVED, ASPHALT	CURB AND GUTTER REMOVED	GUARDRAIL REMOVED	REMOVAL MISC.: PULL BOX	ANCHOR ASSEMBLY, MGS TYPE E	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	4" CONCRETE WALK	CURB RAMP, APP	COMBIN. CURB & GUTTER, TYPE 2
	FROM	TO										
R-7	28+11.80	28+74.33	LT	33	10							
R-8	28+91.35	31+50.00	LT	144								
R-9	29+26.75	33+39.17	RT	460								
R-10	31+00.00	33+03.13	LT			200						
R-11	31+38.85	33+39.10	RT			200						
R-12	28+27.06	28+50.70	LT									
CR-2	28+33.40	28+50.70	LT									
CR-3	28+96.54	29+11.23	LT									
C-3	28+11.80	28+74.33	LT									
C-4	28+93.50	33+99.40	LT									
GR-1	31+15.18	33+39.43	RT									
W-2	29+07.35	33+99.40	LT									
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				637	10	400	1	1	1	1958	189	468

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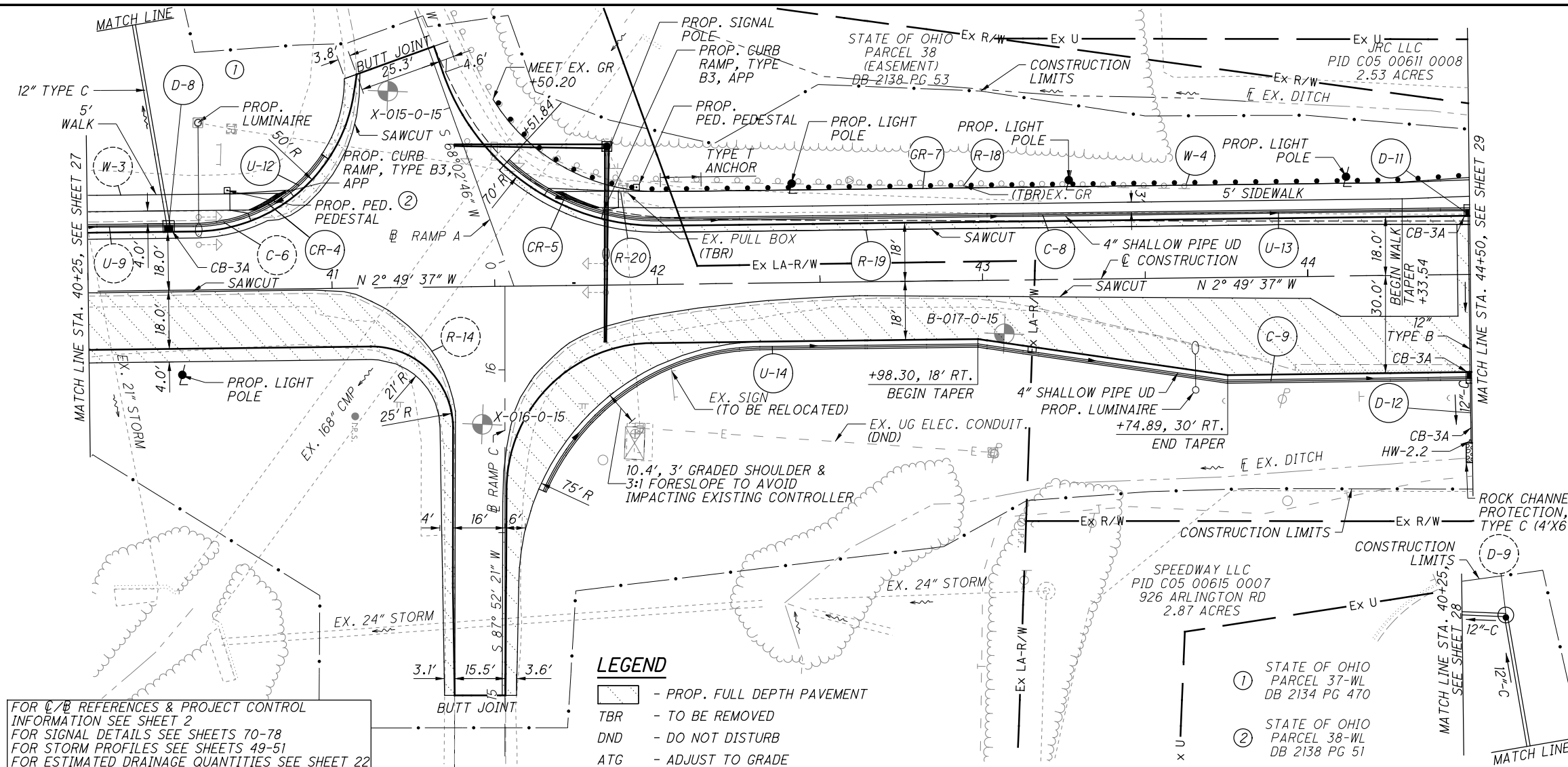
REF NO.	STATION		SIDE	DESCRIPTION	QTY	UNIT	TOTALS CARRIED TO GENERAL SUMMARY
	FROM	TO					
R-13	176+20.63 #	177+03.13 #	RT	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	EA	1	1
C-5	33+00.00	33+38.83	RT	CONCRETE BARRIER, SECTION, TYPE D	EA	1	1
GR-2	31+88.84	33+07.70	LT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	EA	53	53
GR-3	174+98.43 #	176+13.40 #	RT	CONCRETE BARRIER, TYPE D	EA	1	1
P-1	176+10.35 #	176+92.35 #	RT	CONCRETE BARRIER, TYPE D	EA	1	1
				CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	EA	1	1
				CONCRETE BARRIER, SECTION, TYPE D	EA	1	1
				CONCRETE BARRIER, SINGLE SLOPE, TYPE D	EA	53	53
				CURB, TYPE 4-C	FT	39	39
				MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	EA	2	2
				ANCHOR ASSEMBLY, MGS TYPE T	EA	1	1
				ANCHOR ASSEMBLY, MGS TYPE B	EA	1	1
				GUARDRAIL, TYPE MGS	FT	125	125
				GUARDRAIL, TYPE MGS	FT	75	75
				GUARDRAIL, TYPE MGS	FT	50	50
				GUARDRAIL REMOVED	FT	100	100
				CONCRETE BARRIER REMOVED	FT	58	58
				PAVEMENT REMOVED, ASPHALT	SY	62	62
TOTALS CARRIED TO GENERAL SUMMARY							



\* THIS 70' QUANTITY CONSISTS OF 41' OF ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, 1 EA. OF ITEM 622 - CONCRETE BARRIER END SECTION, TYPE D, AND 1 EA. OF ITEM 622 - CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D

REF NO.	STATION		SIDE	GENERAL SUMMARY	
	FROM	TO		QTY	UNIT
R-14	37+45.52	41+36.17	LT & RT	797	FT
R-15	177+66.40 #	178+48.90 #	RT	60	FT
R-16	37+06.66	39+08.19	LT	200	FT
R-17	37+43.40	39+45.57	RT	200	FT
C-6	37+25.81	40+97.70	LT		
C-7	37+65.25	37+87.00	RT		
GR-4	37+26.77	38+49.95	LT	50	FT
GR-5	37+66.36	38+25.75	RT	50	FT
GR-6	178+40.21 #	179+02.71 #	RT	37.5	FT
P-2	177+70.82 #	179+40.82 #	RT		
W-3	37+25.81	40+68.89	LT		
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				857	
				475	
				60	
				202	
				200	
				200	
				75	
				137.5	
				1	
				2	
				1	
				1	
				1677	
				379	
				22	
				22	
				70*	
				1677	
				1677	
				70*	
				70*	

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FOR C/B REFERENCES & PROJECT CONTROL INFORMATION SEE SHEET 2  
 FOR SIGNAL DETAILS SEE SHEETS 70-78  
 FOR STORM PROFILES SEE SHEETS 49-51  
 FOR ESTIMATED DRAINAGE QUANTITIES SEE SHEET 22

**LEGEND**  

 - PROP. FULL DEPTH PAVEMENT  
 TBR - TO BE REMOVED  
 DND - DO NOT DISTURB  
 ATG - ADJUST TO GRADE



REF NO.	STATION		SIDE	GENERAL SUMMARY	CALCULATED CAG	CHECKED
	FROM	TO				
R-18	41+50.20	43+64.12	LT	GUARDRAIL REMOVED	225	
R-19	41+51.85	47+54.61	LT & RT	CURB AND GUTTER REMOVED	363	
R-20	41+89.90	40+87.03	LT	PAVEMENT REMOVED, ASPHALT	1379	
CR-4	40+68.89	41+88.32	LT			
CR-5	41+66.89	47+27.00	LT			
C-8	41+51.84	47+35.03	RT			
C-9	15+62.61	45+01.45	LT			
GR-7	41+50.20	47+36.06	LT			
W-4	41+88.32					
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>						
609				COMBIN. CURB & GUTTER, TYPE 2	FT	1190
608				CURB RAMP, APP	SF	179
608				4\"/>		

**LEGEND**

- PROP. FULL DEPTH PAVEMENT
- TBR - TO BE REMOVED
- DND - DO NOT DISTURB
- ATG - ADJUST TO GRADE
- EX. FIELD

**PAVEMENT POINTS TABLE**

STATION	OFFSET
1	+52.96 56.83' LT.
2	+68.42 49.14' LT.
3	+65.53 29.80' RT.
4	+48.11 54.07' RT.

END PROJECT  
STA. 47+66.62  
S.L.M. 0.90

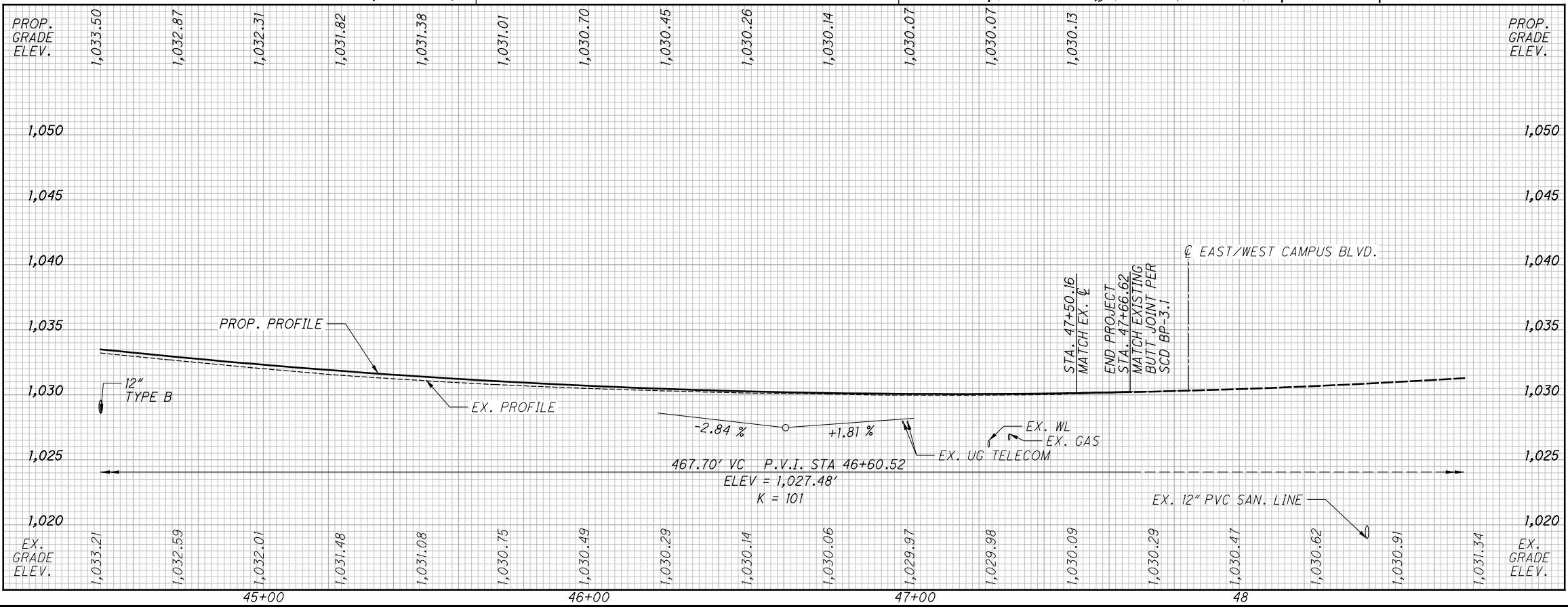
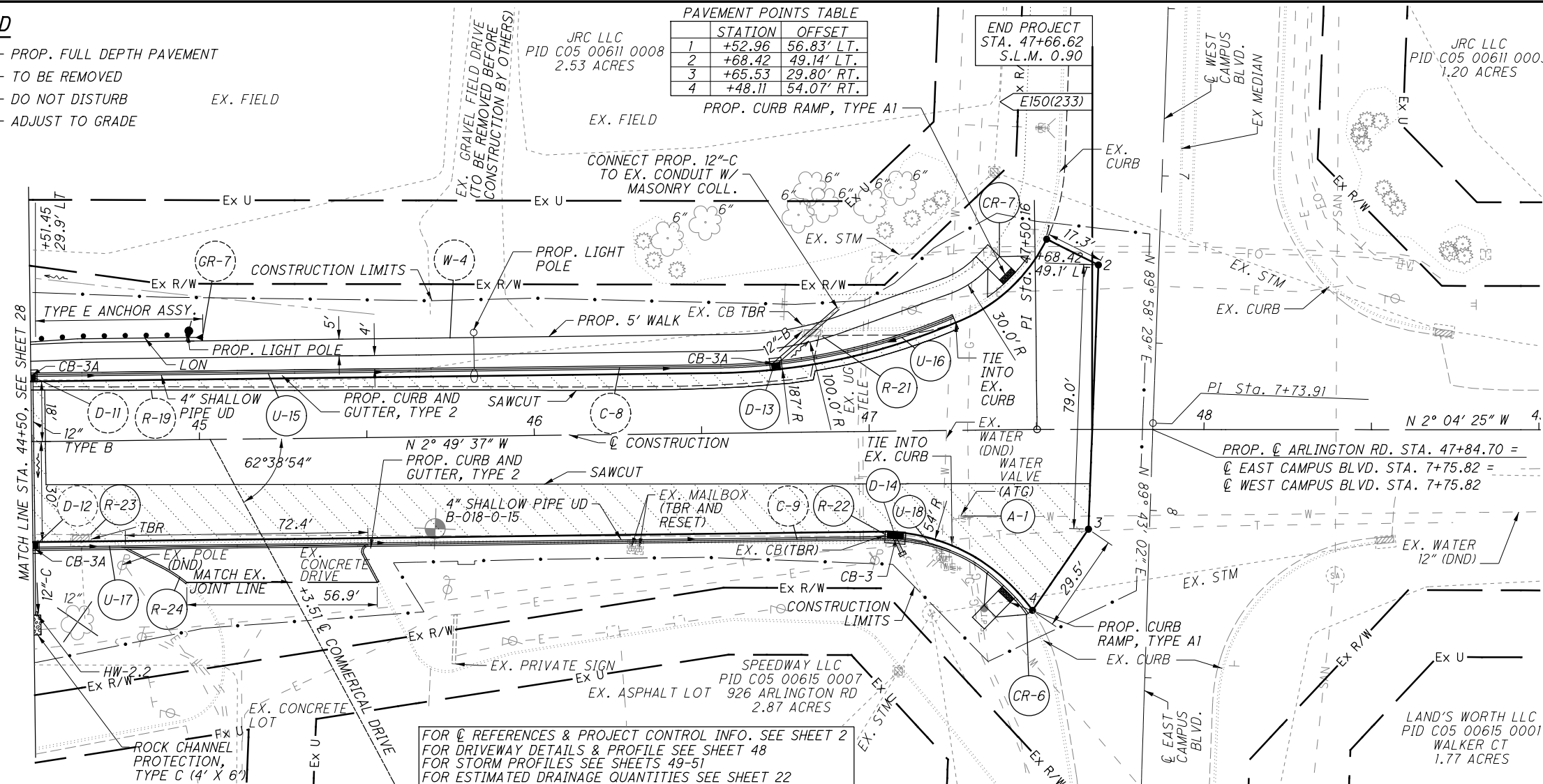
JRC LLC  
PID C05 00611 0003  
1.20 ACRES

JRC LLC  
PID C05 00611 0008  
2.53 ACRES

LAND'S WORTH LLC  
PID C05 00615 0001  
WALKER CT  
1.77 ACRES

SPEEDWAY LLC  
PID C05 00615 0007  
926 ARLINGTON RD  
2.87 ACRES

FOR @ REFERENCES & PROJECT CONTROL INFO. SEE SHEET 2  
FOR DRIVEWAY DETAILS & PROFILE SEE SHEET 48  
FOR STORM PROFILES SEE SHEETS 49-51  
FOR ESTIMATED DRAINAGE QUANTITIES SEE SHEET 22



REF NO.	STATION	SIDE	PAVEMENT REMOVED		CURB REMOVED		CURB AND GUTTER REMOVED		CATCH BASIN REMOVED		PIPE REMOVED, 24" AND UNDER		CURB RAMP		VALVE BOX ADJUSTED TO GRADE	
			SY	FT	FT	FT	EA	EA	EA	EA	EA	EA	EA	EA		
R-21	46+83.40	LT														
R-22	44+50.00	RT														
R-23	44+64.25	RT														
R-24	44+73.42	RT	85			63										
A-1	47+27.81	RT														
CR-6	47+34.65	RT														
CR-7	47+35.82	LT														
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>			85		63	41			3		35					

**MOT-70-3.34**

**PLAN AND PROFILE - ARLINGTON RD**  
**STA. 44+50 TO STA. 49+00**

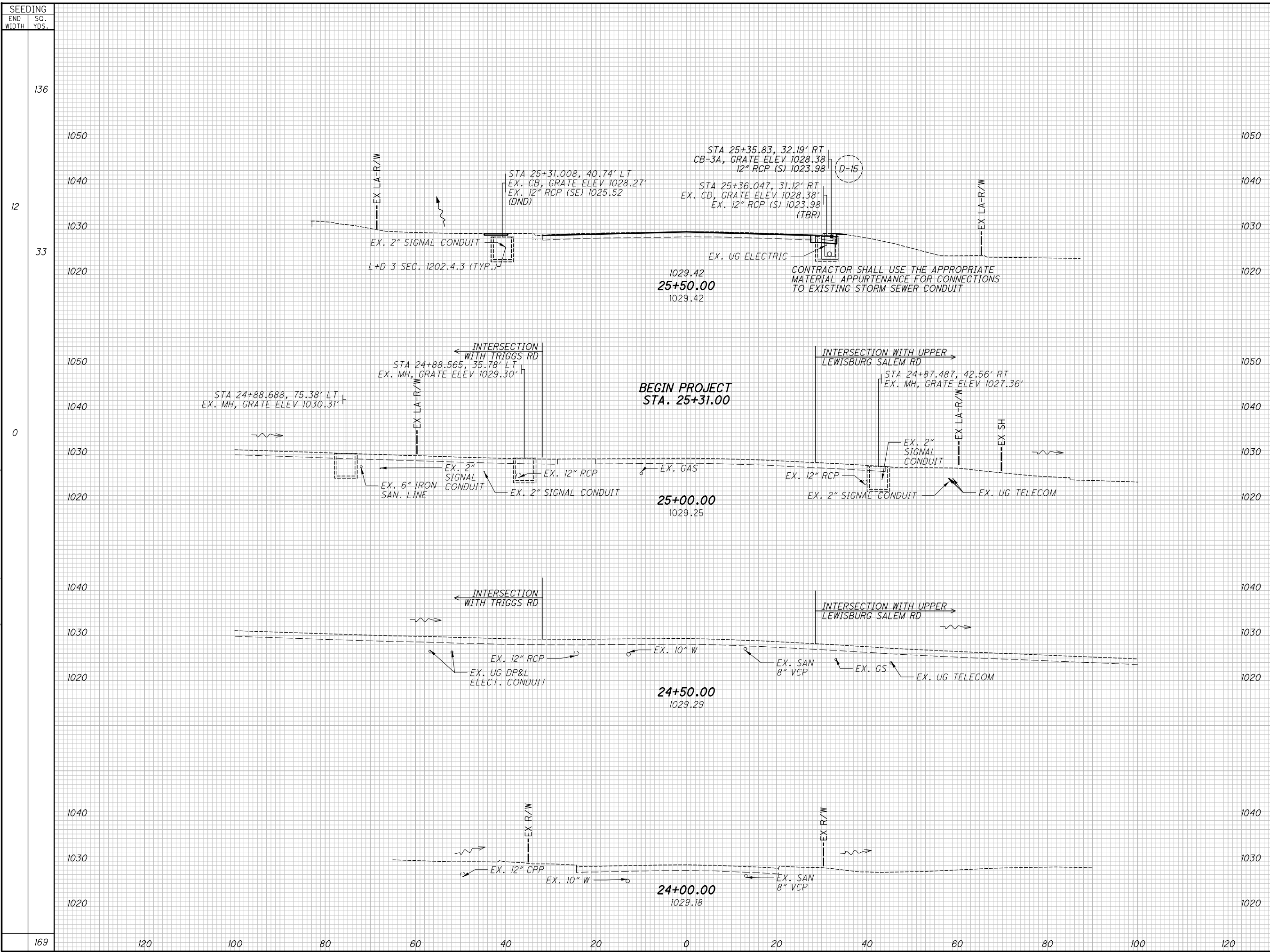
CALCULATED BY: NGF  
CHECKED BY: NGF  
DATE: 11/3/2017

HORIZONTAL SCALE IN FEET: 1" = 40'

VERTICAL SCALE IN FEET: 1" = 10'

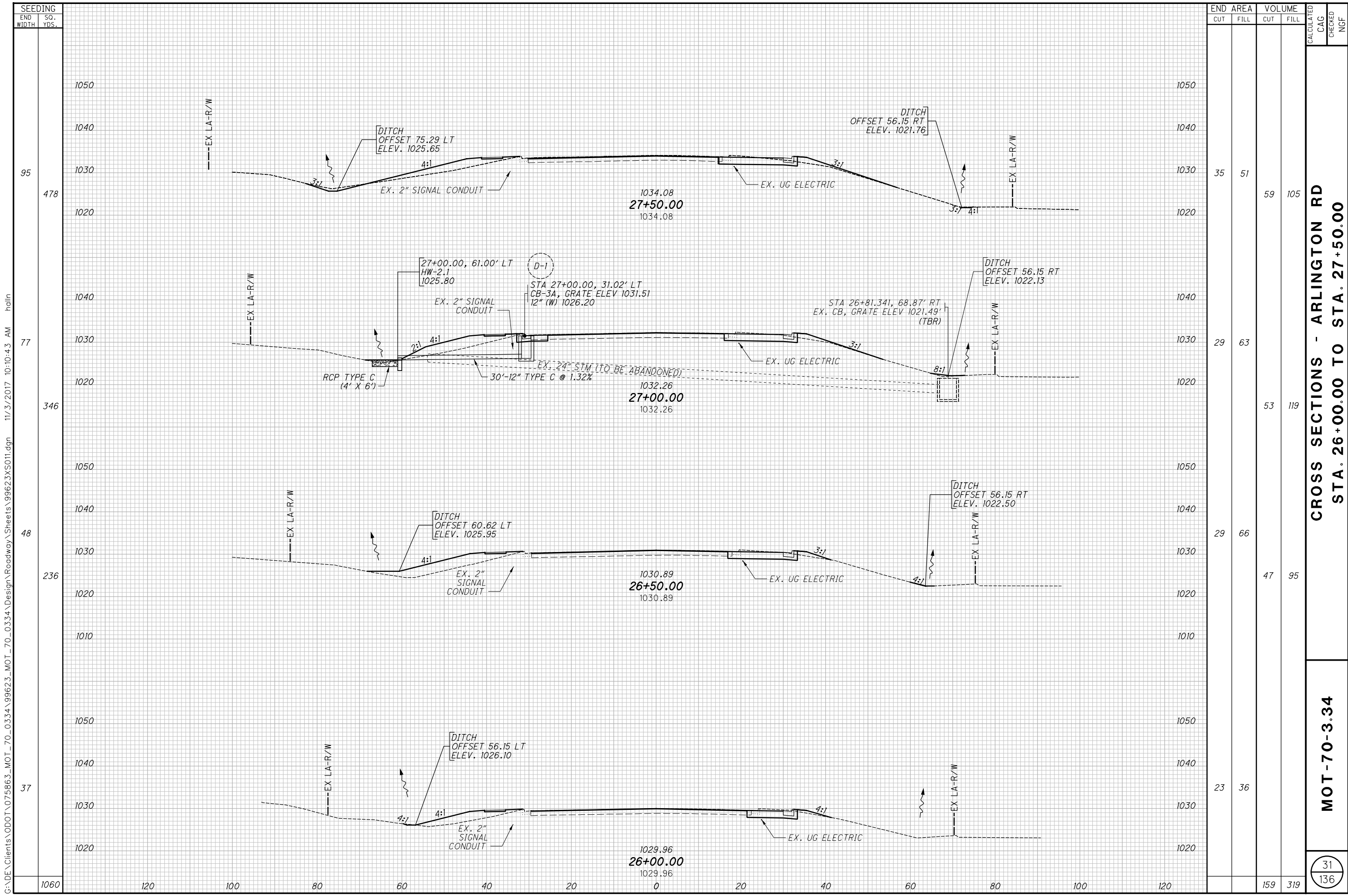
SHEET NO. 29 OF 136

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END AREA	VOLUME	CALCULATED	
		CUT	FILL
136	33	67	
12	0		
33	12	0	
0	0		
1040			
1030			
1020			
1040			
1030			
1020			
1040			
1030			
1020			
1040			
1030			
1020			
1040			
1030			
1020			
120	45	67	

**CROSS SECTIONS - ARLINGTON RD**  
**STA. 24+00.00 TO STA. 25+50.00**  
**MOT-70-3.34**  
 30  
 136



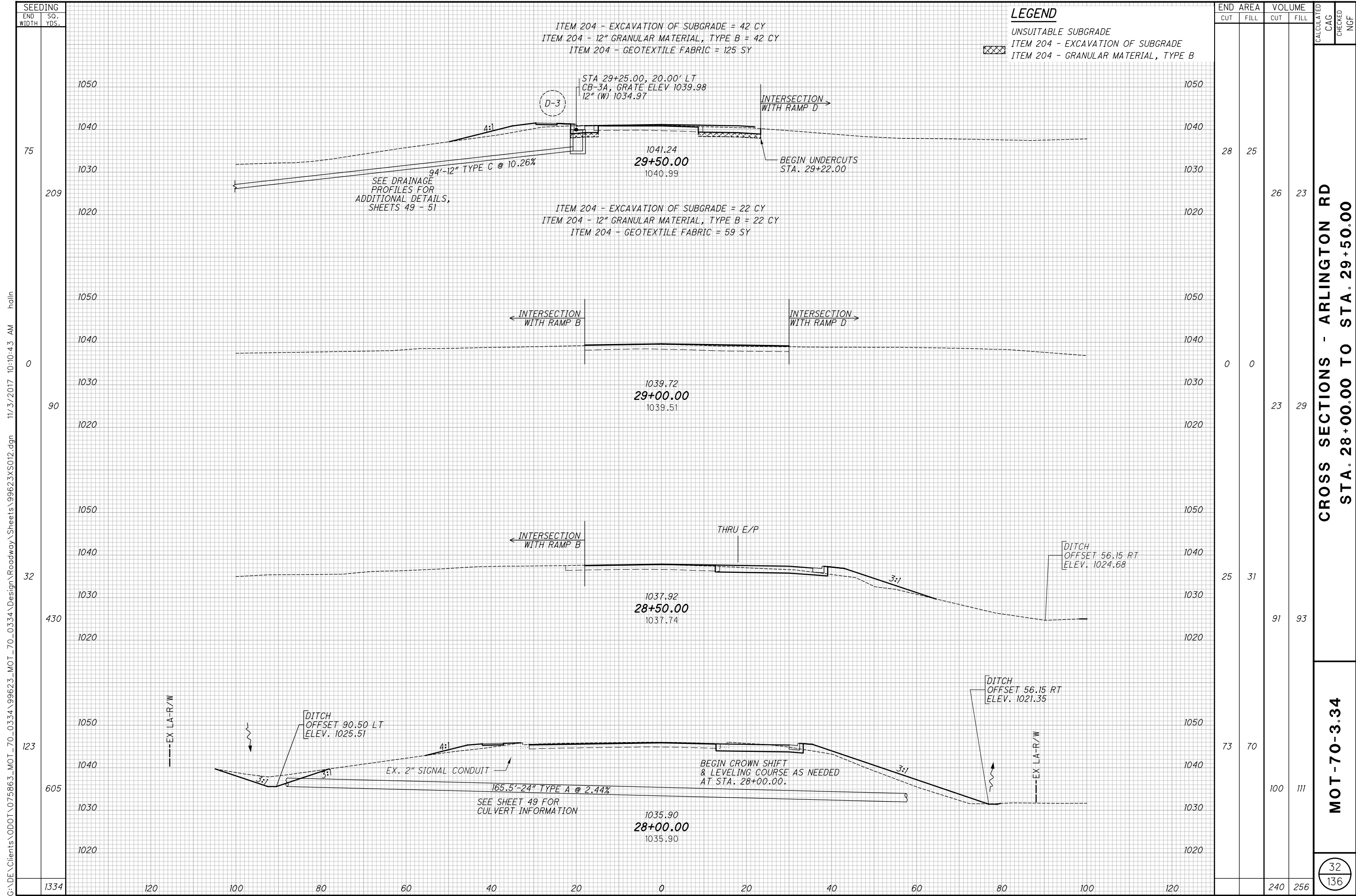
SEEDING	
END WIDTH	SO. YDS.
95	478
77	346
48	236
37	
1060	

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	CAG	NGF
35	51	59	105		
29	63	53	119		
29	66	47	95		
23	36				
		159	319		

**CROSS SECTIONS - ARLINGTON RD  
STA. 26+00.00 TO STA. 27+50.00**

**MOT-70-3.34**

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**CROSS SECTIONS - ARLINGTON RD**  
**STA. 28+00.00 TO STA. 29+50.00**

**MOT-70-3.34**

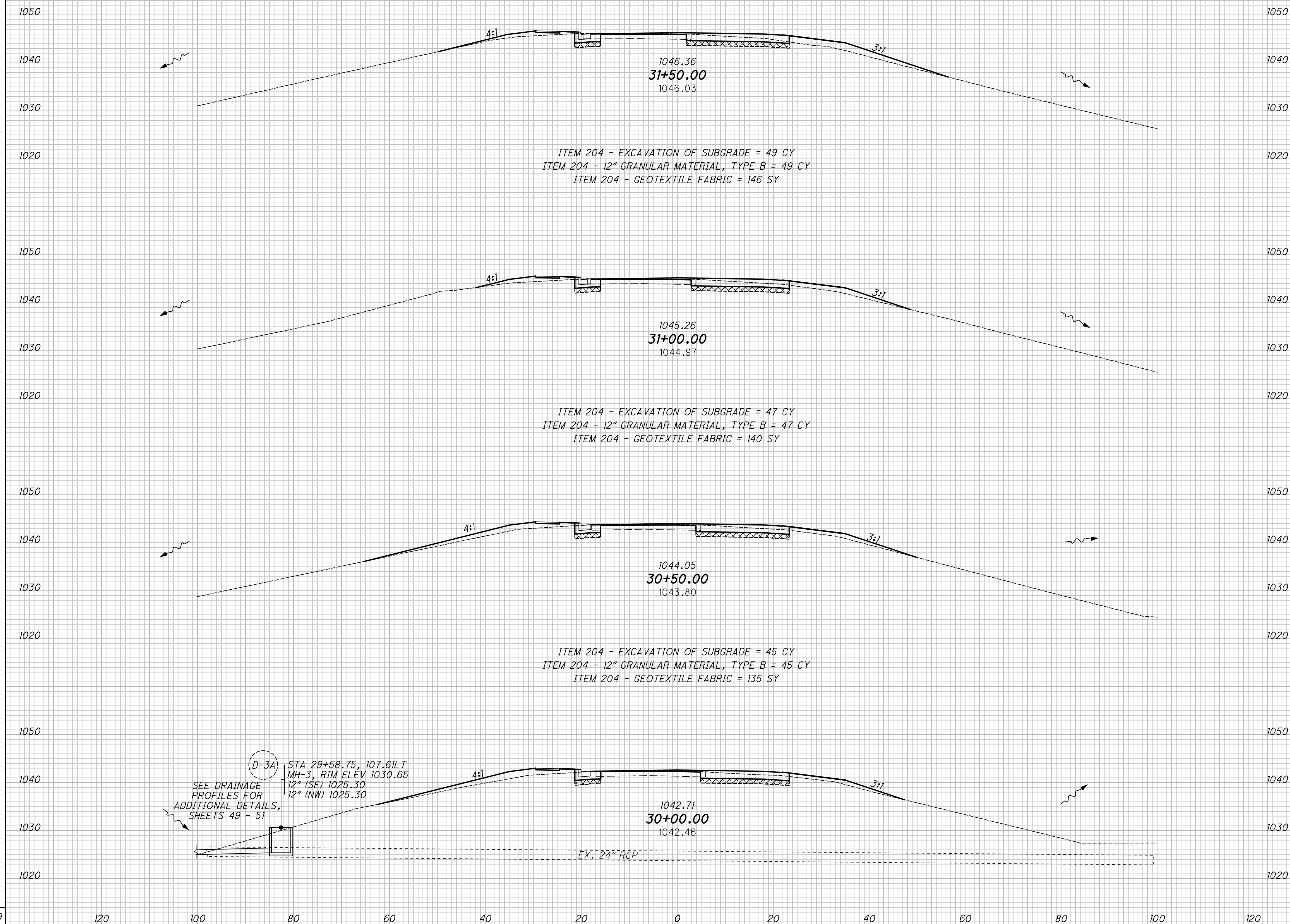
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136

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SEEDING  
END SO.  
WIDTH YDS.  
69  
373  
66  
408  
81  
437  
76  
421  
1639

**LEGEND**  
 UNSUITABLE SUBGRADE  
 ITEM 204 - EXCAVATION OF SUBGRADE  
 ITEM 204 - GRANULAR MATERIAL, TYPE B



END AREA	VOLUME	CALCULATED		CHECKED	NGF
		CUT	FILL		
24	48				
	47		76		
27	34				
	48		78		
25	50				
	47		92		
25	49				
	49		68		
	191		314		

**CROSS SECTIONS - ARLINGTON RD**  
**STA. 30+00.00 TO STA. 31+50.00**

**MOT-70-3.34**

33  
136

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SEEDING  
END SO.  
WIDTH YDS.  
1669  
120  
100  
80  
60  
40  
20  
0  
20  
40  
60  
80  
100  
120

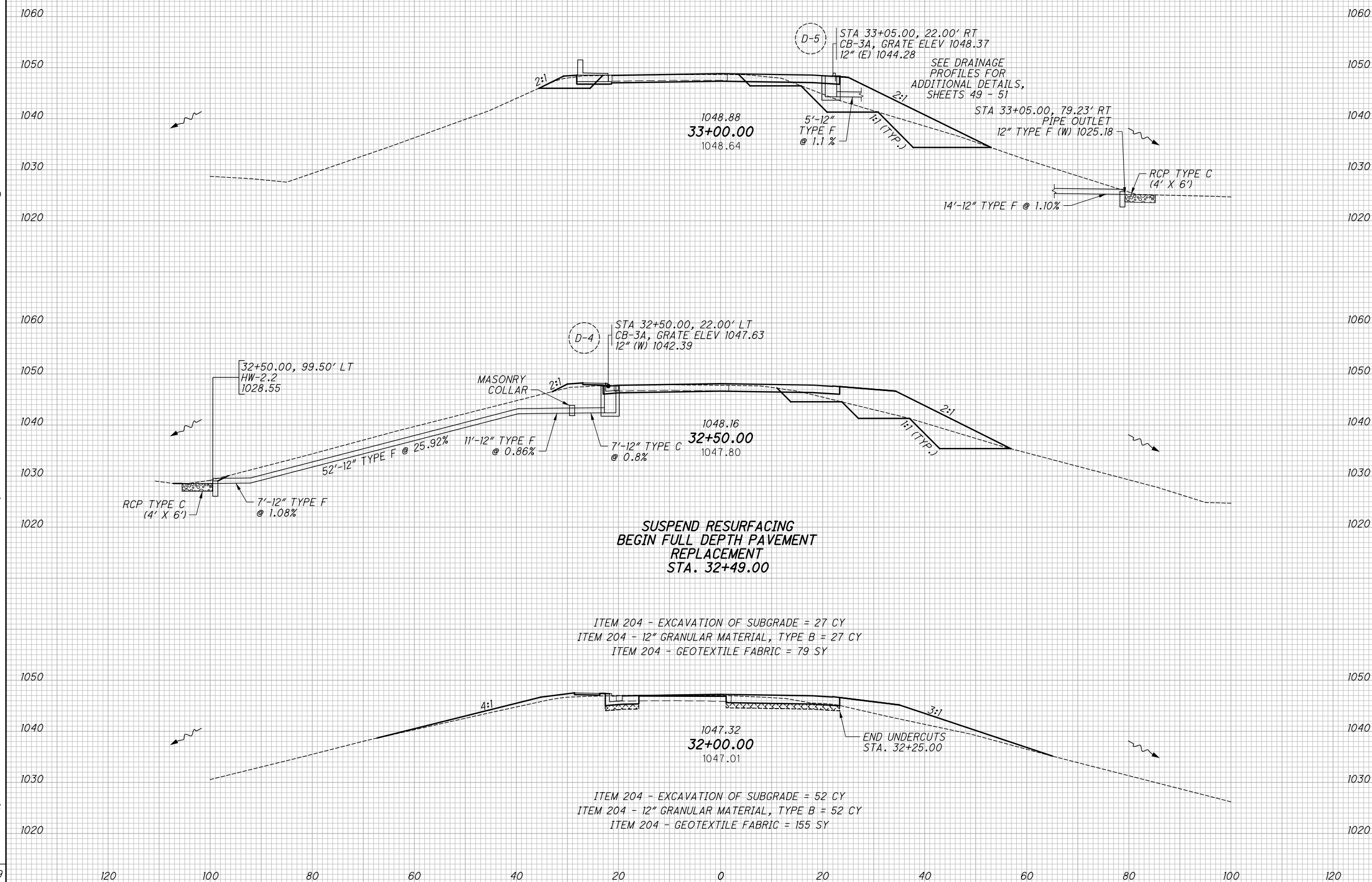
**LEGEND**  
UNSUITABLE SUBGRADE  
ITEM 204 - EXCAVATION OF SUBGRADE  
ITEM 204 - GRANULAR MATERIAL, TYPE B

END AREA	VOLUME	CALCULATED	CHECKED	NGF
134	191			
85	173			
33	83			
203	337			
110	237			
53	121			
366	695			

**CROSS SECTIONS - ARLINGTON RD**  
**STA. 32+00.00 TO STA. 33+00.00**  
**MOT-70-3.34**

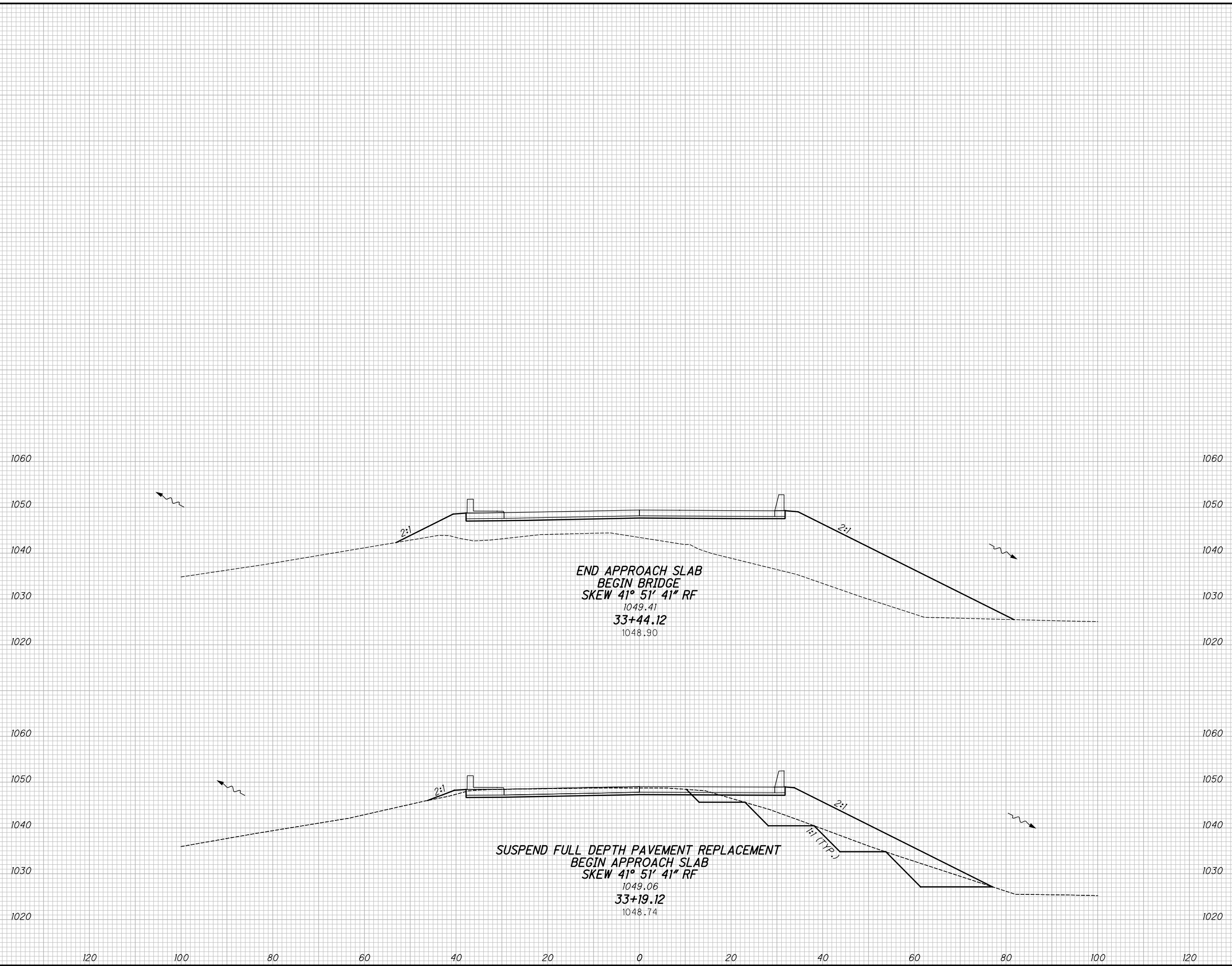
34  
136

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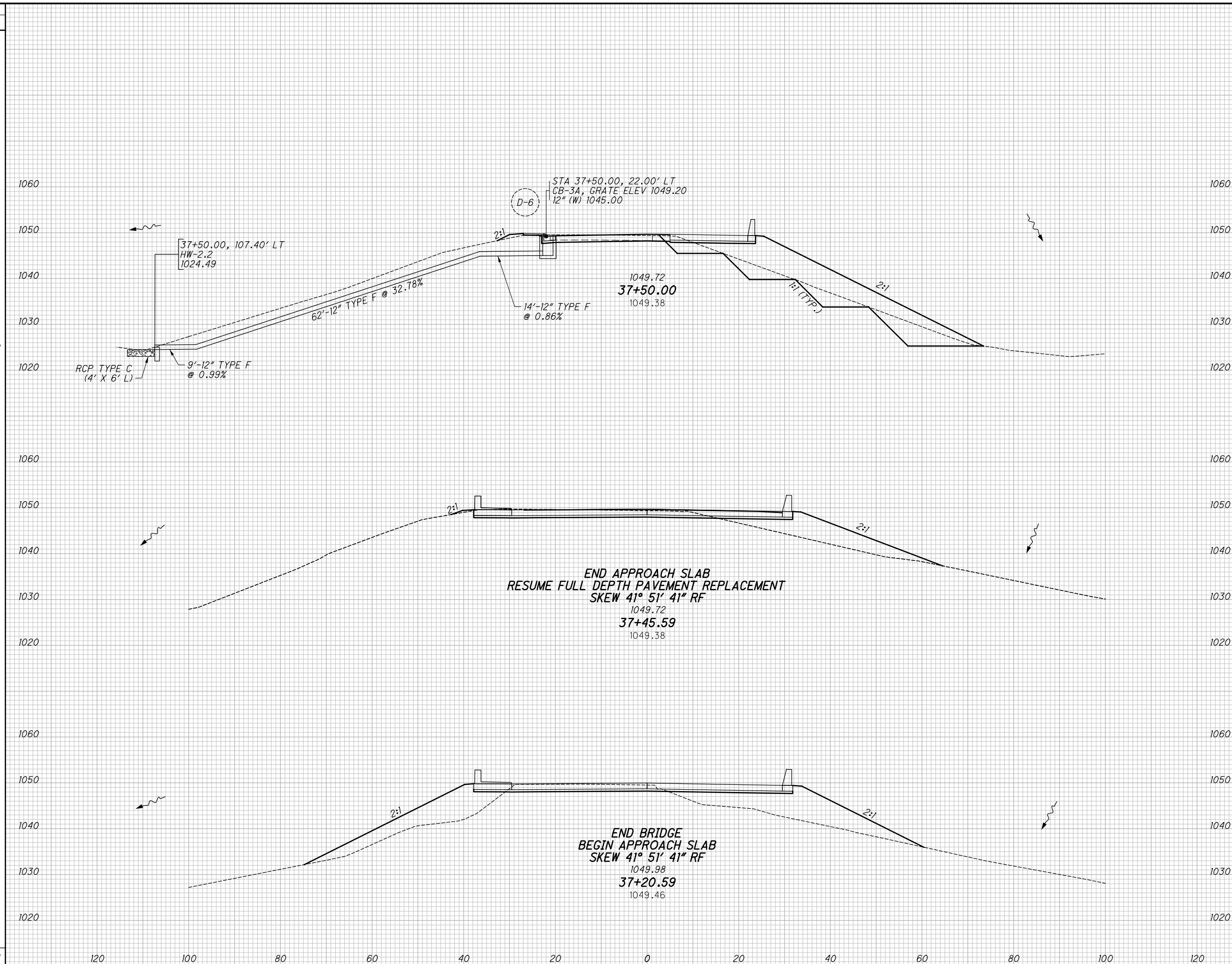
SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
108	0	866		
299			92	554
108	199	330		
203			118	185
502			210	739



SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
108	0	866		
299			92	554
108	199	330		
203			118	185
502			210	739

**CROSS SECTIONS - ARLINGTON RD**  
**STA. 33+14.12 TO STA. 33+44.12**  
**MOT-70-3.34**  
 35  
 136

SEEDING  
 END SO.  
 WIDTH YDS.  
 73  
 249  
 79  
 249



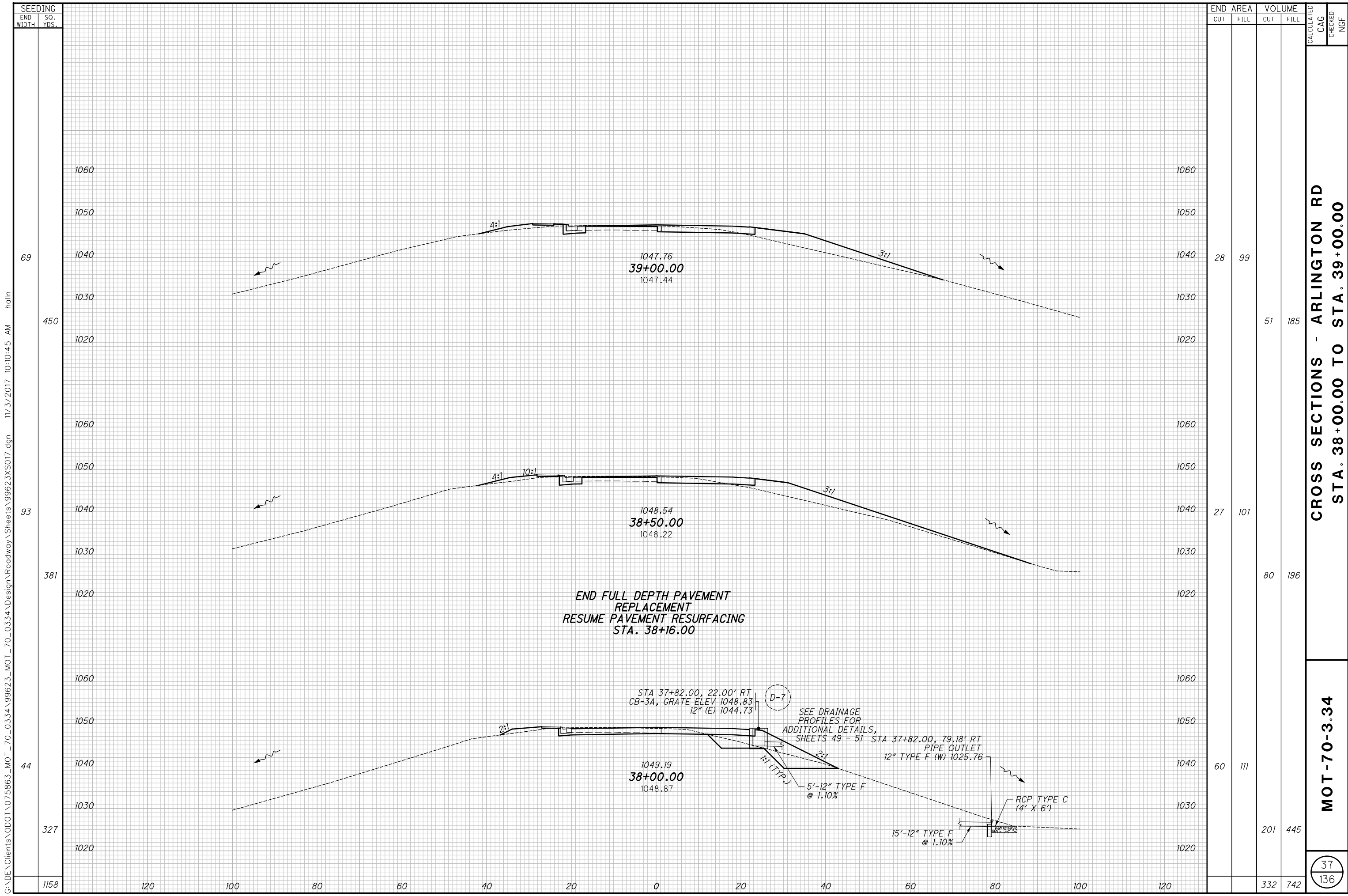
END AREA		VOLUME	
CUT	FILL	CUT	FILL
157	369	91	393
11	352	91	393

CROSS SECTIONS - ARLINGTON RD  
 STA. 37+20.59 TO STA. 37+50.00

MOT-70-3.34

36  
 136

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END FULL DEPTH PAVEMENT  
REPLACEMENT  
RESUME PAVEMENT RESURFACING  
STA. 38+16.00

STA 37+82.00, 22.00' RT  
CB-3A, GRATE ELEV 1048.83  
12" (E) 1044.73

SEE DRAINAGE  
PROFILES FOR  
ADDITIONAL DETAILS,  
SHEETS 49 - 51

STA 37+82.00, 79.18' RT  
PIPE OUTLET  
12" TYPE F (W) 1025.76

5'-12" TYPE F  
@ 1.10%

RCP TYPE C  
(4' X 6')

15'-12" TYPE F  
@ 1.10%

SEEDING	
END WIDTH	SO. YDS.
69	450
93	381
44	327
1158	

END AREA		VOLUME		CALCULATED CAG	CHECKED NGF
CUT	FILL	CUT	FILL		
28	99	51	185		
27	101	80	196		
60	111	201	445		
		332	742		

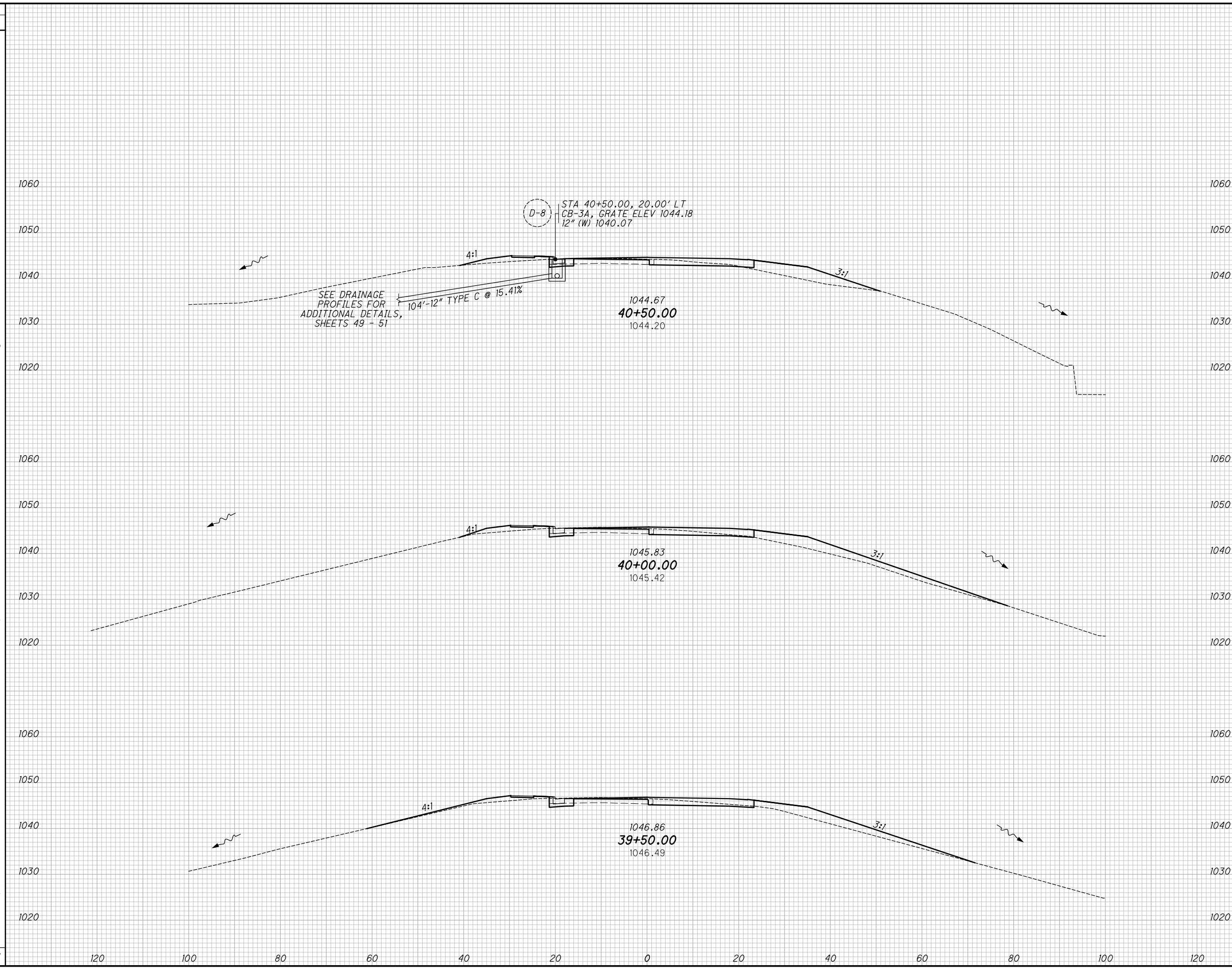
CROSS SECTIONS - ARLINGTON RD  
STA. 38+00.00 TO STA. 39+00.00

MOT-70-3.34

37  
136

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SEEDING  
 END SO.  
 WIDTH YDS.  
 52  
 370  
 81  
 489  
 95  
 455  
 1314



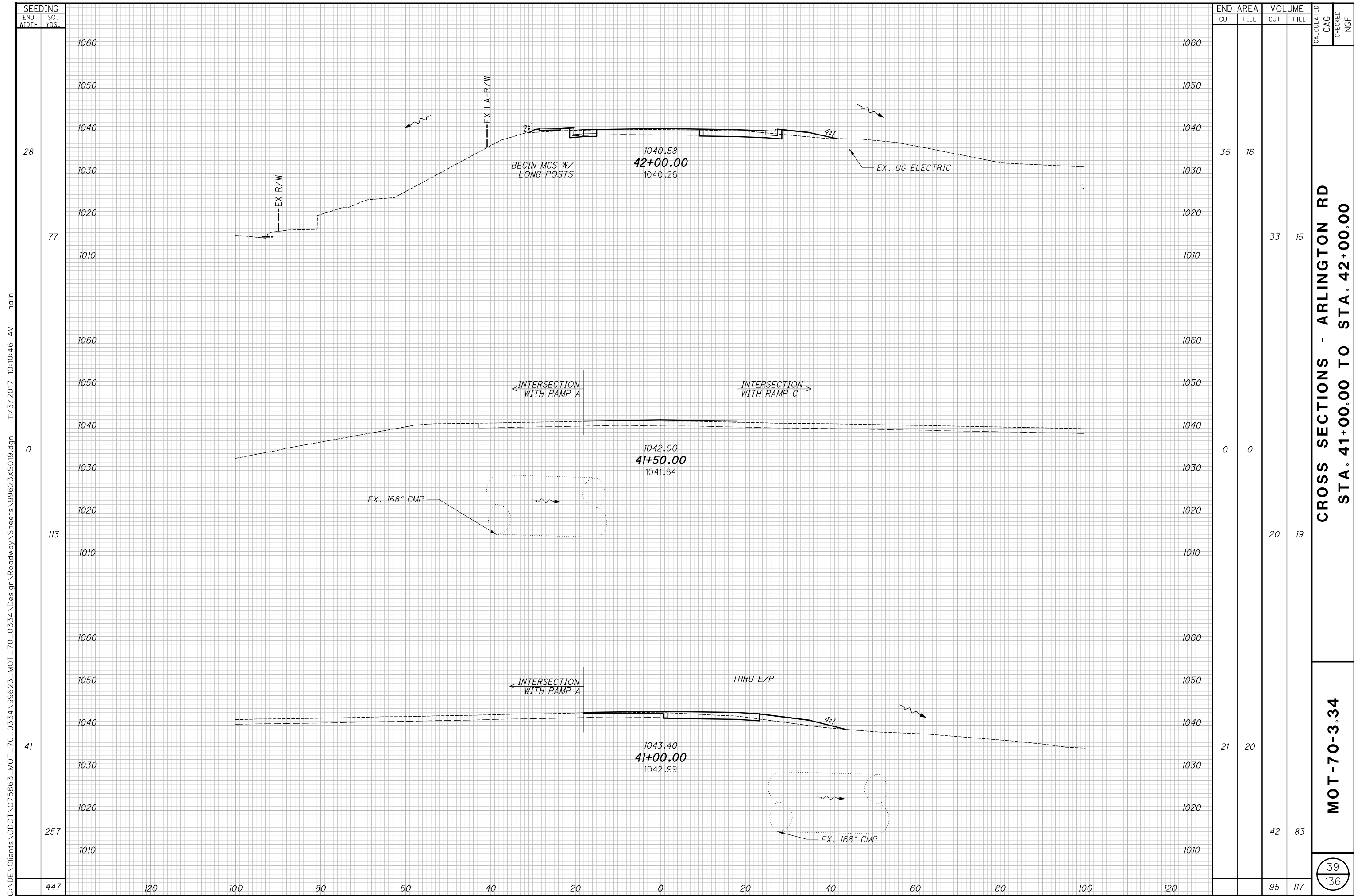
END AREA		VOLUME		CALCULATED CAG	CHECKED NGF
CUT	FILL	CUT	FILL		
24	69	46	146		
25	89	49	154		
28	78	52	164		
		147	464		

**CROSS SECTIONS - ARLINGTON RD  
 STA. 39+50.00 TO STA. 40+50.00**

**MOT-70-3.34**

38  
 136

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SEEDING	
END WIDTH	SO. YDS.
28	
77	
0	
113	
41	
257	
447	

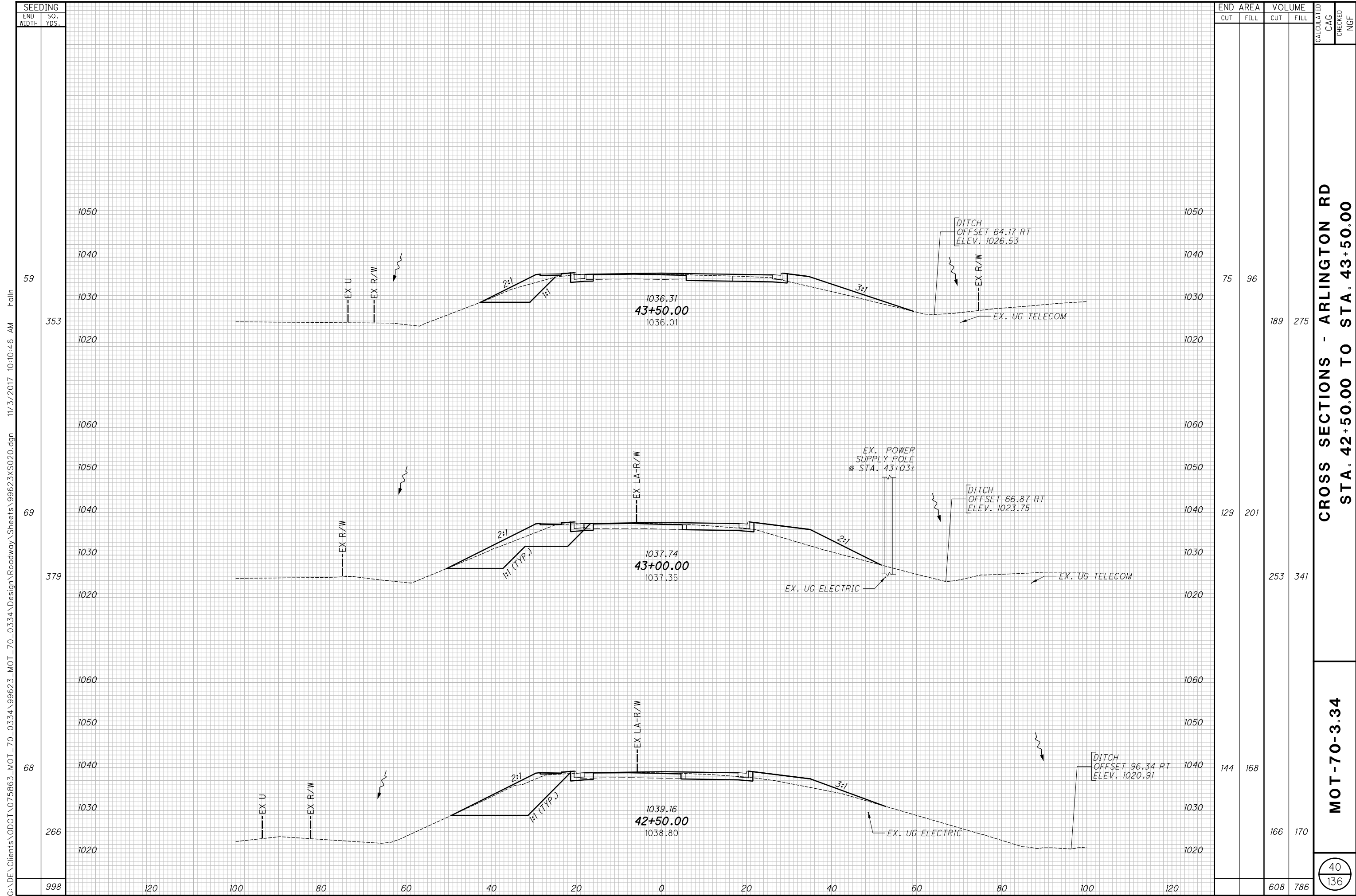
END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	CAG	NGF
35	16				
		33	15		
0	0				
		20	19		
21	20				
		42	83		
		95	117		

**CROSS SECTIONS - ARLINGTON RD**  
**STA. 41+00.00 TO STA. 42+00.00**

**MOT-70-3.34**

39  
 136

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SEEDING	
END WIDTH	SO. YDS.
59	353
69	379
68	266
998	

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	CAG	NGF
75	96	189	275		
129	201	253	341		
144	168	166	170		
		608	786		

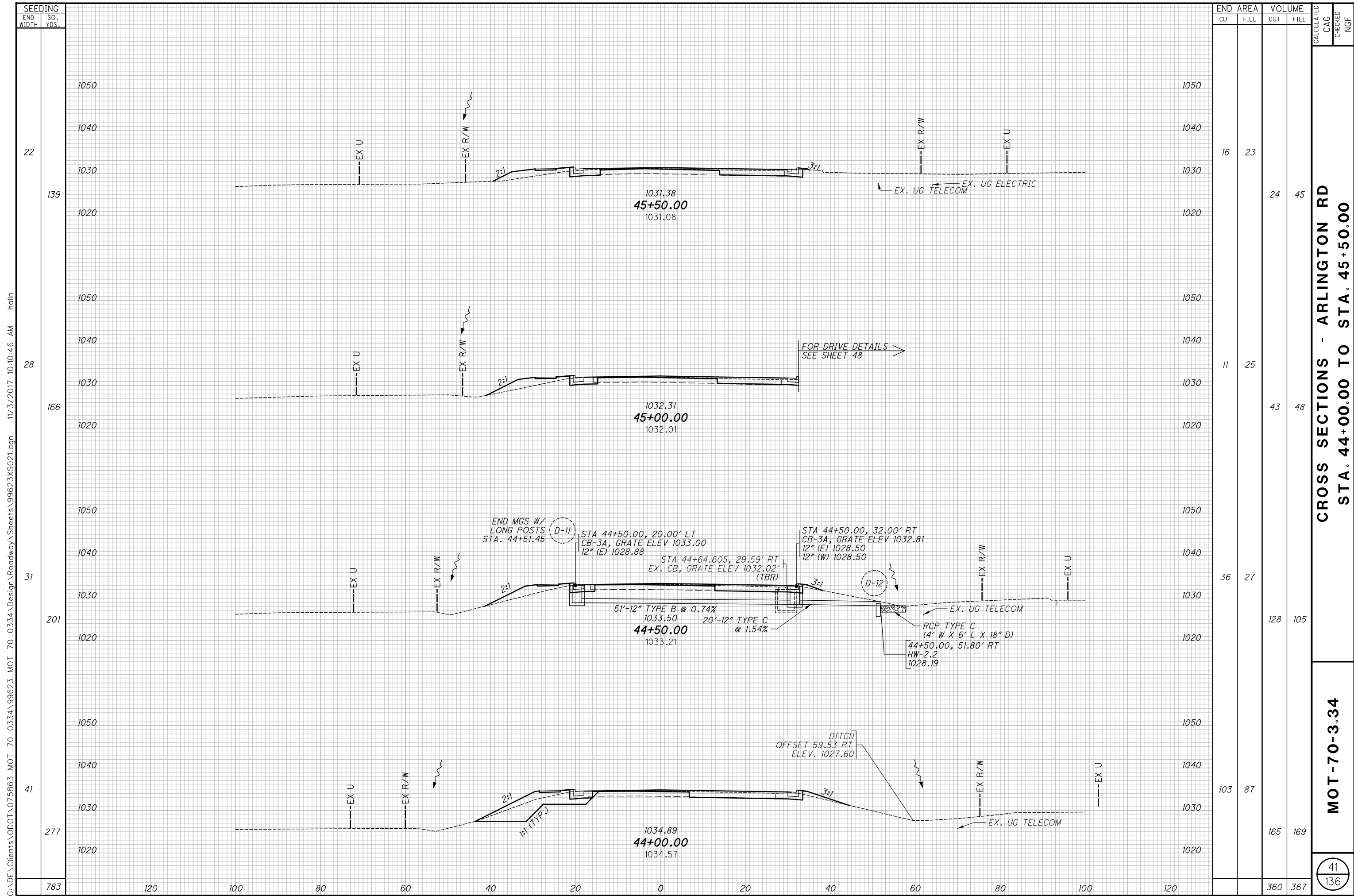
**CROSS SECTIONS - ARLINGTON RD  
STA. 42+50.00 TO STA. 43+50.00**

**MOT-70-3.34**

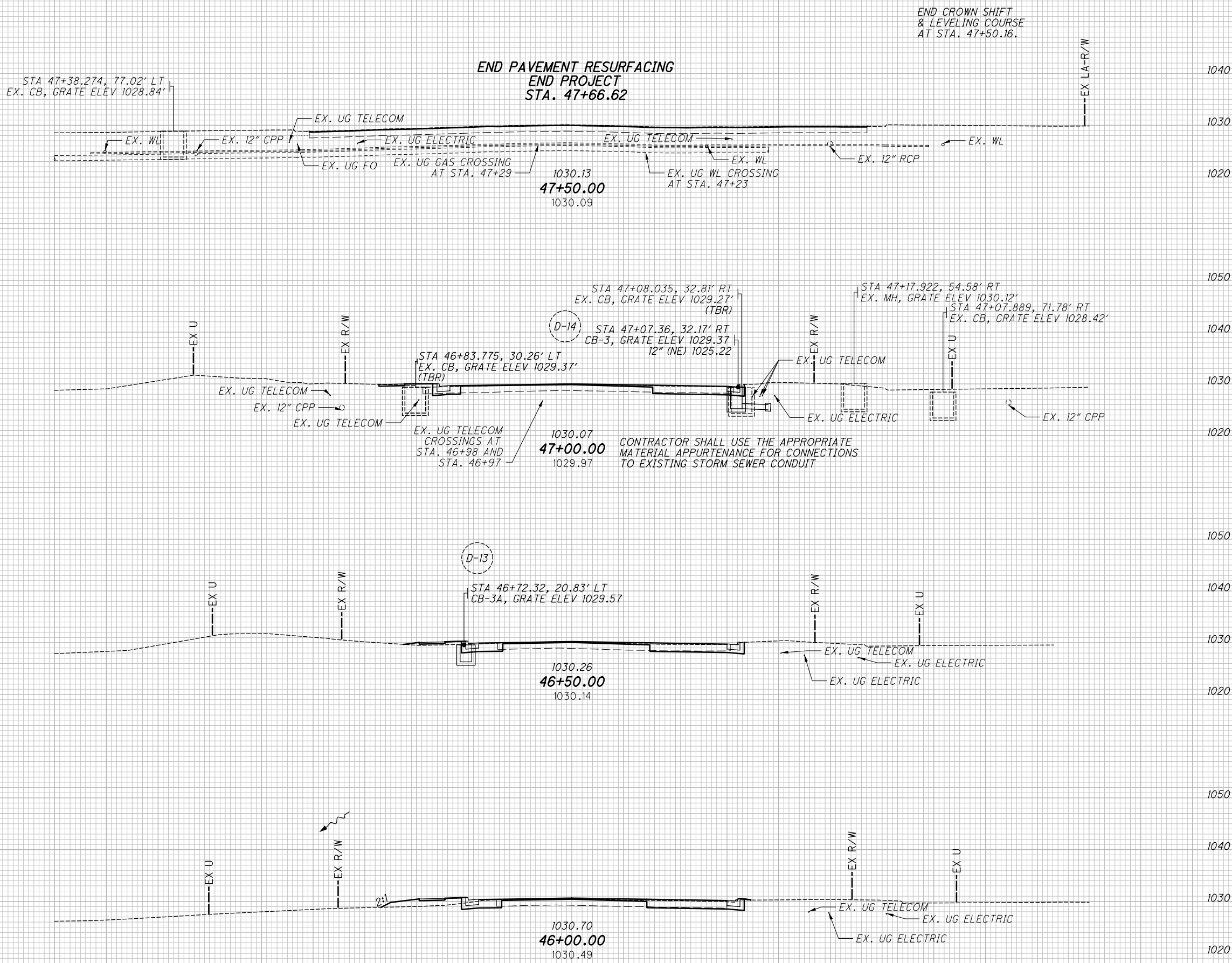
40  
136

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SEEDING  
 END WIDTH SO. YDS.  
 7  
 10  
 56  
 10  
 56  
 10  
 56  
 75  
 10  
 56  
 17  
 252  
 446



END AREA		VOLUME		CALCULATED CAG	CHECKED NGF
CUT	FILL	CUT	FILL		
0	0	6	3		
7	3	22	7		
18	5	31	21		
16	18	50	79		
		109	110		

**CROSS SECTIONS - ARLINGTON RD  
 STA. 46+00.00 TO STA. 47+66.62**

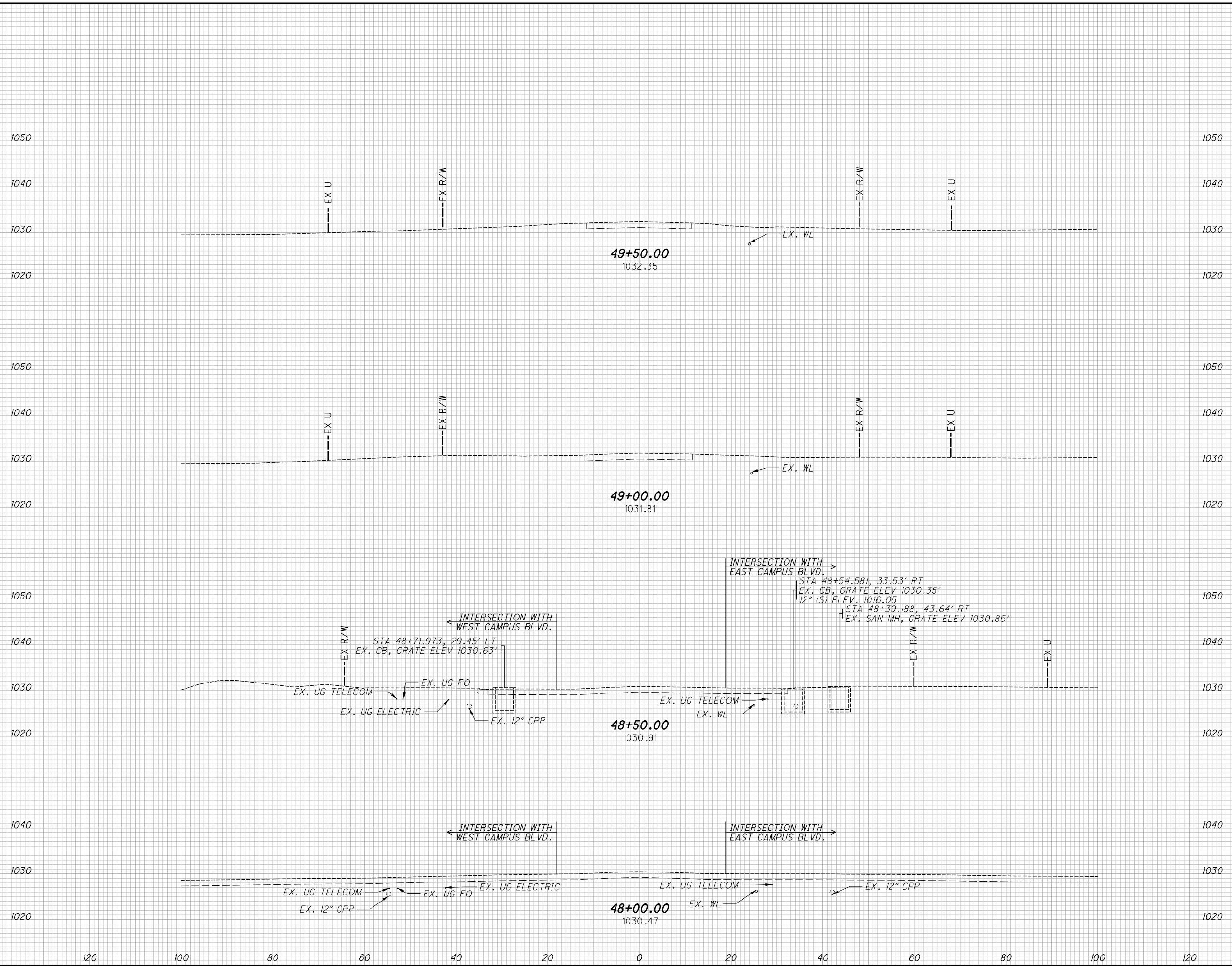
**MOT-70-3.34**

42  
 136

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SEEDING	
END WIDTH	SO. YDS.

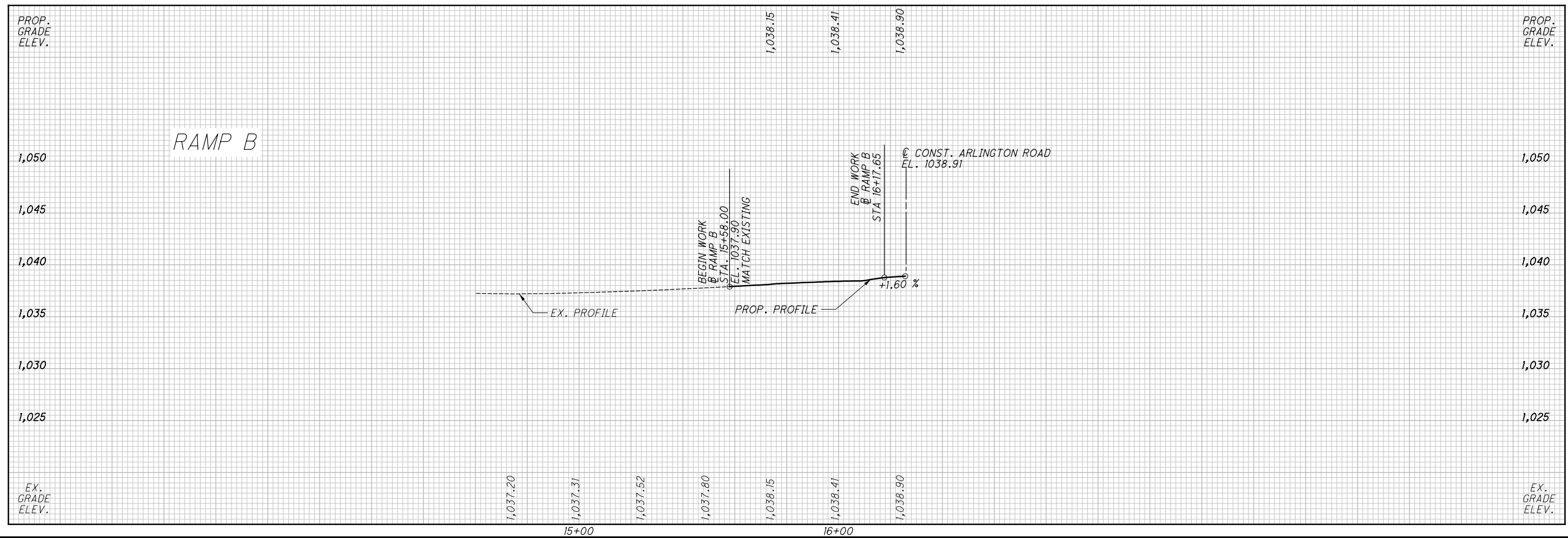
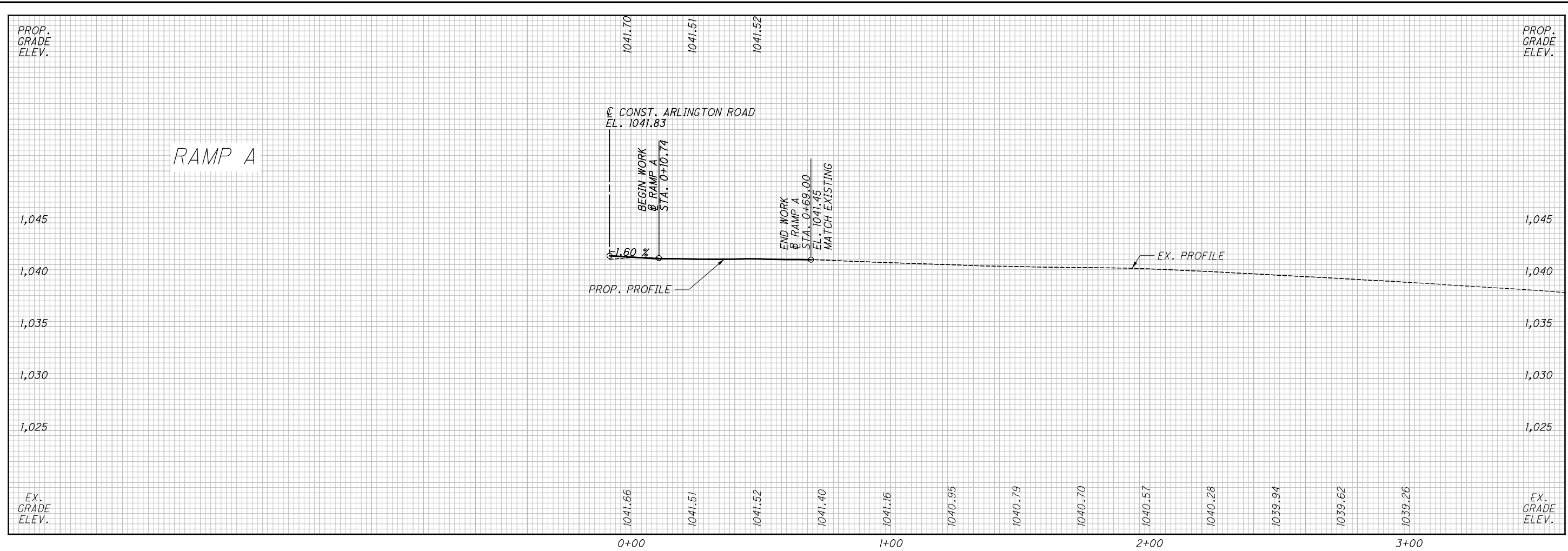


END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	CAG	NGF

**CROSS SECTIONS - ARLINGTON RD  
STA. 48+00.00 TO STA. 49+50.00**

**MOT-70-3.34**

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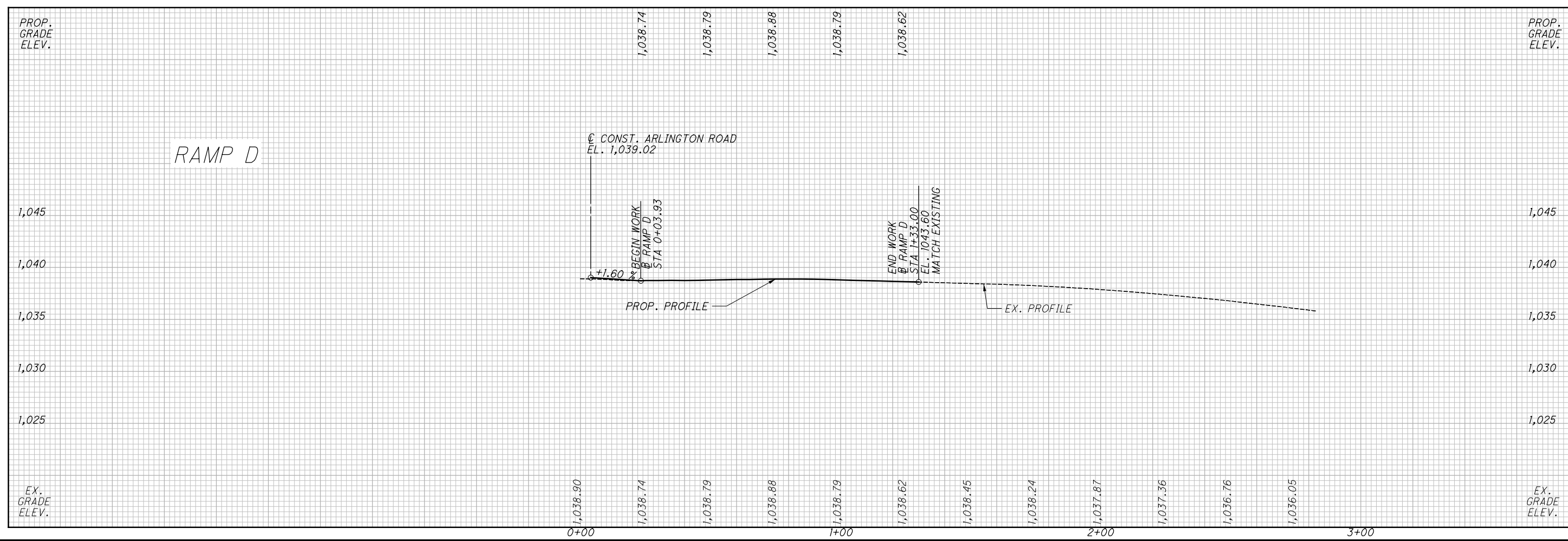
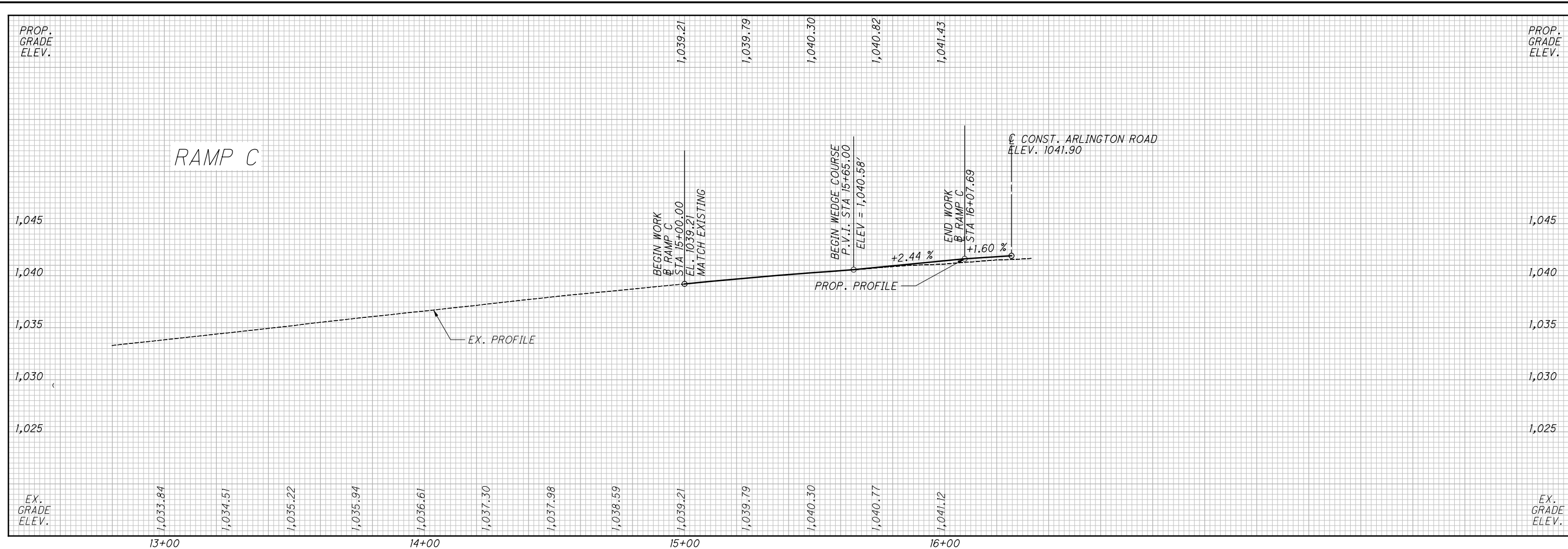


CALCULATED  
CAG  
CHECKED  
NGF

**PROFILES - RAMPS A & B**

**MOT-70-3.34**

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CALCULATED  
CAG  
CHECKED  
NGF

PROFILES - RAMPS C & D

MOT-70-3.34



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STA. 42+01.282, 88' LT.  
@ CONST. ARLINGTON RD.  
STA. 0+76.596, 71.67' RT.  
@ CONST. RAMP A  
 $\Delta = 71^\circ 35' 45''$   
 $R = 70.00'$   
 $L = 87.47'$

STA. 40+58.070, 68' LT.  
@ CONST. ARLINGTON RD.  
STA. 1+04.625, 70.19' LT.  
@ CONST. RAMP A  
 $\Delta = 80^\circ 10' 55''$   
 $R = 50.00'$   
 $L = 69.97'$

STA. 41+97.874, 63' RT.  
STA. 15+63.244, 45.51' RT.  
 $\Delta = 89^\circ 05' 42''$   
 $R = 45.00'$   
 $L = 69.98'$

STA. 41+11.639, 43' RT.  
@ CONST. ARLINGTON RD.  
STA. 15+82.190, 40.96' LT.  
@ CONST. RAMP C  
 $\Delta = 90^\circ 46' 32''$   
 $R = 25.00'$   
 $L = 39.61'$

STA. 42+31.253, 93' RT.  
@ CONST. ARLINGTON RD.  
STA. 15+33.654, 79.26' RT.  
@ CONST. RAMP C  
 $\Delta = 88^\circ 09' 17''$   
 $R = 75.00'$   
 $L = 115.39'$

@ CONST. ARLINGTON RD. STA. 41+53.13 =  
@ RAMP C STA. 16+25.69

@ CONST. ARLINGTON RD. STA. 41+55.94 =  
@ RAMP A STA. -0+8.31

DETAIL A

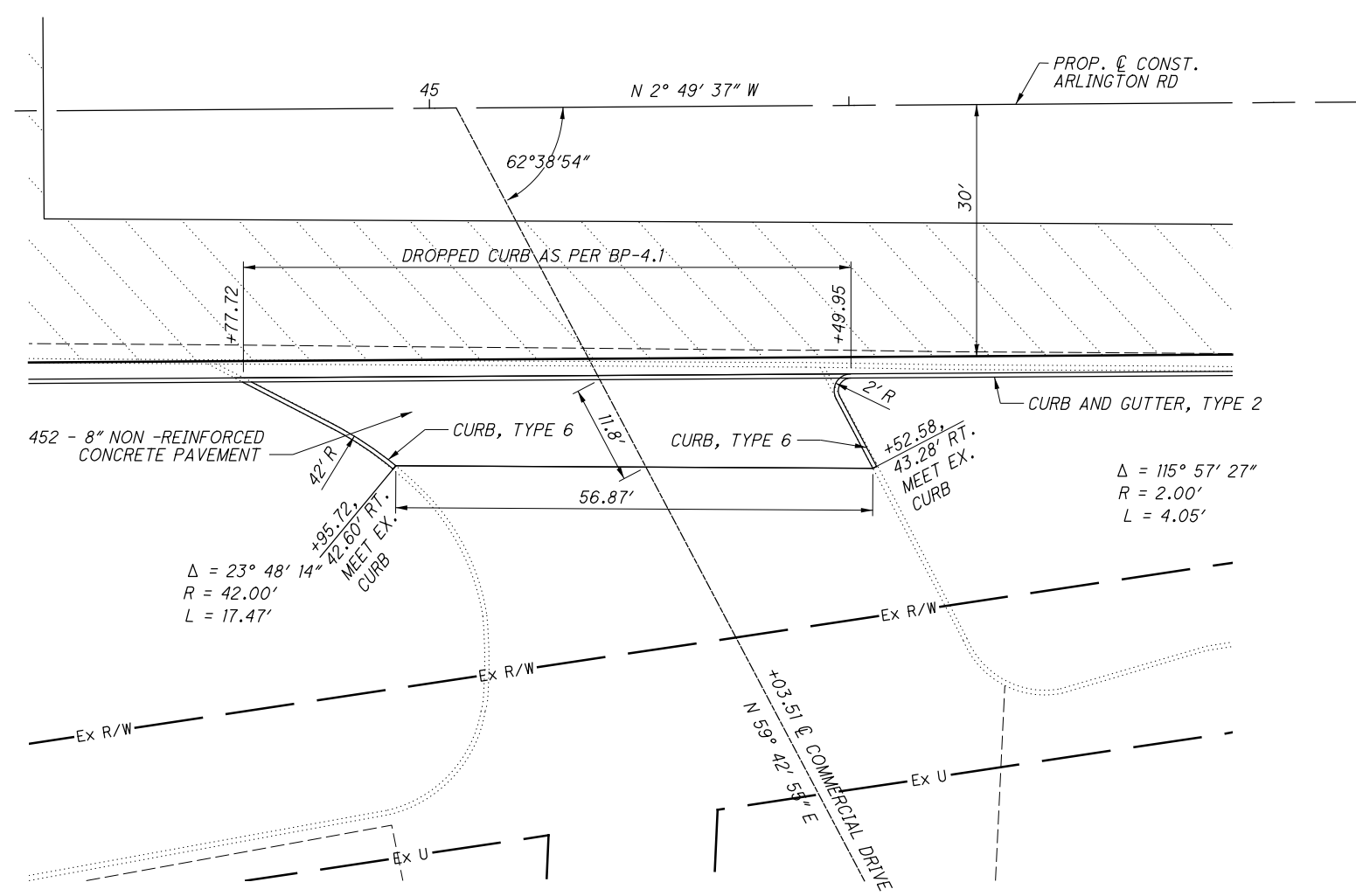
CALCULATED  
CAG  
CHECKED  
NGF

HORIZONTAL SCALE IN FEET

INTERSECTION DETAILS  
RAMP A & RAMP C

MOT-70-3.34

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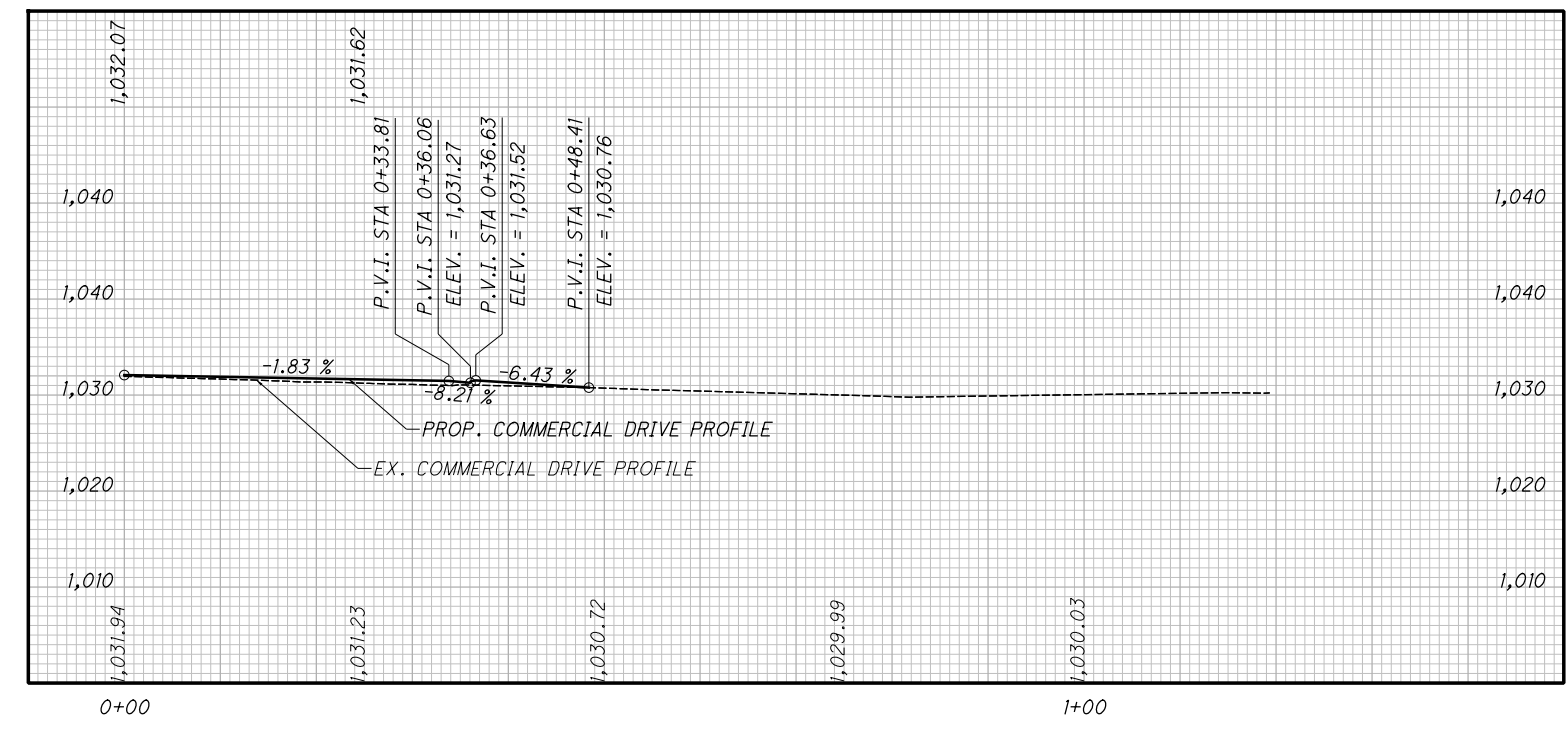




**COMMERCIAL DRIVE - STA. 45+03.51**

EXISTING CONCRETE DRIVE

TOTALS CARRIED TO THE GENERAL SUMMARY

- ITEM 452 - 8" NON -REINFORCED CONCRETE PAVEMENT (APRON)  
= 72 SY
- ITEM 609 - CURB TYPE 6  
= 35 FT




  

  
 HORIZONTAL SCALE IN FEET

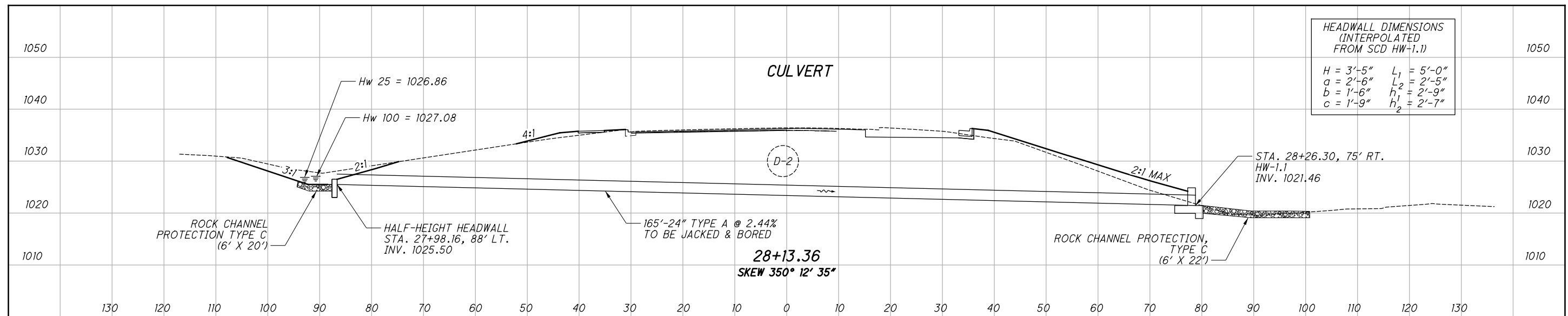
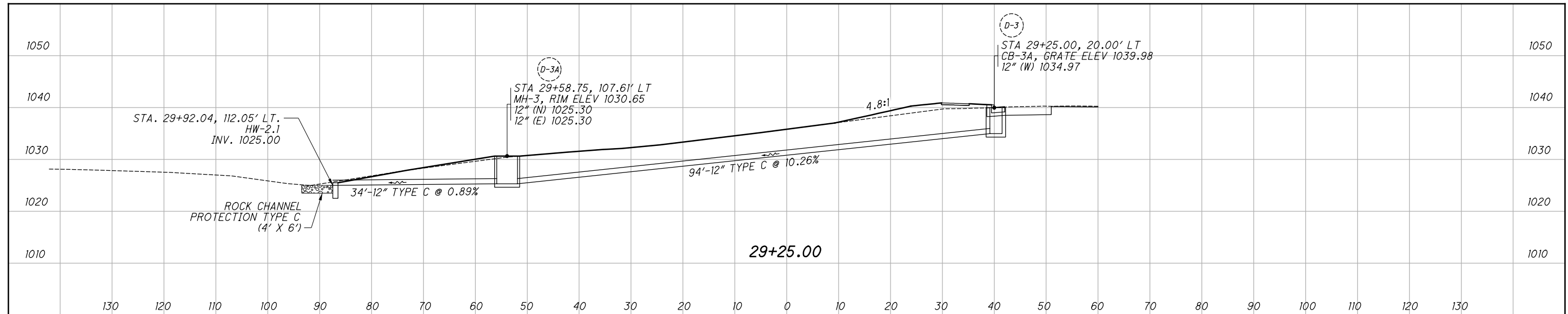
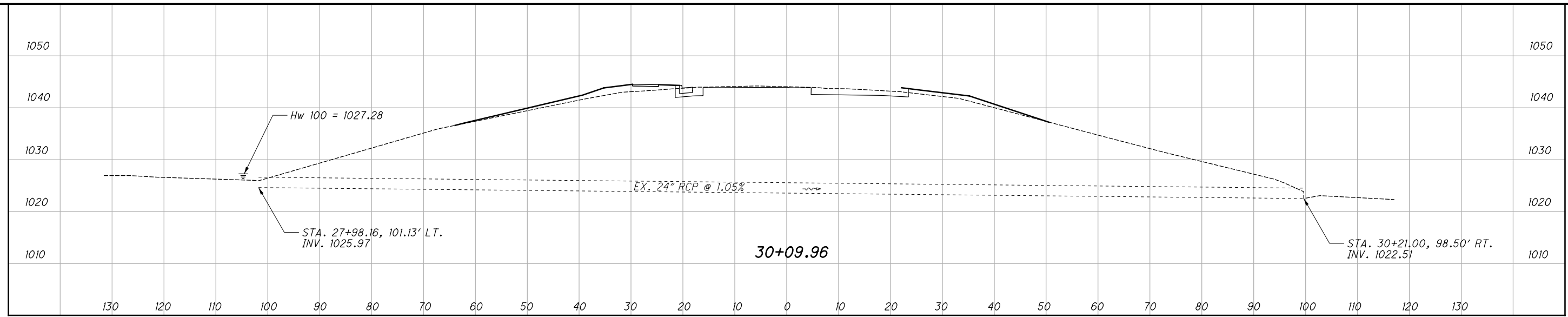
CALCULATED	NGF
CAG	
CHECKED	

**DRIVEWAY DETAILS**

**MOT-70-3.34**



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HEADWALL DIMENSIONS (INTERPOLATED FROM SCD HW-1.1)			
H = 3'-5"	L <sub>1</sub> = 5'-0"		
a = 2'-6"	L <sub>2</sub> = 2'-5"		
b = 1'-6"	h <sub>1</sub> = 2'-9"		
c = 1'-9"	h <sub>2</sub> = 2'-7"		

CALCULATED MS  
 CHECKED CAG  
**DRAINAGE PROFILES**  
**MOT-70-3.34**  
 49  
 136

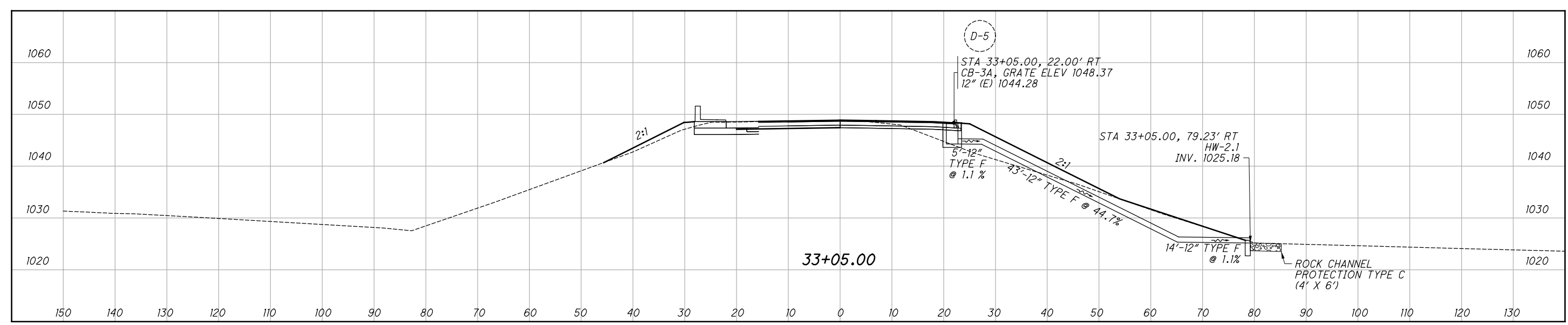
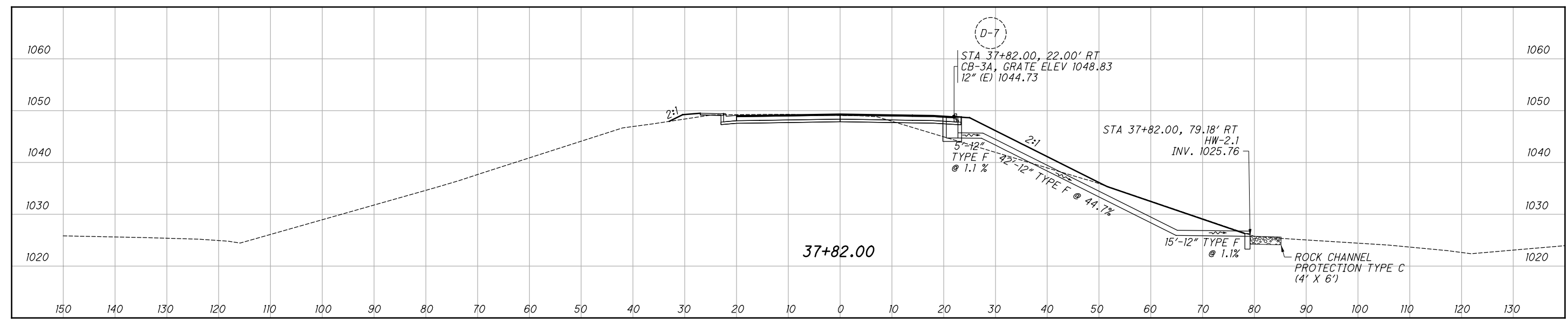
CALCULATED  
MS  
CHECKED  
CAG

DRAINAGE PROFILES

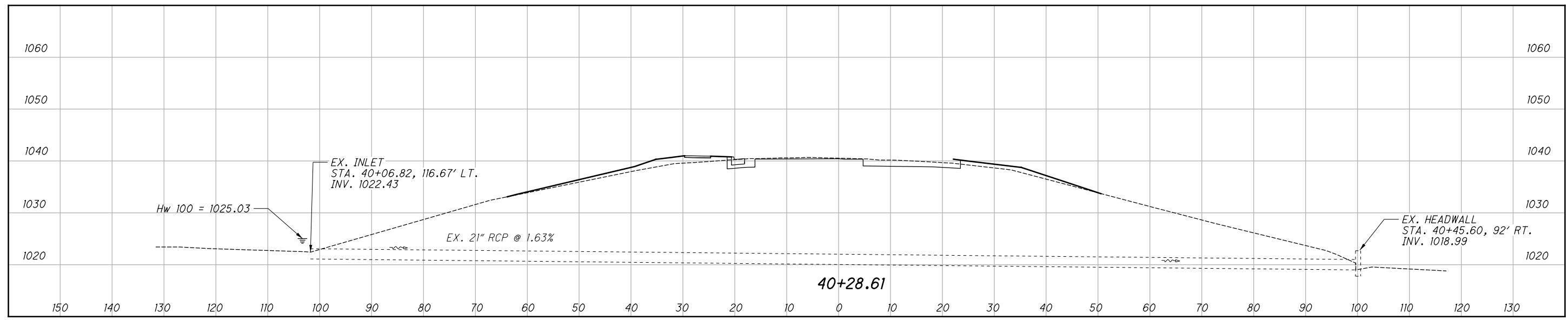
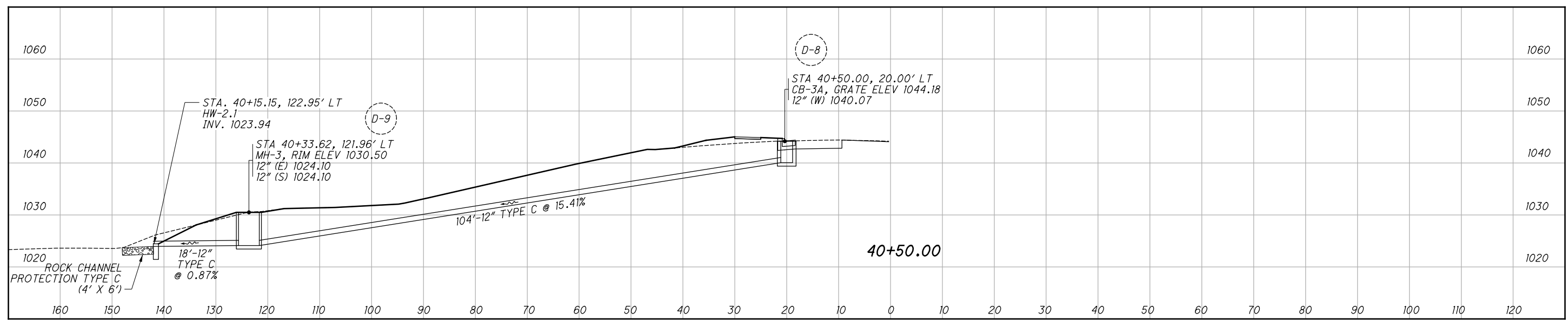
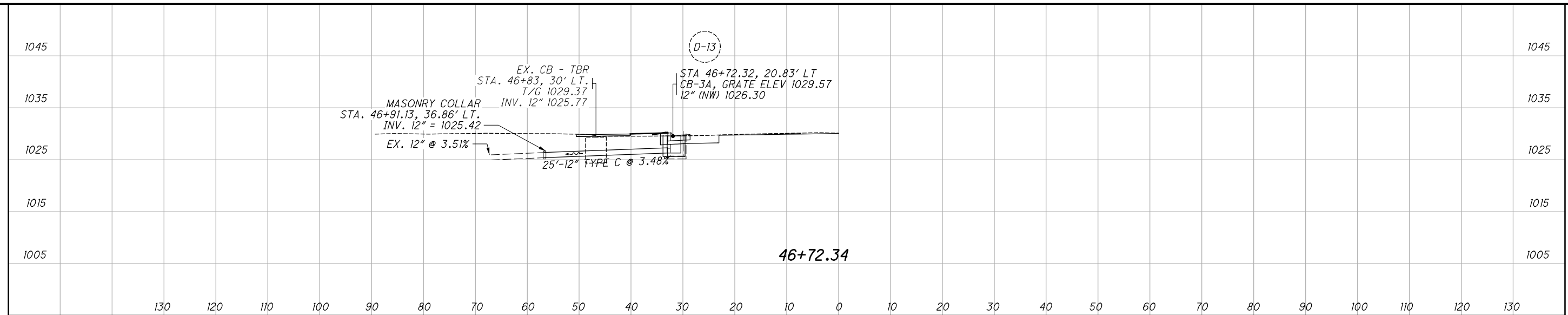
MOT-70-3.34

50  
136

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CALCULATED  
MS  
CHECKED  
CAG

**DRAINAGE PROFILES**














**MOT-70-3.34**

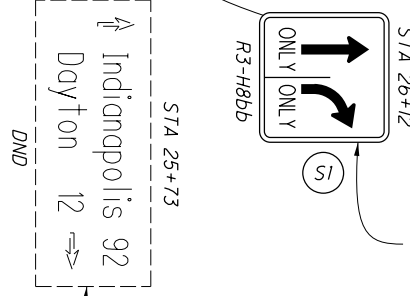
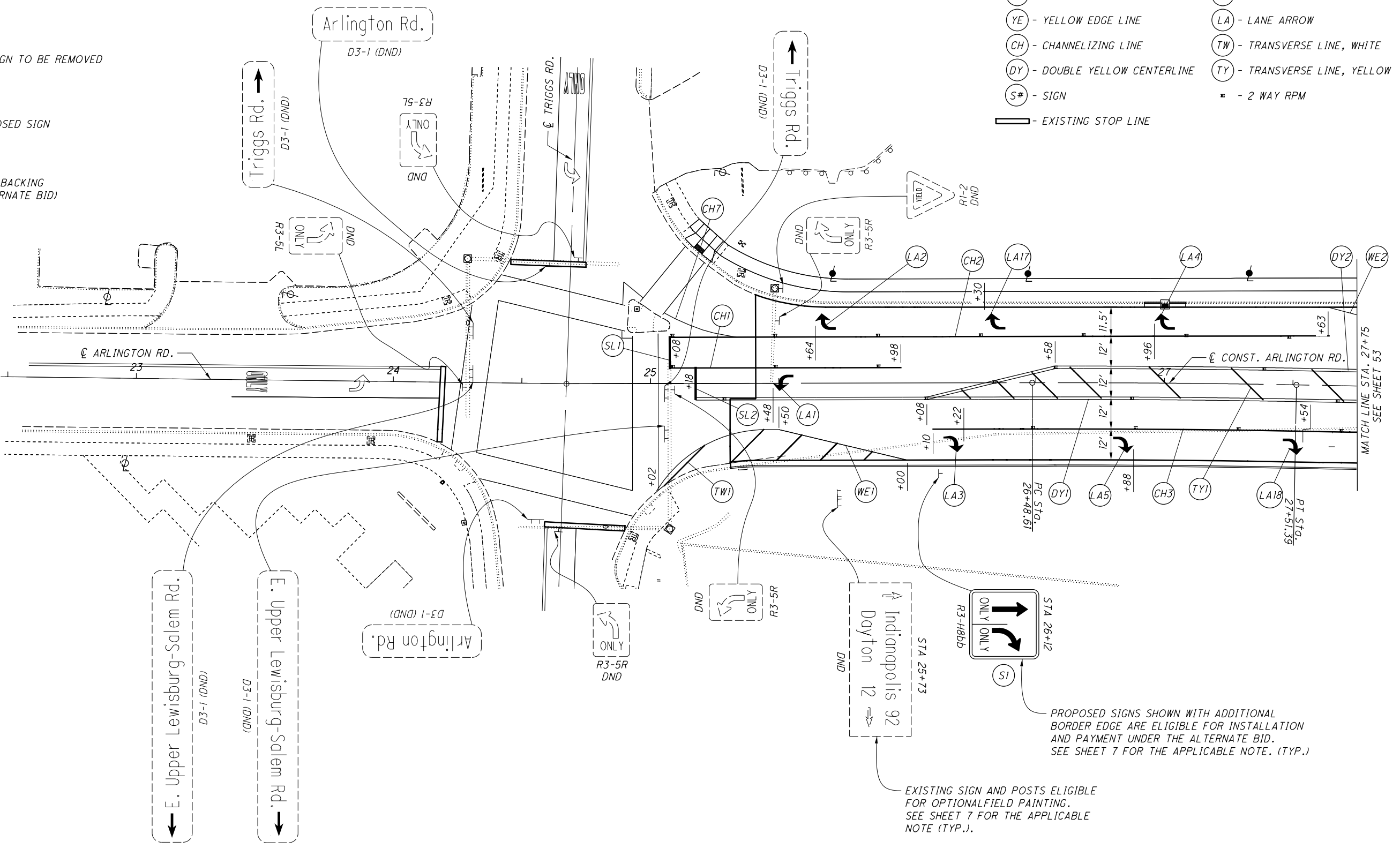
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**SIGN LEGEND**

-  - EX. SIGN TO REMAIN
-  - EX. SIGN TO BE REMOVED
-  - PROPOSED SIGN
-  - SIGN BACKING (ALTERNATE BID)

**LEGEND**

-  - STOP LINE
-  - WHITE EDGE LINES
-  - YELLOW EDGE LINE
-  - CHANNELIZING LINE
-  - DOUBLE YELLOW CENTERLINE
-  - SIGN
-  - EXISTING STOP LINE
-  - CROSSWALK LINE
-  - WORD ON PAVEMENT
-  - LANE ARROW
-  - TRANSVERSE LINE, WHITE
-  - TRANSVERSE LINE, YELLOW
-  - 2 WAY RPM



EXISTING SIGN AND POSTS ELIGIBLE FOR OPTIONAL FIELD PAINTING. SEE SHEET 7 FOR THE APPLICABLE NOTE (TYP.).

PROPOSED SIGNS SHOWN WITH ADDITIONAL BORDER EDGE ARE ELIGIBLE FOR INSTALLATION AND PAYMENT UNDER THE ALTERNATE BID. SEE SHEET 7 FOR THE APPLICABLE NOTE. (TYP.)



CALCULATED WCB CHECKED JFM

**SIGNING AND PAVEMENT MARKING PLAN**

**MOT-70-3.34**

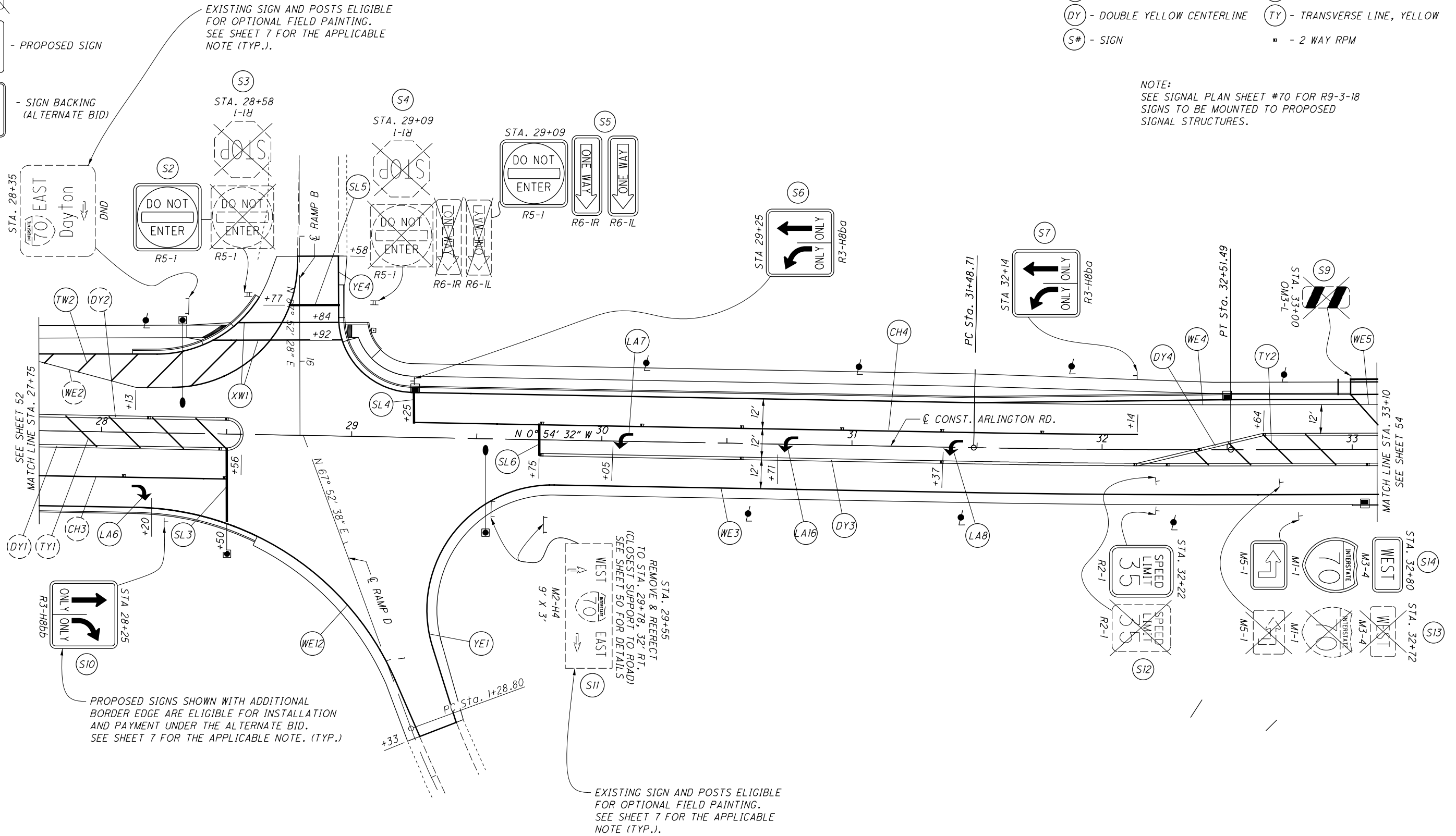
**SIGN LEGEND**

- EX. SIGN TO REMAIN
- EX. SIGN TO BE REMOVED
- PROPOSED SIGN
- SIGN BACKING (ALTERNATE BID)

**LEGEND**

- STOP LINE
- WHITE EDGE LINES
- YELLOW EDGE LINE
- CHANNELIZING LINE
- DOUBLE YELLOW CENTERLINE
- SIGN
- CROSSWALK LINE
- WORD ON PAVEMENT
- LANE ARROW
- TRANSVERSE LINE, WHITE
- TRANSVERSE LINE, YELLOW
- 2 WAY RPM

NOTE:  
SEE SIGNAL PLAN SHEET #70 FOR R9-3-18  
SIGNS TO BE MOUNTED TO PROPOSED  
SIGNAL STRUCTURES.



EXISTING SIGN AND POSTS ELIGIBLE  
FOR OPTIONAL FIELD PAINTING.  
SEE SHEET 7 FOR THE APPLICABLE  
NOTE (TYP.).

PROPOSED SIGNS SHOWN WITH ADDITIONAL  
BORDER EDGE ARE ELIGIBLE FOR INSTALLATION  
AND PAYMENT UNDER THE ALTERNATE BID.  
SEE SHEET 7 FOR THE APPLICABLE NOTE. (TYP.)

EXISTING SIGN AND POSTS ELIGIBLE  
FOR OPTIONAL FIELD PAINTING.  
SEE SHEET 7 FOR THE APPLICABLE  
NOTE (TYP.).

STA. 29+55  
REMOVE & REERECT  
TO STA. 29+78, 32' RT.  
(CLOSEST SUPPORT TO ROAD)  
SEE SHEET 50 FOR DETAILS

CALCULATED WCB CHECKED JFM

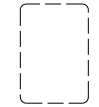
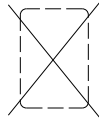
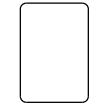
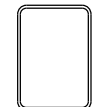
0 20 40  
HORIZONTAL SCALE IN FEET

**SIGNING AND PAVEMENT MARKING PLAN**













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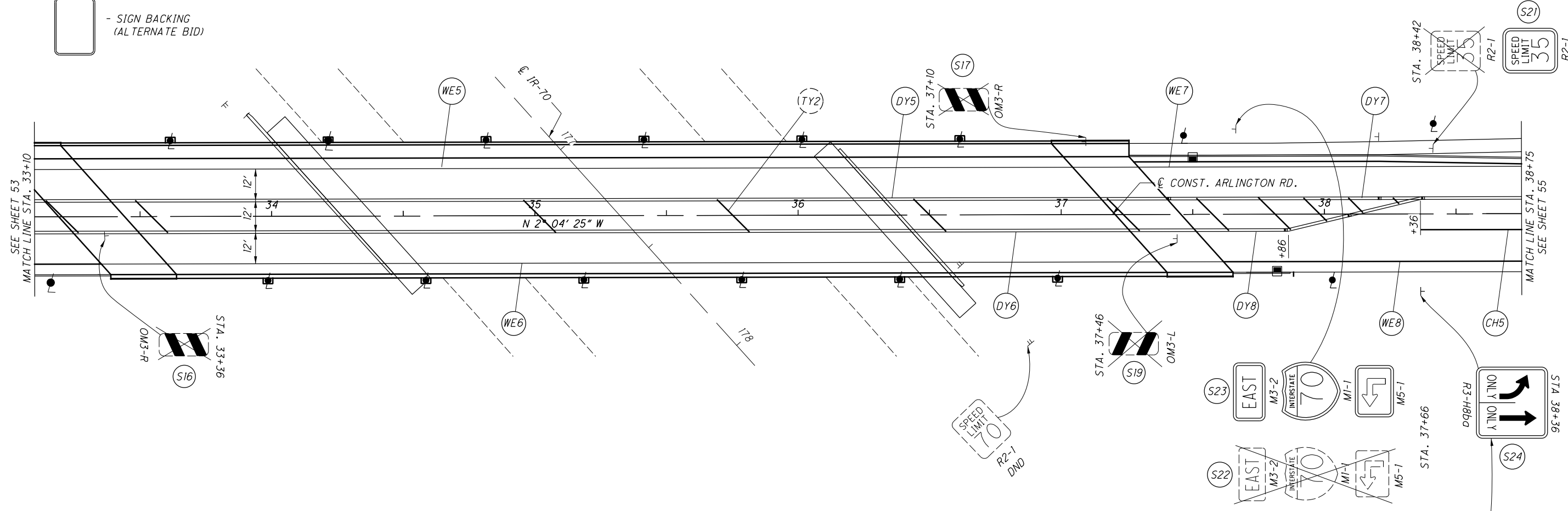
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**SIGN LEGEND**

-  - EX. SIGN TO REMAIN
-  - EX. SIGN TO BE REMOVED
-  - PROPOSED SIGN
-  - SIGN BACKING (ALTERNATE BID)

**LEGEND**

-  - STOP LINE
-  - WHITE EDGE LINES
-  - YELLOW EDGE LINE
-  - CHANNELIZING LINE
-  - DOUBLE YELLOW CENTERLINE
-  - SIGN
-  - CROSSWALK LINE
-  - WORD ON PAVEMENT
-  - LANE ARROW
-  - TRANSVERSE LINE, WHITE
-  - TRANSVERSE LINE, YELLOW
-  - 2 WAY RPM



PROPOSED SIGNS SHOWN WITH ADDITIONAL BORDER EDGE ARE ELIGIBLE FOR INSTALLATION AND PAYMENT UNDER THE ALTERNATE BID. SEE SHEET 7 FOR THE APPLICABLE NOTE. (TYP.)

CALCULATED WCB CHECKED JFM


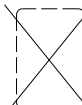
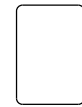
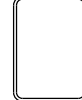
0 20 40 HORIZONTAL SCALE IN FEET

**SIGNING AND PAVEMENT MARKING PLAN**

**MOT-70-3.34**

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**SIGN LEGEND**

-  - EX. SIGN TO REMAIN
-  - EX. SIGN TO BE REMOVED
-  - PROPOSED SIGN
-  - SIGN BACKING (ALTERNATE BID)

**LEGEND**

- (SL) - STOP LINE
- (WE) - WHITE EDGE LINES
- (YE) - YELLOW EDGE LINE
- (CH) - CHANNELIZING LINE
- (DY) - DOUBLE YELLOW CENTERLINE
- (S#) - SIGN
- (XW) - CROSSWALK LINE
- (WP) - WORD ON PAVEMENT
- (LA) - LANE ARROW
- (TW) - TRANSVERSE LINE, WHITE
- (TY) - TRANSVERSE LINE, YELLOW
- - 2 WAY RPM

NOTE:  
SEE SIGNAL PLAN SHEET #74 FOR ADDITIONAL  
R9-3-18 SIGNS TO BE MOUNTED TO PROPOSED  
SIGNAL STRUCTURES.

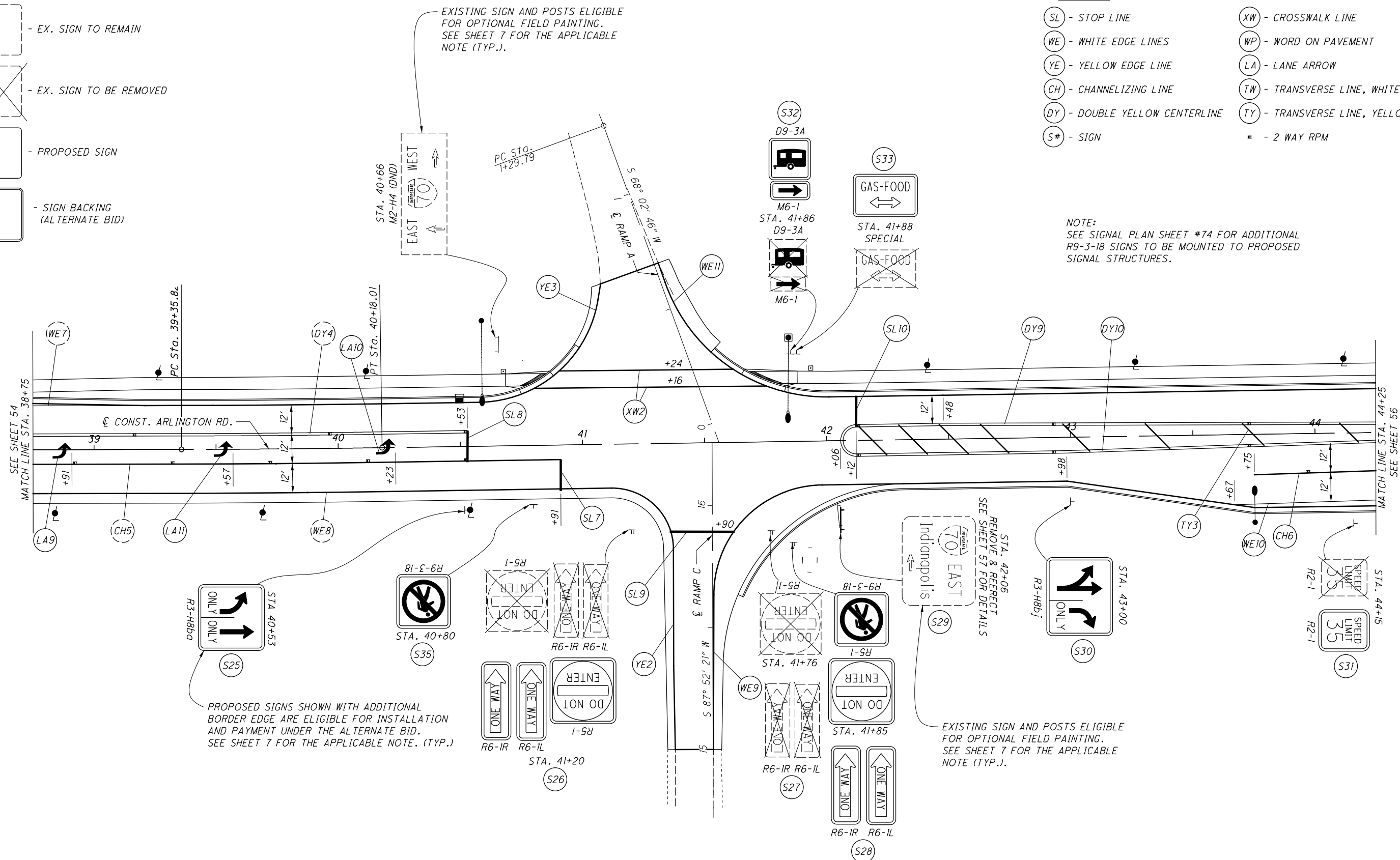
CALCULATED WCB CHECKED JFM



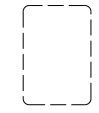
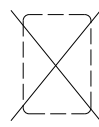
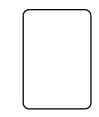
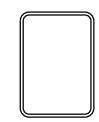
0 20 40  
HORIZONTAL SCALE IN FEET

**SIGNING AND PAVEMENT MARKING PLAN**













**MOT-70-3.34**

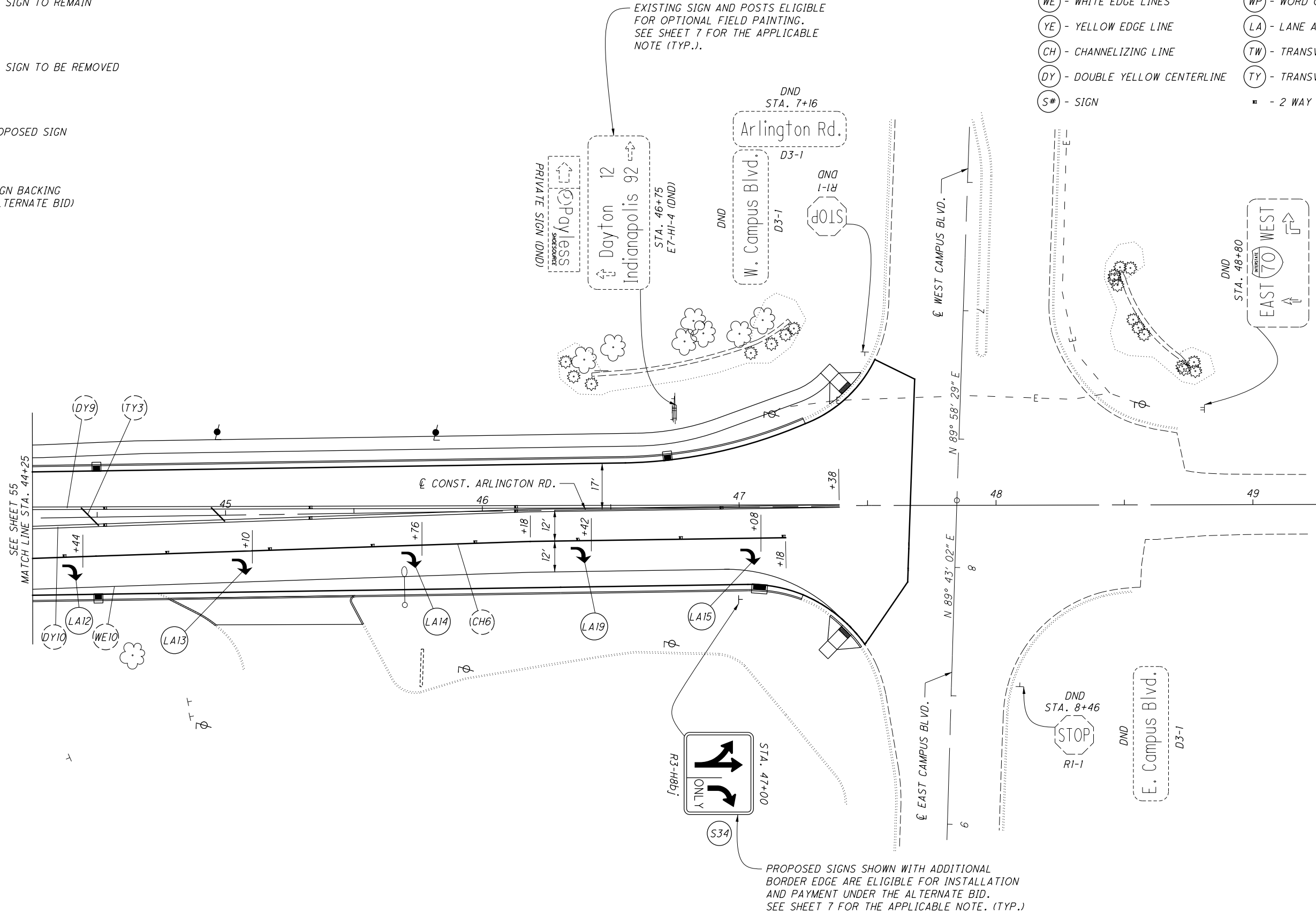


**SIGN LEGEND**

-  - EX. SIGN TO REMAIN
-  - EX. SIGN TO BE REMOVED
-  - PROPOSED SIGN
-  - SIGN BACKING (ALTERNATE BID)

**LEGEND**

-  - STOP LINE
-  - WHITE EDGE LINES
-  - YELLOW EDGE LINE
-  - CHANNELIZING LINE
-  - DOUBLE YELLOW CENTERLINE
-  - SIGN
-  - CROSSWALK LINE
-  - WORD ON PAVEMENT
-  - LANE ARROW
-  - TRANSVERSE LINE, WHITE
-  - TRANSVERSE LINE, YELLOW
-  - 2 WAY RPM



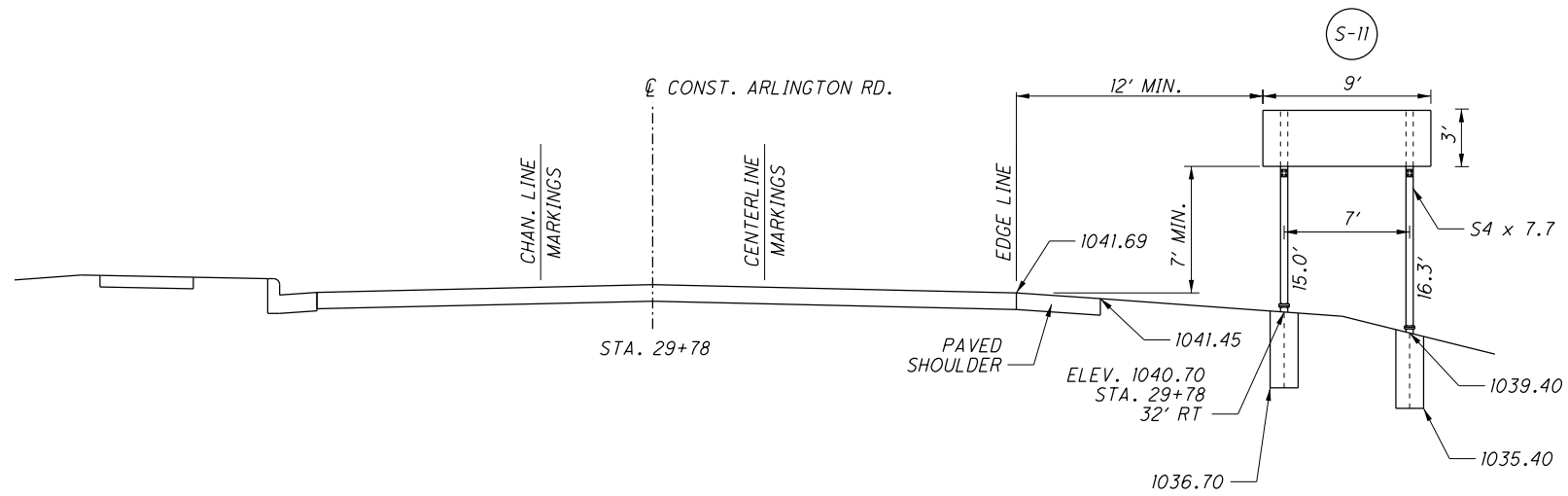
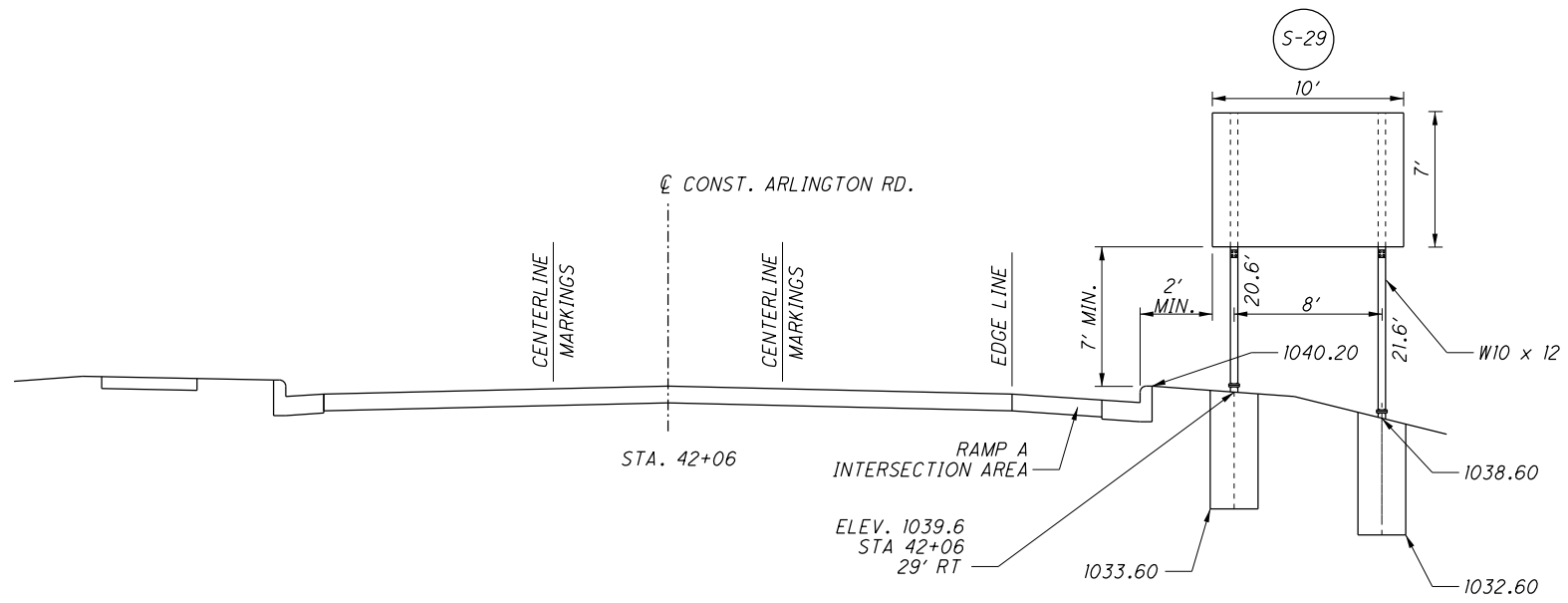
0 20 40  
HORIZONTAL SCALE IN FEET

CALCULATED WCB  
CHECKED JFM

**SIGNING AND PAVEMENT MARKING PLAN**

**MOT-70-3.34**





**NOTE:**

EXISTING SIGNS TO BE RELOCATED TO NEW FOUNDATIONS AND BEAM SUPPORTS, PER SCD TC-41.10.

EXISTING SIGNS ELIGIBLE FOR OPTIONAL FIELD PAINTING. SEE SHEET 7 FOR THE APPLICABLE NOTE.

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REF. NO.	SHEET NO.	STATION		SIDE	SIGN CODE	SIZE (INCHES)	630		630		630		630		630		630		630		630		630		630		630	
		FROM	TO				GROUND MOUNTED SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 3 POST	SIGN POST REFLECTOR	SIGN, FLAT SHEET	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTON	SIGNING, MISC: AESTHETIC SIGN BACKING FOR INFORMATION ONLY										
S1	52	26+12.00		RT	R3-H8bb	30" x 30"	13.0			6.3																		8.0
S2	53	28+58.00		LT	R5-1	48" x 48"	29.0		2	16.0																		18.8
S3	53	28+58.00		LT	R1-1 R5-1							1 1	2															
S4	53	29+09.00		LT	R5-1 R1-1 R6-1R R6-1L							1 1 1 1	2															
S5	53	29+09.00		LT	R5-1 R6-1R R6-1L	48" x 48" 54" x 18" 54" x 18"	14.5	16.0	2	16.0																		18.8 8.9 8.9
S6	53	29+25.00		LT	R3-H8ba	30" x 30"	13.0			6.3																		8.0
S7	53	32+14.00		LT	R3-H8ba	30" x 30"	13.0			6.3																		8.0
S8		NOT USED																										
S9	53	33+00.00		LT	OM3-L							1	1															
S10	53	28+25.00		RT	R3-H8bb	30" x 30"	13.0			6.3																		8.0
S11	53	29+55.00	29+78.00	RT	M2-H4	108" x 36"								2		15/16.3		2	1									
S12	53	32+22.00	32+22.00	RT	R2-1	30" x 36"	13.5			7.5		1	1															9.4
S13	53	32+72.00		RT	M3-4 M1-1 M5-1							1 1 1	1															
S14	53	32+80.00		RT	M3-4 M1-1 M5-1	24" x 12" 24" x 24" 21" x 15"	14.8			2.0 4.0 2.2																		3.1 5.4 3.3
S15		NOT USED																										
S16	54	33+36.00		RT	OM3-R							1	1															
S17	54	37+10.00		LT	OM3-R							1	1															
S18		NOT USED																										
S19	54	37+46.00		RT	OM3-L							1	1															
S20		NOT USED																										
S21	54	38+42.00	38+42.00	LT	R2-1	30" x 36"	13.5			7.5		1	1															9.4
S22	54	37+66.00		LT	M3-2 M1-1 M5-1							1 1 1	1															
S23	54	37+66.00		LT	M3-2 M1-1 M5-1	24" x 12" 24" x 24" 21" x 15"	14.8			2.0 4.0 2.2																		3.1 5.4 3.3
S24	54	38+36.00		RT	R3-H8ba	30" x 30"	13.0			6.3																		8.0
TOTALS CARRIED TO SHEET 59									165.1	16.0	4	108.1	18	12				2			31.3		2	1				137.8

CALCULATED	WCB
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<b>SIGNING SUBSUMMARY</b>	
<b>MOT - 70 - 3.34</b>	
58	
136	

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REF. NO.	SHEET NO.	STATION		SIDE	SIGN CODE	SIZE (INCHES)	630		630		630		630		630		630		630		630		630		630				
		FROM	TO				GROUND MOUNTED SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 3 POST	SIGN POST REFLECTOR	SIGN, FLAT SHEET	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	SIGNING, MISC: AESTHETIC SIGN BACKING (FOR INFORMATION ONLY)											
S25	55	40+53.00		RT	R3-H8ba	30" x 30"	13.0				6.3																		
S26	55	41+20.00		RT	R5-1 R6-1R R6-1L	48" x 48" 54" x 18" 54" x 18"	14.5	16.0	2	16.0	1 1 1	2															18.8 8.9 8.9		
S27	55	15+89 RAMP C		RT	R5-1 R6-1R R6-1L						1 1 1	2																	
S28	55	15+85 RAMP C		RT	R5-1 R6-1R R6-1L R9-3	48" x 48" 54" x 18" 54" x 18" 18" x 18"	16.0	17.5	2	16.0	6.8 6.8 2.3																18.8 8.9 8.9 3.6		
S29	55	42+06.00		RT	R9-3	120" x 84"																							
S30	55	43+00.00		RT	R3-H8bj	36" x 30"	13.0			7.5																	9.4		
S31	55	44+15.00	44+15.00	RT	R2-1	30" x 36"	13.5			7.5	1	1															9.4		
S32	55	41+86.00	41+86.00	LT	D9-3A M6-1	24" x 24" 21" x 15"	14.0			4.0	1 1	1															5.4 3.3		
S33	55	41+88.00	41+88.00	LT	SPECIAL	24" x 24"	13.0			4.0	1	1															5.4		
S34	56	47+00.00		RT	R3-H8bj	36" x 30"	13.0			7.5																	9.4		
S35	55	40+80.00		RT	R9-3	18" x 18"	12.0			2.3																	3.6		
TOTALS FROM THIS SHEET							122.0	34	4	102.5	10	7																130.7	
TOTALS FROM SHEET 58							165.1	16	4	108.1	18	12																	137.8
TOTALS CARRIED TO GENERAL SUMMARY							288	50	8	210.6	28	19																	

CALCULATED	WCB
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<b>SIGNING SUBSUMMARY</b>	
<b>MOT-70-3.34</b>	
59 136	

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REF. NO.	SHEET NO.	STATION		SIDE	644	644	644	644	644	644			644	644	644					621	621	646	646	646
		FROM	TO		EDGE LINE, 6" MILE	EDGE LINE, 4" MILE	CENTER LINE MILE	CHANNELIZING LINE, 8" FT	STOP LINE FT	CROSSWALK LINE FT			TRANSVERSE/DIAGONAL LINE (WHITE) FT	TRANSVERSE/DIAGONAL LINE (YELLOW) FT		LANE ARROW EACH					RPM EACH	RAISED PAVEMENT MARKER REMOVED EACH	EDGE LINE, 6" MILE	CENTER LINE MILE
SL1	52	25+08.00		RT/LT						12														
SL2	52	25+18.00		LT						12														
CH1	52	25+08.00	25+98.00	LT					90											3				
CH2	52	25+08.00	27+63.00	LT					255											7				
CH3	52-53	26+10.00	28+50.00	RT					240											6				
WE1	52	25+02.00	26+00.00	RT		0.021																		
WE2	52-53	27+63.00	15+58 RAMP B	LT	0.005	0.024																		
TW1	52	25+02.00	26+00.00	RT									65											
TY1	52-53	26+08.00	28+50.00	LT/RT								153												
LA1	52	25+48.00		C/L											1									
LA2	52	25+64.00		LT											1									
LA3	52	26+22.00		RT											1									
LA4	52	26+96.00		LT											1									
LA5	52	26+88.00		RT											1									
LA17	52	26+30.00		LT											1									
LA18	52	27+54.00		RT											1									
DY1	52-53	25+18.00	28+56.00	RT					0.064											5				
DY2	52-53	26+08.00	28+56.00	LT					0.047											5				
SL3	53	28+50.00		RT						28														
SL4	53	29+25.00		LT						12														
SL5	53	15+77 RAMP B		LT/RT						18														
SL6	53	29+75.00		LT/RT						12														
LA6	53	28+20.00		RT											1									
LA7	53	30+05.00		C/L											1									
LA8	53	31+37.00		C/L											1									
TW2	53	27+75.00	28+54.00	LT								72												
TY2	53-54	32+14.00	38+36.00	LT/RT								112												112
WE3	53-55	29+75.00	33+35.00	RT		0.068																		
WE4	53-55	31+48.00	33+03.00	LT		0.029																		
WE12	53	28+62.00	1+33 RAMP D	RT	0.020																			
YE1	53	1+33 RAMP D	29+75.00	LT	0.022																			
YE4	53	15+58 RAMP B	15+70.00	LT	0.002																			
LA16	53	30+71.00		C/L											1									
WE5	53-54	33+03.00	37+30.00	LT																			0.081	
WE6	54	33+35.00	37+62.00	RT																		0.081		
WE7	54-55	37+30.00	39+36.00	LT		0.039																		
WE8	54-55	37+62.00	41+12.00	RT		0.066																		
TOTALS CARRIED TO SHEET 61					0.05	0.25		0.11	585	94			402		11					26		0.16		112

CALCULATED  
WCB  
CHECKED  
JFM

PAVEMENT MARKING SUBSUMMARY

MOT-70-3.34

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REF. NO.	SHEET NO.	STATION		SIDE	644											644	644	644	644	644	644	644	644	644	644	644	646	646	646	
					EDGE LINE, 6"	EDGE LINE, 4"		CENTER LINE	CHANNELIZING LINE, 8"	STOP LINE	CROSSWALK LINE							TRANSVERSE/DIAGONAL LINE (WHITE)	TRANSVERSE/DIAGONAL LINE (YELLOW)		LANE ARROW					RPM	RAISED PAVEMENT MARKER REMOVED	EDGE LINE, 6"	CENTER LINE	TRANSVERSE/DIAGONAL LINE
					MILE	MILE		MILE	FT	FT	FT							FT	FT		EACH					EACH	EACH	MILE	MILE	FT
CH4	53	29+25.00	32+14.00	LT				289																						
XW1	53	15+84 RAMP B	15+92.00	LT/RT							90												7							
DY3	53-54	29+75.00	33+25.00	LT/RT				0.066															4							
DY4	53-55	32+14.00	33+15.00					0.019															2							
CH5	54-55	38+36.00	40+91.00	RT				255															6							
LA9	55	38+91.00		C/L													1													
LA10	55	40+23.00		C/L													1													
SL7	55	40+91.00		RT						12																				
SL8	55	40+53.00		LT/RT						12																				
SL9	55	15+90 RAMP C		LT/RT						26																				
SL10	55	42+12.00		LT						12																				
LA11	55	39+57.00		C/L													1													
YE2	55	15+00 RAMP C	41+12.00	LT	0.017	0.005																								
YE3	55	40+99.00	41+08.00	LT	0.005																									
DY5	54	33+15.00	37+41.00	LT																							0.081			
DY6	54	33+25.00	37+51.00	RT																							0.081			
DY7	54-55	37+41.00	40+53.00	LT				0.059															6							
DY8	54-55	37+51.00	38+36.00	RT/LT				0.016															3							
WE9	55	15+00 RAMP C	42+25.00	RT	0.017	0.012																								
WE10	55-56	43+67.00	47+40.00	RT		0.072																								
WE11	55	0+28 RAMP A	0+68 RAMP A	RT	0.008																									
CH6	55-56	43+75.00	47+18.00	RT				343															9							
DY9	55-56	42+06.00	47+38.00	LT				0.101															7							
DY10	55-56	42+06.00	47+38.00	RT				0.101															6							
TY3	55-56	42+12.00	45+00.00	LT/RT												122														
XW2	55	0+16 RAMP A	0+24 RAMP A	LT/RT						166																				
LA12	56	44+44.00		RT													1													
LA13	56	45+10.00		RT													1													
LA14	56	45+76.00		RT													1													
LA15	56	47+08.00		RT													1													
LA19	56	46+42.00		RT													1													
	52-56	INSIDE PROJECT LIMITS																						27						
TOTALS FROM THIS SHEET					0.05	0.09		0.36	887	62	256						122						50	27		0.16				
TOTALS FROM SHEET 60					0.05	0.25		0.11	585	94							402						26		0.16		112			
TOTALS CARRIED TO GENERAL SUMMARY					0.10	0.34		0.47	1472	156	256						524						76	27	0.16	0.16	112			

CALCULATED	WCB	PAVEMENT MARKING SUBSUMMARY
	CHECKED	
MOT - 70 - 3.34		
61		
136		

**POWER SUPPLY FOR TRAFFIC SIGNALS**

ELECTRIC POWER SHALL BE OBTAINED FROM DAYTON POWER & LIGHT, 1900 DRYDEN ROAD, DAYTON, OH 45432 (937.331.4791), AT THE LOCATIONS INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS.

**SIGNAL ACTIVATION**

PRIOR TO ACTIVATING THE NEW TRAFFIC SIGNAL TO STOP AND GO MODE AND/OR REMOVING THE EXISTING TRAFFIC SIGNAL FROM SERVICE, ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E., VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC.) IF THERE ARE CONSTRUCTABILITY ISSUES (I.E., ROADWAY WIDENING, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIOR TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER. THE DISTRICT TRAFFIC ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL DESIGNATED DISTRICT TRAFFIC PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUE WRITTEN APPROVAL. IF ISSUES ARE FOUND DURING THE FINAL INSPECTION THAT EFFECT THE SAFETY OF THE TRAVELING PUBLIC AND/OR THE EFFICIENCY OF THE INTERSECTION, THE SIGNAL SHALL NOT BE ACTIVATED ON THE PROPOSED DATE. ANY PUNCH LIST ITEMS THAT ARE FOUND SHALL BE CORRECTED AND REINSPECTED BY DISTRICT TRAFFIC PERSONNEL PRIOR TO FINAL ACCEPTANCE. ODOT FORCES SHALL ONLY ASSUME DAY TO DAY MAINTENANCE OF THE TRAFFIC SIGNAL AFTER FINAL WRITTEN ACCEPTANCE HAS BEEN ISSUED.

**DETECTION MAINTENANCE**

IF VEHICLE DETECTION BECOMES UNEXPECTEDLY DISABLED, REQUIRES MODIFICATION, OR IS SCHEDULED TO BE TEMPORARILY REMOVED DURING THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER.

IF THE LOSS OF VEHICLE DETECTION IS KNOWN PRIOR TO THE START OF CONSTRUCTION, IT SHALL BE DISCUSSED AT THE PRECONSTRUCTION MEETING. AT SUCH TIME, THE DISTRICT TRAFFIC ENGINEER SHALL ADVISE THE PROJECT ENGINEER AND CONTRACTOR ON THE APPROPRIATE ACTION TO RECTIFY ANY LOSS OF VEHICLE DETECTION. THIS MAY

INCLUDE PLACING THE TRAFFIC SIGNAL ON MINIMUM OR MAXIMUM RECALL, MODIFYING THE MINIMUM GREEN TIMES, AND REMOVING THE MALFUNCTIONING DETECTION FROM SERVICE. WHERE NON-INTRUSIVE DETECTION (I.E. VIDEO, RADAR) ALREADY EXISTS, THE CONTRACTOR SHALL INSURE THAT DETECTION IS OPERATING AND MAINTAINED BY RECONFIGURING THE DETECTION UNITS ACCORDINGLY DURING ALL CONSTRUCTION PHASES. THIS IS TO AVOID THE SIGNAL FROM MAXING OUT THE EFFECTED SIGNAL PHASE AND CREATING UNNECESSARY DELAYS.

LOCATIONS WHERE NON-INTRUSIVE DETECTION IS PROPOSED AND THE EXISTING VEHICLE DETECTION IS TO BE ABANDON, THE NON-INTRUSIVE VEHICLE DETECTION SHALL BE INSTALLED, CONFIGURED AND MADE FULLY FUNCTIONAL PRIOR TO THE EXISTING DETECTION BEING DISABLED. THE CONTRACTOR SHALL CONTINUE TO MAINTAIN AND MODIFY THE DETECTION UNTIL FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL. THIS IS TO ENSURE VEHICLE DETECTION REMAINS FULLY FUNCTIONAL THROUGHOUT CONSTRUCTION.

**WORK INSPECTION**

THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER WITH 72 HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

**GROUNDING AND BONDING**

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

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

- II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
- III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
- IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
  - B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.
4. GROUND ROD.
  - A. 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
  - B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.
5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:
 

COND. NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED
6. POWER SERVICE AND DISCONNECT SWITCH.
  - A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.
  - B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
    - I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
    - II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

**PAINTING REQUIREMENTS**

IN ADDITION TO THE REQUIREMENTS OF CMS 514 & 708 AND SUPPLEMENTAL SPECIFICATION 916, THE FOLLOWING SHALL APPLY:

ALL ITEMS BEING PAINTED SHALL USE FEDERAL COLOR FS 27038 AND SHALL BE PAINTED IN A CONTROLLED ENVIRONMENT PRIOR TO SHIPPING TO THE FIELD.

THE PAINTING SHALL BE A FIVE-PART PROCESS CONSISTING OF A TWO PART SURFACE PREPARATION FOLLOWED BY A THREE-COAT PAINT SYSTEM.

NEW, UN-WEATHERED GALVANIZED STEEL SHALL BE PREPARED FOR COATING BY A SOLVENT CLEANING FOLLOWED BY A BRUSH-OFF BLAST CLEANING.

THE THREE-COAT PAINT SYSTEM SHALL CONSIST OF AN INORGANIC ZINC PRIME COAT, AN EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT.

THE PAINTING OF EACH ITEM SHALL BE INCIDENTAL TO ITS PAY ITEM.

**GUARANTEE**

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 120 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLERS AND ASSOCIATED EQUIPMENT, DETECTOR UNITS, INTERCONNECTION ITEMS AND MASTER CONTROL EQUIPMENT.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE OR THE MAINTAINING AGENCY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

**POLE ENTRANCE FITTING**

A POLE ENTRANCE FITTING SHALL BE PROVIDED IN ACCORDANCE WITH THE PLAN DETAILS TO ALLOW FIBER OPTIC CABLE ENTRANCE INTO BOTH EXISTING AND PROPOSED STEEL POLES. IN PROPOSED POLES THE CONTRACTOR SHALL HAVE THE 2 INCH ENTRANCE HOLES SHOWN IN THE DETAILS PRE-MANUFACTURED. BLIND HALF COUPLINGS SHALL BE WELDED INTO ANY NEW STRAIN POLES SUPPLIED AS PART OF THE PROJECT.

EXISTING STRAIN POLES SHALL REQUIRE THE CONTRACTOR TO FIELD LOCATE THE POLE ENTRANCE HOLE AND DRILL TWO PILOT HOLES AND USE A HOLE SAW TO CUT THE 2 INCH HOLE. ALL NONGALVANIZED POLE SURFACES EXPOSED AFTER CUTTING THE HOLE SHALL HAVE THREE COATS OF ZINC ENRICHED PAINT APPLIED.

NO POLE ENTRANCE FITTING HOLES SHALL BE LOCATED VERTICALLY WITHIN 24 INCHES OF ANY OTHER HOLES OR BLIND HALF COUPLINGS.

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**STRAIN POLE AND PEDESTAL FOUNDATION ELEVATIONS**

ELEVATIONS SHOWN IN THE PLANS FOR STRAIN POLE AND PEDESTAL FOUNDATIONS ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF THE FOUNDATION SHALL BE IN ACCORDANCE WITH TRAFFIC SCD TC-21.20 PROVIDED THE EXISTING SLOPE IS LESS THAN 6:1.

AT LOCATIONS WHERE THE EXISTING SLOPE IS 6:1 OR GREATER, THE BURIED DEPTH OF FOUNDATION, AS SHOWN IN SCD TC-21.20 SHALL APPLY TO THE LOW SIDE OF THE SLOPE. THE TOP OF THE FOUNDATION SHALL BE SET 2 INCHES ABOVE THE EXISTING SURFACE ON THE HIGH SIDE OF THE SLOPE. THE ADDITIONAL DEPTH OF FOUNDATION NECESSARY TO MEET THESE REQUIREMENTS SHALL BE ADDED TO THE FORMED TOP.

**ITEM 625 BRACKET ARM, 30', AS PER PLAN**

THE 30' BRACKET ARM SHALL CONFORM TO CMS 725.21(A) AND BE ATTACHED TO THE COMBINATION SIGNAL SUPPORT PER SCD TC-81.21 & HL-10.12. THE BRACKET ARM SHALL BE ORIENTED AS SPECIFIED IN THE PLANS.

THA BRACKET ARM SHALL BE PAINTED FEDERAL COLOR FS 27038 AND CONFORM TO THE PAINTING REQUIREMENTS ON THE SHEET.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

**ITEM 625 LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, RL2**

THE REQUIREMENTS OF ITEM 625, LUMINAIRE, SHALL BE MODIFIED AS FOLLOWS:

LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS WITH AN IES II-M-SC DISTRIBUTION AND LED LIGHTING ENGINE SHALL BE AS NOTED IN LIGHTING FIXTURE SCHEDULE FOR FIXTURE TYPE RL2. EQUALS SHALL BE APPROVED BY THE ENGINEER.

LUMINAIRES LOCATED ON BRIDGE SHALL MEET OR EXCEED A ROADWAY LUMINAIRE VIBRATION OF 3.06 PER ANSI C.136.31 FOR BRIDGE/OVERPASS APPLICATIONS.

LUMINAIRES SHALL BE PROVIDED WITH SPD'S AS REQUIRED PER ODOT SUPPLEMENTAL SPECIFICATIONS 913.5.

REFER TO SHEET 84 FOR LIGHTING FIXTURE SCHEDULE AND SHEET 85 FOR LIGHTING DETAILS. PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH C&MS ITEM 625, "LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, RL2" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO INSTALL THE FIXTURE.

**ITEM 625 PULL BOX, 725.08, 24", AS PER PLAN**

PULL BOXES SHALL HAVE NOMINAL OPENING DIMENSIONS OF 24 INCHES BY 35 INCHES. MATERIALS SHALL CONFORM TO 725.06, 725.07 OR 725.08. THE WORD "TRAFFIC" SHALL BE INTEGRALLY CAST AS PART OF THE COVER OR SECURELY FASTENED WITH CORROSION RESISTANT HARDWARE. THE SUPPLIED PULL BOXES SHALL SUPPORT A 20,000 POUND MINIMUM VERTICAL LOADING WITHOUT PERMANENT DAMAGE OR DEFLECTION TO THE UNIT. DISPOSE OF SURPLUS MATERIAL AND RESTORE DISTURBED FACILITIES AND SURFACES.

THE LARGEST BEND RADIUS POSSIBLE SHALL BE MAINTAINED FOR THE FIBER OPTIC CABLE.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 625 "PULL BOX, 725.08, 24", AS PER PLAN".

**ITEM 632 VEHICULAR SIGNAL HEAD, (LED), BLACK, 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, WITH BACKPLATE, AS PER PLAN**

**ITEM 632 VEHICULAR SIGNAL HEAD, (LED), BLACK, 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, WITH BACKPLATE, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

- 1.SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC WITH VISORS AS SPECIFIED AND MEET ITE SPECIFICATIONS.
- 2.PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
- 3.ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL.
- 4.THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
- 5.ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE YELLOW LENS LOCATED IN FRONT OF THE MAST ARM.
- 6.ALUMINUM BACKPLATES SHALL BE IN ACCORDANCE WITH THE C&MS AND INCLUDE A FLUORESCENT YELLOW REFLECTIVE BORDER.
- 7.THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES. LED SIGNAL LAMPS SHALL HAVE A 15 YEAR WARRANTY.
- 8.SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.117 INCHES.
- 9.SIGNAL HEADS SHALL INCLUDE CUTAWAY TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS.
- 10.APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO, FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.
- 11.BALANCE ADJUSTERS SHALL NOT BE USED ON ONE-WAY HEADS OR TETHERED HEADS.

PAYMENT FOR ITEM 632 VEHICULAR SIGNAL HEAD, (LED), BLACK, 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, WITH BACKPLATE, AS PER PLAN AND ITEM 632 VEHICULAR SIGNAL HEAD, (LED), BLACK, 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, WITH BACKPLATE, AS PER PLAN SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

**ITEM 632 COVERING OF VEHICULAR SIGNAL HEAD**

COVER VEHICULAR SIGNAL HEADS IF ERECTED AT INTERSECTIONS WHERE TRAFFIC IS MAINTAINED BEFORE ENERGIZING THE SIGNALS. USE A STURDY OPAQUE COVERING MATERIAL SPECIFICALLY MADE FOR USE WITH TRAFFIC SIGNALS, AND ENSURE THAT THE COLOR OF THE COVER IS DIFFERENT THAN THE SIGNAL HEAD, TAN OR BEIGE,

SO THAT IT IS CLEAR TO DRIVERS THE HEADS ARE COVERED, NOT DARK. USE A METHOD OF COVERING TO COVER ATTACHMENT AND MATERIALS, INCLUDING BACKPLATES, AS APPROVED BY THE ENGINEER. COVERS ARE TO BE FREE OF TEXT, PICTURES, OR ANY TYPE OF ADVERTISING. MAINTAIN COVERS, AND REMOVE THEM WHEN DIRECTED BY THE ENGINEER.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

**ITEM 632 PEDESTRIAN SIGNAL HEAD, (LED), TYPE D2, COUNTDOWN, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732 THE FOLLOWING SHALL APPLY:

- 1.SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
- 2.PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
- 3.PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
- 4.THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.
- 5.NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED

6.THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.

PAYMENT FOR ITEM 632 PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN SHALL BE MADE FOR THE NUMBER OF COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

**ITEM 632 SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-12.30 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN**

THIS ITEM SHALL CONSIST OF THE CONTRACTOR INSTALLING A TUNED MECHANICAL STOCKBRIDGE OR MASS-SPRING TYPE CAMPER ON A TC-12.30 MAST ARM SIGNAL SUPPORT TO REDUCE THE POSSIBILITY OF HARMONIC VIBRATIONS CAUSED BY WIND LOADS. A MECHANICAL DAMPER SHALL BE APPLIED TO ALL MAST ARMS OVER 59 FEET IN LENGTH. THE INSTALLED DAMPER SHALL BE CAPABLE OF REDUCING THE LOADED MAXIMUM VERTICAL MOVEMENT AT THE TIP OF THE ARM TO 8 INCHES MEASURED FROM THE HIGHEST TO THE LOWEST POINT OF DEFLECTION AT WIND SPEEDS OF 5-20 MPH.

ALL ATTACHMENT HARDWARE CONNECTIONS SHALL BE STAINLESS STEEL. STOCKBRIDGE-TYPE DAMPERS SHALL HAVE A STAINLESS STEEL SAFETY CHAIN ANCHORED TO THE MARST ARM TO PREVENT WEIGHTS FROM FALLING SHOULD THEY BECOME SEPARATED FROM THE REST OF THE ASSEMBLY. THE DAMPER SHALL BE ATTACHED TO THE ARM WITHIN 8 FEET OF MAST ARM TIP. INSTALLATION SHALL BE PER THE MANUFACTURER'S GUIDELINES. STATIC DAMPERS SUCH AS HORIZONTAL FLAT SIGN MOUNTINGS SHALL NOT BE USED. ACCEPTABLE DEVICES INCLUDE THE FOLLOWING OR APPROVED EQUAL:

- 1.UNION METAL ALCOA DAMPER DEVICE DWG. NO. 26-1817-C1
- 2.VALMONT STRUCTURES ALCOA DEVICE DWG. NO. OHIO4242P1
- 3.FLORIDA DOT SPRING-MASS DAMPER DRAWING INDEX NO. 17749

PAYMENT FOR ITEM 632 SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-12.30 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH COMPLETE AND IN PLACE, AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

**ITEM 632 SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 12, AS PER PLAN**

THIS SUPPORT SHALL CONSIST OF A TC-81.21 DESIGN 12 POLE WITH A TC-81.21 DESIGN 12 SIGNAL ARM. ALL SIGNAL SUPPORT ITEMS REQUIRED BY C&MS ITEM 632 SHALL BE INCLUDED AS PART OF THIS SUPPORT.

THE SIGNAL SUPPORT AND MAST ARM SHALL BE PAINTED FEDERAL COLOR FS 27038 AND CONFORM TO THE PAINTING REQUIREMENTS.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

**ITEM 632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 4, AS PER PLAN**

THIS SUPPORT SHALL CONSIST OF A TC-81.21 DESIGN 4 POLE WITH A TC-81.21 DESIGN 4 SIGNAL ARM (WITH LIGHT POLE EXTENSION). ALL SIGNAL SUPPORT ITEMS REQUIRED BY C&MS ITEM 632 SHALL BE INCLUDED AS PART OF THIS SUPPORT.

THE COMBINATION SIGNAL SUPPORT AND MAST ARM SHALL BE PAINTED FEDERAL COLOR FS 27038 AND CONFORM TO THE PAINTING REQUIREMENTS.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

**ITEM 632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11, AS PER PLAN**

THIS SUPPORT SHALL CONSIST OF A TC-81.21 DESIGN 11 POLE WITH A TC-81.21 DESIGN 11 SIGNAL ARM (WITH LIGHT POLE EXTENSION). ALL SIGNAL SUPPORT ITEMS REQUIRED BY C&MS ITEM 632 SHALL BE INCLUDED AS PART OF THIS SUPPORT.

THE COMBINATION SIGNAL SUPPORT AND MAST ARM SHALL BE PAINTED FEDERAL COLOR FS 27038 AND CONFORM TO THE PAINTING REQUIREMENTS.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

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TRAFFIC SIGNAL GENERAL NOTES

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**ITEM 632 COMBINATION SIGNAL SUPPORT MISC.: TYPE TC-12.30, DESIGN 9 POLE, WITH MAST ARMS TC-81.21 DESIGN 13 AND DESIGN 12**

THIS SUPPORT SHALL CONSIST OF A TC-12.30 DESIGN 9 POLE WITH A TC-81.21 DESIGN 13 AND DESIGN 12 SIGNAL ARM (WITH LIGHT POLE EXTENSION). ALL SIGNAL SUPPORT ITEMS REQUIRED BY C&MS ITEM 632 AND ALL SIGN SUPPORT ITEMS REQUIRED BY C&MS ITEM 630 SHALL BE INCLUDED AS PART OF THIS SUPPORT.

THE COMBINATION SIGNAL SUPPORT AND MAST ARM SHALL BE PAINTED FEDERAL COLOR FS 27038 AND CONFORM TO THE PAINTING REQUIREMENTS.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

**ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN**

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH CMS 632.26 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE REUSED AS PART OF A NEW INSTALLATION ON THE PROJECT OR STORED ON THE PROJECT FOR SALVAGE BY (NAME OF AGENCY RECEIVING STORED ITEMS) IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

(ITEMS TO BE REUSED)

ARLINGTON AND RAMP A / RAMP C

SOUTHWEST POLE AND MAST ARM  
ALL CONDUIT  
NORTHWEST FOUNDATION  
CABINET  
POWER SOURCE

(ITEMS TO BE STORED)

ARLINGTON AND RAMP A / RAMP C

NORTHWEST POLE AND 2 MAST ARMS  
ALL NORTHWEST POLE SIGNAL HEADS AND DETECTION UNITS  
SIGNAL CONTROLLER

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE LOCAL AGENCY ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

**ITEM 632 SIGNALIZATION, MISC.: AT&T CELLULAR MODEM, FURNISH ONLY**

FURNISH A CDMA MODEM, ANTENNA WITH A 10-FOOT CABLE, AND A 10-FOOT ETHERNET CABLE FOR REMOTE WIRELESS CELLULAR COMMUNICATION.

FOR NETWORK CONSISTENCY, CELLULAR MODEMS SHALL BE THE SIERRA WIRELESS AIRLINK GX440 AT&T, MODEL 1101960.

THIS ITEM SHALL INCLUDE THE FURNISHING OF A CONTROL ROCKETLINX ES8105 ETHERNET SWITCH OR APPROVED EQUAL WITH ALL AC POWER SUPPLIES NECESSARY TO FUNCTION.

THIS ITEM SHALL INCLUDE THE FURNISHING A MOUNTING BRACKET FOR THE ANTENNA WITH ALL NECESSARY HARDWARE INCLUDING BUT NOT LIMITED TO SPRING NUTS, WASHERS, AND BOLTS THAT INSTALLS TO THE MOUNTING CHANNEL ON THE SIDE OF SIGNAL CABINET.

THE CELLULAR MODEM EQUIPMENT AND ETHERNET SWITCH SHALL BE DELIVERED TO ODOT DISTRICT 7 TRAFFIC OPERATIONS ENGINEER FOR PROGRAMMING AND INSTALLATION AT THE PRE-CONSTRUCTION MEETING OR SHIPPED TO THE ODOT DISTRICT 7 TRAFFIC OPERATIONS ENGINEER PRIOR TO THE PRE-CONSTRUCTION MEETING:

ODOT DISTRICT 7 TRAFFIC  
ATTN: JUSTIN A. YOH, P.E.  
1001 ST. MARYS AVENUE  
SIDNEY, OH 45365

THE CONTRACTOR SHALL PROVIDE THE MODEM SERIAL NUMBERS AND NECESSARY ESN NUMBERS FOR ODOT TO ESTABLISH WIRELESS SERVICE.

THE DEPARTMENT WILL MEASURE ITEM 632 SIGNALIZATION, MISC.: AT&T CELLULAR MODEM, FURNISH ONLY BY THE NUMBER OF COMPLETE UNITS FURNISHED, RECEIVED, AND ACCEPTED BY ODOT DISTRICT 7 TRAFFIC OPERATIONS ENGINEER.

**ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, AS PER PLAN**

THE EQUIPMENT PROVIDED AS PART OF THIS CONTRACT SHALL BE ON THE OFFICE OF TRAFFIC OPERATIONS TRAFFIC APPROVED PRODUCTS (TAP) LIST.

THE CONTROLLER UNIT SHALL BE AN ECONOLITE COBALT TOUCH CONTROLLER AND SHALL INCLUDE A DATA KEY PORT AND ALL NECESSARY ACCESSORIES AND WIRING REQUIRED FOR ITS FUNCTION.

LOCATION:

INTERSTATE 70 WESTBOUND RAMP & ARLINGTON ROAD

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 633 AND 733, THE FOLLOWING REQUIREMENTS SHALL APPLY: CONTROLLER TESTING

THE CONTRACTOR SHALL PERFORM BENCH TESTING OF THE COMPONENTS OF THIS SECTION ON THE CONTROLLER. SOFTWARE SHALL BE LOADED ON THE CONTROLLER AND CHECKED FOR CORRECT OPERATION OF TIMING PLANS, PHASING SCHEMES, AND PRE-EMPTS.

TESTING OF COMPONENTS BY THE CONTRACTOR FOR PROPER ORIENTATION SHALL INCLUDE THE FOLLOWING MINIMUM REQUIREMENTS:

- MALFUNCTION MANAGEMENT UNIT TEST WITH NEW CONTROLLER INSTALLED
- FORCE HARDWARE CONFLICTS FOR ALL PHASE COMBINATIONS TO VERIFY STOP TIMING AND CONFLICT INDICATION.
- TEST FOR PHASE OPERATION, SEQUENCE, AND INTERVAL LENGTH ON MIN. RECALL, MAX RECALL, AND NO CALL.
- PROPER FLASH SEQUENCE
- PREEMPTION ACTIVATION

A WRITTEN REPORT STATING THE CABINET INTERSECTION NUMBER, DATE AND TIME OF TEST, SIGNED OFF BY THE TECHNICIAN WHO PERFORMED THE TESTS, SHALL BE SUBMITTED TO THE ENGINEER UPON SUCCESSFUL COMPLETION OF THE ABOVE TESTS. THE SUCCESSFUL TESTING SHALL BE DEMONSTRATED TO THE ENGINEER PRIOR TO INSTALLATION IF REQUESTED. THE TEST AREA MAY BE ERECTED AT A LOCATION DETERMINED BY THE CONTRACTOR. ALL COSTS RELATED TO INSPECT AND OBSERVE THE BENCH TESTING SHALL BE INCLUDED IN THIS LINE ITEM.

THE CONTROLLER AND ALL RELATED COMPONENTS SHALL BE IN PERFECT WORKING ORDER AND READY FOR INSTALLATION/OPERATION AT THE SPECIFIED INTERSECTION AS A RESULT OF THE WORK DESCRIBED IN THIS ITEM. THE COST FOR THE CONTROLLER TESTING SHALL BE INCLUDED IN THE PRICE OF THE CONTROLLER FURNISHED COMPLETE.

DOCUMENTATION

- USER MANUALS
- DEVICE PROGRAMMING MANUALS
- INSTALLATION AND DIAGNOSTIC MANUALS

SOFTWARE OR FIRMWARE UPDATES SHALL BE ACCOMPANIED BY COMPLETE DOCUMENTATION THAT REFERENCES AN UPGRADE VERSION, PROVIDES A LIST OF IMPROVED CAPABILITIES WITH THE UPGRADE, AND PROVIDES A LIST OF PROBLEMS RESOLVED WITH THE UPGRADE (IF APPLICABLE). ALL FUNCTIONS, FEATURES, AND CAPABILITIES NOT ADDRESSED SHALL OPERATE AS INTENDED BEFORE THE UPGRADE WAS IMPLEMENTED. ALL SOFTWARE AND FIRMWARE UPGRADES AND NEW RELEASES FOR FEATURES FURNISHED AS PART OF THIS CONTRACT SHALL BE FREE OF CHARGE FOR TWO (2) YEARS AFTER THE COMPLETION OF THE 10-DAY PERFORMANCE TEST.

PAYMENT FOR ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, AS PER PLAN FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OR WORK.

**ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET TYPE TS2, AS PER PLAN**

THE EQUIPMENT PROVIDED AS PART OF THIS CONTRACT SHALL BE ON THE OFFICE OF TRAFFIC OPERATIONS TRAFFIC APPROVED PRODUCTS (TAP) LIST.

THE CONTROLLER UNIT SHALL BE AN ECONOLITE COBALT TOUCH CONTROLLER AND SHALL INCLUDE A DATA KEY PORT AND ALL NECESSARY ACCESSORIES AND WIRING REQUIRED FOR ITS FUNCTION.

THE GROUND MOUNTED CABINET SHALL BE A COMBINATION CONTROLLER AND UPS CABINET, ALUMINUM WITH NATURAL SATIN FINISH, MEASURING 57" H X 58" W X 26" D, CONTAIN A PULL-OUT DOCUMENT DRAWER WITH HOLD-CLOSED AND LOCK-OPEN FEATURE WITH A NON-SKID SURFACE DESIGNED TO SUPPORT THE WEIGHT OF A TYPICAL LAPTOP COMPUTER BEING MOUNTED BELOW THE TIMER SHELF, AND SHALL COMPLY WITH THE REQUIREMENTS OF 733.03.

LOCATION:

INTERSTATE 70 EASTBOUND RAMP & ARLINGTON ROAD

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 633 AND 733, THE FOLLOWING REQUIREMENTS SHALL APPLY: CONTROLLER TESTING

TESTING OF COMPONENTS BY THE CONTRACTOR FOR PROPER ORIENTATION SHALL INCLUDE THE FOLLOWING MINIMUM REQUIREMENTS:

- MALFUNCTION MANAGEMENT UNIT TEST WITH NEW CONTROLLER INSTALLED
- FORCE HARDWARE CONFLICTS FOR ALL PHASE COMBINATIONS TO VERIFY STOP TIMING AND CONFLICT INDICATION.
- TEST FOR PHASE OPERATION, SEQUENCE, AND INTERVAL LENGTH ON MIN. RECALL, MAX RECALL, AND NO CALL.
- PROPER FLASH SEQUENCE
- PREEMPTION ACTIVATION

A WRITTEN REPORT STATING THE CABINET INTERSECTION NUMBER, DATE AND TIME OF TEST, SIGNED OFF BY THE TECHNICIAN WHO PERFORMED THE TESTS, SHALL BE SUBMITTED TO THE ENGINEER UPON SUCCESSFUL COMPLETION OF THE ABOVE TESTS. THE SUCCESSFUL TESTING SHALL BE DEMONSTRATED TO THE ENGINEER PRIOR TO INSTALLATION IF REQUESTED. THE TEST AREA MAY BE ERECTED AT A LOCATION DETERMINED BY THE CONTRACTOR. ALL COSTS RELATED TO INSPECT AND OBSERVE THE BENCH TESTING SHALL BE INCLUDED IN THIS LINE ITEM.

THE CONTROLLER AND ALL RELATED COMPONENTS SHALL BE IN PERFECT WORKING ORDER AND READY FOR INSTALLATION/OPERATION AT THE SPECIFIED INTERSECTION AS A RESULT OF THE WORK DESCRIBED IN THIS ITEM. THE COST FOR THE CONTROLLER TESTING SHALL BE INCLUDED IN THE PRICE OF THE CONTROLLER FURNISHED COMPLETE.

DOCUMENTATION

- USER MANUALS
- DEVICE PROGRAMMING MANUALS
- INSTALLATION AND DIAGNOSTIC MANUALS

SOFTWARE OR FIRMWARE UPDATES SHALL BE ACCOMPANIED BY COMPLETE DOCUMENTATION THAT REFERENCES AN UPGRADE VERSION, PROVIDES A LIST OF IMPROVED CAPABILITIES WITH THE UPGRADE, AND PROVIDES A LIST OF PROBLEMS RESOLVED WITH THE UPGRADE (IF APPLICABLE). ALL FUNCTIONS, FEATURES, AND CAPABILITIES NOT ADDRESSED SHALL OPERATE AS INTENDED BEFORE THE UPGRADE WAS IMPLEMENTED.

ALL SOFTWARE AND FIRMWARE UPGRADES AND NEW RELEASES FOR FEATURES FURNISHED AS PART OF THIS CONTRACT SHALL BE FREE OF CHARGE FOR TWO (2) YEARS AFTER THE COMPLETION OF THE 10-DAY PERFORMANCE TEST.

PAYMENT FOR ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET TYPE TS2, AS PER PLAN FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OR WORK.

TRAFFIC SIGNAL GENERAL NOTES

MOT -70-3.34

CALCULATED  
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**ITEM 633 CABINET FOUNDATION, AS PER PLAN**

THIS ITEM SHALL INCLUDE THE ADDITIONAL EXCAVATION AND CONCRETE NECESSARY TO EXTEND THE CONTROLLER CABINET FOUNDATION IN ORDER TO SUPPORT THE UNINTERRUPTIBLE POWER SUPPLY (UPS) CABINET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A FOUNDATION LARGE ENOUGH TO ACCOMMODATE THE UPS BEING PROVIDED BY SEPARATE BID ITEM. THE CONTROLLER AND UPS CABINET FOUNDATION SHALL BE IN ACCORDANCE WITH CMS 633 & SCD TC-83.20.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY TO INSTALL THE FOUNDATION, INCLUDING CONDUIT ELLS AND ANCHOR BOLTS, RESTORATION OF DISTURBED AREA AND DISPOSAL OF SURPLUS MATERIAL AS PER CMS 104.04.

**ITEM 633 CONTROLLER WORK PAD, AS PER PLAN**

THIS ITEM SHALL INCLUDE THE ADDITIONAL EXCAVATION AND CONCRETE NECESSARY TO EXTEND THE CONTROLLER CABINET WORK PAD FOR THE UNINTERRUPTIBLE POWER SUPPLY (UPS) CABINET.

IN ADDITION TO THE REQUIREMENTS OF CMS 633 & SCD TC -83.20, THE CONTRACTOR SHALL CONSTRUCT THE WORK PAD AS FOLLOWS:

- EXCAVATE A MINIMUM OF 9" BELOW GRADE
- PLACE AND COMPACT 6" OF MATERIAL CONFORMING TO 304.02
- INSTALL A CAST-IN-PLACE WORK PAD THAT IS A MINIMUM OF 4" THICK

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY TO INSTALL THE CONCRETE WORK PAD.

**ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF C&MS 633 AND 733, POLE ATTACHMENT HARDWARE WILL BE INCLUDED FOR POLE-MOUNTED CABINETS, AND A CABINET RISER (8 INCH MINIMUM) AND ANCHOR BOLTS WILL BE PROVIDED FOR BASE-MOUNTED CABINETS. BEFORE PERFORMING THE WORK, THE CONTRACTOR, THE DISTRICT TRAFFIC ENGINEER AND THE PROJECT ENGINEER WILL PERFORM A SITE INSPECTION TO ESTABLISH THE LOCATION OF THE UPS CABINET AND FOUNDATION.

THE UPS CABINET SHALL INCLUDE A GENERATOR POWER PANEL WITH A HEAVY DUTY POWER RELAY VERSUS THE LINE VOLTAGE GENERATOR SWITCH. THE GENERATOR INLET SHALL BE A RECESSED PANEL WITH A DOOR THAT IS FLUSH WITH THE EXTERNAL SIDE OF THE UPS CABINET. IT SHALL INCLUDE A RECESSED PLUG, AUTOMATIC TRANSFER SWITCH AND A DOOR THAT SECURELY CLOSES OVER THE POWER CORD.

THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER.

THIS ITEM SHALL INCLUDE A RED LED STATUS INDICATOR LAMP TO ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. THE LED HOUSING SHALL BE NEMA 4X, IP65 OR IP66, RATED FOR OUTDOOR USE AND BE TAMPER/SHATTER RESISTANT. IT SHALL BE A DOMED ENCLOSURE CONTAINING A RED LENS WITH LED THAT IS VISIBLE FROM 100 FOOT MINIMUM. THE ENCLOSURE AND LED LAMP UNIT SHOULD BE PLACED ON THE SIDE OF THE CABINET, VISIBLE TO MAINLINE TRAFFIC AND SEALED FROM WATER INTRUSION. IT SHOULD BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY," WITH WIRE POLARITY INDICATED. THE RED LED SHALL ONLY ILLUMINATE TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THESE

STATUS DISPLAYS WILL BE SOLID 100% DUTY CYCLE (NOT FLASHING) DISPLAYS. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC UNLESS OTHERWISE INDICATED.

**ITEM 633 CONTROLLER ITEM, MISC.: MODIFY EXISTING CONTROLLER CABINET**

ANY MODIFICATIONS NEEDED IN THE EXISTING CABINETS TO ACCOMMODATE THE PROPOSED TIMING, COMMUNICATIONS, AND PHASING AS SHOWN ON THE CONSTRUCTION PLANS SHALL BE INCLUDED IN THE COST OF THIS ITEM UNLESS NOTED OTHERWISE. COMPLETE REWIRING OF THE CABINET IS NOT REQUIRED.

LOCATION:  
ARLINGTON ROAD & TRIGGS ROAD

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF THE ITEM 633 CONTROLLER ITEM, MISC.: MODIFY EXISTING CONTROLLER CABINET IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

**ITEM 809 CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET**

THE CONTRACTOR SHALL FURNISH AND INSTALL THE CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET AT LOCATIONS IDENTIFIED IN THE PLANS, PER SECTION 1400 OF THE ODOT OFFICE OF TRAFFIC OPERATIONS HANDBOOK. 130 FEET OF CCTV CONTROL CABLE IS INCIDENTAL TO ITEM 809 CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET.

**ITEM 809 ADVANCE RADAR DETECTION**

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR MATRIX DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.

PAYMENT FOR ITEM 809 ADVANCED RADAR DETECTION SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

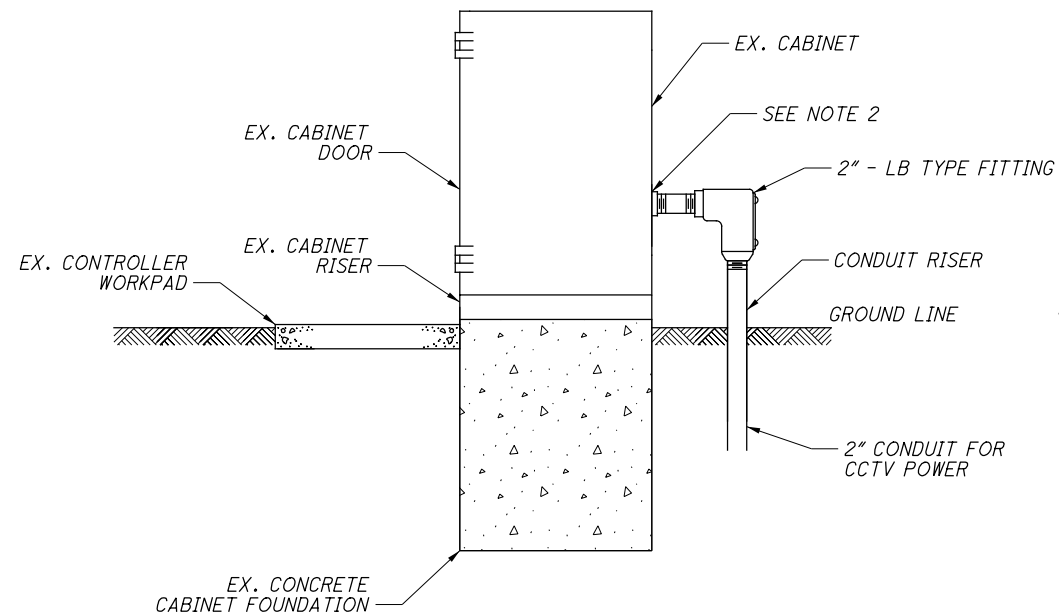
**ITEM 809 STOP-BAR RADAR DETECTION**

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR ADVANCE DETECTION UNIT (MODEL SS-200E). THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.

PAYMENT FOR ITEM 809 STOP-BAR DETECTION SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT AND CONNECTIONS TESTED AND ACCEPTED.

DETAIL FOR ADDING NEW CONDUIT FOR CCTV POWER TO THE EXISTING CABINET (SEE SHEET 74)

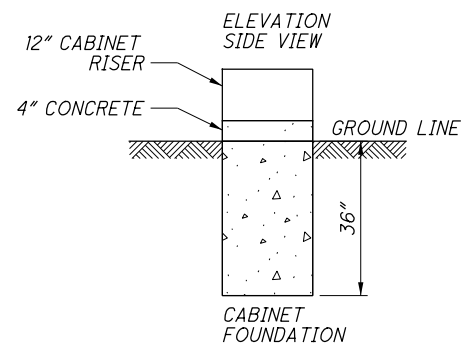


**NOTES:**

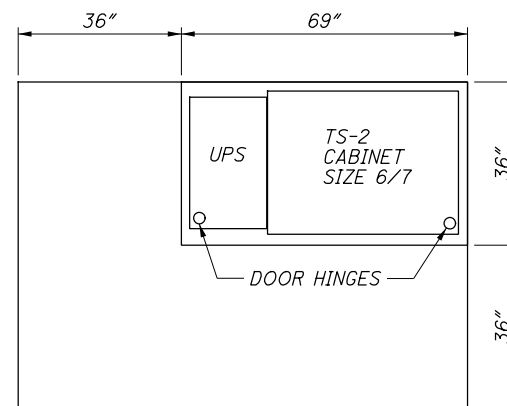
- 1) THE CONDUIT RISER SHALL CONFORM WITH NEMA STANDARDS PUBLICATION NO. TC-2 PVC CONDUIT TYPE EPC-40.
- 2) THE CONTRACTOR SHALL SEAL THE CONDUIT ENTRY AT THE BACK OF THE EXISTING CABINET AND THE CONDUIT ENTRY SHALL BE WATERTIGHT.

TS-2 SIZE 6/7 CABINET DETAIL (TYP.)

**CABINET FOUNDATION DETAIL**



**CABINET & WORK PAD DETAIL**



**PLAN VIEW**

**SEPARATE BID ITEMS:**

- 633 CONTROLLER WORK PAD, AS PER PLAN
- 633 CABINET FOUNDATION, AS PER PLAN
- 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), AS PER PLAN
- 633 CONTROLLER UNIT, TYPE TS2/A1, WITH CABINET, TYPE TS2

**NOTES:**

- 1) THE SIZE OF THE UPS FOUNDATION MAY VARY BASED ON THE CABINET SIZE PROVIDED.
- 2) UPS FOUNDATION ELEVATION SHOULD MATCH CABINET FOUNDATION ELEVATION.
- 3) THE UPS CABINET SHALL BE MOUNTED FLUSH UP AGAINST THE SIGNAL CABINET AND SEALED.
- 4) CONDUIT AND WIRING FROM THE SIGNAL CABINET TO THE UPS SHALL BE INSTALLED THROUGH THE CABINET RISER.

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TRAFFIC SIGNAL GENERAL NOTES

MOT-70-3.34

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REF. NO.	SHEET NO.	LOCATION	625	625	630	632	632	632	632	632	632	632	632	632	632	632	632	632	632
			36000	75506	80100	05006	05086	20731	25000	25010	40300	40600	40700	64010	64020	67200	77231	80603	81001
			FT	EACH	SF	EACH	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	
RAMP B&D																			
SP-1	70	28+31.5, 45.2' LT			2.3														
	70	28+31.5, 45.2' LT      28+25.0, 48' LT	7																
SP-2	70	28+51.0, 47.9' RT			2.3														
SP-3	70	29+54.2, 37.5' RT			2.3														
6A	70	28+31.5, 45.2' LT					1							105					
6B	70	28+31.5, 45.2' LT				1													
4A	70	28+51.0, 47.9' RT				1								210					
4B	70	28+51.0, 47.9' RT				1													
2A	70	29+54.2, 37.5' RT				1								300					
2B	70	29+54.2, 37.5' RT				1													
PS-1	70	29+08.0, 42.5' LT			2.3			1			135					1			
PS-2	70	28+31.5, 45.2' LT						1			45								
PS-3	70	28+51.0, 47.9' RT						1			145								
PS-4	70	29+54.2, 37.5' RT						1			250								
	70	28+16.5, 48.0' LT      28+25.0, 48.0' LT	10																
	70	28+45.0, 43.0' LT      28+51.0, 47.9' RT	8																
	70	29+45.0, 43.0' RT      29+54.2, 37.5' RT	9																
	70	29+04.0, 50.0' LT      29+08.0, 42.5' LT	9																
	70	28+16.5, 48.0' LT      28+08.0, 49.0' LT	5													10			
	70	28+08.0, 49.0' LT      25+33.0, 61.0' LT	279													285			
	70	25+33.0, 61.0' LT      5+19.0, 26.0' RT														90			
	70	5+19.0, 26.0' RT      4+05.0, 25.2' RT	115													120			
S (D1)	70	28+31.5, 45.2' LT												75					
S (D2)	70	28+51.0, 47.9' RT												170					
D (RD-1)	70	28+51.0, 47.9' RT												195					
S (D3)	70	29+54.2, 37.5' RT												300					
RAMP A&C																			
SP-1	74	40+59.4, 51.4' LT			2.3														
SP-2	74	41+85.0, 42.5' LT			2.3														
RL2	74	40+59.4, 51.4' LT		1															
2A	74	41+85.0, 42.5' LT					1							200					
2B	74	41+85.0, 42.5' LT					1												
8A	74	41+85.0, 42.5' LT					1							190					
8B	74	41+85.0, 42.5' LT					1												
PS-2	74	41+89.5, 30.0' LT	9					1			120					1			
PS-1	74	40+68.0, 30.5' LT	19					1			260					1			
D (RD-1)	74	41+85.0, 42.5' LT												155					
S (D1)	74	41+85.0, 42.5' LT												195					
S (D2)	74	40+59.4, 51.4' LT												300					
	74	36+03.0, 116.9' LT      41+90, 55.0' RT														720			
	74	35+90.6, 118.9' LT      35+97.06, 112.4' LT	10																
	74	35+97.6, 112.3' LT      36+03.0, 116.9' LT	7																
	74	35+97.6, 112.3' LT      40+80.1, 34.9' LT	506																
	74	40+80.1, 34.9' LT      41+66.0, 37.0' LT																	
	74	41+66.0, 37.0' LT      41+89.7, 40.1' RT																	
	74	41+89.7, 40.1' RT      41+90.0, 55.0' RT	9																
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>			<b>1002</b>	<b>1</b>	<b>13.8</b>	<b>8</b>	<b>2</b>	<b>6</b>	<b>10</b>	<b>6</b>	<b>955</b>	<b>1390</b>	<b>1005</b>	<b>3</b>	<b>3</b>	<b>1320</b>	<b>1</b>	<b>1</b>	<b>1</b>

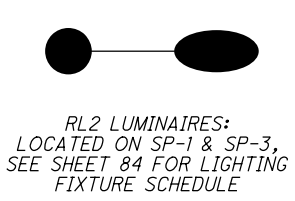
<p><b>SIGNALS SUBSUMMARY</b></p>	<p>CALCULATED MSW CHECKED LSK</p>
<p><b>MOT -70-3.34</b></p>	
	<p>68 136</p>

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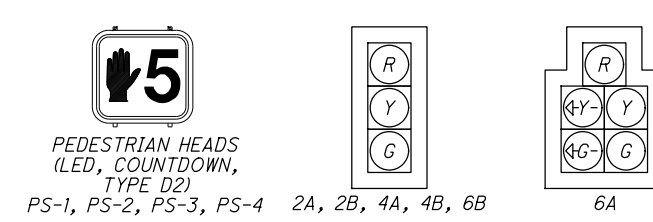
REF. NO.	SHEET NO.	LOCATION	632	632	632	632	632	633	633	633	633	633	633	809	809	809	809	809		
			81071	81700	89600	90101	90400	01541	01551	67101	67201	75001	99000	60000	61000	65000	69000	69100		
			COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN II, AS PER PLAN	COMBINATION SIGNAL SUPPORT, MISC.: TYPE TC-12.30, DESIGN 9 POLE, WITH MAST ARMS TC-81.21 DESIGN 13 AND DESIGN 12	PEDESTAL, 8'	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	SIGNALIZATION, MISC.: AT&T CELLULAR MODEM, FURNISH ONLY	CONTROLLER UNIT, TYPE TS2/A2, AS PER PLAN	CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN	CABINET FOUNDATION, AS PER PLAN	CONTROLLER WORK PAD, AS PER PLAN	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	CONTROLLER ITEM, MISC.: MODIFY EXISTING CONTROLLER CABINET	CCTV IP-CAMERA SYSTEM, DOME-TYPE	CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET	ITS CABINET - GROUND MOUNTED	ADVANCE RADAR DETECTION	STOP-BAR RADAR DETECTION		
			EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH		
Controller	70	RAMP B&D 28+16.5, 48.0' LT					1		1	1	1	1								
SP-1	70	28+31.5, 45.2' LT	1																	
PS-1	70	29+08.0, 42.5' LT			1															
S (D1)	70	28+31.5, 45.2' LT																	1	
S (D2)	70	28+51.0, 47.9' RT																	1	
D (RD-1)	70	28+51.0, 47.9' RT															1			
S (D3)	70	29+54.2, 37.5' RT																	1	
Controller	74	RAMP A&C 41+90.0, 55.0' LT					1	1												
SP-2	74	41+85.0, 42.5' LT		1		1														
Ex. SP-1	74	40+59.4, 51.4' LT																		
PS-2	74	41+89.5, 30.0' LT			1															
PS-1	74	40+68.1, 30.5' LT			1															
D (RD-1)	74	41+85.0, 42.5' LT															1			
S (D1)	74	41+85.0, 42.5' LT																	1	
S (D2)	74	40+59.4, 51.4' LT																	1	
ITS-1	74	35+90.6, 118.9' LT												1	1					
Controller	74	36+03.0, 116.9' LT								1	1	1				1				
Controller	65	35+90.6, 118.9' LT Existing Triggs Controller											1							
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>			1	1	3	1	2	1	1	2	2	2	1	1	1	1	2	5		

CALCULATED	MSW	LSC
	CHECKED	
<b>SIGNALS SUBSUMMARY</b>		
<b>MOT - 70 - 3.34</b>		
69		136

**LIGHTING DETAILS**



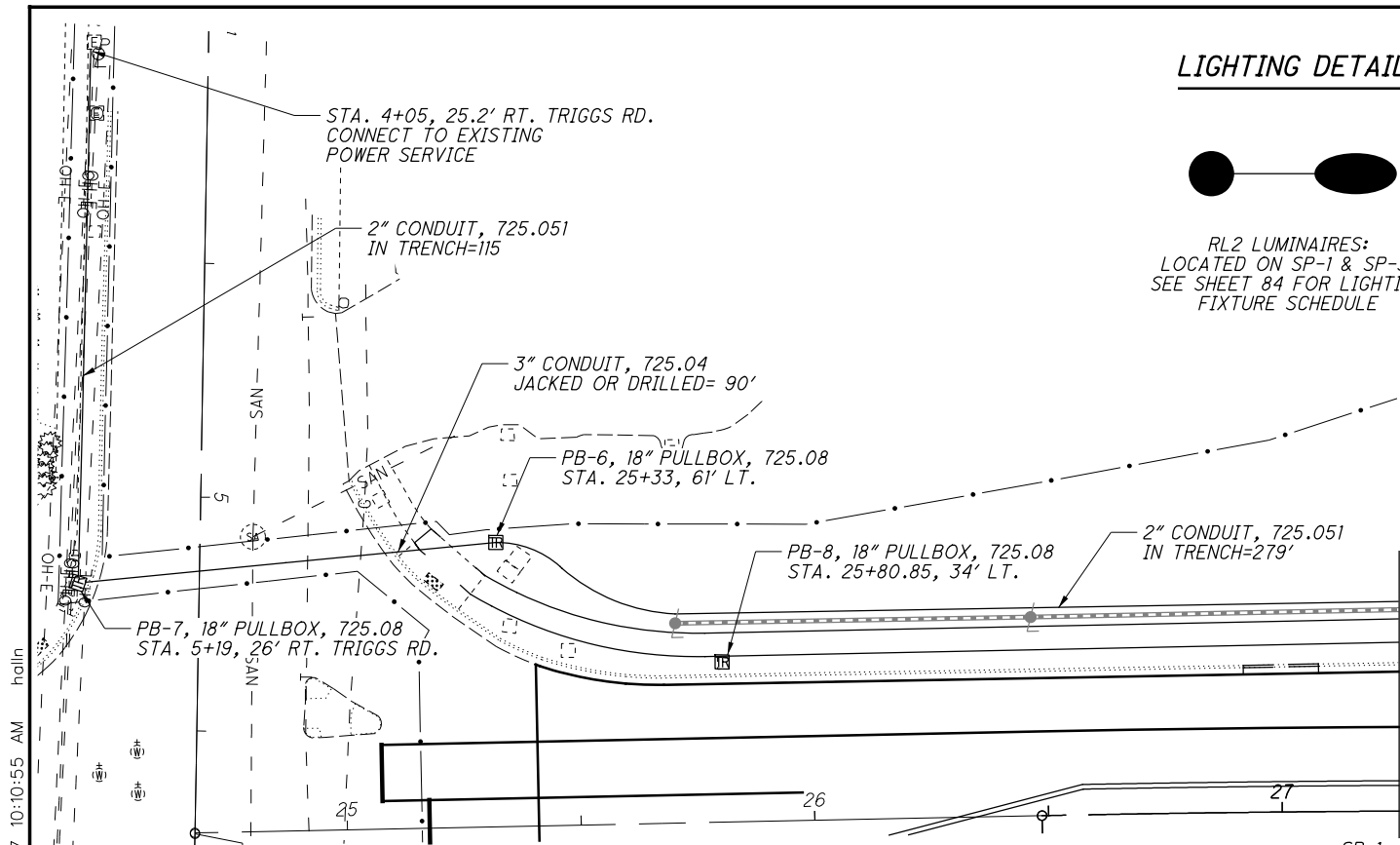
**SIGNAL HEADS**



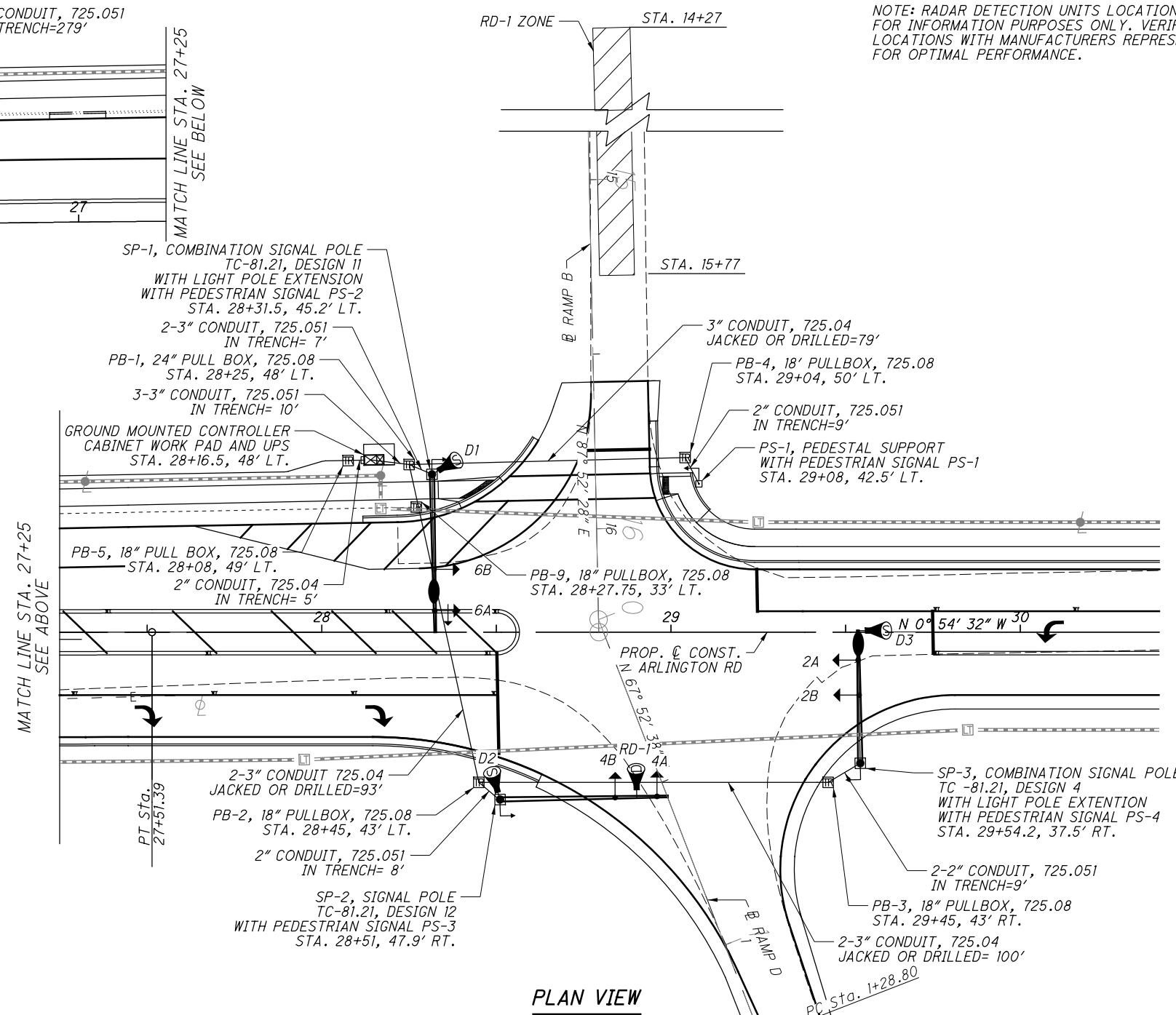
**PEDESTRIAN SIGNS**



NOTE: RADAR DETECTION UNITS LOCATIONS ARE FOR INFORMATION PURPOSES ONLY. VERIFY LOCATIONS WITH MANUFACTURERS REPRESENTATIVE FOR OPTIMAL PERFORMANCE.



**PLAN VIEW**



**PLAN VIEW**

**LEGEND**

	PROP	EXIST		PROP	EXIST
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"			CONTROLLER CABINET AND WORK PAD (332)		
TRAFFIC SIGNAL, 3 UNIT HEAD, 12" WITH ARROWS			CONTROLLER CABINET AND WORK PAD (TS-2)		
TRAFFIC SIGNAL, 4 OR 5 UNIT HEAD, 12"			TRAFFIC PULL BOX		
SIGNAL SUPPORT POLE			VIDEO DETECTION CAMERA		
PEDESTRIAN SIGNAL			DILEMMA ZONE RADAR DETECTION UNIT		
PEDESTAL SUPPORT			STOP BAR RADAR DETECTION UNIT		
LUMINAIRE, CONVENTIONAL			DETECTOR LOOP		
DETECTION ZONE					

**PULLBOX TABLE**

PULL BOX #	STATION	SIDE	OFFSET	SIZE (IN.)
PB-1	28+25	LT.	48'	24
PB-2	28+45	RT.	43'	18
PB-3	29+45	RT.	43'	18
PB-4	29+04	LT.	50'	18
PB-5	28+08	LT.	49'	18
PB-6	25+33	LT.	61'	18
PB-7	5+19	RT.	26'	18
PB-8	25+80.85	LT.	34'	18
PB-9	28+27.75	LT.	33'	18

**SIGNAL TIMING CHART**

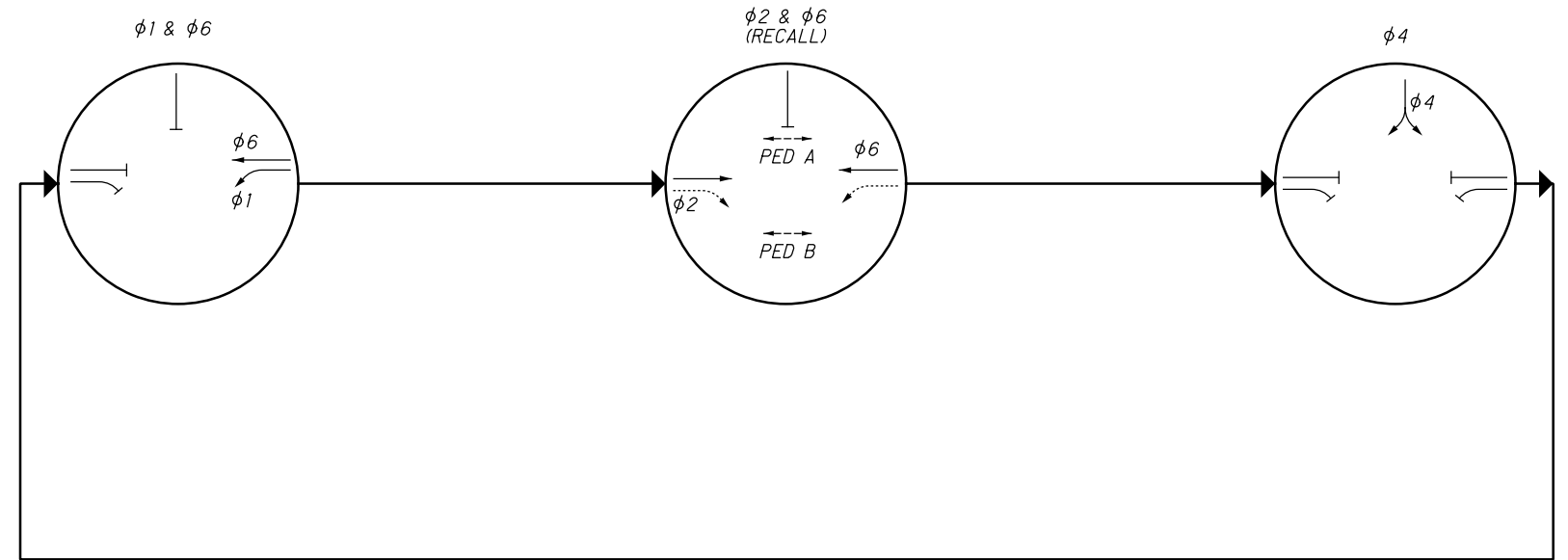
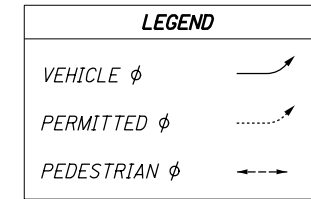


CALCULATED  
LSK  
CHECKED  
NGF

INTERSECTION: ARLINGTON ROAD & INTERSTATE 70 RAMP B/D MAINTAINING AGENCY: OHIO DEPARTMENT OF TRANSPORTATION - DISTRICT 7								
START UP		DUAL ENTRY: YES		PHASES: 2 & 6				
START IN: ALL RED		REST IN RED:		RING 1		RING 2		
TIME FOR FLASH OR ALL RED: 5 (SEC.)		OVERLAP		A	B	C	D	
FIRST PHASE(S): 2 & 6		PHASES		-	-	-	-	
COLOR DISPLAYED: GREEN								
INTERVAL OR FEATURE	CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)	1	2	3	4	5	6	7	8
DIRECTION	SB LT	NB	-	EB	-	SB	-	-
MINIMUM GREEN (INITIAL) (SEC.)	7	20	-	10	-	20	-	-
ADDED INITIAL *(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL (SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP) (SEC.)	0.5	0.5	-	0.5	-	0.5	-	-
TIME BEFORE REDUCTION *(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP *(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE *(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I (SEC.)	12	40	-	25	-	40	-	-
MAXIMUM GREEN II (SEC.)	12	40	-	25	-	40	-	-
YELLOW CHANGE (SEC.)	4	3.5	-	3.5	-	4	-	-
ALL RED CLEARANCE (SEC.)	2.5	2	-	2	-	1.5	-	-
WALK (SEC.)	-	11	-	-	-	11	-	-
PEDESTRIAN CLEARANCE (SEC.)	-	12	-	-	-	12	-	-
RECALL	MAXIMUM (ON/OFF)	-	-	-	-	-	-	-
	MINIMUM (ON/OFF)	-	ON	-	-	ON	-	-
	PEDESTRIAN (ON/OFF)	-	ON	-	-	ON	-	-
MEMORY (ON/OFF)	-	-	-	-	-	-	-	-

\*VOLUME DENSITY CONTROLS

**PHASING DIAGRAM**



**STOP-BAR DETECTION CHART**

DETECTION UNIT	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
D1	EB THRU	PRESENCE	phi 4	-	-	-	-
D2	NB THRU	PRESENCE	phi 2	-	-	-	-
D3	SB LEFT	PRESENCE	phi 6	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

NOTE: STOP BAR DETECTS VEHICLES FROM 6' TO 140'

**RADAR DETECTION CHART**

DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
RD-1	EB THRU	PRESENCE	phi 4	-	-	-	150
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

NOTE: DILEMMA ZONE SPEED THRESHOLD >30 MPH

**NOTES:**

- ALL MOVEMENTS SHALL BE ACTUATED. THE PRIMARY THRU MOVEMENT SHOULD HAVE MIN RECALL ACTIVE TO REST IN GREEN.
- FOR PROTECTED/PERMISSIVE PHASES, IMPLEMENT CALL OMITTS TO AVOID YELLOW BALL TRAP.
- COUNTDOWN PEDESTRIAN SIGNALS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.
- RADAR DETECTION UNITS FOR DILEMMA ZONE DETECTION SHALL PLACE A CONSTANT CALL TO THE CONTROLLER WHEN VEHICLES TRAVEL TIMES TO THE STOP BAR ARE BETWEEN 2.5 AND 6 SECONDS. SPEED TRIGGER SHALL BE SET FOR VEHICLES TRAVELING 35 MPH AND GREATER.
- RADAR SHALL HAVE QUEUE DETECTION CONFIGURED AND A ZONE PLACED AT 100-200 FEET FROM STOP BAR FOR SLOW MOVING VEHICLE EXTENSIONS. SPEED TRIGGER SHALL BE SET AT 1-35 MPH.
- ALL DETECTOR DELAYS SHALL BE PLACED IN THE CONTROLLER.

**COORDINATION TIMING CHART**

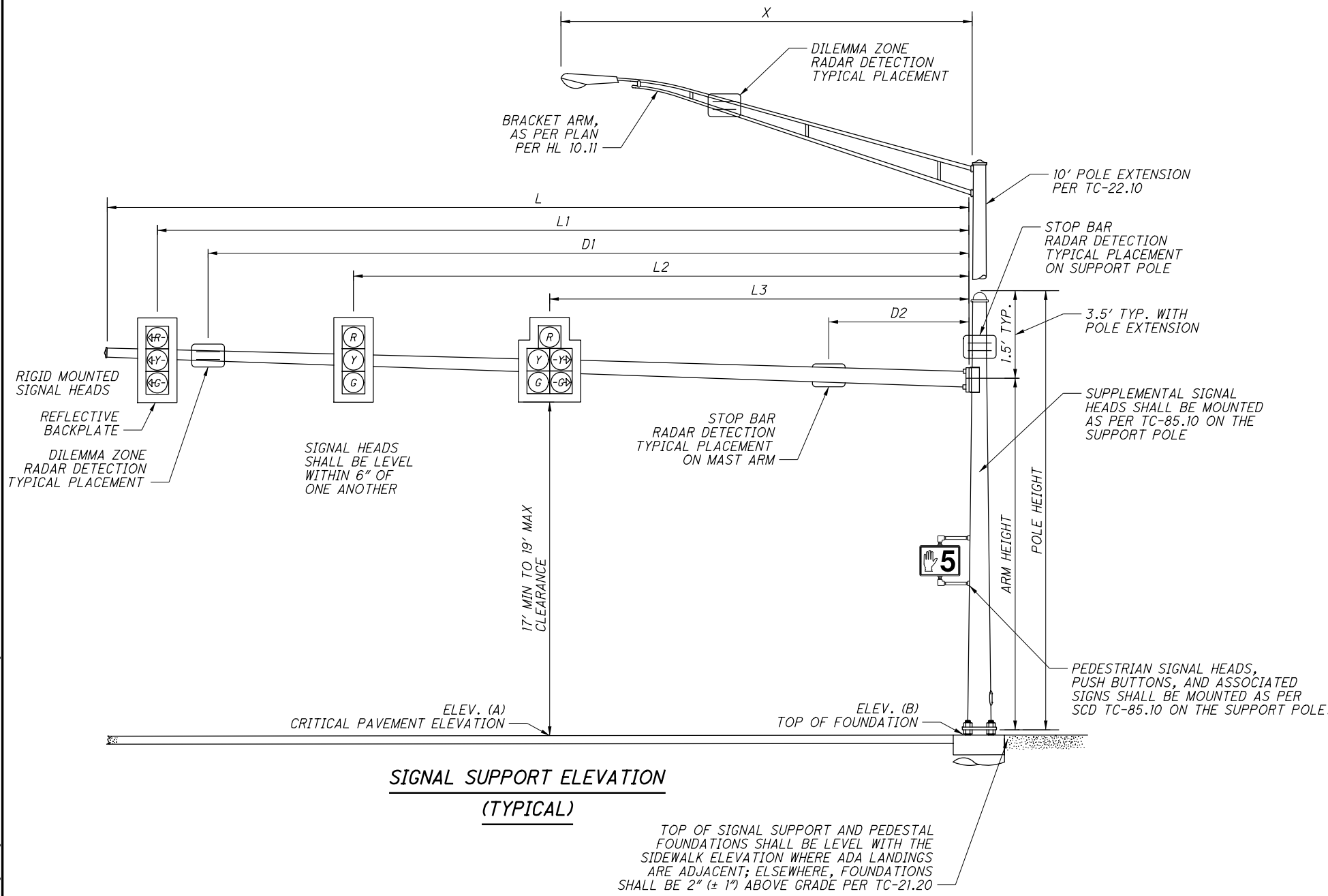
PHASE	SPLITS (G+Y+AR) IN SECONDS								CYCLE LENGTH (SEC)	OFFSET 1 (SEC)	OFFSET 2 (SEC)
	1	2	3	4	5	6	7	8			
DIRECTION	SBLT	NB	-	EB	-	SB	-	-	-	-	-
PLAN NO.	INTERSECTION 2 - ARLINGTON ROAD & I-70 RAMPS B/D										
AM	16	47	-	27	-	63	-	-	90	8	-
PM	17	48	-	25	-	65	-	-	90	15	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

TRAFFIC SIGNAL PLAN DETAILS  
ARLINGTON ROAD AND RAMP B / RAMP D

MOT-70-3.34

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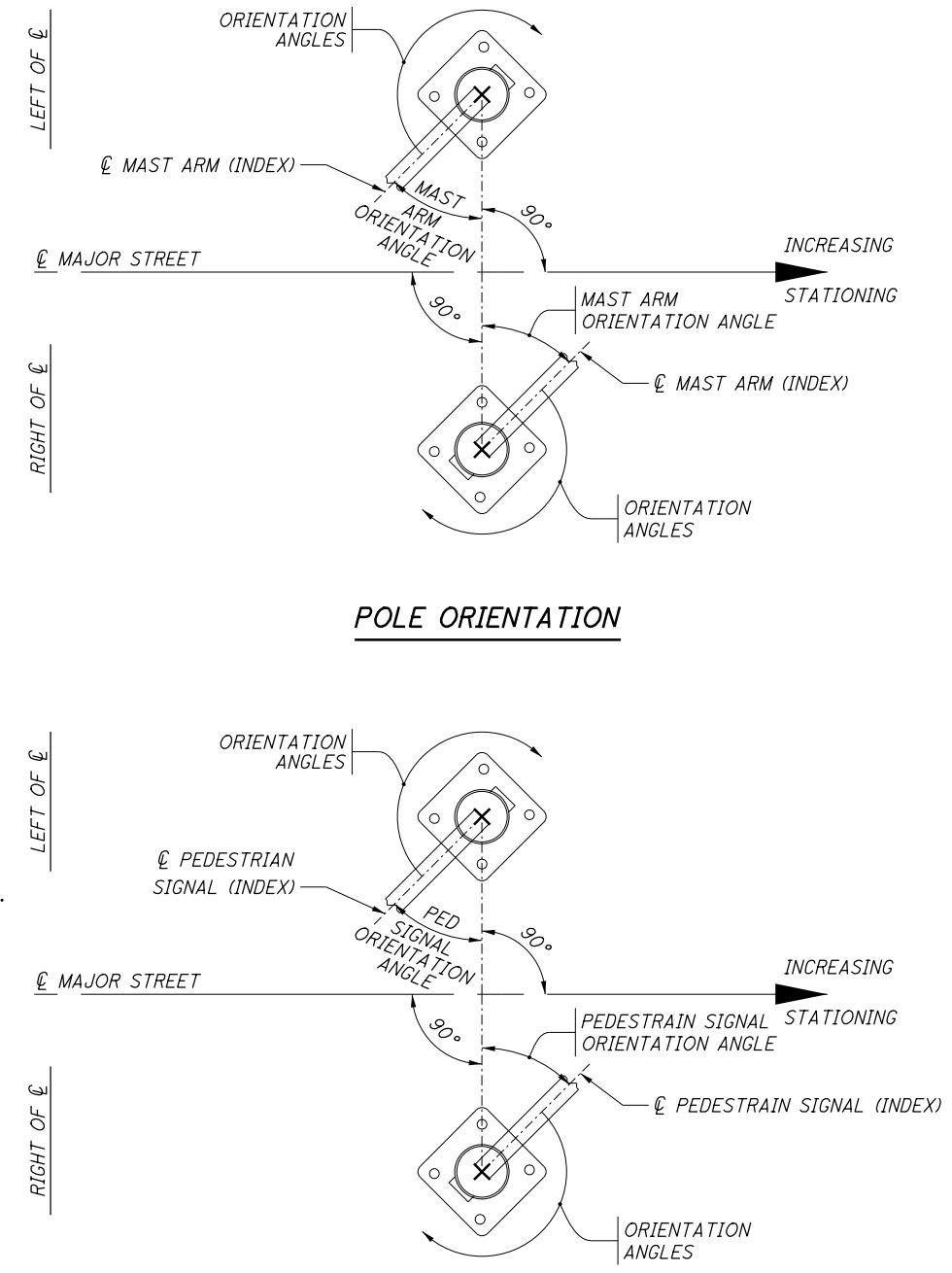


**SIGNAL SUPPORT ELEVATION  
(TYPICAL)**

TOP OF SIGNAL SUPPORT AND PEDESTAL FOUNDATIONS SHALL BE LEVEL WITH THE SIDEWALK ELEVATION WHERE ADA LANDINGS ARE ADJACENT; ELSEWHERE, FOUNDATIONS SHALL BE 2" (± 1") ABOVE GRADE PER TC-21.20

**MAST ARM TABLE**

POLE	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS										ORIENTATION ANGLES FROM MAST ARM									
			A	B	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	D1	D2	X	MAST ARM A ANGLE	MAST ARM B ANGLE	PEDESTRIAN SIGNAL	PEDESTRIAN BUTTON	POWER SERVICE	CONTROLLER	BRACKET ARM	HANDHOLE	CABLE ENTRANCE 12" FROM TOP	
			FT	FT																				FT
SP-1	28+31.5	45.2' LT	1037.0	1037.00	TC-81.21	11	25	21.5	45	27	38.75	0	-	30	0	-	180	-	-	-	0	180	180	
SP-2	28+51	47.9' RT	1039.0	1035.1	TC-81.21	12	25	23.5	48	33	45	0	38.5	-	90	-	90	-	-	-	-	270	-	
SP-3	29+54.2	37.5' RT	1041.2	1039.9	TC-81.21	4	25	21.5	38	19.5	29.5	38	-	30	0	-	180	-	-	-	0	180	-	
PS-1	29+08	42.5' RT	-	1038.8	PEDESTAL	-	8	-	-	-	-	-	-	-	-	-	180	-	-	-	-	270	-	



**POLE ORIENTATION**

**PEDESTAL ORIENTATION**

CALCULATED  
LSK  
CHECKED  
NGF

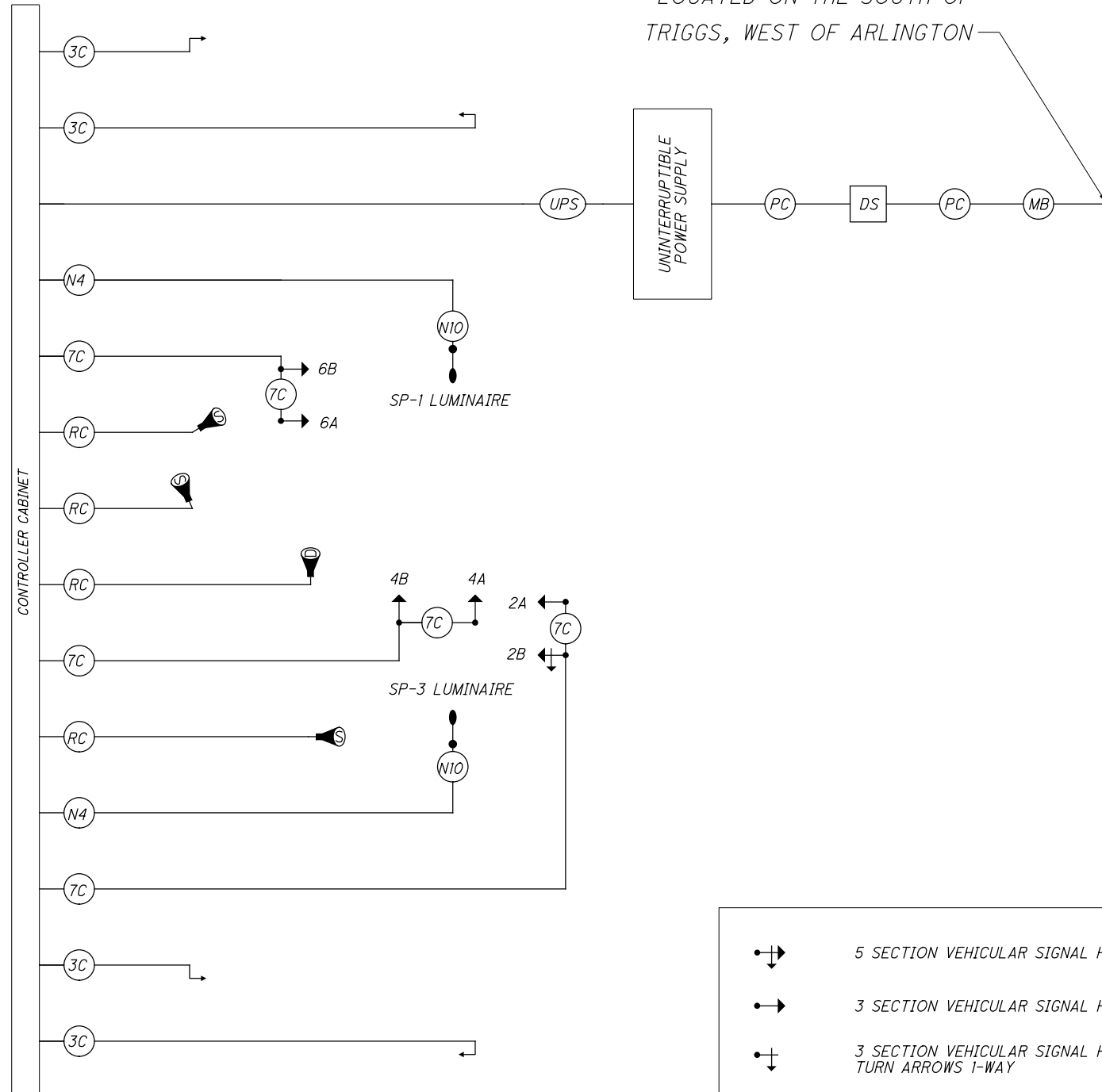
**TRAFFIC SIGNAL PLAN DETAILS  
ARLINGTON ROAD AND RAMP B / RAMP D**

**MOT-70-3.34**



**WIRING DIAGRAM**

EXISTING DP&L PEDESTAL  
LOCATED ON THE SOUTH OF  
TRIGGS, WEST OF ARLINGTON



**FIELD WIRING HOOK-UP CHART**

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	PEDESTRIAN MOVEMENTS			
				PED A	W	φ6	OUT
2A (NB)	R	φ2R	Y	-	DW	φ6	OUT
	Y	φ2Y		-	-	-	
	G	φ2G		-	-	-	
2B (NB)	R	φ2R	Y	-	DW	φ2	OUT
	Y	φ2Y		-	-	-	
	G	φ2G		-	-	-	
4A (EB)	R	φ4R	R	-	-	-	-
	Y	φ4Y		-	-	-	
	G	φ4G		-	-	-	
4B (EB)	R	φ4R	R	-	-	-	-
	Y	φ4Y		-	-	-	
	G	φ4G		-	-	-	
6A (SB LT)	R	φ6R	Y	-	-	-	-
	Y	φ6Y		-	-	-	
	G	φ6G		-	-	-	
	<--Y-->	φ1Y		-	-	-	
	<--G-->	φ1G		-	-	-	
6B (SB)	R	φ6R	Y	-	-	-	-
	Y	φ6Y		-	-	-	
	G	φ6G		-	-	-	

LS = LOAD SWITCH

**LEGEND**

	5 SECTION VEHICULAR SIGNAL HEAD, 1-WAY		LUMINAIRE, CONVENTIONAL, 150 WATT, HPS, 120 VOLT, AS PER PLAN		SERVICE CABLE, 3 CONDUCTOR, NO. 8 AWG
	3 SECTION VEHICULAR SIGNAL HEAD, 1-WAY		3/C NO. XX AWG (LEAD-IN CABLE)		POWER CABLE, 2 CONDUCTOR, NO. 8 AWG
	3 SECTION VEHICULAR SIGNAL HEAD, TURN ARROWS 1-WAY		VEHICLE LOOP DETECTOR		SIGNAL SUPPORT POLE NO. ...
	PEDESTRIAN SIGNAL HEAD		SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG		METER BASE
	DILEMMA ZONE RADAR DETECTION UNIT		SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG		NO. 4 AWG DISTRIBUTION CABLE
	STOP BAR RADAR DETECTION UNIT		RADAR DETECTION CABLE		NO. 10 AWG POLE & BRACKET CABLE
	VIDEO DETECTION CAMERA		VIDEO CAMERA CABLE		DUAL LIGHTING/SIGNAL DISCONNECT SWITCH
	PTZ CAMERA		DISTRIBUTION CABLE, 5000 V NO. 4 AWG		FLASHER CABINET
			POWER SOURCE		UNINTERRUPTIBLE POWER SUPPLY CABLE

**NOTES:**

- FOR LOCATIONS WITH LEFT TURN LANES RUN 7C FOR POTENTIAL PT/PM LT PHASE IF INITIAL DESIGN IS FOR PERMITTED ONLY.
- OVERLAPS SHALL BE WIRED TO THE APPROPRIATE LOAD SWITCHES AS PER THE FIELD HOOKUP CHART AND CONFIGURED IN THE CONTROLLER SOFTWARE PER THE SIGNAL TIMING CHART.

CALCULATED  
LSK  
CHECKED  
NGF

TRAFFIC SIGNAL PLAN DETAILS  
ARLINGTON ROAD AND RAMP B / RAMP D

MOT-70-3.34

73  
136

**PEDESTRIAN SIGNS**



R9-3-18  
LOCATED ON SP-1 & SP-2  
AND ON S28 & S35 (SEE SHEET 55)  
FACING ARLINGTON ROAD

ITS-1, CCTV POLE, 70'  
WITH CCTV IP-CAMERA  
STA. 35+90.6, 118.9' LT.  
ELEV. 1027.5

NOTE: EDGE OF POLE TO BE AT LEAST 30' FROM  
EDGE OF TRAVELED WAY.

4" CONDUIT, MULTICELL, 725.20  
CCTV COMPOSITE CABLE  
IN TRENCH= 10'

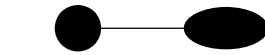
GROUND MOUNTED CONTROLLER  
CABINET WORK PAD AND UPS  
STA. 36+03.0, 116.9' LT.  
ELEV. 1027.2

2" CONDUIT, 725.051  
4" CONDUIT, MULTICELL, 725.20  
CCTV COMPOSITE CABLE  
IN TRENCH= 7'

PB-10, 32" PULL BOX, 725.08  
STA. 35+97.6, 112.4' LT.

2" CONDUIT, 725.051  
IN TRENCH= 506'

**LIGHTING DETAILS**

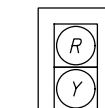


RL2 LUMINAIRES:  
LOCATED ON SP-1 & SP-2,  
SEE SHEET 84 FOR LIGHTING  
FIXTURE SCHEULE

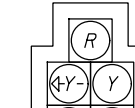
**SIGNAL HEADS**



PEDESTRIAN HEADS  
(LED, COUNTDOWN,  
TYPE D2)  
PS-1, PS-2



2B, 8A, 8B,  
6A, 6B



2A

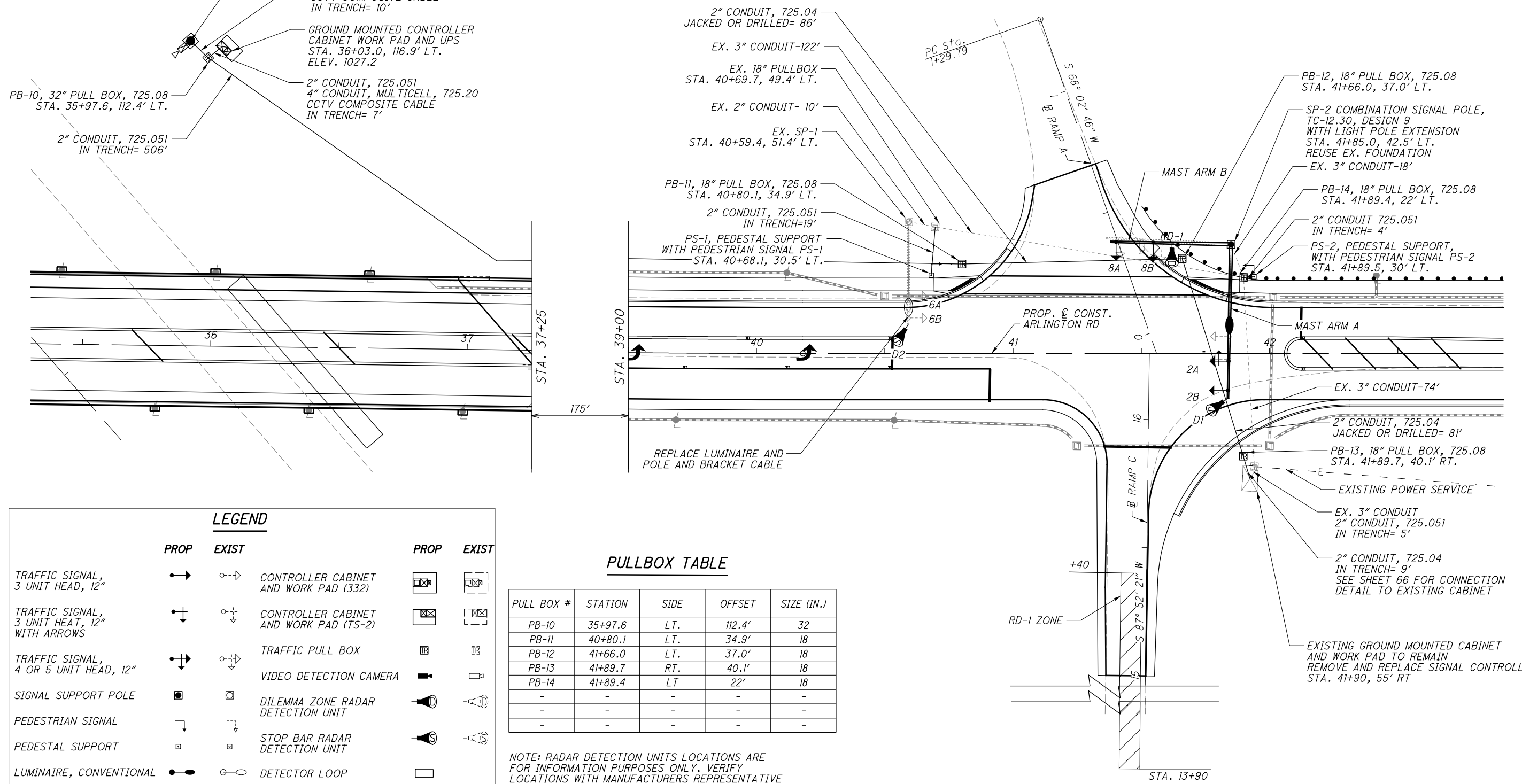


CALCULATED LSK CHECKED NGF

**TRAFFIC SIGNAL PLAN  
ARLINGTON ROAD AND RAMP A / RAMP C**

**MOT-70-3.34**

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**LEGEND**

	PROP	EXIST		PROP	EXIST
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"			CONTROLLER CABINET AND WORK PAD (332)		
TRAFFIC SIGNAL, 3 UNIT HEAD, 12" WITH ARROWS			CONTROLLER CABINET AND WORK PAD (TS-2)		
TRAFFIC SIGNAL, 4 OR 5 UNIT HEAD, 12"			TRAFFIC PULL BOX		
SIGNAL SUPPORT POLE			VIDEO DETECTION CAMERA		
PEDESTRIAN SIGNAL			DILEMMA ZONE RADAR DETECTION UNIT		
PEDESTAL SUPPORT			STOP BAR RADAR DETECTION UNIT		
LUMINAIRE, CONVENTIONAL			DETECTOR LOOP		
DETECTION ZONE			CCTV IP-CAMERA		
CCTV SIGNAL POLE					

**PULLBOX TABLE**

PULL BOX #	STATION	SIDE	OFFSET	SIZE (IN.)
PB-10	35+97.6	LT.	112.4'	32
PB-11	40+80.1	LT.	34.9'	18
PB-12	41+66.0	LT.	37.0'	18
PB-13	41+89.7	RT.	40.1'	18
PB-14	41+89.4	LT	22'	18
-	-	-	-	-
-	-	-	-	-

NOTE: RADAR DETECTION UNITS LOCATIONS ARE  
FOR INFORMATION PURPOSES ONLY. VERIFY  
LOCATIONS WITH MANUFACTURERS REPRESENTATIVE  
FOR OPTIMAL PERFORMANCE.

**PLAN VIEW**



CALCULATED  
LSK  
CHECKED  
NGF

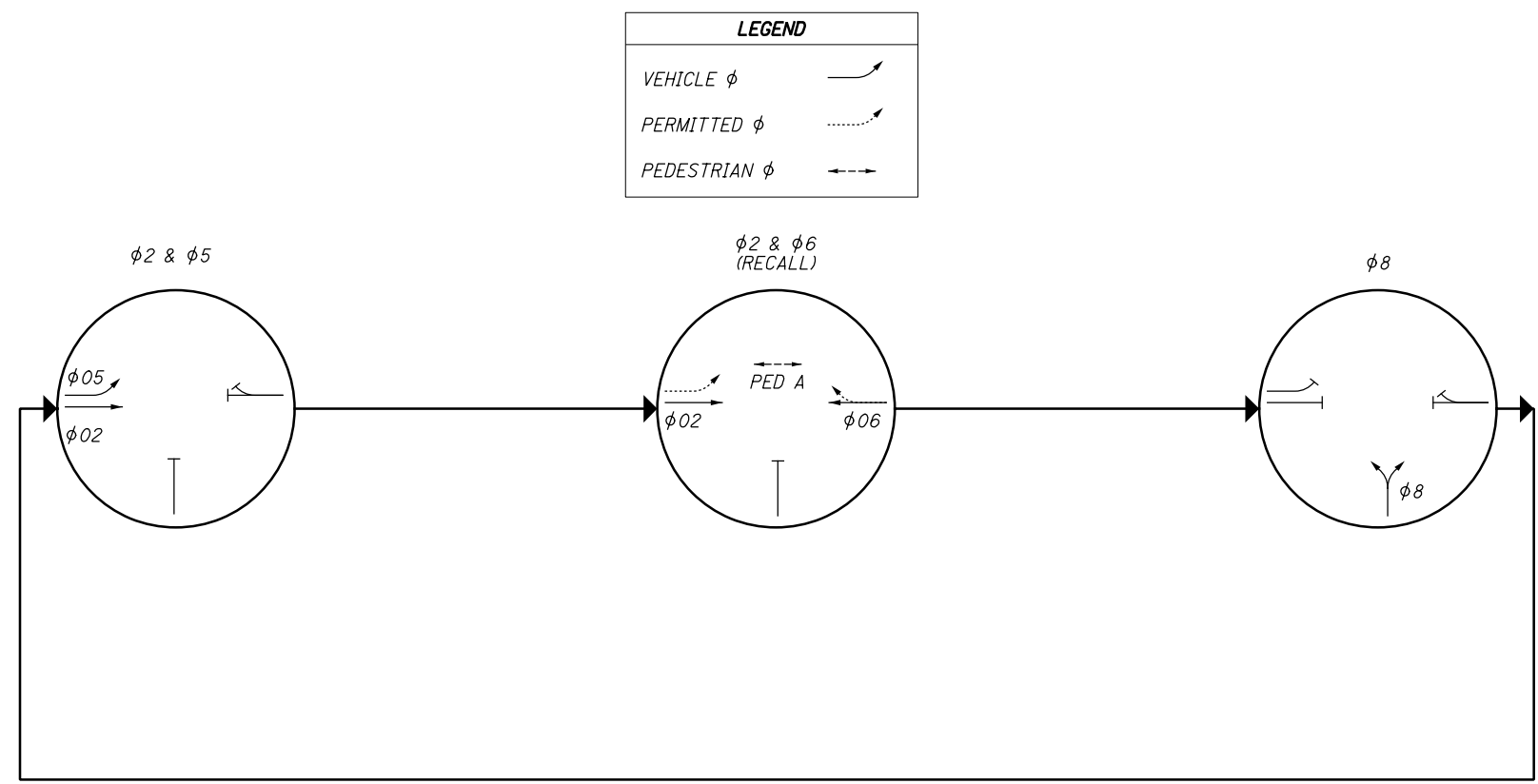
**SIGNAL TIMING CHART**

INTERSECTION: ARLINGTON ROAD & INTERSTATE-70 RAMP A/C  
MAINTAINING AGENCY: OHIO DEPARTMENT OF TRANSPORTATION - DISTRICT 7

<b>START UP</b>		DUAL ENTRY: YES	PHASES: 2 & 6						
START IN: ALL RED		REST IN RED: RING 1	-	RING 2	-				
TIME FOR FLASH OR ALL RED:	5 (SEC)	OVERLAP	A	B	C	D			
FIRST PHASE(S):	2 & 6	PHASES	-	-	-	-			
COLOR DISPLAYED:	GREEN								
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION		-	NB	-	-	NB LT	SB	-	WB
MINIMUM GREEN (INITIAL) (SEC.)		-	20	-	-	7	20	-	10
ADDED INITIAL *(SEC./ACTUATION)		-	-	-	-	-	-	-	-
MAXIMUM INITIAL (SEC.)		-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP) (SEC.)		-	0.5	-	-	0.5	0.5	-	0.5
TIME BEFORE REDUCTION *(SEC.)		-	-	-	-	-	-	-	-
MINIMUM GAP *(SEC.)		-	-	-	-	-	-	-	-
TIME TO REDUCE *(SEC.)		-	-	-	-	-	-	-	-
MAXIMUM GREEN I (SEC.)		-	40	-	-	12	40	-	25
MAXIMUM GREEN II (SEC.)		-	40	-	-	12	40	-	25
YELLOW CHANGE (SEC.)		-	4	-	-	4	3.5	-	3.5
ALL RED CLEARANCE (SEC.)		-	2	-	-	2.5	2	-	2
WALK (SEC.)		-	-	-	-	-	14	-	-
PEDESTRIAN CLEARANCE (SEC.)		-	-	-	-	-	23	-	-
RECALL	MAXIMUM (ON/OFF)	-	-	-	-	-	-	-	-
	MINIMUM (ON/OFF)	-	ON	-	-	-	ON	-	-
	PEDESTRIAN (ON/OFF)	-	-	-	-	-	ON	-	-
MEMORY (ON/OFF)		-	-	-	-	-	-	-	-

\*VOLUME DENSITY CONTROLS

**PHASING DIAGRAM**



**STOP-BAR DETECTION CHART**

DETECTION UNIT	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
D1	WB THRU	PRESENCE	$\phi$ 8	-	-	-	-
D2	NB THRU	PRESENCE	$\phi$ 2	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

NOTE: STOP BAR DETECTS VEHICLES FROM 6' TO 140'

**RADAR DETECTION CHART**

DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
RD-1	WB THRU	PRES	$\phi$ 8	-	-	-	150
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

NOTE: DILEMMA ZONE SPEED THRESHOLD >30 MPH

**NOTES:**

- ALL MOVEMENTS SHALL BE ACTUATED. THE PRIMARY THRU MOVEMENT SHOULD HAVE MIN RECALL ACTIVE TO REST IN GREEN.
- FOR PROTECTED/PERMISSIVE PHASES, IMPLEMENT CALL OMITTS TO AVOID YELLOW BALL TRAP.
- ENABLE  $\phi$  3 &  $\phi$  7 DETECTOR SWITCHING TO ALLOW  $\phi$  3 &  $\phi$  7 TO EXTEND  $\phi$  4 &  $\phi$  8 WHEN ALLOCATED GREEN TIME FOR LEFT TURN PHASES ARE EXHAUSTED.
- RADAR DETECTION UNITS FOR DILEMMA ZONE DETECTION SHALL PLACE A CONSTANT CALL TO THE CONTROLLER WHEN VEHICLES TRAVEL TIMES TO THE STOP BAR ARE BETWEEN 2.5 AND 6 SECONDS. SPEED TRIGGER SHALL BE SET FOR VEHICLES TRAVELING 35 MPH AND GREATER.
- RADAR SHALL HAVE QUEUE DETECTION CONFIGURED AND A ZONE PLACED AT 100-200 FEET FROM STOP BAR FOR SLOW MOVING VEHICLE EXTENSIONS. SPEED TRIGGER SHALL BE SET AT 1-35 MPH.
- ALL DETECTOR DELAYS SHALL BE PLACED IN THE CONTROLLER.

**COORDINATION TIMING CHART**

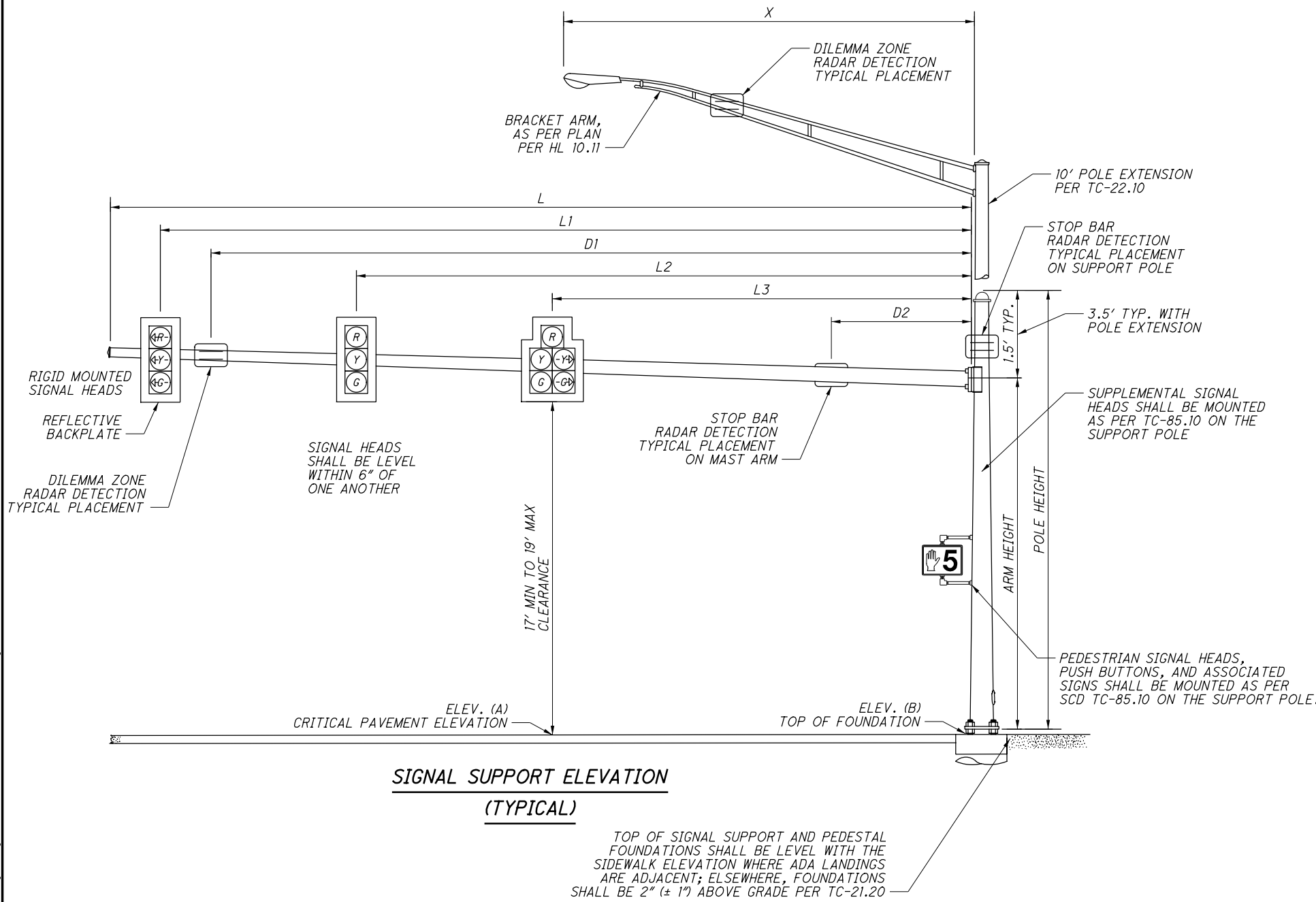
PHASE	SPLITS (G+Y+AR) IN SECONDS								CYCLE LENGTH (SEC)	OFFSET 1 (SEC)	OFFSET 2 (SEC)
	1	2	3	4	5	6	7	8			
DIRECTION	-	NB	-	-	NBLT	SB	-	WB			
PLAN NO.	INTERSECTION 3 - ARLINGTON ROAD & I-70 RAMPS A/C										
AM	-	66	-	-	14	52	-	24	90	57	-
PM	-	60	-	-	14	46	-	30	90	34	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

TRAFFIC SIGNAL PLAN DETAILS  
ARLINGTON ROAD AND RAMP A / RAMP C

MOT-70-3.34

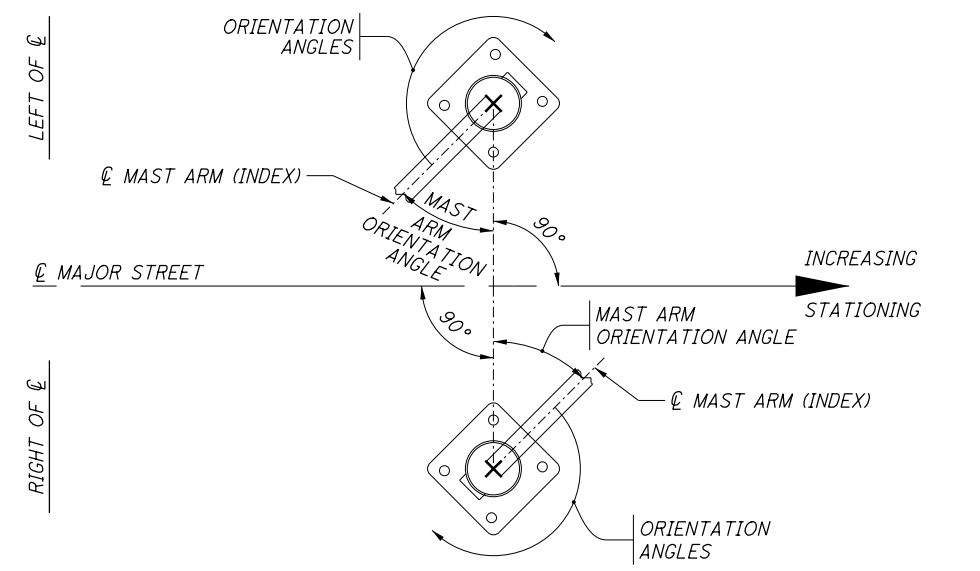
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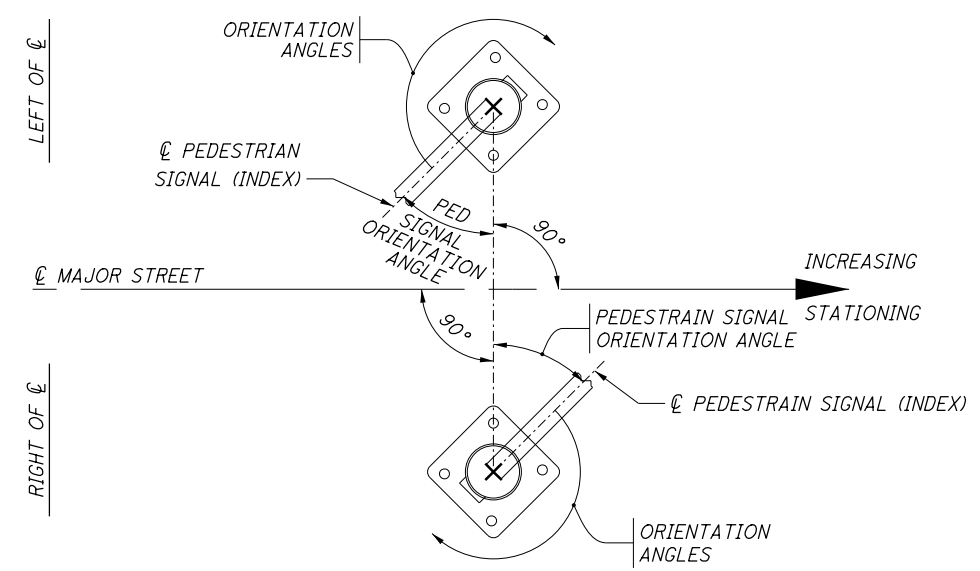


**SIGNAL SUPPORT ELEVATION (TYPICAL)**

TOP OF SIGNAL SUPPORT AND PEDESTAL FOUNDATIONS SHALL BE LEVEL WITH THE SIDEWALK ELEVATION WHERE ADA LANDINGS ARE ADJACENT; ELSEWHERE, FOUNDATIONS SHALL BE 2" (± 1") ABOVE GRADE PER TC-21.20



**POLE ORIENTATION**



**PEDESTAL ORIENTATION**

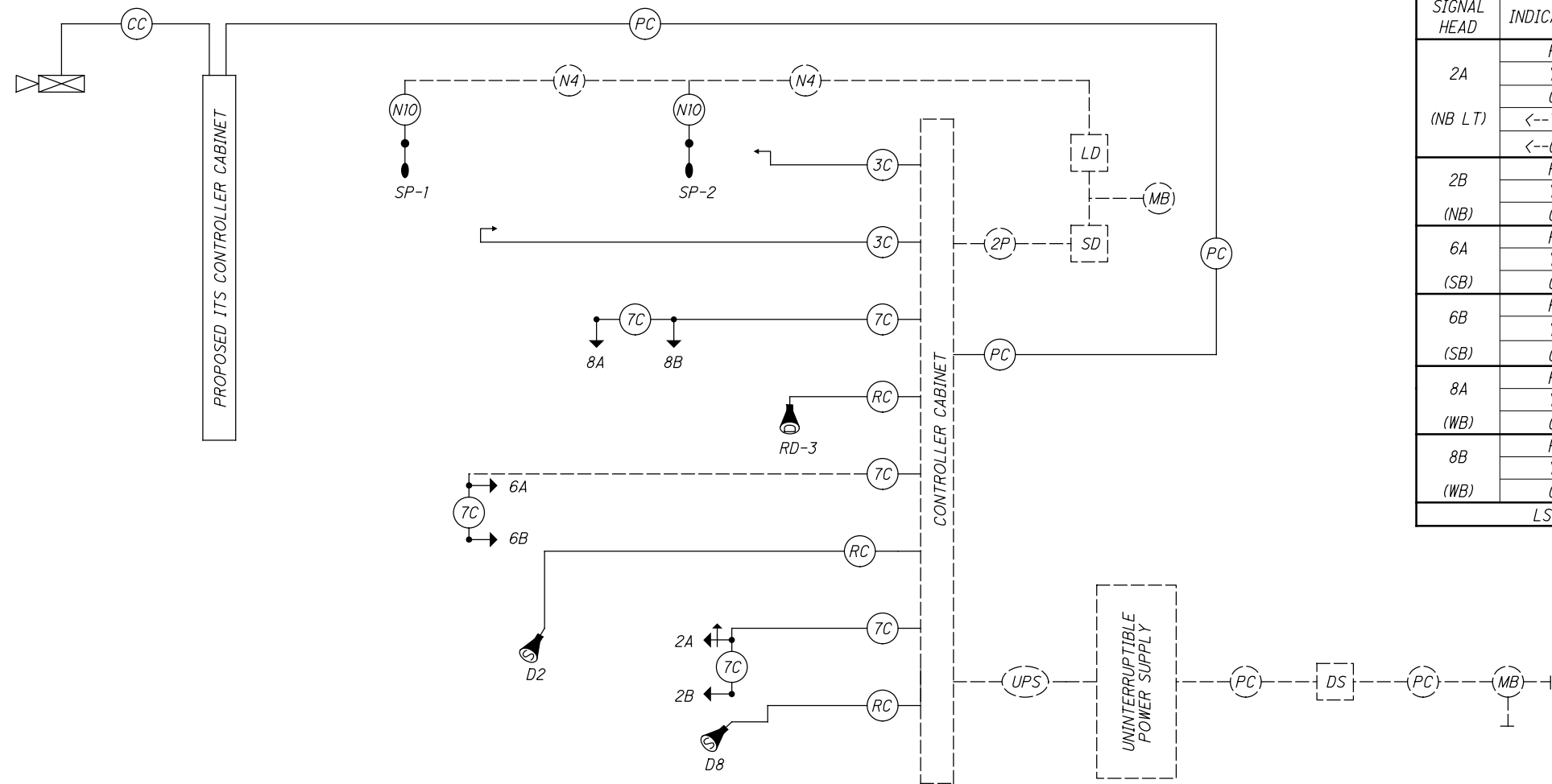
**MAST ARM TABLE**

POLE	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS											ORIENTATION ANGLES FROM MAST ARM									
			A	B	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	L3	D1	D2	X	MAST ARM A ANGLE	MAST ARM B ANGLE	PEDESTRIAN SIGNAL	PEDESTRIAN BUTTON	POWER SERVICE	CONTROLLER	BRACKET ARM	HANDHOLE	CABLE ENTRANCE 12" FROM TOP	
			FT	FT																					FT
SP-1 (EX)	-	-	-	Existing	TC-81.21	11	28	23	40	29	37	-	40	-	30	-	-	-	-	-	-	EX	EX	EX	
SP-2	41+85	42.5' LT.	1041.5	1038	TC-12.30	9	27	23.5	60	45.5	57	-	60	-	30	0	-	-	-	-	-	0	180	-	
SP-2	41+85	42.5' LT.	1041.5	1038	TC-12.30	9	27	23.5	48	30	45	-	23	-	-	-	90	-	-	-	-	-	-	-	
PS-1	40+68	30.5' LT	-	1043.2	PEDESTAL	-	8	-	-	-	-	-	-	-	-	-	-	180	-	-	-	-	270	-	
PS-2	41+89.5	30' LT	-	1039.8	PEDESTAL	-	8	-	-	-	-	-	-	-	-	-	-	180	-	-	-	-	270	-	

CALCULATED LSK CHECKED NGF  
**TRAFFIC SIGNAL PLAN DETAILS**  
**ARLINGTON ROAD AND RAMP A / RAMP C**  
**MOT-70-3.34**  
 76  
 136

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**WIRING DIAGRAM (TYPICAL)**



**FIELD WIRING HOOK-UP CHART**

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	PEDESTRIAN MOVEMENTS		
				PED A	W	OUT
2A (NB LT)	R	φ 2-R	Y	-	φ 6	
	Y	φ 2-Y			φ 6	
	G	φ 2-G				
	<--Y---	φ 5-Y				
	<--G---	φ 5-G				
2B (NB)	R	φ 2-R	Y			
	Y	φ 2-Y				
	G	φ 2-G				
6A (SB)	R	φ 6-R	R			
	Y	φ 6-Y				
	G	φ 6-G				
6B (SB)	R	φ 6-R	R			
	Y	φ 6-Y				
	G	φ 6-G				
8A (WB)	R	φ 8-R	Y			
	Y	φ 8-Y				
	G	φ 8-G				
8B (WB)	R	φ 8-R	Y			
	Y	φ 8-Y				
	G	φ 8-G				

LS = LOAD SWITCH

**LEGEND**

	5 SECTION VEHICULAR SIGNAL HEAD, 1-WAY		LUMINAIRE, CONVENTIONAL, 150 WATT, HPS, 120 VOLT, AS PER PLAN		SERVICE CABLE, 3 CONDUCTOR, NO. 8 AWG
	3 SECTION VEHICULAR SIGNAL HEAD, 1-WAY		3/C NO. XX AWG (LEAD-IN CABLE)		POWER CABLE, 2 CONDUCTOR, NO. 8 AWG
	3 SECTION VEHICULAR SIGNAL HEAD, TURN ARROWS 1-WAY		VEHICLE LOOP DETECTOR		CCTV COMPOSITE CABLE
	PEDESTRIAN SIGNAL HEAD		SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG		METER BASE
	DILEMMA ZONE RADAR DETECTION UNIT		SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG		NO. 4 AWG DISTRIBUTION CABLE
	STOP BAR RADAR DETECTION UNIT		RADAR DETECTION CABLE		NO. 10 AWG POLE & BRACKET CABLE
	VIDEO DETECTION CAMERA		VIDEO CAMERA CABLE		DUAL LIGHTING/SIGNAL DISCONNECT SWITCH
	CCTV IP-CAMERA		2/C #6 AWG POWER CABLE		30 AMP SIGNAL DISCONNECT SWITCH
	POWER SOURCE		3/C #6 AWG POWER CABLE		20 AMP LIGHTING DISCONNECT SWITCH
			UNINTERRUPTIBLE POWER SUPPLY CABLE		

**NOTES:**

- FOR LOCATIONS WITH LEFT TURN LANES RUN 7C FOR POTENTIAL PT/PM LT PHASE IF INITIAL DESIGN IS FOR PERMITTED ONLY.
- OVERLAPS SHALL BE WIRED TO THE APPROPRIATE LOAD SWITCHES AS PER THE FIELD HOOKUP CHART AND CONFIGURED IN THE CONTROLLER SOFTWARE PER THE SIGNAL TIMING CHART.

CALCULATED  
LSK  
CHECKED  
NGF

TRAFFIC SIGNAL PLAN DETAILS  
ARLINGTON ROAD AND RAMP A / RAMP C

MOT-70-3.34

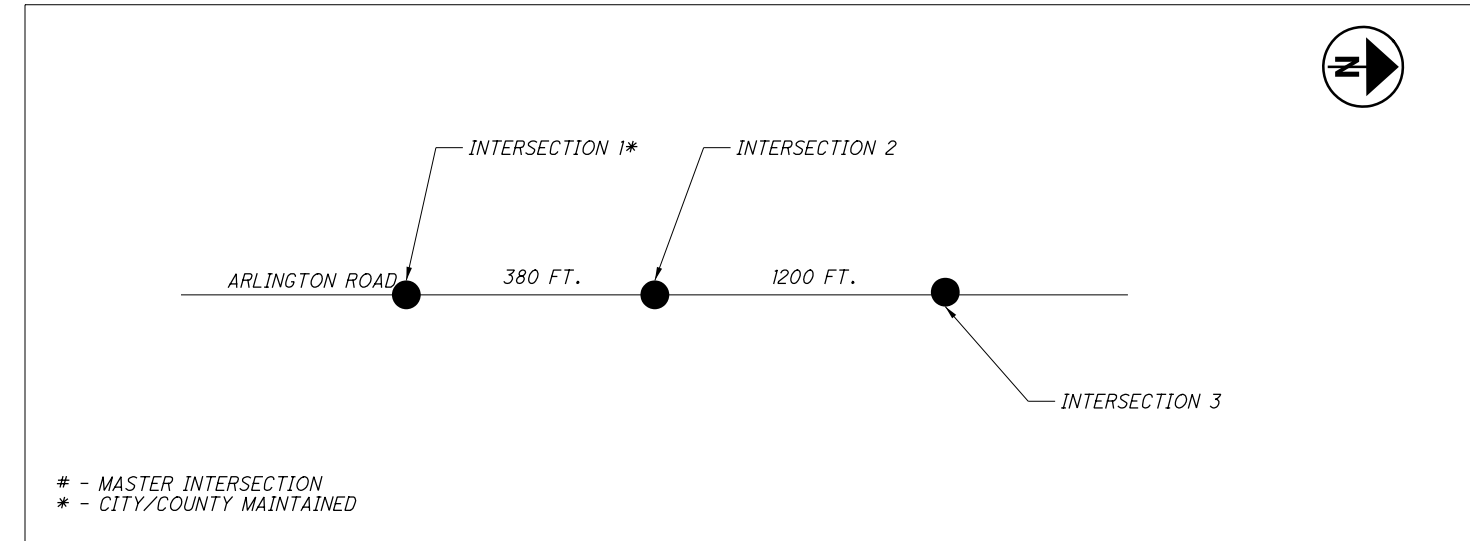
**COORDINATION TIMING CHART**

**CORRIDOR LAYOUT**

PHASE	SPLITS (G+Y+AR) IN SECONDS								CYCLE LENGTH (SEC)	OFFSET 1 (SEC)	OFFSET 2 (SEC)
	1	2	3	4	5	6	7	8			
DIRECTION		NB		EB		SB		WB			
PLAN NO.	INTERSECTION 1 - ARLINGTON ROAD & TRIGGS ROAD										
AM	-	49	-	41	-	49	-	41	90	0	-
PM	-	49	-	41	-	49	-	41	90	0	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

PHASE	SPLITS (G+Y+AR) IN SECONDS								CYCLE LENGTH (SEC)	OFFSET 1 (SEC)	OFFSET 2 (SEC)
	1	2	3	4	5	6	7	8			
DIRECTION	SBLT	NB	-	EB	-	SB	-	-			
PLAN NO.	INTERSECTION 2 - ARLINGTON ROAD & I-70 RAMPS B/D										
AM	16	47	-	27	-	63	-	-	90	8	-
PM	17	48	-	25	-	65	-	-	90	15	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

PHASE	SPLITS (G+Y+AR) IN SECONDS								CYCLE LENGTH (SEC)	OFFSET 1 (SEC)	OFFSET 2 (SEC)
	1	2	3	4	5	6	7	8			
DIRECTION	-	NB	-	-	NBLT	SB	-	WB			
PLAN NO.	INTERSECTION 3 - ARLINGTON ROAD & I-70 RAMPS A/C										
AM	-	66	-	-	14	52	-	24	90	57	-
PM	-	60	-	-	14	46	-	30	90	34	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-



**COORDINATION TIMING PLANS**

DAY(S) OF WEEK	PLAN NAME	HOURS	CYCLE/SPLIT/OFFSET	CYCLE LENGTH (SEC)
SMTWRFS	AM	0600-1300	-	90
SMTWRFS	PM	1300-2000	-	90
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

**NOTES:**

- OFFSETS ARE MEASURED FROM REFERENCE PHASE(S) NUMBERED "END OF GREEN/BEGINNING OF YELLOW."
- MASTER INTERSECTION OFFSET REFERENCE IS ALWAYS EQUAL TO ZERO.
- $\Sigma\phi 1 + \phi 2 = \Sigma\phi 5 + \phi 6$  AND  $\Sigma\phi 3 + \phi 4 = \Sigma\phi 7 + \phi 8$

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**TRAFFIC SIGNAL PLAN DETAILS**  
**SIGNAL COORDINATION**

**MOT-70-3.34**

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**ITEM 625, LUMINAIRE, CONVENTIONAL, SOLID STATE (LED),  
AS PER PLAN (FOR FIXTURES RL1, RL2, AND RL3)**

THE REQUIREMENTS OF ITEM 625, LUMINAIRE, SHALL BE MODIFIED  
AS FOLLOWS:

LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS WITH AN IES II-M-SC  
DISTRIBUTION AND LED LIGHTING ENGINE SHALL BE AS NOTED IN  
LIGHTING FIXTURE SCHEDULE FOR FIXTURE TYPES RL1, RL2, AND RL3.  
EQUALS SHALL BE APPROVED BY THE ENGINEER.

LUMINAIRES LOCATED ON BRIDGE SHALL MEET OR EXCEED A ROADWAY LUMINAIRE  
VIBRATION OF 3.06 PER ANSI C.136.31 FOR BRIDGE/OVERPASS APPLICATIONS.

LUMINAIRES SHALL BE PROVIDED WITH SPD'S AS REQUIRED PER ODOT SUPPLEMENTAL  
SPECIFICATIONS 913.5.

REFER TO SHEET 84 FOR LIGHTING FIXTURE SCHEDULE AND SHEET 85 FOR  
LIGHTING DETAILS. PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR  
EACH C&MS ITEM 625, "LUMINAIRE, CONVENTIONAL, SOLID STATE (LED),  
AS PER PLAN (FOR FIXTURES RL1, RL2, AND RL3)" FOR EACH LUMINAIRE  
WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND  
INCIDENTALS REQUIRED TO INSTALL THE FIXTURE.

**ITEM 625, LIGHT POLE, DECORATIVE, AS PER PLAN, 14' PT1  
ITEM 625, LIGHT POLE, DECORATIVE, AS PER PLAN, 12' PT2**

THE REQUIREMENTS OF ITEM 625, LIGHT POLE, SHALL BE MODIFIED  
AS FOLLOWS:

LIGHT POLES FOR POST TOP LIGHTING UNITS SHALL BE AS NOTED  
IN LIGHTING FIXTURE SCHEDULE FOR FIXTURE TYPES PT1 AND PT2.  
EQUALS SHALL BE APPROVED BY THE ENGINEER.

REFER TO SHEET 84 FOR LIGHTING FIXTURE SCHEDULE AND SHEET 85  
FOR LIGHTING DETAILS. PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR  
EACH C&MS ITEM 625, LIGHT POLE, DECORATIVE, AS PER PLAN  
(FOR FIXTURES PT1 AND PT2) WHICH SHALL BE FULL COMPENSATION FOR  
ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO INSTALL LIGHT POLE.

**ITEM 625, LUMINAIRE, DECORATIVE, AS PER PLAN, PT1  
ITEM 625, LUMINAIRE, DECORATIVE, AS PER PLAN, PT2**

THE REQUIREMENTS OF ITEM 625, LIGHT POLE, SHALL BE MODIFIED  
AS FOLLOWS:

LUMINAIRES FOR POST TOP LIGHTING UNITS WITH AN IES III-M-SC  
DISTRIBUTION AND LED LIGHTING ENGINE SHALL BE AS NOTED IN  
LIGHTING FIXTURE SCHEDULE FOR FIXTURE TYPES PT1 AND PT2.  
EQUALS SHALL BE APPROVED BY THE ENGINEER.

REFER TO SHEET 84 FOR LIGHTING FIXTURE SCHEDULE AND SHEET 85  
FOR LIGHTING DETAILS. PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR  
EACH C&MS ITEM 625, LUMINAIRE, DECORATIVE, AS PER PLAN  
(FOR FIXTURES PT1 AND PT2) WHICH SHALL BE FULL COMPENSATION FOR  
ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO INSTALL THE  
FIXTURE.

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LIGHTING GENERAL NOTES

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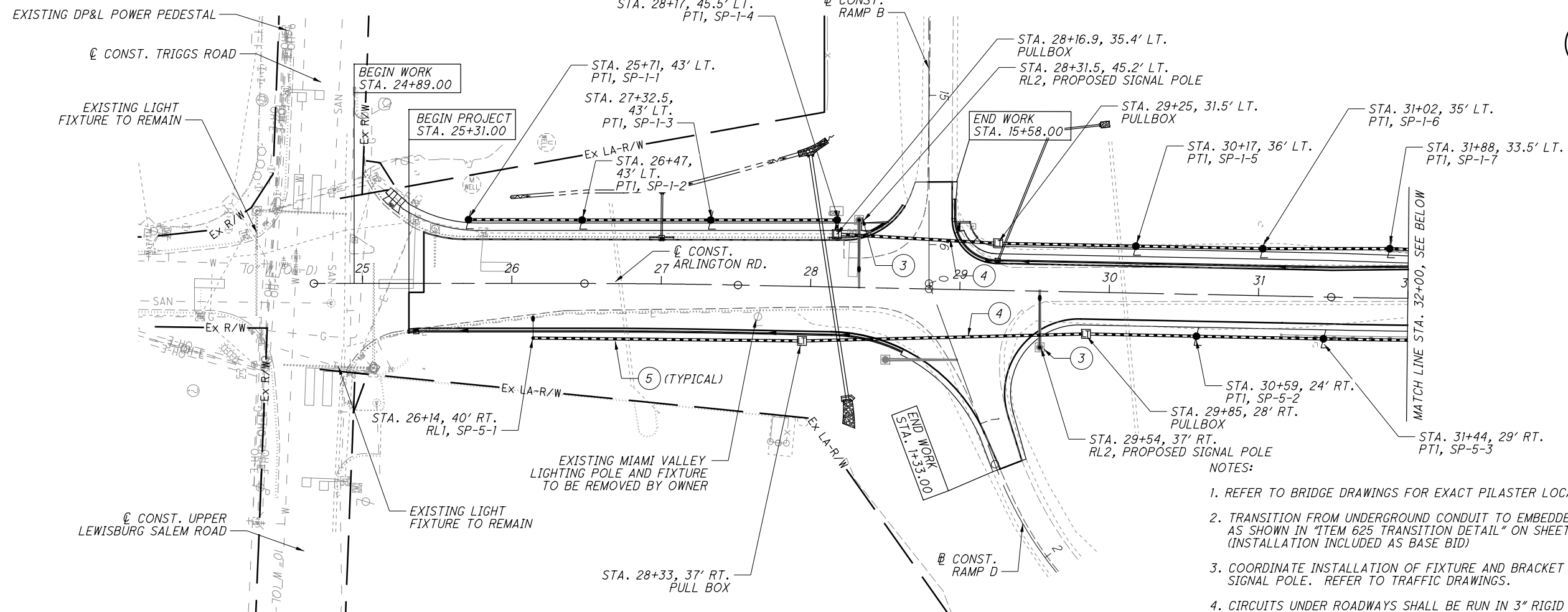
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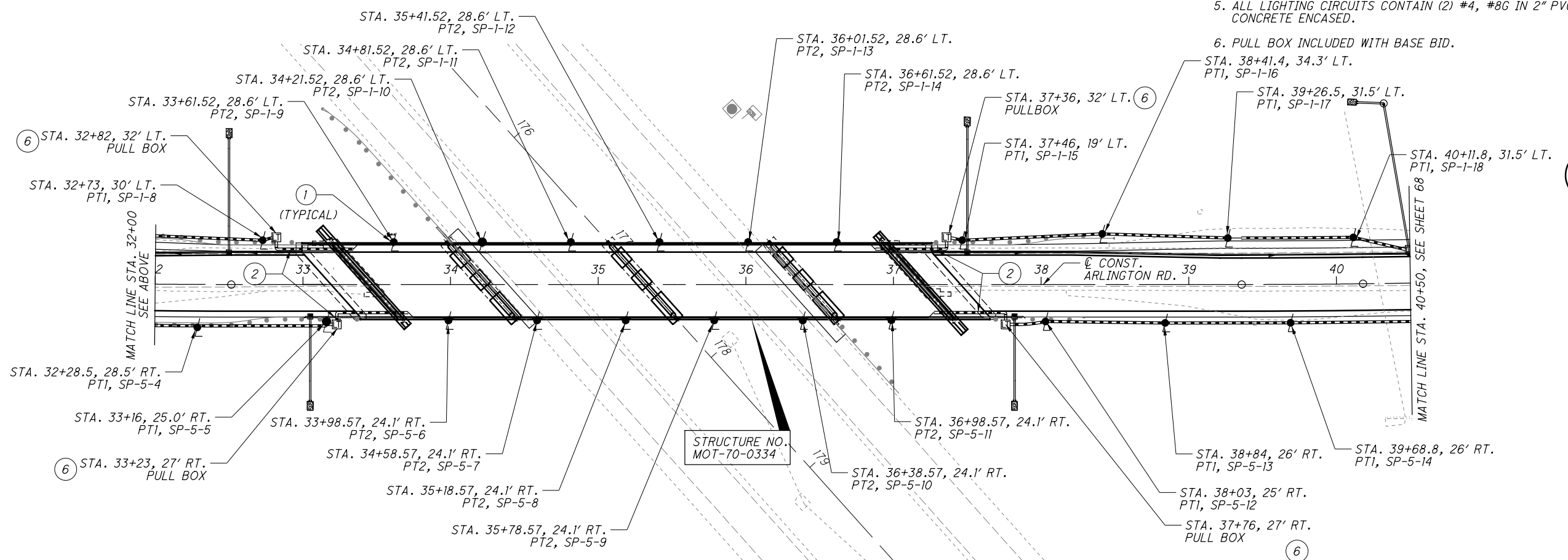
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ATD	40
CHECKED	20
NGF	80

HORIZONTAL SCALE IN FEET

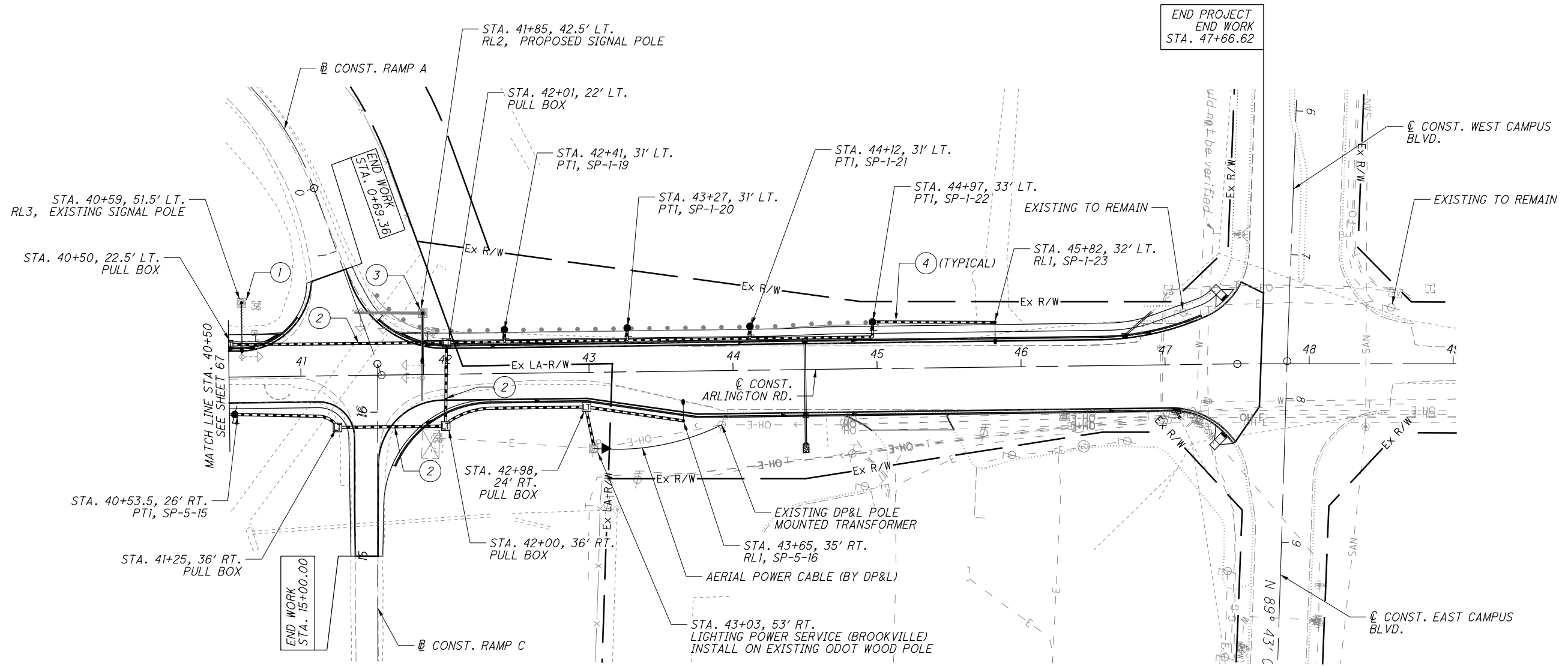
- NOTES:
1. REFER TO BRIDGE DRAWINGS FOR EXACT PILASTER LOCATIONS.
  2. TRANSITION FROM UNDERGROUND CONDUIT TO EMBEDDED CONDUIT AS SHOWN IN "ITEM 625 TRANSITION DETAIL" ON SHEET 88. (INSTALLATION INCLUDED AS BASE BID)
  3. COORDINATE INSTALLATION OF FIXTURE AND BRACKET ARM ON PROPOSED SIGNAL POLE. REFER TO TRAFFIC DRAWINGS.
  4. CIRCUITS UNDER ROADWAYS SHALL BE RUN IN 3" RIGID STEEL CONDUIT. JACKED UNDER THE PAVEMENT
  5. ALL LIGHTING CIRCUITS CONTAIN (2) #4, #8G IN 2" PVC CONDUIT, CONCRETE ENCASED.
  6. PULL BOX INCLUDED WITH BASE BID.



**LIGHTING PLAN**  
**STA. 25+00 TO STA. 40+50**

**MOT-70-3.34**

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END PROJECT  
END WORK  
STA. 47+66.62

END WORK  
STA. 15+00.00

CALCULATED  
ATD  
CHECKED  
NGF

0 20 40 80  
HORIZONTAL  
SCALE IN FEET

**LIGHTING PLAN**  
**STA. 40+50 TO 48+00**

**MOT-70-3.34**

NOTES:

1. REMOVE AND REPLACE EXISTING FIXTURE ON EXISTING SIGNAL POLE. EXISTING POLE AND BRACKET ARM TO REMAIN. FIXTURE SHALL BE AS NOTED.
2. CIRCUITS UNDER ROADWAYS SHALL BE RUN IN 3" RIGID STEEL CONDUIT. JACKED UNDER THE PAVEMENT. (INSTALLATION INCLUDED AS BASE BID)
3. COORDINATE INSTALLATION OF FIXTURE AND BRACKET ARM ON PROPOSED SIGNAL POLE. REFER TO TRAFFIC DRAWINGS.
4. ALL LIGHTING CIRCUITS CONTAIN (2) #4, #8G IN 2" PVC CONDUIT, CONCRETE ENCASED.

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER/CATALOG NO.	LAMPS			VOLTAGE	MOUNTING	DESCRIPTION	LIGHT POLE DESIGN NUMBER
		NO.	WATTS	TYPE				
PT1	LUMEC METROSCAPE #MPTR-35W32LED3000K-T-LE3-208-DMG-RTA800V-14-BKTX	1	36	LED	240V	POST TOP	DIE CAST ALUMINUM DECORATIVE POST TOP LED WITH APPROXIMATELY 3,200 DELIVERED LUMENS. POLE PER PHILIPS LUMEC RTA800V-14 PAINTED BLACK (FEDERAL COLOR FS 27038). SPD PER ODOT SS 913.5.	A ON 14
PT2	LUMEC METROSCAPE #MPTR-35W32LED3000K-T-LE3-208-DMG-RTA800N-12-BKTX	1	36	LED	240V	POST TOP	DIE CAST ALUMINUM DECORATIVE POST TOP LED WITH APPROXIMATELY 3,200 DELIVERED LUMENS. FOR MOUNTING ON BRIDGE ONLY. MINIMUM 3.06 ROADWAY LUMINAIRE VIBRATION RATING PER ANSI C.136.31. POLE PER PHILIPS LUMEC RTA800N-12 PAINTED BLACK (FEDERAL COLOR FS 27038). SPD PER ODOT SS 913.5.	A ON 12
RL1	LUMEC ROADFOCUS LARGE #RFL145W64LED3000K-T-R2M-UNIV-DMG-SP2-BK	1	137	LED	120-277V	BRACKET ARM	EXTRUDED ALUMINUM DECORATIVE HIGH PERFORMANCE FULL CUTOFF LED COBRA HEAD FIXTURE WITH APPROXIMATELY 16,000 DELIVERED LUMENS. BLACK FINISH (FEDERAL COLOR FS 27038). LIGHT POLE SHALL BE ALUMINUM HL-10.11, PAINTED BLACK.	AT 10 B 30
RL2	LUMEC ROADFOCUS LARGE #RFL145W64LED3000K-T-R2M-UNIV-DMG-SP2-BK	1	137	LED	120-277V	BRACKET ARM	EXTRUDED ALUMINUM DECORATIVE HIGH PERFORMANCE FULL CUTOFF LED COBRA HEAD FIXTURE WITH APPROXIMATELY 16,000 DELIVERED LUMENS. BLACK FINISH (FEDERAL COLOR FS 27038). NEW FIXTURE ON PROPOSED SIGNAL POLE BRACKET ARM ONLY. SPD PER ODOT SS 913.5.	N/A
RL3	LUMEC ROADFOCUS LARGE #RFL145W64LED3000K-T-R2M-UNIV-DMG-SP2-BK	1	137	LED	120-277V	BRACKET ARM	EXTRUDED ALUMINUM DECORATIVE HIGH PERFORMANCE FULL CUTOFF LED COBRA HEAD FIXTURE WITH APPROXIMATELY 16,000 DELIVERED LUMENS. BLACK FINISH (FEDERAL COLOR FS 27038). FOR HID FIXTURE REPLACEMENT ON EXISTING POLE AND BRACKET ARM ONLY. SPD PER ODOT SS 913.5.	N/A

ACCEPTABLE ALTERNATES:

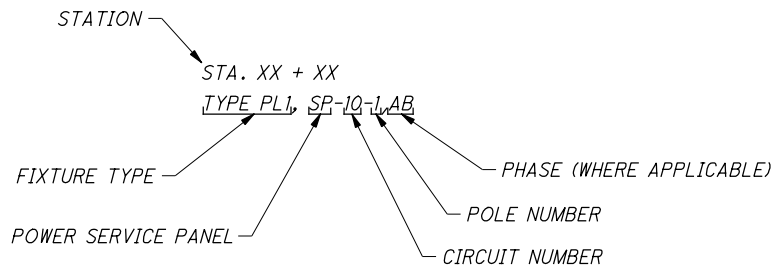
TYPE PT

FIXTURE: LUMENPULSE LUMENAREA PURE V, AAL PROVIDENCE MEDIUM OR APPROVED EQUAL.  
POLE: VALMONT SACRAMENTO, STERNBERG LINCOLN, OR APPROVED EQUAL

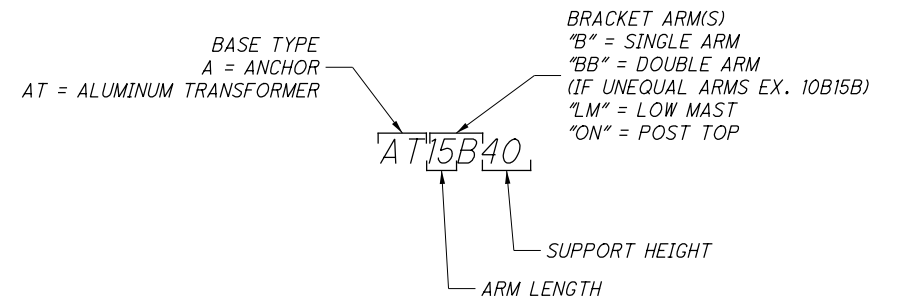
TYPE RL

FIXTURE: GE EVOLVE ERSI, EATON NAVION, OR APPROVED EQUAL.

NOTE: ALL ALTERNATES, INCLUDING NOTED AS ACCEPTABLE SHALL BE SUBMITTED TO ENGINEER AND ODOT PRIOR TO BIDDING. CONTRACTOR SHALL PROVIDE FULL PHOTOMETRIC ANALYSIS ALONG WITH COMPARISON MATRIX WITH BASIS OF DESIGN FIXTURE. COMPARISON MATRIX SHALL INCLUDE BUT IS NOT LIMITED TO: COLOR TEMP., INPUT WATTS, DELIVERED LUMENS, LUMENS PER WATT, B-U-G RATING, PROJECTED LUMEN MAINTENANCE, CONSTRUCTION MATERIALS, ETC.



LIGHTING CALLOUT LEGEND



LIGHT POLE DESIGN NUMBER

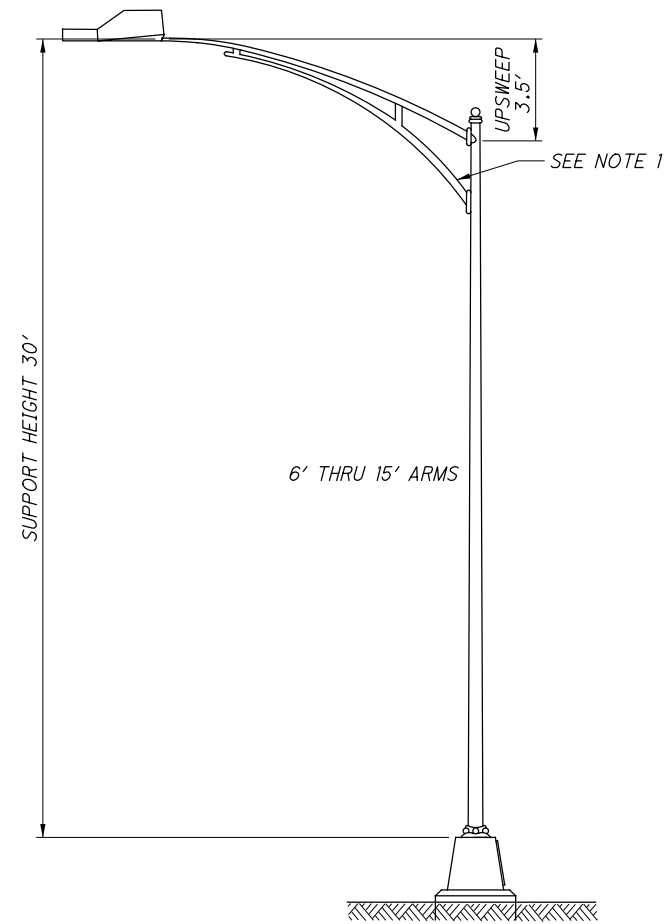
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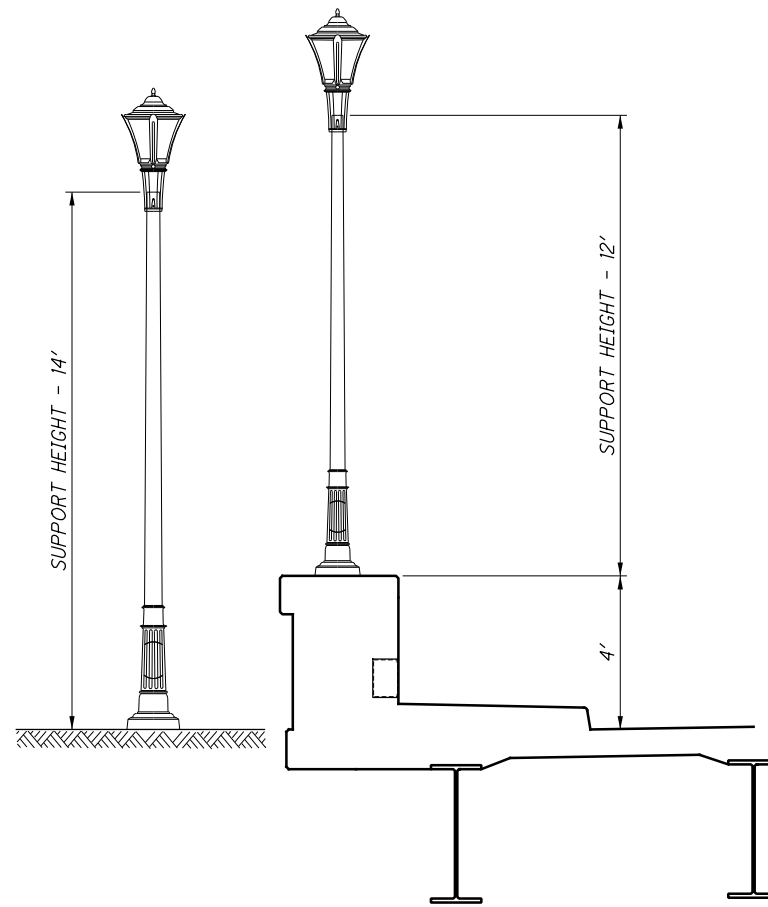
LIGHTING DETAILS

MOT-70-3.34

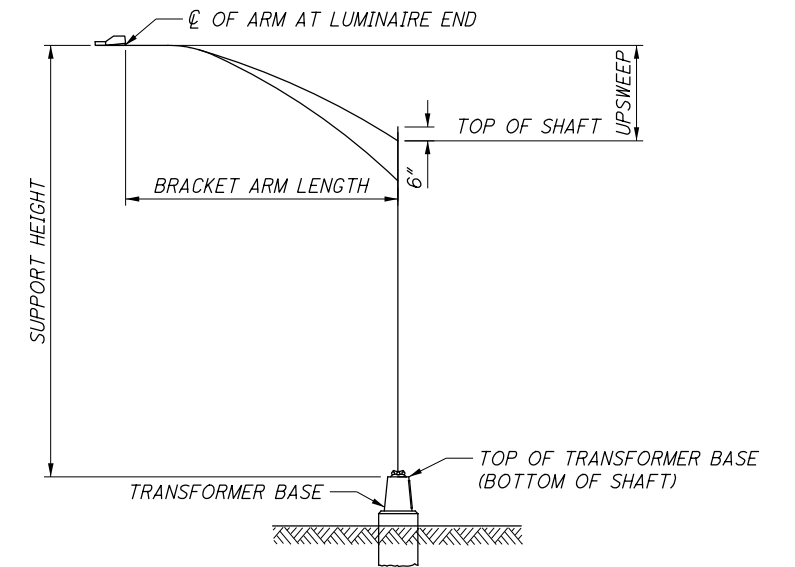
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TYPICAL ROADWAY LIGHT POLE



TYPICAL POST TOP LIGHT POLE



POLE COMPONENTS

NOTES:

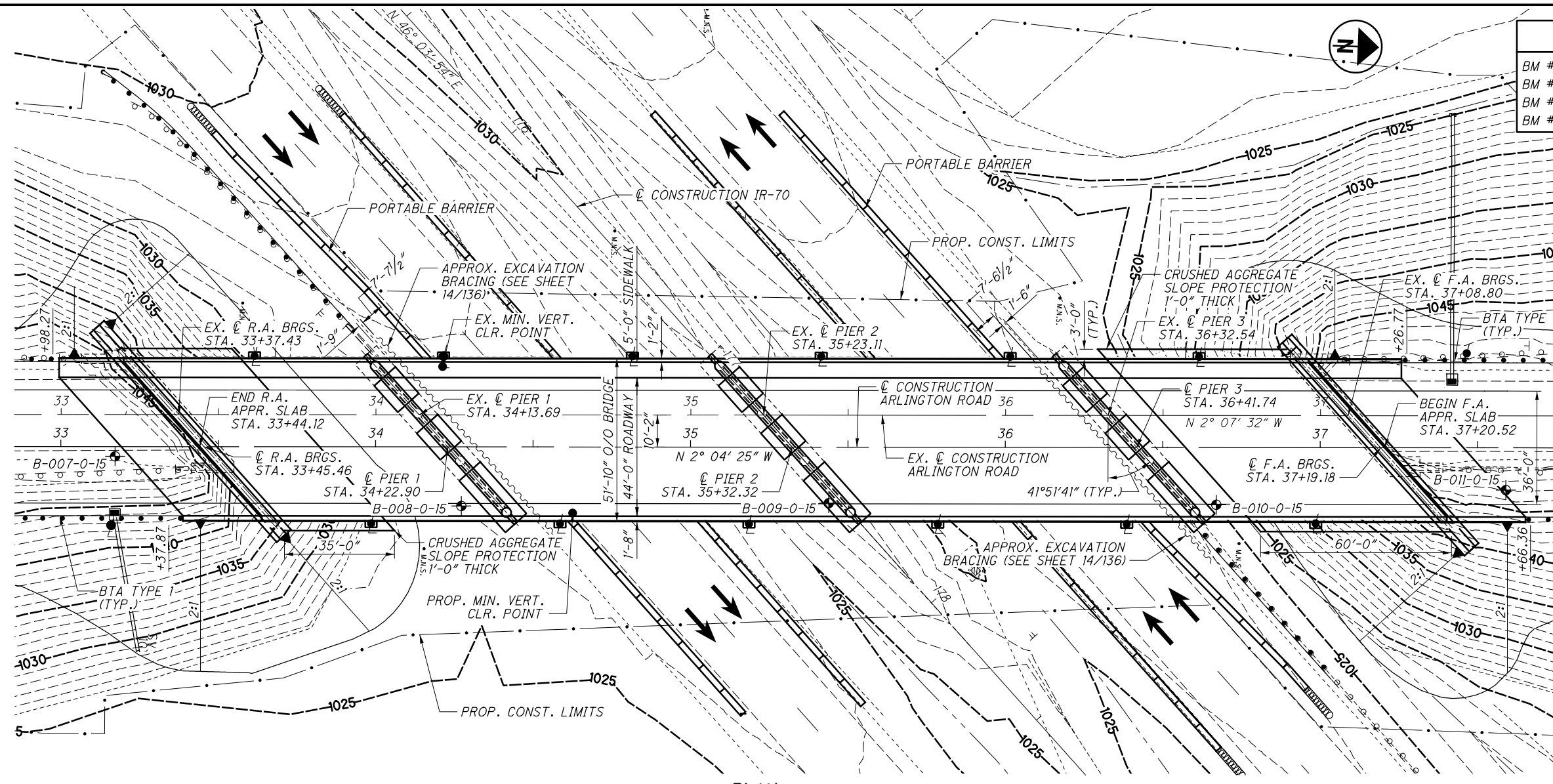
1. TRUSS ARMS SHOWN ARE SCHEMATIC. ACTUAL TRUSS ARM CONSTRUCTION MAY VARY SLIGHTLY DEPENDING UPON MANUFACTURER (E.G., STRAIGHT VS. CURVED LOWER-CHORDS).

CALCULATED	ATD
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	NGF

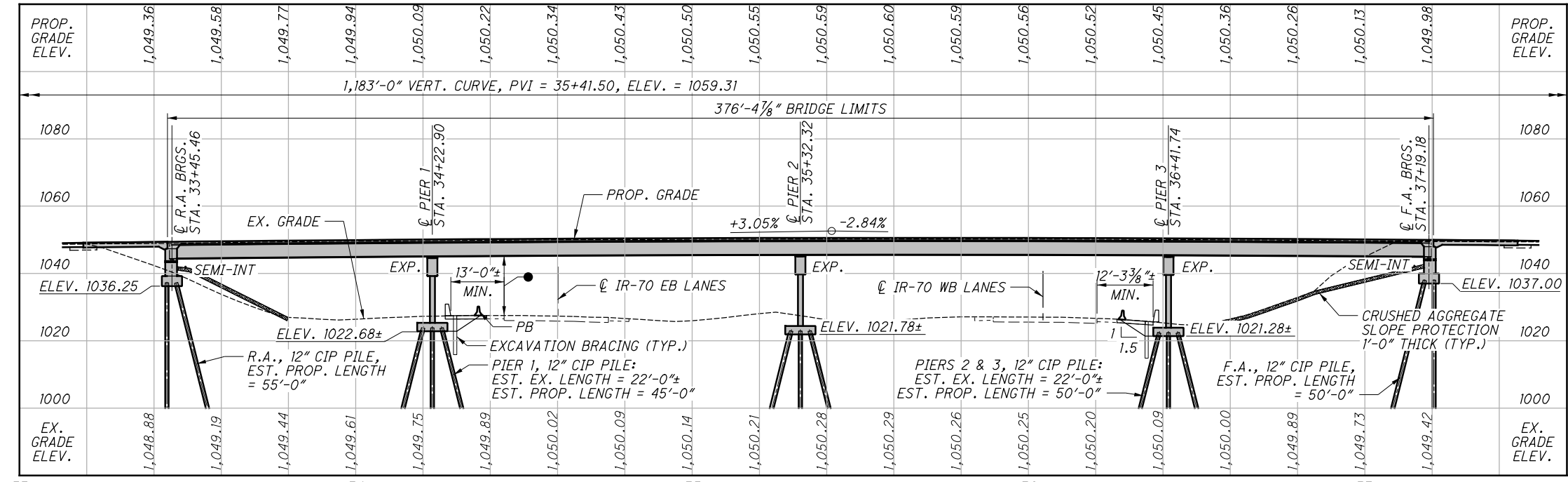
LIGHTING DETAILS

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**PLAN**



**ELEVATION**

BENCHMARK DATA	
BM #1	STA. 28+28.93, ELEV. 1036.35', OFFSET 34.30', LT
BM #2	STA. 30+99.63, ELEV. 1042.68', OFFSET 43.47', LT
BM #3	STA. 39+45.16, ELEV. 1044.54', OFFSET 29.07', RT
BM #4	STA. 41+93.59, ELEV. 1038.91', OFFSET 46.90', RT

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN 136

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

**DESIGN TRAFFIC:**  
 2018 ADT = 8,140      2018 ADTT = 326  
 2038 ADT = 9,910      2038 ADTT = 396  
 DIRECTIONAL DISTRIBUTION = 67%

- LEGEND**
- BORING LOCATION
  - LIGHT POLE
  - 16'-5 3/4" ACTUAL EX. MINIMUM VERT. CLEARANCE
  - 16'-6" REQUIRED MINIMUM VERT. CLEARANCE
  - 17'-2 1/2" PROPOSED MINIMUM VERT. CLEARANCE

**EXISTING STRUCTURE**

TYPE: 4 SPAN NON-COMPOSITE REINFORCED CONCRETE DECK ON CONTINUOUS STEEL PLATE GIRDER BRIDGE SUPPORTED ON REINFORCED CONCRETE CAP AND COLUMN PIERS AND STUB ABUTMENTS ON PILES.

SPANS: 76'-6"±, 109'-5 1/8"±, 109'-5 1/8"±, 76'-6"±,  
 ROADWAY: 32'-4"± TOE/TOE PARAPET  
 LOADING: CF-130 (57)  
 WEARING SURFACE: 1 1/4" CONCRETE OVERLAY  
 SKEW: 41°48'34" RF  
 APPROACH SLABS: AS-1-54 (25'-0" LONG)  
 ALIGNMENT: TANGENT  
 CROWN: 3/8" PER FOOT  
 STRUCTURAL FILE NUMBER: 5704804  
 DATE BUILT: 1964  
 DISPOSITION: SUPERSTRUCTURE REPLACEMENT WITH NEW ROLLED BEAMS AND COMPOSITE REINFORCED CONCRETE DECK, STRUCTURE WIDENING, REPLACEMENT OF ABUTMENTS WITH SEMI-INTEGRAL, AND PIER REHABILITATION.

**PROPOSED STRUCTURE**

TYPE: 4 SPAN COMPOSITE REINFORCED CONCRETE DECK ON CONTINUOUS STEEL ROLLED BEAM BRIDGE SUPPORTED ON REINFORCED CONCRETE CAP AND COLUMN PIERS AND STUB ABUTMENTS ON PILES.

SPANS: 77'-5 1/4"±, 109'-5 1/8"±, 109'-5 1/8"±, 77'-5 1/4"±  
 ROADWAY: 44'-0"± TOE OF PARAPET TO SIDEWALK, 5'-0" SIDEWALK  
 LOADING: HL-93 AND PEDESTRIAN LOAD  
 WEARING SURFACE: 1" MONOLITHIC  
 SKEW: 41° 51' 41" RF  
 APPROACH SLABS: AS-1-15 (25'-0" LONG)  
 ALIGNMENT: TANGENT  
 CROWN: 0.016 FT/FT  
 COORDINATES: LATITUDE 39° 50' 55"  
 LONGITUDE 84° 25' 30"

DESIGN AGENCY: EASTON OVAL SUITE 600 COLUMBUS, OH 43219 T 614-776-8000 F 614-776-8225  
**WOOLPERT**  
 DESIGN ENGINEER  
 DATE: 04/2017  
 REVIEWED: MAA  
 DRAWN: PES  
 DESIGNED: PES  
 CHECKED: TML  
 MONTGOMERY COUNTY  
 STA. 33+14.12  
 STA. 37+50.52  
**SITE PLAN**  
 BRIDGE NO. MOT-70-0334  
 ARLINGTON ROAD OVER IR-70  
**MOT-70-3.34**  
 PID No. 99623  
 1/51  
 86  
 136

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**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):  
AS-1-15 REVISED 7/17/2015  
BR-2-15 REVISED 7/17/2015  
GSD-1-96 REVISED 7/19/2002  
SBR-1-13 REVISED 1/17/2014  
VPF-1-90 REVISED 7/17/2015

**DESIGN SPECIFICATIONS:**

THIS SUPERSTRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, INCLUDING THE 2015 INTERIM REVISIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007, DATED 7-17-15.

THIS SUBSTRUCTURE CONFORMS TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL, 2004, DATED 7-17-15.

**DESIGN LOADING:**

HL-93  
PEDESTRIAN LOAD = 0.090 KSF  
FUTURE WEARING SURFACE (FWS) = 0.060 KSF

**DECK PROTECTION METHOD:**

EPOXY COATED REINFORCING STEEL  
2 1/2" CONCRETE COVER

**DESIGN DATA:**

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)  
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)  
REINFORCING STEEL - ASTM A615 - YIELD STRENGTH 60 KSI  
STRUCTURAL STEEL SHAPES - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

**MONOLITHIC WEARING SURFACE:**

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

**PILE DESIGN LOADS (ULTIMATE BEARING VALUE):**

THE ULTIMATE BEARING VALUE IS 310.5 KIPS PER PILE FOR THE ABUTMENT PILES.  
THE ULTIMATE BEARING VALUE IS 217.3 KIPS PER PILE FOR THE PIER PILES.

**ABUTMENT PILES:**

- 28 PILES, 60 FEET LONG, ORDER LENGTH (REAR ABUTMENT)
- 28 PILES, 55 FEET LONG, ORDER LENGTH (FORWARD ABUTMENT)
- 1 DYNAMIC LOAD TESTING ITEM

**PIER PILES:**

- 15 PILES, 50 FEET LONG, ORDER LENGTH (PIER 1)
- 15 PILES, 55 FEET LONG, ORDER LENGTH (PIER 2)
- 15 PILES, 55 FEET LONG, ORDER LENGTH (PIER 3)
- 1 DYNAMIC LOAD TESTING ITEM

**BATTERED PILES:**

THE BLOW COUNT FOR BATTERED PILES SHALL BE THE BLOW COUNT DETERMINED FOR VERTICAL PILES OF THE SAME ULTIMATE BEARING VALUE DIVIDED BY AN EFFICIENCY FACTOR (D). COMPUTE THE EFFICIENCY FACTOR (D) AS FOLLOWS:

U = COEFFICIENT OF FRICTION, WHICH IS ESTIMATED AT 0.05 FOR DOUBLE ACTING AIR OPERATED OR DIESEL HAMMERS; 0.1 FOR SINGLE-ACTING AIR OPERATED OR DIESEL HAMMERS; AND 0.2 FOR DROP HAMMERS.  
G = RATE OF BATTER (1/3, 1/4, ETC.)

**DECK PLACEMENT DESIGN ASSUMPTIONS:**

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

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.7 KIPS.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

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

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

REMOVE ABUTMENTS TO ELEV. 1035.44 AT THE REAR ABUTMENT AND 1036.18 AT THE FORWARD ABUTMENT. REMOVE PORTIONS OF PIERS AS SHOWN IN THE PLANS.

THE CONTRACTOR'S ATTENTION IS DRAWN TO THE FACT THAT THE EXISTING PIER COLUMNS ARE WRAPPED WITH FRP MATERIAL. THE CONTRACTOR SHALL PROVIDE PROPER OSHA APPROVED SAFETY EQUIPMENT FOR WORKERS DURING DOWEL DRILLING OPERATIONS WHICH MAY PRODUCE AIRBORNE FIBERS. EXISTING SEALING ON THE FRP SHALL BE REMOVED ACCORDING TO SSPC-SP12/NACE 5 - HIGH PRESSURE WATER JETTING TO A WJ-2/SC-1 SURFACE CONDITION IN PREPARATION FOR RECOATING.

**ITEM 511: CLASS QC1 CONCRETE, MISC.: CONCRETE PYLONS**

ABUTMENT CONCRETE PYLONS, WHICH INCLUDE ALL CONCRETE ABOVE THE TOP ELEVATION OF THE WINGWALL, SHALL BE PAID FOR UNDER ITEM 511, CLASS QC1 CONCRETE, MISC.: CONCRETE PYLONS.

**ITEM 511: CONCRETE, MISC.: AESTHETIC TEST PANEL**

TEST PANELS SHOWING THE FINAL PRODUCT OF TEXTURE TYPES A AND B, FLAT CONCRETE, AND LETTER INSET, WITH APPROPRIATE SEALING COLORS APPLIED SHALL BE PROVIDED FOR ACCEPTANCE PRIOR TO CONSTRUCTION. TEST PANELS SHALL BE A MINIMUM OF 10'-0" x 5'-0" x 6" IN SIZE, OR AS NEEDED TO PROVIDE A CLEAR REPRESENTATION OF ALL AESTHETIC TREATMENTS. TWO TEST SLABS SHALL BE REQUIRED, ONE WITH THE PARAPET SEALING COLORS, LETTERING COLOR, AND TEXTURE TYPE A; AND A SECOND PANEL WITH TEXTURE TYPE B AND SEALING COLORS ASSOCIATED WITH THE SUBSTRUCTURES. THE TEST PANELS SHALL BE CAST ON SITE USING THE SAME MATERIALS, EQUIPMENT, AND METHODS AS THOSE TO BE USED FOR THE FINAL PRODUCT.

PAYMENT FOR THE TEST PANEL, INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS, SHALL BE MADE UNDER ITEM 511: CONCRETE, MISC.: AESTHETIC TEST PANEL, EACH.

**ITEM 511: CONCRETE, MISC.: FORMLINER**

THE FOLLOWING REQUIREMENTS SHALL BE REQUIRED WHERE "TEXTURE TYPE A" OR "TEXTURE TYPE B" ARE SHOWN IN THE PLANS. WHERE A TEXTURE IS NOT INDICATED THE CONCRETE SHALL BE FINISHED IN ACCORDANCE WITH THE ODOT C&MS 511.

FORMLINERS SHALL BE MADE OF PLASTICIZED POLYVINYL CHLORIDE HAVING THE PROPERTY OF LONG-TERM FORM-RELEASE CAPABILITY FOR REUSE AND DURABILITY. THE MATERIAL SHALL HAVE SUFFICIENT FIRMNESS TO RESIST DISTORTION FROM FRESHLY PLACED CONCRETE AND SUFFICIENT PLIABILITY TO PERMIT REMOVAL WITHOUT DAMAGE TO THE FORMLINERS OR TO EARLY AGE CONCRETE.

FORMLINERS SHALL HAVE A SHORE A HARDNESS OF APPROXIMATELY 25.

THE MINIMUM THICKNESS OF THE DEEPEST UNDERCUTS IN THE TEXTURED FORMLINERS SHALL BE 1/4 INCH TO 3/8 INCH.

FORMLINER PANELS SHALL BE A MINIMUM WIDTH OF 4'-0" AND IN LENGTHS TO PROVIDE CONTINUOUS LINERS FOR THE VERTICAL DIMENSIONS. IF DIMENSIONS TO BE FORMED ARE SMALLER THAN 4'-0" IN WIDTH, THE FORMLINER PANEL WIDTH SHALL MATCH THAT OF THE AREA TO WHICH IT IS BEING APPLIED.

FORMLINERS SHALL BE INSTALLED IN THE FORMS TO PROVIDE THE DIMENSIONAL RELATIONSHIP BETWEEN TEXTURED AND FLAT CONCRETE SURFACES AS SHOWN ON THE PLANS. FORMLINERS SHALL BE ATTACHED FIRMLY TO PRIMARY FORM ELEMENTS TO ENSURE THAT THE FORMLINERS WILL BE TRUE AND STRAIGHT IN THE VERTICAL POSITION. ADJACENT EDGES OF FORMLINER PANELS SHALL BE OVERLAPPED BY 1/16 INCH ON EITHER SIDE OF EACH PANEL.

AFTER FORMS ARE STRIPPED, IMPERFECTIONS IN THE FINISHED CONCRETE SHALL BE PATCHED WITH THE SAME MATERIALS AND MIX USED IN THE CONCRETE POUR TO RESTORE FULLY THE TEXTURED SURFACES TO THE SATISFACTION OF THE ENGINEER.

TEXTURE TYPE A SHALL BE AS FOLLOWS:

TEXTURES TO BE OBTAINED THROUGH THE USE OF THE FORMLINERS SHALL BE A SLIGHTLY ROUGH, GRANULAR SURFACE SIMILAR TO THE FOLLOWING STANDARD FORMLINER TEXTURE PATTERNS, OR APPROVED EQUAL:

ARCHITECTURAL POLYMERS, INC. PATTERN #898, RUSTIC ASHLAR STONE FITZGERALD FORMLINERS PATTERN, #17033, SIERRA DRystack

TEXTURE TYPE B SHALL BE AS FOLLOWS:

TEXTURES TO BE OBTAINED THROUGH THE USE OF THE FORMLINERS SHALL BE A SLIGHTLY ROUGH, GRANULAR SURFACE SIMILAR TO THE FOLLOWING STANDARD FORMLINER TEXTURE PATTERNS, OR APPROVED EQUAL:

CUSTOMROCK FORMLINER PATTERN #1104-R2, RANDOM CUT STONE (14 3/4") FITZGERALD FORMLINERS PATTERN #17034 LIBERTY ISLAND STONE

PAYMENT FOR FORMLINERS AND AESTHETIC TREATMENT, INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROVIDE THE FINAL PRODUCT, SHALL BE MADE UNDER ITEM 511: CONCRETE, MISC.: FORMLINER, ON A SQUARE FOOT BASIS OF AREA SHOWN IN THE PLANS.

DESIGN AGENCY WOLPERT CORPORATION		DATE 04/2017	
EASTON OVAL SUITE 600 COLUMBUS, OH 43219 T 614-776-8000 F 614-776-8225		REVIEWED RKM	STRUCTURE FILE NUMBER 5704804
DRAWN TML	CHECKED MAA	REVISER	
<b>STRUCTURE GENERAL NOTES</b>			
BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70			
<b>MOT-70-3.34</b>		<b>PID No. 99623</b>	
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**ITEM 511: CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS, AS PER PLAN**

THIS ITEM SHALL COVER THE CONCRETE USED FOR THE IN-FILLED WALLS OF THE PIERS, ABOVE THE FOOTING LEVEL, BELOW THE EXISTING PIER CAP, AND BETWEEN THE EXISTING PIER COLUMNS.

THE CONTRACTOR SHALL SUBMIT A WORK PLAN TO ACCOMPLISH THE CONSTRUCTION OF THE IN-FILLED WALLS FOR ACCEPTANCE BY THE ENGINEER PRIOR TO CONSTRUCTION. THIS WORK PLAN SHALL INCLUDE ANY PROPOSED CONSTRUCTION JOINTS AND THE METHODOLOGY PROPOSED BY THE CONTRACTOR TO FORM THE WALLS UP TO, AND FLUSH WITH, THE UNDERSIDE OF THE PIER CAP.

CONCRETE USED IN THE FINAL POUR TO THE UNDERSIDE OF THE EXISTING PIER CAP SHALL BE HIGH SLUMP AND SELF CONSOLIDATING. GROUT/CONCRETE PORTS USED IN THE CONSTRUCTION OF THE WALL SHALL BE SPACED AT NO MORE THAN 10'-0" APART, AND AS PER THE CONTRACTOR'S SUBMITTED WORK PLAN. DRY PACK MATERIAL SHALL NOT BE USED IN THE CONSTRUCTION OF THE WALL. VIBRATE THE EXTERIOR OF BOTH SIDES OF THE FORMS AFTER CONCRETE PLACEMENT, BUT BEFORE REMOVAL OF THE CONCRETE DELIVERY SYSTEM AND SEALING OF THE GROUT PORTS.

PAYMENT FOR ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE IN-FILLED WALLS, INCLUDING PREPARATION AND SUBMISSION OF THE WORK PLAN, SHALL BE PAID FOR UNDER ITEM 511: CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS, AS PER PLAN.

**ITEM 512, SEALING OF CONCRETE SURFACES:**

CONCRETE SHALL BE SEALED WITH AN EPOXY-URETHANE SYSTEM PER THE ODOT C&MS 512. THE COLOR SHALL BE FEDERAL STANDARD NO. FS-595B-17778, LIGHT NEUTRAL.

AREAS HAVING FORMLINED TEXTURE TYPE A OR TEXTURE TYPE B SHALL BE SEALED WITH AN EPOXY-URETHANE SYSTEM PER THE ODOT C&MS 512, WITH FEDERAL STANDARD NO. FS-595B-36415, MEDIUM NEUTRAL.

LETTERING INSET AREAS SHALL BE SEALED WITH AN EPOXY-URETHANE SYSTEM PER THE ODOT C&MS 512, WITH FEDERAL STANDARD NO. FS-595B-15052, BLUE.

**ITEM 514, PAINTING OF STRUCTURAL STEEL:**

ALL STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SECTION 514 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE FINISH COAT COLOR SHALL BE BLUE FS-595B-15052.

**ITEM 516, 2" DEEP JOINT SEALER, AS PER PLAN:**

2" DEEP BY 1" WIDE STRIP SHALL BE SAWCUT OUT OF THE PROPOSED ROADWAY ASPHALT SURFACE ABUTTING THE ENDS OF THE APPROACH SLABS AFTER THE APPROACH SLABS ARE PROPERLY CURED. JOINT SEALER AS PER 705.04 SHALL BE USED TO SEAL THE JOINT CREATED.

**ITEM 530: SPECIAL - STRUCTURES, AESTHETIC LETTERING**

FORMLINER FOR AESTHETIC LETTERING SHALL BE MADE OF PLASTICIZED POLYVINYL CHLORIDE. THE MATERIAL SHALL HAVE SUFFICIENT FIRMNESS TO RESIST DISTORTION FROM FRESHLY PLACED CONCRETE AND SUFFICIENT PLIABILITY TO PERMIT REMOVAL WITHOUT DAMAGE TO THE FORMLINERS OR TO EARLY AGE CONCRETE.

FORMLINERS SHALL HAVE A SHORE A HARDNESS OF APPROXIMATELY 25.

LETTERING FORMLINER SHALL BE INSTALLED IN THE FORMS TO PROVIDE THE DIMENSIONAL RELATIONSHIP BETWEEN LETTERS AS SHOWN ON THE PLANS. FORMLINERS SHALL BE ATTACHED FIRMLY TO PRIMARY FORM ELEMENTS TO ENSURE THAT THE FORMLINERS WILL BE TRUE AND STRAIGHT IN THE VERTICAL POSITION.

AFTER FORMS ARE STRIPPED, IMPERFECTIONS IN THE FINISHED CONCRETE SHALL BE PATCHED WITH THE SAME MATERIALS AND MIX USED IN THE CONCRETE POUR TO RESTORE FULLY THE TEXTURED SURFACES TO THE SATISFACTION OF THE ENGINEER.

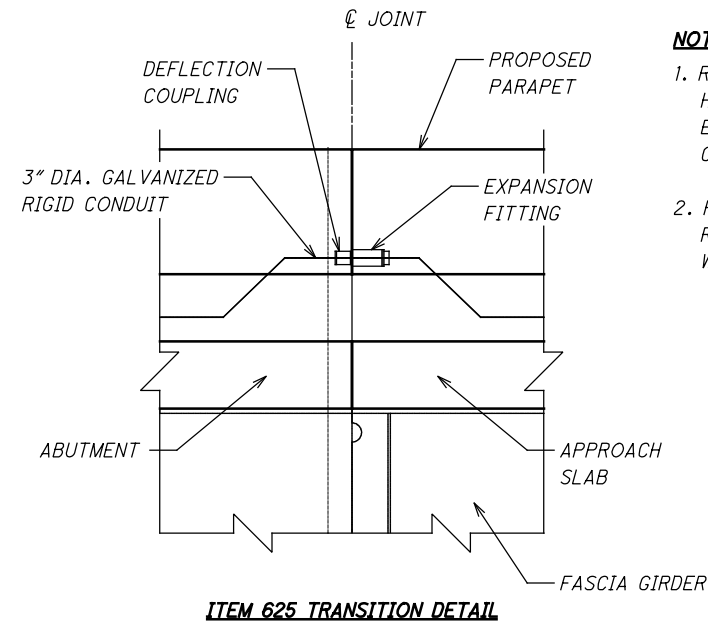
AESTHETIC LETTERING, INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PRODUCE THE FINISHED PRODUCT, SHALL BE PAID FOR UNDER ITEM 530: SPECIAL - STRUCTURES, AESTHETIC LETTERING.

**ABBREVIATIONS:**

- APPR. - APPROACH
- AVG. - AVERAGE
- Ⓢ - BASELINE
- BOT. - BOTTOM
- BRG. - BEARING
- B.T.A. - BRIDGE TERMINAL ASSEMBLY
- BTW. - BETWEEN
- Ⓢ - CENTERLINE
- CLR. - CLEAR
- C.J. - CONSTRUCTION JOINT
- CONST. - CONSTRUCTION
- DIA. - DIAMETER
- EL. - ELEVATION
- EMBED. - EMBEDMENT
- E.S. - EACH SIDE
- EST. - ESTIMATED
- EQ. - EQUAL
- EX. - EXISTING
- EXP. - EXPANSION
- F.A. - FORWARD ABUTMENT
- F.S. - FAR SIDE
- FTG. - FOOTING
- INCR. - INCREMENT
- IR - INTERSTATE ROUTE
- LT. - LEFT
- MAX. - MAXIMUM
- MECH. CONN. - MECHANICAL CONNECTOR
- MIN. - MINIMUM
- M.O.T. - MAINTENANCE OF TRAFFIC
- NO. - NUMBER
- N.S. - NEAR SIDE
- NPCPP - NON-PERFORATED CORRUGATED PLASTIC PIPE
- O/O - OUT-TO-OUT
- PCB - PORTABLE CONCRETE BARRIER
- PCPP - PERFORATED CORRUGATED PLASTIC PIPE
- PEJF - PREFORMED EXPANSION JOINT FILLER
- P/G - PROFILE GRADE
- Ⓢ - PLATE
- PROP. - PROPOSED
- PVMT. - PAVEMENT
- R.A. - REAR ABUTMENT
- REF. - REFERENCE
- REQ'D - REQUIRED
- RT. - RIGHT
- SER. - SERIES
- SPA. - SPACES
- SR - STATE ROUTE
- STA. - STATION
- TBR - TO BE REMOVED
- TEMP. - TEMPORARY
- T/S - TOE OF SLOPE
- T/T - TOE-TO-TOE
- TYP. - TYPICAL

**ITEM 607, VANDAL PROTECTION FENCE:**

VANDAL PROTECTION FENCE AND FABRIC SHALL HAVE A PVC COATING, POWDER COATED BLACK. THE COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. FS-595B-17038.



- NOTES:**
1. REFER TO STD. DWGHL-30.31 AND HL-30.33 FOR FURTHER DETAILS ON EXPANSION FITTING, DEFLECTION COUPLING AND JUNCTION BOX.
  2. PAYMENT FOR 3" DIA. GALVANIZED RIGID CONDUIT WILL BE INCLUDED WITH ITEM 625, CONDUIT, 3" 725.04.

<b>MOT-70-3.34</b> PID No. 99623	STRUCTURAL GENERAL NOTES BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70	DESIGN AGENCY EASTON OVAL SUITE 500 COLUMBUS, OH 43219 T 614-476-6000 F 614-476-6225 <b>WOOLPERT</b> DESIGN ENGINEERING	DATE 04/2017	REVIEWED RKM	STRUCTURE FILE NUMBER 5704804
DESIGNED TML CHECKED MAA	DRAWN TML REVISED	REVIEWED RKM	DATE 04/2017	REVIEWED RKM	STRUCTURE FILE NUMBER 5704804



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ESTIMATED QUANTITIES					CALC BY: PES/JMM CHECK BY: TML			DATE: 4/18/2017 DATE: 4/27/2017	
ITEM	EXT	QUANTITY	UNIT	DESCRIPTION	ODOT (01/IMS/BR)	BROOKVILLE (02/IMS/OT)	MVRPC-TA (03/IMS/OT)	TOTAL	SHEET
202	11203	1	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	1			1	2/51
202	22900	224	SY	APPROACH SLAB REMOVED	224			224	
202	75260	744	FT	VANDAL PROTECTION FENCE REMOVED	744			744	
203	10000	1,214	CU YD	EXCAVATION	1,214			1,214	
203	20000	1,131	CU YD	EMBANKMENT	1,131			1,131	
503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING	1			1	
503	21300	1	LS	UNCLASSIFIED EXCAVATION	1			1	
505	11100	1	LS	PILE DRIVING EQUIPMENT MOBILIZATION	1			1	
507	00500	5,115	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	5,115			5,115	
507	00550	5,620	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	5,620			5,620	
509	10000	288,323	LB	EPOXY COATED REINFORCING STEEL	282,503	5,820		288,323	
510	10000	1,104	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	1,104			1,104	
511	33501	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	2			2	15/51
511	34446	615	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK	615			615	
511	34450	189	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	189			189	
511	40512	90	CU YD	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS	90			90	
511	40513	98	CU YD	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS, AS PER PLAN	98			98	3/51
511	42512	76	CU YD	CLASS QC1 CONCRETE WITH QC/QA, PIER CAP	76			76	
511	44112	77	CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	77			77	
511	46512	231	CU YD	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	231			231	
511	53010	30	CU YD	CLASS QC1 CONCRETE, MISC.: CONCRETE PYLONS		30		30	
511	71200	2,811	SQ FT	CONCRETE, MISC.: FORMLINER, TEXTURE TYPE A	1,923	888		2,811	2/51
511	71200	5,871	SQ FT	CONCRETE, MISC.: FORMLINER, TEXTURE TYPE B	5,871			5,871	2/51
511	81300	2	EACH	CONCRETE, MISC.: AESTHETIC TEST PANEL	1	1		2	2/51
512	10100	14	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), COLOR BLUE FS-595B-15052	14			14	
512	10100	1,434	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), COLOR LIGHT NEUTRAL FS-595B-17778	1,410	24		1,434	
512	10100	940	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), COLOR NEUTRAL FS-595B-36415	841	99		940	
512	33000	58	SQ YD	TYPE 2 WATERPROOFING	58			58	
513	10240	738,900	LB	STRUCTURAL STEEL MEMBERS, LEVEL 2	738,900			738,900	
513	20000	8,940	EACH	WELDED STUD SHEAR CONNECTORS	8,940			8,940	
514	00060	35,454	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	35,454			35,454	
514	00066	35,454	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	35,454			35,454	
514	10000	26	EACH	FINAL INSPECTION REPAIR	26			26	
516	13900	116	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	116			116	
516	14020	138	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	138			138	
516	31011	134	FT	2" DEEP JOINT SEALER, AS PER PLAN	134			134	3/51
516	44200	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), 1'-4" x 1'-0" x 3 3/8"	14			14	
516	44200	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), 1'-4" x 1'-8" x 3 3/4"	14			14	
516	44200	7	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), 1'-6" x 1'-6" x 3 3/16"	7			7	
516	46501	14	EACH	BEARING, PTFE (TEFLON), AS PER PLAN	14			14	44/51
518	21200	113	CU YD	POROUS BACKFILL WITH GEOTEXTILE FABRIC	113			113	
518	40000	178	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	178			178	
518	40010	58	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	58			58	
523	20000	2	EACH	DYNAMIC LOAD TESTING	2			2	
526	25010	288	SQ YD	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")	288			288	
526	90010	134	FT	TYPE A INSTALLATION	134			134	
530	00200	1	LS	SPECIAL - STRUCTURES, AESTHETIC LETTERING	1			1	3/51
601	20000	609	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION	609			609	
607	39900	377	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC	377			377	
607	39930	377	FT	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC	377			377	
625	25400	1,129	FT	CONDUIT, 2", 725.04	1,129			1,129	

DESIGN AGENCY: EASTON OVAL  
SUITE 400  
COLUMBUS, OH 43219  
T 614-776-8000  
F 614-776-8225

**WOOLPERT**  
DESIGN ENGINEERING

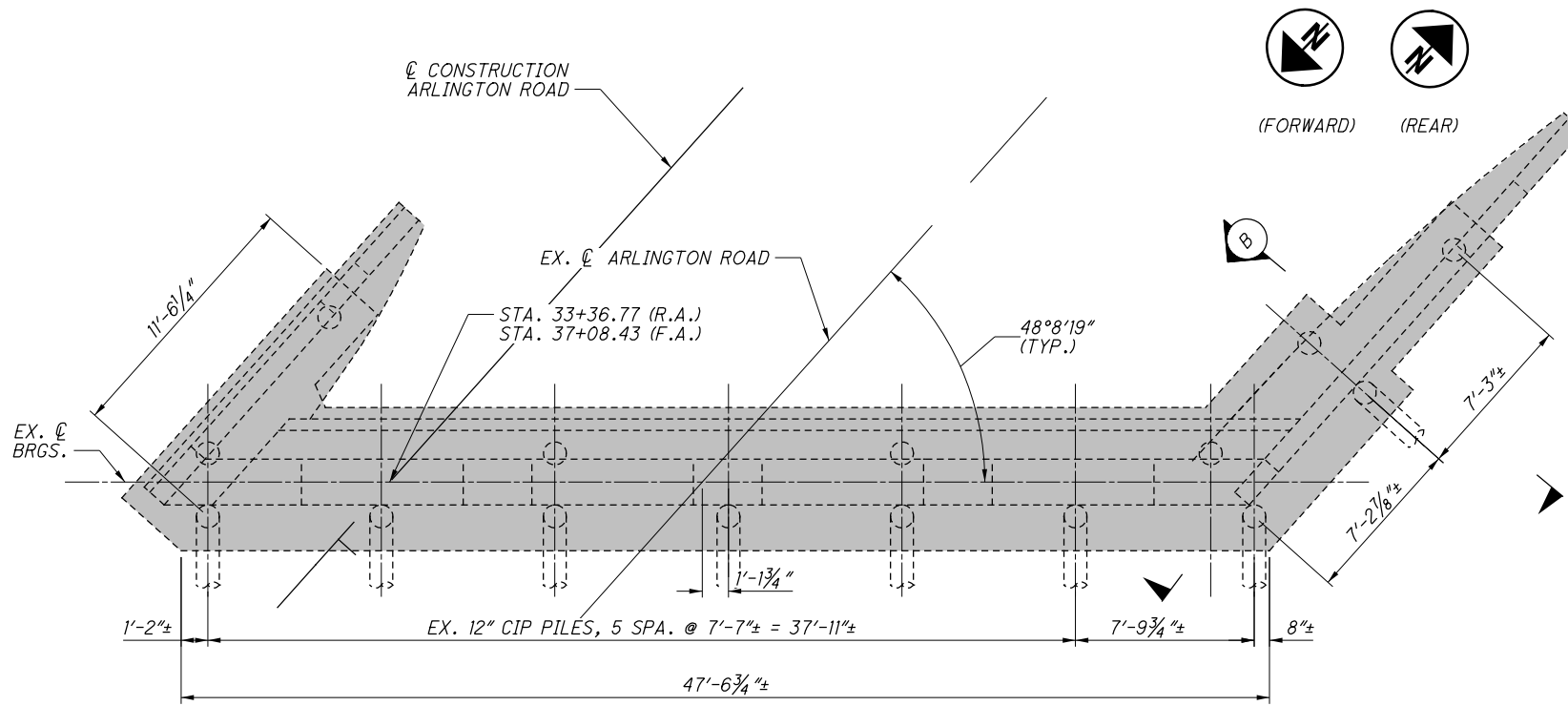
DATE: 04/20/17  
REVIEWED: MAA  
DRAWN: PES  
DESIGNED: PES  
CHECKED: TML

ESTIMATED QUANTITIES  
BRIDGE NO. MOT-70-0334  
ARLINGTON ROAD OVER IR-70

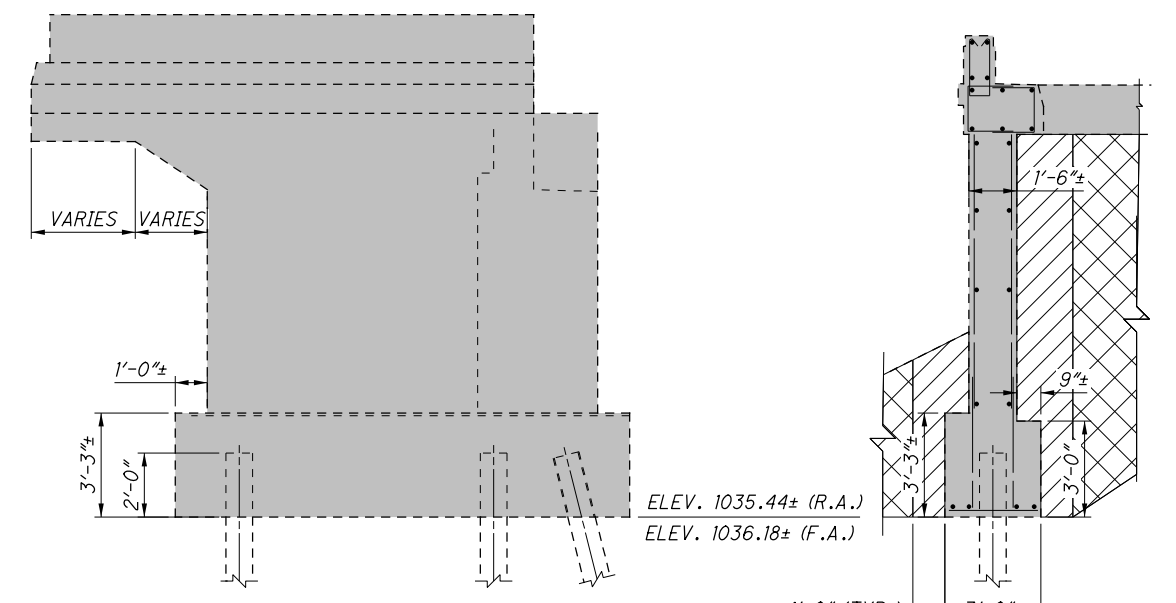
**MOT-70-3.34**  
PID No. 99623

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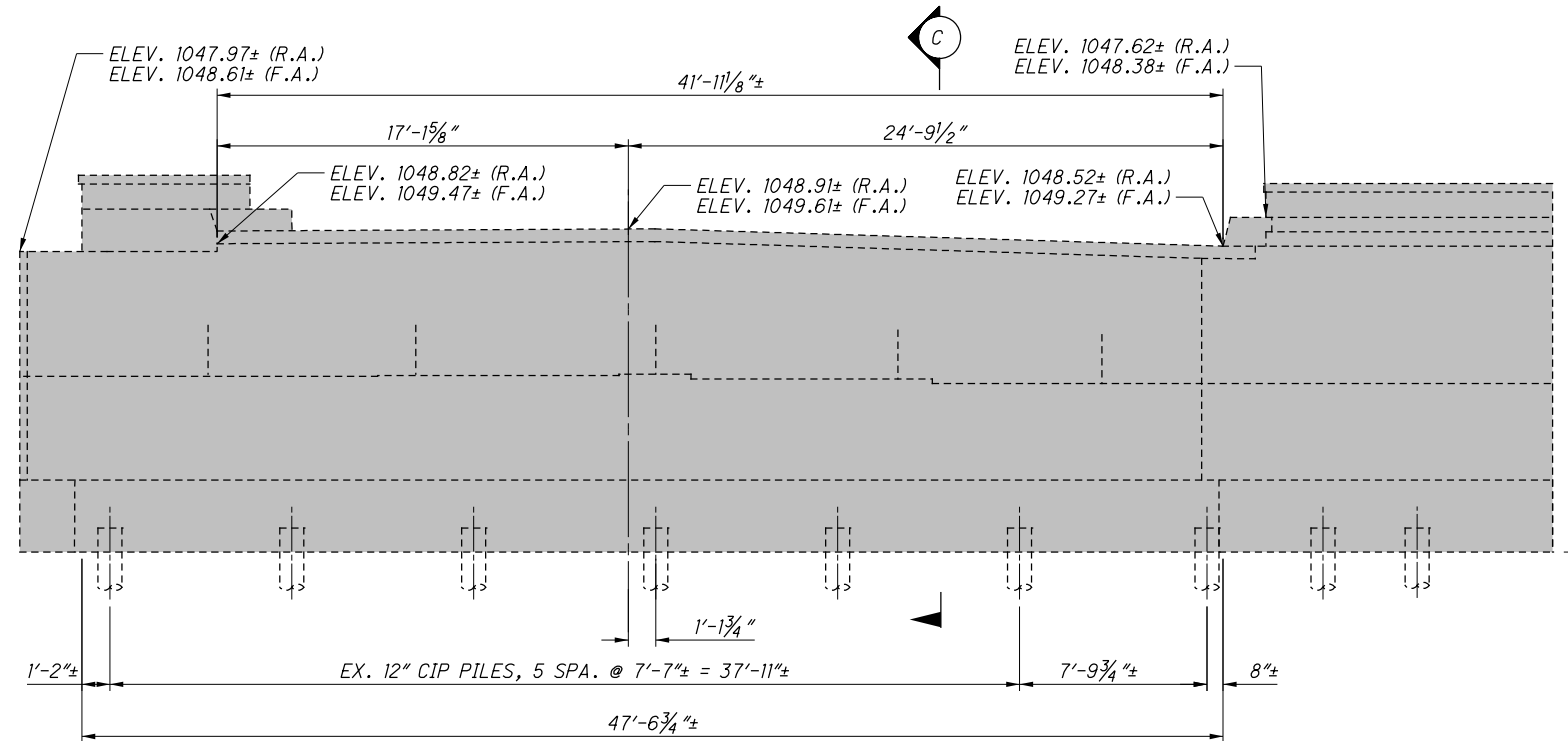


**ABUTMENT PLAN**  
(F.A. SHOWN, R.A. SIMILAR)

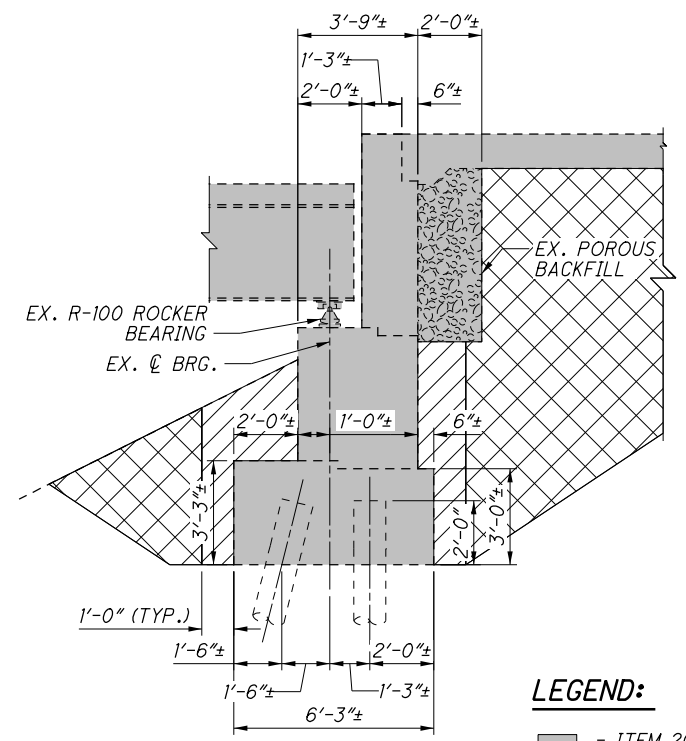


**VIEW A**

**SECTION B**



**ELEVATION**  
(F.A. SHOWN, R.A. SIMILAR)



**SECTION C**

- LEGEND:**
- ITEM 202 - STRUCTURE REMOVAL
  - ITEM 203 - EXCAVATION
  - ITEM 503 - UNCLASSIFIED EXCAVATION
  - EX. 12" CIP PILE
  - EX. BATTERED 12" CIP PILE

- NOTES:**
1. REMOVAL DETAILS ARE TYPICAL FOR ABUTMENTS. FORWARD ABUTMENT IS SHOWN.
  2. REMOVE ABUTMENT AND EXISTING PILES TO ELEVATIONS SHOWN.

BEAM SEAT ELEVATIONS					
ABUTMENT	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
REAR	1042.46	1042.65	1042.85	1042.80	1042.76
FORWARD	1043.20	1043.37	1043.54	1043.47	1043.40

DESIGN AGENCY: EASTON OVAL  
 SUITE 600  
 COLUMBUS, OH 43219  
 T 614-476-8000  
 F 614-476-8225

DATE: 04/2017  
 REVIEWED: MAA  
 DRAWN: JMM  
 DESIGNED: JMM

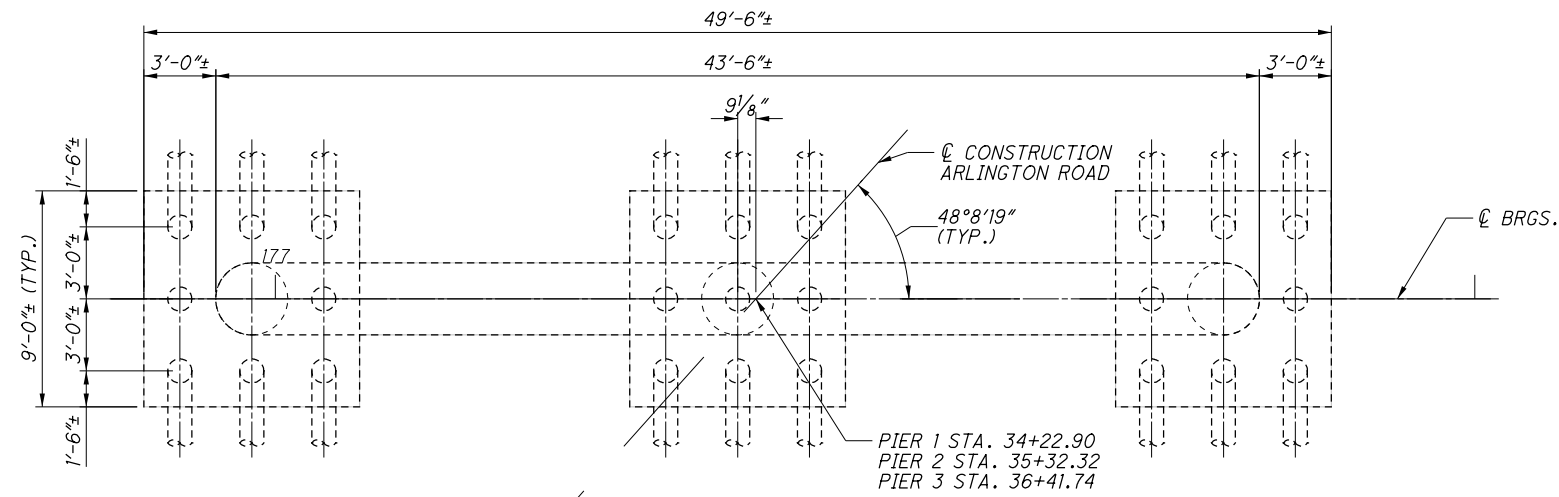
FILE NUMBER: 5704804  
 STRUCTURE FILE NUMBER: 5704804  
 CHECKED: TML

**ABUTMENT REMOVAL DETAILS**  
 BRIDGE NO. MOT-70-0334  
 ARLINGTON ROAD OVER IR-70

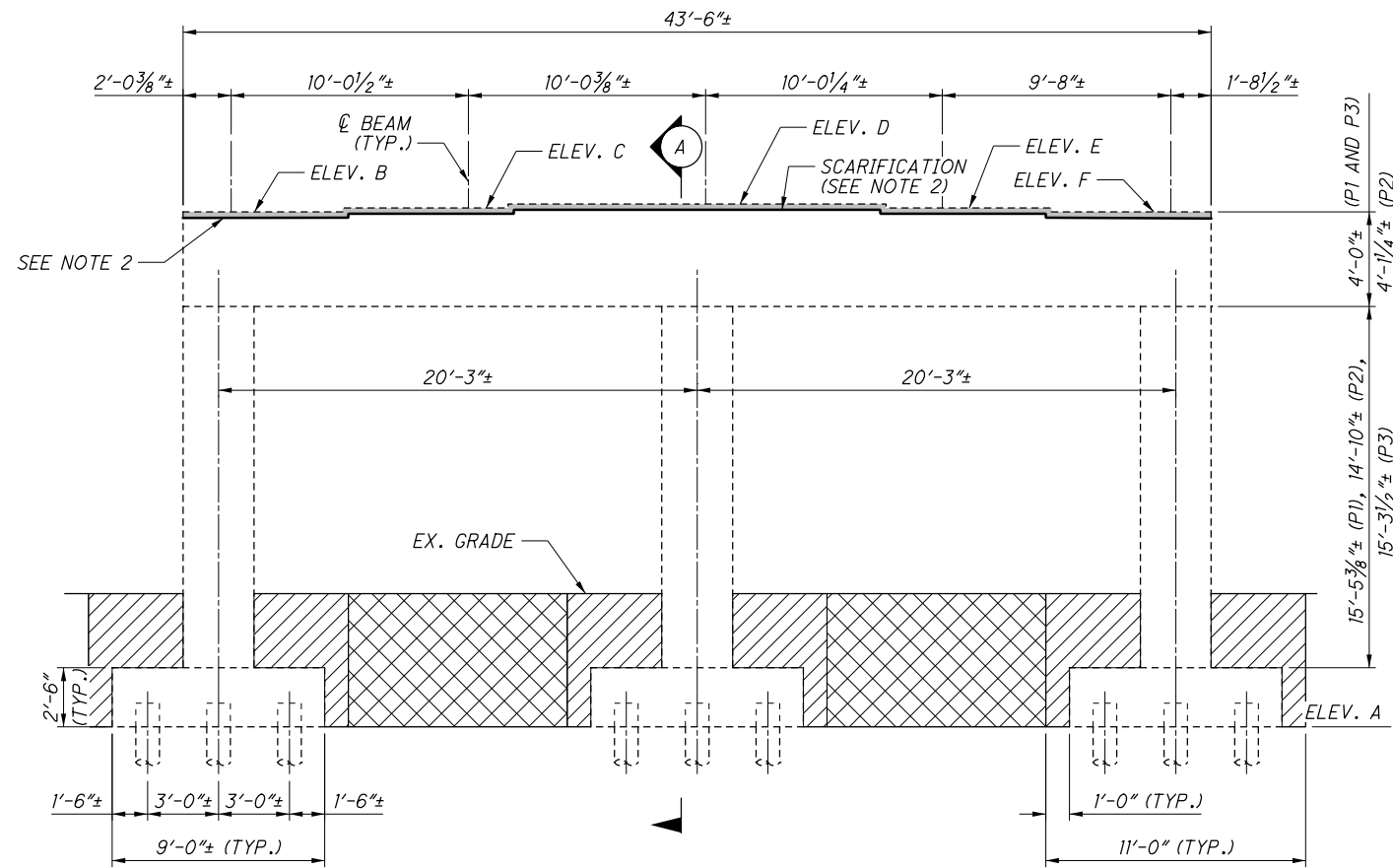
**MOT-70-3.34**  
 PID No. 99623

5 / 51

90  
136

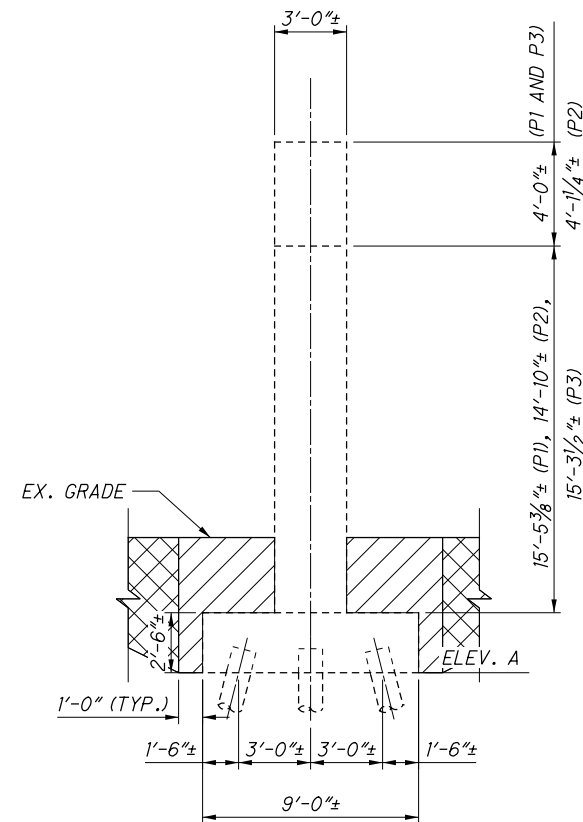


**PLAN**  
(PIER 2 SHOWN)



**ELEVATION**  
(PIER 2 SHOWN)

PIER	ELEVATION					
	A	B	C	D	E	F
1	1022.68	1042.6	1042.75	1042.93	1042.86	1042.77
2	1021.78	1043.12	1043.20	1043.36	1043.31	1043.18
3	1021.28	1043.18	1043.29	1043.40	1043.21	1043.11



**SECTION A**

**LEGEND:**

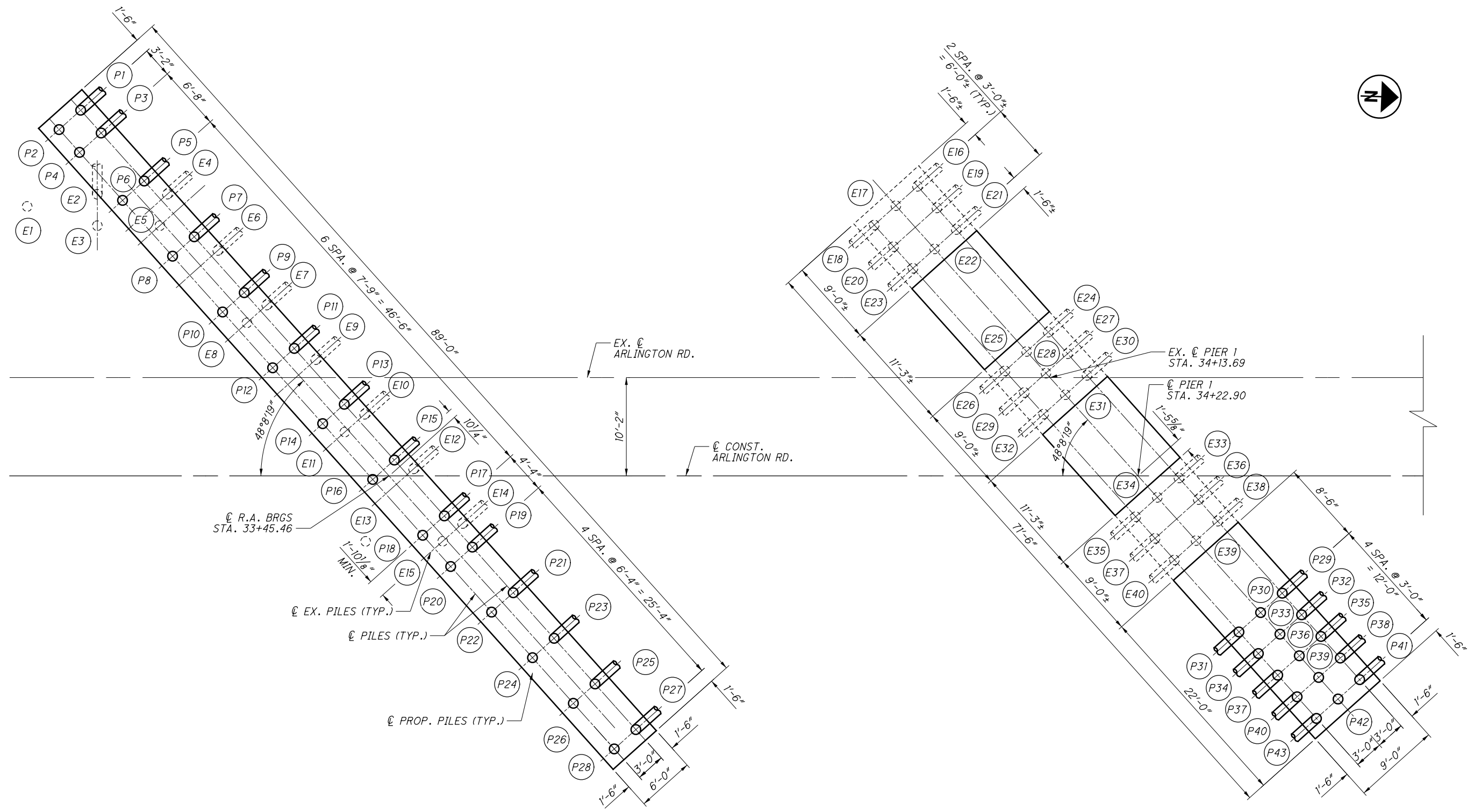
- SCARIFICATION
- ITEM 203 - EXCAVATION
- ITEM 503 - UNCLASSIFIED EXCAVATION
- EX. 12" CIP PILES
- EX. BATTERED 12" CIP PILES

**NOTES:**

1. REMOVAL DETAILS ARE TYPICAL FOR EACH PIER. PIER 2 IS SHOWN, PIERS 1 AND 3 ARE SIMILAR.
2. SCARIFY TOP OF PIERS AND LOCATE EXISTING REINFORCING STEEL BY PACHOMETER.
3. CLEARLY MARK LOCATIONS FROM PACHOMETER READING PRIOR TO DRILLING DOWEL HOLES.
4. PROVIDE EXCAVATION BRACING BETWEEN PIERS 1 AND 3 AND IR-70, AS REQUIRED TO MAINTAIN TRAFFIC. SEE SHEET 11/118 FOR LOCATION AND LIMITS. THE BRACING SHALL BE DESIGNED FOR LIVE LOAD SURCHARGE LOADS AND ANY IMPACT LOADS IF THE BRACING IS ATTACHED TO, OR WITHIN 1.5 FEET OF, PORTABLE BARRIER.



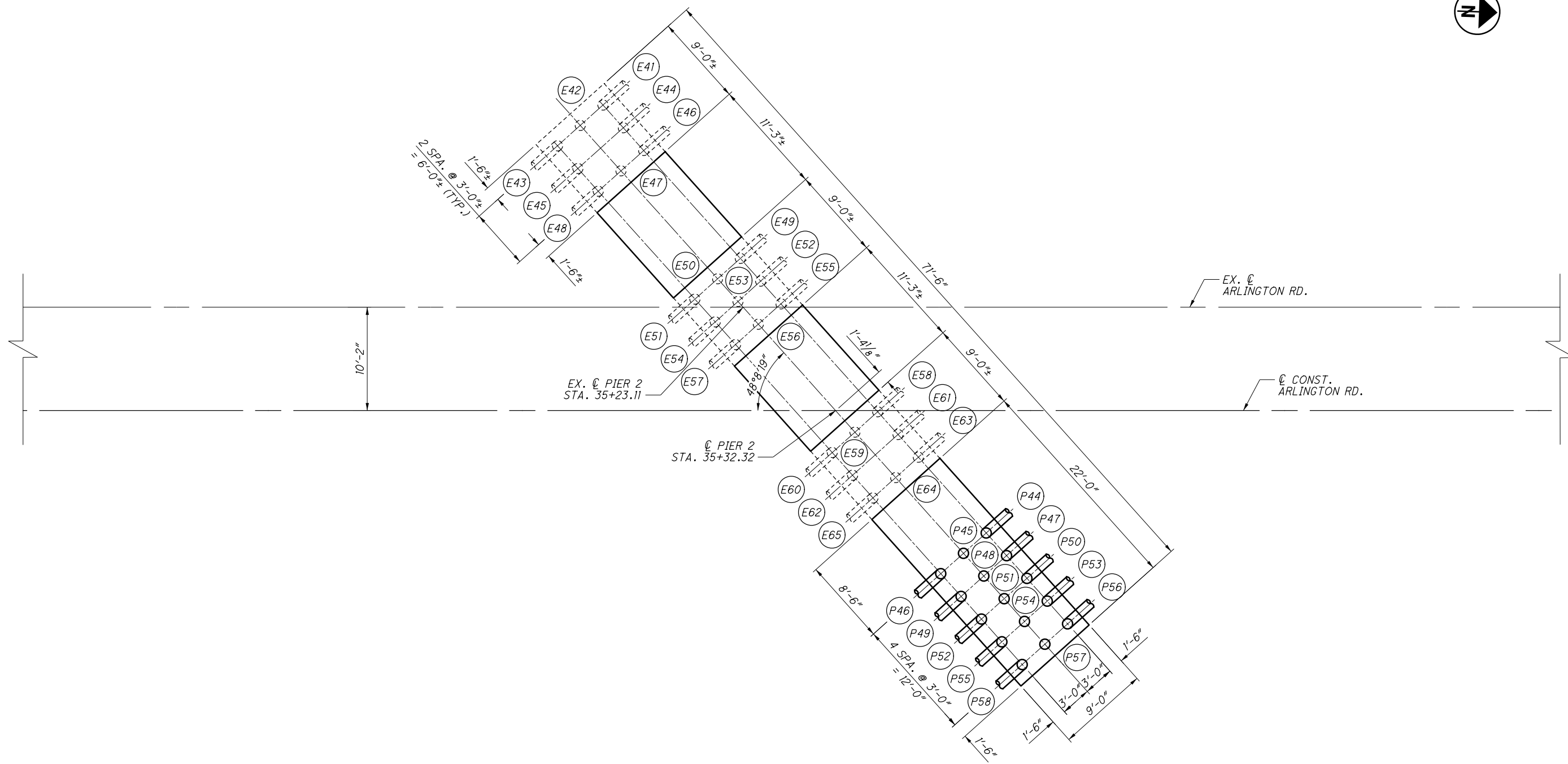
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





- LEGEND:**
- EXISTING 12" CIP BATTERED PILE (4:1)
  - PROPOSED 12" CIP BATTERED PILE (4:1)
  - EXISTING 12" CIP VERTICAL PILE
  - PROPOSED 12" CIP VERTICAL PILE
  - EXISTING PILE IDENTIFICATION NUMBER
  - PROPOSED PILE IDENTIFICATION NUMBER

- NOTES:**
1. REAR ABUTMENT PROPOSED PILE LENGTH = 55'-0".
  2. PIER 1 ESTIMATED PROPOSED PILE LENGTH = 45'-0".
  3. ALL EXISTING PILES WERE LOCATED FROM EXISTING CONSTRUCTION PLANS.

<p><b>FOUNDATION PLAN</b> BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70</p>	<p><b>MOT-70-3.34</b> PID No. 99623</p>	<p>92 136</p>
<p>DESIGNED: PES CHECKED: TML</p>	<p>DRAWN: PES REVISED:</p>	<p>REVIEWED: MAA DATE: 04/2017 STRUCTURE FILE NUMBER: 5704804</p>
<p>DESIGN AGENCY: EASTON OVAL SUITE 900 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-6225</p> <p style="text-align: right;"><b>WOOLPERT</b> CONSULTING ENGINEERS</p>		



**LEGEND:**

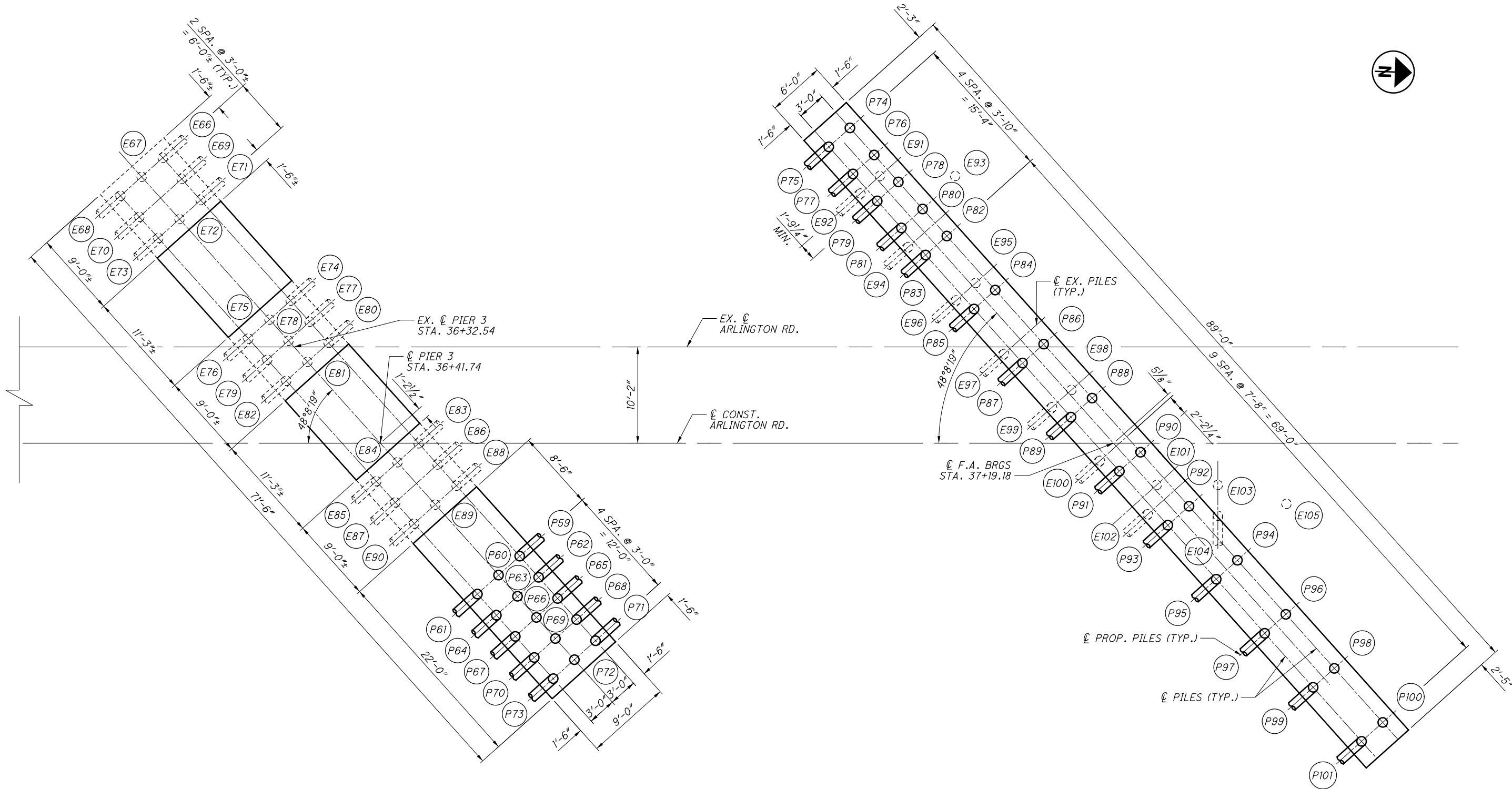
-  EXISTING 12" CIP BATTERED PILE (4:1)
-  PROPOSED 12" CIP BATTERED PILE (4:1)
-  EXISTING 12" CIP VERTICAL PILE
-  PROPOSED 12" CIP VERTICAL PILE
-  EXISTING PILE IDENTIFICATION NUMBER
-  PROPOSED PILE IDENTIFICATION NUMBER

**NOTES:**

1. PIER 2 PROPOSED PILE LENGTH = 50'-0".
2. ALL EXISTING PILES WERE LOCATED FROM EXISTING CONSTRUCTION PLANS.

<p><b>MOT-70-3.34</b> PID No. 99623</p>	<p><b>FOUNDATION PLAN</b> BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70</p>	<p>DESIGNED: PES CHECKED: TML</p>	<p>DRAWN: PES REVISED:</p>	<p>REVIEWED: MAA STRUCTURE FILE NUMBER: 5704804</p>	<p>DATE: 04/2017</p>	<p>DESIGN AGENCY: WOLPERT COLUMBUS, OH 43219 T 614-476-8000 F 614-476-6225</p>
<p>8 / 51</p>	<p>93 136</p>					

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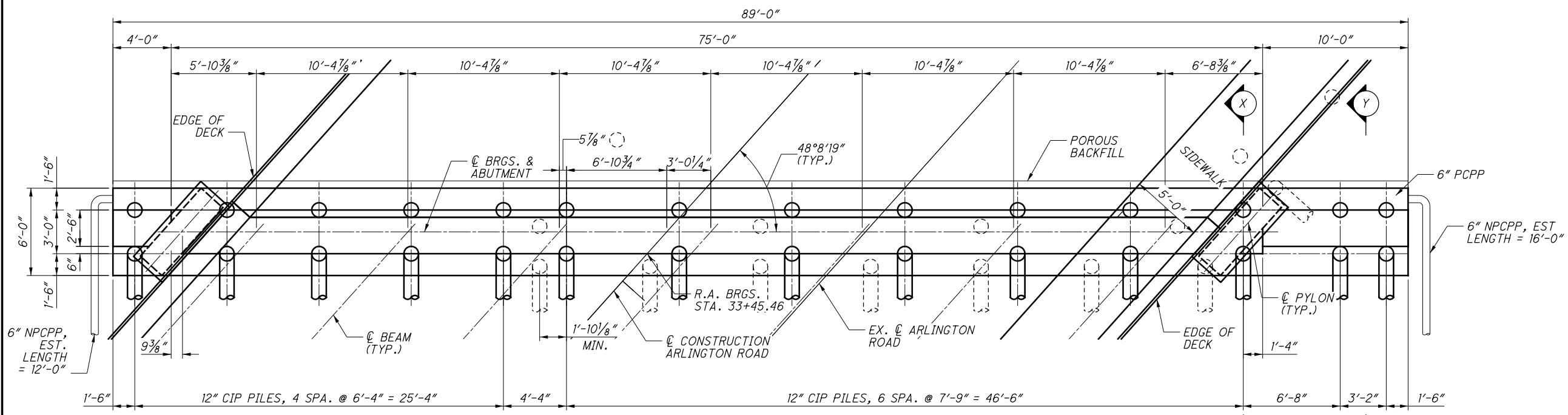


- LEGEND:**
- EXISTING 12" CIP BATTERED PILE (4:1)
  - PROPOSED 12" CIP BATTERED PILE (4:1)
  - EXISTING 12" CIP VERTICAL PILE
  - PROPOSED 12" CIP VERTICAL PILE
  - EXISTING PILE IDENTIFICATION NUMBER
  - PROPOSED PILE IDENTIFICATION NUMBER

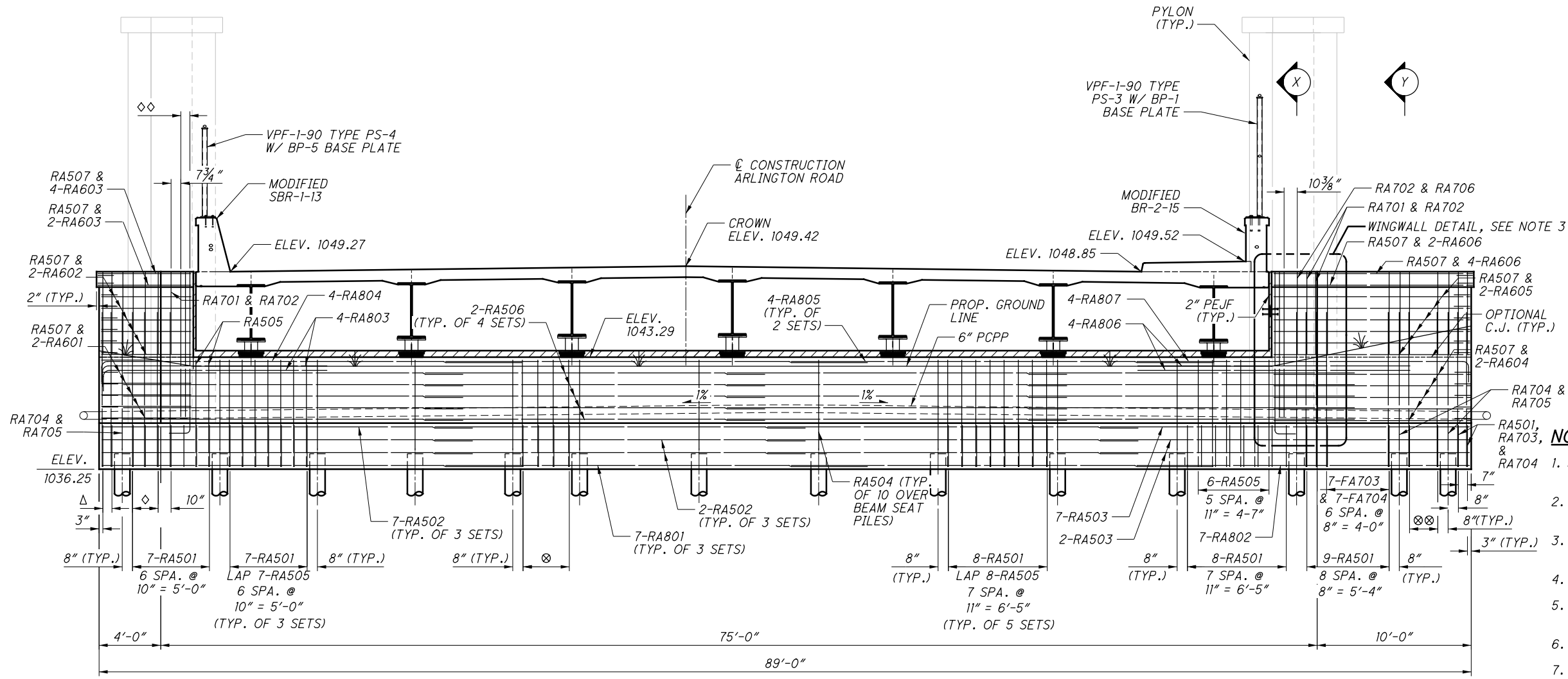
- NOTES:**
1. FORWARD ABUTMENT PROPOSED PILE LENGTH = 50'-0".
  2. PIER 3 PROPOSED PILE LENGTH = 50'-0".
  3. ALL EXISTING PILES WERE LOCATED FROM EXISTING CONSTRUCTION PLANS.

	DESIGN AGENCY EASTON OVAL SUITE 900 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-6225	DATE 04/2017	REVIEWED MAA	STRUCTURE FILE NUMBER 5704804
<b>FOUNDATION PLAN</b> BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70	DESIGNED PLS	CHECKED TML	DRAWN PES	REVISED
<b>MOT-70-3.34</b> PID No. 99623	9 / 51			
94 136				

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**REAR ABUTMENT PLAN**



**REAR ABUTMENT ELEVATION**

**LEGEND**

- PROPOSED 12" DIA. CIP PILE
- EXISTING 12" DIA. CIP PILE
- PROPOSED 12" DIA. BATTERED (4:1) CIP PILE
- EXISTING 12" DIA. BATTERED (4:1) CIP PILE
- △ 2 SETS OF RA501, RA703 & RA704, 1 SPA. @ 7" = 7"
- ⊗ 4-RA501 LAP 4-RA505, 3 SPA. @ 1'-0" = 3'-0"
- ⊗⊗ 3 SETS OF RA501, RA703, & RA704, 2 SPA. @ 11" = 1'-10"
- ◇ 3-RA703 & 3-RA704, 2 SPA. @ 10" = 1'-8"
- ◇◇ 2 SPA. @ 3 1/2" = 7"

**NOTES:**

1. SEE SHEET 13/51 FOR ABUTMENT DETAILS AND SECTIONS.
2. SEE SHEET 12/51 FOR DIAPHRAGM DETAILS NOT SHOWN.
3. SEE SHEET 14/51 FOR SECTION X, SECTION Y, AND WINGWALL DETAILS.
4. SEE SHEET 7/51 FOR FOUNDATION PLAN.
5. SEE SHEET 33/51 FOR TRANSVERSE SECTION.
6. SEE SHEET 16/51 FOR PYLON DETAILS.
7. ASSUME 2" CLEAR COVER UNLESS OTHERWISE NOTED.

DESIGN AGENCY: EASTON OVAL  
SUITE 810  
COLUMBUS, OH 43219  
T 614-476-8000  
F 614-476-8225

DESIGNED: JMM  
CHECKED: TML

DRAWN: JMM  
REVISED:

REVIEWED: MAA  
DATE: 04/2017

STRUCTURE FILE NUMBER: 5704804

BRIDGE NO. MOT-70-0334

ARLINGTON ROAD OVER IR-70

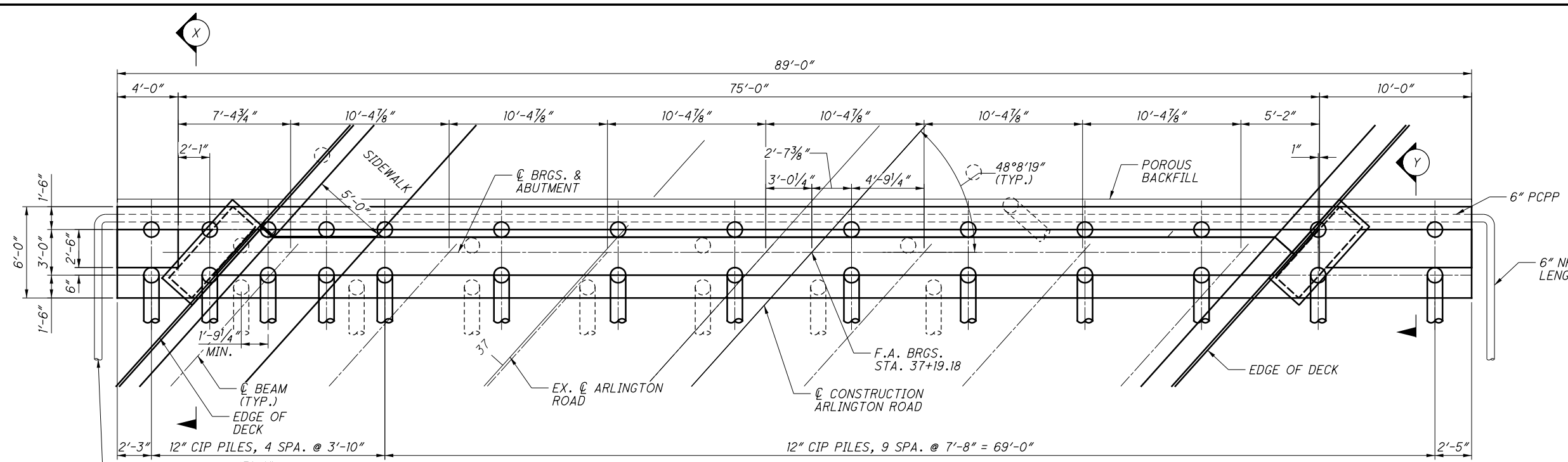
MOT-70-3.34

PID No. 99623

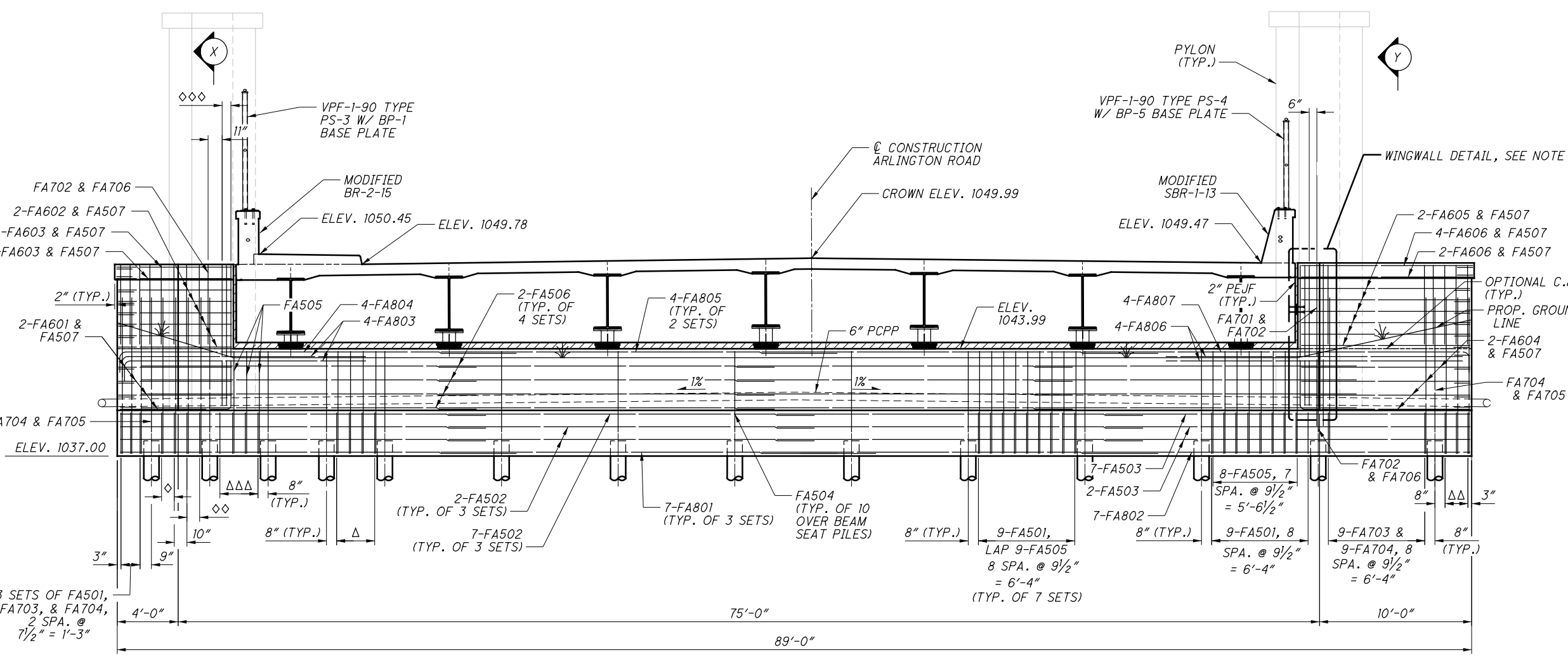
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**FORWARD ABUTMENT PLAN**



**FORWARD ABUTMENT ELEVATION**

**LEGEND**

- PROPOSED 12" DIA. CIP PILE
- EXISTING 12" DIA. CIP PILE
- PROPOSED 12" DIA. BATTERED (4:1) CIP PILE
- EXISTING 12" DIA. BATTERED (4:1) CIP PILE
- △ 4 SETS OF FA501 & FA505, 3 SPA. @ 10" = 2'-6" (TYP. OF 2 SETS)
- △△ 3 SETS OF FA501, FA703, & FA704, 2 SPA. @ 9" = 1'-6"
- △△△ 4-FA501, 3 SPA. @ 10" = 2'-6"
- ◇ 2 SETS OF FA501, FA703 & FA704, 1 SPA. @ 10" = 10"
- ◇◇ 2 SETS OF FA501, FA701 & FA702, 1 SPA. @ 10" = 10"
- ◇◇◇ 2 SPA. @ 3 1/2" = 7"

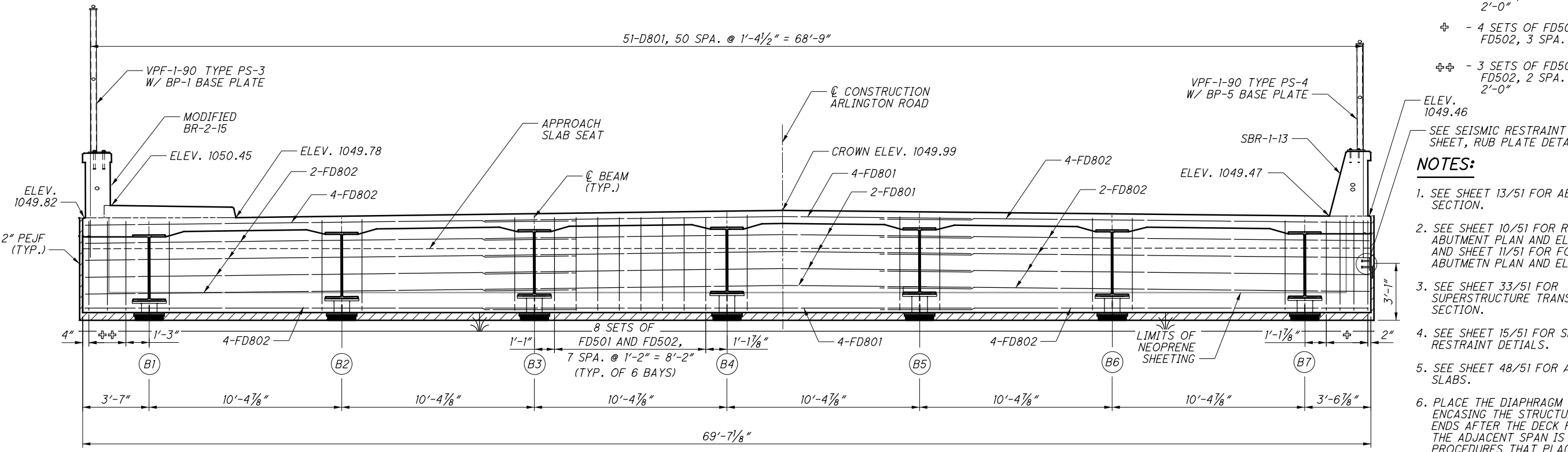
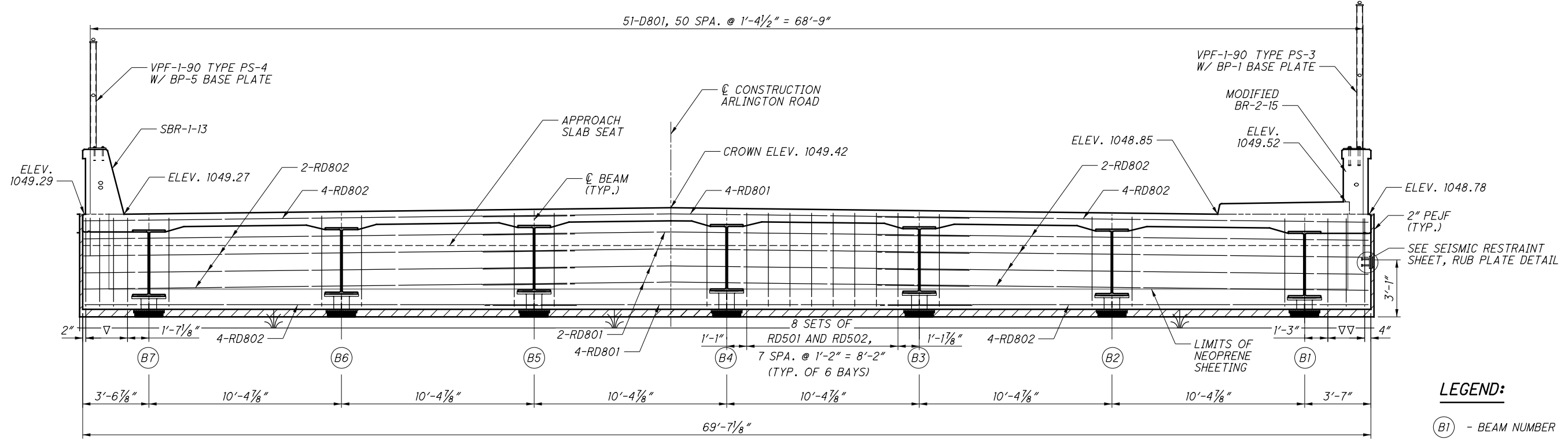
**NOTES:**

1. SEE SHEET 13/51 FOR ABUTMENT SECTION DETAILS.
2. SEE SHEET 12/51 FOR DIAPHRAGM DETAILS NOT SHOWN.
3. SEE SHEET 14/51 FOR SECTION X, SECTION Y, AND WINGWALL DETAILS.
4. SEE SHEET 7/51 FOR FOUNDATION PLAN.
5. SEE SHEET 33/51 FOR TRANSVERSE SECTION.
6. SEE SHEET 16/51 FOR PYLON DETAILS.
7. ASSUME 2" CLEAR COVER UNLESS OTHERWISE NOTED.
8. MINIMUM LAP LENGTHS:  
 #5 BARS = 2'-5"  
 #6 BARS = 2'-11"  
 #7 BARS = 3'-8"

DESIGN AGENCY: EASTON OVAL SUITE 900 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-8225  
**WOOLPERT**  
 DESIGN/CONSTRUCTION PERFORMANCE  
 DATE: 04/2017  
 REVIEWED: MAA  
 DRAWN: JMM  
 DESIGNED: JMM  
 CHECKED: TML  
 STRUCTURE FILE NUMBER: 5704804  
**FORWARD ABUTMENT PLAN AND ELEVATION**  
 BRIDGE NO. MOT-70-0334  
 ARLINGTON ROAD OVER IR-70  
**MOT-70-3.34**  
 PID No. 99623  
 11 / 51  
 96  
 136



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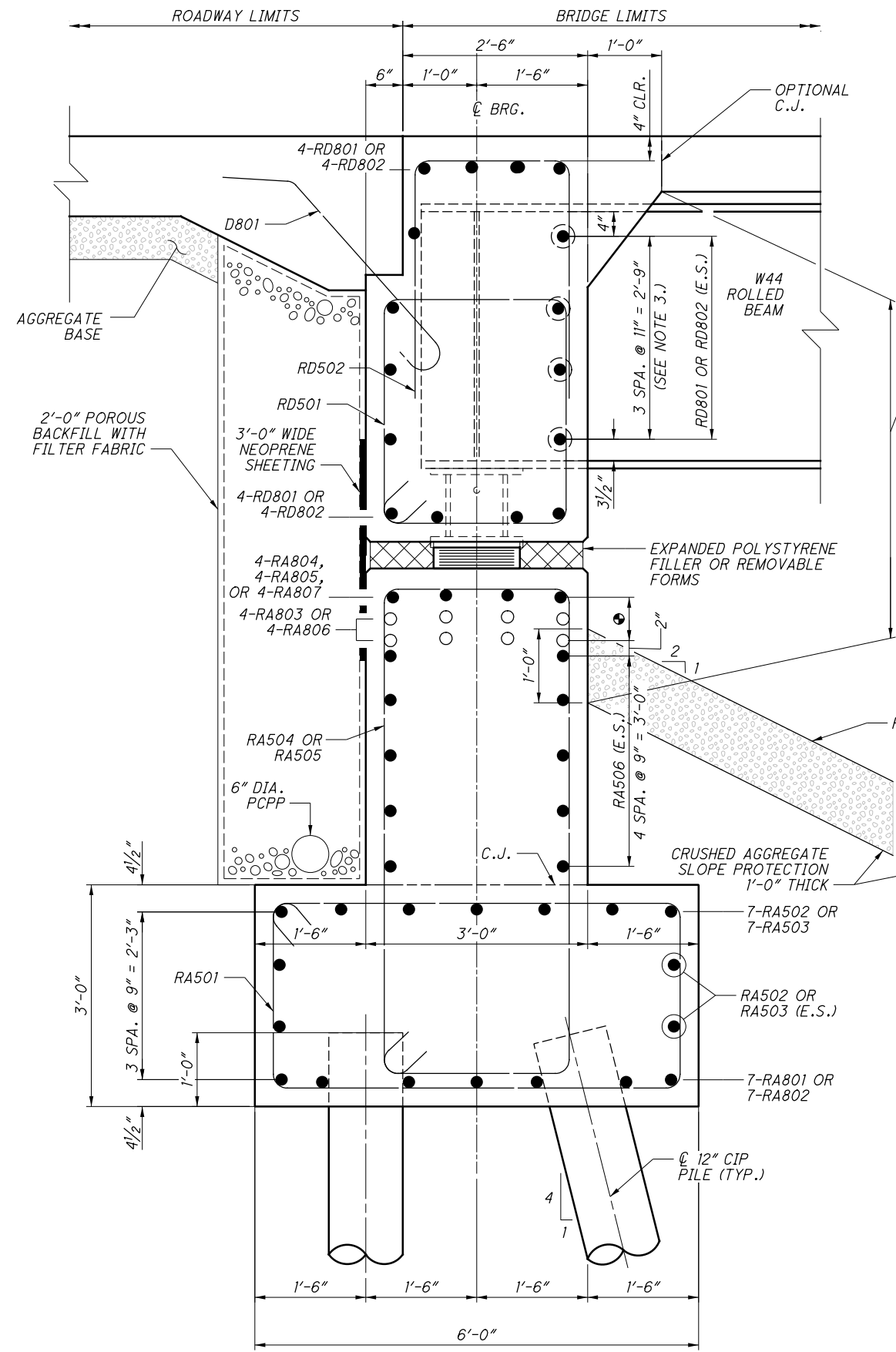


- LEGEND:**
- (B1) - BEAM NUMBER
  - ∇ - 4 SETS OF RD501 AND RD502, 3 SPA. @ 9" = 2'-3"
  - ∇∇ - 3 SETS OF RD501 AND RD502, 2 SPA. @ 1'-0" = 2'-0"
  - ⊕ - 4 SETS OF FD501 AND FD502, 3 SPA. @ 9" = 2'-3"
  - ⊕⊕ - 3 SETS OF FD501 AND FD502, 2 SPA. @ 1'-0" = 2'-0"

- NOTES:**
1. SEE SHEET 13/51 FOR ABUTMENT SECTION.
  2. SEE SHEET 10/51 FOR REAR ABUTMENT PLAN AND ELEVATION AND SHEET 11/51 FOR FORWARD ABUTMENT PLAN AND ELEVATION.
  3. SEE SHEET 33/51 FOR SUPERSTRUCTURE TRANSVERSE SECTION.
  4. SEE SHEET 15/51 FOR SEISMIC RESTRAINT DETAILS.
  5. SEE SHEET 48/51 FOR APPROACH SLABS.
  6. PLACE THE DIAPHRAGM CONCRETE ENCASEING THE STRUCTURAL MEMBER ENDS AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET.
  7. MINIMUM LAP LENGTHS:  
#8 BARS = 4'-11"

 DESIGN AGENCY EASTON OVAL SUITE 901 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-8225	DATE 04/2017 REVIEWED MAA DRAWN JMM CHECKED TML DESIGNED JMM STRUCTURE FILE NUMBER 5704804	<b>DIAPHRAGM DETAILS</b> BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70
<b>MOT-70-3.34</b> PID No. 99623		12 / 51 97 136

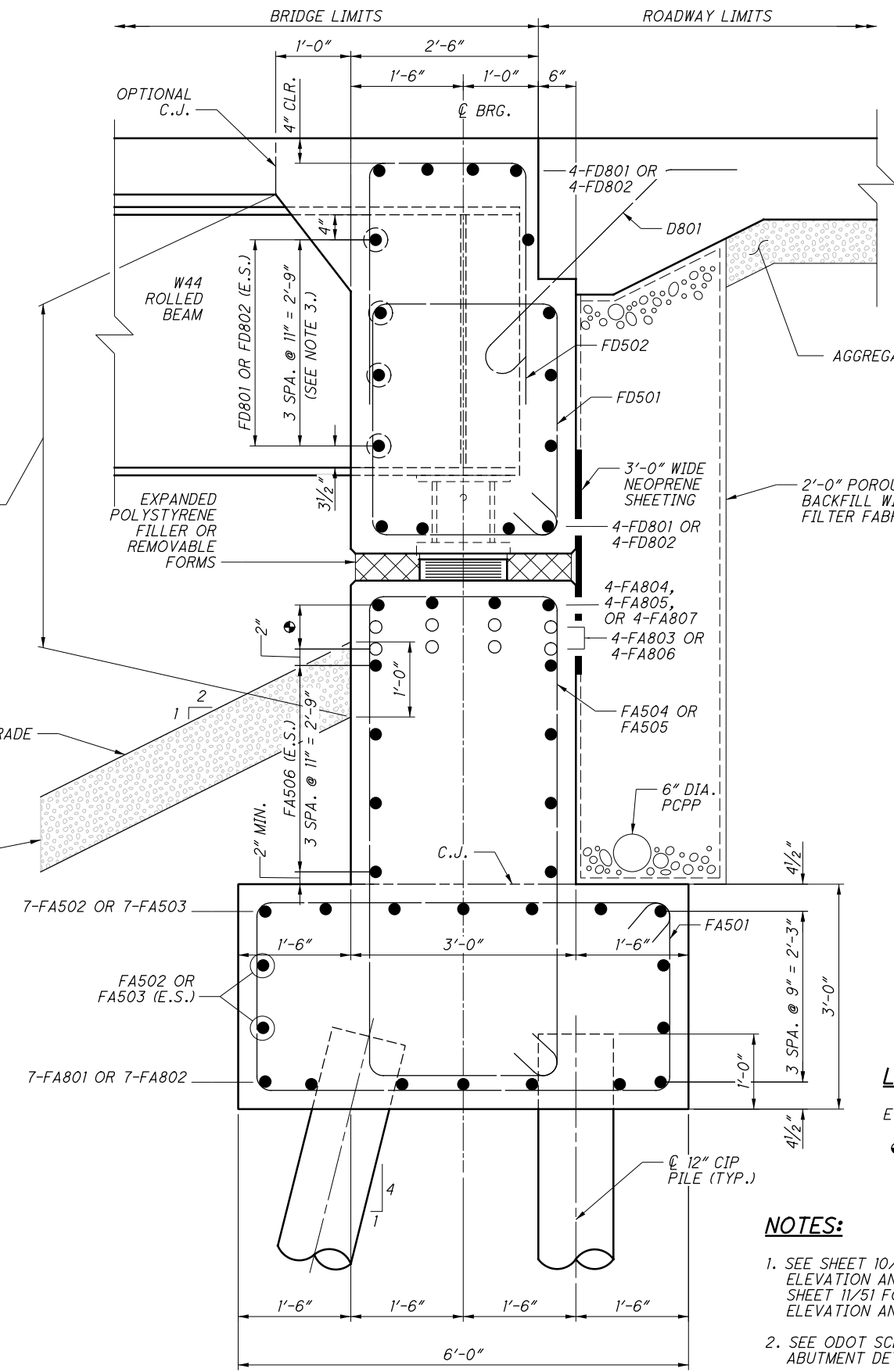
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**REAR ABUTMENT SECTION**

LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)



**FORWARD ABUTMENT SECTION**

**LEGEND:**

E.S. = EACH SIDE

• - 2 SPA. @ 3 1/2" = 7"

**NOTES:**

- SEE SHEET 10/51 FOR REAR ABUTMENT ELEVATION AND PLAN DETAILS AND SEE SHEET 11/51 FOR FORWARD ABUTMENT ELEVATION AND PLAN DETAILS.
- SEE ODOT SCD SICD-1-96 FOR ADDITIONAL ABUTMENT DETAILS NOT SHOWN.
- NO. 8 BARS THRU. 3" Ø HOLES IN STRUCTURAL STEEL.
- ASSUME 3" CLEAR COVER UNLESS OTHERWISE NOTED.

DESIGN AGENCY: EASTON OVAL SUITE 600 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-6225

**WOOLPERT**

DATE: 04/2017

REVIEWED: MAA

DRAWN: JMM

DESIGNED: JMM

CHECKED: TML

REVISER:

STRUCTURE FILE NUMBER: 5704804

ABUTMENT DETAILS

BRIDGE NO. MOT-70-0334

ARLINGTON ROAD OVER IR-70

MOT-70-3.34

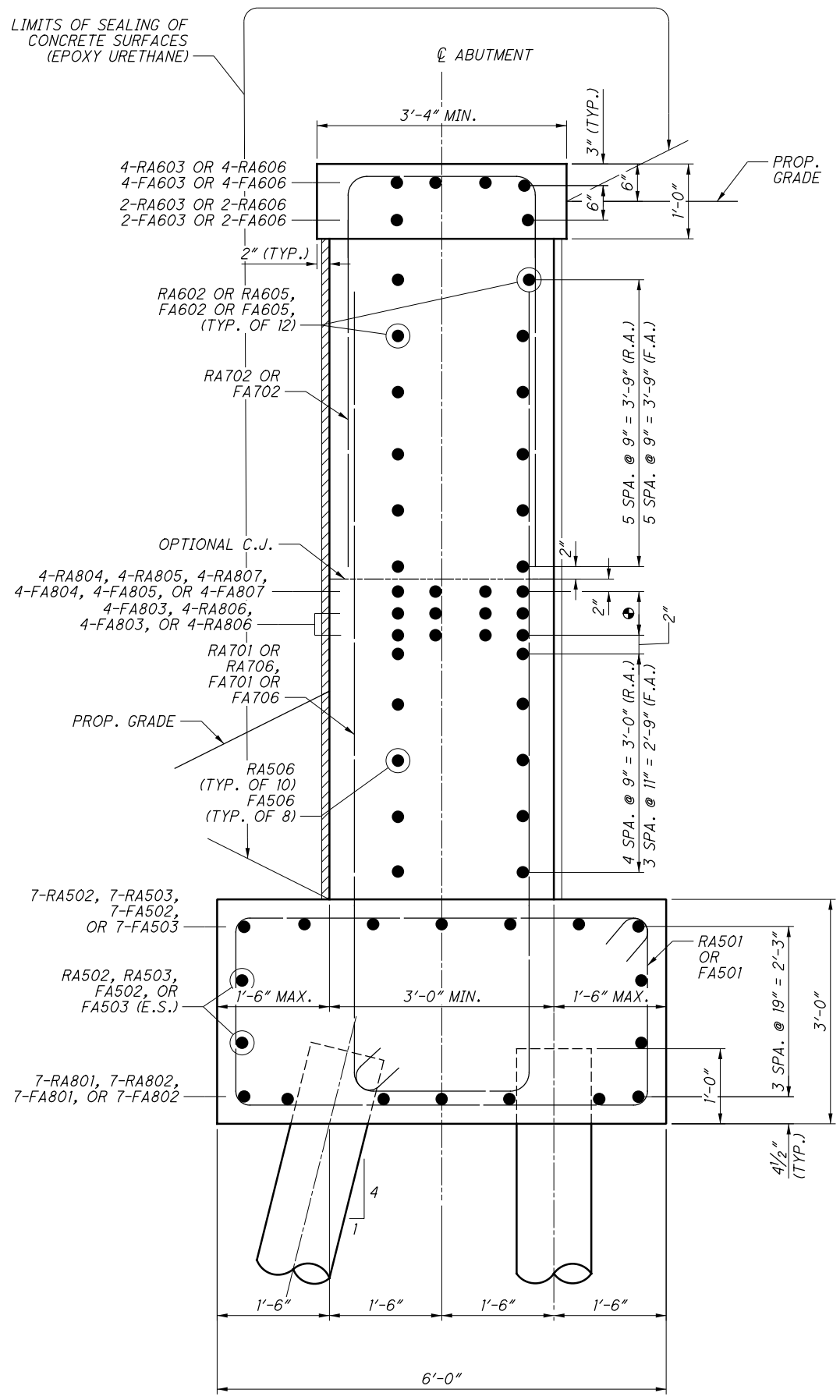
PID No. 99623

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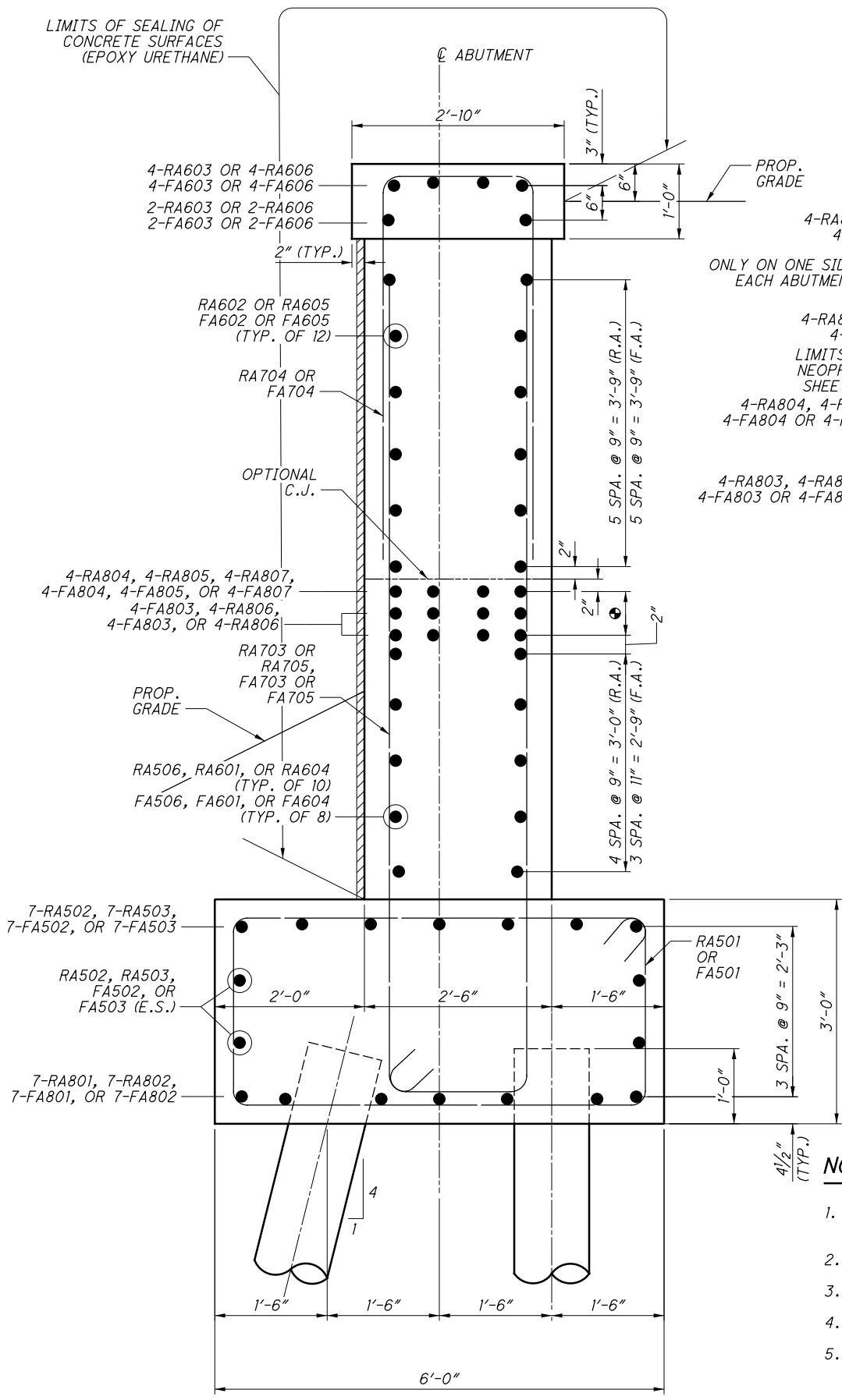
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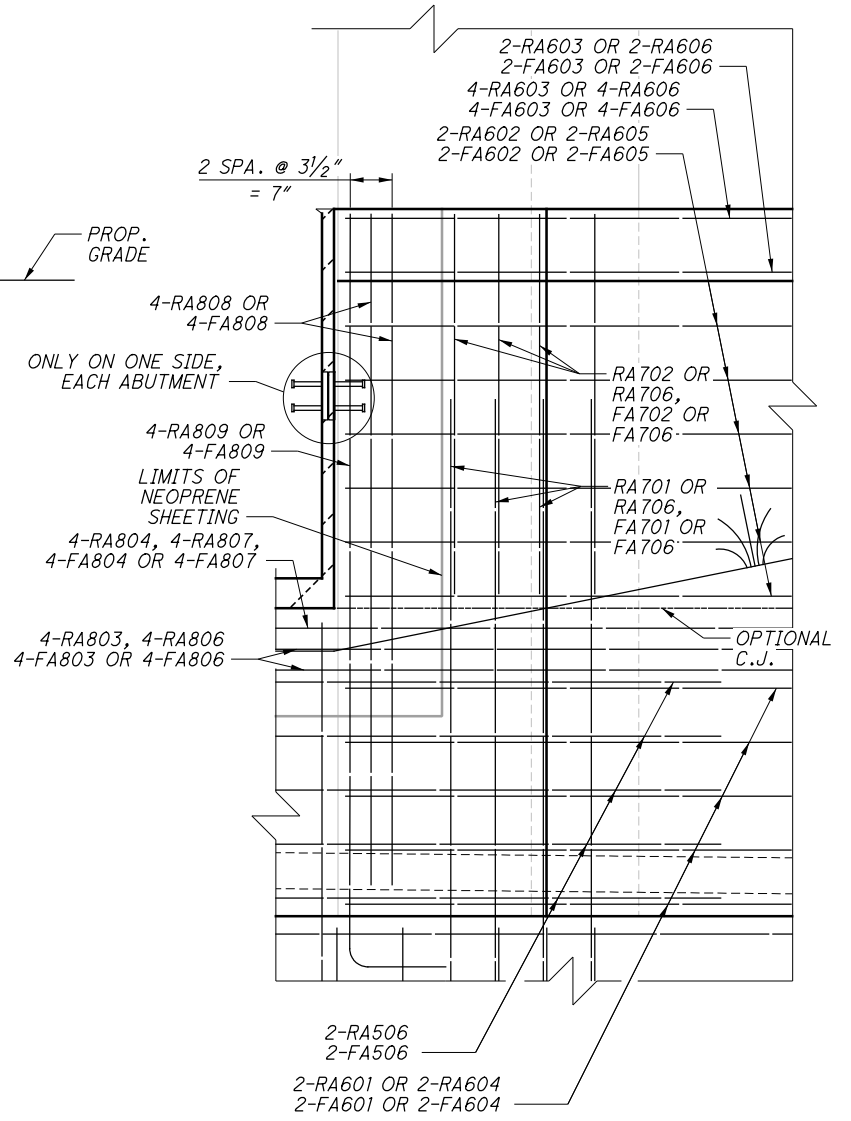
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**SECTION X**  
(PYLON REINFORCEMENT NOT SHOWN FOR CLARITY)



**SECTION Y**

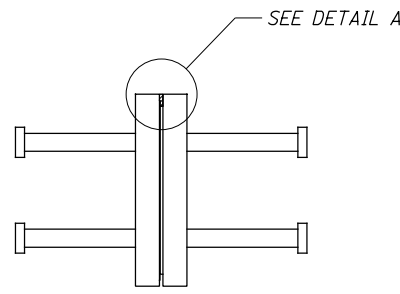


**LEGEND:**  
 ● - 2 SPA. @ 3 1/2" = 7"  
 ▨ - TEXTURE TYPE A

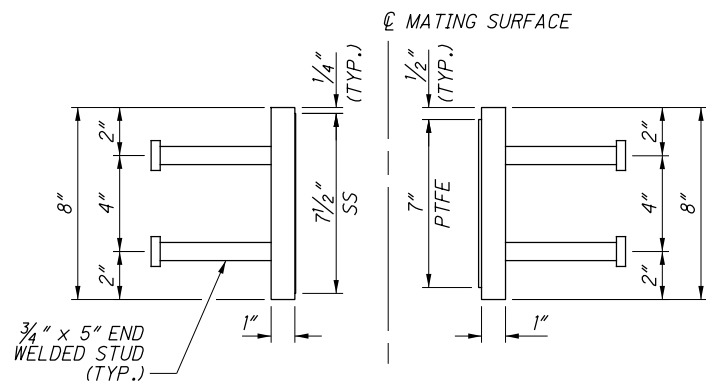
- NOTES:**
1. SEE SHEET 10/51 FOR REAR ABUTMENT DETAILS AND SEE SHEET 11/51 FOR FORWARD ABUTMENT DETAILS.
  2. SEE SHEET 13/51 FOR ABUTMENT SECTION DETAILS.
  3. ASSUME 3" CLEAR COVER UNLESS OTHERWISE NOTED.
  4. SEE GENERAL NOTES FOR TEXTURE INFORMATION.
  5. WINGWALL HAS BEEN DESIGNED AND DETAILED FOR SEISMIC FORCES IN LIEU OF SEISMIC PEDESTALS USING THE STRUT AND TIE METHOD PER AASHTO 5.6.3. THE SEISMIC FORCE USED IN THE DESIGN IS 569 KIPS.
  6. CONCRETE FOR PYLONS SHALL NOT BE PLACED ABOVE THE TOP OF THE DECK ELEVATION PRIOR TO DECK PLACEMENT.
  7. SEE SHEETS 16/51 - 17/51 FOR PYLON REINFORCING STEEL DETAILS.

<b>DESIGN AGENCY</b> EASTON OVAL SUITE 800 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-8225 <b>WOOLPERT</b> <small>CONSTRUCTION PERFORMANCE</small>	<b>DATE</b> 04/2017	<b>REVIEWED</b> MAA	<b>DESIGNED</b> JMM	<b>DRAWN</b> JMM
<b>BRIDGE NO.</b> MOT-70-0334	<b>STRUCTURE FILE NUMBER</b> 5704804	<b>CHECKED</b> TML	<b>REVISED</b> (None)	<b>FILE NUMBER</b> 5704804
<b>WINGWALL SECTION DETAILS</b> ARLINGTON ROAD OVER I-70				
<b>MOT-70-3.34</b> PID No. 99623				
14 / 51				
99 136				

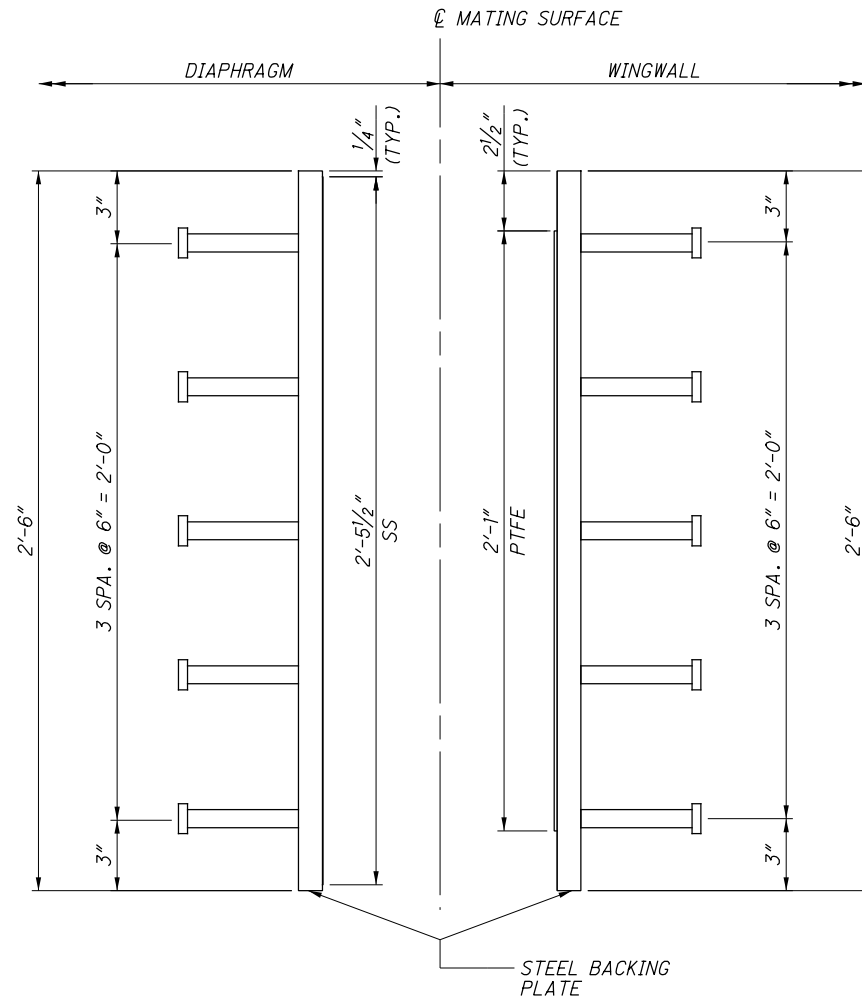
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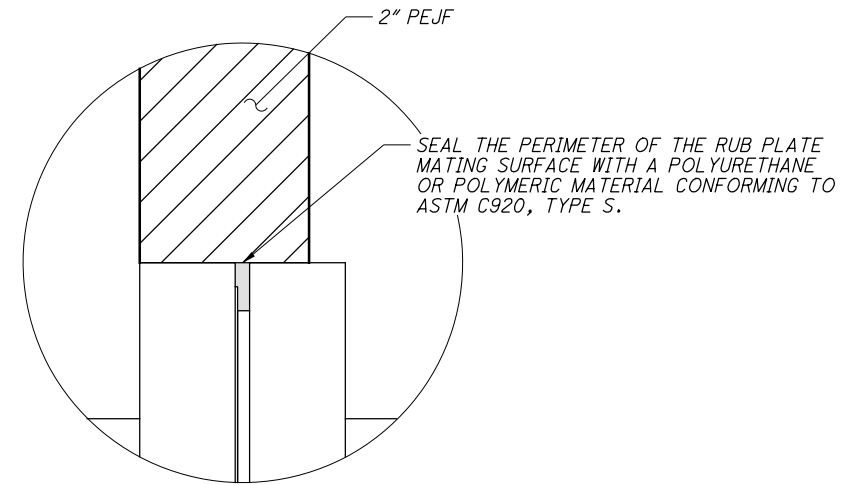
**RUB PLATE DETAIL:**



**RUB PLATE ELEVATION**



**RUB PLATE PLAN**



**DETAIL A**

**LEGEND:**

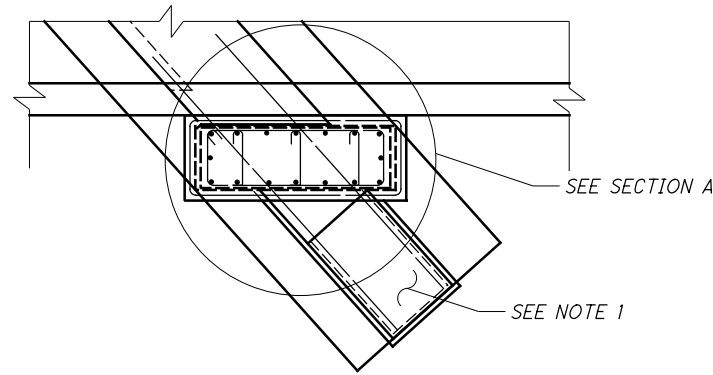
- \* THE SURFACE OF THE BEAM SEAT IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE 1/4" DEEP MINIMUM.
- \*\* PLACE TO AVOID INTERFERENCE WITH LONGITUDINAL REINFORCEMENT IN THE BEAM SEAT.
- SS STAINLESS STEEL
- PTFE POLYTETRAFLUORETHYLENE

**NOTES:**

1. CLEAR DISTANCES SHALL BE 2" UNLESS OTHERWISE NOTED.
2. SEE SHEET 10/51 FOR REAR ABUTMENT PLAN AND SEE SHEET 11/51 FOR FORWARD ABUTMENT PLAN.
3. SEE SHEET 12/51 FOR DIAPHRAGM PLAN.
4. SEE SHEET 14/51 FOR WINGWALL PLAN.
5. SEE SHEET 20/51 FOR PIER 2 PLAN.
6. FOR ADDITIONAL SEISMIC PEDESTAL DETAILS, SEE ODOT STANDARD CONSTRUCTION DRAWING A-1-69.
7. WINGWALL HAS BEEN DESIGNED FOR 569 KIP LATERAL LOAD BY STRUT & TIE ANALYSIS.
8. RUB PLATE NOTES:
  - STAINLESS STEEL (SS):  
13 GAGE STAINLESS STEEL, TYPE 304, ASTM A167 OR A240 WITH A SURFACE FINISH OF 8.0 μ-IN OR BETTER, WELDED AROUND THE ENTIRE PERIMETER TO THE 1" BACKING PLATE PER 869.12.
  - PTFE:  
PROVIDE PTFE SHEET OR FABRIC PER SUPPLEMENTAL SPECIFICATION 869.10 AND ATTACH PER 869.11.
  - STEEL BACKING PLATE:  
PROVIDE ASTM A709 GRADE 50 STEEL BACKING PLATES ACCORDING TO C&MS 711.01.
  - END WELDED STUDS:  
PROVIDE END WELDED STUDS IN ACCORDANCE WITH C&MS 513.22.
  - RUB PLATES:  
FABRICATE RUB PLATES ACCORDING TO SUPPLEMENTAL SPECIFICATION 869. SHIP AND PACKAGE FABRICATED UNITS ACCORDING TO 869.18. LEAVE WRAPPING, STRAPS OR RETAINING CLAMPS IN PLACE UNTIL BOTH SIDES OF THE UNIT ARE SECURED IN THEIR FINAL POSITION. ADDITIONAL REINFORCEMENT MAY BE INCLUDED IN THE GUIDE FOR THIS PURPOSE.
  - CORROSION PROTECTION:  
SHOP METALLIZE AND SEAL ALL STEEL SURFACES, EXCEPT PTFE-STAINLESS STEEL SLIDING SURFACES PER 869.13.
9. RUB PLATE ASSEMBLIES, INCLUDING STEEL BACKER PLATES, STAINLESS STEEL PLATE, PTFE SURFACE, AND WELDED STUDS, INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS TO CONSTRUCT AND PLACE THE PLATES SHALL BE PAID FOR ON AN EACH BASIS FOR THE FULL ASSEMBLY, UNDER ITEM 511: SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN.

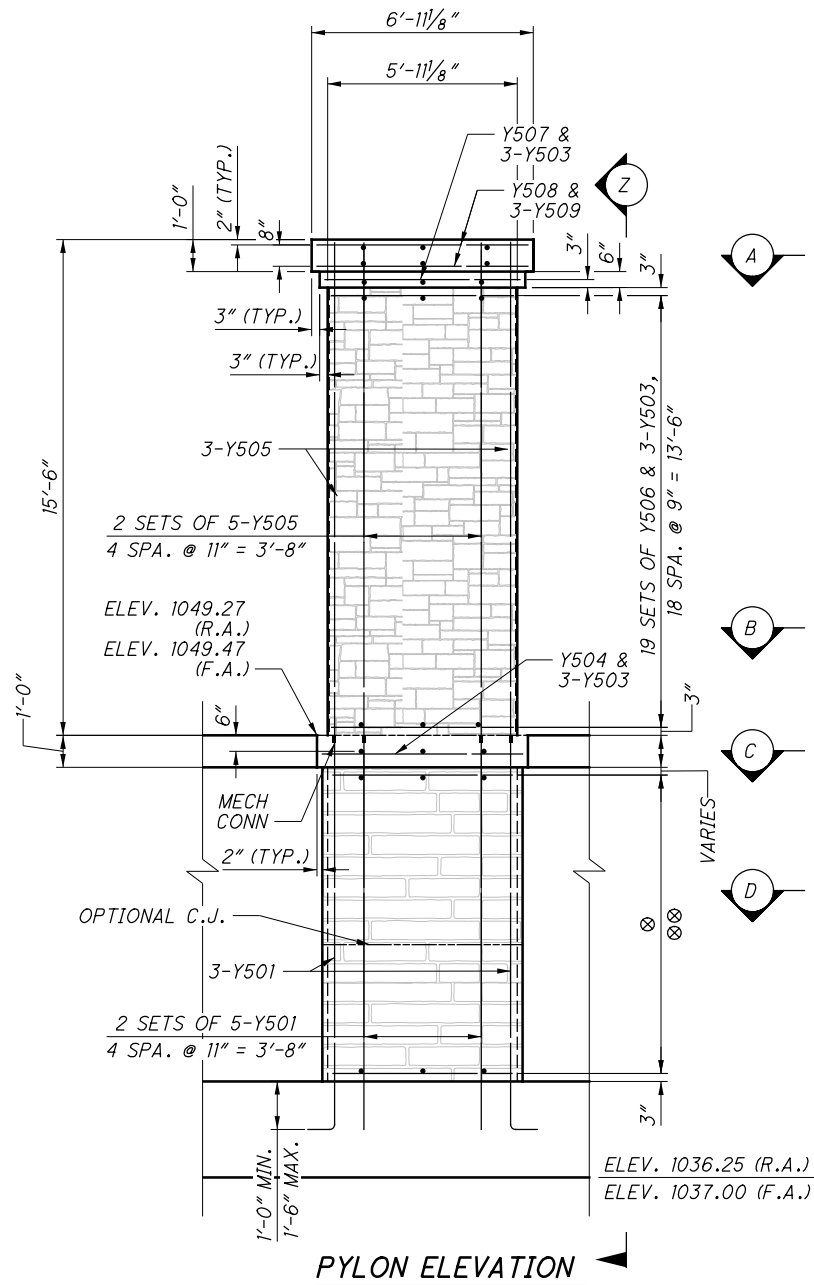
<b>SEISMIC RESTRAINT DETAILS</b> BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70	DESIGN AGENCY EASTON OVAL SUITE 600 COLUMBUS, OH 43219 T 614-776-6000 F 614-776-6225 <b>WOOLPERT</b> DESIGN ENGINEERING & ARCHITECTURE	DESIGNED JMM CHECKED TML	DRAWN JMM REVISED	REVIEWED MAA STRUCTURE FILE NUMBER 5704804	DATE 04/2017
<b>MOT-70-3.34</b> PID No. 99623					
15 / 51					
100 136					

G:\DE\clients\ODOT\075863\_MOT\_70\_0334\_99623\_MOT\_70\_0334\Design\Structures\MOT070\_0334C\_Sheets\070\_0334C\_SR006.dgn 11/3/2017 10:11:14 AM holln

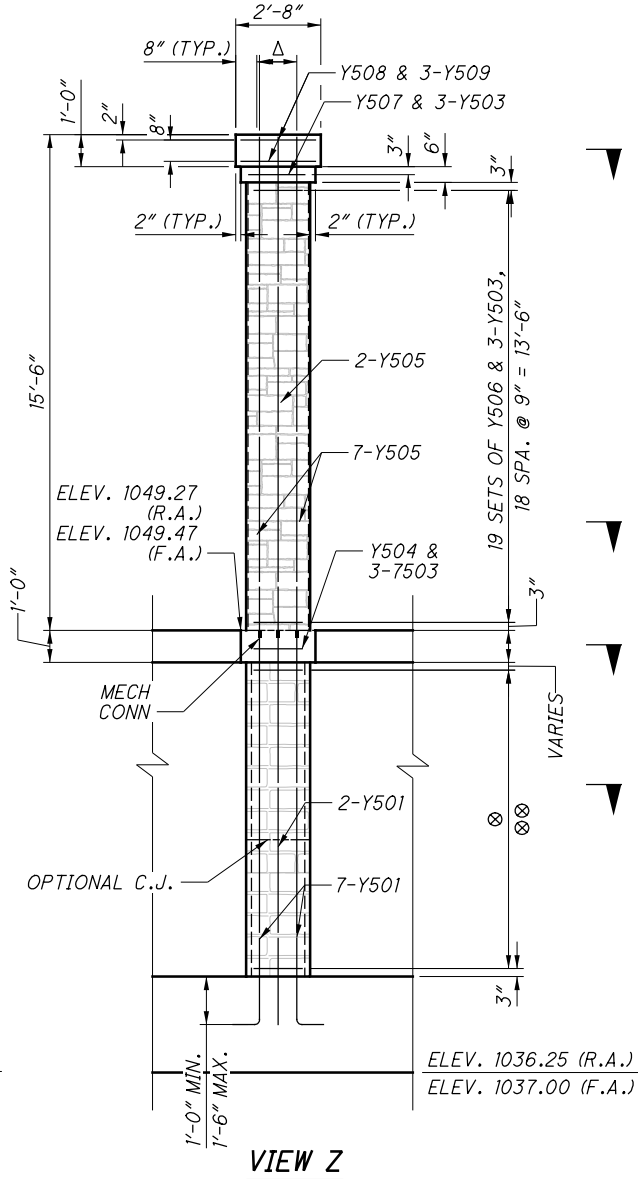


PLAN

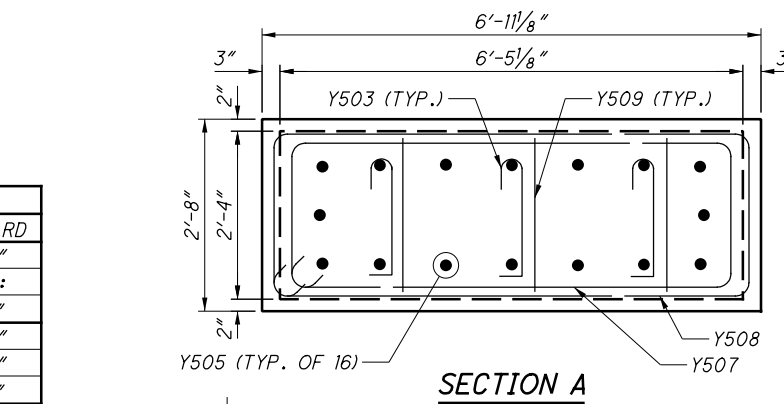
4' WINGWALL PANEL HEIGHTS			
		REAR	FORWARD
FRONT	A	6'-1"	6'-2"
	B	5'-8"	5'-7"
	C	5'-2"	4'-1"
BACK	D	4'-7"	3'-8"
	E	2'-5"	2'-7"
	F	-	1'-3"



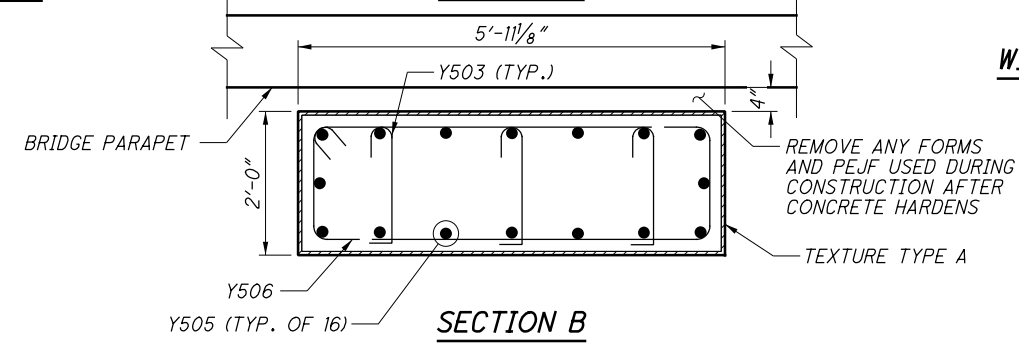
PYLON ELEVATION



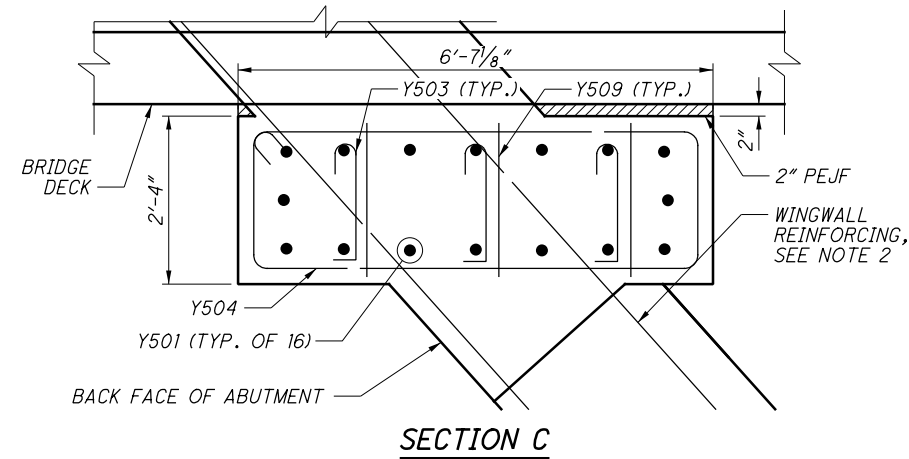
VIEW Z



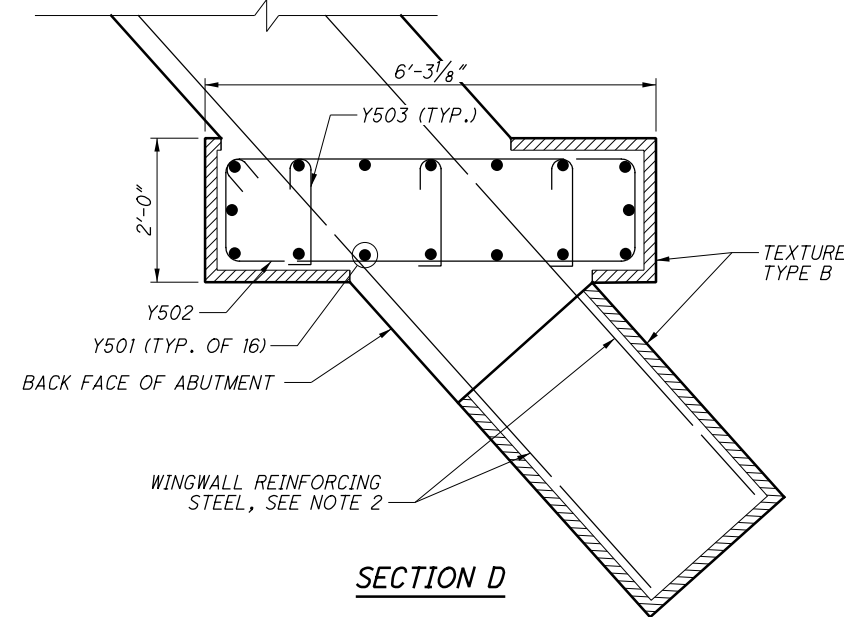
SECTION A



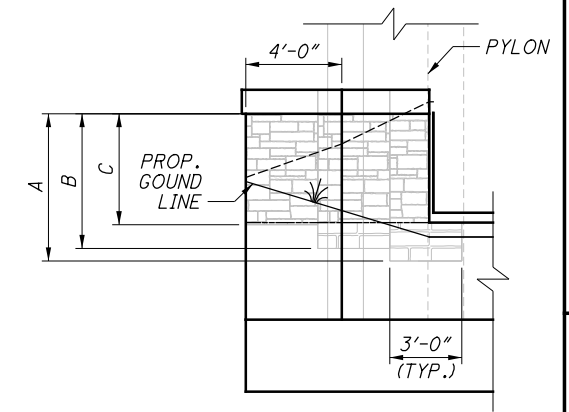
SECTION B



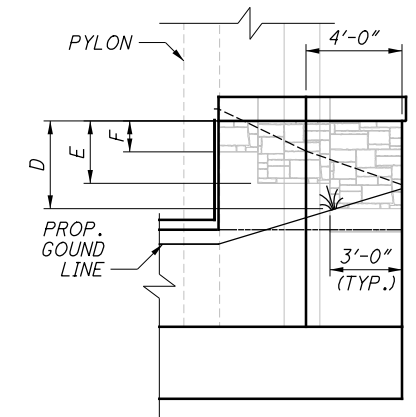
SECTION C



SECTION D



WINGWALL FORMLINER SCHEMATIC (FRONT)



WINGWALL FORMLINER SCHEMATIC (BACK)

LEGEND:

- TEXTURE TYPE A
- TEXTURE TYPE B
- $\Delta$  - 2 SPA. @ 8" = 1'-4"
- $\otimes$  - 16 SETS OF Y502 & 3-Y503, 15 SPA. @ 7 1/2" = 9'-4 1/2" (R.A.)
- $\otimes\otimes$  - 15 SETS OF Y502 & 3-Y503, 14 SPA. @ 7 1/2" = 8'-9" (F.A.)

NOTES:

1. SEE SHEET 10/51 FOR REAR ABUTMENT PLAN AND ELEVATION. SEE SHEET 11/51 FOR FORWARD ABUTMENT PLAN AND ELEVATION.
2. CONCRETE PYLONS SHALL NOT BE PLACED ABOVE THE TOP OF DECK ELEVATION PRIOR TO DECK PLACEMENT.
3. SEE SHEET 14/51 FOR WINGWALL REINFORCEMENT, DETAILS, AND SECTIONS.
4. ABUTMENT CONCRETE PYLONS, WHICH INCLUDE ALL CONCRETE ABOVE THE TOP ELEVATION OF THE WINGWALL, SHALL BE PAID FOR UNDER ITEM 511, CLASS QC1 CONCRETE, MISC.: CONCRETE PYLONS. PYLON CONCRETE BELOW THE ELEVATION OF THE WINGWALL SHALL BE PAID FOR UNDER ITEM 511, CLASS QC1 CONCRETE WITH QC/OA, ABUTMENT NOT INCLUDING FOOTING.
5. MINIMUM LAP LENGTHS:  
#5 BARS = 2'-5"

DESIGN AGENCY: EASTON OVAL  
SUITE 600  
COLUMBUS, OH 43219  
T 614-476-8000  
F 614-476-8225

**WOOLPERT**  
CONSTRUCTION MANAGEMENT

DATE: 04/2017  
REVIEWED: MAA  
DRAWN: JMM  
DESIGNED: JMM  
CHECKED: TML

STRUCTURE FILE NUMBER: 5704084

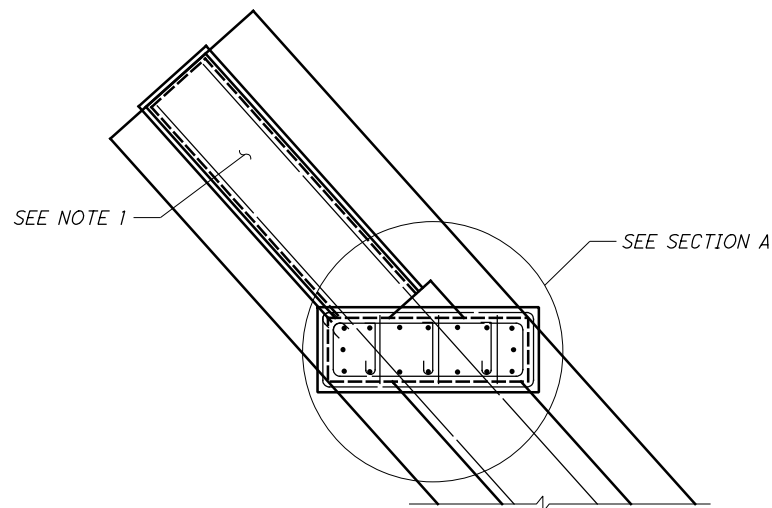
PYLON DETAILS  
BRIDGE NO. MOT-70-0334  
ARLINGTON ROAD OVER IR-70

MOT-70-3.34  
PID No. 99623

16 / 51

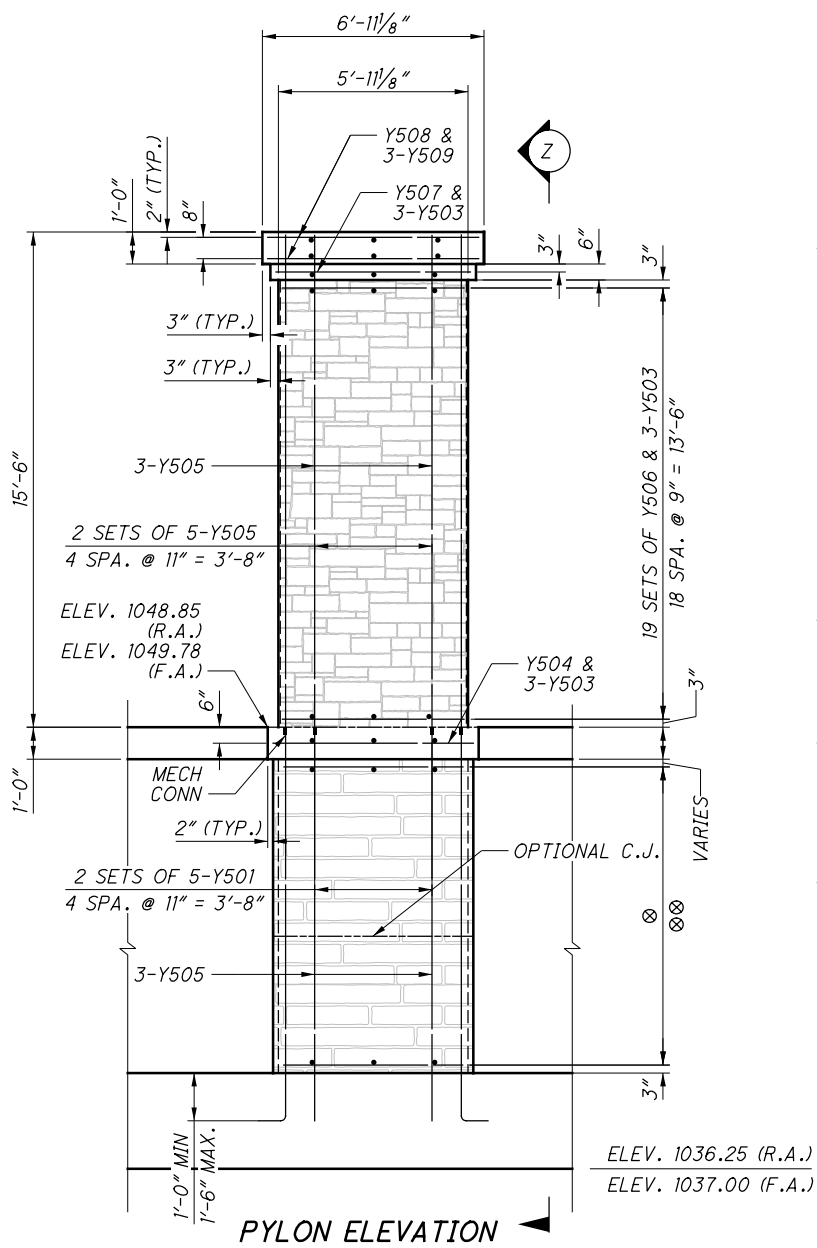
101  
136

C:\DE\clients\0001\075863\_MOT\_70\_0334\99623\_MOT\_70\_0334\Design\Structures\MOT070\_0334C\_Sheets\070\_0334C\_SR007.dgn 11/3/2017 10:11:16 AM hollin

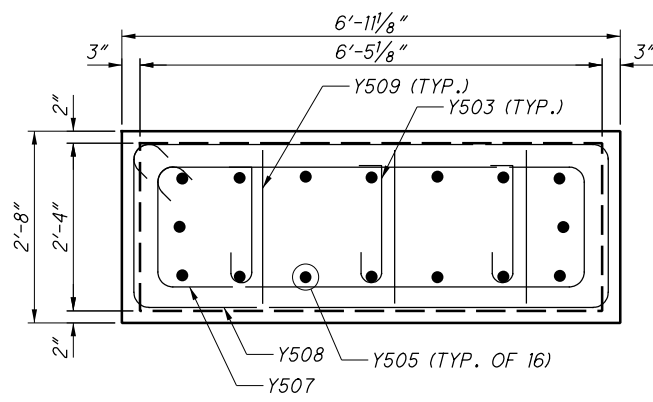
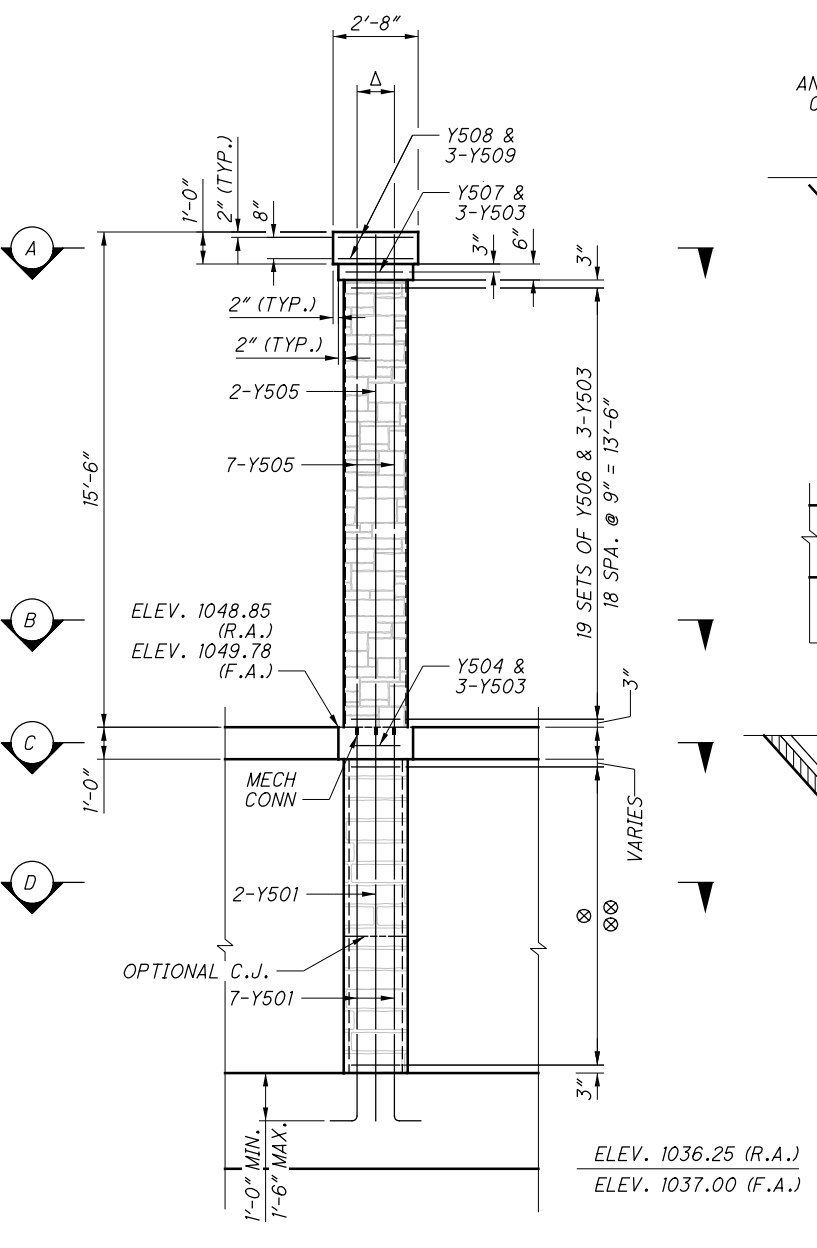


**PLAN**

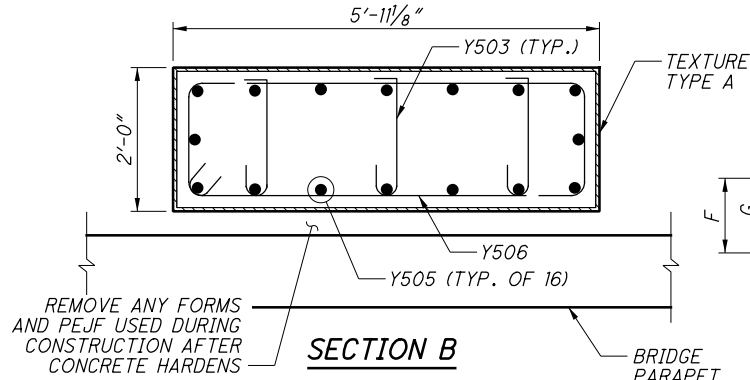
10' WINGWALL PANEL HEIGHTS				
	REAR		FORWARD	
FRONT	A	5'-8"	A	5'-8"
	B	5'-4"	B	5'-1"
	C	4'-9"	C	4'-5"
	D	4'-2"	D	3'-9"
	E	3'-6"	E	-
BACK	F	2'-3"	F	3'-1"
	G	2'-2"	G	2'-6"
	H	2'-0"	H	1'-10"
	I	1'-0"	I	1'-0"



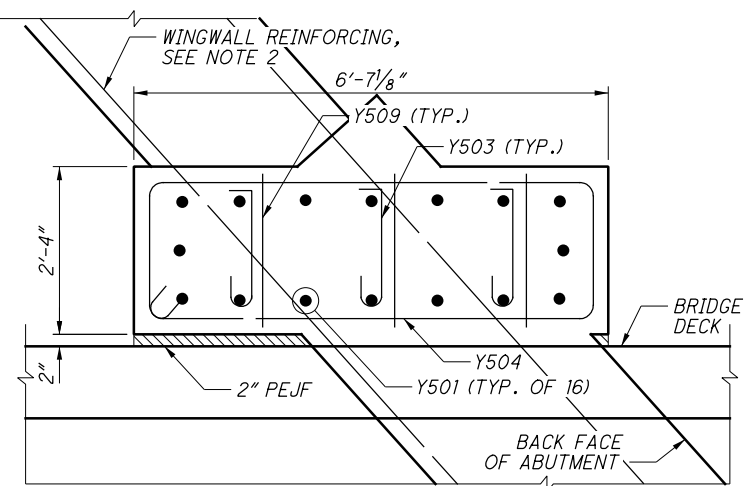
**PYLON ELEVATION**



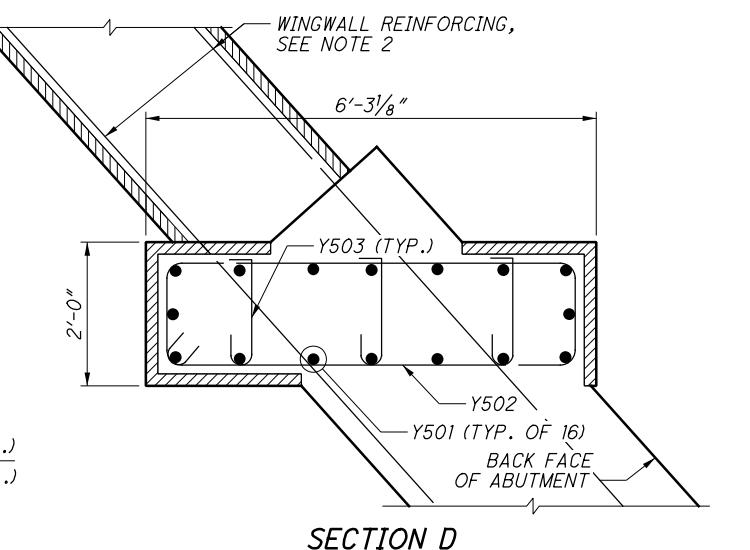
**SECTION A**



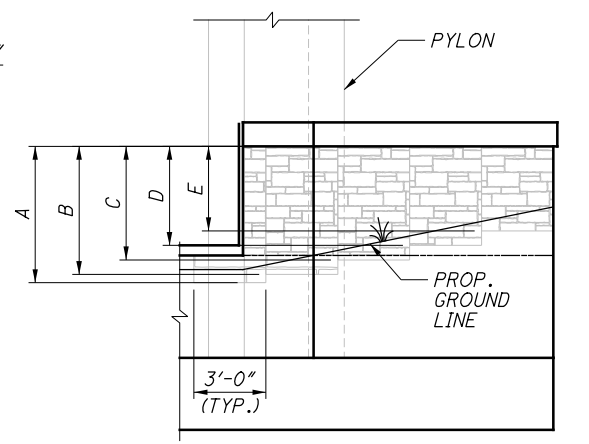
**SECTION B**



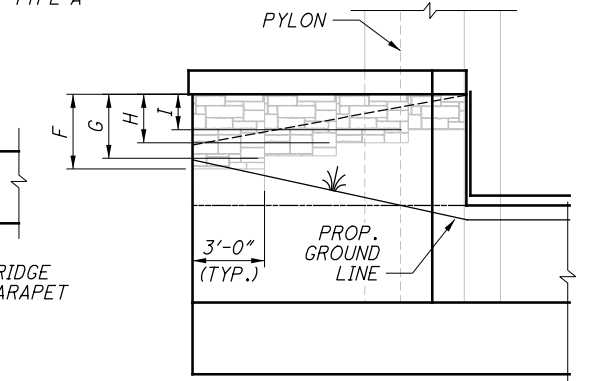
**SECTION C**



**SECTION D**



**WINGWALL FORMLINER DETAIL (FRONT)**



**WINGWALL FORMLINER DETAIL (BACK)**

**LEGEND:**

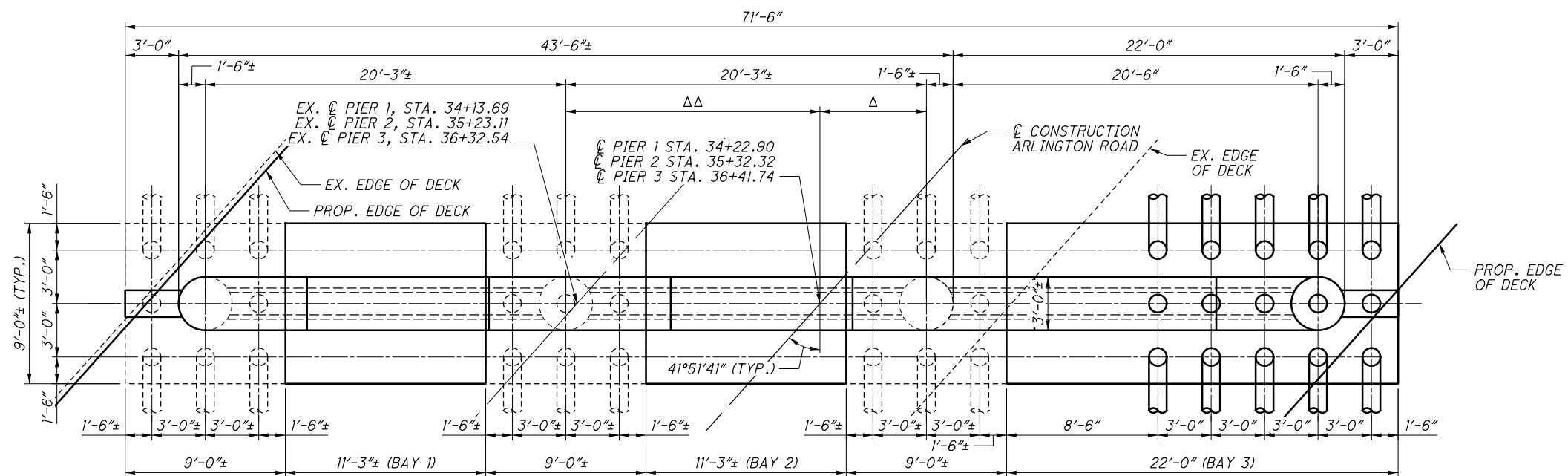
- TEXTURE TYPE A
- TEXTURE TYPE B
- 2 SPA. @ 8" = 1'-4"
- 16 SETS OF Y502 & 3-Y503, 15 SPA. @ 7/2" = 9'-4 1/2" (R.A.)
- 15 SETS OF Y502 & 3-Y503, 14 SPA. @ 7/2" = 8'-9" (F.A.)

**NOTES:**

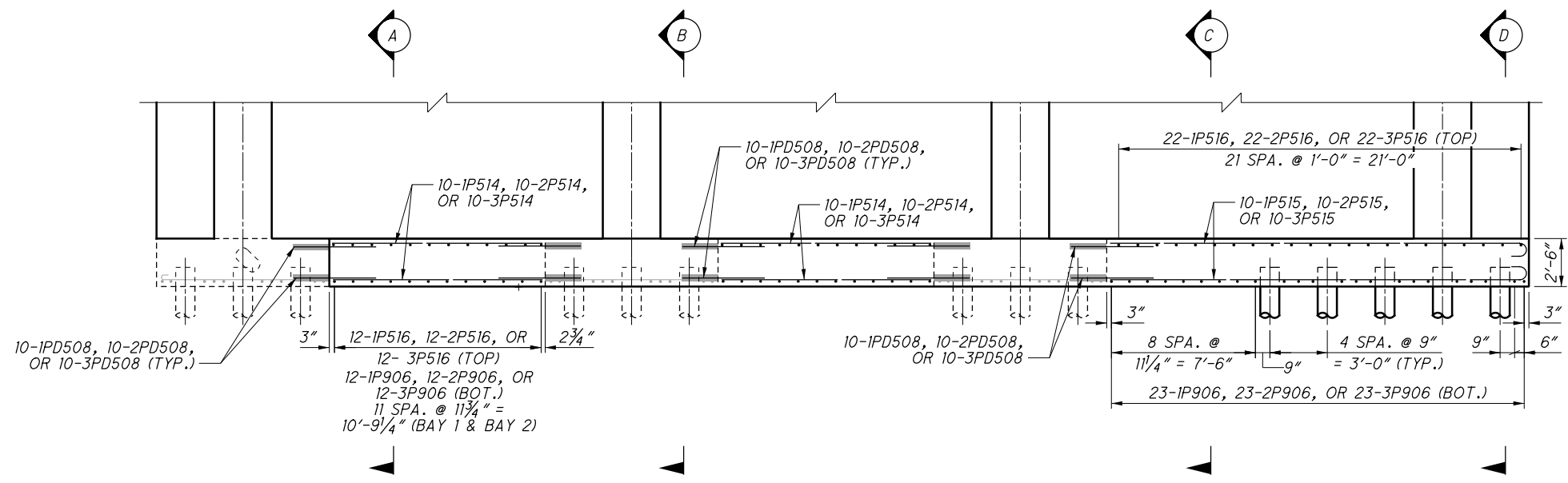
1. SEE SHEET 10/51 FOR REAR ABUTMENT PLAN AND ELEVATION. SEE SHEET 11/51 FOR FORWARD ABUTMENT PLAN AND ELEVATION.
2. CONCRETE PYLONS SHALL NOT BE PLACED ABOVE THE TOP OF DECK ELEVATION PRIOR TO DECK PLACEMENT.
3. SEE SHEET 14/51 FOR WINGWALL REINFORCEMENT, DETAILS, AND SECTIONS.
4. ABUTMENT CONCRETE PYLONS, WHICH INCLUDE ALL CONCRETE ABOVE THE TOP ELEVATION OF THE WINGWALL, SHALL BE PAID FOR UNDER ITEM 511, CLASS QC1 CONCRETE, MISC.: CONCRETE PYLONS. PYLON CONCRETE BELOW THE ELEVATION OF THE WINGWALL SHALL BE PAID FOR UNDER ITEM 511, CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING.
5. MINIMUM LAP LENGTHS:  
#5 BARS = 2'-5"

**DESIGN AGENCY:** ONE EASTON OVAL SUITE 910 COLUMBUS, OH 43219  
**WOLPERT** CONSULTING ENGINEERS  
**DATE:** 04/2017  
**REVIEWED:** MAA  
**STRUCTURE FILE NUMBER:** 5704084  
**DESIGNED:** JMM  
**CHECKED:** TML  
**DRAWN:** JMM  
**REVISED:**  
**BRIDGE NO. MOT-70-0334**  
**ARLINGTON ROAD OVER IR-70**  
**MOT-70-3.34**  
**PID No. 99623**  
 17 / 51  
 102 / 136

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**TYPICAL PIER FOOTING PLAN**  
(REINFORCING NOT SHOWN)



**TYPICAL PIER FOOTING ELEVATION**



**LEGEND:**

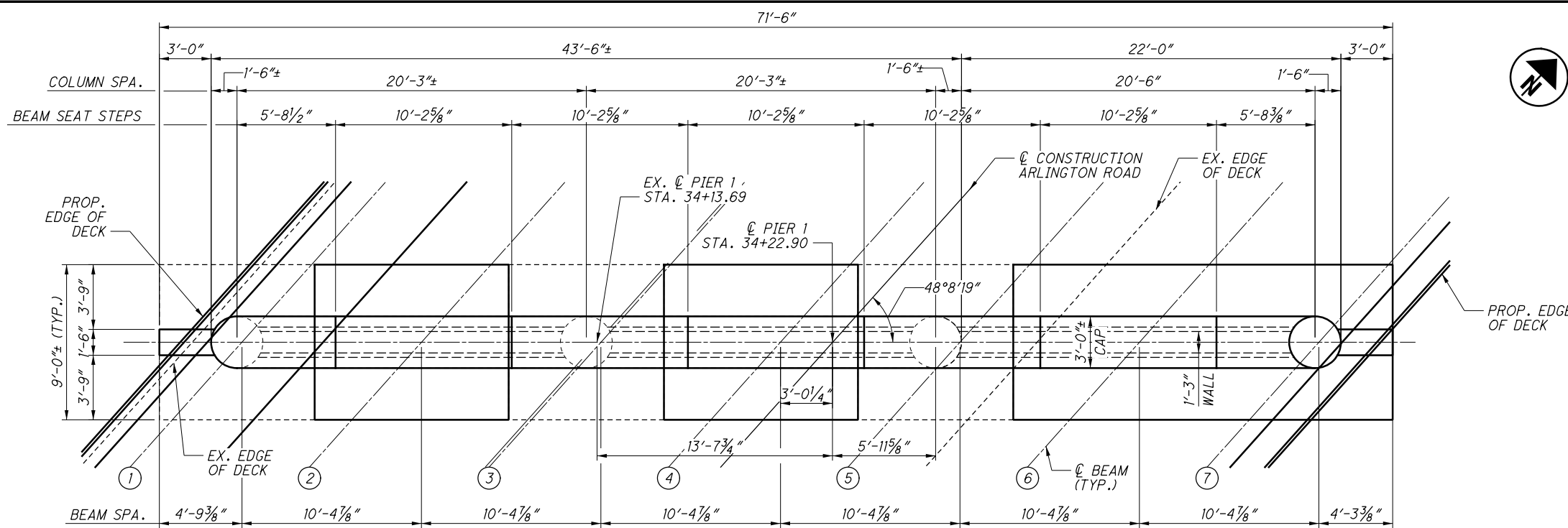
- PROPOSED 12" DIA. CIP PILE
- EXISTING 12" DIA. CIP PILE
- PROPOSED 12" DIA. BATTERED (4:1) CIP PILE
- EXISTING 12" DIA. BATTERED (4:1) CIP PILE
- DOWEL BAR
- $\Delta$  = 5'-11 5/8" (PIER 1)  
5'-10 1/8" (PIER 2)  
5'-8 1/2" (PIER 3)
- $\Delta\Delta$  = 14'-3 3/8" (PIER 1)  
14'-4 1/8" (PIER 2)  
14'-6 1/2" (PIER 3)

**NOTES:**

1. SEE SHEET 6/51 FOR REMOVAL DETAILS.
2. SEE SHEETS 7/51 - 9/51 FOR FOUNDATION PLAN.
3. SEE SHEETS 19/51 - 21/51 FOR PIER PLANS AND ELEVATIONS.
4. SEE SHEET 22/51 FOR SECTION A THROUGH SECTION D.
5. SEE SHEET 45/51 FOR BEARING DETAILS.
6. MINIMUM REINFORCING STEEL LAP LENGTHS SHALL BE AS FOLLOWS:  
#5 = 2'-5"
7. MINIMUM DOWEL LENGTHS SHALL BE AS FOLLOWS:  
#5 = 1'-10"

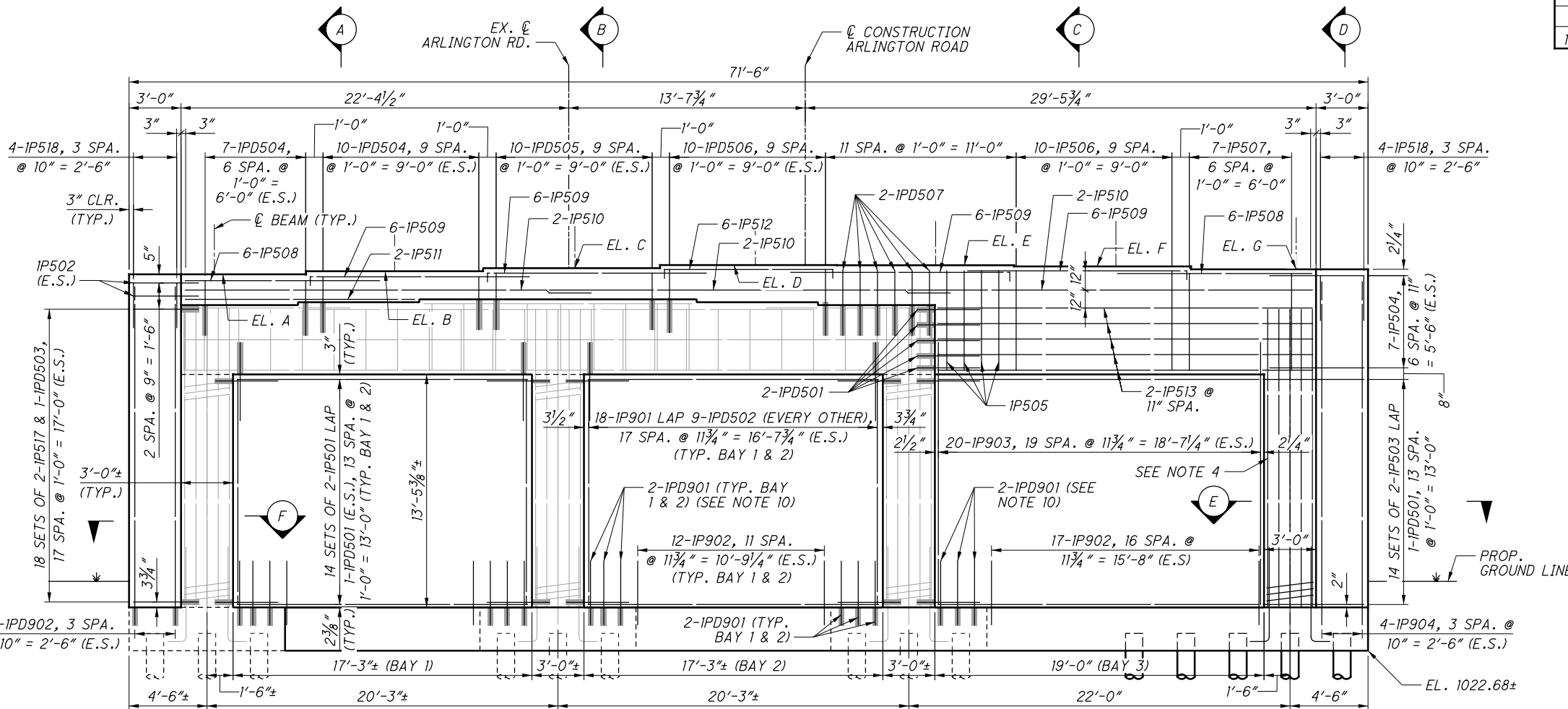
 DESIGN AGENCY EASTON OVAL SUITE 400 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-6225	DATE 04/2017	REVIEWED MAA	STRUCTURE FILE NUMBER 5704804
<b>TYPICAL PIER FOOTING DETAILS</b> BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70			
MOT-70-3.34 PID No. 99623	18 / 51	103 136	

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**PLAN - PIER 1**  
(FOOTING DETAILS NOT SHOWN)

BEAM SEAT ELEVATIONS						
EL. A	EL. B	EL. C	EL. D	EL. E	EL. F	EL. G
1044.72	1044.84	1045.02	1045.19	1045.19	1045.11	1045.00



**ELEVATION - PIER 1**  
(FOOTING REINFORCING NOT SHOWN)

**LEGEND:**

- ⊙ BEAM NUMBER
- DOWEL BAR

**NOTES:**

1. SEE SHEET 6/51 FOR PIER REMOVAL DETAILS.
2. SEE SHEET 7/51 FOR FOUNDATION PLAN.
3. SEE SHEET 18/51 FOR PIER FOOTING DETAILS.
4. SEE SHEET 22/51 FOR SECTION A THROUGH SECTION F, AND PROPOSED PIER COLUMN DETAIL.
5. SEE SHEET 23/51 FOR PIER AESTHETIC & SEALING DETAILS.
6. SEE SHEET 44/51 FOR BEARING DETAILS.
7. MINIMUM REINFORCING STEEL LAP LENGTHS SHALL BE AS FOLLOWS:  
#5 = 2'-5"  
#9 = 6'-2"
8. MINIMUM DOWEL EMBEDMENT LENGTHS SHALL BE AS FOLLOWS:  
#5 = 1'-0" (INTO COLUMN)  
#5 = 1'-10" (INTO CAP)  
#9 = 1'-3"
9. INFILLED WALL CONCRETE SHALL BE PAID FOR UNDER ITEM 511: CLASS OC1 CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN. SEE GENERAL NOTES SHEET 3/51 FOR ADDITIONAL INFORMATION.
10. DOWEL BARS TO BE FIELD LOCATED AT A MAXIMUM SPACING OF 1'-0".

DESIGN AGENCY: EASTON OVAL SUITE 600 COLUMBUS, OH 43219 T 614-776-8000 F 614-776-8225  
**WOOLPERT**  
 DESIGN/CONSTRUCTION MANAGEMENT

DATE: 04/2017  
 REVIEWED: MAA  
 DRAWN: PES  
 CHECKED: TML  
 STRUCTURE FILE NUMBER: 5704804

**PIER 1 PLAN & ELEVATION**  
 BRIDGE NO. MOT-70-0334  
 ARLINGTON ROAD OVER IR-70

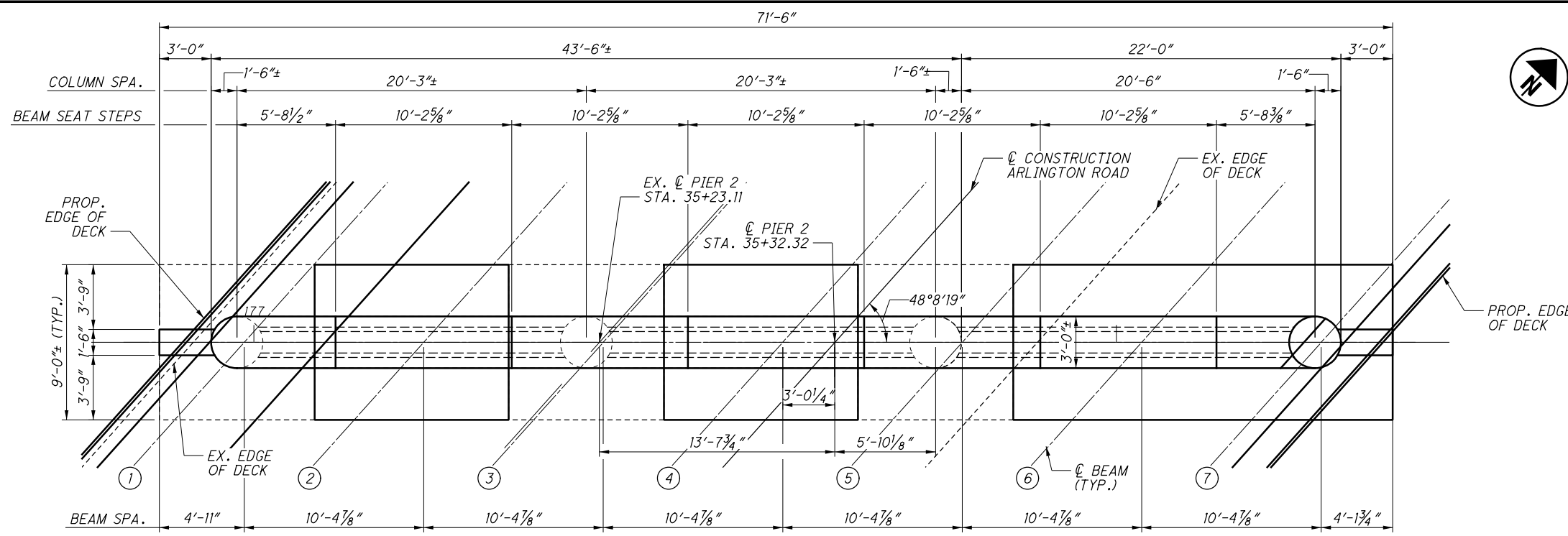
**MOT-70-3.34**  
 PID No. 99623

19 / 51

104  
 136



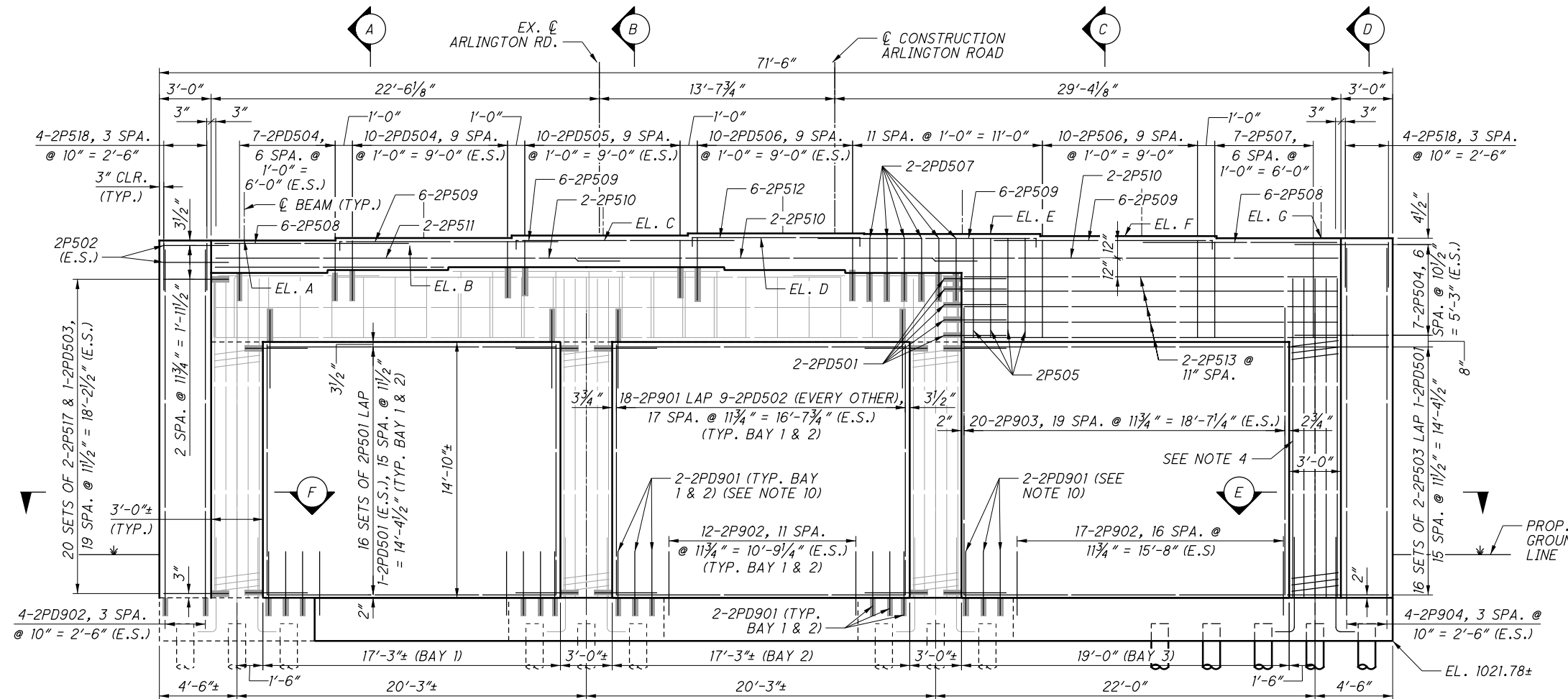
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**PLAN - PIER 2**  
(FOOTING DETAILS NOT SHOWN)



BEAM SEAT ELEVATIONS						
EL. A	EL. B	EL. C	EL. D	EL. E	EL. F	EL. G
1045.30	1045.38	1045.52	1045.66	1045.62	1045.50	1045.38



**ELEVATION - PIER 2**  
(FOOTING DETAILS NOT SHOWN)

**LEGEND:**

- # BEAM NUMBER
- DOWEL BAR

**NOTES:**

1. SEE SHEET 6/51 FOR PIER REMOVAL DETAILS.
2. SEE SHEET 7/51 FOR FOUNDATION PLAN.
3. SEE SHEET 18/51 FOR PIER FOOTING DETAILS.
4. SEE SHEET 22/51 FOR SECTION A THROUGH SECTION F, AND PROPOSED PIER COLUMN DETAIL.
5. SEE SHEET 23/51 FOR PIER AESTHETIC & SEALING DETAILS.
6. SEE SHEET 45/51 FOR BEARING DETAILS.
7. MINIMUM REINFORCING STEEL LAP LENGTHS SHALL BE AS FOLLOWS:  
#5 = 2'-5"  
#9 = 6'-2"
8. MINIMUM DOWEL EMBEDMENT LENGTHS SHALL BE AS FOLLOWS:  
#5 = 1'-0" (INTO COLUMN)  
#5 = 1'-10" (INTO CAP)  
#9 = 1'-3"
9. INFILLED WALL CONCRETE SHALL BE PAID FOR UNDER ITEM 511: CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN. SEE GENERAL NOTES SHEET 3/51 FOR ADDITIONAL INFORMATION.
10. DOWEL BARS TO BE FIELD LOCATED AT A MAXIMUM SPACING OF 1'-0".

DESIGN AGENCY: EASTON OVAL  
 SUITE 600  
 COLUMBUS, OH 43219  
 T 614-776-8000  
 F 614-776-8225  
**WOOLPERT**  
 ENGINEERS ARCHITECTS

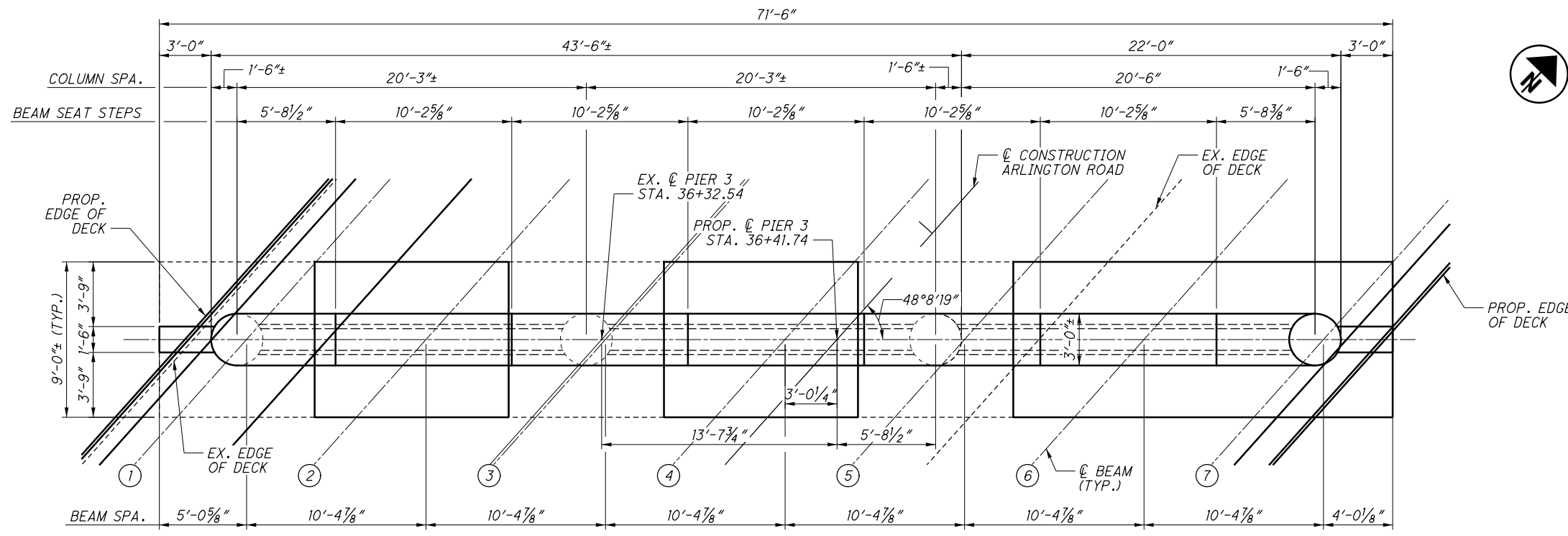
DATE: 04/2017  
 REVIEWED: MAA  
 DRAWN: PES  
 DESIGNED: PES  
 CHECKED: TML  
 STRUCTURE FILE NUMBER: 5704804

**PIER 2 PLAN & ELEVATION**  
 BRIDGE NO. MOT-70-0334  
 ARLINGTON ROAD OVER IR-70

**MOT-70-03-34**  
 PID No. 99623

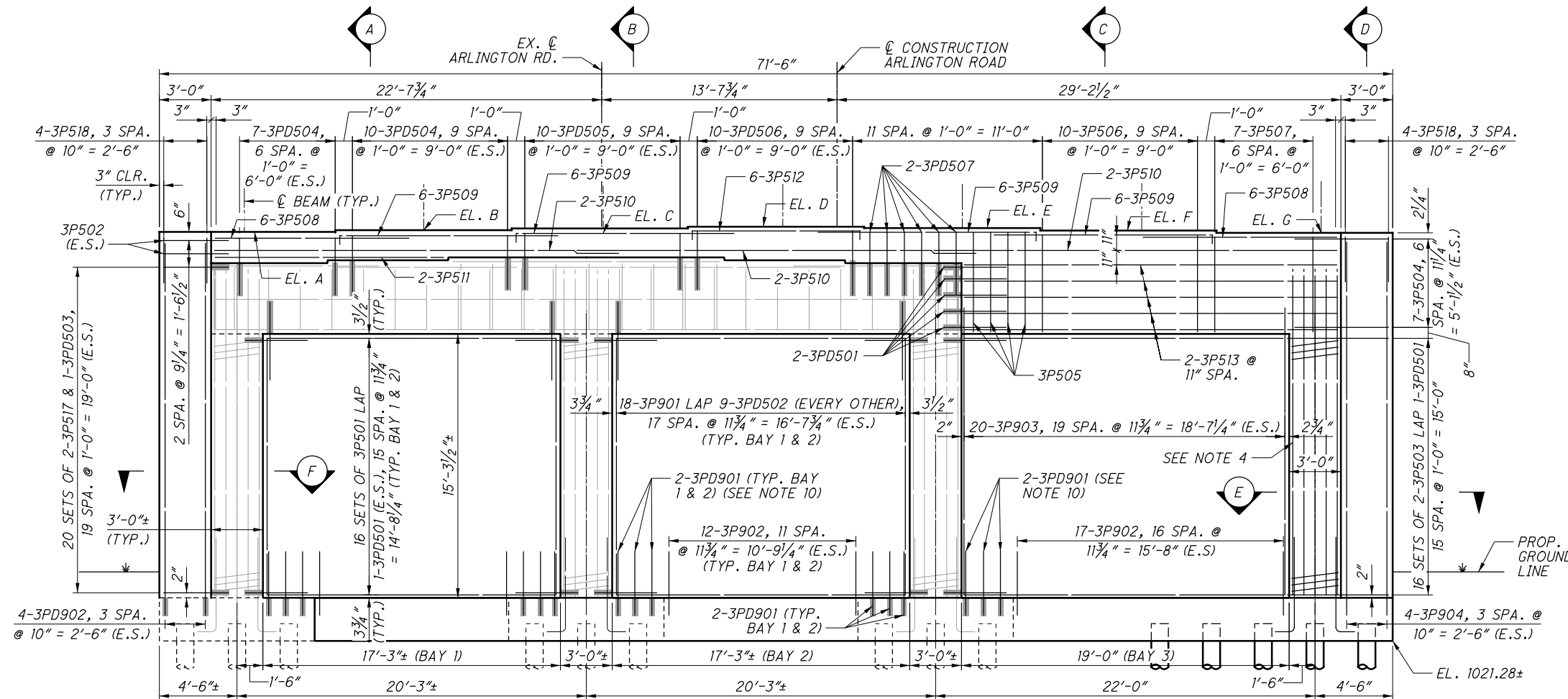
20 / 51  
 105 / 136

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**PLAN - PIER 3**  
(FOOTING DETAILS NOT SHOWN)

BEAM SEAT ELEVATIONS						
EL. A	EL. B	EL. C	EL. D	EL. E	EL. F	EL. G
1045.30	1045.35	1045.45	1045.55	1045.47	1045.31	1045.16



**ELEVATION - PIER 3**  
(FOOTING DETAILS NOT SHOWN)

**LEGEND:**

- ⊙ BEAM NUMBER
- DOWEL BAR

**NOTES:**

1. SEE SHEET 6/51 FOR PIER REMOVAL DETAILS.
2. SEE SHEET 7/51 FOR FOUNDATION PLAN.
3. SEE SHEET 18/51 FOR PIER FOOTING DETAILS.
4. SEE SHEET 22/51 FOR SECTION A THROUGH SECTION F, AND PROPOSED PIER COLUMN DETAIL.
5. SEE SHEET 23/51 FOR PIER AESTHETIC & SEALING DETAILS.
6. SEE SHEET 44/51 FOR BEARING DETAILS.
7. MINIMUM REINFORCING STEEL LAP LENGTHS SHALL BE AS FOLLOWS:  
#5 = 2'-5"  
#9 = 6'-2"
8. MINIMUM DOWEL EMBEDMENT LENGTHS SHALL BE AS FOLLOWS:  
#5 = 1'-0" (INTO COLUMN)  
#5 = 1'-10" (INTO CAP)  
#9 = 1'-3"
9. INFILLED WALL CONCRETE SHALL BE PAID FOR UNDER ITEM 511: CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN. SEE GENERAL NOTES SHEET 3/51 FOR ADDITIONAL INFORMATION.
10. DOWEL BARS TO BE FIELD LOCATED AT A MAXIMUM SPACING OF 1'-0".

DESIGN AGENCY: EASTON OVAL  
SUITE 500  
COLUMBUS, OH 43219  
T 614-476-8000  
F 614-476-8225

**WOOLPERT**  
DESIGN/CONSTRUCTION MANAGEMENT

DATE: 04/2017  
REVIEWED: MAA  
DRAWN: PES  
DESIGNED: PES  
CHECKED: TML  
STRUCTURE FILE NUMBER: 5704804

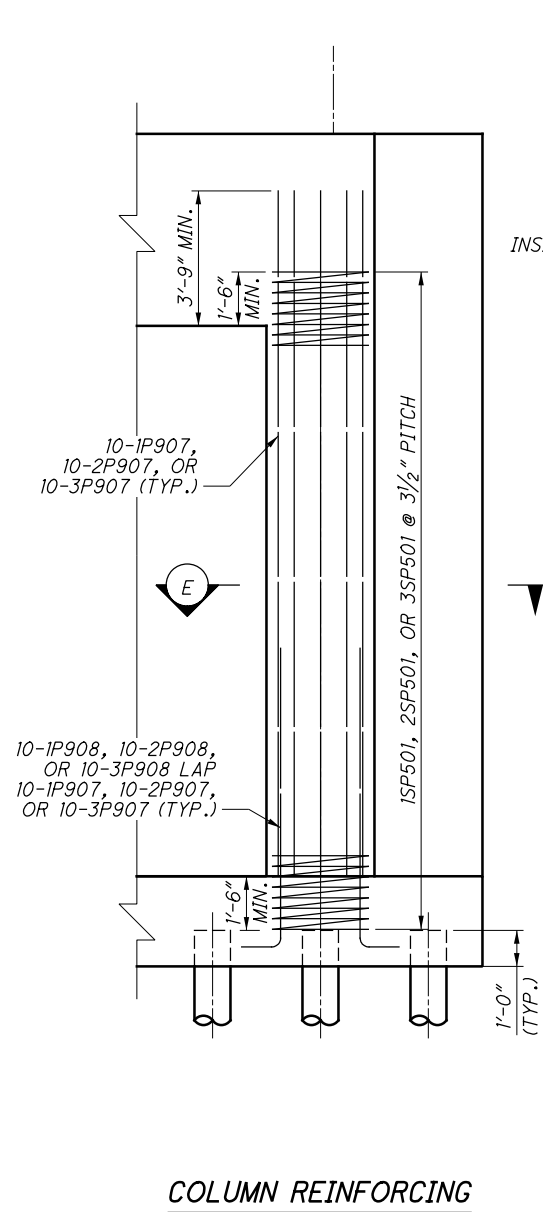
**PIER 3 PLAN & ELEVATION**  
BRIDGE NO. MOT-70-0334  
ARLINGTON ROAD OVER I-70

**MOT-70-3.34**  
PID No. 99623

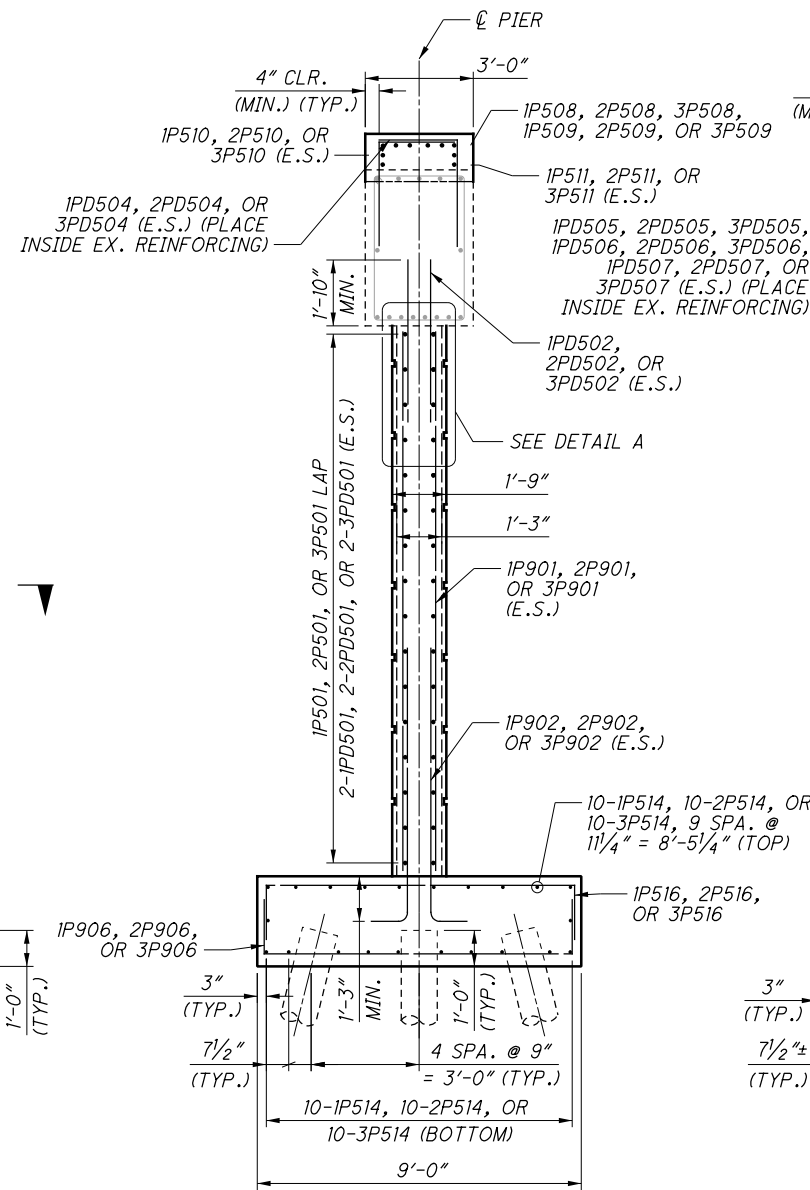
21 / 51

106  
136

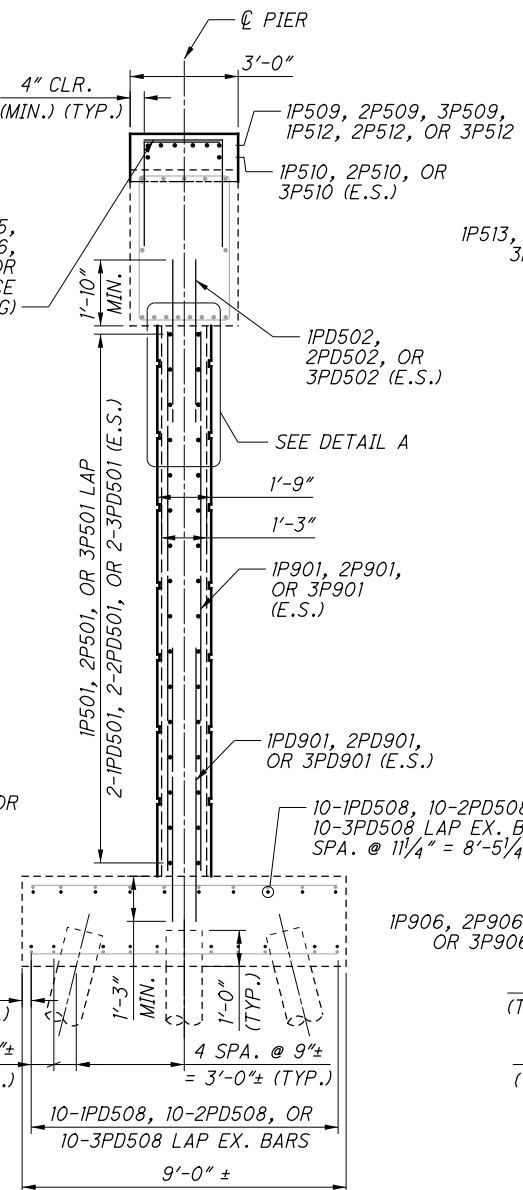
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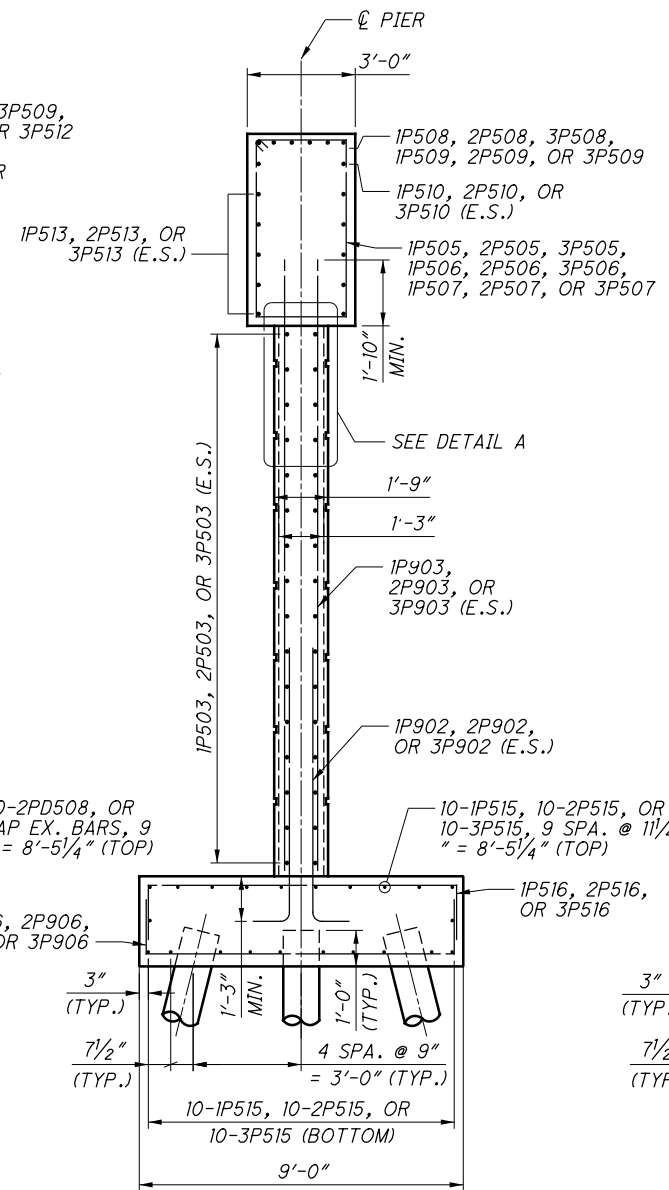
**COLUMN REINFORCING**



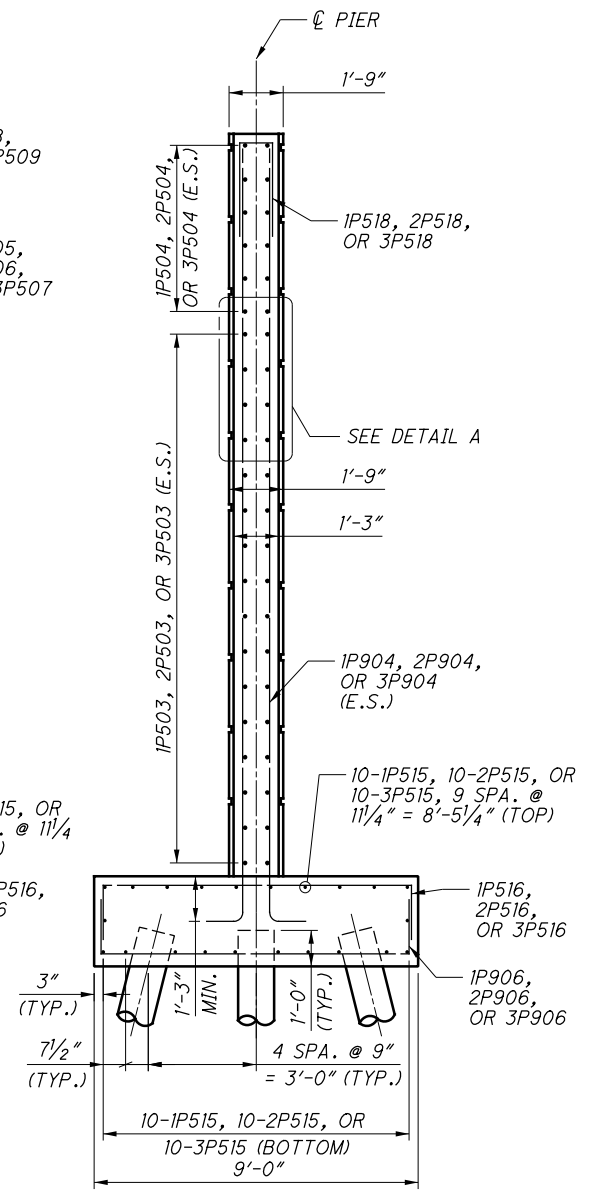
**SECTION A**



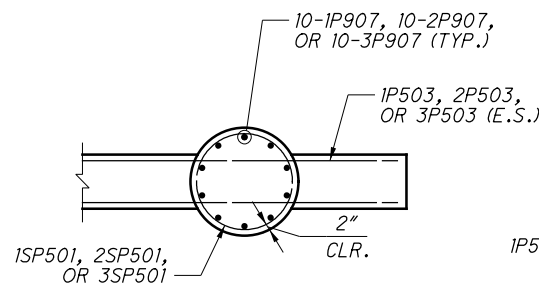
**SECTION B**



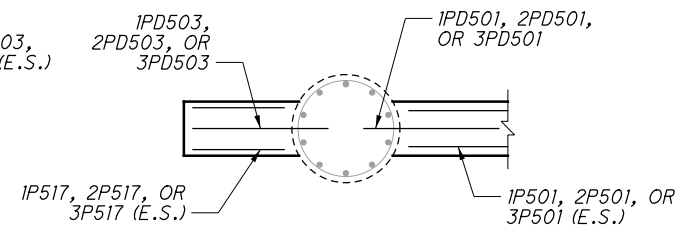
**SECTION C**



**SECTION D**



**SECTION E**



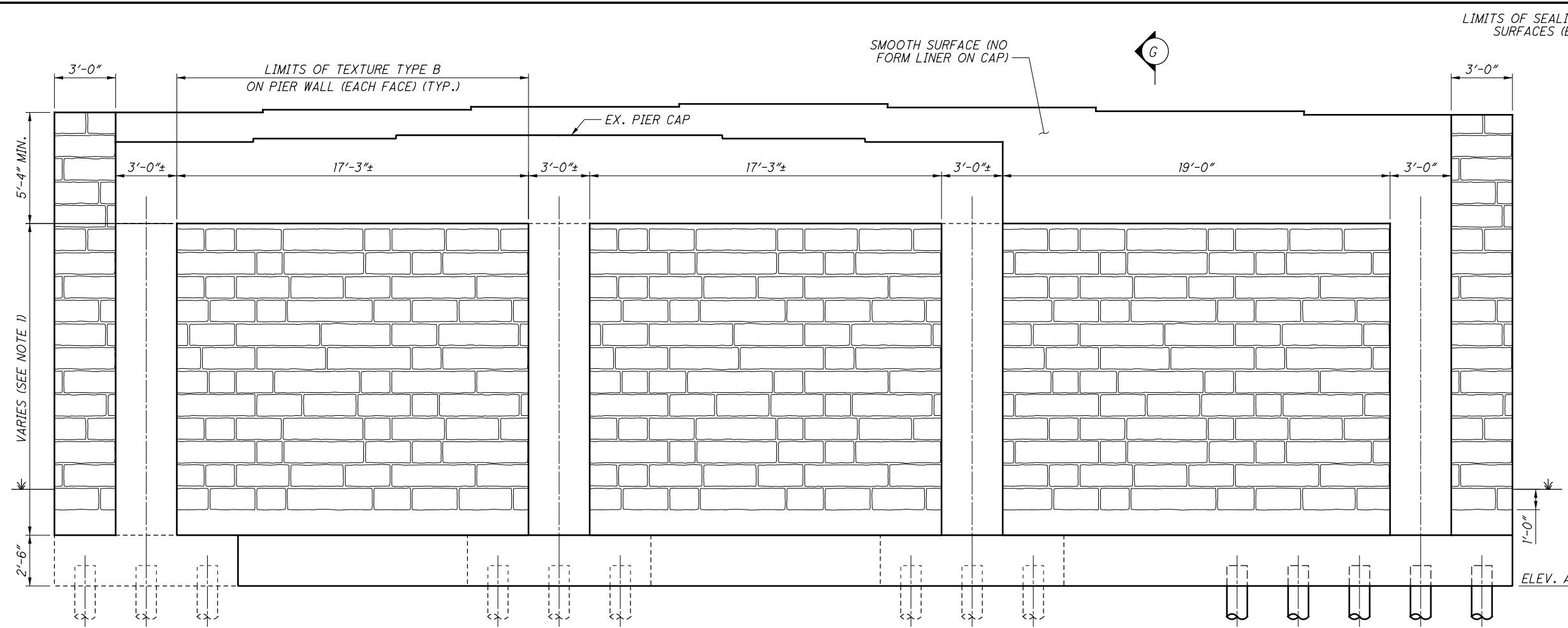
**SECTION F**

**NOTES:**

1. SEE SHEETS 7/51 - 9/51 FOR FOUNDATION PLAN.
2. SEE SHEET 18/51 FOR PIER FOOTING DETAILS.
3. SEE SHEETS 19/51 - 21/51 FOR PIER PLANS AND ELEVATIONS.
4. SEE SHEET 23/51 FOR PIER AESTHETIC, SEALING DETAILS AND DETAIL A.
5. SEE SHEET 44/51 FOR BEARING DETAILS.
6. MINIMUM REINFORCING STEEL LAP LENGTHS SHALL BE AS FOLLOWS:  
 #5 = 2'-5"  
 #9 = 6'-2"
7. MINIMUM DOWEL EMBEDMENT LENGTHS SHALL BE AS FOLLOWS:  
 #5 = 1'-0" (INTO COLUMN)  
 #5 = 1'-10" (INTO CAP)  
 #9 = 1'-3"

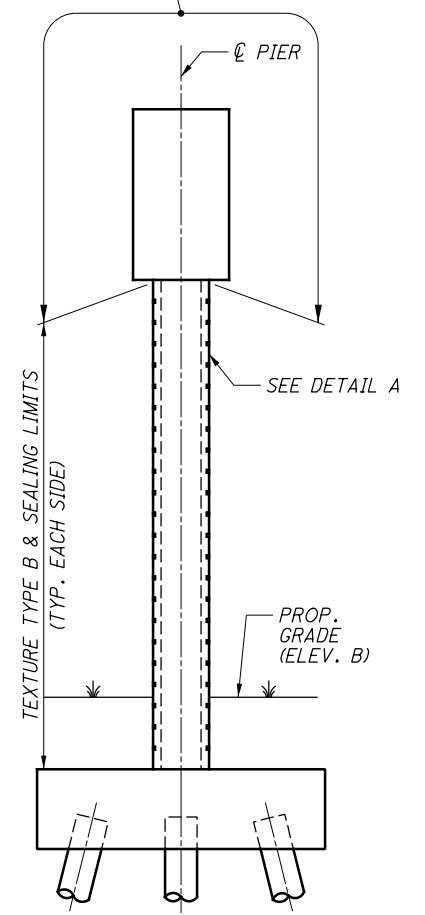
<p><b>DESIGN AGENCY</b>                  EASTON OVAL                  SUITE 400                  COLUMBUS, OH 43219                  T 614-776-8000                  F 614-776-8225</p>	<p><b>DATE</b>                  04/2017</p>	<p><b>REVIEWED</b>                  MAA</p>	<p><b>STRUCTURE FILE NUMBER</b>                  5704804</p>	<p><b>DESIGNED</b>                  PLS</p>	<p><b>CHECKED</b>                  TML</p>
<p><b>ADDITIONAL PIER DETAILS</b>                  BRIDGE NO. MOT-70-0334                  ARLINGTON ROAD OVER I-70</p>					
<p><b>MOT-70-3.34</b>                  PID No. 99623</p>					
<p>22 / 51</p>					
<p>107 136</p>					

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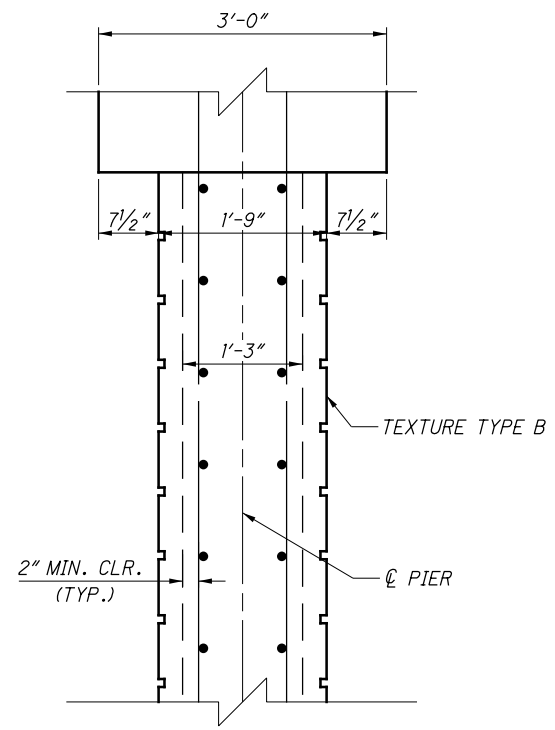


**TYPICAL PIER AESTHETIC ELEVATION**

LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)



**SECTION G**



**DETAIL A**

PIER	ELEVATION	
	A	B
1	1022.68	1027.33
2	1021.78	1027.45
3	1021.28	1025.17

ELEVATIONS ARE ±

**NOTES:**

- SEE SHEETS 19/51 - 21/51 FOR PIER PLANS AND ELEVATIONS.
- SEE GENERAL NOTES, SHEET 2/51, FOR FORMLINER AND TEXTURE INFORMATION.
- ENDS OF PIER WALLS SHALL ALSO HAVE TEXTURE TYPE B AND EPOXY-URETHANE SEALER APPLIED.

DESIGN AGENCY: EASTON OVAL SUITE 600 COLUMBUS, OH 43219  
**WOOLPERT**  
 DESIGN/CONSTRUCTION MANAGEMENT

DATE: 04/2017  
 REVIEWED: MAA  
 DRAWN: PES  
 DESIGNED: PES  
 CHECKED: TML

STRUCTURE FILE NUMBER: 5704804

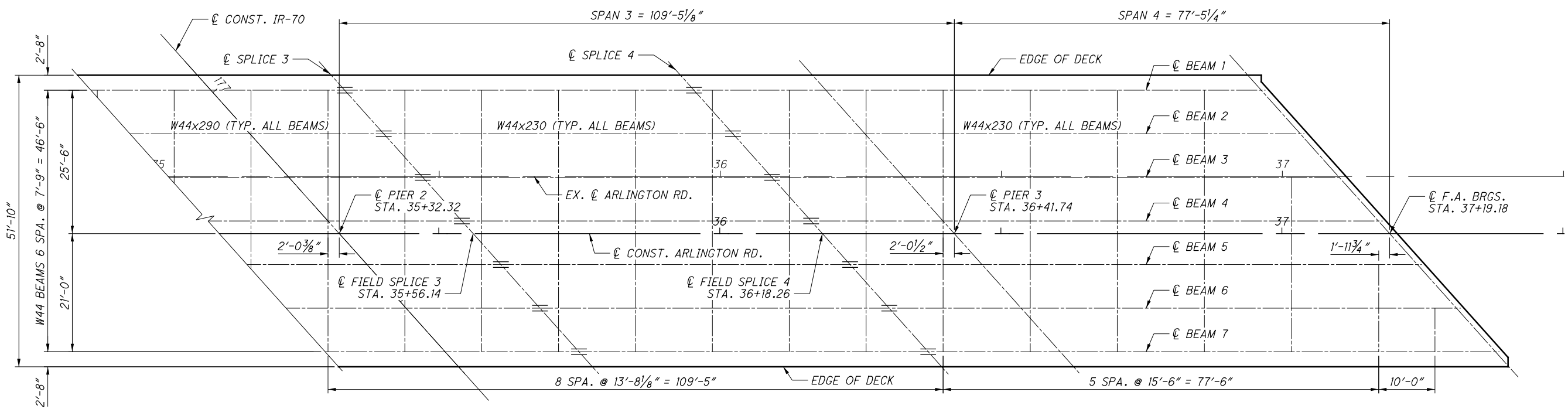
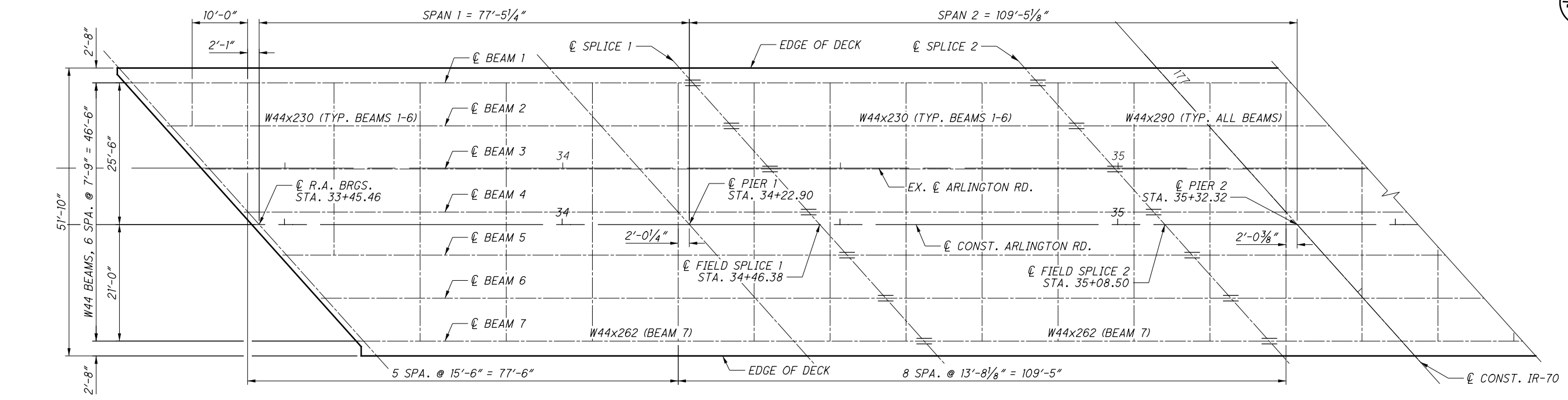
**PIER AESTHETIC DETAILS**  
 BRIDGE NO. MOT-70-0334  
 ARLINGTON ROAD OVER IR-70

**MOT-70-3.34**  
**PID No. 99623**

23 / 51

108  
136

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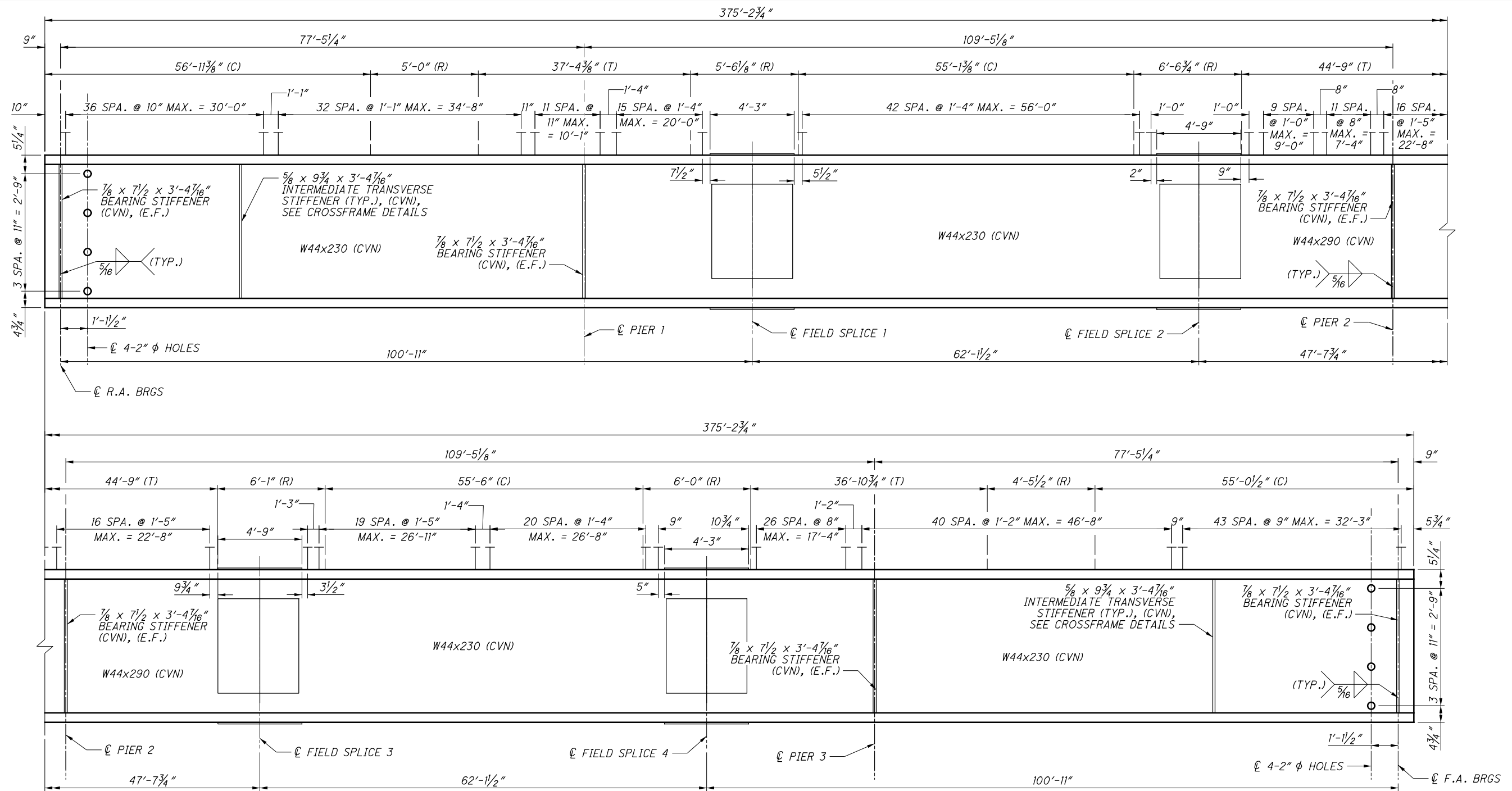


**FRAMING PLAN**

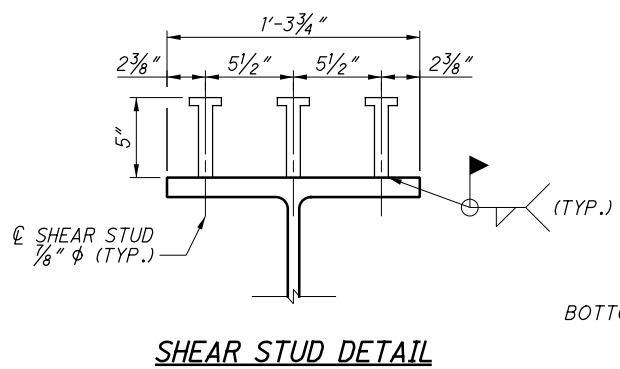
- NOTES:**
1. SEE SHEETS 8/51 - 28/51 FOR BEAM DETAILS.
  2. SEE SHEET 29/51 FOR SPLICE DETAILS.
  3. SEE SHEET 31/51 FOR CROSSFRAME DETAILS.
  4. SEE SHEET 33/51 FOR TRANSVERSE SECTION.

<b>MOT-70-3.34</b> PID No. 99623	<b>FRAMING PLAN</b> BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70		DESIGN AGENCY <b>WOOLPERT</b> <small>DESIGN ENGINEERING &amp; CONSTRUCTION</small>
	DATE 04/2017	REVIEWED MAA	DRAWN PES
24 / 51	CHECKED TML	STRUCTURE FILE NUMBER 5704804	FILE NUMBER 5704804

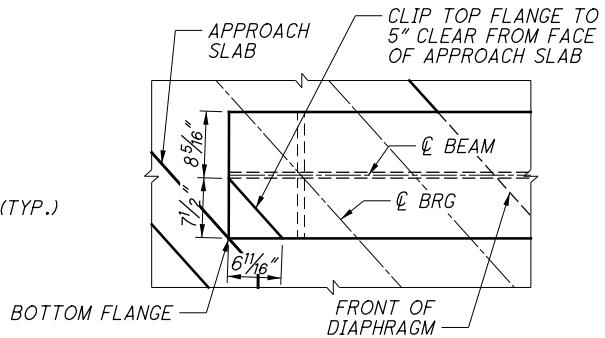
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**BEAM 1 ELEVATION**



**SHEAR STUD DETAIL**



**BEAM CLIP DETAIL**

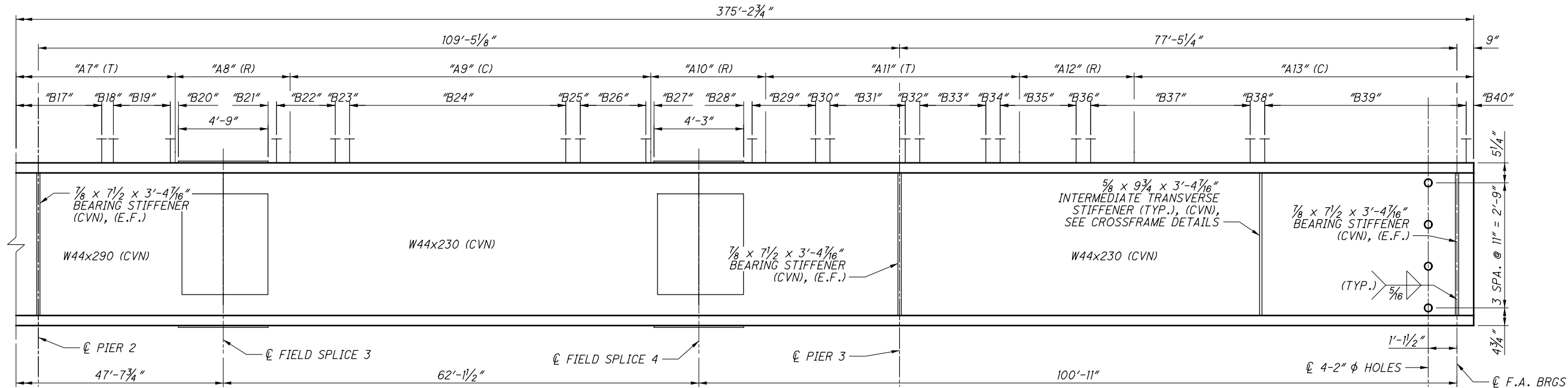
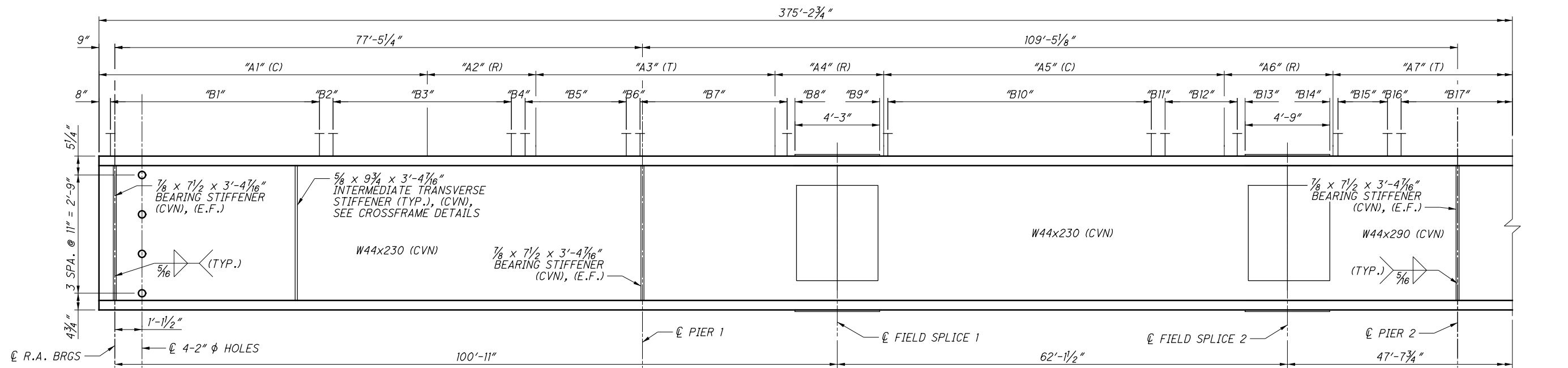
**LEGEND:**  
 (C) - COMPRESSION REGION  
 (T) - TENSION REGION  
 (R) - REVERSAL REGION

**NOTES:**

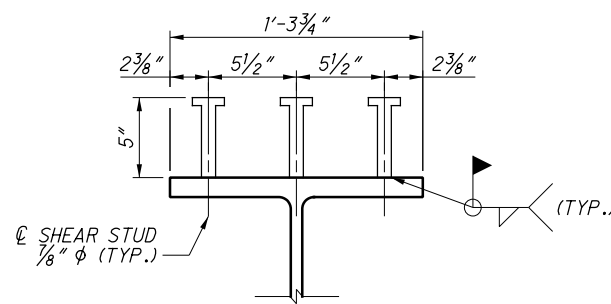
1. SEE SHEET 24/51 FOR FRAMING PLAN.
2. SEE SHEET 29/51 FOR SPLICE DETAILS.
3. SEE SHEET 31/51 FOR CROSSFRAME DETAILS.
4. SEE SHEET 33/51 FOR TRANSVERSE SECTION.
5. ALL STEEL SHALL BE ASTM A709 GRADE 50, AND SHALL HAVE A THREE COAT PAINT SYSTEM APPLIED PER CMS 514. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.
6. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND AT LEAST 5/16" THICK.

<p><b>DESIGN AGENCY</b>                  EASTON OVAL                  SUITE 600                  COLUMBUS, OH 43219                  T 614-776-8000                  F 614-776-8225</p>	<p><b>DATE</b>                  04/2017</p>	<p><b>REVIEWED</b>                  MAA</p>	<p><b>STRUCTURE FILE NUMBER</b>                  5704804</p>	<p><b>DESIGNED</b>                  PES</p>	<p><b>DRAWN</b>                  PES</p>
<p><b>BRIDGE NO. MOT-70-0334</b></p>		<p><b>ARLINGTON ROAD OVER IR-70</b></p>		<p><b>DESIGNED</b>                  PES</p>	
<p><b>BEAM 1 DETAILS</b></p>		<p><b>REVISIONS</b></p>		<p><b>CHECKED</b>                  TML</p>	
<p><b>MOT-70-3.34</b></p>		<p><b>PID No. 99623</b></p>		<p>25 / 51</p>	
<p>110</p>		<p>136</p>		<p>WOOLPERT                  CONSULTING ENGINEERS</p>	

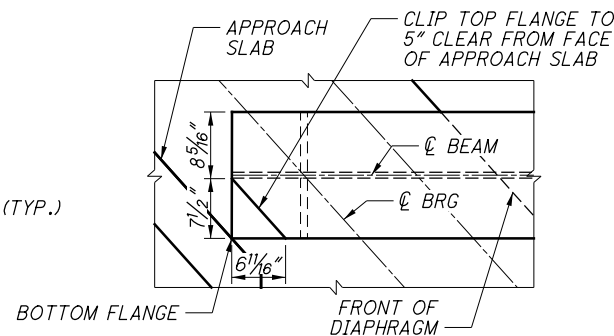
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**BEAMS 2-6 ELEVATION**



**SHEAR STUD DETAIL**



**BEAM CLIP DETAIL**

**LEGEND:**

- (C) - COMPRESSION REGION
- (T) - TENSION REGION
- (R) - REVERSAL REGION

**NOTES:**

1. SEE SHEET 24/51 FOR FRAMING PLAN.
2. SEE SHEET 27/51 FOR "A" AND "B" DIMENSIONS.
3. SEE SHEET 29/51 FOR SPLICE DETAILS.
4. SEE SHEET 31/51 FOR CROSSFRAME DETAILS.
5. SEE SHEET 33/51 FOR TRANSVERSE SECTION.
6. ALL STEEL SHALL BE ASTM A709 GRADE 50, AND SHALL HAVE A THREE COAT PAINT SYSTEM APPLIED PER CMS 514. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.
7. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND AT LEAST 5/16" THICK.

<p><b>DESIGN AGENCY</b></p> <p>WOLPERT CORPORATION</p>	<p><b>DATE</b></p> <p>04/2017</p>	<p><b>REVIEWED</b></p> <p>MAA</p>	<p><b>STRUCTURE FILE NUMBER</b></p> <p>5704804</p>
<p><b>DESIGNED</b></p> <p>PES</p>	<p><b>DRAWN</b></p> <p>PES</p>	<p><b>CHECKED</b></p> <p>TML</p>	<p><b>BRIDGE NO.</b></p> <p>MOT-70-0334</p>
<p><b>BEAM 2-6 DETAILS</b></p>		<p>ARLINGTON ROAD OVER IR-70</p>	
<p><b>MOT-70-3.34</b></p>		<p><b>PID No. 99623</b></p>	
<p>26 / 51</p>		<p>111 136</p>	

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BEAM DIMENSIONS (ALONG CENTERLINE OF BEAM)													
BEAM	"A1"	"A2"	"A3"	"A4"	"A5"	"A6"	"A7"	"A8"	"A9"	"A10"	"A11"	"A12"	"A13"
2	53'-6 1/2"	9'-10 1/2"	31'-5 1/2"	9'-0"	54'-0"	9'-0 1/4"	39'-7 5/8"	9'-10 3/8"	52'-9"	10'-3"	31'-2"	9'-0"	55'-8"
3	52'-8"	12'-9 1/8"	27'-0"	10'-6 1/4"	54'-0"	11'-11 3/4"	34'-6 1/8"	12'-0"	54'-0"	12'-0"	27'-0"	11'-1"	55'-8 1/2"
4	52'-6"	12'-0"	27'-6 3/4"	11'-4"	52'-7 1/4"	13'-6"	34'-6"	12'-0"	52'-11"	11'-6 3/4"	28'-6"	12'-0"	54'-3"
5	51'-6 3/4"	15'-0"	24'-0"	13'-6 1/4"	52'-5 7/8"	13'-5 3/4"	33'-0"	13'-6"	52'-6"	13'-6"	25'-6"	13'-7 3/8"	53'-6 3/4"
6	50'-7 1/2"	12'-11 1/2"	29'-1"	11'-11 3/8"	51'-1"	13'-6 1/8"	36'-0"	12'-0"	52'-9 1/2"	10'-2 1/2"	28'-6"	13'-6"	53'-0 1/4"

SHEAR STUD SPACING (ALONG CENTERLINE OF BEAM)													
BEAM	"B1"	"B2"	"B3"	"B4"	"B5"	"B6"	"B7"	"B8"	"B9"	"B10"	"B11"	"B12"	"B13"
2	45 SPA @ 8" MAX. = 30'-0"	10"	31 SPA @ 10" MAX. = 25'-10"	9"	16 SPA @ 9" MAX. = 12'-0"	8"	42 SPA @ 8" MAX. = 28'-0"	9 1/2"	3 1/2"	57 SPA @ 10" MAX. = 47'-6"	9"	11 SPA @ 9" MAX. = 8'-3"	10"
3	45 SPA @ 8" MAX. = 30'-0"	11"	29 SPA @ 11" MAX. = 26'-7"	10"	17 SPA @ 10" MAX. = 14'-2"	8"	38 SPA @ 8" MAX. = 25'-4"	4 1/2"	8 1/2"	64 SPA @ 10" MAX. = 53'-4"	11"	2 SPA @ 11" MAX. = 1'-10"	10"
4	45 SPA @ 8" MAX. = 30'-0"	11"	28 SPA @ 11" MAX. = 25'-8"	10"	19 SPA @ 10" MAX. = 15'-10"	9"	32 SPA @ 9" MAX. = 24'-0"	10 1/2"	4 1/2"	53 SPA @ 11" MAX. = 48'-7"	10"	9 SPA @ 10" MAX. = 7'-6"	4"
5	45 SPA @ 8" MAX. = 30'-0"	11"	28 SPA @ 11" MAX. = 25'-8"	10"	17 SPA @ 10" MAX. = 14'-2"	8"	39 SPA @ 8" MAX. = 26'-0"	7 1/2"	7 1/2"	50 SPA @ 11" MAX. = 45'-10"	10"	12 SPA @ 10" MAX. = 10'-0"	4"
6	45 SPA @ 8" MAX. = 30'-0"	10"	35 SPA @ 10" MAX. = 29'-2"	7"	21 SPA @ 9" MAX. = 15'-9"	8"	32 SPA @ 8" MAX. = 21'-4"	6 1/2"	5 1/2"	66 SPA @ 9" MAX. = 49'-6"	9"	9 SPA @ 9" MAX. = 6'-9"	2"

SHEAR STUD SPACING (ALONG CENTERLINE OF BEAM)														
BEAM	"B14"	"B15"	"B16"	"B17"	"B18"	"B19"	"B20"	"B21"	"B22"	"B23"	"B24"	"B25"	"B26"	"B27"
2	5"	17 SPA @ 9" MAX. = 12'-9"	7"	36 SPA @ 7" MAX. = 21'-0"	10"	8 SPA @ 10" MAX. = 6'-8"	7 3/4"	5 1/2"	14 SPA @ 10" MAX. = 11'-8"	10"	44 SPA @ 10" MAX. = 36'-8"	9"	9 SPA @ 9" MAX. = 6'-9"	6"
3	10"	15 SPA @ 11" MAX. = 13'-9"	8"	27 SPA @ 8" MAX. = 18'-0"	10"	10 SPA @ 10" MAX. = 8'-4"	5 3/4"	7 1/2"	8 SPA @ 10" MAX. = 6'-8"	11"	34 SPA @ 11" MAX. = 31'-2"	10"	20 SPA @ 10" MAX. = 16'-8"	9"
4	9"	11 SPA @ 10" MAX. = 9'-2"	9"	28 SPA @ 9" MAX. = 21'-0"	10"	12 SPA @ 10" MAX. = 10'-0"	4 3/4"	8 1/2"	11 SPA @ 10" MAX. = 9'-2"	11"	44 SPA @ 11" MAX. = 40'-4"	10"	6 SPA @ 10" MAX. = 5'-0"	8"
5	9"	8 SPA @ 10" MAX. = 6'-8"	9"	24 SPA @ 9" MAX. = 18'-0"	10"	18 SPA @ 10" MAX. = 15'-0"	10 3/4"	2 1/2"	6 SPA @ 10" MAX. = 5'-0"	11"	48 SPA @ 11" MAX. = 44'-0"	10"	7 SPA @ 10" MAX. = 5'-10"	10"
6	4"	13 SPA @ 9" MAX. = 9'-9"	7"	23 SPA @ 7" MAX. = 13'-5"	9"	23 SPA @ 9" MAX. = 17'-3"	9 3/4"	5 1/2"	8 SPA @ 9" MAX. = 6'-0"	10"	51 SPA @ 10" MAX. = 42'-6"	9"	9 SPA @ 9" MAX. = 6'-9"	4"

SHEAR STUD SPACING (ALONG CENTERLINE OF BEAM)													
BEAM	"B28"	"B29"	"B30"	"B31"	"B32"	"B33"	"B34"	"B35"	"B36"	"B37"	"B38"	"B39"	"B40"
2	5 7/8"	22 SPA @ 9" MAX. = 16'-6"	8"	10 SPA @ 8" MAX. = 6'-8"	9"	12 SPA @ 9" MAX. = 9'-0"	10"	18 SPA @ 10" MAX. = 15'-0"	11"	16 SPA @ 11" MAX. = 14'-8"	8"	49 SPA @ 8" MAX. = 32'-8"	8 5/8"
3	9 7/8"	16 SPA @ 10" MAX. = 13'-4"	8"	14 SPA @ 8" MAX. = 9'-4"	9"	9 SPA @ 9" MAX. = 6'-9"	10"	17 SPA @ 10" MAX. = 14'-2"	11"	22 SPA @ 11" MAX. = 20'-2"	8"	46 SPA @ 8" MAX. = 30'-8"	5 5/8"
4	10 7/8"	14 SPA @ 10" MAX. = 11'-8"	8"	18 SPA @ 8" MAX. = 12'-0"	9"	9 SPA @ 9" MAX. = 6'-9"	11"	12 SPA @ 11" MAX. = 11'-0"	12"	22 SPA @ 12" MAX. = 22'-0"	8"	46 SPA @ 8" MAX. = 30'-8"	6 5/8"
5	8 7/8"	13 SPA @ 10" MAX. = 10'-10"	9"	9 SPA @ 9" MAX. = 6'-9"	10"	10 SPA @ 10" MAX. = 8'-4"	11"	17 SPA @ 11" MAX. = 15'-7"	11"	15 SPA @ 11" MAX. = 13'-9"	8"	58 SPA @ 8" MAX. = 38'-8"	9 5/8"
6	7 7/8"	9 SPA @ 9" MAX. = 6'-9"	7"	21 SPA @ 7" MAX. = 12'-3"	8"	15 SPA @ 8" MAX. = 10'-0"	10"	27 SPA @ 10" MAX. = 22'-6"	11"	8 SPA @ 11" MAX. = 7'-4"	8"	54 SPA @ 8" MAX. = 36'-0"	4 5/8"

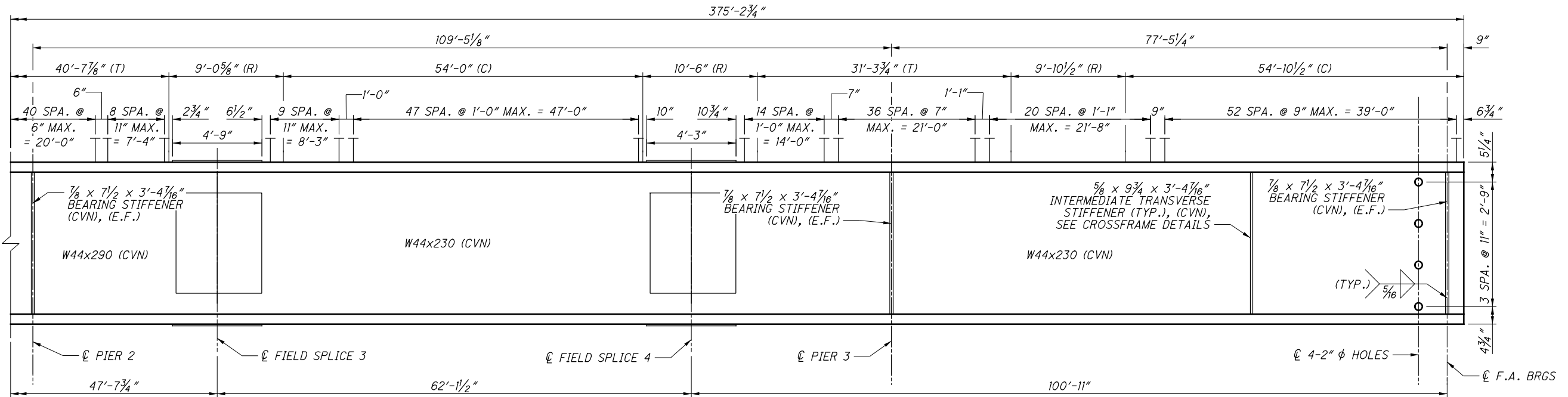
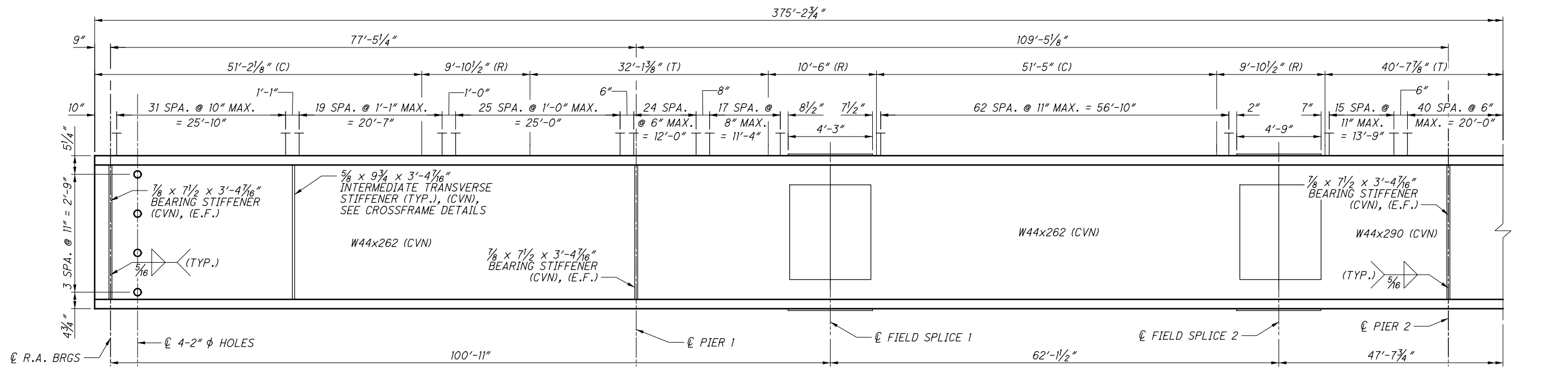
**NOTES:**

1. SEE SHEET 26/51 FOR BEAMS 2 THROUGH 6 DETAILS.

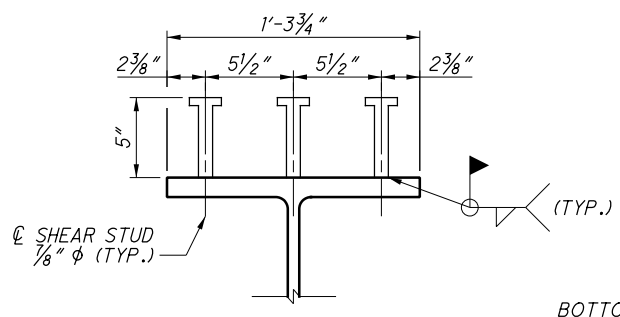
<p><b>MOT-70-3.34</b>                  BRIDGE NO. MOT-70-0334                  ARLINGTON ROAD OVER IIR-70</p>	<p>DESIGNED                  PLS                  CHECKED                  TML</p>	<p>DRAWN                  PES                  REVISED</p>	<p>REVIEWED                  MAA                  STRUCTURE FILE NUMBER                  5704804</p>	<p>DATE                  04/2017</p>	<p>DESIGN AGENCY                  EASTON OVAL                  SUITE 400                  COLUMBUS, OH 43219                  T 614-776-8000                  F 614-776-8225</p> <p><b>WOOLPERT</b>                  CONSULTING ENGINEERS</p>
	<p>BEAM 2-6 DETAILS</p>				



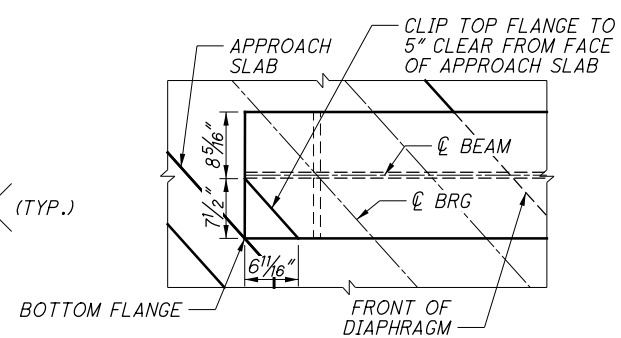
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**BEAM 7 ELEVATION**



**SHEAR STUD DETAIL**



**BEAM CLIP DETAIL**

**LEGEND:**

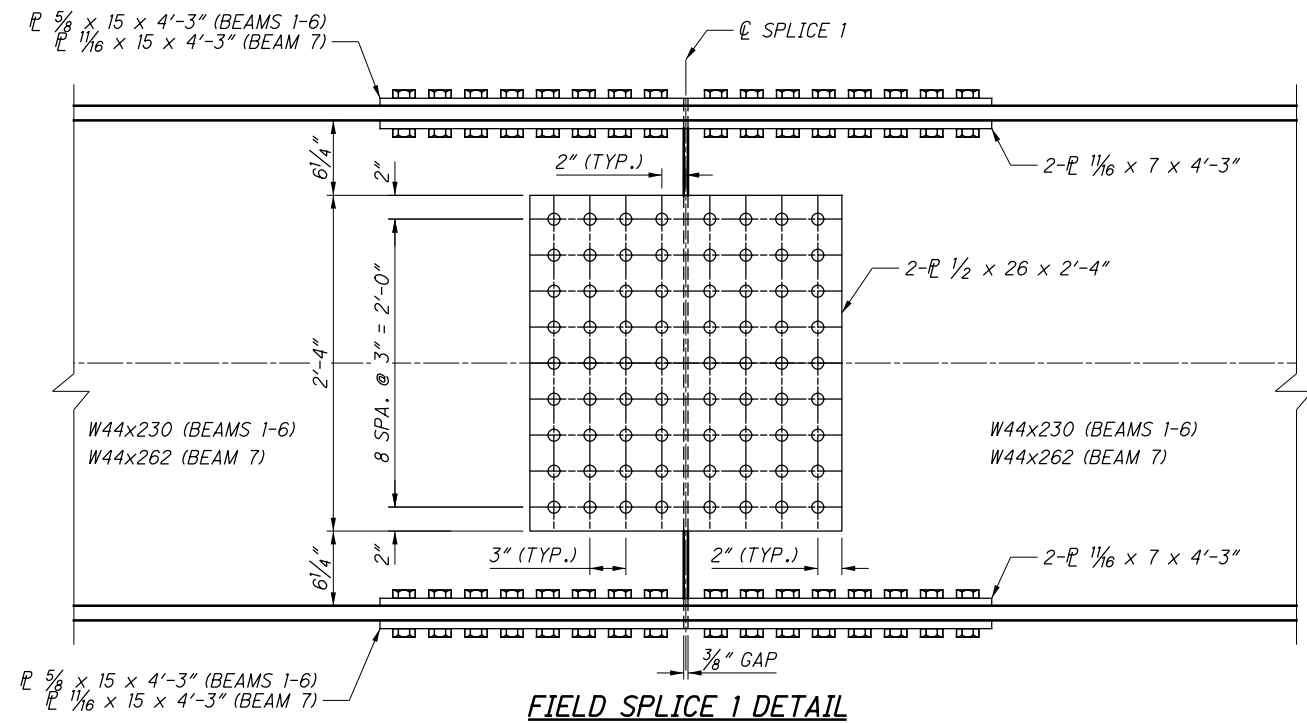
- (C) - COMPRESSION REGION
- (T) - TENSION REGION
- (R) - REVERSAL REGION

**NOTES:**

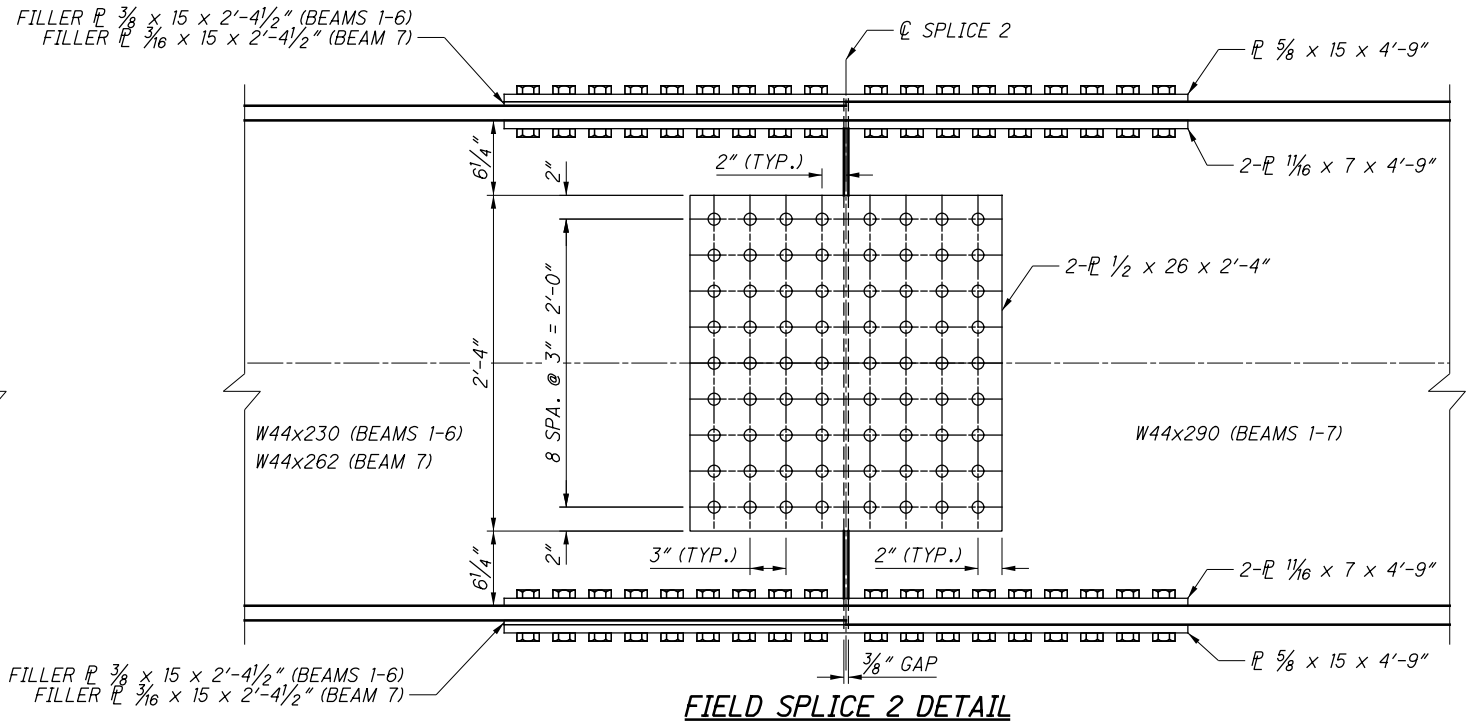
1. SEE SHEET 24/51 FOR FRAMING PLAN.
2. SEE SHEET 29/51 FOR SPLICE DETAILS.
3. SEE SHEET 31/51 FOR CROSSFRAME DETAILS.
4. SEE SHEET 33/51 FOR TRANSVERSE SECTION.
5. ALL STEEL SHALL BE ASTM A709 GRADE 50, AND SHALL HAVE A THREE COAT PAINT SYSTEM APPLIED PER CMS 514. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.
6. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND AT LEAST 5/16" THICK.

<p><b>DESIGN AGENCY:</b> EASTON OVAL SUITE 400 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-8225</p>	<p><b>DATE:</b> 04/2017</p>	<p><b>REVIEWED:</b> MAA</p>	<p><b>STRUCTURE FILE NUMBER:</b> 5704804</p>	<p><b>DESIGNED:</b> PES</p>	<p><b>DRAWN:</b> PES</p>
<p><b>BEAM 7 DETAILS</b></p>					
<p>BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IIR-70</p>					
<p><b>MOT-70-3.34</b> PID No. 99623</p>					
<p>28 / 51</p>					
<p>113 136</p>					

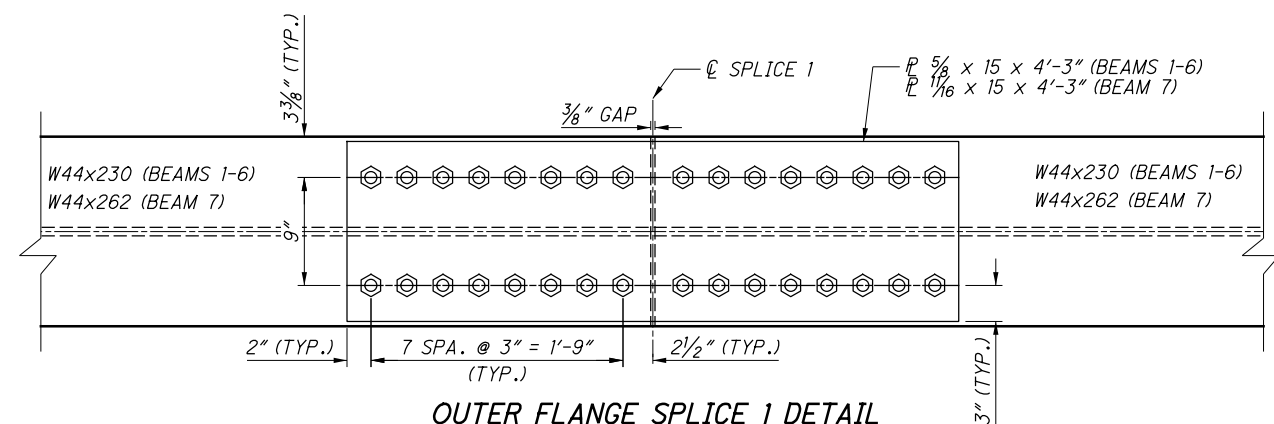
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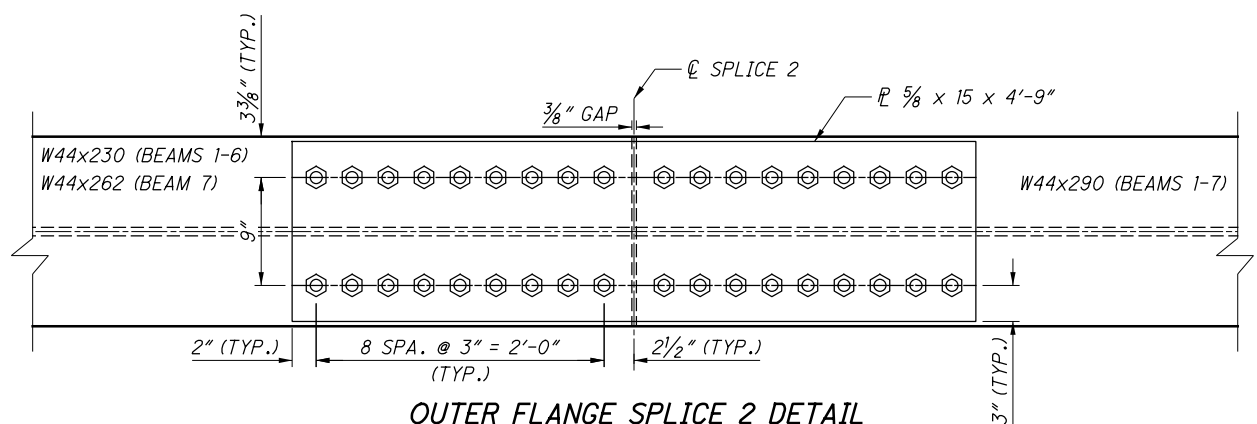
**FIELD SPLICE 1 DETAIL**  
(SYMMETRICAL ABOUT C SPLICER & C BEAM)



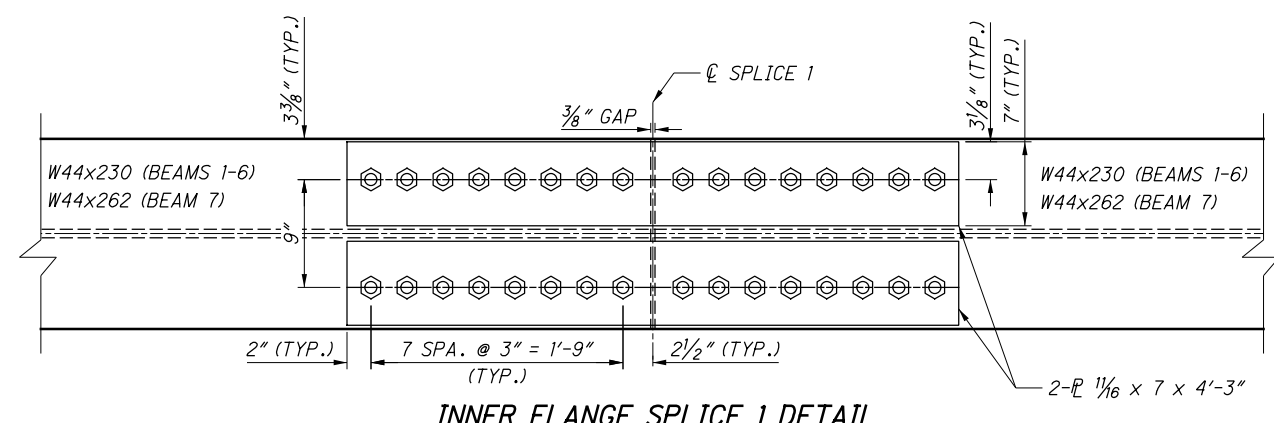
**FIELD SPLICE 2 DETAIL**  
(SYMMETRICAL ABOUT C SPLICER & C BEAM)



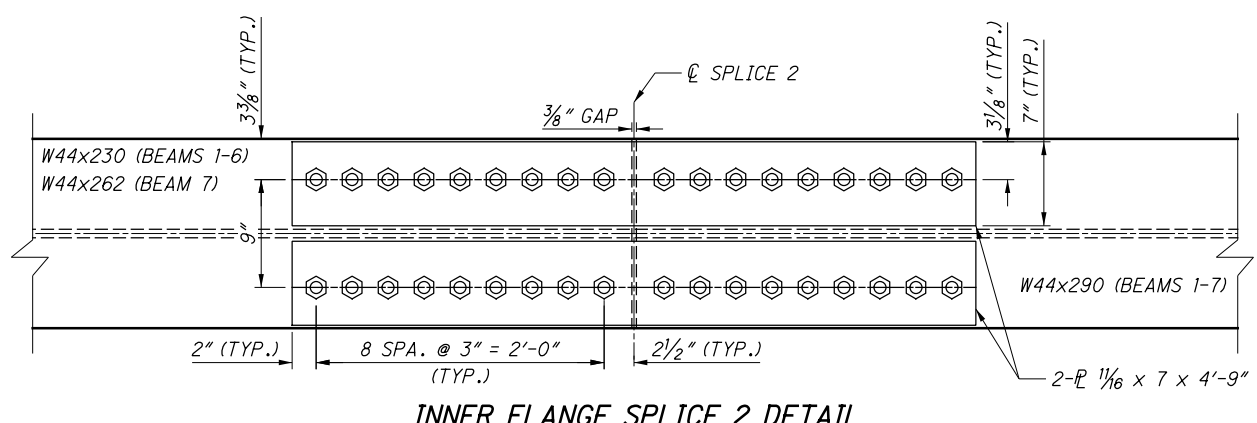
**OUTER FLANGE SPLICE 1 DETAIL**  
(SYMMETRICAL ABOUT C SPLICER & ABOUT C BEAM)



**OUTER FLANGE SPLICE 2 DETAIL**  
(SYMMETRICAL ABOUT C SPLICER & ABOUT C BEAM)



**INNER FLANGE SPLICE 1 DETAIL**  
(SYMMETRICAL ABOUT C SPLICER & ABOUT C BEAM)



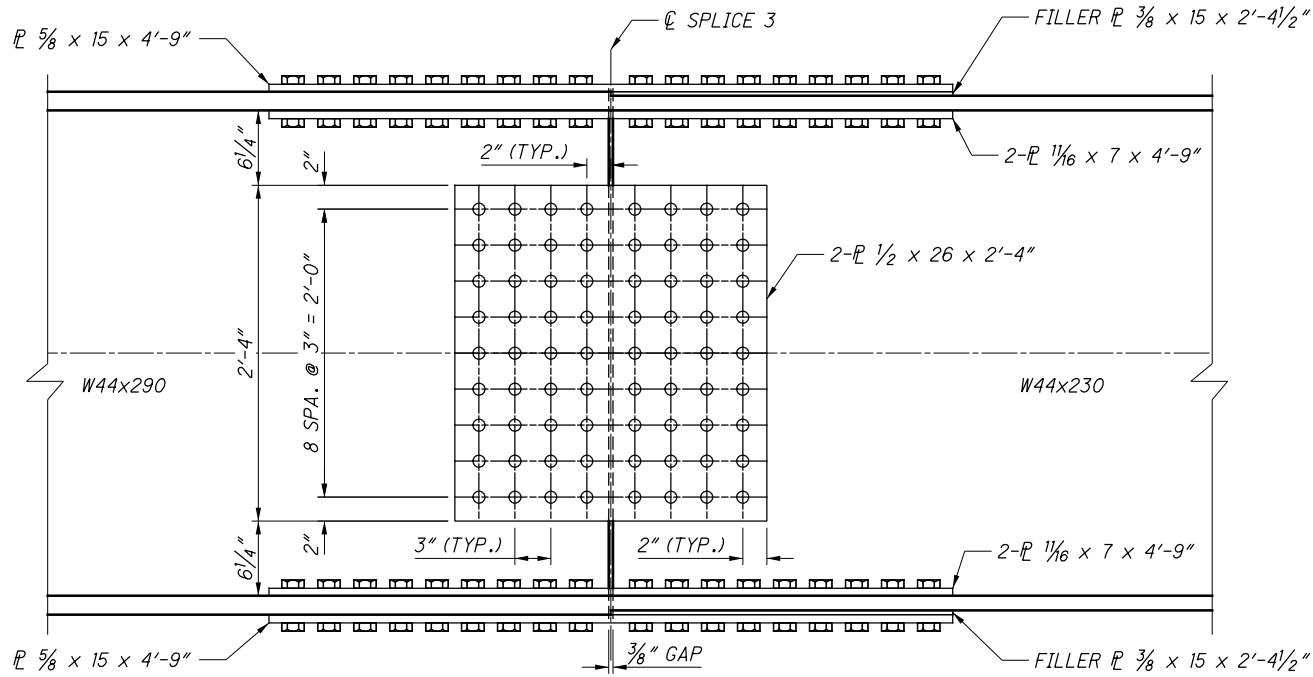
**INNER FLANGE SPLICE 2 DETAIL**  
(SYMMETRICAL ABOUT C SPLICER & ABOUT C BEAM)

**NOTES:**

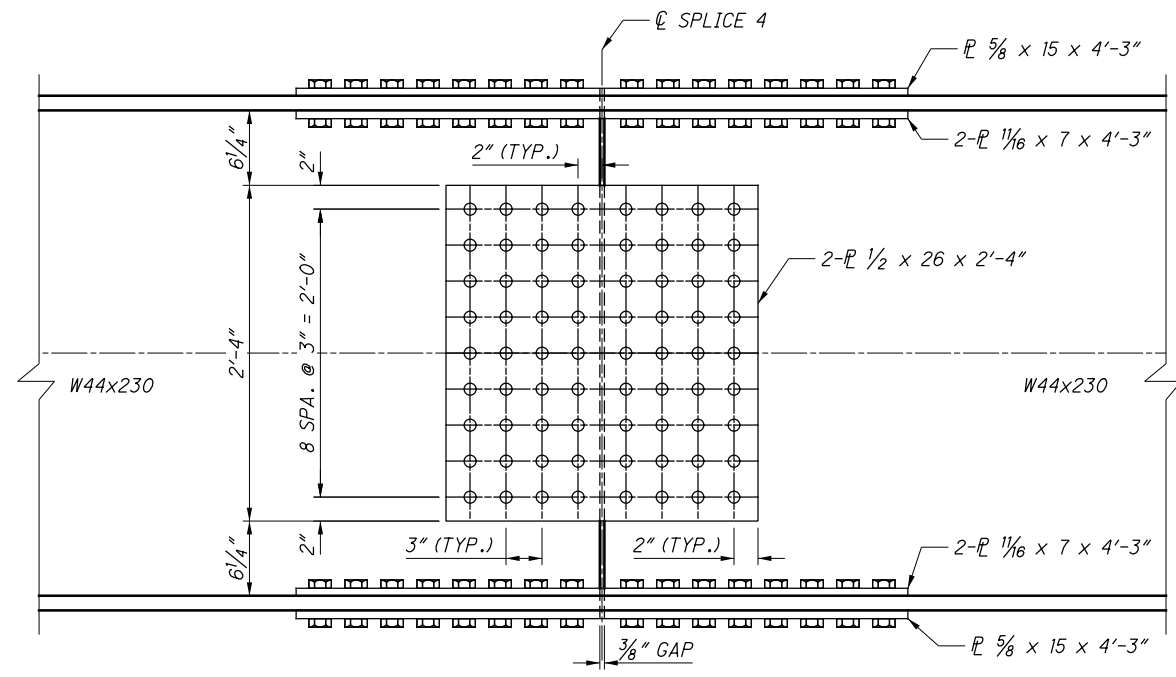
1. ALL MATERIAL IN FIELD SPLICES SHALL BE "CVN". FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01. ALL PLATES SHALL BE ASTM A709 GRADE 50 UNLESS OTHERWISE NOTED.
2. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER A325 TYPE I UNLESS OTHERWISE NOTED.

DESIGN AGENCY WOLPERT CORPORATION	DATE	04/2017
	REVIEWED	MAA
DRAWN	PES	REVISED
	PES	TML
DESIGNED	PES	TML
CHECKED	PES	TML
STRUCTURE FILE NUMBER	5704804	
BRIDGE NO. MOT-70-0334	ARLINGTON ROAD OVER IR-70	
MOT-70-3.34	PID No. 99623	
29/51	114 136	

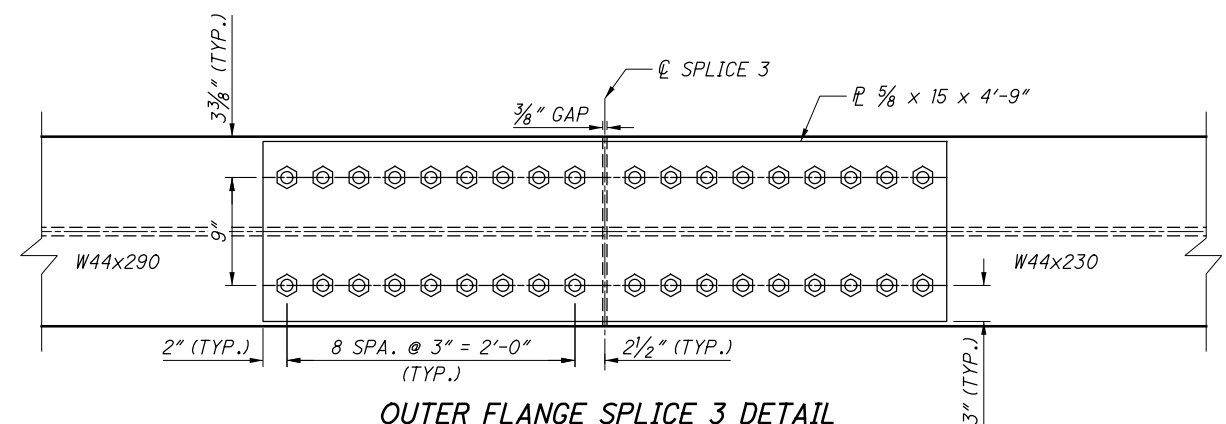
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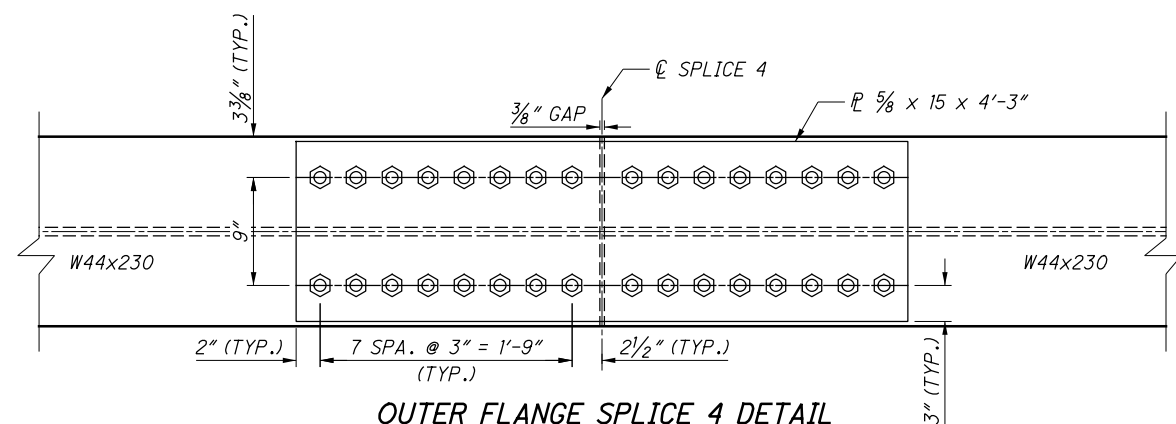
**FIELD SPLICE 3 DETAIL**  
(SYMMETRICAL ABOUT C SPLICE & C BEAM)



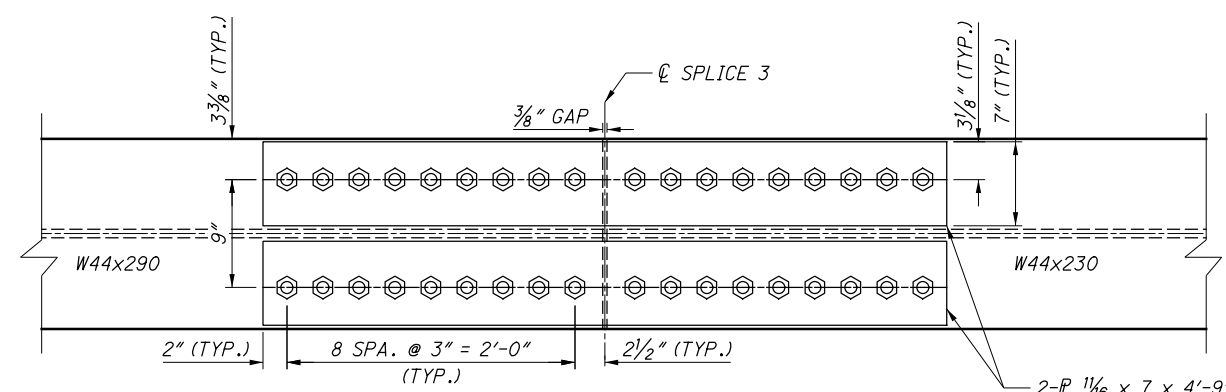
**FIELD SPLICE 4 DETAIL**  
(SYMMETRICAL ABOUT C SPLICE & C BEAM)



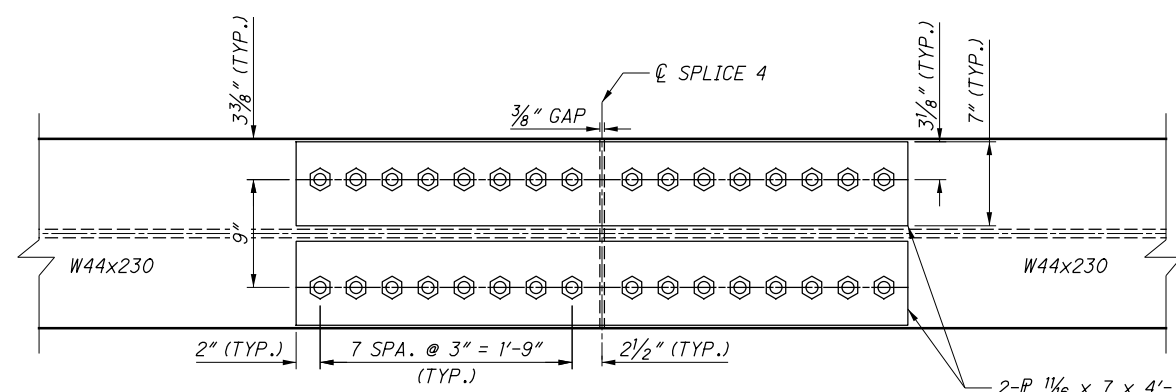
**OUTER FLANGE SPLICE 3 DETAIL**  
(SYMMETRICAL ABOUT C SPLICE & ABOUT C BEAM)



**OUTER FLANGE SPLICE 4 DETAIL**  
(SYMMETRICAL ABOUT C SPLICE & ABOUT C BEAM)



**INNER FLANGE SPLICE 3 DETAIL**  
(SYMMETRICAL ABOUT C SPLICE & ABOUT C BEAM)



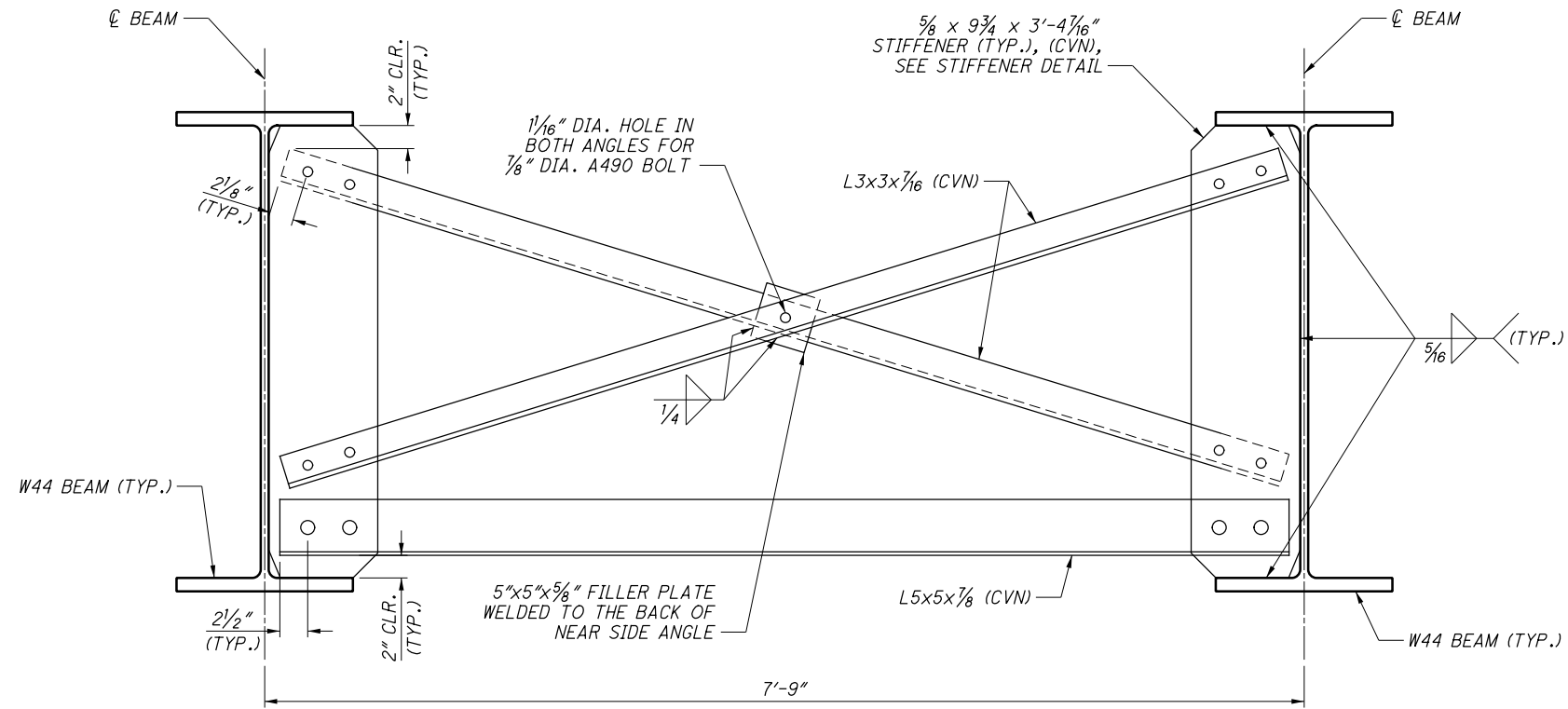
**INNER FLANGE SPLICE 4 DETAIL**  
(SYMMETRICAL ABOUT C SPLICE & ABOUT C BEAM)

**NOTES:**

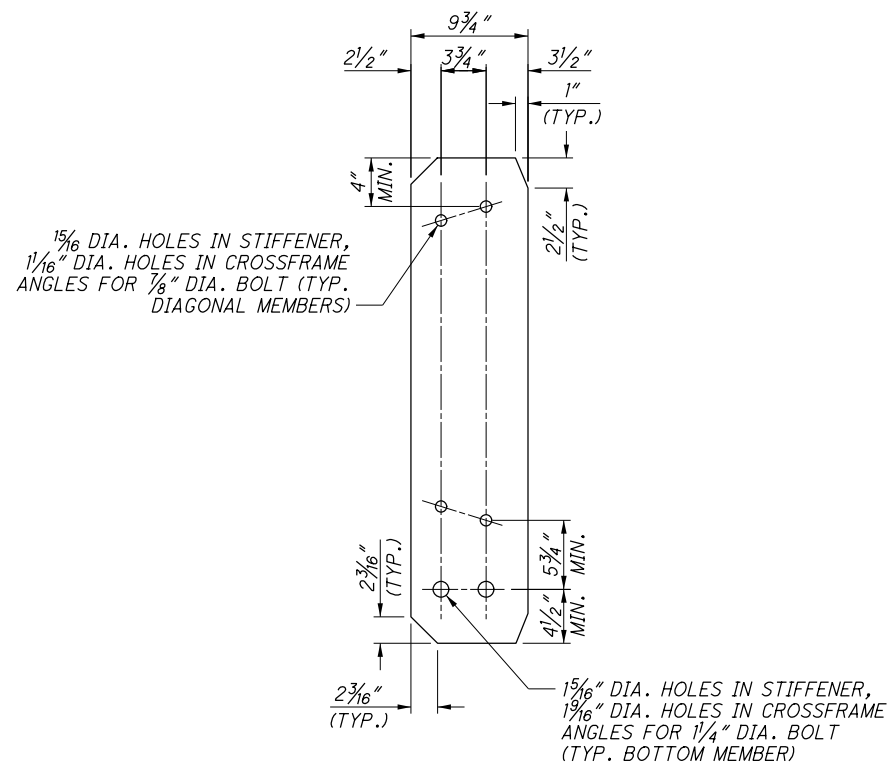
1. ALL MATERIAL IN FIELD SPLICES SHALL BE "CVN". FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01. ALL PLATES SHALL BE ASTM A709 GRADE 50 UNLESS OTHERWISE NOTED.
2. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER A325 TYPE I UNLESS OTHERWISE NOTED.

<b>MOT-70-3.34</b> PID No. 99623	<b>SPLICE DETAILS</b> BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70		DESIGN AGENCY EASTON OVAL SUITE 600 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-6225 <b>WOOLPERT</b> CONSULTING ENGINEERS
	DESIGNED PES CHECKED TML	DRAWN PES REVISED	
30 / 51	115 136		

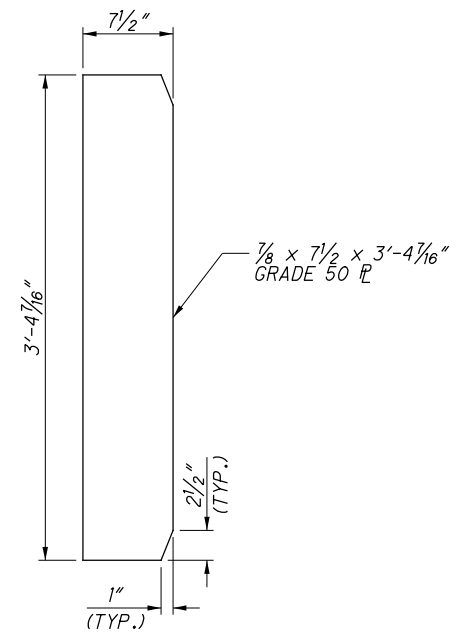
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**INTERMEDIATE CROSSFRAME DETAILS**



**TRANSVERSE STIFFENER**



**BEARING STIFFENER**

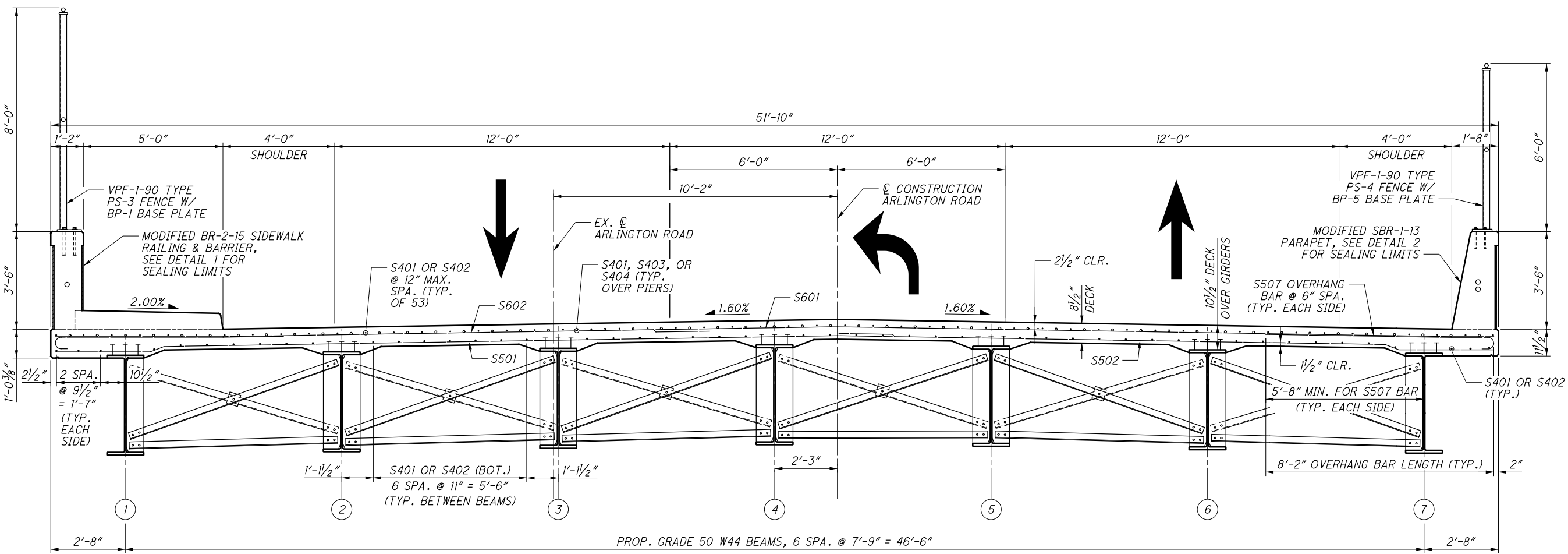
**NOTES:**

1. SEE SHEET 24/51 FOR FRAMING PLAN AND CROSSFRAME SPACING.
2. SEE SHEETS 25/51 - 28/51 FOR BEAM DETAILS.
3. SEE SHEET 33/51 FOR TRANSVERSE SECTION.
4. ALL STEEL SHALL BE ASTM A709 GRADE 50 UNLESS OTHERWISE NOTED. HIGH STRENGTH BOLTS SHALL BE 7/8" DIAMETER A490 TYPE I FOR THE DIAGONAL MEMBERS AND 1/4" DIAMETER A490 TYPE I FOR THE BOTTOM MEMBER, UNLESS OTHERWISE NOTED. EACH BOLT ASSEMBLY SHALL INCLUDE A BOLT, NUT, AND TWO WASHERS THAT ARE TIGHTENED ACCORDING TO CMS 513.
5. WHERE A SHAPE OR PLATE IS DESIGNED (CVN) FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.
6. CROSSFRAMES SHALL BE PERPENDICULAR TO BEAMS.
7. THE FABRICATOR SHALL CHECK LONGITUDINAL CROSSFRAME SPACING SO THAT INTERFERENCE WITH BOLTED SPLICES AND BEARING STIFFENERS CAN BE AVOIDED. SPACING SHALL BE ADJUSTED TO PROVIDE AT LEAST SIX (6) INCHES OF LONGITUDINAL CLEARANCE. THE FABRICATOR MAY ADJUST CROSSFRAME SPACES UP TO A MAXIMUM OF 5'-0" CENTER TO CENTER.

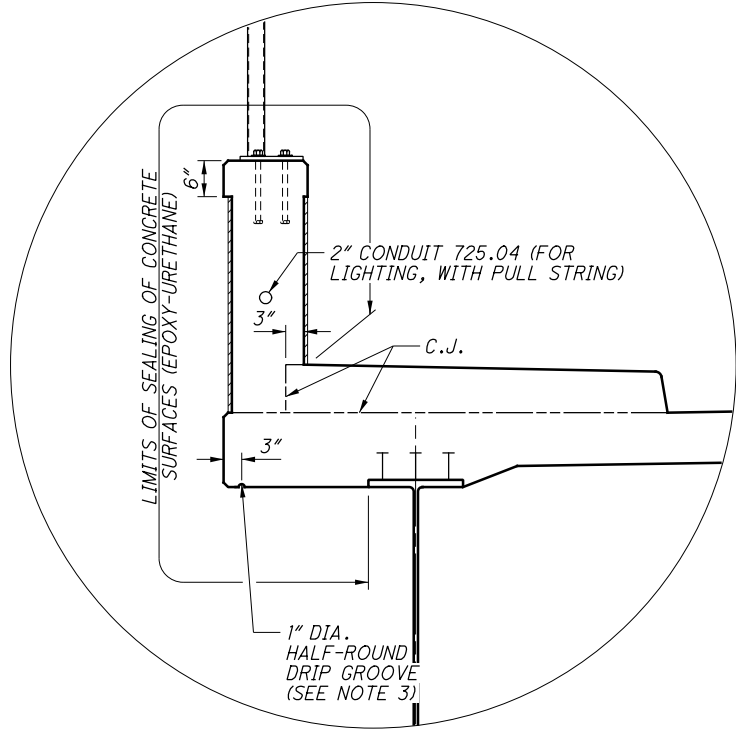
DESIGN AGENCY WOLPERT CORPORATION	
EASTON OVAL SUITE 401 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-8225	
DESIGNED PES	CHECKED TML
DRAWN PES	REVISED
REVIEWED MAA	STRUCTURE FILE NUMBER 5704804
DATE 04/2017	
CROSSFRAME DETAILS BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IR-70	
MOT-70-3.34	PID No. 99623
31	51
116	136



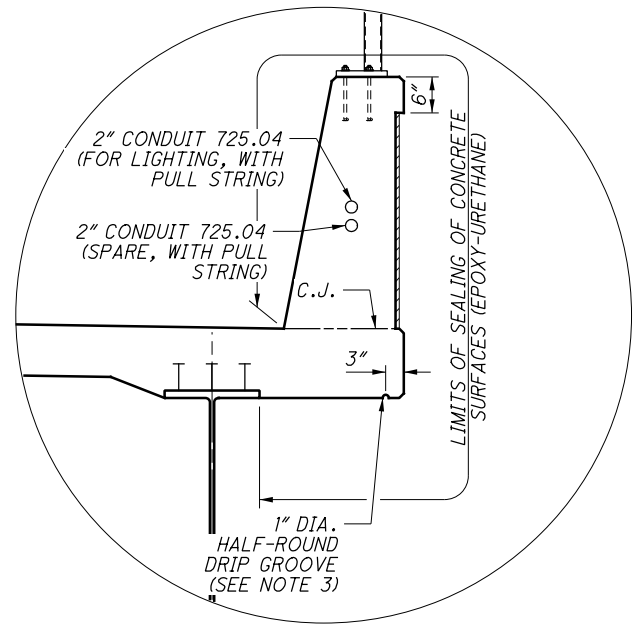
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**TRANSVERSE SECTION**



**DETAIL 1**  
(SIDEWALK PARAPET SEALING LIMITS)



**DETAIL 2**  
(ROADWAY PARAPET SEALING LIMITS)

**LEGEND:**

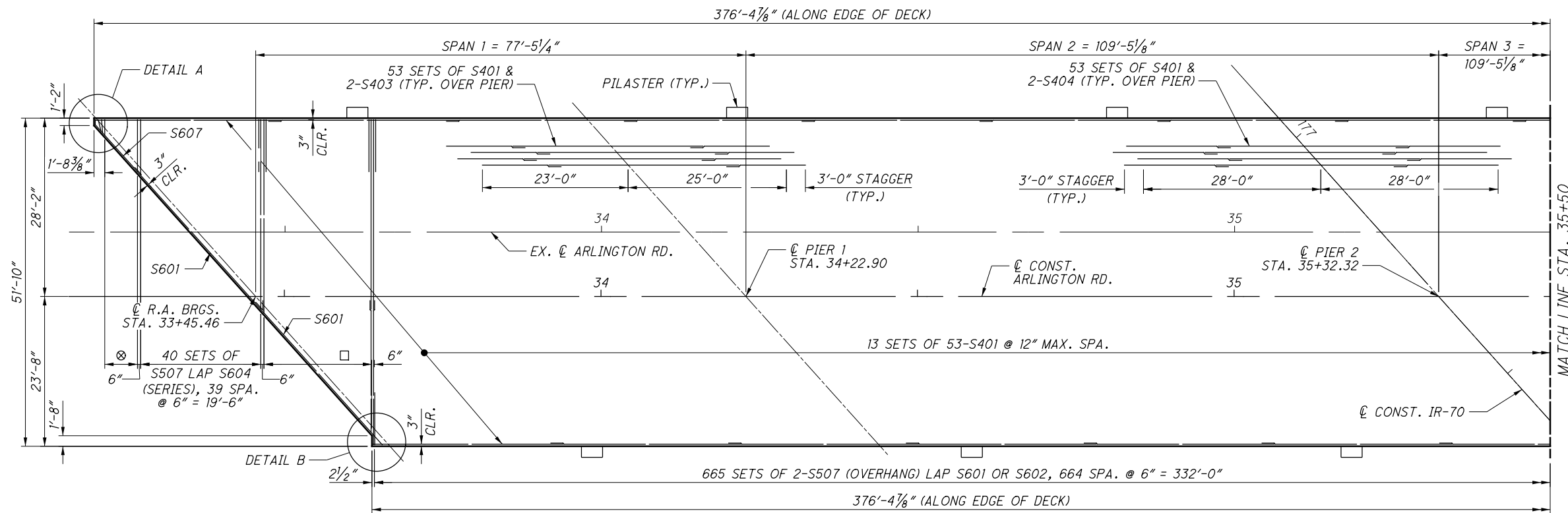
- ⊕ PROPOSED BEAM NUMBER
- ▨ AESTHETIC SURFACE TREATMENT, TYPE B

**NOTES:**

1. THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2 INCHES AND A CONSTANT HAUNCH WIDTH OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ±3 INCHES.
2. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH CMS 511.24.
3. END DRIP GROOVE 2'-0" FROM ABUTMENTS.
4. SEE SHEETS 25/51 - 28/51 FOR SHEAR CONNECTOR DETAILS.
5. SEE SHEET 31/51 FOR CROSSFRAME DETAILS.
6. SEE SHEETS 34/51 - 35/51 FOR DECK PLAN.
7. SEE SHEET 38/51 AND ODOT SCD SBR-1-13 FOR ADDITIONAL PARAPET DETAILS NOT SHOWN. SEE SHEET 39/51 AND ODOT SCD BR-2-15 FOR ADDITIONAL SIDEWALK AND RAILING DETAILS NOT SHOWN.
8. SEE ODOT SCD VPF-1-90 FOR ADDITIONAL VANDAL PROTECTION FENCE DETAILS NOT SHOWN.

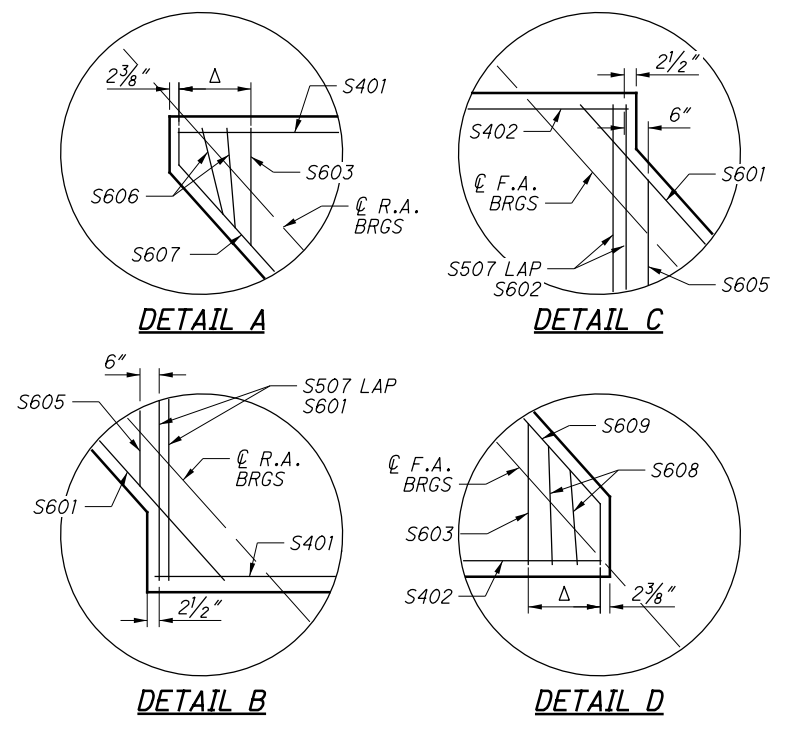
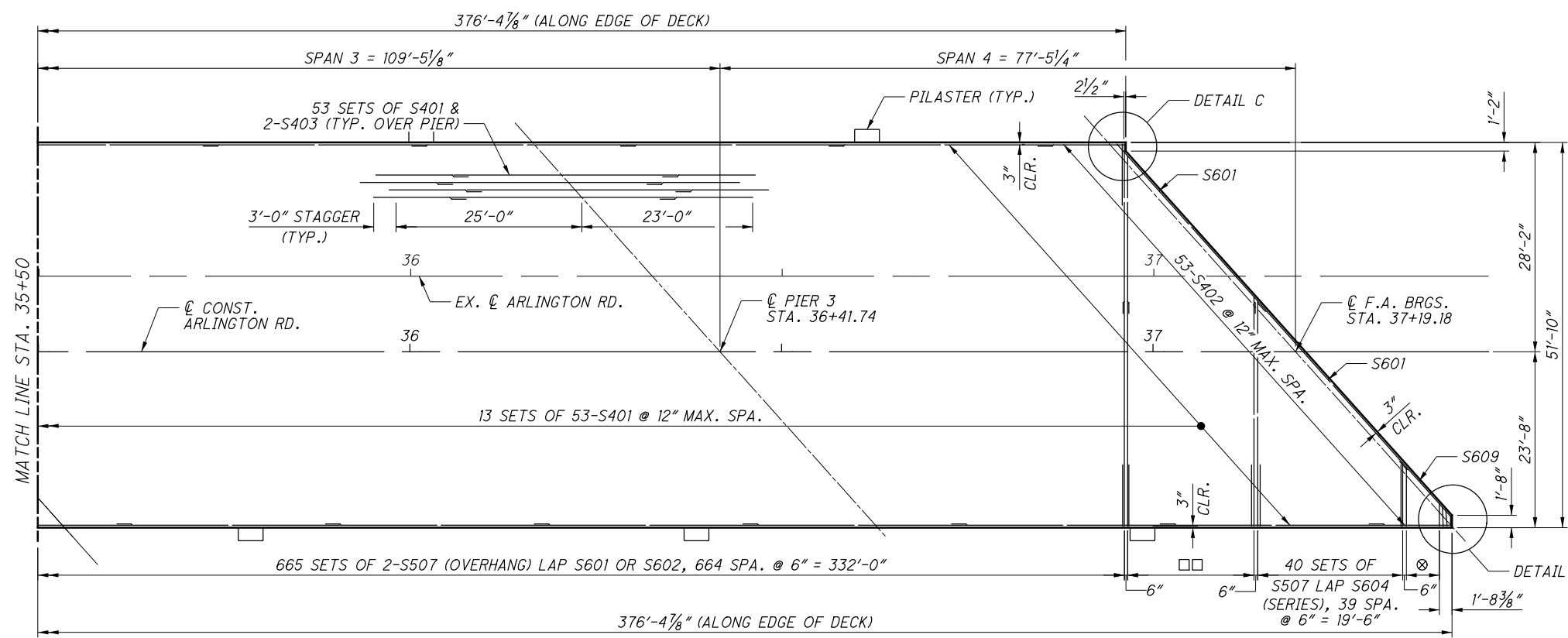
DESIGN AGENCY <b>WOOLPERT</b> DESIGN/CONSTRUCTION/MAINTENANCE	DATE	04/2017
	REVIEWED	MAA
DRAWN	PES	REVISED
	CHECKED	TML
DESIGNED	PES	
BRIDGE NO.	MOT-70-0334	
TRANSVERSE SECTION	ARLINGTON ROAD OVER IR-70	
MOT-70-3.34	PID No. 99623	
33/51		
118		
136		

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**PILASTER LOCATIONS**

- STA. 33+61.52, 28'-7" LT.
- STA. 34+21.52, 28'-7" LT.
- STA. 34+81.52, 28'-7" LT.
- STA. 35+41.52, 28'-7" LT.
- STA. 36+01.52, 28'-7" LT.
- STA. 36+61.52, 28'-7" LT.
- STA. 33+98.57, 24'-1" RT.
- STA. 34+58.57, 24'-1" RT.
- STA. 35+18.57, 24'-1" RT.
- STA. 35+78.57, 24'-1" RT.
- STA. 36+38.57, 24'-1" RT.
- STA. 36+98.57, 24'-1" RT.



**DECK REINFORCING PLAN**

**LEGEND:**

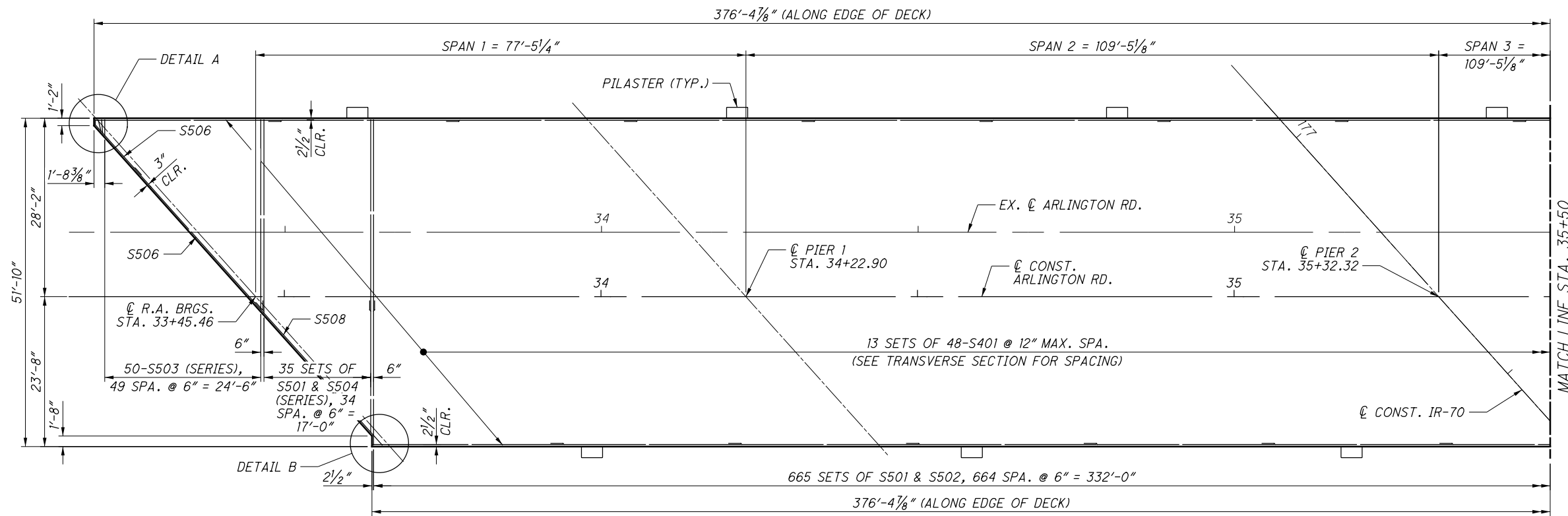
- ⊗ 10-S603 (SERIES), 9 SPA. @ 6" = 4'-6"
- 35 SETS OF S507 LAP S602 & S605 (SERIES), 34 SPA. @ 6" = 17'-0" (WEST DECK EDGE)
- 35 SETS OF S507 LAP S601 & S605 (SERIES), 34 SPA. @ 6" = 17'-0" (EAST DECK EDGE)
- △ 3 SPA. @ 6" = 1'-6"

**NOTES:**

1. SEE SHEET 33/51 FOR TRANSVERSE SECTION.
2. MINIMUM REINFORCING STEEL CLEAR COVER SHALL BE 2" UNLESS OTHERWISE NOTED.
3. MINIMUM REINFORCING LAP LENGTHS:  
 #4 BARS = 1'-11"  
 #5 BARS = 2'-5"  
 #6 BARS = 2'-11"

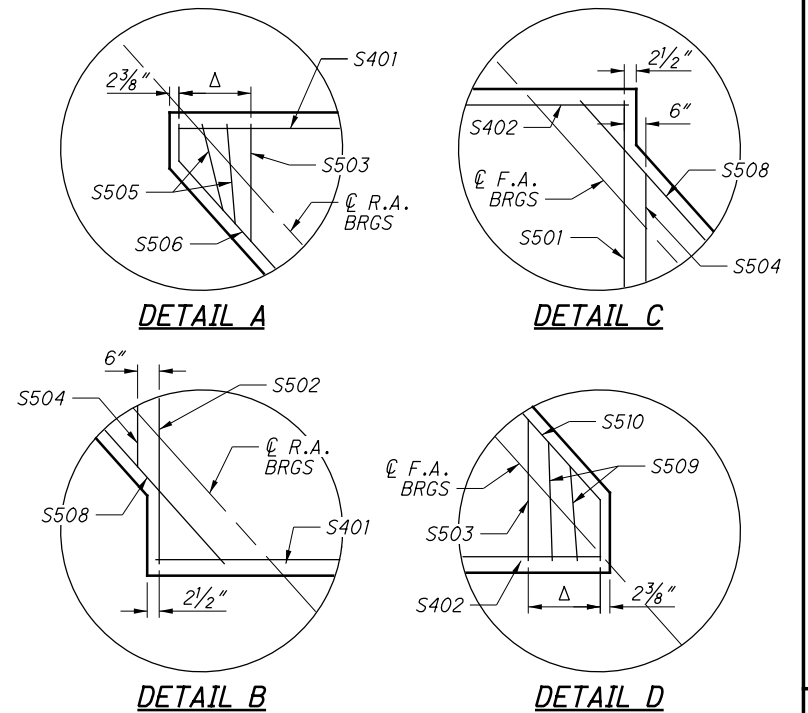
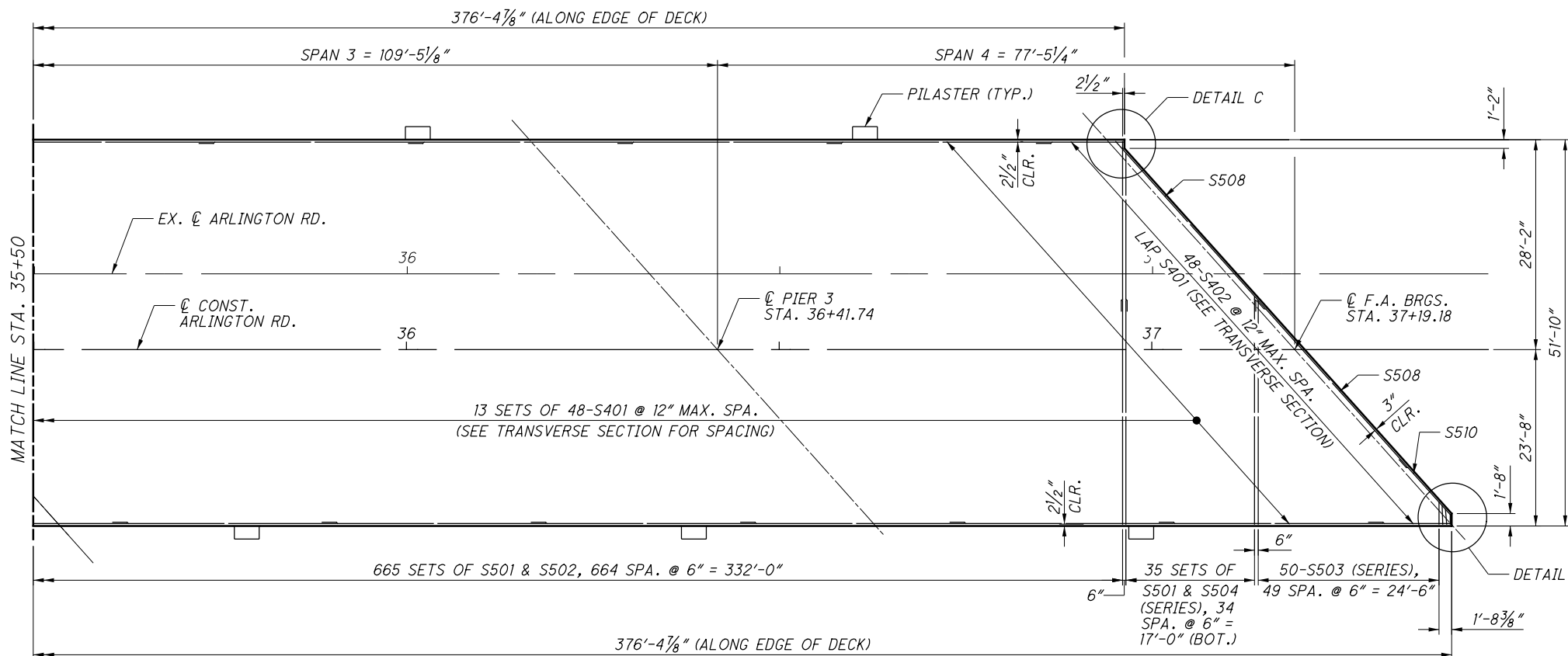
DESIGN AGENCY: EASTON OVAL SUITE 600 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-8225  
**WOOLPERT**  
 DESIGN/CONSTRUCTION/MAINTENANCE  
 DATE: 04/2017  
 REVIEWED: MAA  
 DRAWN: PES  
 DESIGNED: JMM  
 CHECKED: TML  
 STRUCTURE FILE NUMBER: 5704804  
**DECK REINFORCING PLAN (TOP MAT)**  
 BRIDGE NO. MOT-70-0334  
 ARLINGTON ROAD OVER IR-70  
**MOT-70-3.34**  
 PID No. 99623  
 34 / 51  
 119  
 136

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**PILASTER LOCATIONS**

- STA. 33+61.52, 28'-7" LT.
- STA. 34+21.52, 28'-7" LT.
- STA. 34+81.52, 28'-7" LT.
- STA. 35+41.52, 28'-7" LT.
- STA. 36+01.52, 28'-7" LT.
- STA. 36+61.52, 28'-7" LT.
  
- STA. 33+98.57, 24'-1" RT.
- STA. 34+58.57, 24'-1" RT.
- STA. 35+18.57, 24'-1" RT.
- STA. 35+78.57, 24'-1" RT.
- STA. 36+38.57, 24'-1" RT.
- STA. 36+98.57, 24'-1" RT.



**DECK REINFORCING PLAN**

**LEGEND:**

Δ 3 SPA. @ 6" = 1'-6"

**NOTES:**

1. SEE SHEET 33/51 FOR TRANSVERSE SECTION.
2. MINIMUM REINFORCING STEEL CLEAR COVER SHALL BE 2" UNLESS OTHERWISE NOTED.
3. MINIMUM REINFORCING LAP LENGTHS:  
 #4 BARS = 1'-11"  
 #5 BARS = 2'-5"  
 #6 BARS = 2'-11"

DECK REINFORCING PLAN (BOTTOM MAT)  
BRIDGE NO. MOT-70-0334  
ARLINGTON ROAD OVER IR-70

MOT-70-3.34  
PID No. 99623

35 / 51

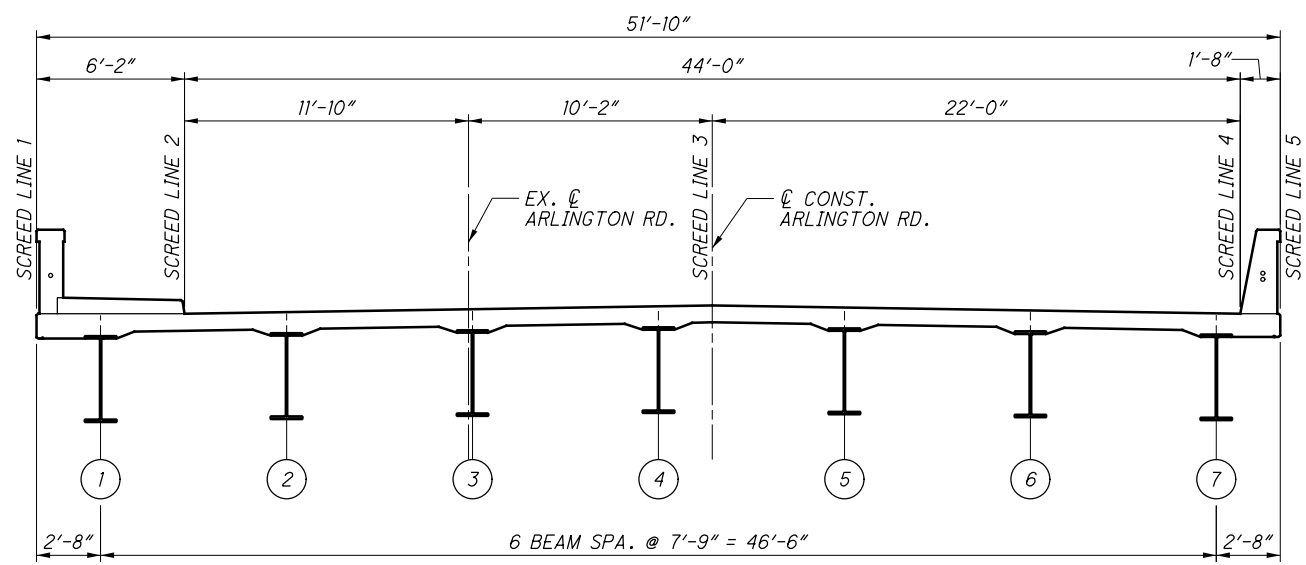
120  
136

DESIGN AGENCY: EASTON OVAL  
SUITE 600  
COLUMBUS, OH 43219  
T 614-776-8000  
F 614-776-8225  
**WOOLPERT**  
CONSULTING ENGINEERS

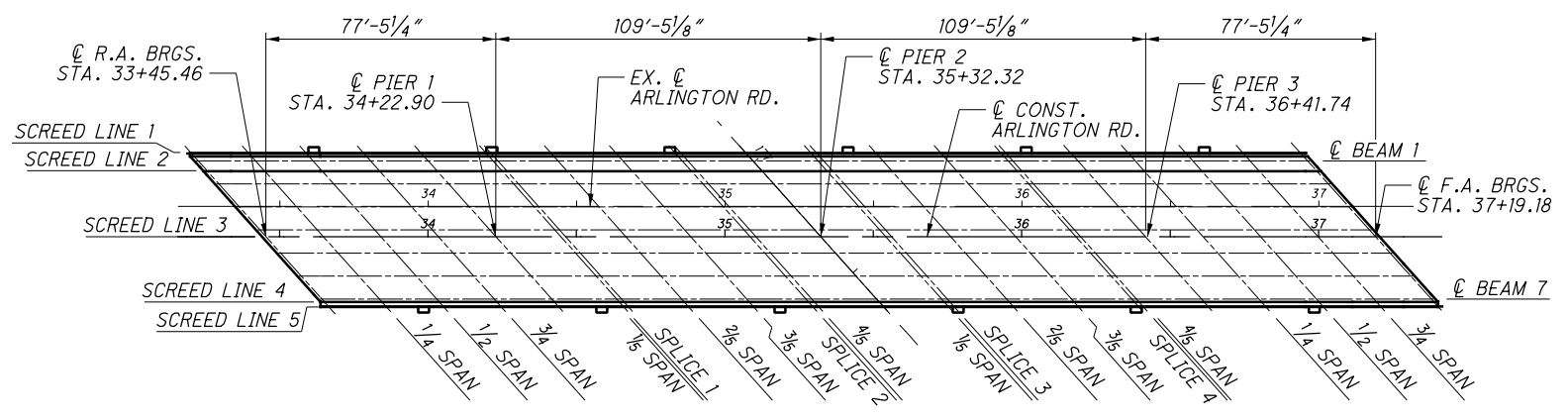
DATE: 04/2017  
REVIEWED: MAA  
DRAWN: PES  
CHECKED: JMM  
DESIGNED: TML  
STRUCTURE FILE NUMBER: 5704804



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**TRANSVERSE SECTION**



**PLAN SCHEMATIC**

**FINAL DECK SURFACE AND SCREED ELEVATION TABLE**

LOCATION		C. R.A. BRGS.	SPAN 1			C. PIER 1 BRGS.	SPAN 2					C. PIER 2 BRGS.	SPAN 3					C. PIER 3 BRGS.	SPAN 4			C. F.A. BRGS.		
			1/4 SPAN	1/2 SPAN	3/4 SPAN		1/5 SPAN	SPLICE 1	2/5 SPAN	3/5 SPAN	SPLICE 2		4/5 SPAN	1/5 SPAN	SPLICE 3	2/5 SPAN	3/5 SPAN		SPLICE 4	4/5 SPAN	1/4 SPAN		1/2 SPAN	3/4 SPAN
LEFT EDGE OF DECK SCREED LINE 1	STATION	33+20.22	33+39.58	33+58.94	33+78.30	33+97.66	34+19.55	34+21.14	34+41.43	34+63.31	34+83.26	34+85.20	35+07.08	35+28.97	35+30.90	35+50.85	35+72.73	35+93.02	35+94.62	36+16.50	36+35.86	36+55.22	36+74.58	36+93.94
	SCREED ELEVATION	1048.78	1049.05	1049.26	1049.43	1049.57	1049.79	1049.80	1049.99	1050.11	1050.15	1050.15	1050.17	1050.26	1050.27	1050.35	1050.36	1050.29	1050.28	1050.17	1050.14	1050.09	1049.97	1049.82
	DEAD LOAD DEFLECTION	0"	1/2"	5/8"	5/16"	0"	5/8"	11/16"	1 3/8"	1 5/16"	11/16"	5/8"	0"	1/2"	9/16"	1 1/4"	1 3/8"	3/4"	11/16"	0"	5/16"	5/8"	7/16"	0"
	FINAL DECK ELEVATION	1048.78	1049.01	1049.21	1049.40	1049.57	1049.74	1049.75	1049.88	1050.00	1050.09	1050.10	1050.17	1050.22	1050.22	1050.24	1050.24	1050.22	1050.22	1050.17	1050.11	1050.03	1049.93	1049.82
LEFT TOE OF SIDEWALK SCREED LINE 2	STATION	33+25.75	33+45.11	33+64.47	33+83.83	34+03.19	34+25.07	34+26.66	34+46.96	34+68.84	34+88.79	34+90.72	35+12.61	35+34.49	35+36.42	35+56.38	35+78.26	35+98.55	36+00.14	36+22.03	36+41.39	36+60.75	36+80.11	36+99.47
	SCREED ELEVATION	1048.85	1049.11	1049.32	1049.48	1049.61	1049.83	1049.84	1050.02	1050.14	1050.17	1050.17	1050.18	1050.27	1050.28	1050.35	1050.36	1050.28	1050.27	1050.16	1050.12	1050.06	1049.94	1049.78
	DEAD LOAD DEFLECTION	0"	1/2"	5/8"	5/16"	0"	5/8"	11/16"	1 3/8"	1 5/16"	11/16"	5/8"	0"	1/2"	9/16"	1 1/4"	1 3/8"	3/4"	11/16"	0"	5/16"	5/8"	7/16"	0"
	FINAL DECK ELEVATION	1048.85	1049.07	1049.27	1049.45	1049.61	1049.77	1049.79	1049.91	1050.03	1050.11	1050.12	1050.18	1050.23	1050.23	1050.25	1050.24	1050.21	1050.21	1050.16	1050.09	1050.01	1049.90	1049.78
CENTERLINE CONSTRUCTION SCREED LINE 3	STATION	33+45.46	33+64.82	33+84.18	34+03.54	34+22.90	34+44.78	34+46.38	34+66.67	34+88.55	35+08.50	35+10.44	35+32.32	35+54.20	35+56.14	35+76.09	35+97.97	36+18.26	36+19.86	36+41.74	36+61.10	36+80.46	36+99.82	37+19.18
	SCREED ELEVATION	1049.42	1049.64	1049.83	1049.98	1050.11	1050.29	1050.30	1050.44	1050.53	1050.56	1050.56	1050.58	1050.62	1050.63	1050.66	1050.64	1050.56	1050.55	1050.44	1050.37	1050.28	1050.15	1049.99
	DEAD LOAD DEFLECTION	0"	1/4"	1/4"	1/8"	0"	3/8"	7/16"	13/16"	3/4"	3/8"	5/16"	0"	5/16"	3/8"	13/16"	13/16"	7/16"	3/8"	0"	1/8"	5/16"	1/4"	0"
	FINAL DECK ELEVATION	1049.42	1049.62	1049.80	1049.97	1050.11	1050.25	1050.26	1050.37	1050.46	1050.53	1050.53	1050.58	1050.60	1050.60	1050.59	1050.57	1050.52	1050.52	1050.44	1050.36	1050.25	1050.13	1049.99
RIGHT TOE OF PARAPET SCREED LINE 4	STATION	33+65.17	33+84.53	34+03.89	34+23.25	34+42.61	34+64.50	34+66.09	34+86.38	35+08.26	35+28.21	35+30.15	35+52.03	35+73.92	35+75.85	35+95.80	36+17.68	36+37.97	36+39.57	36+61.45	36+80.81	37+00.17	37+19.53	37+38.89
	SCREED ELEVATION	1049.27	1049.48	1049.65	1049.78	1049.89	1050.06	1050.07	1050.21	1050.27	1050.26	1050.26	1050.24	1050.29	1050.30	1050.33	1050.28	1050.17	1050.16	1050.00	1049.91	1049.81	1049.66	1049.47
	DEAD LOAD DEFLECTION	0"	3/8"	7/16"	3/16"	0"	5/8"	11/16"	1 1/4"	1 3/16"	9/16"	1/2"	0"	9/16"	5/8"	1 5/16"	1 3/8"	3/4"	11/16"	0"	3/16"	7/16"	5/16"	0"
	FINAL DECK ELEVATION	1049.27	1049.46	1049.62	1049.76	1049.89	1050.01	1050.01	1050.10	1050.17	1050.22	1050.22	1050.24	1050.24	1050.24	1050.22	1050.17	1050.11	1050.10	1050.00	1049.90	1049.78	1049.63	1049.47
RIGHT EDGE OF DECK SCREED LINE 5	STATION	33+66.67	33+86.03	34+05.39	34+24.75	34+44.11	34+65.99	34+67.58	34+87.87	35+09.76	35+29.71	35+31.64	35+53.53	35+75.41	35+77.34	35+97.29	36+19.18	36+39.47	36+41.06	36+62.95	36+82.31	37+01.67	37+21.03	37+40.39
	SCREED ELEVATION	1049.29	1049.50	1049.67	1049.79	1049.90	1050.07	1050.08	1050.21	1050.28	1050.27	1050.26	1050.24	1050.29	1050.29	1050.32	1050.28	1050.16	1050.15	1050.00	1049.91	1049.80	1049.65	1049.46
	DEAD LOAD DEFLECTION	0"	3/8"	7/16"	3/16"	0"	5/8"	11/16"	1 1/4"	1 3/16"	9/16"	1/2"	0"	9/16"	5/8"	1 5/16"	1 3/8"	3/4"	11/16"	0"	3/16"	7/16"	5/16"	0"
	FINAL DECK ELEVATION	1049.29	1049.47	1049.63	1049.77	1049.90	1050.01	1050.02	1050.11	1050.18	1050.22	1050.22	1050.24	1050.24	1050.24	1050.22	1050.17	1050.10	1050.09	1050.00	1049.89	1049.77	1049.62	1049.46

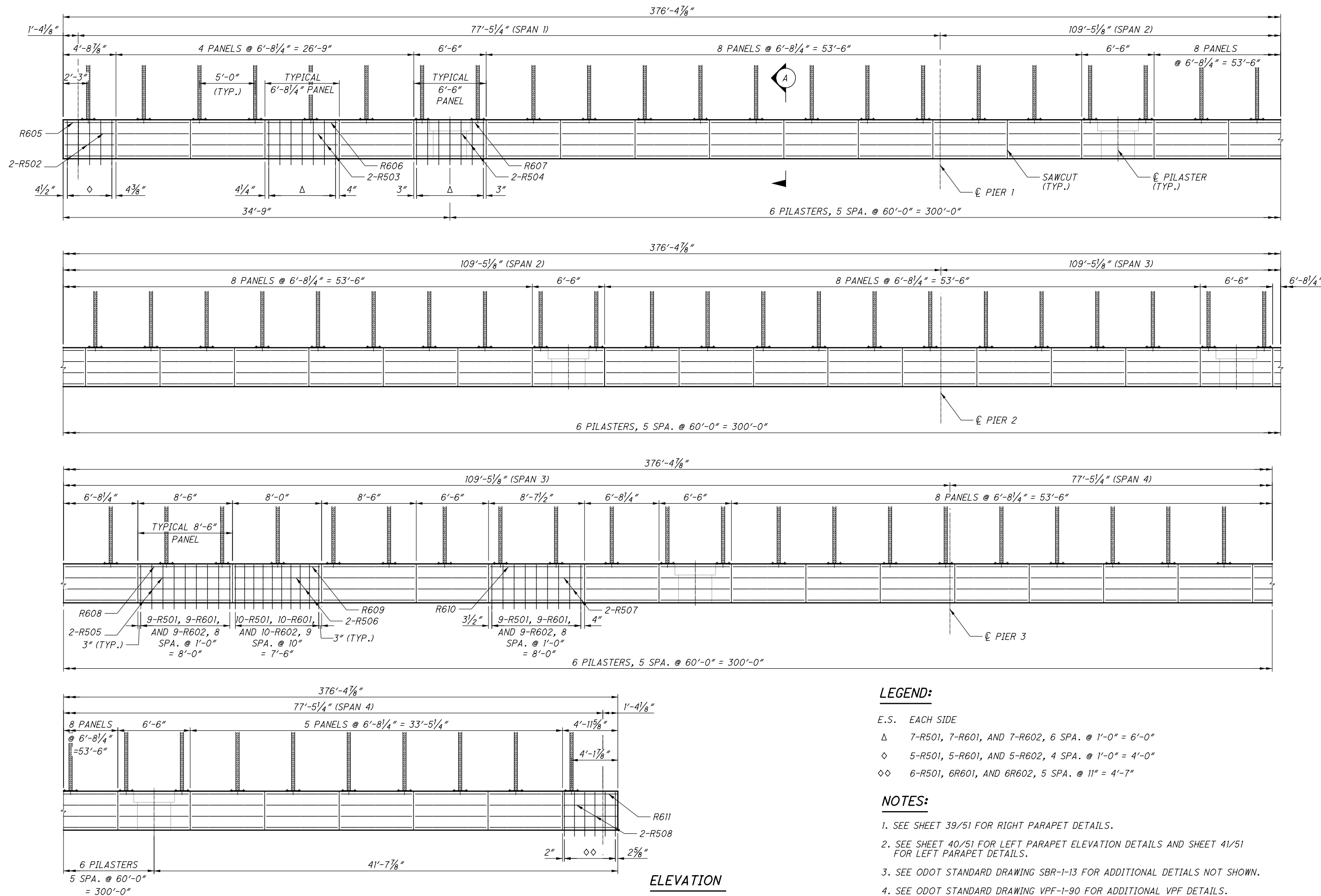
**LEGEND:**  
# DENOTES BEAM NUMBER

**NOTES:**  
1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.  
2. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

DESIGN AGENCY: EASTON OVAL SUITE 600 COLUMBUS, OH 43219 T 614-76-8000 F 614-76-8225  
**WOOLPERT**  
 DESIGN/CONSTRUCTION MANAGEMENT  
 DATE: 04/2017  
 REVIEWED: MAA  
 DRAWN: PES  
 DESIGNED: PES  
 CHECKED: TML  
 STRUCTURE FILE NUMBER: 5704804  
**SCREEN AND FINAL DECK ELEVATIONS**  
 BRIDGE NO. MOT-70-0334  
 ARLINGTON ROAD OVER IIR-70  
**MOT-70-3.34**  
 PID No. 99623  
 36 / 51  
 121 / 136



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**ELEVATION**  
(VIEW FACING EAST)

**LEGEND:**

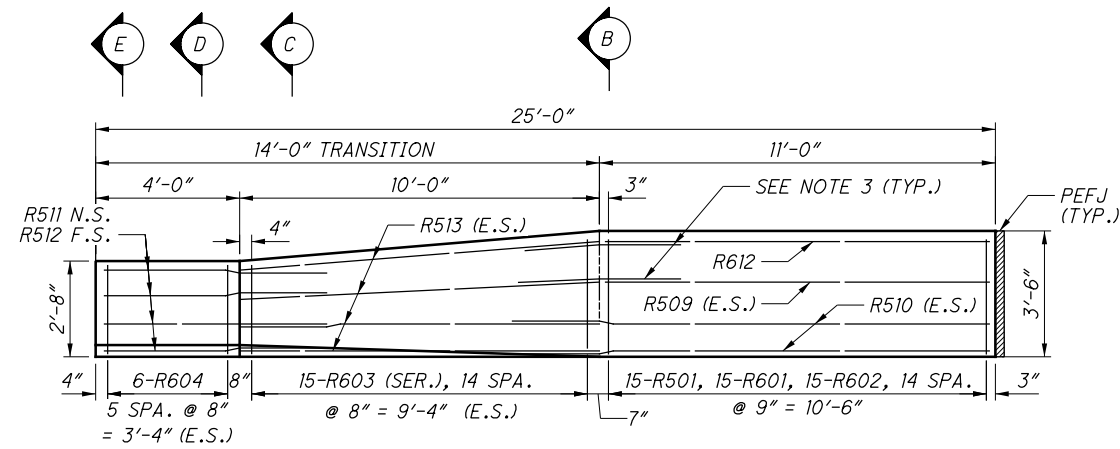
- E.S. EACH SIDE
- △ 7-R501, 7-R601, AND 7-R602, 6 SPA. @ 1'-0" = 6'-0"
- ◇ 5-R501, 5-R601, AND 5-R602, 4 SPA. @ 1'-0" = 4'-0"
- ◇◇ 6-R501, 6R601, AND 6R602, 5 SPA. @ 11" = 4'-7"

**NOTES:**

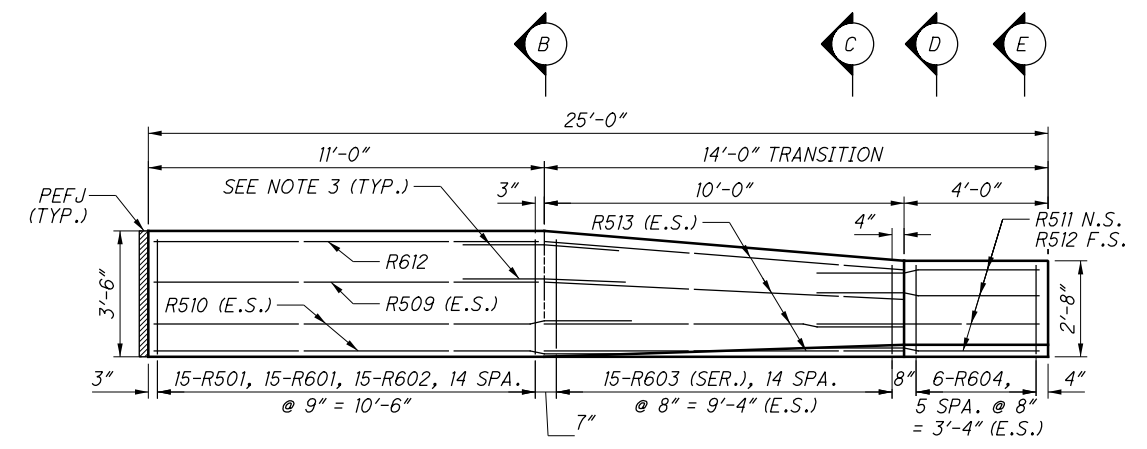
1. SEE SHEET 39/51 FOR RIGHT PARAPET DETAILS.
2. SEE SHEET 40/51 FOR LEFT PARAPET ELEVATION DETAILS AND SHEET 41/51 FOR LEFT PARAPET DETAILS.
3. SEE ODOT STANDARD DRAWING SBR-1-13 FOR ADDITIONAL DETAILS NOT SHOWN.
4. SEE ODOT STANDARD DRAWING VPF-1-90 FOR ADDITIONAL VPF DETAILS.
5. ASSUME A 3" CLEAR COVER UNLESS OTHERWISE NOTED.

<p><b>WOOLPERT</b> DESIGN ENGINEERING</p>	DESIGN AGENCY EASTON OVAL SUITE 900 COLUMBUS, OH 43219 T 614-776-8000 F 614-776-8225
DATE 04/2017	REVIEWED MAA STRUCTURE FILE NUMBER 5704804
DRAWN JMM	REVISIONS JMM TML
<b>RIGHT PARAPET ELEVATION</b> BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IIR-70	
<b>MOT-70-3.34</b> PID No. 99623	
38 / 51	
123 136	

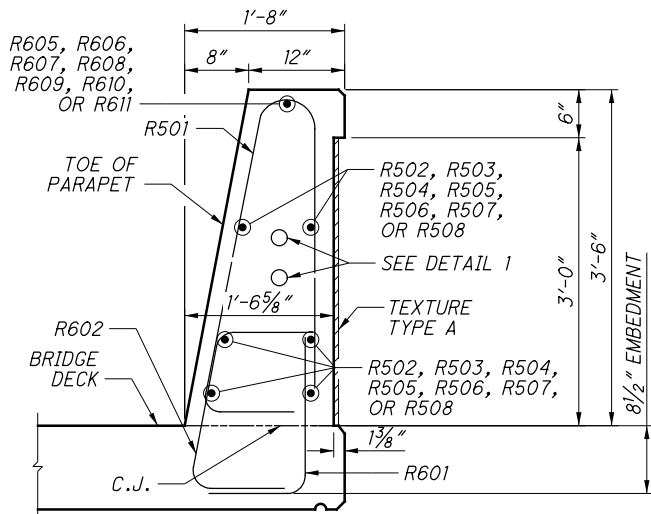
G:\DE\clients\ODOT\075863\_MOT\_70\_0334\_99623\_MOT\_70\_0334\Design\Structures\MOT70\_0334C\_Sheets\070\_0334C\_SA002.dgn 11/3/2017 10:11:35 AM halin



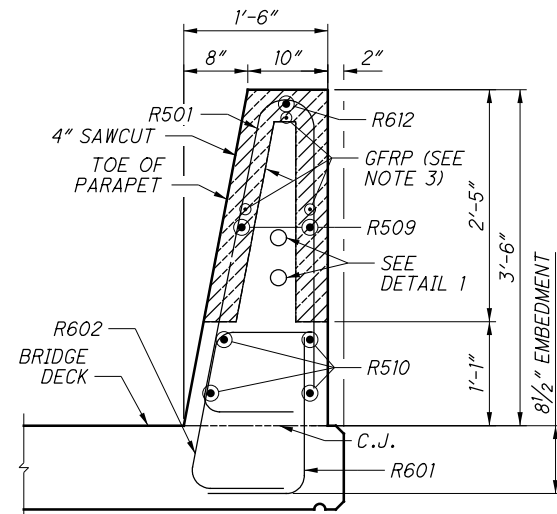
REAR TRANSITION DETAIL



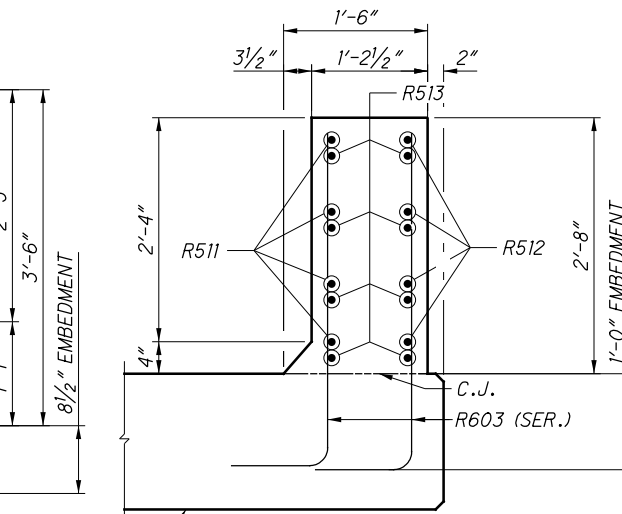
FORWARD TRANSITION DETAIL



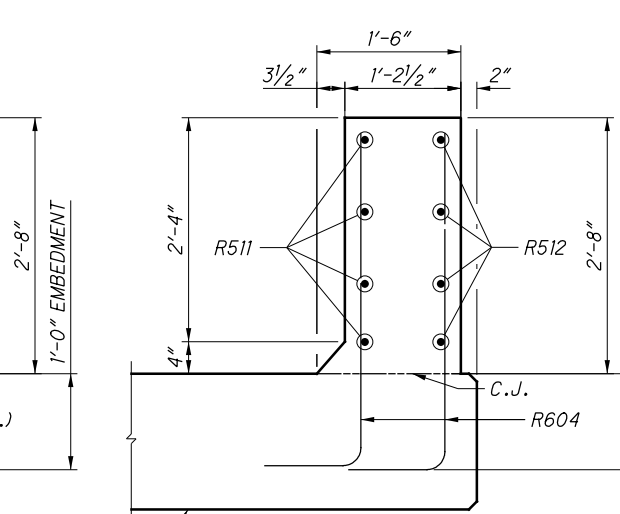
SECTION A



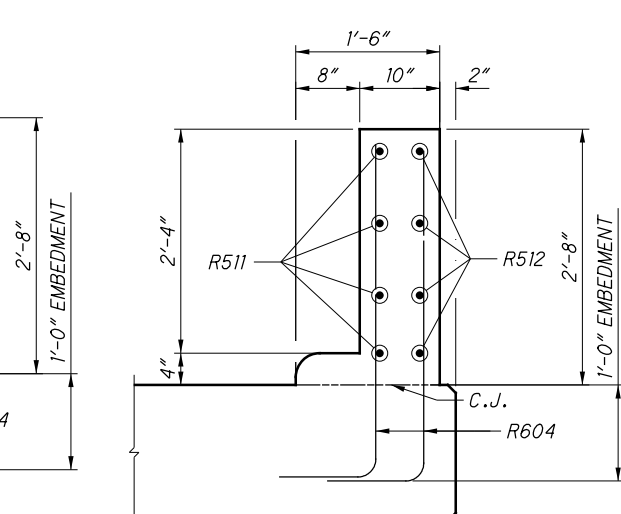
SECTION B



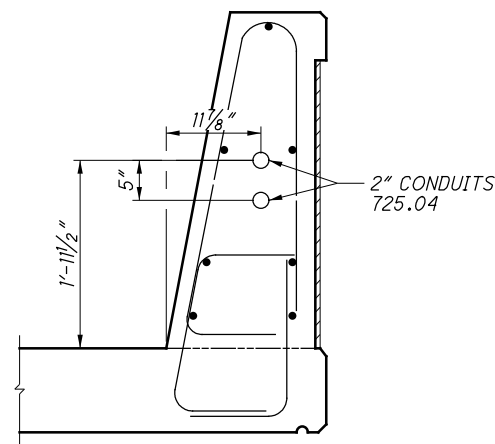
SECTION C



SECTION D



SECTION E



DETAIL 1

**LEGEND:**

E.S. = EACH SIDE  
F.S. = FAR SIDE  
N.S. = NEAR SIDE

**NOTES:**

- SEE SHEET 38/51 FOR RIGHT PARAPET ELEVATION DETAILS.
- SEE SHEET 40/51 FOR LEFT PARAPET ELEVATION DETAILS AND SHEET 41/51 FOR LEFT PARAPET SECTION DETAILS.
- SEE ODOT STANDARD DRAWING SBR-1-13 FOR ADDITIONAL DETAILS NOT SHOWN.
- SEE ODOT STANDARD DRAWING VPF-1-90 FOR ADDITIONAL VPF DETAILS.
- GLASS REINFORCED POLYMER (GFRP), 4'-6" LONG (TYP.). PAYMENT FOR 1/2" GFRP STIFFENING REINFORCEMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 511 - BRIDGE DECK (PARAPET).

**RIGHT PARAPET DETAILS**

BRIDGE NO. MOT-70-0334  
ARLINGTON ROAD OVER IR-70

MOT-70-3.34  
PID No. 99623

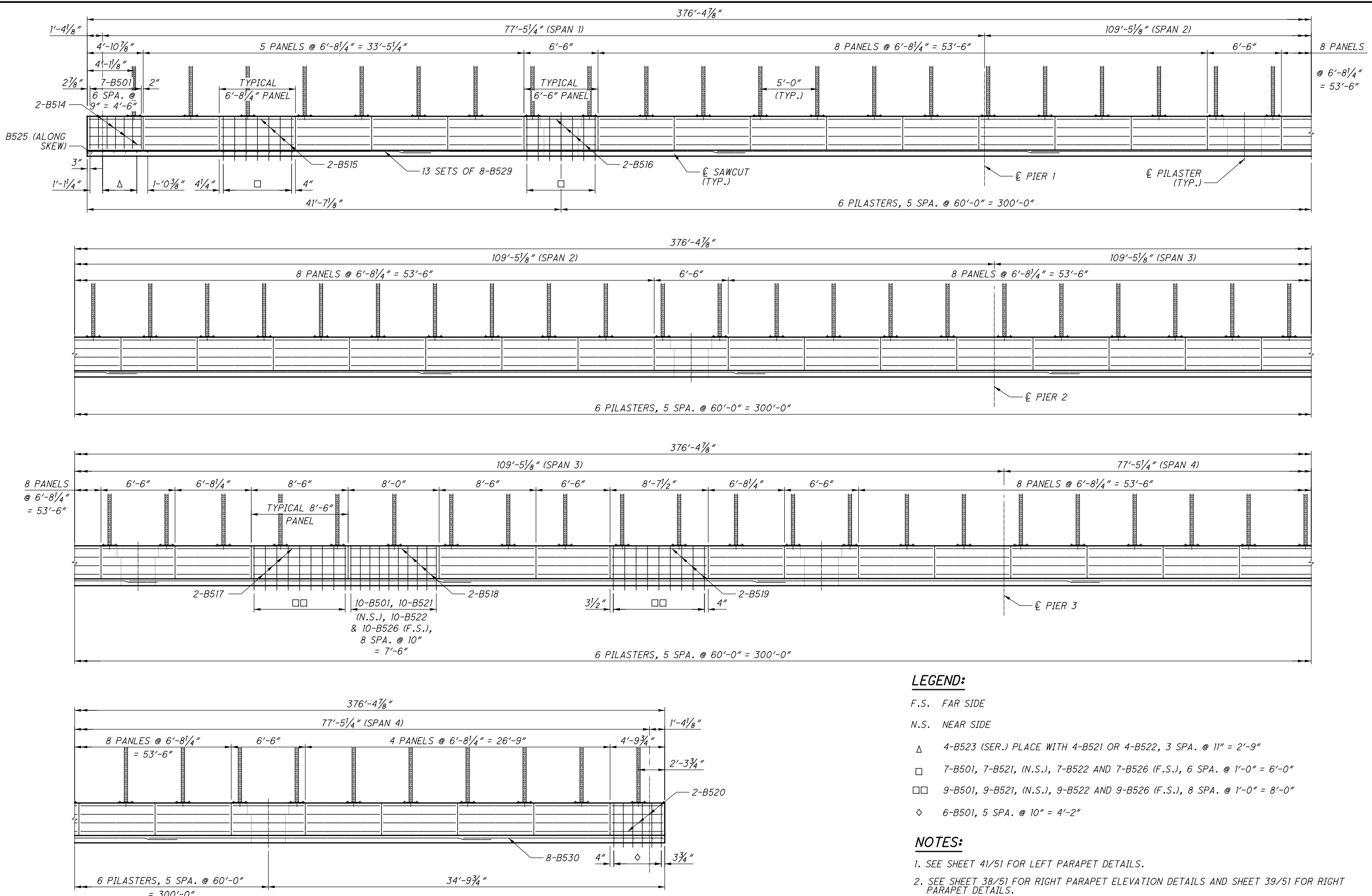
39/51

124  
136

DESIGN AGENCY: EASTON OVAL  
SUITE 900  
COLUMBUS, OH 43219  
TEL: 614-476-8000  
F: 614-476-8225  
**WOOLPERT**  
CONSULTING ENGINEERS

DESIGNED	JMM	CHECKED	TML
DRAWN	JMM	REVISED	
REVIEWED	RKM	DATE	04/2017
STRUCTURE FILE NUMBER	5704804		

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**ELEVATION**  
(VIEW FACING WEST)

**LEGEND:**

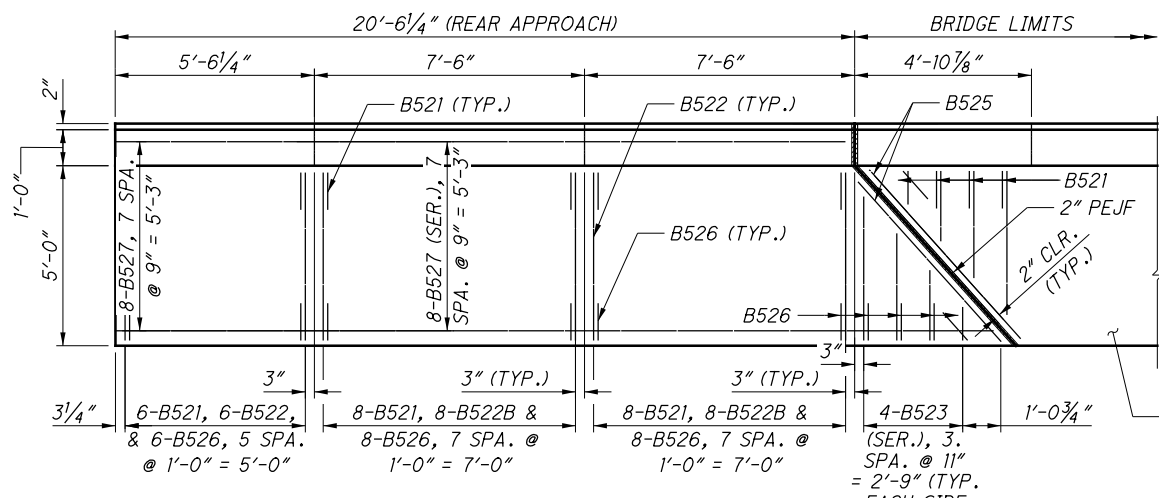
- F.S. FAR SIDE
- N.S. NEAR SIDE
- △ 4-B523 (SER.) PLACE WITH 4-B521 OR 4-B522, 3 SPA. @ 11" = 2'-9"
- 7-B501, 7-B521, (N.S.), 7-B522 AND 7-B526 (F.S.), 6 SPA. @ 1'-0" = 6'-0"
- 9-B501, 9-B521, (N.S.), 9-B522 AND 9-B526 (F.S.), 8 SPA. @ 1'-0" = 8'-0"
- ◇ 6-B501, 5 SPA. @ 10" = 4'-2"

**NOTES:**

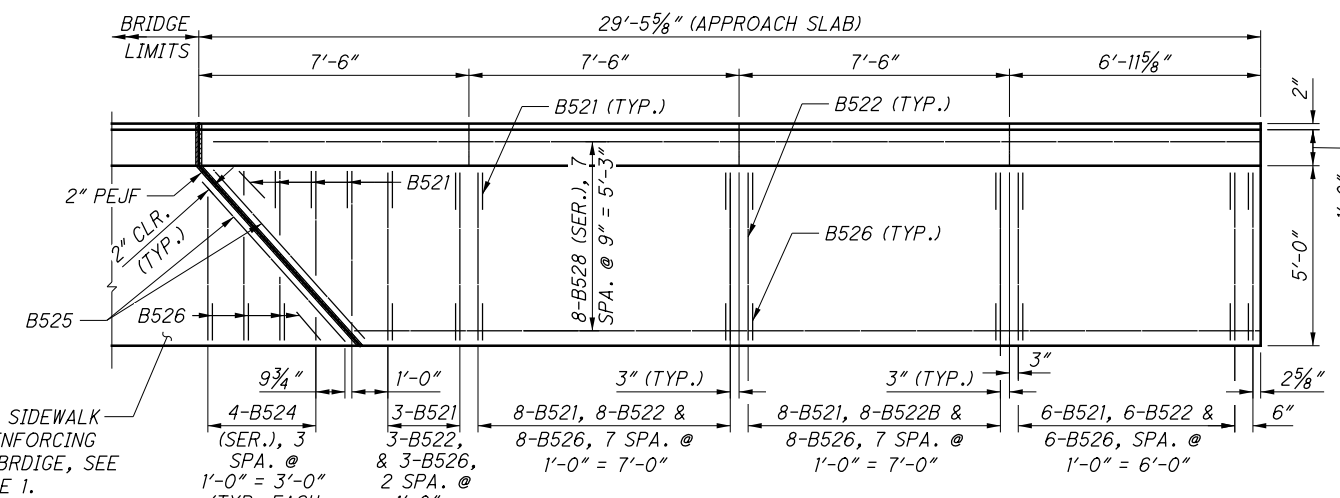
1. SEE SHEET 41/51 FOR LEFT PARAPET DETAILS.
2. SEE SHEET 38/51 FOR RIGHT PARAPET ELEVATION DETAILS AND SHEET 39/51 FOR RIGHT PARAPET DETAILS.
3. SEE ODOT STANDARD DRAWING BR-2-15 FOR ADDITIONAL DETAILS NOT SHOWN.
4. SEE ODOT STANDARD DRAWING VPF-1-90 FOR ADDITIONAL VPF DETAILS.
5. ASSUME A 3" CLEAR COVER UNLESS OTHERWISE NOTED.

<p><b>DESIGN AGENCY</b> EASTON OVAL SUITE 900 COLUMBUS, OH 43219 T 614-776-8000 F 614-776-8225</p> <p><b>WOOLPERT</b> CONSULTING ENGINEERS</p>	<p><b>DATE</b> 04/2017</p> <p><b>REVIEWED</b> MAA</p> <p><b>DESIGNED</b> JMM</p> <p><b>DRAWN</b> JMM</p>	<p><b>STRUCTURE FILE NUMBER</b> 5704804</p> <p><b>REVISION</b></p>	<p><b>LEFT PARAPET ELEVATION</b></p> <p>BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER I-70</p> <p><b>MOT-70-3.34</b></p> <p><b>PID No. 99623</b></p>
<p>40 / 51</p>			<p>125 136</p>

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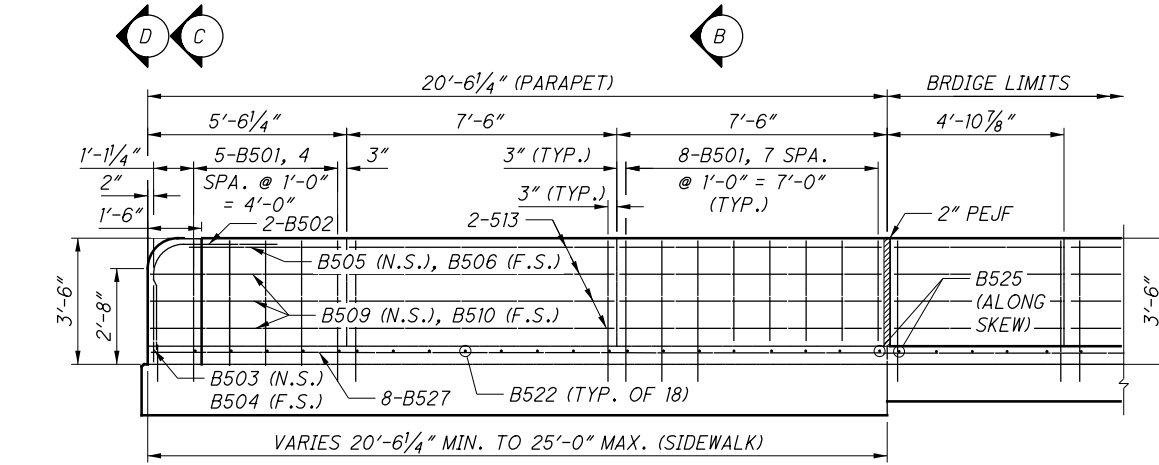
**REAR PLAN DETAIL**  
(BARRIER REINFORCING NOT SHOWN)



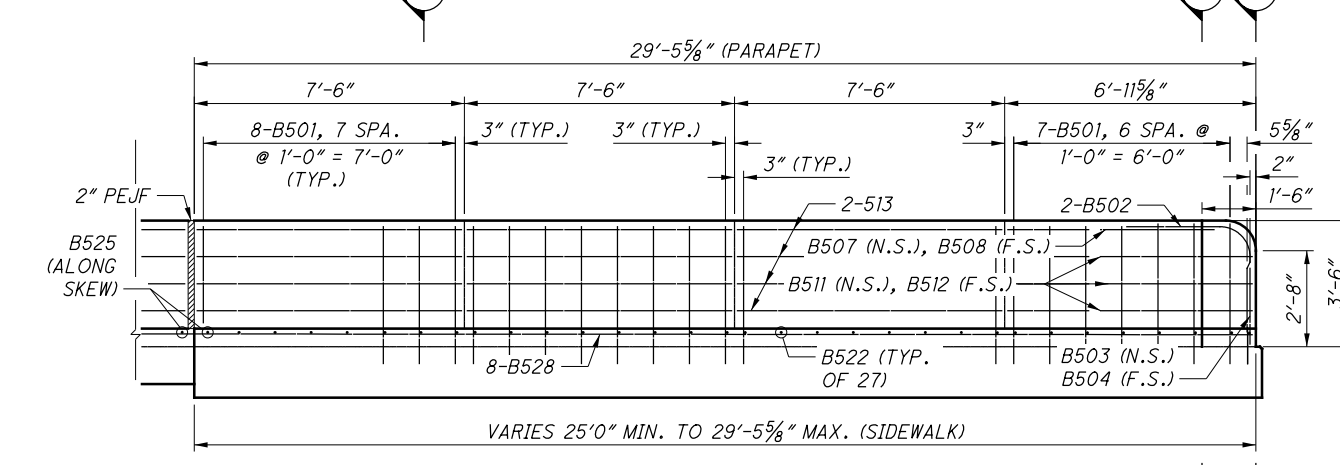
**FORWARD PLAN DETAIL**  
(BARRIER REINFORCING NOT SHOWN)

**LEGEND:**  
F.S. FAR SIDE  
N.S. NEAR SIDE

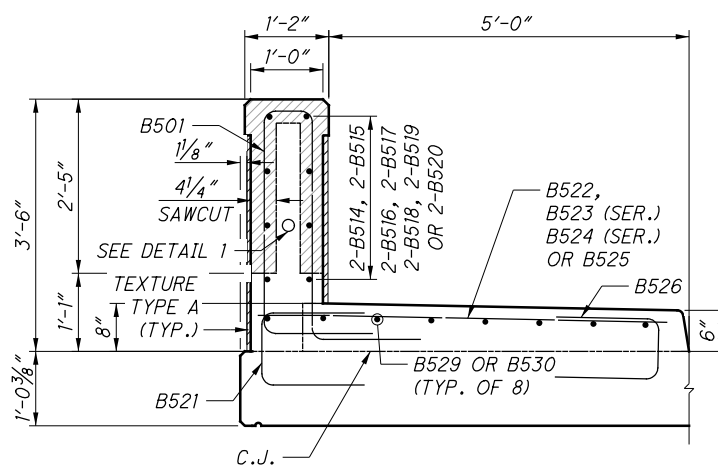
- NOTES:**
- SEE SHEET 40/51 FOR LEFT PARAPET ELEVATION DETAILS.
  - SEE SHEET 38/51 FOR RIGHT PARAPET ELEVATION AND SHEET 39/51 FOR RIGHT PARAPET SECTION DETAILS.
  - SEE ODOT STANDARD DRAWING BR-2-15 FOR MORE DETAILS.



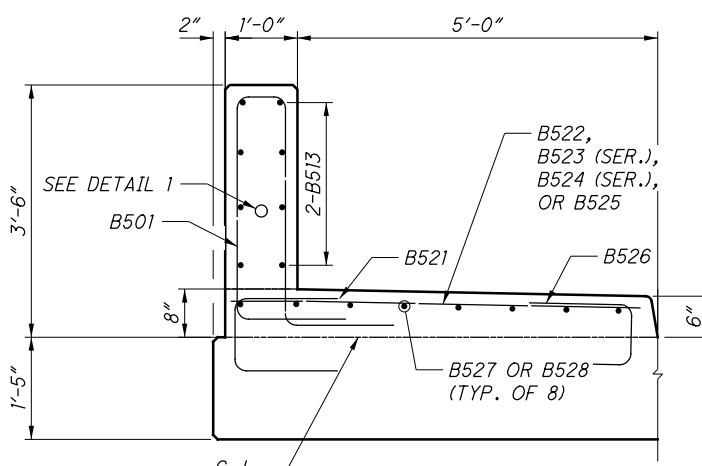
**REAR TRANSITION DETAIL**



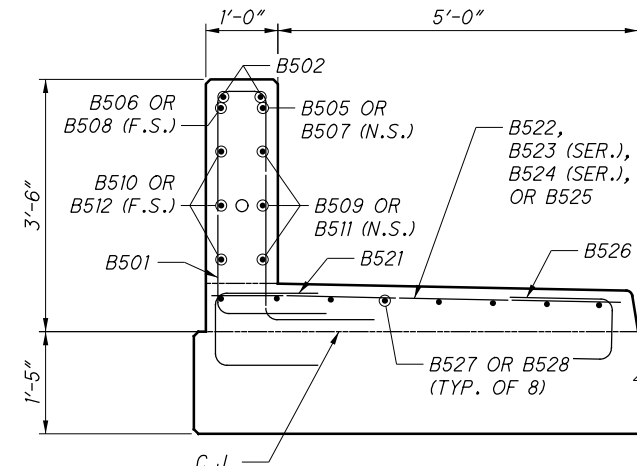
**FORWARD TRANSITION DETAIL**



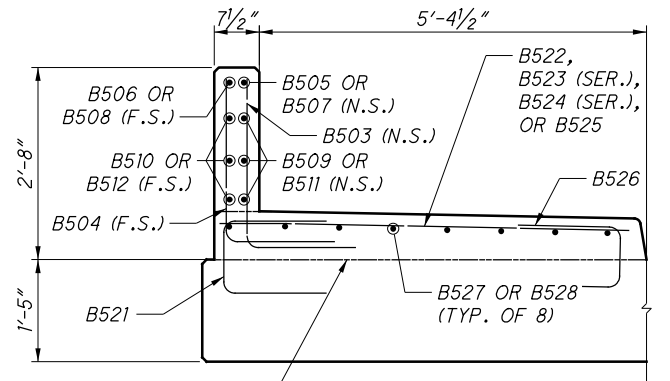
**SECTION A**



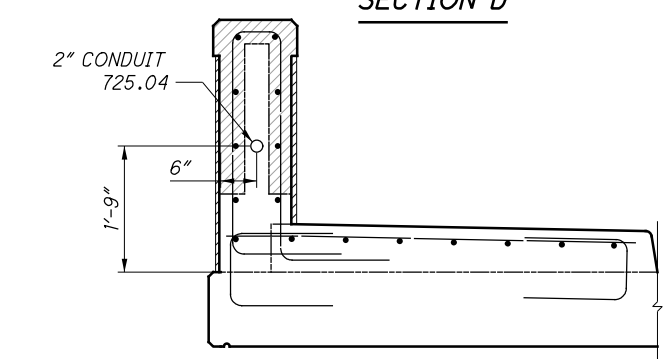
**SECTION B**



**SECTION C**



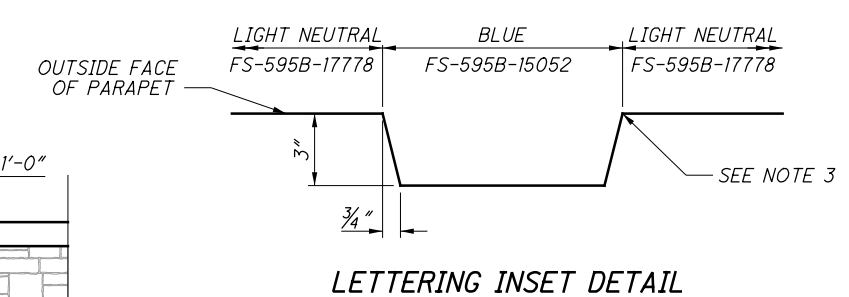
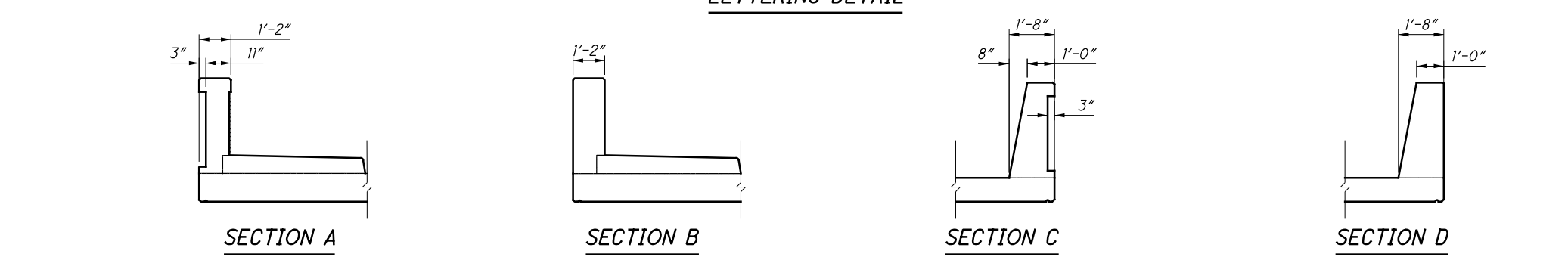
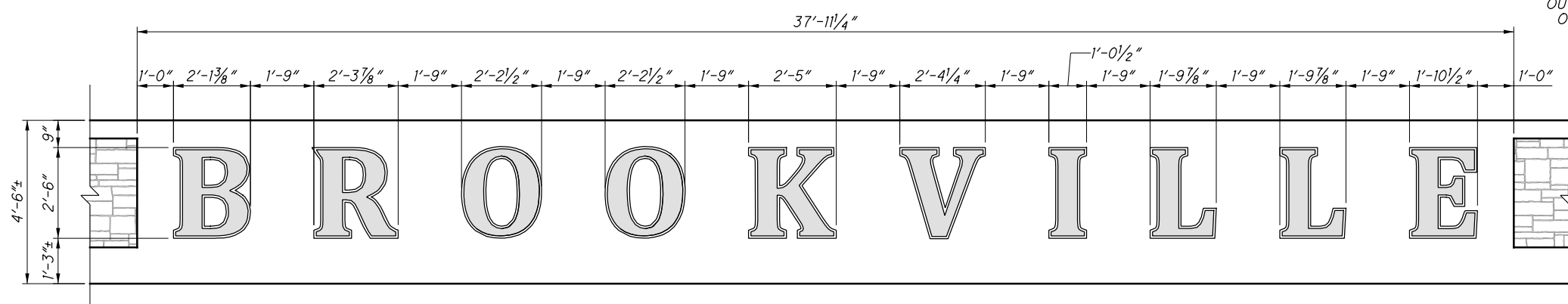
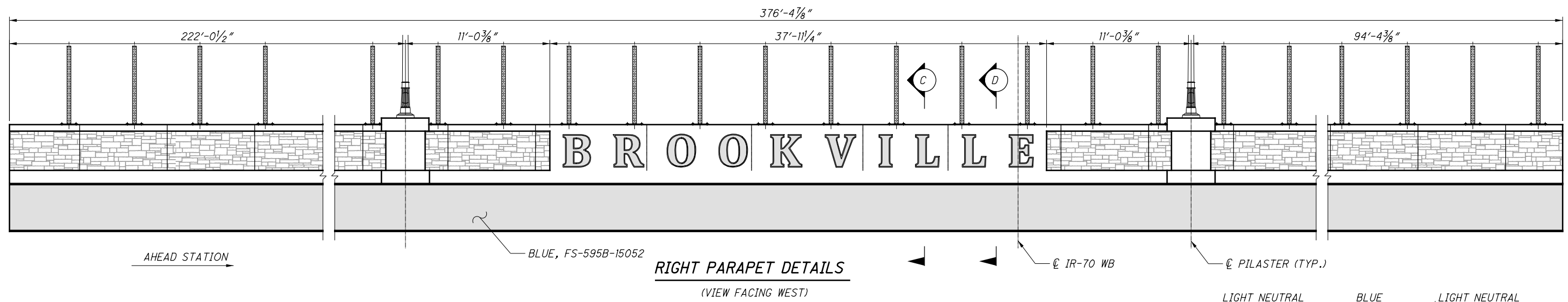
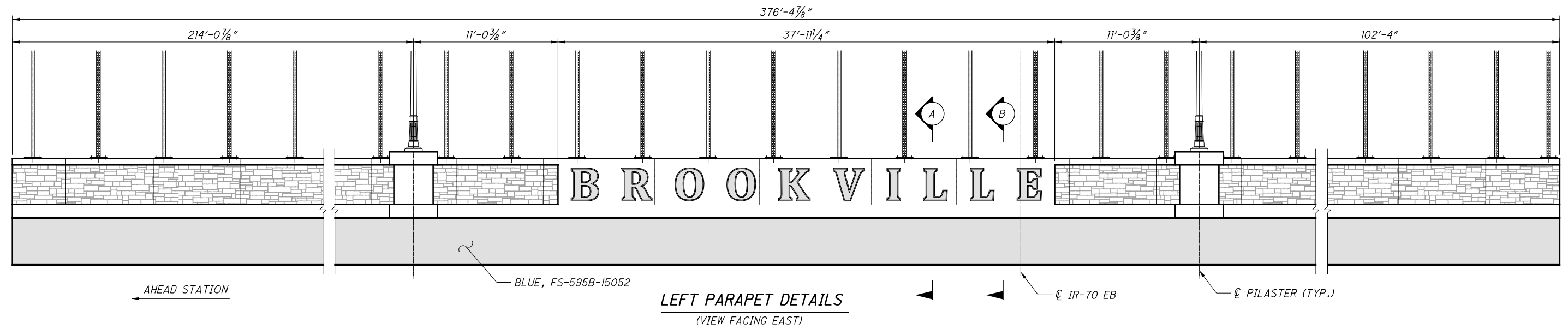
**SECTION D**



**DETAIL 1**  
(SECTION A SHOWN, SECTION B SIMILAR)

DESIGN AGENCY EASTON OVAL SUITE 400 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-8225	DATE 04/2017	REVIEWED RKM	DRAWN JMM	DESIGNED JMM	CHECKED TML	STRUCTURE FILE NUMBER 5704804	REVISIONS	BRIDGE NO. MOT-70-3.34 ARLINGTON ROAD OVER I-70	LEFT PARAPET DETAILS
MOT-70-3.34 PID No. 99623								41/51	
								126 136	

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**LEGEND**



**NOTES:**

1. SEE SHEET 41/51 FOR LEFT PARAPET DETAILS.
2. SEE SHEET 39/51 FOR RIGHT PARAPET DETAILS.
3. LETTER DIMENSIONS ARE PROVIDED TO THE OUTER EDGE OF THE INSET.
4. LETTERING FONT SHALL BE CAMBRIA BOLD.
5. PAYMENT FOR PARAPET BRIDGE LETTERING, INCLUDING ALL LABOR, EQUIPMENT, CONSTRUCTION AND PLACEMENT OF FORMS, AND MATERIALS REQUIRED TO PRODUCE THE FINAL PRODUCT SHALL BE PAID FOR AS LUMP SUM UNDER ITEM 511: CONCRETE, MISC.: BRIDGE LETTERING. SEE GENERAL NOTES SHEET 3/51 FOR ADDITIONAL DETAILS AND REQUIREMENTS.

DESIGN AGENCY: EASTON OVAL SUITE 600 COLUMBUS, OH 43219 T 614-476-8000 F 614-476-8225

**WOOLPERT**  
CONSULTING ENGINEERS

DATE: 04/2017  
REVIEWED: MAA  
DRAWN: JMM  
DESIGNED: JMM  
CHECKED: TML

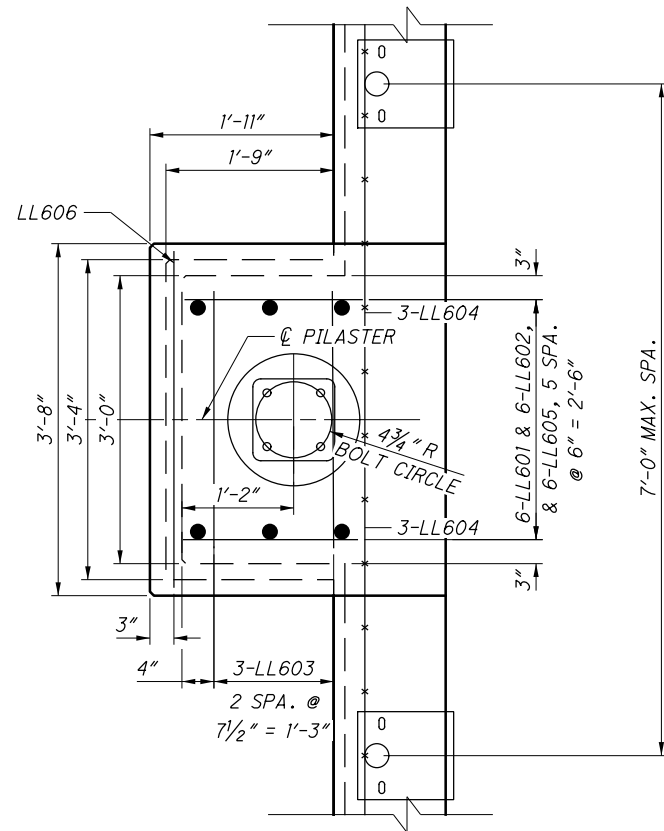
STRUCTURE FILE NUMBER: 5704804

**PARAPET AESTHETIC DETAILS**  
BRIDGE NO. MOT-70-0334  
ARLINGTON ROAD OVER IR-70

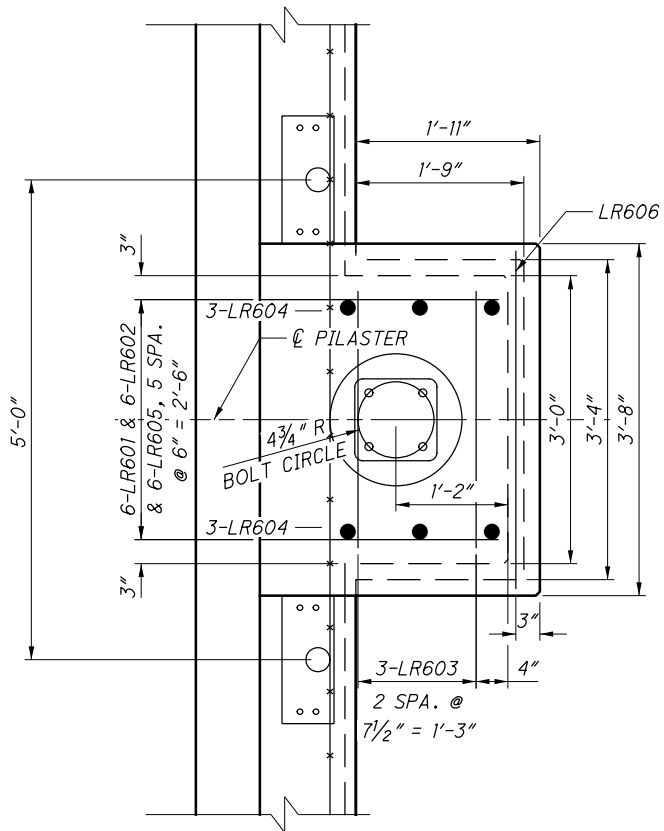
MOT-70-3.34  
PID No. 99623

42 / 51

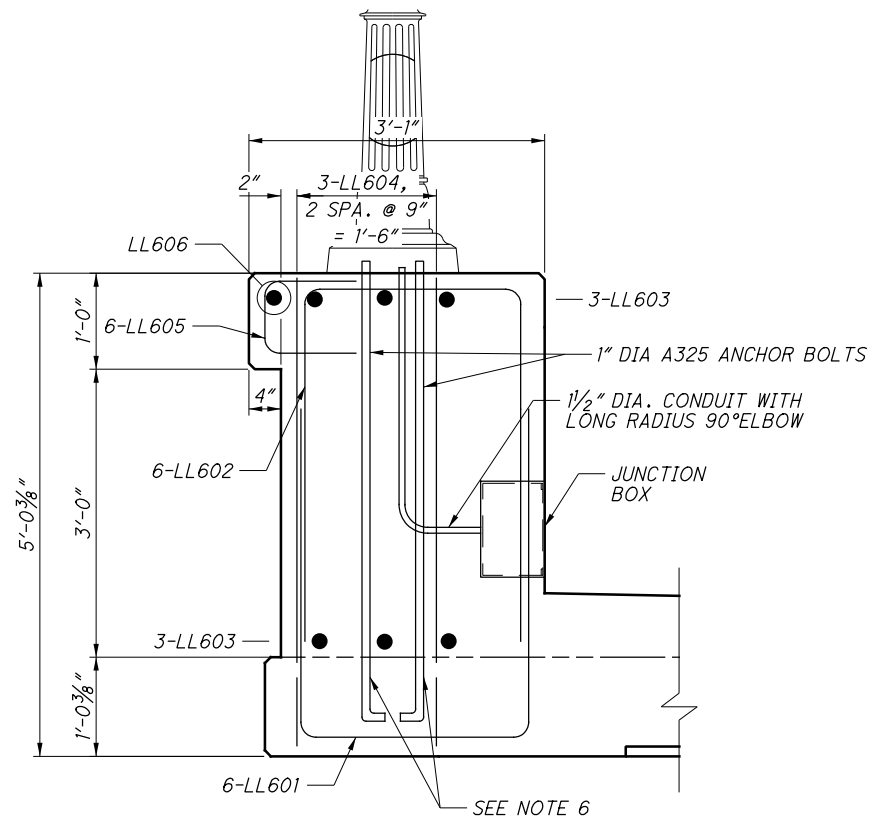
127  
136



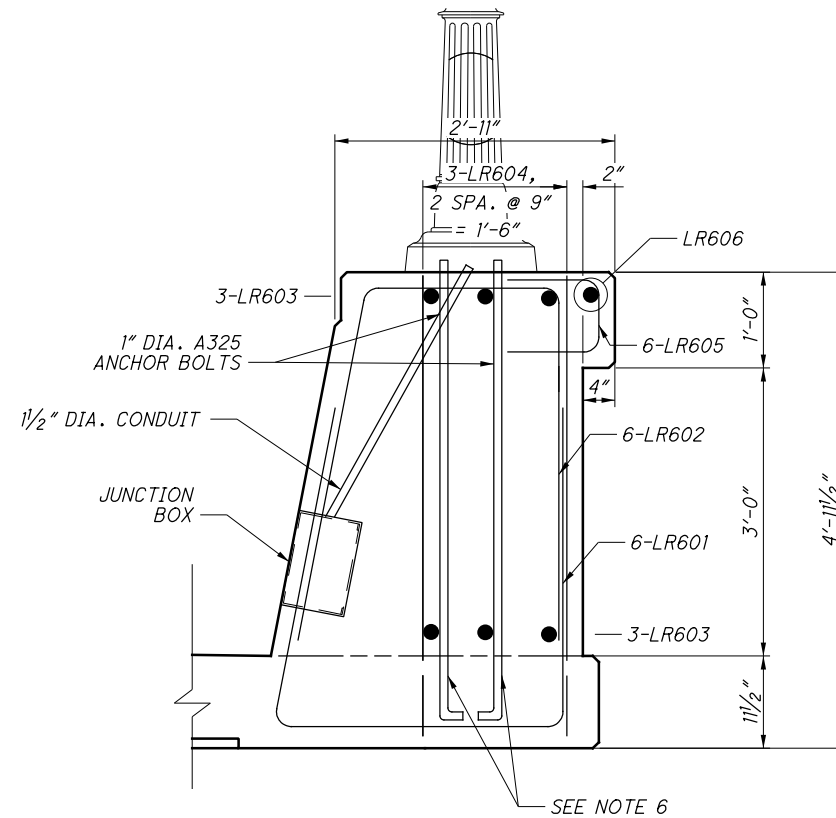
**PILASTER - LEFT**  
(SYMMETRIC ABOUT  $\phi$  PILASTER)



**PILASTER - RIGHT**  
(SYMMETRIC ABOUT  $\phi$  PILASTER)



**PILASTER SECTION - LEFT**



**PILASTER SECTION - RIGHT**

**NOTES:**

1. SEE SHEET 38/51 FOR LEFT PARAPET DETAILS AND SHEET 39/51 FOR RIGHT PARAPET DETAILS.
2. SEE SHEETS 79 THRU 85 FOR LIGHTING PLANS.
3. SEE SCD HL-20.14 FOR ADDITIONAL JUNCTION BOX AND CONDUIT DETAILS.
4. SEE SCD HL-10.13 FOR POLE ANCHOR DETAILS. ANCHOR NUMBER SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
5. SEE SHEET 34/51 FOR PILASTER LOCATIONS.
6. MECHANICAL COUPLERS OR CAST IN ANCHORS COUPLED TO VERTICAL BARS ABOVE THE DECK CONSTRUCTION JOINT ARE PERMITTED, PROVIDED THEY CAN BE SHOWN TO DEVELOP 125% OF THE REBAR OR ANCHOR TENSILE CAPACITY.



SUBSTRUCTURE UNIT	BEAM	BEARING TYPE	BEARING DIMENSIONS								LOAD PLATE				BEARING/BACKER PLATE			STAINLESS STEEL SHEET		PTFE SHEET		SERVICE REACTIONS (KIP)				DESIGN ROTATION (RAD)
			L	W	T <sub>e</sub>	T <sub>i</sub>	N <sub>e</sub>	N <sub>i</sub>	T	H	L <sub>p</sub>	W <sub>p</sub>	T <sub>p</sub>	BEVEL	L <sub>b</sub>	W <sub>b</sub>	T <sub>b</sub>	L <sub>ss</sub>	W <sub>ss</sub>	L <sub>s</sub>	W <sub>s</sub>	DL	LL <sub>max</sub>	LL <sub>min</sub>	TOTAL	
REAR ABUTMENT	INTERIOR	EXP.	1'-4"	1'-0"	1/4"	3/8"	1	7	3 3/8"	5 9/16"	1'-2"	1'-5"	1 1/4"	1.25%	1'-6"	1'-2"	1 1/4"	1'-5"	1'-1"	1'-4"	1'-0"	91.5	79.0	-3.4	170.5	0.008232
FORWARD ABUTMENT	EXTERIOR	EXP.	1'-4"	1'-0"	1/4"	3/8"	1	7	3 3/8"	5 9/16"	1'-2"	1'-5"	1 1/4"	1.25%	1'-6"	1'-2"	1 1/4"	1'-5"	1'-1"	1'-4"	1'-0"	74.8	81.9	-8.4	156.7	0.009279
REAR ABUTMENT	INTERIOR	EXP.	1'-4"	1'-0"	1/4"	3/8"	1	7	3 3/8"	5 9/16"	1'-2"	1'-5"	1 1/4"	-0.75%	1'-6"	1'-2"	1 1/4"	1'-5"	1'-1"	1'-4"	1'-0"	103.8	92.0	-37.4	195.8	0.006932
FORWARD ABUTMENT	EXTERIOR	EXP.	1'-4"	1'-0"	1/4"	3/8"	1	7	3 3/8"	5 9/16"	1'-2"	1'-5"	1 1/4"	-0.75%	1'-6"	1'-2"	1 1/4"	1'-5"	1'-1"	1'-4"	1'-0"	118.3	82.2	-8.1	200.5	0.007979

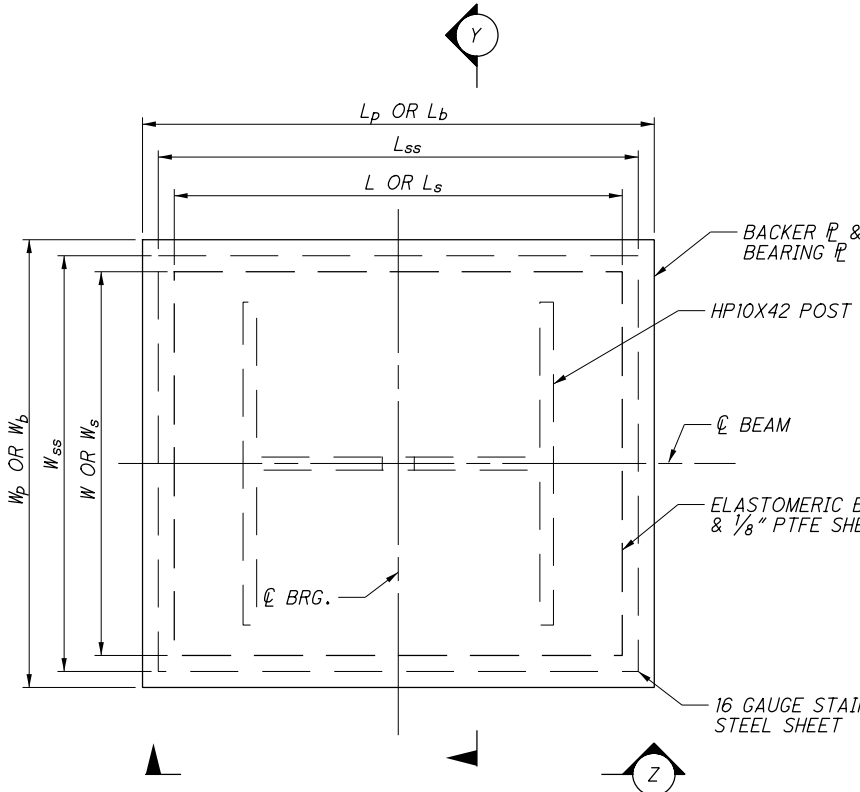
DESIGN AGENCY: EASTON OVAL  
 SUITE 600  
 COLUMBUS, OH 43219  
 T 614-776-6000  
 F 614-776-6225  
**WOOLPERT**  
 CIVIL ENGINEERING

DATE: 04/2017  
 REVIEWED: MAA  
 DRAWN: PES  
 CHECKED: TML

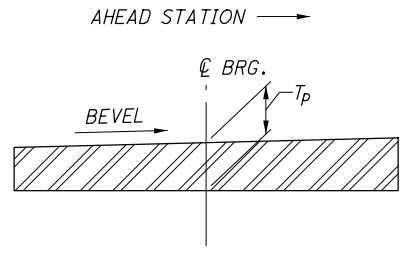
STRUCTURE FILE NUMBER: 5704804

ABUTMENT BEARING DETAILS  
 BRIDGE NO. MOT-70-0334  
 ARLINGTON ROAD OVER IR-70

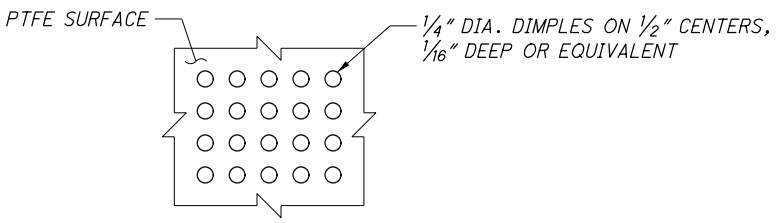
MOT-70-3.34  
 PID No. 99623



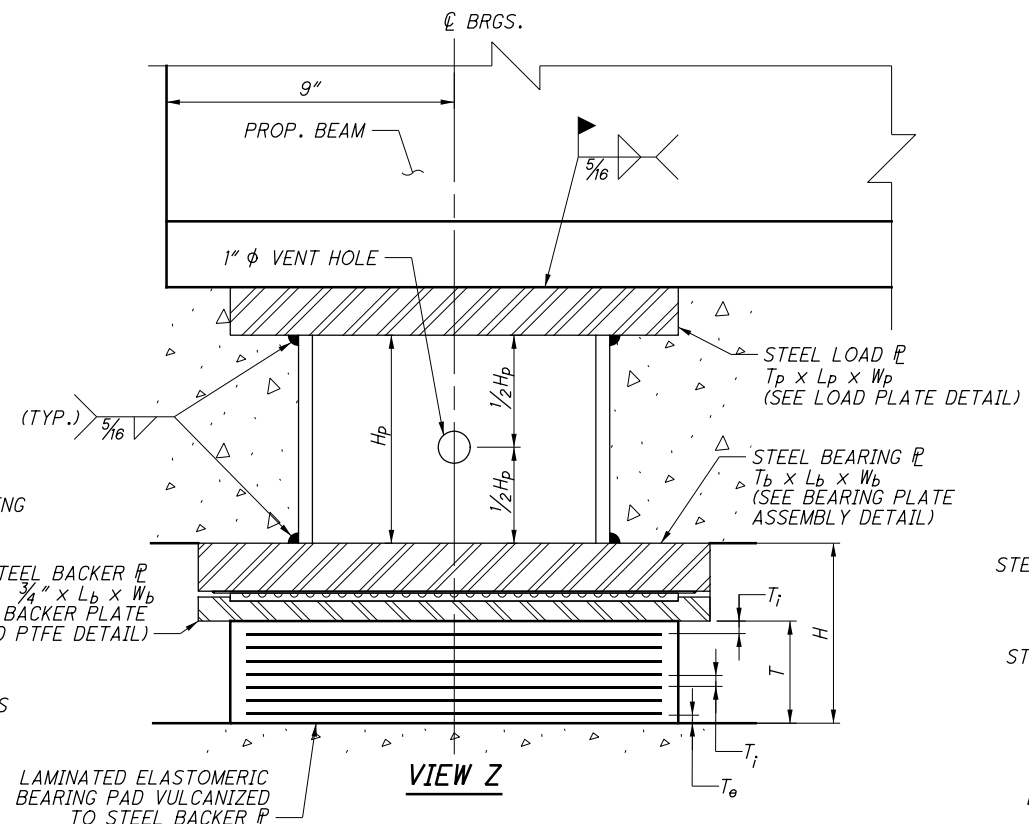
**BEARING PLAN**  
 (ALL PLATES CENTERED ABOUT INTERSECTION OF  $\phi$  BRG. &  $\phi$  BEAM)



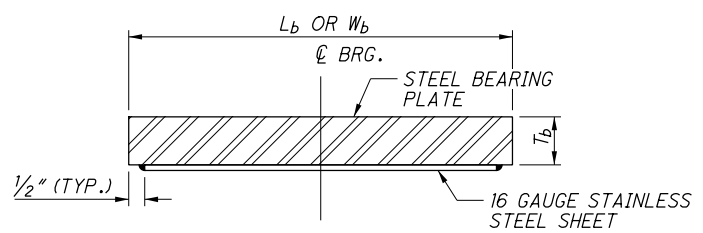
**LOAD PLATE DETAIL**



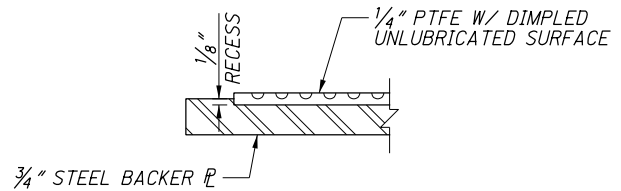
**PTFE SURFACE DETAIL**



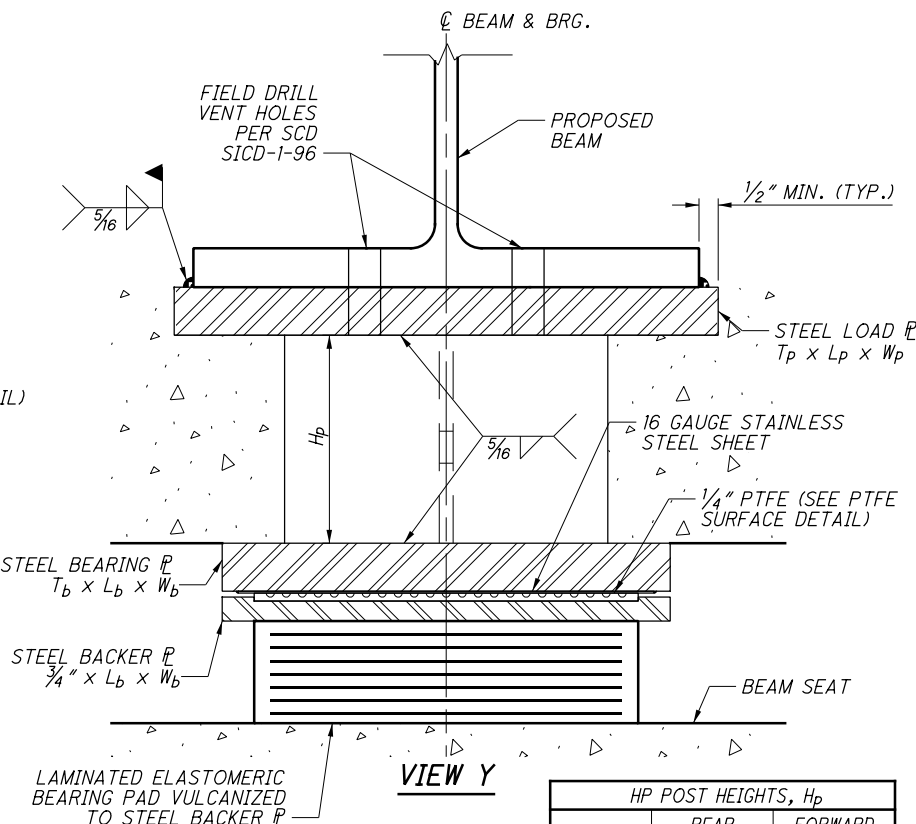
**VIEW Z**



**BEARING PLATE ASSEMBLY**



**BACKER PLATE AND PTFE DETAIL**



**VIEW Y**

BEAM	REAR ABUTMENT	FORWARD ABUTMENT
1	6"	8 1/4"
2	8 1/2"	9 1/4"
3	11"	10"
4	1'-1 1/2"	11"
5	1'-1 1/2"	9 3/4"
6	1'-1"	7 1/2"
7	11 1/2"	6"

**LEGEND:**

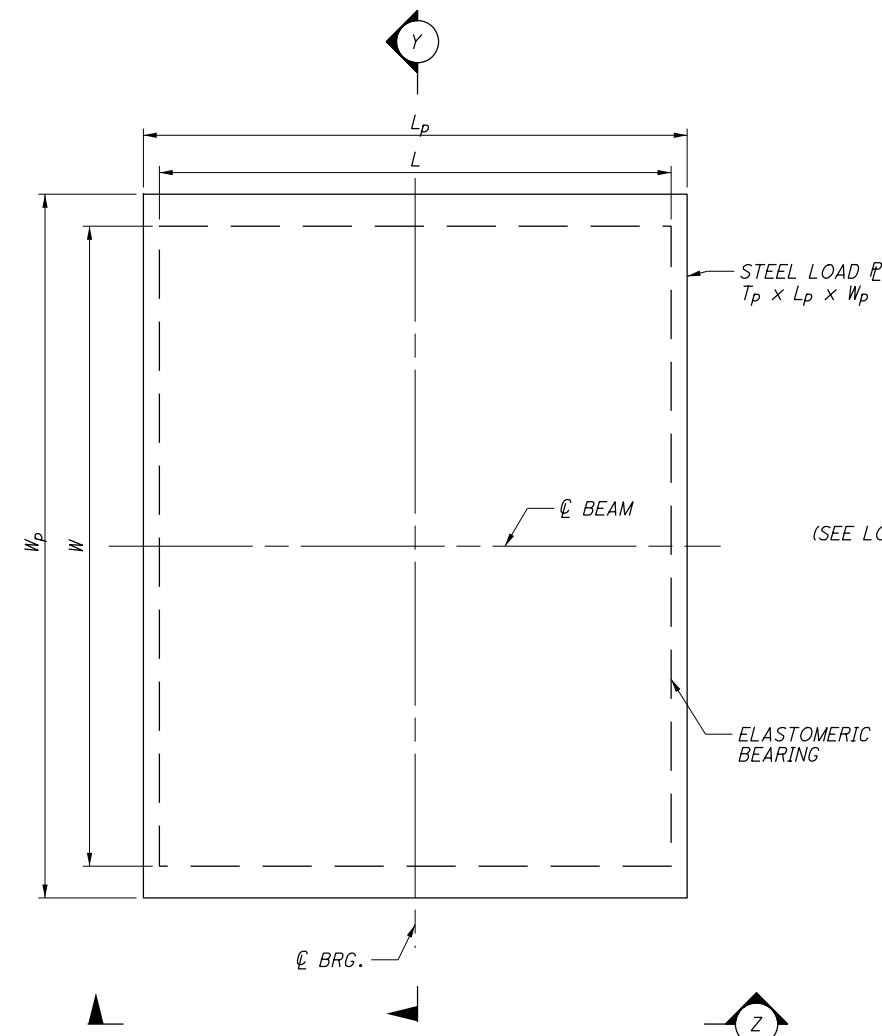
- T<sub>e</sub> = EXTERIOR LAYER THICKNESS
- N<sub>e</sub> = NUMBER OF EXTERIOR LAYERS
- T<sub>i</sub> = INTERIOR LAYER THICKNESS
- N<sub>i</sub> = NUMBER OF INTERIOR LAYERS
- DL = DEAD LOAD
- LL = LIVE LOAD

**NOTES:**

- THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
- STEEL PLATES SHALL BE ASTM A709 GRADE 50 STRUCTURAL STEEL AND SHALL BE CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE PERFORMED IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE FOR ITEM 514. THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
- THE BEARINGS, STEEL PLATES, POSTS, AND MISCELLANEOUS COMPONENTS SHALL BE PAID FOR UNDER ITEM 516: ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE, AS PER PLAN. THE PTFE SURFACE AND STAINLESS STEEL SHEET SHALL BE PAID FOR UNDER ITEM 516: BEARING, PTFE (TEFLON), AS PER PLAN.
- THE PTFE SHEET SHALL BE BONDED DIRECTLY TO THE BACKER PLATE WITH A TWO COMPONENT, MEDIUM VISCOSITY EPOXY RESIN CONFORMING TO FEDERAL SPECIFICATION MMM-A-134, TYPE I. THE BOND AGENT SHALL BE APPLIED TO THE FULL AREA OF THE CONTACT SURFACES.
- BONDING OF THE PTFE SHEET DURING THE VULCANIZATION PROCESS WILL BE PERMITTED PROVIDED THE PROCESS AND METHOD OF ADJUSTING THE ASSEMBLY HEIGHT IS APPROVED BY THE ENGINEER.
- INTERNAL STEEL LAMINATE THICKNESS = 0.074 INCHES (14 GAUGE).
- SECURELY CLAMP THE TOP AND BOTTOM ASSEMBLIES (BEARING PLATE TO BACKER PLATE) TOGETHER PRIOR TO LIFTING AND PLACEMENT OF THE BEARINGS. THESE CLAMPS SHALL REMAIN IN PLACE UNTIL THE CONCRETE DIAPHRAGM HAS BEEN POURED. CARE SHALL BE TAKEN TO EVENLY CLAMP THE BEARING ASSEMBLIES. SUBMIT A CLAMPING AND PLACEMENT PROCEDURE PRIOR TO CONSTRUCTION FOR APPROVAL BY THE ENGINEER.

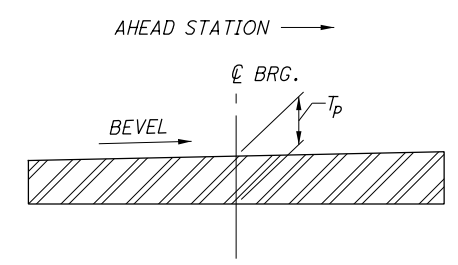
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BEARING DATA																			
SUBSTRUCTURE UNIT	BEAM	BEARING TYPE	BEARING DIMENSIONS							LOAD PLATE				SERVICE REACTIONS (KIP)				DESIGN ROTATION (RAD)	
			L	W	T <sub>e</sub>	T <sub>i</sub>	N <sub>e</sub>	N <sub>i</sub>	T	H	L <sub>p</sub>	W <sub>p</sub>	T <sub>p</sub>	BEVEL	DL	LL <sub>max</sub>	LL <sub>min</sub>		TOTAL
PIER 1	INTERIOR	EXP.	1'-4"	1'-8"	5/16"	1/2"	1	6	3 3/4"	5"	1'-5"	1'-10"	1 1/4"	0.75%	181.8	138.3	-4.6	320.1	0.005474
	EXTERIOR	EXP.	1'-4"	1'-8"	5/16"	1/2"	1	6	3 3/4"	5"	1'-5"	1'-10"	1 1/4"	0.75%	181.0	111.9	-23.0	292.9	0.005727
PIER 2	INTERIOR	EXP.	1'-6"	1'-6"	5/16"	1/2"	1	5	3 3/16"	4 7/16"	1'-7"	1'-8"	1 1/4"	0.25%	216.6	143.5	-4.9	360.1	0.005681
	EXTERIOR	EXP.	1'-6"	1'-6"	5/16"	1/2"	1	5	3 3/16"	4 7/16"	1'-7"	1'-8"	1 1/4"	0.25%	200.8	114.3	-35.3	315.1	0.005996
PIER 3	INTERIOR	EXP.	1'-4"	1'-8"	5/16"	1/2"	1	6	3 3/4"	5"	1'-5"	1'-10"	1 1/4"	-0.25%	178.6	140.5	-5.3	319.1	0.006374
	EXTERIOR	EXP.	1'-4"	1'-8"	5/16"	1/2"	1	6	3 3/4"	5"	1'-5"	1'-10"	1 1/4"	-0.25%	177.8	95.8	-32.9	273.6	0.006627

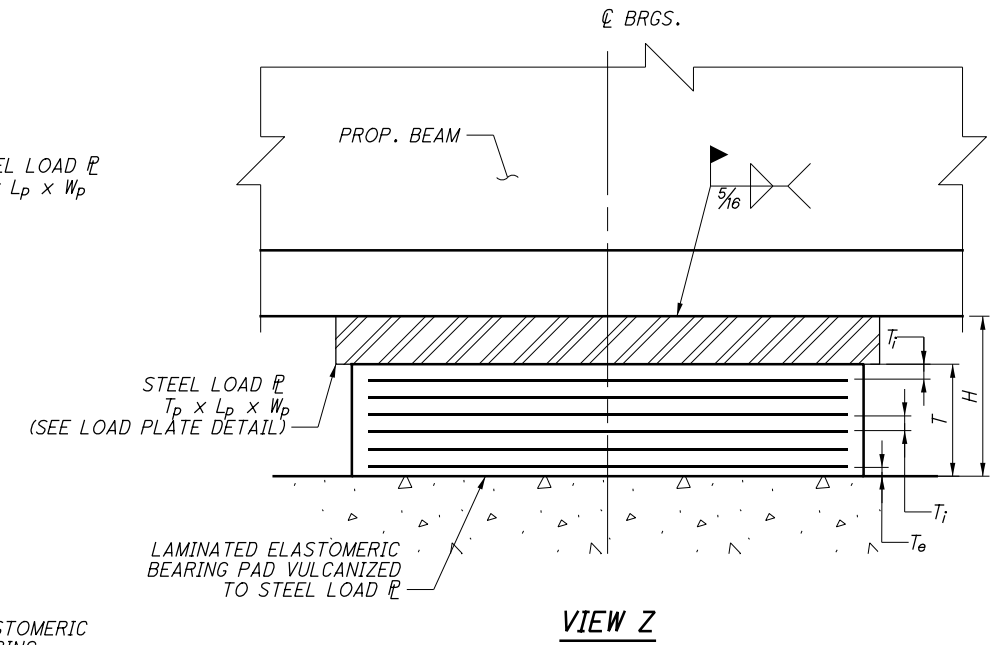


**BEARING PLAN**

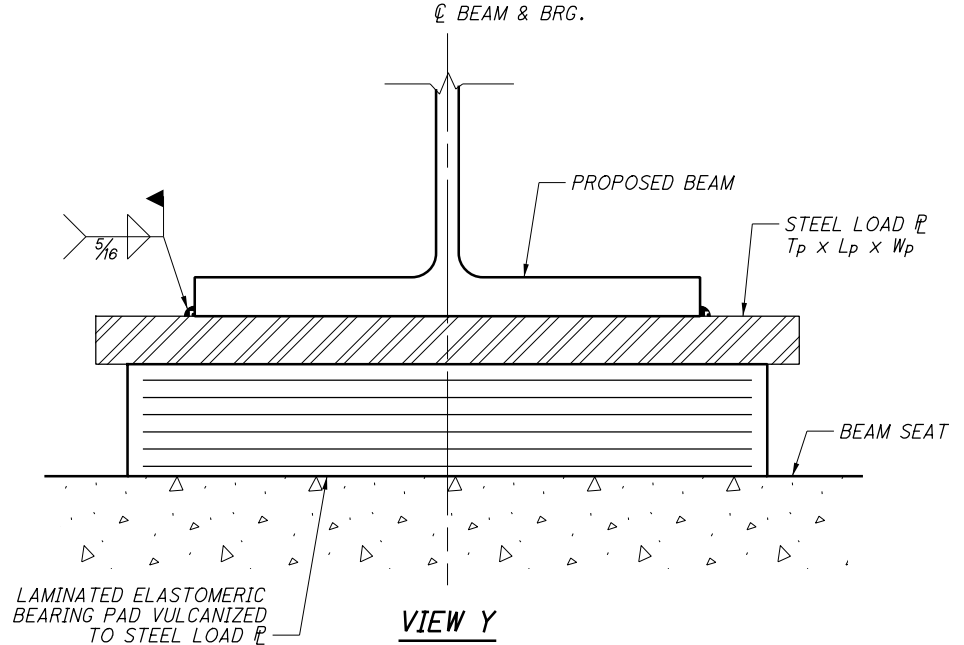
(ALL PLATES CENTERED ABOUT INTERSECTION OF CL BRG. & CL BEAM)



**LOAD PLATE DETAIL**



**VIEW Z**



**VIEW Y**

**LEGEND:**

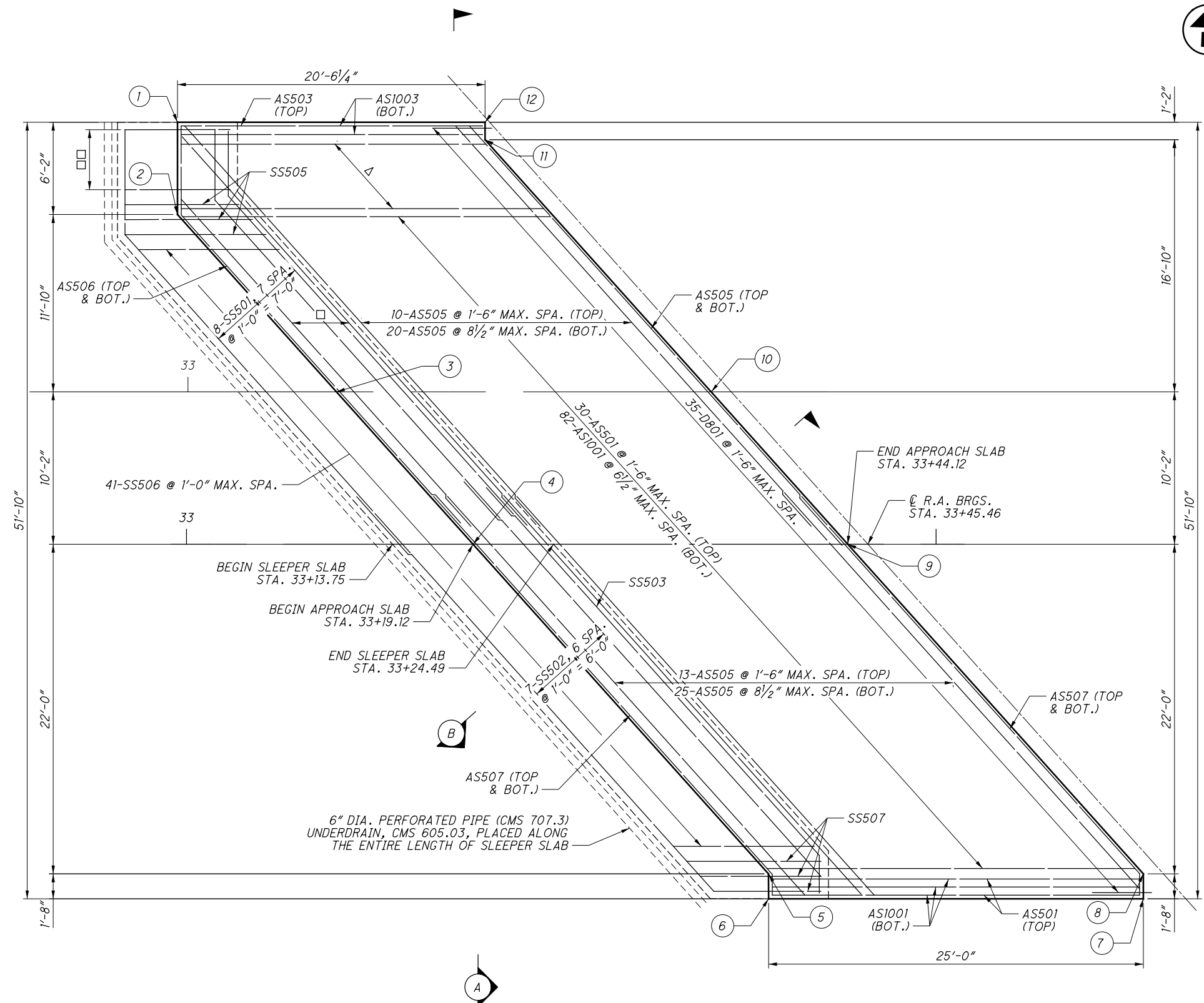
- T<sub>e</sub> = EXTERIOR LAYER THICKNESS
- N<sub>e</sub> = NUMBER OF EXTERIOR LAYERS
- T<sub>i</sub> = INTERIOR LAYER THICKNESS
- N<sub>i</sub> = NUMBER OF INTERIOR LAYERS
- DL = DEAD LOAD
- LL = LIVE LOAD

**NOTES:**

1. THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
3. STEEL PLATES SHALL BE ASTM A709 GRADE 50 STRUCTURAL STEEL AND SHALL BE CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE PERFORMED IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE FOR ITEM 514. THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
4. THE BEARINGS AND STEEL PLATES SHALL BE PAID FOR UNDER ITEM 516: ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE, AS PER PLAN.
5. WELDING: CONTROL THE WELDING SO THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

 WOOLPERT DESIGN ENGINEERING & CONSTRUCTION	DESIGN AGENCY EASTON OVAL SUITE 400 COLUMBUS, OH 43219 T 614-76-8000 F 614-76-8225	DATE 04/2017 REVIEWED MAA STRUCTURE FILE NUMBER 5704804
<b>PIER BEARING DETAILS</b> BRIDGE NO. MOT-70-0334 ARLINGTON ROAD OVER IIR-70		
MOT-70-3.34 PID No. 99623	45 / 51	130 136

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REAR APPROACH SLAB SURFACE ELEVATIONS			
	STATION	OFFSET	ELEVATION
1	32+99.40	28.17	1048.52
2	32+99.40	22.00	1048.52
3	33+10.01	10.17	1048.84
4	33+19.12	0.00	1049.12
5	33+38.83	22.00	1049.00
6	33+38.83	23.67	1049.00
7	33+63.83	23.67	1049.26
8	33+63.83	22.00	1049.26
9	33+44.12	0.00	1049.41
10	33+35.01	10.17	1049.14
11	33+19.93	27.00	1048.78
12	33+19.93	28.17	1048.78

**LEGEND:**

- △ SERIES OF 5-AS502 @ 1'-6" MAX. SPA. (TOP)  
SERIES OF 9-AS1002 @ 6 1/2" MAX. SPA. (BOT.)
- SERIES OF 3-AS504 @ 1'-6" MAX. SPA. (TOP)  
SERIES OF 5-AS512 @ 8 1/2" MAX. SPA. (BOT.)
- 5-SS504 @ 1'-0" MAX. SPA.

**NOTES:**

1. FOR SECTION A AND SECTION B, SEE SHEET 48/51.
2. FOR ADDITIONAL SLAB NOTES AND DETAILS, SEE SCD AS-1-15.

DESIGN AGENCY: EASTON OVAL  
SUITE 600  
COLUMBUS, OH 43219  
T 614-476-8000  
F 614-476-8225

**WOOLPERT**  
CONSULTING ENGINEERS

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DATE: 04/2017  
REVIEWED: MAA  
DRAWN: PES  
DESIGNED: PES  
CHECKED: BWB  
STRUCTURE FILE NUMBER: 5704804

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**REAR APPROACH SLAB PLAN**  
BRIDGE NO. MOT-70-0334  
ARLINGTON ROAD OVER IR-70

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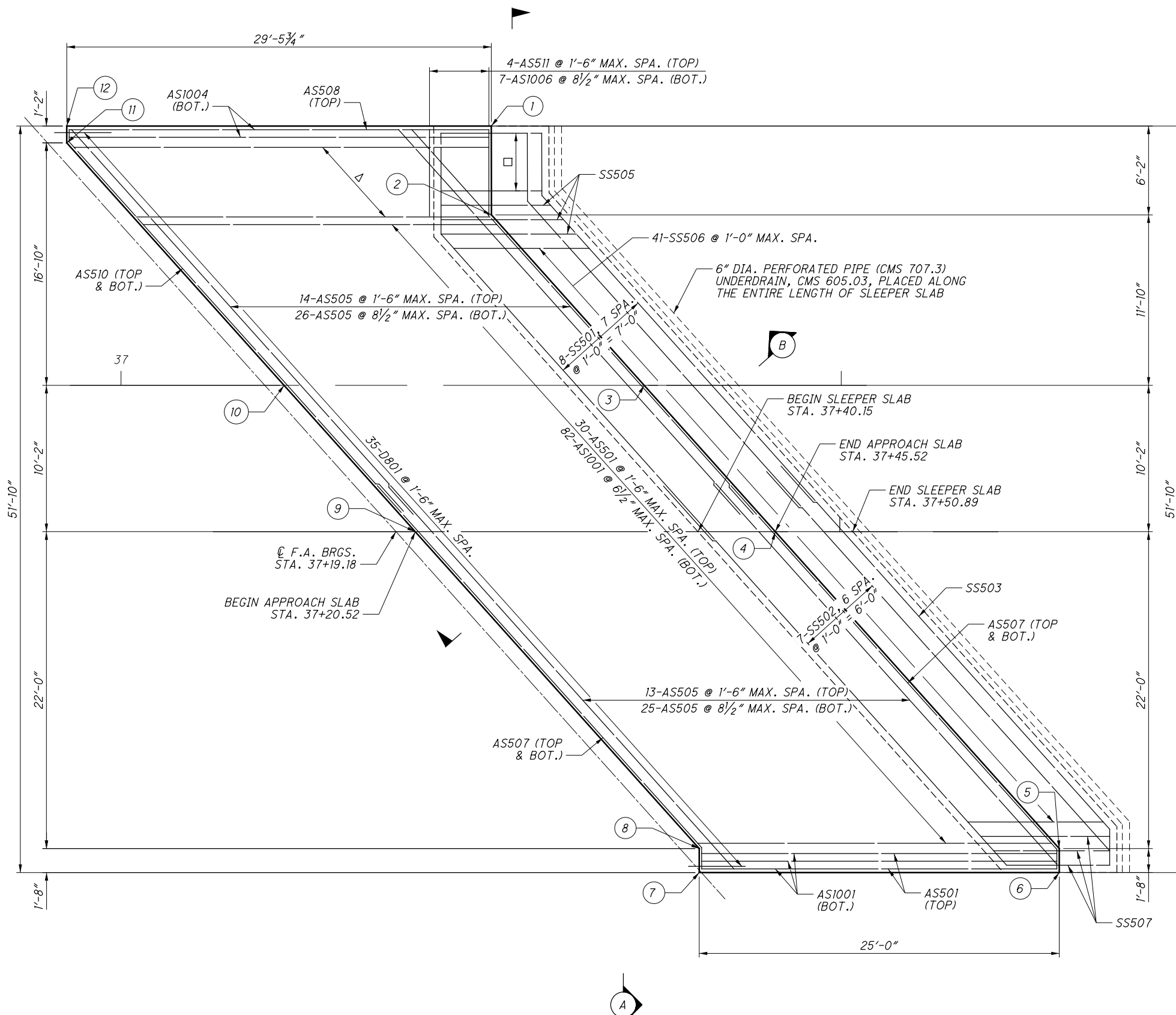
**MOT-70-3.34**  
PID No. 99623

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46 / 51

131  
136

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**LEGEND:**

- △ SERIES OF 5-AS509 @ 1'-6" MAX. SPA. (TOP)  
SERIES OF 10-AS1005 @ 6 1/2" MAX. SPA. (BOT.)
- 5-SS504 @ 1'-0" MAX. SPA.

**NOTES:**

1. FOR SECTION A AND SECTION B, SEE SHEET 48/51.
2. FOR ADDITIONAL SLAB NOTES AND DETAILS, SEE SCD AS-1-15.

**FORWARD APPROACH SLAB PLAN**

BRIDGE NO. MOT-70-0334  
ARLINGTON ROAD OVER IR-70

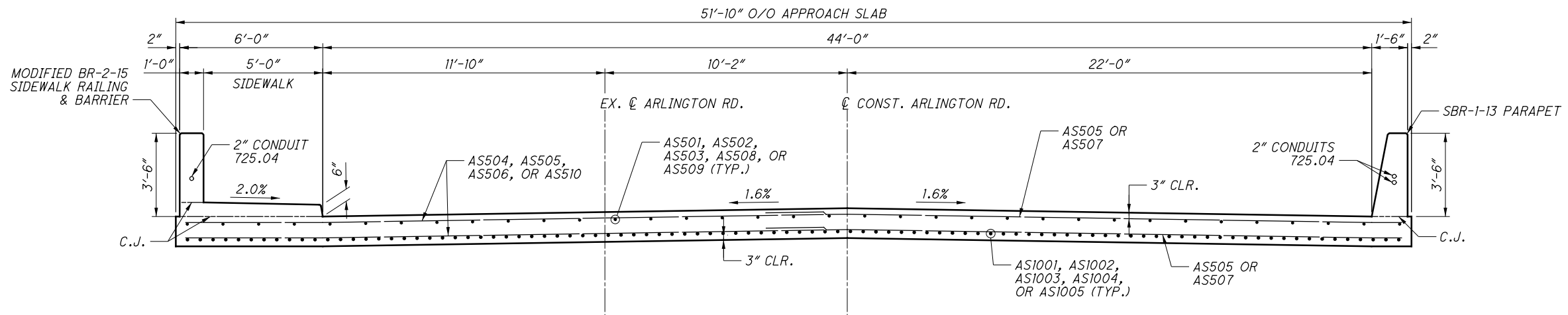
DESIGNED	DESIGNED	DATE	DESIGN AGENCY
CHECKED	CHECKED	04/2017	EASTON OVAL
DRAWN	DRAWN	STRUCTURE FILE NUMBER	SUITE 900
REVISED	REVISED	5704804	COLUMBUS, OH 43219
			T 614-476-8000
			F 614-476-6225

**MOT-70-3.34**  
**PID No. 99623**

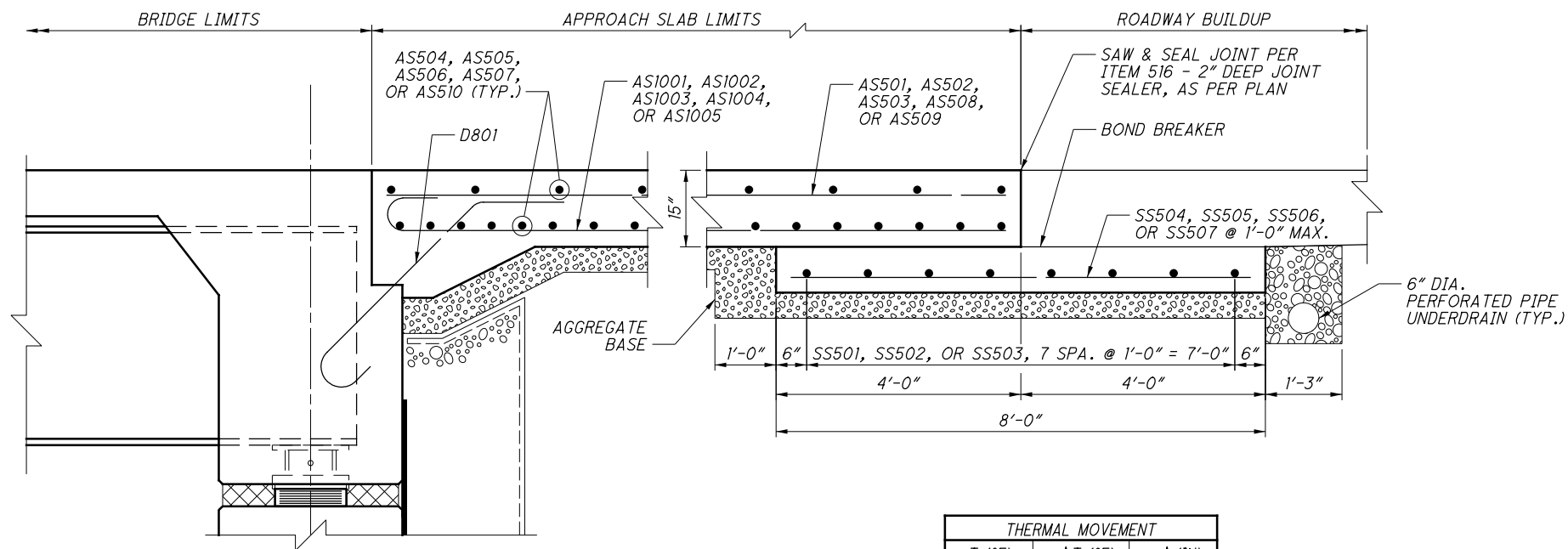
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SECTION A



SECTION B

THERMAL MOVEMENT		
T (°F)	ΔT (°F)	Δ (IN)
30	30	5/8"
40	20	7/16"
50	10	3/16"
60	0	0"
70	10	3/16"
80	20	7/16"
90	30	5/8"

ASSUMES SETTING AT 60°F.

NOTES:

- 6" DIA. PERFORATED PIPE (CMS 707.31) UNDERDRAIN (CMS 605.03) INCLUDING GRANULAR MATERIAL IS ONLY REQUIRED IF THE LONGITUDINAL SLOPE OF THE AGGREGATE BASE IS TOWARDS THE APPROACH SLAB AND SLEEPER SLAB.
- 6" DIA. PERFORATED PIPE (CMS 707.31) UNDERDRAIN (CMS 605.03), IF REQUIRED, SHALL BE SLOPED THE SAME AS THE PAVEMENT CROSS SLOPE.
- FOR ADDITIONAL NOTES AND DETAILS AT PIPE OUTLET ENDS, SEE STD. CONSTRUCTION DRAWING DM-1.1. FOR PIPE INSTALLATIONS SEE STD. CONSTRUCTION DRAWING DM-1.2.
- APPLY BOND BREAKER TO THE ENTIRE TOP SURFACE OF THE CONCRETE SLEEPER SLAB. FOR TYPE A INSTALLATION AND TYPE C INSTALLATION, THE TOP SURFACE OF THE REINFORCED CONCRETE SLEEPER SLAB SHALL BE STEEL TROWELLED FOR A SMOOTH FINISH. WATER CURE THE SLEEPER SLAB AS PER CMS 511.14.A. AFTER WATER CURING HAS BEEN COMPLETED, MEMBRANE CURE THE SLEEPER SLAB AS PER CMS 511.14.B. APPLY A SECOND COAT OF THE MEMBRANE CURE TO THE SLEEPER SLAB PRIOR TO APPROACH SLAB CONCRETE POUR AT THE SAME DOSAGE RATE SPECIFIED IN CMS 511.14.B TO THE SURFACES LABELED "BOND BREAKER".
- THE CROSS SLOPES AT THE TOP AND BOTTOM OF THE SLEEPER SLAB SHALL CONFORM TO THAT OF THE REINFORCED CONCRETE APPROACH SLAB.
- METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE REINFORCED CONCRETE SLEEPER SLAB BY THE NUMBER OF LINEAR FEET COMPLETE IN PLACE AND MEASURED ALONG THE SKEW AT THE END OF THE APPROACH SLAB.
- METHOD OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR "ITEM 526 - TYPE A INSTALLATION" WHICH INCLUDES:
  - 6" DIA. PERFORATED PIPE (CMS 707.31) UNDERDRAIN (TYPE A INSTALLATION)
  - GRANULAR MATERIAL FOR THE UNDERDRAIN
  - PIPE COUPLINGS
  - PIPE OUTLETS AS PER STD. CONSTRUCTION DRAWING DM-1.1 AND PIPE INSTALLATIONS AS PER STD. CONSTRUCTION DRAWING DM-1.2, IF REQUIRED
  - AGGREGATE DRAINS
  - EXCAVATION FOR REINFORCED CONCRETE SLEEPER SLAB
  - REINFORCING STEEL INCLUDING SUPPORTS, TIE WIRES, AND IF REQUIRED, MECHANICAL CONNECTORS
  - BOND BREAKER
 THE DEPARTMENT WILL PAY FOR THE FOLLOWING ITEMS SEPARATELY:
  - REINFORCED CONCRETE APPROACH SLABS WITH CURBS IF REQUIRED.
- FOR ADDITIONAL SLAB NOTES AND DETAILS, SEE SCD AS-1-15.

DESIGN AGENCY: EASTON OVAL, SUITE 600, COLUMBUS, OH 43219, T 614-476-8000, F 614-476-6225  
**WOOLPERT**  
 DATE: 04/2017  
 REVIEWED: MAA  
 DRAWN: PES  
 DESIGNED: PES  
 CHECKED: BWB  
 STRUCTURE FILE NUMBER: 5704804  
**APPROACH SLAB DETAILS**  
 BRIDGE NO. MOT-70-0334  
 ARLINGTON ROAD OVER IR-70  
**MOT-70-3.34**  
 PID No. 99623  
 48/51  
 133  
 136

**REAR ABUTMENT**

MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS							
					A	B	C	D	E	R	INC.	
RA501	96	16'-7"	1661	3	2'-6"	5'-6"						
RA502	33	24'-0"	827	ST.								
RA503	11	23'-9"	273	ST.								
RA504	10	16'-2"	169	3	2'-6"	5'-4"						
RA505	73	18'-7"	1415	3	2'-6"	6'-6"						
RA506	40	23'-0"	960	ST.								
RA507	26	4'-9"	129	2	1'-6"	2'-0"	1'-6"					
RA601	10	6'-8"	101	ST.								
RA602	12	4'-6"	82	ST.								
RA603	6	4'-8"	43	ST.								
RA604	10	12'-8"	191	ST.								
RA605	12	11'-4"	205	ST.								
RA606	6	11'-6"	104	ST.								
RA701	3	23'-4"	144	2	10'-7"	2'-6"	10'-7"					
RA702	4	13'-6"	111	2	5'-8"	2'-6"	5'-8"					
RA703	17	22'-10"	794	2	10'-7"	2'-0"	10'-7"					
RA704	20	12'-6"	511	2	5'-5"	2'-0"	5'-5"					
RA705	3	20'-4"	125	2	9'-4"	2'-0"	9'-4"					
RA706	1	20'-10"	43	2	9'-4"	2'-6"	9'-4"					
RA801	21	26'-0"	1458	ST.								
RA802	7	25'-3"	472	ST.								
RA803	8	13'-6"	289	1	1'-4"	12'-5"						
RA804	4	27'-2"	291	1	1'-4"	26'-0"						
RA805	8	26'-0"	556	ST.								
RA806	8	25'-3"	540	ST.								
RA807	4	26'-5"	283	1	1'-4"	25'-3"						
RA808	16	9'-0"	385	ST.								
RA809	8	12'-0"	257	1	1'-4"	10'-11"						
RD501	55	10'-9"	617	3	2'-6"	2'-7"						
RD502	55	10'-0"	574	2	4'-2"	2'-0"	4'-2"					
RD801	16	25'-11"	1108	ST.								
RD802	32	26'-6"	2265	ST.								
D801	51	7'-3"	988	18	5'-0"	1'-0"	1'-0"					
TOTAL			17971									

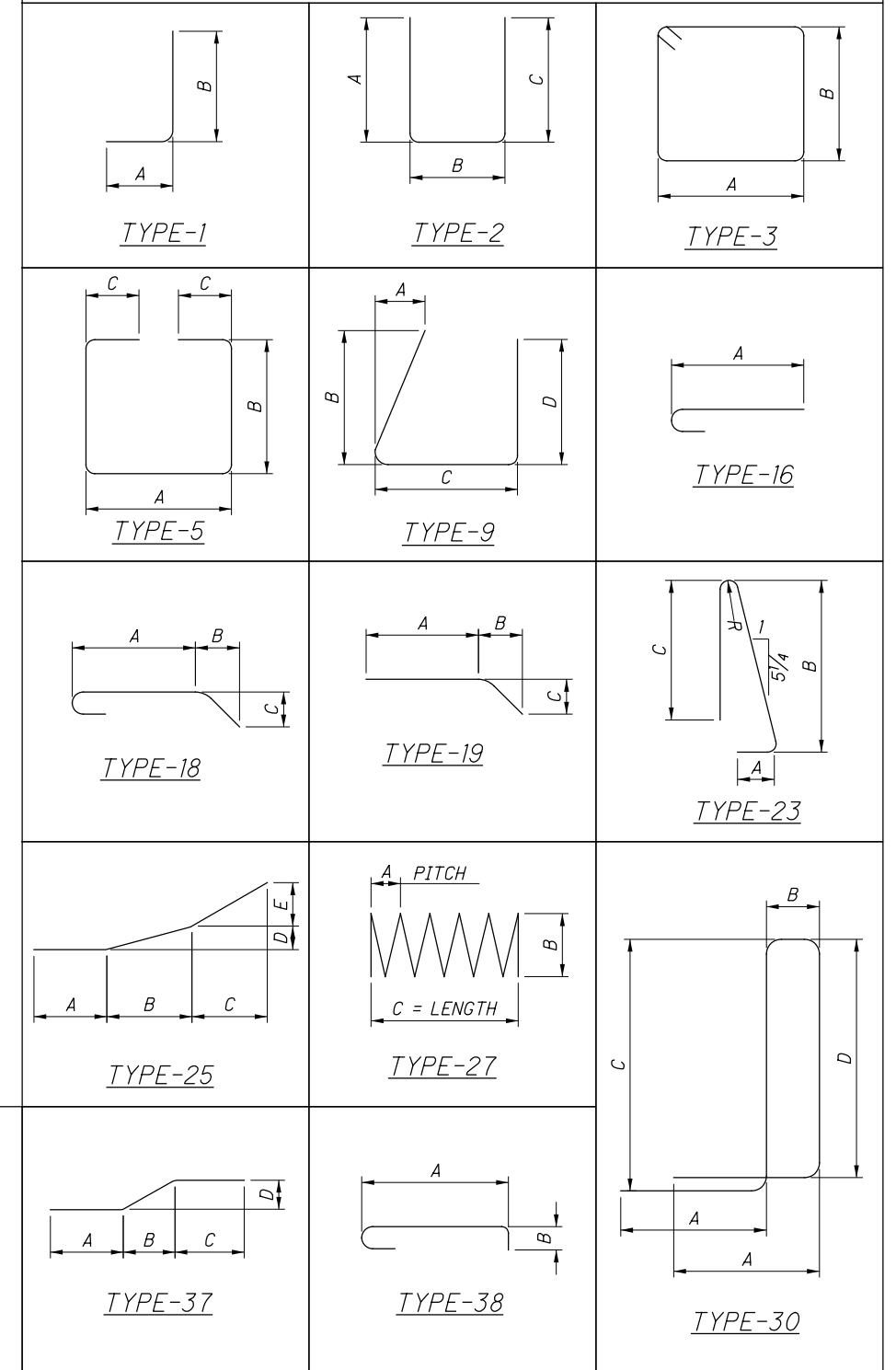
**PYLON**

MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS							
					A	B	C	D	E	R	INC.	
*Y501	128	11'-8"	1558	1	10"	11'-0"						
Y502	62	13'-9"	890	3	5'-5"	1'-2"						
Y503	438	2'-0"	914	38	1'-2"	5"						
Y504	4	16'-5"	69	3	6'-1"	1'-10"						
*Y505	64	15'-4"	1024	ST.								
Y506	76	13'-9"	1090	3	5'-3"	1'-4"						
Y507	4	16'-8"	70	3	6'-1"	2'-0"						
Y508	8	18'-5"	154	3	6'-7"	2'-4"						
Y509	24	2'-0"	51	ST.								
TOTAL			5820									

**FORWARD ABUTMENT**

MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS							
					A	B	C	D	E	R	INC.	
FA501	99	16'-7"	1713	3	2'-6"	5'-6"						
FA502	33	24'-0"	827	ST.								
FA503	11	23'-9"	273	ST.								
FA504	10	16'-2"	169	3	2'-6"	5'-4"						
FA505	78	18'-7"	1512	3	2'-6"	6'-6"						
FA506	32	22'-0"	735	ST.								
FA507	24	4'-9"	119	2	1'-6"	2'-0"	1'-6"					
FA601	8	6'-8"	81	ST.								
FA602	12	6'-6"	118	ST.								
FA603	6	6'-8"	61	ST.								
FA604	8	12'-8"	153	ST.								
FA605	12	11'-4"	205	ST.								
FA606	6	11'-8"	106	ST.								
FA701	3	23'-4"	144	2	10'-7"	2'-6"	10'-7"					
FA702	3	13'-0"	80	2	5'-5"	2'-6"	5'-5"					
FA703	14	22'-10"	654	2	10'-7"	2'-0"	10'-7"					
FA704	16	12'-6"	409	2	5'-5"	2'-0"	5'-5"					
FA705	2	20'-4"	84	2	9'-4"	2'-0"	9'-4"					
FA706	2	20'-10"	86	2	9'-4"	2'-6"	9'-4"					
FA801	21	26'-0"	1458	ST.								
FA802	7	25'-3"	472	ST.								
FA803	8	13'-6"	289	1	1'-4"	12'-5"						
FA804	4	27'-2"	291	1	1'-4"	26'-0"						
FA805	8	26'-0"	556	ST.								
FA806	8	25'-3"	540	ST.								
FA807	4	26'-5"	283	1	1'-4"	25'-3"						
FA808	16	8'-10"	378	ST.								
FA809	8	11'-9"	251	1	1'-4"	10'-8"						
FD501	55	10'-9"	617	3	2'-6"	2'-7"						
FD502	55	10'-1"	579	2	4'-2"	2'-0"	4'-2"					
FD801	16	25'-11"	1108	ST.								
FD802	32	26'-6"	2265	ST.								
D801	51	7'-3"	988	18	5'-0"	1'-0"	1'-0"					
TOTAL			17604									

**REINFORCING STEEL BAR BEND DIAGRAMS**



**NOTES:**

- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT AFTER THE LETTERS WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS AFTER THE LETTERS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, 1P501 IS A NO. 5 BAR IN PIER 1. A LEGEND OF THE DESCRIPTORS IS GIVEN BELOW:
 

RA = REAR ABUTMENT	RD = REAR ABUTMENT DIAPHRAGM	Y = PYLON	R = RIGHT PARAPET
FA = FORWARD ABUTMENT	FD = FORWARD ABUTMENT DIAPHRAGM	S = SUPERSTRUCTURE	B = LEFT PARAPET
LL = LEFT PILASTER	LR = RIGHT PILASTER	AS = APPROACH SLAB	
1P = PIER 1	2P = PIER 2	3P = PIER 3	
1PD = PIER 1 DOWEL	2PD = PIER 2 DOWEL	3PD = PIER 3 DOWEL	
- BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
- "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.
- MECHANICAL SPLICE CONNECTORS SHALL BE INCLUDED FOR PAYMENT WITH THE REINFORCING STEEL. MECHANICALLY CONNECTED BARS ARE INDICATED BY THE "\*" SYMBOL.

PIER 1												
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS							
					A	B	C	D	E	R	INC.	
IP501	56	16'-11"	989	ST.								
IP502	4	5'-3"	22	ST.								
IP503	28	24'-7"	718	ST.								
IP504	14	5'-7"	82	ST.								
IP505	4	18'-1"	76	3	2'-6"	6'-3"						
IP506	10	17'-11"	187	3	2'-6"	6'-2"						
IP507	7	17'-7"	129	3	2'-6"	6'-0"						
IP508	12	11'-3"	141	ST.								
IP509	24	13'-6"	338	1	1'-0"	12'-8"						
IP510	6	23'-3"	146	ST.								
IP511	2	13'-3"	28	ST.								
IP512	6	11'-6"	72	2	1'-0"	9'-9"	1'-0"					
IP513	10	21'-8"	226	ST.								
IP514	40	10'-11"	456	ST.								
IP515	20	22'-3"	465	16	21'-8"							
IP516	46	12'-3"	588	2	2'-0"	8'-6"	2'-0"					
IP517	36	2'-8"	101	ST.								
IP518	8	5'-10"	49	2	2'-7"	11"	2'-7"					
IP901	72	13'-0"	3183	ST.								
IP902	82	8'-11"	2486	1	1'-7"	7'-7"						
IP903	40	15'-1"	2052	ST.								
IP904	8	21'-1"	574	1	1'-7"	19'-9"						
IP905	NOT USED											
IP906	47	11'-11"	1905	2	2'-0"	8'-6"	2'-0"					
IP907	10	17'-3"	587	ST.								
IP908	10	9'-8"	329	1	1'-7"	8'-4"						
IPD501	80	3'-7"	299	ST.								
IPD502	36	4'-5"	166	ST.								
IPD503	18	3'-10"	72	ST.								
IPD504	34	5'-8"	201	1	2'-0"	3'-9"						
IPD505	20	5'-10"	122	1	2'-0"	3'-11"						
IPD506	20	5'-11"	124	1	2'-0"	4'-0"						
IPD507	12	5'-11"	75	1	2'-0"	4'-1"						
IPD508	100	4'-5"	461	ST.								
IPD901	30	7'-7"	774	ST.								
IPD902	8	19'-9"	538	ST.								
ISP501	1	16'-6"	495	27	4"	2'-8"	16'-6"					
<b>TOTAL</b>			19256									

PIER 2												
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS							
					A	B	C	D	E	R	INC.	
2P501	64	16'-11"	1130	ST.								
2P502	4	5'-3"	22	ST.								
2P503	32	24'-7"	821	ST.								
2P504	14	5'-7"	82	ST.								
2P505	4	17'-11"	75	3	2'-6"	6'-2"						
2P506	10	17'-7"	184	3	2'-6"	6'-0"						
2P507	7	17'-5"	128	3	2'-6"	5'-11"						
2P508	12	11'-3"	141	ST.								
2P509	24	13'-6"	338	1	1'-0"	12'-8"						
2P510	6	23'-3"	146	ST.								
2P511	2	13'-3"	28	ST.								
2P512	6	11'-6"	72	2	1'-0"	9'-9"	1'-0"					
2P513	10	21'-8"	226	ST.								
2P514	40	10'-11"	456	ST.								
2P515	20	22'-3"	465	16	21'-8"							
2P516	46	12'-3"	588	2	2'-0"	8'-6"	2'-0"					
2P517	40	2'-8"	112	ST.								
2P518	8	5'-10"	49	2	2'-7"	11"	2'-7"					
2P901	72	14'-6"	3550	ST.								
2P902	82	8'-11"	2486	1	1'-7"	7'-7"						
2P903	40	16'-6"	2244	ST.								
2P904	8	22'-7"	615	1	1'-7"	21'-3"						
2P905	NOT USED											
2P906	47	11'-11"	1905	2	2'-0"	8'-6"	2'-0"					
2P907	10	18'-7"	632	ST.								
2P908	10	9'-8"	329	1	1'-7"	8'-4"						
2PD501	90	3'-7"	337	ST.								
2PD502	36	4'-5"	166	ST.								
2PD503	20	3'-10"	80	ST.								
2PD504	34	5'-8"	201	1	2'-0"	3'-10"						
2PD505	20	5'-11"	124	1	2'-0"	4'-0"						
2PD506	20	5'-10"	122	1	2'-0"	3'-11"						
2PD507	12	5'-11"	75	1	2'-0"	4'-1"						
2PD508	100	4'-5"	461	ST.								
2PD901	30	7'-7"	774	ST.								
2PD902	8	21'-5"	583	ST.								
2SP501	1	17'-10"	535	27	4"	2'-8"	17'-10"					
<b>TOTAL</b>			20282									

PIER 3												
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS							
					A	B	C	D	E	R	INC.	
3P501	64	16'-11"	1130	ST.								
3P502	4	5'-3"	22	ST.								
3P503	32	24'-7"	821	ST.								
3P504	14	5'-7"	82	ST.								
3P505	4	17'-8"	74	3	2'-6"	6'-1"						
3P506	10	17'-2"	180	3	2'-6"	5'-10"						
3P507	7	17'-1"	125	3	2'-6"	5'-9"						
3P508	12	11'-3"	141	ST.								
3P509	24	13'-6"	338	1	1'-0"	12'-8"						
3P510	6	23'-3"	146	ST.								
3P511	2	13'-3"	28	ST.								
3P512	6	11'-6"	72	2	1'-0"	9'-9"	1'-0"					
3P513	10	21'-8"	226	ST.								
3P514	40	10'-11"	456	ST.								
3P515	20	22'-3"	465	16	21'-8"							
3P516	46	12'-3"	588	2	2'-0"	8'-6"	2'-0"					
3P517	40	2'-8"	112	ST.								
3P518	8	5'-10"	49	2	2'-7"	11"	2'-7"					
3P901	72	14'-11"	3652	ST.								
3P902	82	8'-11"	2486	1	1'-7"	7'-7"						
3P903	40	16'-11"	2301	ST.								
3P904	8	22'-10"	622	1	1'-7"	21'-6"						
3P905	NOT USED											
3P906	47	11'-11"	1905	2	2'-0"	8'-6"	2'-0"					
3P907	10	19'-0"	646	ST.								
3P908	10	9'-8"	329	1	1'-7"	8'-4"						
3PD501	90	3'-7"	337	ST.								
3PD502	36	4'-5"	166	ST.								
3PD503	20	3'-10"	80	ST.								
3PD504	34	5'-8"	201	1	2'-0"	3'-9"						
3PD505	20	5'-8"	119	1	2'-0"	3'-10"						
3PD506	20	5'-11"	124	1	2'-0"	4'-0"						
3PD507	12	5'-11"	75	1	2'-0"	4'-1"						
3PD508	100	4'-5"	461	ST.								
3PD901	30	7'-7"	774	ST.								
3PD902	8	21'-8"	590	ST.								
3SP501	1	18'-4"	550	27	4"	2'-8"	18'-4"					
<b>TOTAL</b>			20473									

**NOTES:**

1. SEE SHEET 49/51 FOR REINFORCING STEEL NOTES AND BAR BEND DIAGRAMS.

SUPERSTRUCTURE											
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
S401	1472	30'-0"	29499	ST.							
S402	101	10'-11"	737	ST.							
S403	212	12'-5"	1759	ST.							
S404	106	16'-5"	1163	ST.							
S501	735	29'-10"	22871	37	3'-4"	6"	26'-1"	2"			
S502	665	23'-10"	16531	37	3'-4"	6"	20'-1"	2"			
	2	2'-6"			2'-6"						
S503	SER. OF TO		1691	37							6.75"
	50	29'-11"			3'-4"	0'-5 1/2"	26'-1"	0'-2 1/4"			
	2	2'-1"									
S504	SER. OF TO		852	ST.							6.75"
	35	21'-3"									
S505	2	1'-11"	4	ST.							
S506	1	11'-6"	12	19	10'-9"	7"	6"				
S507	1480	8'-9"	13507	16	8'-2"						
S508	4	30'-0"	126	ST.							
S509	2	2'-3"	5	ST.							
S510	1	11'-4"	12	19	10'-1"	11"	10"				
S601	739	30'-0"	33300	ST.							
S602	665	24'-4"	24305	ST.							
	2	2'-6"									
S603	SER. OF TO		157	ST.							7.25"
	10	7'-11"									
	2	8'-8"									
S604	SER. OF TO		2324	ST.							6.5"
	40	30'-0"									
	2	2'-1"									
S605	SER. OF TO		1214	ST.							6.75"
	35	21'-0"									
S606	2	2'-0"	7	ST.							
S607	1	11'-6"	18	19	10'-9"	7"	6"				
S608	2	2'-3"	7	ST.							
S609	1	11'-4"	18	19	10'-1"	11"	10"				
<b>TOTAL</b>			<b>150119</b>								

RIGHT PARAPET											
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
R501	428	7'-0"	3125	23	11"	3'-3"	3'-0"				2 3/4
R502	6	4'-4"	28	ST.							
R503	258	6'-4"	1705	ST.							
R504	42	6'-2"	271	ST.							
R505	12	8'-2"	103	ST.							
R506	6	7'-8"	48	ST.							
R507	6	8'-3"	52	ST.							
R508	6	4'-7"	29	ST.							
R509	4	15'-8"	66	ST.							
R510	8	18'-5"	154	ST.							
R511	8	5'-8"	48	25	1'-10"	2'-5"	1'-5"				
R512	8	5'-8"	48	ST.							
R513	16	10'-0"	167	ST.							
R601	428	2'-6"	1608	1	1'-0"	1'-8"					8 1/2"
R602	428	3'-3"	2090	28	1'-8"	1'-0"	11"				
	4	4'-4"			1'-0"	3'-6"					
R603	SER. OF TO		429	1							
	15	5'-2"			1'-0"	4'-4"					
R604	24	4'-4"	157	1	3'-6"	1'-0"					
R605	1	4'-4"	7	ST.							
R606	43	6'-4"	410	ST.							
R607	7	6'-2"	65	ST.							
R608	2	8'-2"	25	ST.							
R609	1	7'-8"	12	ST.							
R610	1	8'-3"	13	ST.							
R611	1	4'-7"	7	ST.							
R612	2	15'-8"	48	ST.							
<b>TOTAL</b>			<b>10715</b>								

LEFT PARAPET											
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
B501	451	10'-10"	5096	30	1'-6"	8"	3'-11"	3'-9"			
B502	4	6'-2"	26	1	3'-5"	2'-11"					
B503	2	4'-5"	10	1	1'-6"	3'-1"					
B504	2	4'-4"	10	1	1'-6"	2'-11"					
B505	1	5'-2"	6	19	3'-10"	1'-4"	5"				
B506	1	5'-2"	6	ST.							
B507	1	6'-8"	7	19	5'-4"	1'-4"	5"				
B508	1	6'-7"	7	ST.							
B509	3	6'-6"	21	19	5'-2"	1'-4"	5"				
B510	3	5'-2"	17	ST.							
B511	3	7'-11"	25	19	6'-7"	1'-4"	5"				
B512	3	6'-7"	21	ST.							
B513	40	7'-2"	299	ST.							
B514	8	4'-6"	38	ST.							
B515	344	6'-4"	2273	ST.							
B516	56	6'-2"	361	ST.							
B517	16	8'-2"	137	ST.							
B518	8	7'-8"	64	ST.							
B519	8	8'-3"	69	ST.							
B520	8	4'-5"	37	ST.							
B521	460	3'-7"	1720	2	1'-5"	1'-0"	1'-5"				
B522	448	5'-8"	2648	ST.							
	2	1'-0"									
B523	SER. OF TO		21	ST.							12"
	4	4'-0"									
	2	0'-10"									
B524	SER. OF TO		20	ST.							12"
	4	3'-10"									
B525	4	6'-6"	28	ST.							
B526	460	3'-5"	1640	2	1'-5"	10"					
	1	20'-2"									
B527	SER. OF TO		187	ST.							7 3/8"
	8	24'-6"									
	1	25'-0"									
B528	SER. OF TO		226	ST.							7"
	8	29'-1"									
B529	104	30'-0"	3255	ST.							
B530	8	17'-6"	147	ST.							
<b>TOTAL</b>			<b>18422</b>								

RIGHT PILASTER											
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
LR601	36	10'-0"	541	9	9"	3'-10"	2'-10"	3'-10"			
LR602	36	8'-11"	483	9	8"	3'-6"	2'-2"	3'-6"			
LR603	36	2'-6"	136	ST.							
LR604	36	4'-7"	248	ST.							
LR605	36	2'-8"	145	2	1'-2"	8"	1'-2"				
LR606	6	3'-4"	31	ST.							
<b>TOTAL</b>			<b>1584</b>								

LEFT PILASTER											
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
LL601	36	10'-1"	546	2	4'-0"	2'-5"	4'-0"				
LL602	36	9'-1"	492	2	3'-6"	2'-5"	3'-6"				
LL603	36	2'-6"	136	ST.							
LL604	36	4'-8"	253	ST.							
LL605	36	2'-8"	145	2	1'-2"	8"	1'-2"				
LL606	6	3'-4"	31	ST.							
<b>TOTAL</b>			<b>1603</b>								

APPROACH SLABS (FOR INFORMATIONAL PURPOSES ONLY)											
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
AS501	64	24'-6"	1636	ST.							
	1	20'-4"									
AS502	SER. OF TO		117	ST.							11.5"
	5	24'-2"									
AS503	1	20'-0"	21	ST.							
	1	24'-2"									
AS504	SER. OF TO		85	ST.							2'-9"
	3	29'-8"									
AS505	148	35'-9"	5519	ST.							
AS506	2	33'-6"	70	19	27'-9"	4'-4"	4'-0"				
AS507	8	35'-1"	293	19	33'-10"	1'-0"	11"				
AS508	1	28'-11"	31	ST.							
	1	24'-6"									
AS509	SER. OF TO		139	ST.							1'-0"
	5	28'-9"									
AS510	2	35'-4"	74	19	34'-7"	8"	7"				
AS511	4	6'-2"	26	ST.							
	1	29'-2"									
AS512	SER. OF TO		167	ST.							1'-4.5"
	5	34'-8"									
ASI001	170	25'-11"	18959	16	24'-6"						
	1	21'-9"			20'-4"						
ASI002	SER. OF TO		917	16							5.75"
	9	25'-7"			24'-2"						
ASI003	2	21'-5"	185	16	20'-0"						
ASI004	2	30'-4"	262	16	28'-11"						
	1	25'-11"			24'-6"						
ASI005	SER. OF TO		1207	16							
	10	30'-2"			28'-9"						
ASI006	7	6'-2"	186	ST.							
	2	32'-10"			0	3'-3"	2'-10 1/2"				
SS501	SER. OF TO		571	16							4.5"
	8	35'-6"			28'-6"	5'-3"	4'-8"				
SS502	14	35'-6"	519	ST.							
SS503	2	36'-5"	76	ST.							
SS504	10	7'-0"	74	ST.							
	2	7'-7"			7'-7"						
SS505	SER. OF TO		53	16							10.5"
	3	9'-4"			9'-4"						



**PROJECT DESCRIPTION**

THIS EXPLORATION WAS PERFORMED AS PART OF THE STUDY TO WIDEN THE EXISTING STEEL 4-SPAN STEEL GIRDER BRIDGE AND THE EMBANKMENT. THE BRIDGE CROSSES THE IR 70, IN MONTGOMERY COUNTY, OHIO.

**HISTORIC RECORDS**

TWO HISTORICAL BORING LOGS WERE FOUND ON ODOT'S WEBSITE, DATED MARCH, 1962. ONE LOG SHOWED CLAY FOR THE FIRST 20 FEET, THE SECOND SHOWED SILT FOR THE FIRST 20 FEET, AND BOTH SHOWED SANDY GRAVEL AT A DEPTH OF 30 FEET AND BELOW. THE LOGS FOR THESE BORINGS CAN BE FOUND IN THE ATTACHED DRAWINGS.

**GEOLOGY**

THE PROJECT IS LOCATED IN NORTHWEST MONTGOMERY COUNTY WHICH IS CHARACTERIZED BY LOAMY TILL AND RECESSONAL MORAINES OVER ORDOVICIAN AND SILURIAN BEDROCK. THIS AREA HAS MODERATE RELIEF, WITH ELEVATIONS RANGING FROM ROUGHLY 1,012 FEET TO 1,015 FEET.

THE PROJECT LIES IN OHIO PHYSIOGRAPHIC REGION OF THE CENTRAL LOWLAND TILL PLAINS PROVINCE; IN A SUBSECTION KNOWN AS THE SOUTHERN OHIO LOAMY TILL PLAIN. THIS PHYSIOGRAPHIC SECTION IS CHARACTERIZED AS RELATIVELY FLAT SEPARATED BY STEEP-VALLEYED STREAMS. THE LOCAL STRATIGRAPHY CONSISTS OF LOAMY, HIGH-LIME WISCONSINIAN AGE TILL LOESS OVER SHALE AND LIMESTONE, WITH SOME DOLOMITE. THESE SOILS ARE OF A MIXTURE OF BROWN TILL SILT AND GRAY SILT AND CLAY. THIS PROJECT IS ALSO LOCATED CLOSE TO PROBABLE KARST AREAS, AS SHOWN ON THE OHIO KARST MAP. NO BEDROCK WAS ENCOUNTERED IN THE PROJECT BORINGS. THE BEDROCK STRATA ACROSS THE PROJECT LENGTH ARE MEMBERS OF THE UPPER ORDOVICIAN SERIES. THE STRATA CONSIST OF MAINLY DARK COLORED SHALE WITH LIMESTONE. NEARBY WELL LOG 109813, PERFORMED IN JULY OF 1953, INDICATED A 20 FT. DEEP CREVICE, FROM 60 FT. BELOW THE SURFACE TO 80 FT. BELOW THE SURFACE.

**RECONNAISSANCE**

THE SITE RECONNAISSANCE WAS PERFORMED ON JULY 29, 2015. THE LAND USE OF THE EAST SIDE OF THE BRIDGE SITE IS MAINLY RESIDENTIAL, THE WEST SIDE IS AGRICULTURAL, AND THE NORTH EAST CORNER AND THE SOUTH WEST CORNER ARE COMMERCIAL. THE EMBANKMENT SLOPES FOR THE BRIDGE ARE IN GOOD CONDITION. THE PAVEMENT OF THE BRIDGE IS GENERALLY IN GOOD CONDITION, WITH SIGNS OF ORDINARY WEAR OF CRACKING. ALL THE PIERS AND ABUTMENTS OF THE BRIDGE ARE IN GOOD CONDITION. TWO ARTIFICIAL PONDS LOCATE AT THE EAST SIDE OF THE BRIDGE. THERE IS A CREEK AT THE NORTH EAST OF THE BRIDGE SITE GOING THROUGH TWO CULVERTS AND BOTH OF THEM ARE IN GOOD CONDITION. THE BRIDGE SITE IS OPEN WITHOUT ANY FENCE, ALL THE BORING LOCATIONS WERE ACCESSIBLE FROM THE RIGHT OF THE WAY.

**SUBSURFACE EXPLORATION**

BETWEEN OCTOBER 6 AND OCTOBER 7, TEN SOIL BORINGS AND EIGHT PAVEMENT CORINGS WERE ADVANCED. THE BORINGS WERE DESIGNATED B-001-0-15 TO B-018-0-15 AND THE PAVEMENT CORINGS WERE DESIGNATED X-002-0-15, X-003-15, X-005-0-15, X-006-0-15, X-012-0-15, X-013-0-15, X-015-0-15, AND X-016-0-15.

TWO RIGS WERE USED TO ADVANCE THE BORINGS; A TRUCK MOUNTED DIEDRICH D50 DRILL RIG AND AN ATV MOUNTED DIEDRICH D50 DRILL RIG. BOTH RIGS USED 4.25-INCH DIAMETER, HOLLOW STEM, AND CONTINUOUS FLIGHT AUGERS TO ADVANCE THE BORINGS. A SPLIT BARREL SAMPLER WITH A 2.0-INCH OD DIAMETER WAS USED TO OBTAIN UNDISTURBED SAMPLES THE HAMMERS WERE CALIBRATED APRIL 4, 2015 IN ACCORDANCE TO ASTM D 4633. THE ENERGY RATIOS WERE DETERMINED TO BE 80.3% FOR THE TRUCK MOUNTED DIEDRICH, AND 80.6% FOR THE ATV MOUNTED DIEDRICH D50.

THE DRILLING WAS PERFORMED BY RIDGEWAY DRILLING INC., AND GF PERSONNEL WERE PRESENT TO EXAMINE AND LOG SAMPLES IN THE FIELD. ALL THE FIELD SAMPLES WERE SEALED IN GLASS JARS AND TRANSPORTED TO CARDNO ATC LABORATORY IN BRECKSVILLE OHIO FOR LAB TESTING. AT THE COMPLETION OF DRILLING THE BORE HOLES WERE SEALED WITH BENTONITE CHIPS AND OR AUGER CUTTINGS. BORINGS ADVANCED THROUGH THE SHOULDER WERE CAPPED WITH ASPHALT COLD PATCH.

**EXPLORATION FINDINGS**

THE NEAR SURFACE SOIL WAS GENERALLY COHESIVE WITH SOME INTERBEDS OF GRANULAR SOIL (5 TO 10 FEET IN THICKNESS). LAB TESTING INDICATES THEY FIT INTO CLASSIFICATIONS IN THE A-4, A-6 AND A-7 SERIES, WITH MINOR INTERBEDS OF A1, A2, AND A3 SOILS. THE CONSISTENCY RANGED OF THE SOIL FROM VERY SOFT TO HARD, WITH AN AVERAGE VALUE OF VERY STIFF. THE AVERAGE RELATIVE DENSITY OF THE INTERBEDS IS DENSE. THE VERY SOFT MATERIAL WAS ENCOUNTERED AT THE FIRST 2.5 FEET FOR BORING B-004-0-15, AND AT A DEPTH OF 28.5 FT. FOR BORING B-007-0-15. AT DEPTH BETWEEN 973.0 TO 987.2, THE SOIL TRANSITIONED TO VERY DENSE, GRANULAR, GLACIAL TILL WITH AN AVERAGE N60 OF 57.

ONLY ONE BORING ENCOUNTERED SIGNIFICANTLY DIFFERENT GROUND WATER CONDITIONS DURING DRILLING, B-008. IN THIS BOREHOLE WATER WAS FOUND TO BE AT A DEPTH OF 38.5 FEET (ELEVATION 987.5). THREE BOREHOLES COLLAPSED AFTER DRILLING; B-007 (65.0 FEET), B-008 (10.0 FEET) AND B-009 (22.0 FEET). THE HOLES WERE BACKFILLED WITH BENTONITE CHIPS UPON COMPLETION.

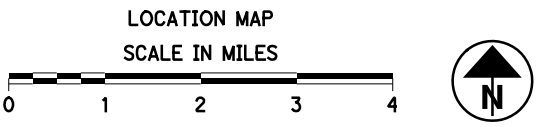
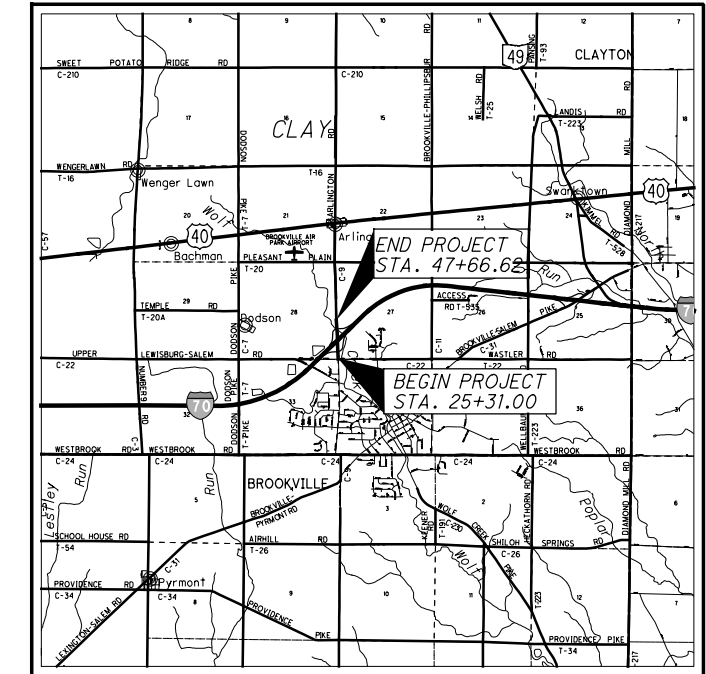
LEGEND		ODOT CLASS	CLASSIFIED MECH./VISUAL	
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	1	4
	GRAVEL AND/OR STONE FRAG. WITH SAND AND SILT	A-2-4	1	0
	GRAVEL AND/OR STONE FRAG. WITH SAND, SILT, CLAY	A-2-7	0	1
	FINE SAND	A-3	2	1
	COARSE TO FINE SAND	A-3a	2	4
	SANDY SILT	A-4a	3	2
	SILT	A-4b	2	2
	SILT AND CLAY	A-6a	17	40
	SILTY CLAY	A-6b	10	20
	CLAY	A-7-6	1	4
	<b>TOTAL</b>		<b>39</b>	<b>78</b>
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
	BORING LOCATION - PLAN VIEW.			
	HISTORICAL BORING LOCATION - PLAN VIEW.			
	DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
WC	INDICATES WATER CONTENT IN PERCENT.			
N60	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.			
X/Y/Z	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR FIRST 6 INCHES. Y= NUMBER OF BLOWS FOR SECOND 6 INCHES. Z= NUMBER OF BLOWS FOR THIRD 6 INCHES.			
W—	INDICATES FREE WATER ELEVATION.			
●	INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.			
⊖	INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.			
*	INDICATES A SAMPLE TAKEN WITHIN 3 FT OF PROPOSED GRADE.			
SS	INDICATES A SPLIT SPOON SAMPLE.			
NP	INDICATES A NON-PLASTIC SAMPLE.			

**SPECIFICATIONS**

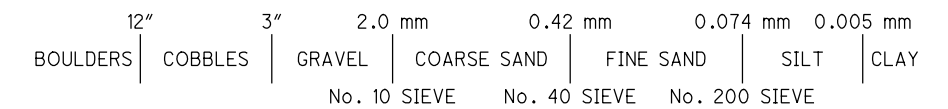
THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JULY 2015.

**AVAILABLE INFORMATION**

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



**PARTICLE SIZE DEFINITIONS**



PAVEMENT CORE THICKNESS					
CORING NO.	STATION	OFFSET	ASPHALT	CONCRETE	TOTAL
X-002-0-15	28+90	50' LT	3.5"	9.0"	12.5"
X-003-0-15	29+12	60' RT	3.5"	9.5"	13.0"
X-005-0-15	31+98	6' LT	13.5"	0.0"	13.5"
X-006-0-15	32+23	7' RT	13.5"	0.0"	13.5"
X-012-0-15	38+22	6' LT	14.8"	0.0"	14.8"
X-013-0-15	38+48	7' RT	16.0"	0.0"	16.0"
X-015-0-15	41+17	51' LT	7.0"	8.5"	15.5"
X-016-0-15	41+46	52' RT	5.5"	9.5"	15.0"

RECON. - YLZ 7/29/15  
 DRILLING - RW PS 10/6/15 - 10 /7/15  
 DRAWN - TLM 11/11/15  
 REVIEWED - YLZ 11/13/15

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DESIGN AGENCY  
 GANNETT FLEMING  
 300 N. CLEVELAND-MASSILLON ROAD  
 SUITE 104, AKRON, OHIO 44333-2484

PID NO.  
**99623**

**SOIL PROFILE**

**MOT-70-3.34**

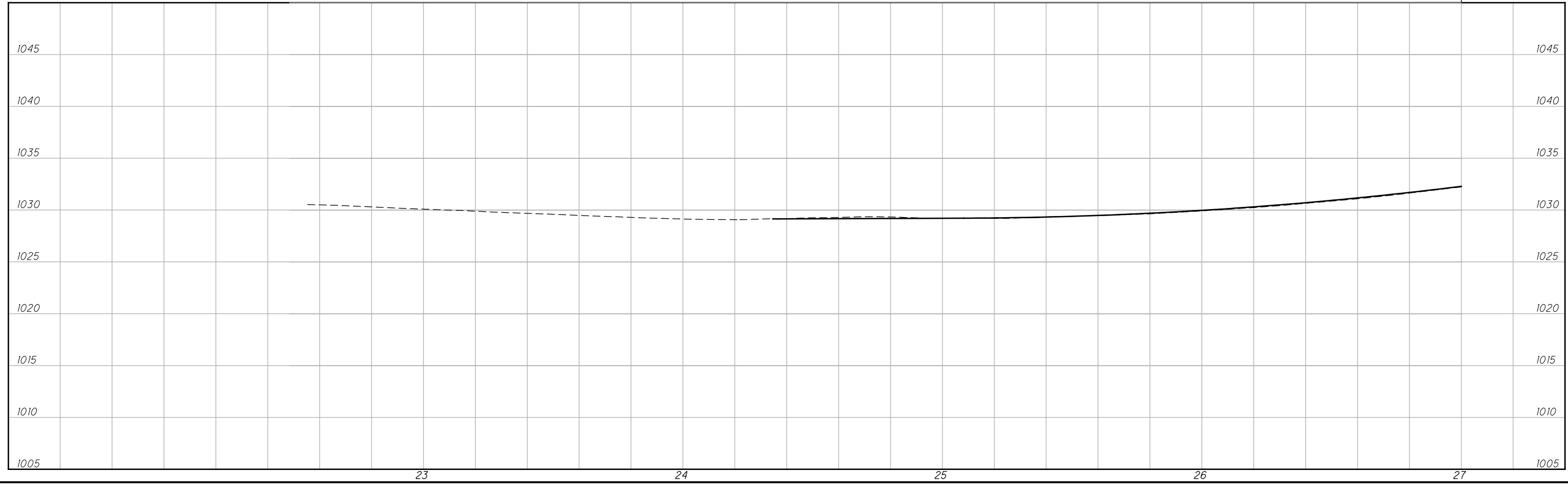
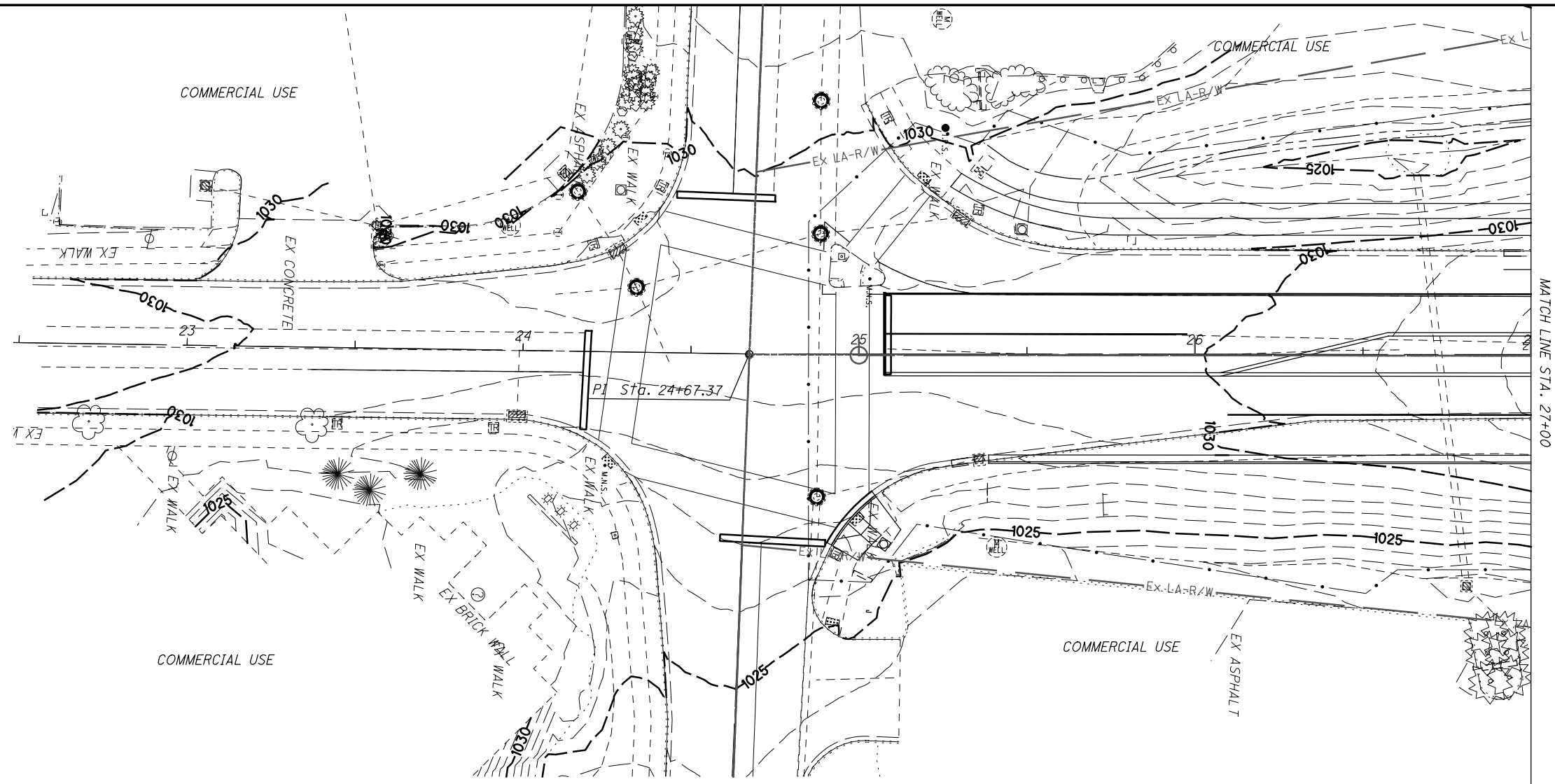


SUMMARY OF SOIL TEST DATA

ARLINGTON RD.

STATION & OFFSET	FROM TO	SAMPLE ID	N60	% REC	HP %	Tsf	GR	CS	FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS	ppm SO4	
B-004-0-15	01.00-02.50	SS-1	9	44	4.5					SAME AS SS-3						20	A-6b (VISUAL)	1400
STA., 31+33, 28' RT.	02.50-04.00	SS-2	4	44	0.25	5	6	14	46	29	37	22	15	15	25	A-6a (10)		
LATITUDE = 39.84754863	04.00-05.50	SS-3	15	83	4	9	6	12	46	27	39	20	19	19	24	A-6b (11)		
LONGITUDE = 84.42493642	05.50-07.00	SS-4	7	44	2			SAME AS SS-2							24	A-6a (VISUAL)		
B-014-0-15	00.00-01.50	SS-1	19	56	-											A-1-b (VISUAL)	300	
STA., 39+15, 24' RT.	01.50-03.00	SS-2	16	56	4	11	6	7	47	29	37	21	16	16	25	A-6b (10)		
LATITUDE = 39.84969294	03.00-04.50	SS-3	7	61	1.5			SAME AS SS-2							25	A-6b (VISUAL)		
LONGITUDE = 84.4251152	04.50-06.00	SS-4	12	67	2.75	7	9	6	46	32	38	22	16	16	28	A-6b (10)		
B-017-0-15	01.00-02.50	SS-1	26	83	4.5	13	9	18	25	35	33	22	11	11	25	A-6a (5)		
STA., 43+07, 24' RT.	02.50-04.00	SS-2	16	61	4.5			SAME AS SS-1							25	A-6a (VISUAL)		
LATITUDE = 39.85076482	04.00-05.50	SS-3	13	100	2.75	7	9	10	38	36	28	23	5	5	27	A-4a (8)		
LONGITUDE = 84.42519747	05.50-07.00	SS-4	24	78	3.5			SAME AS SS-1							29	A-6a (VISUAL)		
B-018-0-15	01.00-02.50	SS-1	15	78	4	10	18	13	33	26	36	22	14	14	24	A-6a (6)		500
STA., 45+70, 31' RT.	02.50-04.00	SS-2	23	67	3.5			SAME AS SS-1							24	A-6a (VISUAL)		
LATITUDE = 39.85148879	04.00-05.50	SS-3	12	78	3.5	5	13	21	33	28	35	23	12	12	27	A-6a (6)		
LONGITUDE = 84.42522466	05.50-07.00	SS-4	17	67	2.75			SAME AS SS-3							29	A-6a (VISUAL)		

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 HORIZONTAL SCALE IN FEET

DRAWN	TLM
CHECKED	YLZ

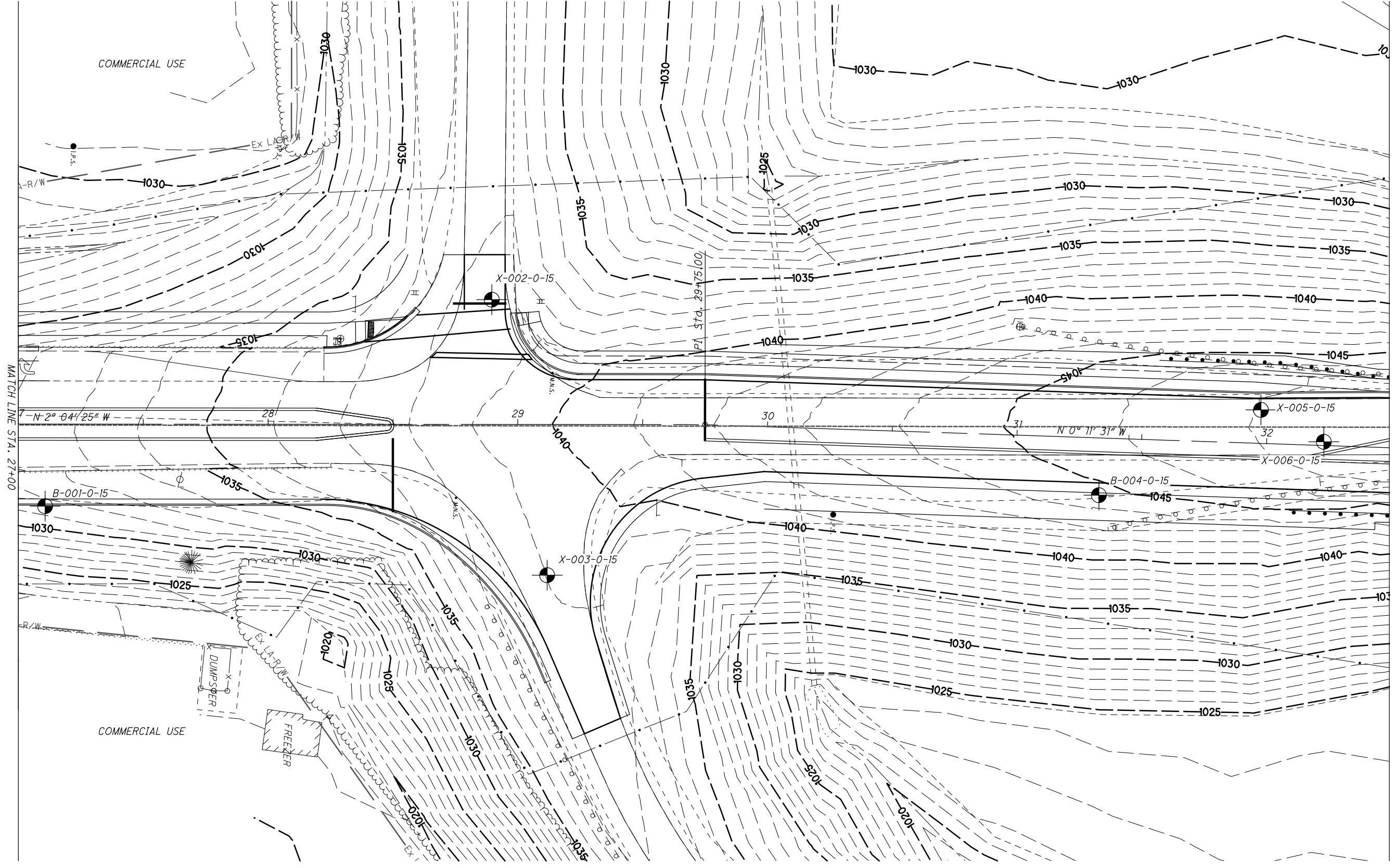
**SOIL PROFILE  
BEGIN TO STA 27+00**

**MOT-70-3.34**

3 / 20



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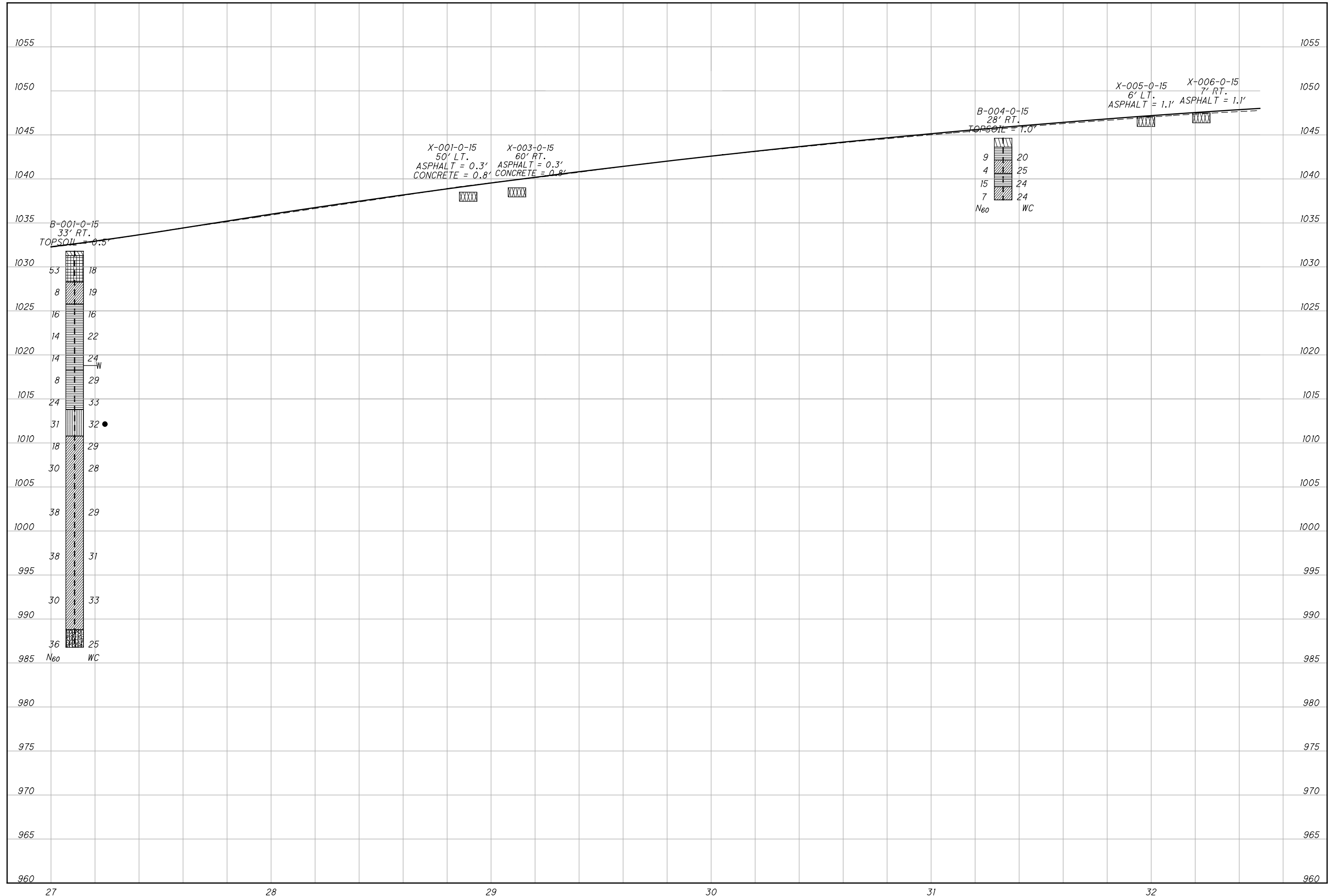


DRAWN TLM  
 CHECKED YLZ  
 HORIZONTAL SCALE IN FEET  
 0 10 20 40

SOIL PROFILE  
 STA 27+00 TO STA 32+50

MOT-70-3.34  
 4/20

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0 10 20 40  
HORIZONTAL SCALE IN FEET

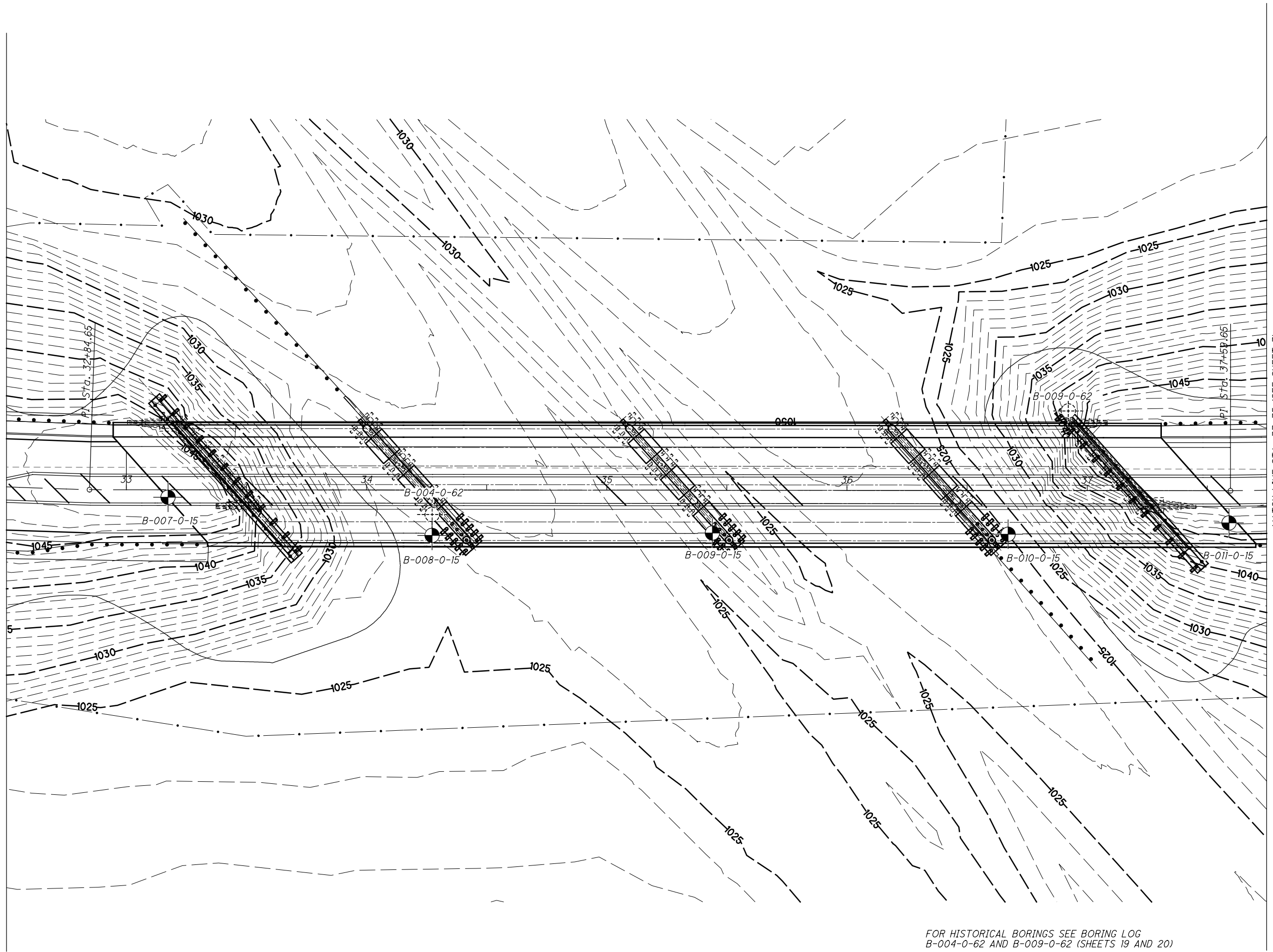
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CHECKED TLM

**SOIL PROFILE**  
**STA 27+00 TO STA 32+50**

**MOT-70-3.34**



MATCH LINE STA 32+50 (SEE SHEET 5)



MATCH LINE STA. 37+75 (SEE SHEET 7)

FOR HISTORICAL BORINGS SEE BORING LOG  
B-004-0-62 AND B-009-0-62 (SHEETS 19 AND 20)

  
 HORIZONTAL SCALE IN FEET

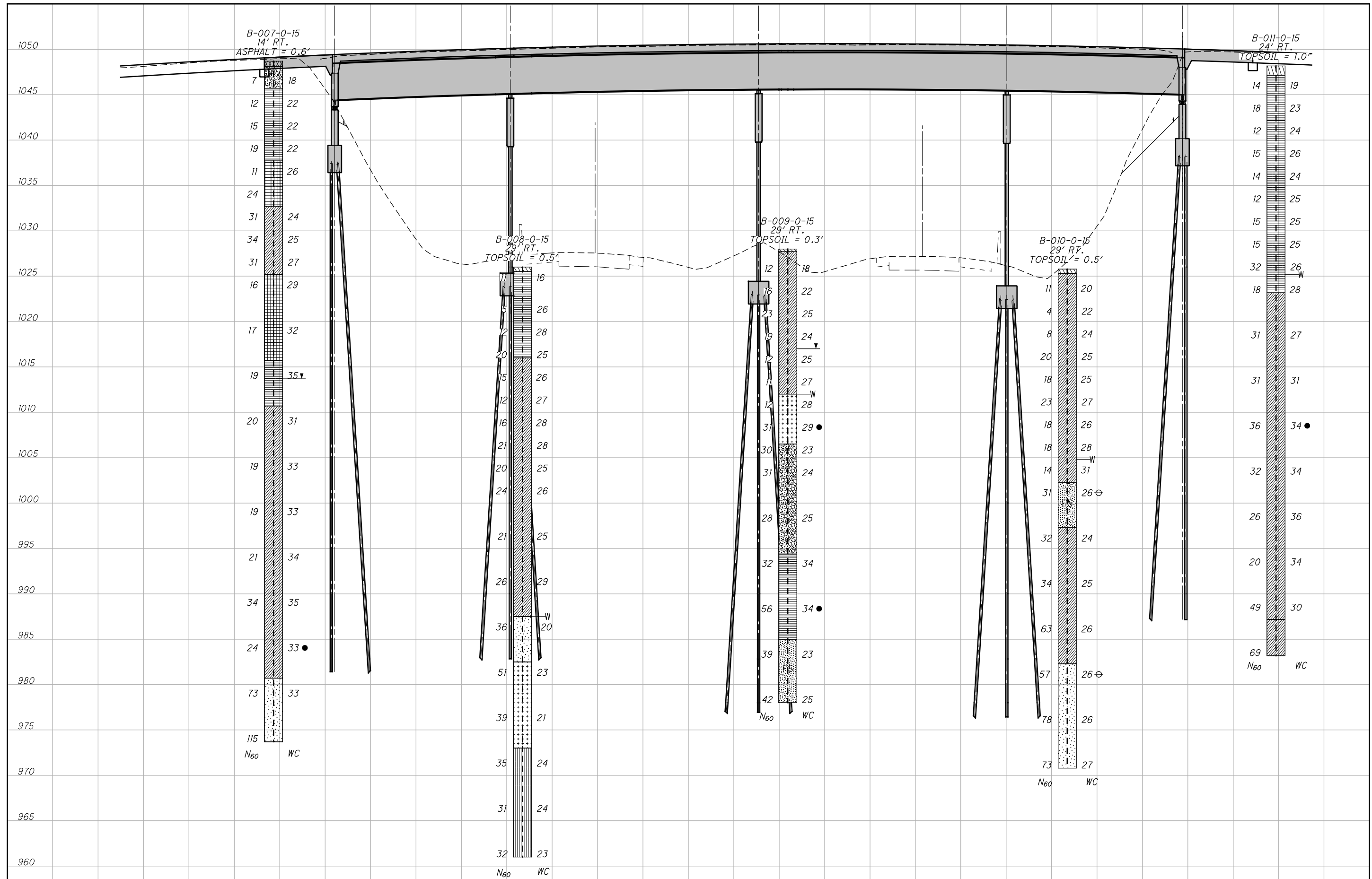
DRAWN	TLM
CHECKED	YLZ

**STRUCTURE FOUNDATION EXPLORATION**  
**BR NO. MOT-70-0334 OVER IR 70**

**MOT-70-3.34**



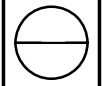
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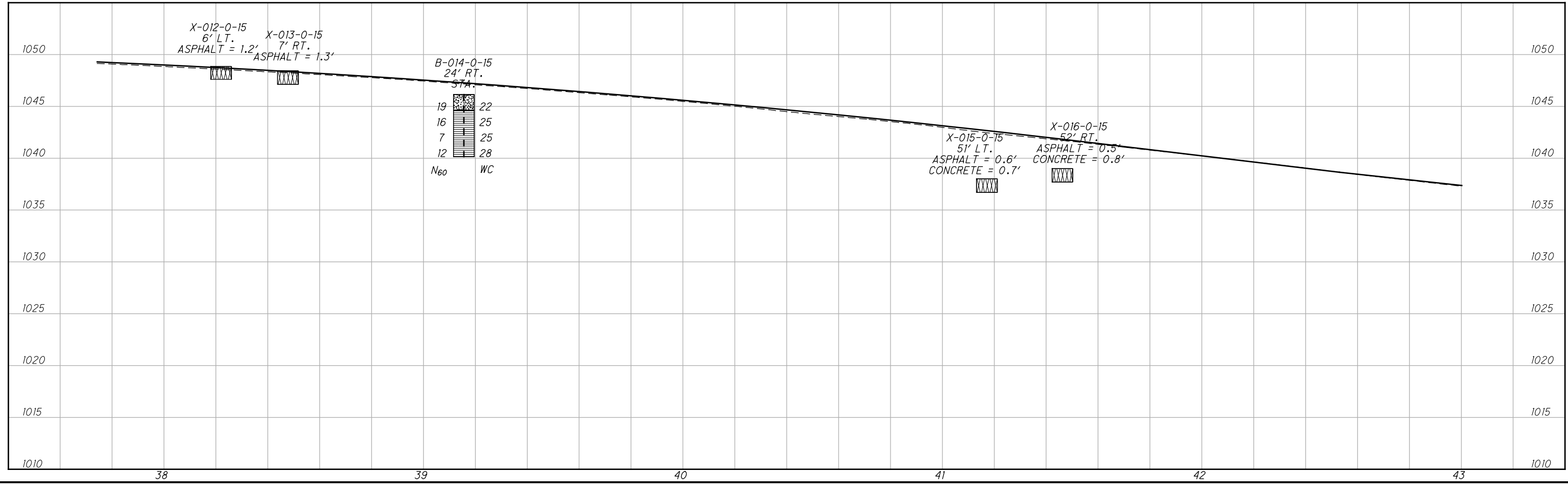
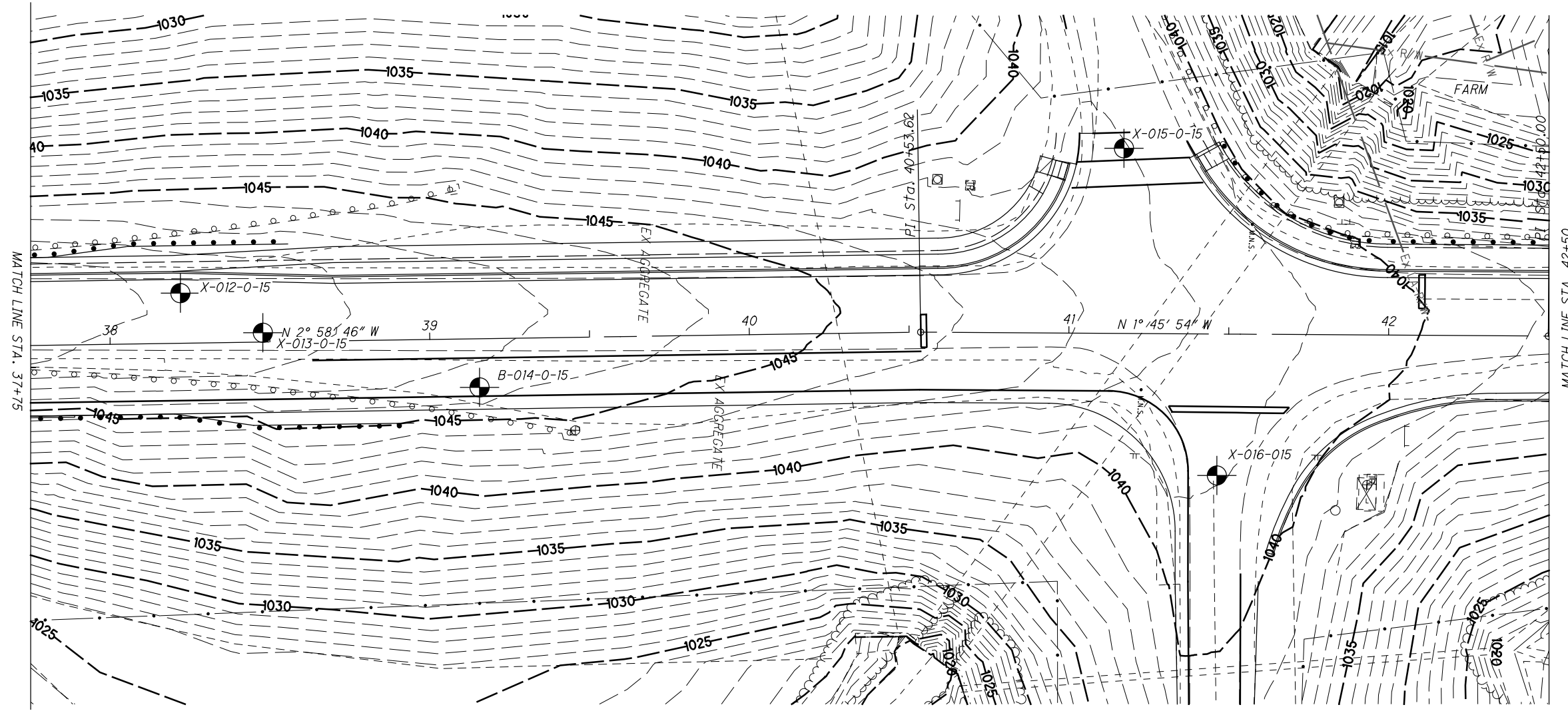
DRAWN TLM  
CHECKED YLZ

**STRUCTURAL FOUNDATION EXPLORATION**  
**BR. NO. MOT-70-0334 OVER IR 70**

**MOT-70-3.34**



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DRAWN TLM  
CHECKED YLZ

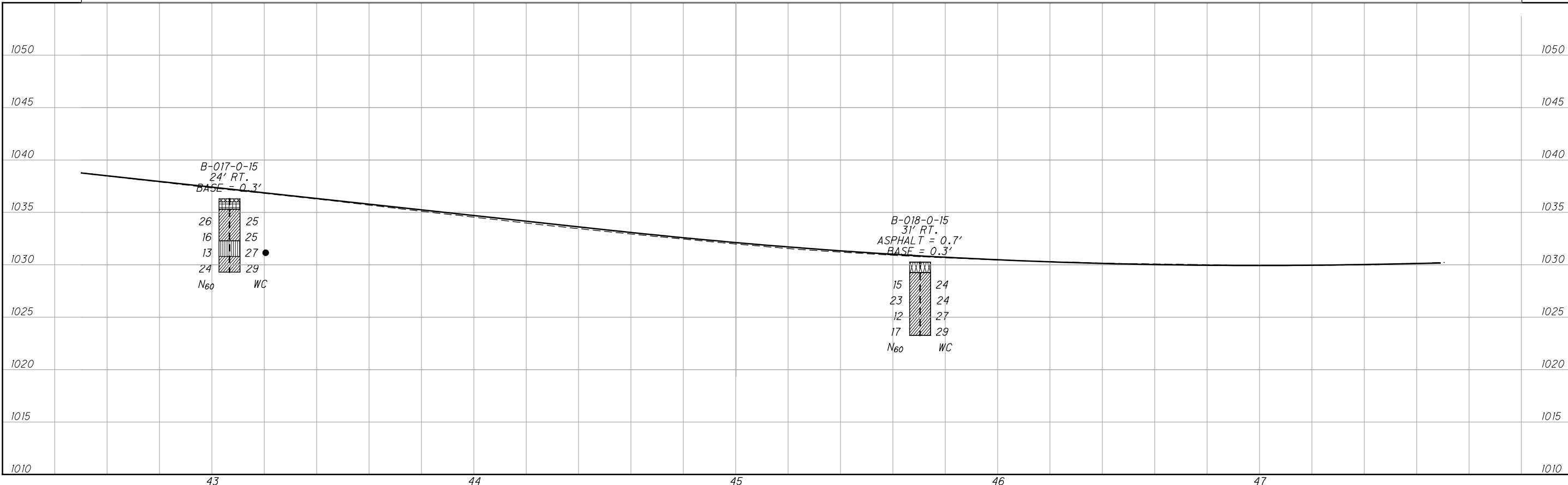
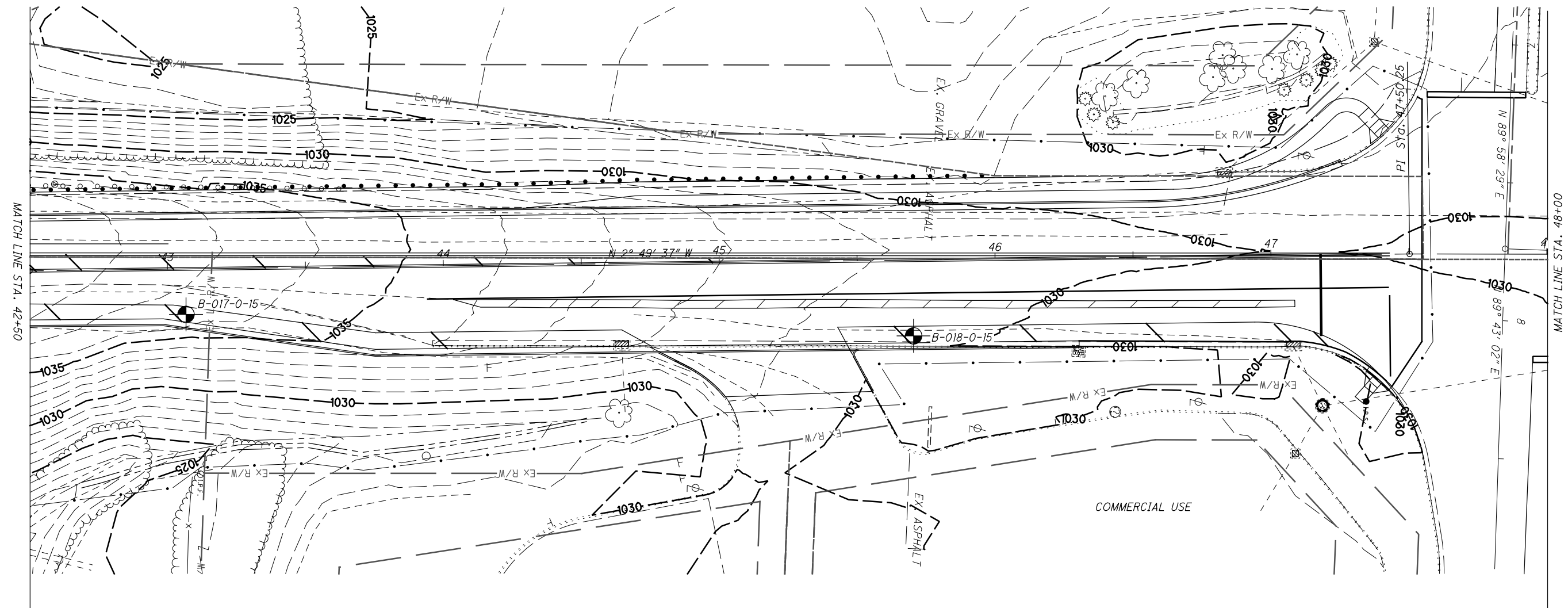
**SOIL PROFILE**  
**STA. 37+75 TO STA. 42+50**

**MOT-70-3.34**





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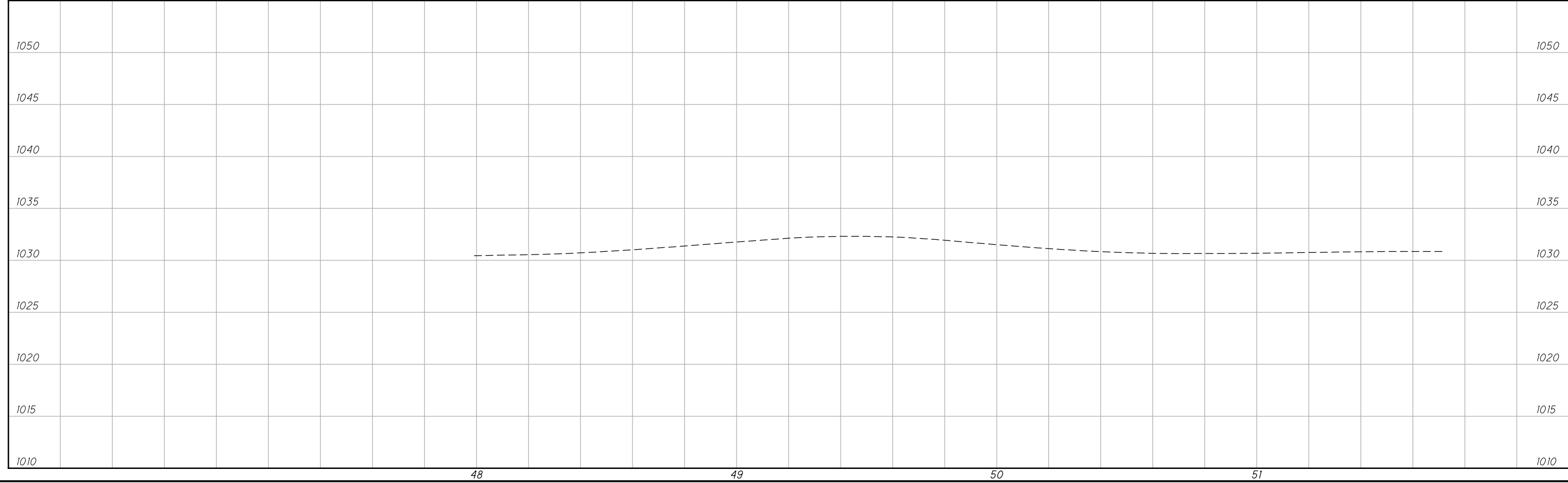


DRAWN TLM  
CHECKED YLZ

**SOIL PROFILE**  
**STA. 42+50 TO STA. 48+00**

**MOT-70-3.34**





MATCH LINE 48+00

BPI Sta. 7+73.91

49

50

51



  
 HORIZONTAL SCALE IN FEET

DRAWN TLM  
 CHECKED YLZ

**SOIL PROFILE**  
**STA. 48+00 TO END**

**MOT-70-3.34**



PROJECT: MOT-70-3.34	DRILLING FIRM / OPERATOR: RIDGEWAY / P.S.	DRILL RIG: CME 55 TRUCK	STATION / OFFSET: 27+11.33' RT.	EXPLORATION ID												
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: GF / M. HILTY	HAMMER: CME AUTOMATIC	ALIGNMENT: ARLINGTON RD.	B-001-0-15												
PID: 99623 SFN: 5704804	DRILLING METHOD: 4.25" HSA	CALIBRATION DATE: 4/4/15	ELEVATION: 1031.7 (MSL) EOB: 45.0 ft.	PAGE												
START: 10/6/15 END: 10/6/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81	LAT / LONG: 39.846393, 84.424833	1 OF 2												
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	N <sub>60</sub>	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	HOLE SEALED
6" TOPSOIL (DRILLERS DESCRIPTION) HARD, BROWN, CLAY, "AND" GRAVEL AND SAND, TRACE SILT, MOIST (POSSIBLE BASE)		12 13 26	53	56	4.50	-	-	-	-	-	-	-	-	18	A-7.6 (V)	
VERY STIFF, BROWN, SILT AND CLAY, SOME GRAVEL AND SAND, MOIST (POSSIBLE FILL)		8 4 2	8	67	4.00	21	9	12	35	23	36	22	14	19	A-6a (6)	
VERY STIFF TO HARD, BROWN, SILTY CLAY, SOME GRAVEL, LITTLE SAND, MOIST		3 5 7	16	78	4.50	-	-	-	-	-	-	-	-	16	A-6b (V)	
STIFF, BROWN, SILTY CLAY, TRACE SAND AND GRAVEL, WET		4 5 5	14	100	2.50	20	9	2	44	25	37	21	16	22	A-6b (9)	
SOFT, BROWN AND GRAY, SANDY SILT, "AND" CLAY, TRACE GRAVEL, WET		2 3 3	8	100	1.00	-	-	-	-	-	-	-	-	24	A-6b (V)	
VERY STIFF, GRAY, SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, MOIST		5 6 12	24	89	2.00	-	-	-	-	-	-	-	-	33	A-6b (V)	
VERY STIFF, GRAY, SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, MOIST		5 9 14	31	44	0.50	4	8	7	44	37	30	24	6	32	A-4a (8)	
VERY STIFF, GRAY, SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, MOIST		6 6 7	18	100	2.50	-	-	-	-	-	-	-	-	29	A-6a (V)	
VERY STIFF, GRAY, SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, MOIST		4 8 14	30	94	4.00	-	-	-	-	-	-	-	-	28	A-6a (V)	
VERY STIFF, GRAY, SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, MOIST		7 12 16	38	89	4.00	3	6	6	52	33	35	22	13	29	A-6a (9)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 90 LB. BENTONITE CHIPS

PID: 99623 SFN: 5704804	PROJECT: MOT-70-3.34	STATION / OFFSET: 27+11.33' RT.	START: 10/6/15	END: 10/6/15	PG 2 OF 2	B-001-0-15										
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	N <sub>60</sub>	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	HOLE SEALED
VERY STIFF, GRAY, SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, MOIST (continued)		9 12 16	38	56	3.00	-	-	-	-	-	-	-	-	31	A-6a (V)	
DENSE, GRAY, GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT, TRACE CLAY, WET		8 10 12	30	100	3.50	-	-	-	-	-	-	-	-	33	A-6a (V)	
DENSE, GRAY, GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT, TRACE CLAY, WET		10 13 14	36	78	-	30	14	23	29	4	NP	NP	NP	25	A-2.4 (0)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 90 LB. BENTONITE CHIPS



PROJECT: MOT-70-3.34 TYPE: BRIDGE PID: 99623 SFN: 5704804 START: 10/7/15 END: 10/7/15	DRILLING FIRM / OPERATOR: RIDGEWAY / R.M. SAMPLING FIRM / LOGGER: GF / V. TRAINI DRILLING METHOD: 4.25" HSA SAMPLING METHOD: SPT	DRILL RIG: D-50 TRACK RIG HAMMER: DIEDRICH AUTOMATIC CALIBRATION DATE: 4/4/15 ENERGY RATIO (%): 80.58	STATION / OFFSET: 33+17.14' RT.											EXPLORATION ID B-007-0-15		
			ALIGNMENT: ARLINGTON RD. ELEVATION: 1048.7 (MSL) EOB: 75.0 ft. LAT / LONG: 39.848052, 84.425027													
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)			ATTERBERG			HOLE SEAL			
							GR	CS	FS	SI	CL	LL		PL	PI	WC
7" ASPHALT (DRILLERS DESCRIPTION) DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, LITTLE SILT AND CLAY, DAMP		7 2 3	7	33	SS-1	-	-	-	-	-	-	-	18	A-1-b (V)		
VERY STIFF TO HARD, BROWNISH GRAY, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, MOIST		2 3 6	12	100	SS-2	4.50	-	-	-	-	-	-	22	A-6b (V)		
SOFT, GRAYISH BROWN CLAY, SOME SILT, LITTLE GRAVEL AND SAND, MOIST		4 4 7	15	100	SS-3	2.75	6	4	15	41	34	38	21	22	A-6b (11)	
VERY STIFF TO HARD, GRAYISH BROWN, SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, MOIST		5 6 8	19	56	SS-4	2.75	-	-	-	-	-	-	-	22	A-6b (V)	
MEDIUM STIFF, GRAY, CLAY, SOME SILT, TRACE GRAVEL AND SAND, MOIST		2 4 4	11	100	SS-5	0.50	-	-	-	-	-	-	-	26	A-7-6 (V)	
		6 8 10	24	0	SS-6	-	-	-	-	-	-	-	-	-	A-7-6 (V)	
		8 11 12	31	83	SS-7	3.50	-	-	-	-	-	-	-	24	A-6a (V)	
		8 11 14	34	100	SS-8	4.50	4	8	8	52	28	37	22	15	25	A-6a (10)
		15 11 12	31	100	SS-9	3.50	-	-	-	-	-	-	-	27	A-6a (V)	
		5 6 6	16	17	SS-10	2.50	6	5	4	56	29	41	22	19	29	A-7-6 (12)
		5 6 7	17	44	SS-11	0.25	-	-	-	-	-	-	-	-	32	A-7-6 (V)

STANDARD ODOT SOIL BORING LOG (6.5 X 11) MOT-70-3-35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16

PID: 99623 SFN: 5704804	PROJECT: MOT-70-3.34	STATION / OFFSET: 33+17.14' RT.	START: 10/7/15	END: 10/7/15	PG 2 OF 3	B-007-0-15										
							MATERIAL DESCRIPTION AND NOTES									
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)			ATTERBERG			HOLE SEAL			
							GR	CS	FS	SI	CL	LL		PL	PI	WC
MEDIUM STIFF, GRAY, CLAY, SOME SILT, TRACE GRAVEL AND SAND, MOIST (continued)		4 6 8	19	100	SS-12	4.50	47	9	5	-	-	-	-	35	A-6b (V)	
HARD, GRAY, SILTY CLAY, "AND" GRAVEL, LITTLE SAND, WET		6 7 8	20	100	SS-13	4.50	16	4	7	40	33	36	22	14	31	A-6a (9)
VERY STIFF TO HARD, GRAY, SILT AND CLAY, LITTE GRAVEL AND SAND, MOIST		5 6 8	19	100	SS-14	2.00	-	-	-	-	-	-	-	33	A-6a (V)	
		5 6 8	19	100	SS-15	2.00	-	-	-	-	-	-	-	33	A-6a (V)	
		6 7 9	21	100	SS-16	2.00	-	-	-	-	-	-	-	34	A-6a (V)	
		9 11 14	34	100	SS-17	2.75	-	-	-	-	-	-	-	35	A-6a (V)	

STANDARD ODOT SOIL BORING LOG (6.5 X 11) MOT-70-3-35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16



PID:	SFN:	5704804	PROJECT:	MOT-70-3.34	STATION / OFFSET:	33+17.14' RT.	START:	10/7/15	END:	10/7/15	PG 3 OF 3	B-007-0-15								
		<b>MATERIAL DESCRIPTION AND NOTES</b>		ELEV.	DEPTH	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
			VERY STIFF TO HARD, GRAY, SILT AND CLAY, LITTLE GRAVEL AND SAND, MOIST (continued)	986.6	65	7 8 10	100	2.00	10	5	9	43	33	35	24	11	33	A-6a (8)		
			VERY DENSE, GRAY, COARSE AND FINE SAND, LITTLE GRAVEL, TRACE SILT AND CLAY, WET	980.7	-70	14 28 26	100	-	-	-	-	-	-	-	-	-	33	A-3a (V)		
				973.7	-75	33 36 50	0	SS-20	-	-	-	-	-	-	-	-	-	-	A-3a (V)	

NOTES: CAVED @ 65.0'  
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 0.6 IN. ASPHALT PATCH; POURED 20 LB. BENTONITE CHIPS; BACKFILLED WITH SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (6.5 X 11) MOT-70-3.35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16

PROJECT:	MOT-70-3.34	DRILLING FIRM / OPERATOR:	RIDGEWAY / R.M.	STATION / OFFSET:	34+27.29' RT.	EXPLOSION ID												
TYPE:	BRIDGE	SAMPLING FIRM / LOGGER:	GF / V. TRAINI	ALIGNMENT:	ARLINGTON RD.	B-008-0-15												
PID:	99623	SFN:	5704804	ELEVATION:	1026.0 (MSL) EOB:	65.0 ft.												
START:	10/6/15	END:	10/6/15	SAMPLING METHOD:	4.25" HSA	PAGE												
		SAMPLING METHOD:		ENERGY RATIO (%):		1 OF 3												
				LAT / LONG:		39.848356, 84.424994												
<b>MATERIAL DESCRIPTION AND NOTES</b>		ELEV.	DEPTH	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
6" TOPSOIL (DRILLERS DESCRIPTION) HARD, BROWN, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, DAMP TO WET		1026.0		3 3 5	67	4.5+										16	A-6b (V)	
@ 3.5' TO 7.5': SOFT		1025.5	5	2 2 2	47	0.25										26	A-6b (V)	
		1016.0	-10	3 4 5	28	0.25	10	5	2	55	28	39	23	16		28	A-6b (10)	
STIFF TO VERY STIFF, GRAY, SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, MOIST				7 7 8	100	2.50										25	A-6b (V)	
				4 4 7	100	2.50										26	A-6a (V)	
				3 4 5	100	1.60										27	A-6a (V)	
				3 5 7	89	2.50										28	A-6a (V)	
				7 7 9	22	2.00	6	9	8	49	28	39	24	15		28	A-6a (10)	
				5 6 9	89	3.50										25	A-6a (V)	
				7 8 10	100	4.00										26	A-6a (V)	
				6 7 9	100	2.50	11									25	A-6a (V)	

STANDARD ODOT SOIL BORING LOG (6.5 X 11) MOT-70-3.35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16



PID: 99623	SFN: 5704804	PROJECT: MOT-70-3.34	STATION / OFFSET:		34+27.29' RT.		START: 10/6/15	END: 10/6/15					PG 2 OF 3	B-008-0-15
			SOIL	DEPTH	GR	CS		FS	SI	CL	LL	PL		
MATERIAL DESCRIPTION AND NOTES		ELEV.:	DEPTHS	SPT/ RQD	N <sub>60</sub>	REC SAMPLE (%)	HP (tsf)	GRADATION (%)					ODOT CLASS (G)	HOLE SEALED
STIFF TO VERY STIFF, GRAY, SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, MOIST ( <i>continued</i> )		996.0												
		997.5	35	9	26	22	3.50							
DENSE, GRAY, COARSE AND FINE SAND, SOME SILT, LITTLE GRAVEL, TRACE CLAY, WET														
		997.5	40	11	36	39	-	12	32	30	21	5	NP NP	20
		998.5		8	51	33	2.50							23
VERY STIFF, GRAY, SILT, SOME SAND, LITTLE CLAY, TRACE GRAVEL, MOIST TO WET														
		998.5	45	13	25	25								
		997.0												
		973.0	50	9	39	33	4.00	5	10	59	16	26	23	3
DENSE, GRAY, SANDY SILT, SOME GRAVEL, TRACE CLAY, WET														
		973.0	55	12	35	61	-							24

STANDARD ODOT SOIL BORING LOG (8.5 X 11) MOT-70-3.35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16

PID: 99623	SFN: 5704804	PROJECT: MOT-70-3.34	STATION / OFFSET:		34+27.29' RT.		START: 10/6/15	END: 10/6/15					PG 3 OF 3	B-008-0-15
			SOIL	DEPTH	GR	CS		FS	SI	CL	LL	PL		
MATERIAL DESCRIPTION AND NOTES		ELEV.:	DEPTHS	SPT/ RQD	N <sub>60</sub>	REC SAMPLE (%)	HP (tsf)	GRADATION (%)					ODOT CLASS (G)	HOLE SEALED
DENSE, GRAY, SANDY SILT, SOME GRAVEL, TRACE CLAY, WET ( <i>continued</i> )		963.9												
		961.0	65	11	32	67	-							23

STANDARD ODOT SOIL BORING LOG (8.5 X 11) MOT-70-3.35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16

NOTES: CAVED @ 10.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 110 LB. BENTONITE CHIPS, BACKFILLED WITH SOIL CUTTINGS

PROJECT: MOT-70-3.34		DRILLING FIRM / OPERATOR: RIDGEWAY / R.M.		DRILL RIG: D-50 TRACK RIG		STATION / OFFSET: 35+44.29' RT.		EXPLORATION ID															
TYPE: BRIDGE		SAMPLING FIRM / LOGGER: GF / V. TRAINI		HAMMER: DIEDRICH AUTOMATIC		ALIGNMENT: ARLINGTON RD.		B-009-0-15															
PID: 99623 SFN: 5704804		DRILLING METHOD: 4.25" HSA		CALIBRATION DATE: 4/4/15		ELEVATION: 1028.0 (MSL) EOB: 50.0 ft.		PAGE															
START: 10/6/15 END: 10/6/15		SAMPLING METHOD: SPT		ENERGY RATIO (%): 80.58		LAT / LONG: 39.848675, 84.425021		1 OF 2															
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE ID		GRADATION (%)		HOLE SEaled															
		1028.0		N <sub>60</sub> (%)		GR CS FS SI CL LL PL PI WC		ODOT CLASS (G) WC															
		1027.7		HP (tsf)		GR CS FS SI CL LL PL PI WC		ODOT CLASS (G) WC															
		1012.0		ID		GR CS FS SI CL LL PL PI WC		ODOT CLASS (G) WC															
		1006.5		REC SAMPLE ID		GR CS FS SI CL LL PL PI WC		ODOT CLASS (G) WC															
4" TOPSOIL (DRILLERS DESCRIPTION) STIFF TO HARD, BROWN AND GRAY. SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, DAMP TO MOIST	DEPTHS																						
		4	5	4	12	33	SS-1	4.50	-	-	-	-	-	-	-	-	-	-	-	-	18	A-6a (V)	
		4	5	7	16	78	SS-2	4.50	-	-	-	-	-	-	-	-	-	-	-	-	-	22	A-6a (V)
		5	7	10	23	100	SS-3	4.50	-	-	-	-	-	-	-	-	-	-	-	-	-	25	A-6a (V)
		6	7	7	19	100	SS-4	3.50	-	-	-	-	-	-	-	-	-	-	-	-	-	24	A-6a (V)
		3	4	5	12	78	SS-5	2.75	5	12	8	51	24	35	22	13	25	A-6a (9)					
		3	4	4	11	100	SS-6	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	27	A-6a (V)
		4	4	5	12	83	SS-7	0.75	-	-	-	-	-	-	-	-	-	-	-	-	-	28	A-4b (V)
		9	10	13	31	100	SS-8	2.50	4	7	7	55	27	26	22	4	29	A-4b (8)					
		10	11	11	30	100	SS-9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	A-1-b (V)
MEDIUM DENSE TO DENSE, GRAY, GRAVEL AND STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, WET		11	11	12	31	100	SS-10	-	30	25	27	17	1	NP	NP	NP	24	A-1-b (0)					
		12	11	10	28	100	SS-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	A-1-b (V)

STANDARD ODOT SOIL BORING LOG (8.5 X 11) MOT-70-35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16

PID: 99623 SFN: 5704804		PROJECT: MOT-70-3.34		STATION / OFFSET: 35+44.29' RT.		START: 10/6/15		END: 10/6/15		PG 2 OF 2		B-009-0-15								
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE ID		GRADATION (%)		HOLE SEaled												
		998.0		N <sub>60</sub> (%)		GR CS FS SI CL LL PL PI WC		ODOT CLASS (G) WC												
		994.5		HP (tsf)		GR CS FS SI CL LL PL PI WC		ODOT CLASS (G) WC												
		985.0		ID		GR CS FS SI CL LL PL PI WC		ODOT CLASS (G) WC												
MEDIUM DENSE TO DENSE, GRAY, GRAVEL AND STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, WET (continued)	DEPTHS																			
		9	11	13	32	100	SS-12	1.50	-	-	-	-	-	34	A-6b (V)					
STIFF, GRAY, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, WET		11	24	18	56	72	SS-13	2.00	9	7	8	50	26	36	20	16	34	A-6b (10)		
		18	14	15	39	100	SS-14	-	21	23	47	-	9	-	NP	NP	NP	23	A-3 (0)	
DENSE, GRAY, FINE SAND, SOME COARSE SAND AND GRAVEL, TRACE SILT AND CLAY, WET		13	15	16	42	100	SS-15	-	-	-	-	-	-	-	-	-	-	-	25	A-3 (V)

STANDARD ODOT SOIL BORING LOG (8.5 X 11) MOT-70-35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16

NOTES: CAVED @ 22.0'  
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 56 LB. BENTONITE CHIPS. BACKFILLED WITH SOIL CUTTINGS

PROJECT: MOT-70-3.34  
 TYPE: BRIDGE  
 PID: 99623 SFN: 5704804  
 START: 10/5/15 END: 10/5/15  
 DRILLING FIRM / OPERATOR: RIDGEWAY / P.S.  
 SAMPLING FIRM / LOGGER: GF / R. F.  
 DRILLING METHOD: 4.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: CME 55 TRUCK  
 HAMMER: CME AUTOMATIC  
 CALIBRATION DATE: 4/4/15  
 ENERGY RATIO (%): 81

STATION / OFFSET: 36+67.29' RT.  
 ALIGNMENT: ARLINGTON RD.  
 ELEVATION: 1025.8 (MSL) EOB: 55.0 ft.  
 LAT / LONG: 39.849013, 84.425045

EXPLORATION ID  
 B-010-0-15  
 PAGE  
 1 OF 2

**MATERIAL DESCRIPTION AND NOTES**

6" TOPSOIL (DRILLERS DESCRIPTION)  
 VERY STIFF, BROWN AND GRAY, SILT AND CLAY,  
 LITTLE SAND, TRACE GRAVEL, MOIST  
 @ 0.5' TO 5.0': MEDIUM STIFF

@ 8.5': BROWN CHANGE INTO GRAY

DENSE, GRAY, FINE SAND, SOME COARSE SAND,  
LITTLE GRAVEL, TRACE SILT AND CLAY, WET

VERY STIFF TO HARD, GRAY, SILT AND CLAY, LITTLE  
SAND, TRACE GRAVEL, WET

ELEV.  
 1025.8  
 1025.3

DEPTHS  
 3  
4  
4  
2  
1  
4  
2  
2  
3  
3  
4  
7  
8  
4  
6  
7  
6  
8  
9  
4  
5  
8  
4  
6  
7  
3  
4  
6  
8  
11  
12  
7  
11  
13

REC (%)  
 39  
72  
94  
89  
83  
72  
100  
83  
56  
22  
83

HP (tsf)  
 1.50  
0.50  
2.50  
4.00  
4.00  
4.00  
4.00  
2.25  
2.00  
-  
4.00

GR CS FS SI CL LL PL PI WC  
 - - - - - -  
 6 10 8 48 28 36 21 15  
 - - - - - -  
 5 10 5 45 35 37 22 15  
 - - - - - -  
 - - - - - -  
 - - - - - -  
 6 5 7 49 33 36 21 15  
 - - - - - -  
 - - - - - -  
 - - - - - -  
 - 19 24 48 - 9 - NP NP NP 26  
 6 9 7 53 25 35 23 12  
 4 6 9 7 53 25 35 23 12

ODOT CLASS (G)  
 -  
 -  
 A-6a (10)  
 -  
 -  
 -  
 -  
 A-6a (V)  
 -  
 -  
 -  
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 -  
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 A-6a (10)  
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 -  
 A-6a (V)  
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 A-6a (V)  
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 -  
 A-3 (0)  
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 -  
 -  
 -  
 -  
 A-6a (9)

STANDARD ODOT SOIL BORING LOG (6.5 X 11) MOT-70-3.35 UPDATED 7-13-16 GPJ OH DOT GDT 7/13/16

PROJECT: MOT-70-3.34  
 PROJECT: MOT-70-3.34

STATION / OFFSET: 36+67.29' RT.  
 START: 10/5/15  
 END: 10/5/15

EXPLORATION ID  
 B-010-0-15

**MATERIAL DESCRIPTION AND NOTES**

VERY STIFF TO HARD, GRAY, SILT AND CLAY, LITTLE  
 SAND, TRACE GRAVEL, WET (continued)

VERY DENSE, GRAY, COARSE AND FINE SAND, SOME  
GRAVEL AND SILT, TRACE CLAY, WET

ELEV.  
 995.8  
 982.3

DEPTHS  
 8  
12  
13  
12  
18  
29  
12  
18  
24  
18  
28  
30  
16  
22  
32

REC (%)  
 -  
 34  
94  
94  
78  
73

HP (tsf)  
 4.00  
3.00  
-  
-  
-

GR CS FS SI CL LL PL PI WC  
 - - - - - -  
 21 14 36 22 7 NP NP NP 26  
 - - - - - -  
 - - - - - -  
 - - - - - -  
 - - - - - -  
 - - - - - -  
 - - - - - -  
 - - - - - -  
 - 19 24 48 - 9 - NP NP NP 26  
 6 9 7 53 25 35 23 12  
 4 6 9 7 53 25 35 23 12

ODOT CLASS (G)  
 -  
 -  
 A-6a (V)  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 A-6a (V)  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 A-3a (0)  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 A-3a (V)  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 A-3a (V)

STANDARD ODOT SOIL BORING LOG (6.5 X 11) MOT-70-3.35 UPDATED 7-13-16 GPJ OH DOT GDT 7/13/16

NOTES: NONE  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 110 LB. BENTONITE CHIPS



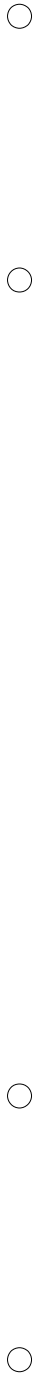


PROJECT: MOT-70-3.34 TYPE: BRIDGE PID: 99623 SFN: 5704804 START: 10/6/15 END: 10/6/15	DRILLING FIRM / OPERATOR: RIDGWAY / P.S. SAMPLING FIRM / LOGGER: GF / M. HILTY DRILLING METHOD: 4.25" HSA SAMPLING METHOD: SPT	DRILL RIG: CME 55 TRUCK HAMMER: CME AUTOMATIC CALIBRATION DATE: 4/4/15 ENERGY RATIO (%): 81	STATION / OFFSET: 37+59.24' RT. ALIGNMENT: ARLINGTON RD. ELEVATION: 1048.2 (MSL) EOB: 65.0 ft. LAT / LONG: 39.849264, 84.425081										EXPLORATION ID B-011-0-15 PAGE 1 OF 3	
			GRADATION (%)		ATTERBERG		GRADATION (%)		ATTERBERG		ODOT CLASS (GI)			
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	N <sub>60</sub>	REC (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC
12" TOPSOIL (DRILLERS DESCRIPTION)														
ELEV. 1048.2														
1047.2		3	5	14	56	SS-1	3.00	-	-	-	-	-	-	19
VERY STIFF, BROWN, SILTY CLAY, SOME SAND AND GRAVEL, TRACE ORGANICS, MOIST ( ORGANIC)		5												A-6b (V)
@ 3.5' TO 5.0': BROWN AND BLACK		3	5	18	72	SS-2	3.00	-	-	-	-	-	-	23
5														A-6b (V)
STIFF TO HARD, BROWN AND GRAY, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, MOIST		2	4	12	78	SS-3	2.50	4	8	7	52	29	39	22
1042.2		5												24
A-6b (11)		3	5	15	89	SS-4	3.00	-	-	-	-	-	-	26
@ 13.5': BROWN CHANGE INTO BROWNISH GRAY		6												A-6b (V)
15		3	4	12	78	SS-6	1.00	4	9	10	40	37	37	21
16														25
A-6b (10)		6	5	15	83	SS-7	4.50	-	-	-	-	-	-	25
@ 21.0' To 22.5': SOME GRAVEL		4	5	15	94	SS-8	3.50	-	-	-	-	-	-	25
20														A-6b (V)
STIFF TO VERY STIFF, GRAY, SILT AND CLAY, LITTLE GRAVEL, TRACE SAND, MOIST TO WET		7	11	32	89	SS-9	4.50	10	6	16	36	32	38	21
1023.2		13												26
A-6b (9)		4	5	18	72	SS-10	3.00	-	-	-	-	-	-	28
25														A-6b (V)
8		11	31	83	SS-11	2.00	-	-	-	-	-	-	-	27
12														A-6a (V)

STANDARD ODOT SOIL BORING LOG (6.5 X 11) MOT-70-3.35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16

PID: 99623 SFN: 5704804	PROJECT: MOT-70-3.34	STATION / OFFSET: 37+59.24' RT.	START: 10/6/15	END: 10/6/15	PG 2 OF 3	B-011-0-15	MATERIAL DESCRIPTION AND NOTES										HOLE SEALED
							GRADATION (%)		ATTERBERG		GRADATION (%)		ATTERBERG		ODOT CLASS (GI)		
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	N <sub>60</sub>	REC (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC			
STIFF TO VERY STIFF, GRAY, SILT AND CLAY, LITTLE GRAVEL, TRACE SAND, MOIST TO WET (continued)																	
ELEV. 1018.2																	
35		7	9	31	100	SS-12	3.50	-	-	-	-	-	-	31			
A-6a (V)		14															
STIFF TO VERY STIFF, GRAY, SILT AND CLAY, LITTLE GRAVEL, TRACE SAND, MOIST TO WET (continued)		9	12	36	100	SS-13	3.00	13	3	5	42	37	36	24			
-40		15												34			
A-6a (9)		8	11	32	100	SS-14	3.00	-	-	-	-	-	-	34			
-45														A-6a (V)			
STIFF TO VERY STIFF, GRAY, SILT AND CLAY, LITTLE GRAVEL, TRACE SAND, MOIST TO WET (continued)		5	7	26	89	SS-15	3.00	-	-	-	-	-	-	36			
-50		12												A-6a (V)			
STIFF TO VERY STIFF, GRAY, SILT AND CLAY, LITTLE GRAVEL, TRACE SAND, MOIST TO WET (continued)		5	6	20	83	SS-16	1.50	-	-	-	-	-	-	34			
-55		9												A-6a (V)			
STIFF TO VERY STIFF, GRAY, SILT AND CLAY, LITTLE GRAVEL, TRACE SAND, MOIST TO WET (continued)		4	15	49	72	SS-17	2.00	12	4	5	49	30	35	21			
-60		21												30			
A-6a (10)		11	31	83	SS-11	2.00	-	-	-	-	-	-	-	27			
VERY DENSE, GRAY, GRAVEL WITH SAND, SILT, AND CLAY (POSSIBLE TILL) WET																	
ELEV. 987.2																	
987.2																	

STANDARD ODOT SOIL BORING LOG (6.5 X 11) MOT-70-3.35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16



PID: 99623	SFN: 5704804	PROJECT: MOT-70-3.34	STATION / OFFSET: 37+59.24' RT.	START: 10/6/15	END: 10/6/15	PG 3 OF 3	B-011-0-15													
<b>MATERIAL DESCRIPTION AND NOTES</b>		ELEV.	DEPTHS	SPT/ RQD	N <sub>60</sub>	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	HOLE SEALED		
VERY DENSE, GRAY, GRAVEL WITH SAND, SILT, AND CLAY, (POSSIBLE TILL), WET (continued)		986.0																		
		983.2		13	69															
				20																
			EOB	31																

STANDARD ODOT SOIL BORING LOG (8.5 X 11) MOT-70-3.35 UPDATED 7-13-16.GPJ OH DOT GDT 7/13/16

NOTES: NONE  
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 130 LB. BENTONITE CHIPS



State of Ohio  
Department of Highways  
Soil Testing Laboratory

Date Started 3-22-62  
Date Completed 3-27-62  
Coring Length 50' Dia 3 1/2"

LOG OF BORING  
Do 1 3/8" Water Elev

Project Identification:  
MOT-40-0336  
MONTGOMERY  
UNDER SR 311

Boring No. B-4 Station Offset 34+27.22' RT (BEAR PIER) Surface Elev. 1028.1

Elev.	Depth (ft)	Description	Field No.	Lab. Nos.	Physical Characteristics										SMTL Class.		
					% Agg.	CS	FS	SH	Clay	LL	PI	WC					
1028.1	0																
1023.1	5	Brown Sandy Silt	1	53429	14	10	19	35	22	22	6	14					
1020.6	8	Brown Sandy Silt	2	53430	11	12	19	32	26	22	7	11					
1018.1	10	Brown Sandy Silt	3	53431													
1015.6	12	Gray Gravelly Sandy Silt	4	53432	20	10	16	32	22	22	8	10					
1013.1	14	Gray Sandy Silt	5	53433	12	10	18	35	25	20	6	11					
1010.6	16	Gray Sandy Silt	6	53434	14	12	18	32	24	20	5	10					
1008.1	18	Gray Sandy Silt	7	53435	12	8	14	36	30	25	9	13					
1005.6	20	Gray Gravelly Sandy Clay	8	53436	23	11	16	24	26	27	11	18					
1003.1	22	Gray Gravelly Sandy Silt	9	53437	23	12	15	28	22	22	7	11					
998.1	30	Gray Gravelly Sandy Clay	10	53438	15	8	12	37	28	27	11	13					
993.1	36	Gray Sandy Gravel	11	53439	61	21	11										

Particle Sizes: Agg. >200mm, Course Sand=200-0.425mm, Fine Sand=0.425-0.075mm

Elev.	Depth (ft)	Description	Field No.	Lab. Nos.	Physical Characteristics										SMTL Class.		
					% Agg.	CS	FS	SH	Clay	LL	PI	WC					
988.1	38	No Sample Recovered - Material heaved in casing															
983.1	40	Gray Sandy Gravel (Wash Sample)	12														
978.1	42																
973.1	44																
969.1	46	Gray Silty Sandy Gravel	13	53441	43	29	10	14	4	NP	NP	24					
968.1	48	Gray Silty Sandy Gravel	14	53442	54	22	12	6	6	NP	NP	8					
	50	Gray Gravelly Sand (Wash Sample)	15														
	52	* Refusal															
	54																
	56																
	58																
	60																
	62																
	64																
	66																
	68																
	70																
	72																
	74																
	76																
	78																
	80																

Station is Offset 34+27.22' RT

Surface Elev. 1028.1 Project: MOT-40-0336

State of Ohio  
Department of Highways  
Testing Laboratory

LOG OF BORING  
Date Started 3-27-62 Sampler Type SS Dia. 1 3/8" Water Elev. \_\_\_\_\_  
Date Completed 3-28-62 Casing Length 50' Dia. 3 1/2" \_\_\_\_\_

Project Identification: MONTGOMERY  
MOT-40-0336  
MOT-40-0336  
UNDER SR 311

Boring No. B-9 Station 8 Offset 36+97, 22' LT (FORWARD ABUT.) Surface Elev. 1026.3

Elev.	Depth	Sht. Pen. (N)	Description	Field No.	Lab. Nos.	Physical Characteristics						SHTL Class.		
						% Agg.	% CS	% FS	% Silt	% Clay	LL		PI	WC
1026.3	0													
1023.8	2	3/3	Gray Sandy Clay	1	53381	0	4	17	26	53	41	20	24	
1021.3	4	6/11	Gray Sandy Clay	2	53382	8	10	10	32	40	29	11	22	
1018.8	6	8/13	Gray Sandy Silt	3	53383	13	10	18	26	33	23	8	13	
1016.3	8	7/14	Gray Sandy Clay	4	53384	9	7	14	23	47	27	11	13	
1013.8	10	5/10	Gray Sandy Clay	5	53385	4	11	14	20	51	PL=18		15	
1011.3	12	6/11	Gray Sandy Clay	6	53386	11	7	13	26	43	28	12	13	
1008.8	14	5/8	Gray Sandy Clay	7	53387	9	8	13	23	47	28	16	15	
1006.3	16	5/7	No Sample Recovered											
1001.3	18	10/11	Gray Sandy Gravel	8	53388	57	26	8	-9-		NP	NP	13	
996.3	20	6/11	Gray Silt and Clay	9	53389	0	5	14	26	55	29	14	15	
991.3	22	7/9	Gray Sandy Gravelly Silt	10	53390	30	15	13	28	14	NP	NP	15	

Particle Sizes: Agg. >200mm, Coarse Sand=200-0.42mm, Fine Sand=0.42-0.074mm, Silt=0.074-0.005mm, Clay <0.005mm

Boring No. B-7 Station B Offset 36+97, 22' LT

Surface Elev. 1026.3 Project: MOT-40-0336

Elev.	Depth	Sht. Pen. (N)	Description	Field No.	Lab. Nos.	Physical Characteristics						SHTL Class.		
						% Agg.	% CS	% FS	% Silt	% Clay	LL		PI	WC
986.3	38	13/26	Gray Silty Sandy Gravel	11	53391									
981.3	40	19/23	Gray Silty Sandy Gravel	12	53392	47	25	15	-13-		NP	NP	11	
977.3	42		Gray Sandy Gravel (Wash Sample)	13										
976.3	44		BOTTOM OF BORING											
	46													
	48													
	50													
	52													
	54													
	56													
	58													
	60													
	62													
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													

\* Material heaved 5' in casing at 50' depth.

# SPECIAL PROVISIONS

## OEPA Notification of Demolition and Renovation FOR PID: 99623

CRS: MOT-70-0334  
DATE: 05/04/2015

The following form is the OEPA Notification of Demolition and Renovation form for the existing structures carrying I-70 over Arlington Road.

These sections of the Notification form need to be completed prior to submission:

- V. Other Operator: (demolition/general) - Include the name and address of the general contractor
- VII. Scheduled Dates Demolition Or Renovation: - Include both the estimated start and completion dates
- X. Description of planned Demolition
- XVIII. A signature or the owner, date, and title

The form must be submitted at least 10 working days in advance of the start of demolition.

The form should be submitted to:

Regional Air Pollution Control Agency  
117 S. Main Street  
Dayton, Ohio 45422-1280

**OHIO ENVIRONMENTAL PROTECTION AGENCY  
NOTIFICATION OF DEMOLITION AND RENOVATION**

Operator Project #	Postmark	Date Received	Notification #																															
<b>I. Type of Notification (check one):</b> <input checked="" type="checkbox"/> Original <input type="checkbox"/> Revised <input type="checkbox"/> Canceled																																		
<b>II. Facility Description (include building name, number, and floor or room number)</b> Building Name: <u>MOT-IR70-03.34</u> Address: <u>N/A</u> City: <u>Clay Township</u> State: <u>OHIO</u> Zip Code: <u>N/A</u> County: <u>Montgomery</u> Site Location (specific): <u>Arlington Road over Interstate 70</u> Building Size (square feet): <u>N/A</u> # of Floors: <u>N/A</u> Age in Years: <u>51</u> Present Use: <u>Bridge</u> Prior Use: <u>Bridge</u>																																		
<b>III. Type of Operation (check one):</b> <input checked="" type="checkbox"/> Demo <input type="checkbox"/> Ordered Demo <input type="checkbox"/> Renovation <input type="checkbox"/> Emergency Renovation <input type="checkbox"/> Fire Training																																		
<b>IV. Is Asbestos Present? (check one):</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																		
<b>V. Facility Information</b> Owner Name: _____ Address: _____ City: _____    State: _____    Zip Code: _____ Contact: _____    Telephone: (____) _____    Fax: (____) _____ Removal Contractor Name: _____    License # _____ Address: _____ City: _____    State: _____    Zip Code: _____ Contact: _____    Telephone: (____) _____    Fax: (____) _____ Other Operator (demolition/general): _____    License # _____ Address: _____ City: _____    State: _____    Zip Code: _____ Contact: _____    Telephone: (____) _____    Fax: (____) _____																																		
<b>VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:</b> An asbestos survey was conducted by a certified asbestos hazard evaluation specialist. Twenty samples from eight homogeneous areas (concrete, paint, sealant, and carbon fiber) were collected and analyzed via PLM. Asbestos was not detected in the samples.  Ohio Asbestos Hazard Evaluation Specialist: <u>Eric Lopez</u> <u>ES35766</u> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Name</span> <span>Certification #</span> </div>																																		
<b>VII. Approximate Amount of Asbestos Materials:</b> <table border="1" style="width:100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">RACM to be Removed</th> <th colspan="2">Nonfriable Asbestos Material to be Removed</th> <th colspan="2">Nonfriable Asbestos Material NOT to be Removed</th> </tr> <tr> <th>Category I</th> <th>Category II</th> <th>Category I</th> <th>Category II</th> </tr> </thead> <tbody> <tr> <td>Pipes (linear feet)</td> <td align="center">N/A</td> <td align="center">N/A</td> <td align="center">N/A</td> <td align="center">N/A</td> <td align="center">N/A</td> </tr> <tr> <td>Surface Area (square feet)</td> <td align="center">N/A</td> <td align="center">N/A</td> <td align="center">N/A</td> <td align="center">N/A</td> <td align="center">N/A</td> </tr> <tr> <td>Facility Components (cubic feet)</td> <td align="center">N/A</td> <td align="center">N/A</td> <td align="center">N/A</td> <td align="center">N/A</td> <td align="center">N/A</td> </tr> </tbody> </table>								RACM to be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed		Category I	Category II	Category I	Category II	Pipes (linear feet)	N/A	N/A	N/A	N/A	N/A	Surface Area (square feet)	N/A	N/A	N/A	N/A	N/A	Facility Components (cubic feet)	N/A	N/A	N/A	N/A	N/A
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Facility Components (cubic feet)	N/A	N/A	N/A	N/A	N/A																													
<b>VIII. Scheduled Dates Demolition or Renovation:</b> Start: _____ Complete: _____																																		
<b>IX. Dates for Asbestos Removal (MM/DD/YY)</b> Start: _____ Complete: _____																																		
Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday																											
Hours of Operation:																																		
Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.																																		

**OHIO ENVIRONMENTAL PROTECTION AGENCY  
NOTIFICATION OF DEMOLITION AND RENOVATION**

X.	Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:
XI.	Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:
XII.	<b>Waste Transporter #1</b> Name: _____ Address: _____ City: _____    State: _____    Zip Code: _____ Contact: _____    Telephone: (____) _____    Fax: (____) _____ <b>Waste Transporter #2</b> Name: _____ Address: _____ City: _____    State: _____    Zip Code: _____ Contact: _____    Telephone: (____) _____    Fax: (____) _____
XIII.	<b>Waste Disposal</b> Name: _____ Address: _____ City: _____    State: _____    Zip Code: _____ Contact: _____    Telephone: (____) _____    Fax: (____) _____
XIV.	<b>Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)</b> 1. Attach a copy of the Order to this notice. 2. Name of Authority Issuing Order: _____    Title: _____ 3. Authority of Order (Citation of Code): _____ 4. Date of Order (MM/DD/YY): _____    Date Ordered to Begin: _____
XV.	<b>Emergency Renovation (Attach separate sheet with the following information if project is Emergency Reno.)</b> 1. Date and Hour of the Emergency 2. Description of the Sudden, Unexpected Event 3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.
XVI.	Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
XVII.	I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.  <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Signature of Owner/Operator</span> <span>Date</span> <span>Type or Print Name and Title</span> </div>
XVIII.	I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.  <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Signature of Owner/Operator</span> <span>Date</span> <span>Type or Print Name and Title</span> </div>
Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)	